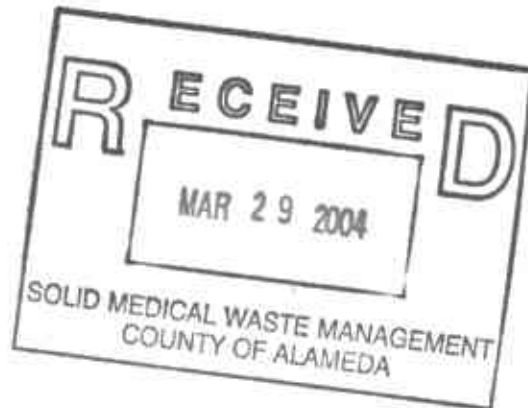




March 26, 2004

Ms. eva chu  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502



**Re: First Quarter 2004 Groundwater Monitoring Report  
ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California  
URS Project #38486713**

Dear Ms. chu:

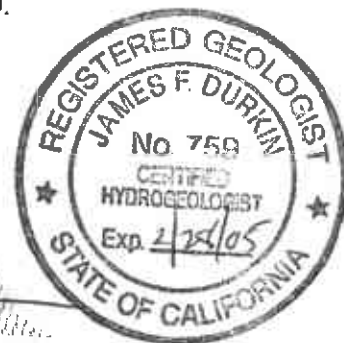
On behalf of Atlantic Richfield Company (ARCO – a BP affiliated company), URS Corporation (URS) is submitting the *First Quarter 2004 Groundwater Monitoring Report* for ARCO Service Station #2111, located at 1156 Davis Street, San Leandro, California.

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

Sincerely,

**URS CORPORATION**

Scott Robinson  
Project Manager

  
James F. Durkin, C. Hg.  
Senior Geologist

Enclosure: First Quarter 2004 Groundwater Monitoring Report

cc: Mr. Paul Supple, ARCO, (electronic copy uploaded to ENFOS)



Atlantic Richfield Company  
(a BP affiliated company)

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

March 26, 2004

RE: First Quarter 2004 Groundwater Monitoring Report  
ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California  
URS Project #38486713

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

Submitted by:

Paul Supple  
Environmental Business Manager

**R E P O R T**

**FIRST QUARTER 2004  
GROUNDWATER MONITORING**

**ARCO SERVICE STATION #2111  
1156 DAVIS STREET  
SAN LEANDRO, CALIFORNIA**

*Prepared for*  
**Atlantic Richfield Company**

March 26, 2004

**URS**

URS Corporation  
1333 Broadway, Suite 800  
Oakland, California 94612

38486713

Date: March 26, 2004  
 Quarter: 1Q 04

**ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT**

Facility No.: 2111 Address: 1156 Davis Street, San Leandro, California  
 ARCO Environmental Business Manager: Paul Supple  
 Consulting Co./Contact Person: URS Corporation / Scott Robinson  
 Consultant Project No.: 38486713  
 Primary Agency: Alameda County Health Care Services Agency (ACHCSA)

**WORK PERFORMED THIS QUARTER (First – 2004):**

1. Performed first quarter 2004 groundwater monitoring event on February 5, 2004.
2. Prepared and submitted first quarter 2004 groundwater monitoring report.
3. Checked well MW-2 monthly for free product.
4. Continued preparing DPE system design.
5. Met with PG&E on March 2, 2004 to discuss new gas and electrical service for DPE system.
6. Met with station owner on March 2, 2004 to discuss construction and placement of the proposed DPE system.
7. Performed batch extractions on MW-2 on February 26 and March 11, 2004.
8. Resurveyed top of casing elevations on February 23, 2004.

**WORK PROPOSED FOR NEXT QUARTER (Second – 2004):**

1. Perform second quarter 2004 groundwater monitoring event.
2. Prepare and submit first quarter 2004 groundwater monitoring report.
3. Check MW-2 monthly for free product.
4. Secure new gas and electrical service from PG&E.
5. Secure discharge permit from the City of San Leandro for groundwater discharge.
6. Install DPE system.
7. Perform initial startup of DPE system.

Current Phase of Project:	<u>GW monitoring/sampling/interim remediation</u>
Frequency of Groundwater Sampling:	<u>Quarterly: Wells MW-1 through MW-5 and MW-8</u> <u>Annually (3<sup>rd</sup> Quarter): MW-6</u>
Frequency of Groundwater Monitoring:	<u>Quarterly</u>
Is Free Product (FP) Present On-Site:	<u>FP in MW-2 (see Table 4)</u>
FP recovered this quarter (to 02/16/04):	<u>0.034 gallons</u>
Cumulative FP Recovered from 6/28/99 to 02/16/04 :	<u>1.085 gallons</u>
Current Remediation Techniques:	<u>Bailing free product as needed and batch extraction from MW-2</u>
Approximate Depth to Groundwater:	<u>13.38 (MW-6) to 16.28 (MW-1) feet</u>
Groundwater Gradient (direction):	<u>West</u>
Groundwater Gradient (magnitude):	<u>0.004 feet per foot</u>

## **DISCUSSION:**

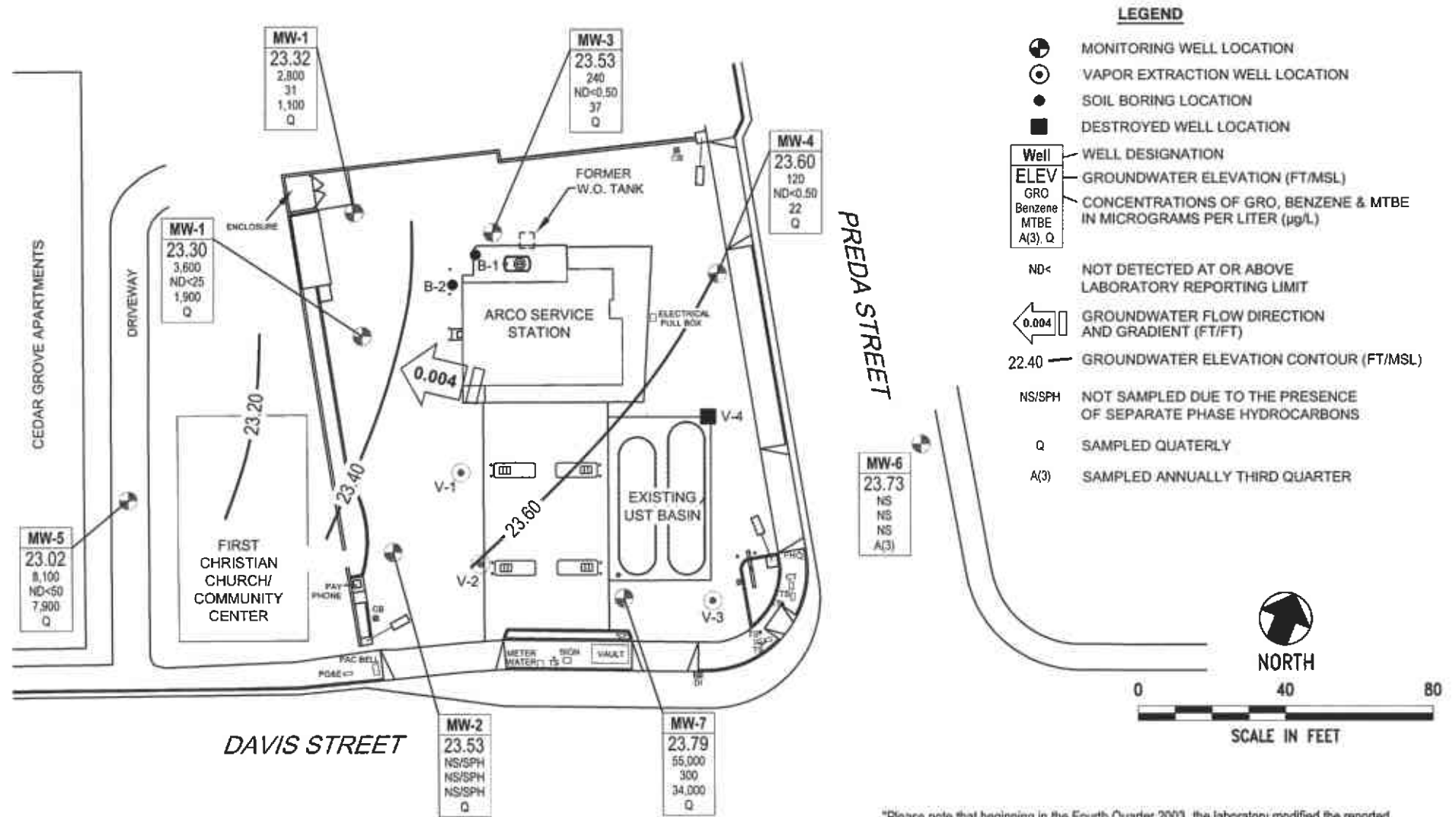
Please note that beginning in the Fourth Quarter 2003, the laboratory modified the reported analyte list. Total Petroleum Hydrocarbons as Gasoline (TPHg) has been changed to Gasoline Range Organics (GRO). The resulting data may be impacted by the potential inclusion of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported. GRO were detected above laboratory reporting limits in all six wells sampled this quarter at concentrations ranging from 120 µg/L (MW-4) to 55,000 µg/L (MW-7). Benzene was detected above laboratory reporting limits in two wells at concentrations of 31 µg/L (MW-1) and 300 µg/L (MW-7). MTBE was detected above laboratory reporting limits in six wells at concentrations ranging from 22 µg/L (MW-4) to 34,000 µg/L (MW-7). Tert-Amyl methyl ether (TAME) was detected above laboratory reporting limits in three wells at concentrations ranging from 3.1 µg/L (MW-3) to 31 µg/L (MW-1). Other than MTBE and TAME, no other fuel oxygenates were detected above the respective laboratory reporting limits (Table 3).

Batch extractions were performed on MW-2 on February 26, 2004 and March 11, 2004. Groundwater samples were collected pre and post extraction for use in designing the DPE system. Analytical results for the March 11, 2004 were not received at the time of this report and will be included in the second quarter 2004 groundwater monitoring report.

Pre and post extraction GRO concentrations for the sample collected on February 26, 2004 show an increase from 6,500 µg/L to 12,000 µg/L, respectively. Similarly, pre and post extraction MTBE concentrations show an increase from 6,500 µg/L to 17,000 µg/L, respectively. Approximately 3,800 gallons were removed during the batch extraction. Laboratory analytical results are included in Attachment B.

## **ATTACHMENTS:**

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – February 5, 2004
- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Groundwater Flow Direction and Gradient
- Table 3 – Fuel Oxygenate Analytical Data
- Table 4 – Approximate Cumulative Floating Product Recovered (1999 – Present)
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody Records
- Attachment C – Historic Groundwater Data
- Attachment D – EDCC and EDF/Geowell Submittal Confirmation
- Attachment E – Survey Data



"Please note that beginning in the Fourth Quarter 2003, the laboratory modified the reported analyte list. Total Petroleum Hydrocarbons as Gasoline (TPHg) has been changed to Gasoline Range Organics (GRO). The resulting data may be impacted by the potential inclusion of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported."

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

	Project No. 38486713 Arco Service Station #2111 1156 Davis Street San Leandro, California	<b>GROUNDWATER ELEVATION CONTOUR                  AND ANALYTICAL SUMMARY MAP</b> First Quarter 2004 (February 5, 2004)	FIGURE <b>1</b>

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

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Well Number	Date Sampled	Purge/ Not Purged	TOC Elevation (feet, MSL)	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Well Depth (feet bgs)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	GRO / TPH-g <sup>p</sup> (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Dissolved Oxygen <sup>o</sup> (mg/L)	pH Level <sup>o</sup>
MW-1	06/26/00		39.60	12.50	26.20	27.00	16.46	23.14	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/20/00						16.89	22.71	360	110	ND<0.5	ND<0.5	2.7	2,100	NA	NA	NA
	09/19/00						17.62	21.98	290	76	ND<0.5	ND<0.5	2.3	1,500	NA	NA	NA
	12/21/00						17.39	22.21	257	64	2.89	1.31	4.57	1,080	1,060	NA	NA
	03/13/01						15.7	23.90	ND<500	52.5	ND<5.0	ND<5.0	ND<5.0	1,430	1,370	NA	NA
	09/18/01						18.24	21.36	ND<500	64	7.3	ND<5.0	52	810	1,100	NA	NA
	12/28/01						15.95	23.65	ND<500	ND<5.0	ND<5.0	5.00	22	1,200	1,100	NA	NA
	03/14/02						16.01	23.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	34	40	NA	NA
	04/23/02						15.43	24.17	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	30	NA	NA	NA
	07/17/02	NP					17.50	22.10	ND<50	1.2	ND<0.50	ND<0.50	ND<0.50	29	NA	1.6	6.9
	10/09/02						18.27	21.33	240 <sup>p</sup>	4.9	ND<1.0	4.1	7.0	290	310	1.2	6.5
	01/13/03						15.37	24.23	760 <sup>c</sup>	34	11	17	56	300	NA	1.0	6.8
	04/07/03 <sup>a</sup>						16.61	22.99	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	22	1.5	6.8
	07/09/03	NP					17.27	22.33	ND<2,500	ND<25	ND<25	ND<25	ND<25	NA	690	1.9	6.7
	10/01/03	NP					18.20	21.40	600	3.0	ND<2.5	ND<2.5	ND<2.5	NA	360	0.6	7.1
	02/05/04 <sup>q</sup>	NP	39.49				16.28	23.32	2,800	31	ND<25	ND<25	ND<25	NA	1,100	0.9	6.5
MW-2	06/26/00		37.99	12.00	26.20	27.00	14.60	23.39 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/20/00						15.14	22.85	95,000	2,300	18,000	2,500	19,000	13,000	NA	NA	NA
	09/19/00						15.95	22.04	63,000	1,200	6,300	2,000	14,000	19,000	NA	NA	NA
	12/21/00						15.60	22.39	45,900	NA	2,130	1,160	9,460	22,400	24,700	NA	NA
	12/21/00 <sup>b</sup>						NM	NC	5,010	360	189	213	626	54,300	89,200	NA	NA
	03/13/01						13.77	23.9	3,650	98.1	ND<5.0	ND<5.0	6.42	3,590	3,260	NA	NA
	3/13/2001 <sup>b</sup>						NM	NC	ND<20,000	525	466	408	1,460	91,700	76,000	NA	NA
	9/18/2001 <sup>a</sup>						16.86	21.13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01						14.28	23.71	31,000	1,500	3,800	1,300	4,800	9,300	8,800	NA	NA
	03/14/02						14.15	23.84	1,800	25	43	43	270	990	960	NA	NA
	04/23/02						13.60	24.39	9,000	220	110	470	2,500	8,500	NA	NA	NA
	07/17/02	NP	SHEEN				15.75	22.24	74,000 <sup>c</sup>	280	290	820	10,000	19,000	NA	0.4	6.8
	10/9/02 <sup>e</sup>						16.69	21.30	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/13/03 <sup>e</sup>		FREE PRODUCT				13.59	24.61 <sup>h</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/07/03 <sup>e</sup>		FREE PRODUCT				14.70	23.69 <sup>h</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/09/03 <sup>e</sup>		FREE PRODUCT				15.48	22.57 <sup>h</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/01/03 <sup>e</sup>		FREE PRODUCT				16.47	21.58 <sup>h</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/05/04 <sup>e,q</sup>		37.86				14.43	23.53 <sup>h</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/23/04 <sup>r</sup>						NM	NC	6,500	62	ND<25	64	130	NA	6,500	NA	NA	
02/23/04 <sup>r</sup>						NM	NC	12,000	150	ND<100	190	280	NA	17,000	NA	NA	

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Well Number	Date Sampled	Purge/ Not Purged	TOC Elevation (feet, MSL)	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Well Depth (feet bgs)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	GRO / TPH-g <sup>p</sup> (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Dissolved Oxygen <sup>o</sup> (mg/L)	pH Level <sup>o</sup>	
MW-3	06/26/00		39.32	11.90	26.20	27.00	15.96	23.36	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	07/20/00						16.42	22.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	130	NA	NA	NA	
	09/19/00						17.18	22.14	190	17	ND<0.5	1.4	2.4	160	NA	NA	NA	
	12/21/00						16.97	22.35	187	17.8	ND<0.5	2.47	2.5	143	125	NA	NA	
	03/13/01						15.17	24.15	72.4	2.83	ND<0.5	ND<0.5	ND<0.5	126	122	NA	NA	
	09/18/01						17.81	21.51	140	6.4	ND<0.5	3.5	1.6	110	75	NA	NA	
	12/28/01						15.44	23.88	130	5.9	ND<0.5	0.99	0.55	90	63	NA	NA	
	03/14/02						15.50	23.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	100	88	NA	NA	
	04/23/02						14.96	24.36	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	77	NA	NA	NA	
	07/17/02	NP					17.09	22.23	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	47	NA	0.8	7.2	
	10/09/02	NP					17.87	21.45	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	26	29	1.3	7.2	
	01/13/03	NP					14.78	24.54	ND<50	ND<0.50	ND<0.50 <sup>1</sup>	ND<0.50	ND<0.50	59	1	NA	0.8	6.8
	04/07/03 <sup>a</sup>	NP					16.15	23.17	88	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	75	1.1	7.0	
	07/09/03	NP					16.79	22.53	100	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	52	1.1	6.5	
	10/01/03	NP					17.79	21.53	110	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	36	0.7	6.8	
02/05/04 <sup>a</sup>	NP	39.19				15.66	23.53	240	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	37	0.5	6.6		
MW-4	06/26/00		38.10	10.00	24.00	25.00	14.59	23.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	07/20/00						15.04	23.06	97	7.9	ND<0.5	ND<0.5	1.1	51	NA	NA	NA	
	09/19/00						15.83	22.27	110	7.0	ND<0.5	ND<0.5	ND<1.0	60	NA	NA	NA	
	12/21/00						15.59	22.51	120	5.6	ND<0.5	1.72	ND<0.5	46.3	48.6	NA	NA	
	03/13/01						13.73	24.37	76	0.796	ND<0.5	ND<0.5	ND<0.5	53.7	50.0	NA	NA	
	09/18/01						16.50	21.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	25	26.0	NA	NA	
	12/28/01						14.03	24.07	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	15	11.0	NA	NA	
	03/14/02						14.10	24.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	31	28	NA	NA	
	04/23/02						13.57	24.53	ND<50	3	ND<0.5	ND<0.5	ND<0.5	42	NA	NA	NA	
	07/17/02	NP					15.76	22.34	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	16	NA	1.2	7.1	
	10/09/02	NP					16.59	21.51	ND<50	2.2	ND<0.50	ND<0.50	ND<0.50	20	23	0.8	7.1	
	01/13/03	NP					13.43	24.67	52 <sup>d</sup>	ND<0.50	1.6	ND<0.50	ND<0.50	22	NA	0.6	6.6	
	04/07/03 <sup>a</sup>	NP					14.74	23.36	65	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	24	0.7	6.6	
	07/09/03	NP					15.44	22.66	120	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	34	1.4	6.6	
	10/01/03	NP					16.45	21.65	98	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	28	0.8	6.5	
02/05/04 <sup>a</sup>	NP	37.99				14.39	23.60	120	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	22	0.5	6.6		



**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Well Number	Date Sampled	Purge/ Not Purged	TOC Elevation (feet, MSL)	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Well Depth (feet bgs)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	GR0 / TPH-g <sup>p</sup> (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Dissolved Oxygen <sup>o</sup> (mg/L)	pH Level <sup>o</sup>
MW-5	06/26/00		37.21	9.40	23.40	25.00	14.27	22.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/20/00						14.69	22.52	55	ND<0.5	ND<0.5	ND<0.5	ND<1.0	14,000	NA	NA	NA
	09/19/00						15.36	21.85	54	ND<0.5	ND<0.5	ND<0.5	ND<1.0	13,000	NA	NA	NA
	12/21/00						15.15	22.06	72.9	2.51	ND<0.5	ND<0.5	0.961	19,200	21,200	NA	NA
	03/13/01						13.5	23.71	ND<500	ND<5	ND<5	ND<5	ND<5	15,900	20,000	NA	NA
	09/18/01						15.94	21.27	ND<10,000	ND<100	ND<100	ND<100	ND<1,000	22,000	20,000	NA	NA
	12/28/01						13.45	23.76	ND<10,000	ND<100	ND<100	ND<100	ND<100	10,000	10,000	NA	NA
	03/14/02						13.82	23.39	ND<5,000	ND<50	ND<50	ND<50	ND<50	7,100	7,700	NA	NA
	04/23/02						13.25	23.96	ND<5,000	ND<50	ND<50	ND<50	ND<50	8,900	NA	NA	NA
	07/17/02	NP					15.27	21.94	7,900 <sup>d</sup>	ND<50	ND<50	ND<50	ND<50	13,000	NA	1.1	7.5
	10/09/02	NP					16.02	21.19	2,400 <sup>e</sup>	ND<20	ND<20	ND<20	ND<20	7,300	7,500	1.2	6.7
	01/13/03	NP					13.20	24.01	6,400 <sup>e</sup>	ND<50 <sup>j</sup>	ND<50	ND<50	ND<50 <sup>j</sup>	8,900 <sup>k</sup>	NA	1.3	6.8
	04/07/03 <sup>n</sup>	NP					14.42	22.79	ND<10,000	ND<100	ND<100	ND<100	ND<100	NA	3,700	0.9	6.8
	07/09/03	NP					15.01	22.20	11,000	ND<50	ND<50	ND<50	ND<50	NA	6,500	2.4	6.9
	10/01/03	NP					15.94	21.27	9,600	ND<50	ND<50	ND<50	ND<50	NA	6,100	1.0	7.4
02/05/04 <sup>q</sup>	NP	37.12				14.10	23.02	8,100	ND<50	ND<50	ND<50	ND<50	NA	7,900	1.5	6.7	
MW-6	06/26/00		37.11	10.00	25.00	25.00	13.46	23.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/20/00						13.94	23.17	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA	NA	NA
	09/19/00						14.41	22.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA	NA	NA
	12/21/00						14.53	22.58	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	NA	NA
	03/13/01						12.67	24.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	NA	NA
	09/18/01						15.42	21.69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<2.0	NA	NA
	12/28/01						12.96	24.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	12	ND<0.5	NA	NA
	03/14/02						12.98	24.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	NA	NA
	04/23/02						12.44	24.67	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3	NA	NA	NA
	07/17/02	NP					14.65	22.46	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	NA	1.3	7.3
	10/09/02	NP					15.51	21.60	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	NA	1.3	7.1
	01/13/03	NP					12.27	24.84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	NA	1.1	6.8
	04/07/03 <sup>n</sup>	NP					13.61	23.50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	ND<0.50	2.0	6.6
	07/09/03	NP					14.34	22.77	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	ND<0.50	1.6	7.0
	10/01/03	NP					15.37	21.74									
02/05/04 <sup>q</sup>		37.11				13.38	23.73										

----- Sampled Annually (Third Quarter) -----  
----- Sampled Annually (Third Quarter) -----

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Well Number	Date Sampled	Purge/ Not Purged	TOC Elevation (feet, MSL)	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Well Depth (feet bgs)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	GRO / TPH-g <sup>p</sup> (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Dissolved Oxygen <sup>o</sup> (mg/L)	pH Level <sup>o</sup>
MW-7	06/26/00		38.68	12.00	27.00	27.00	14.34	24.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/20/00						15.26	23.42	14,000	5.4	ND<0.5	2.8	5.9	71,000	NA	NA	NA
	09/19/00						15.70	22.98	8,400	420	38	470	220	5,600	NA	NA	NA
	12/21/00						16.02	22.66	NS <sup>a</sup>	NS <sup>a</sup>	NS <sup>a</sup>	NS <sup>a</sup>	NS <sup>a</sup>	NS <sup>a</sup>	NS <sup>a</sup>	NA	NA
	03/13/01						14.18	24.50	ND<2,000	154	63	46.3	127	175,000	160,000	NA	NA
	09/18/01						17.02	21.66	ND<100,000	1,900	ND<1,000	ND<1,000	2,800	190,000	370,000	NA	NA
	12/28/01						14.81	23.87	ND<20,000	ND<200	ND<200	ND<200	ND<200	84,000	72,000	NA	NA
	03/14/02						14.60	24.08	ND<50,000	ND<500	ND<500	ND<500	ND<500	85,000	85,000	NA	NA
	04/23/02						13.94	24.74	ND<20,000	530	200	220	800	67,000	NA	NA	NA
	07/17/02	NP					16.27	22.41	26,000 <sup>d</sup>	720	ND<250	ND<250	860	120,000	NA	1.0	6.9
	10/09/02	NP					17.16	21.52	110,000 <sup>d</sup>	1,500	4,400	820	5,400	97,000	120,000	0.9	6.8
	01/13/03	NP					13.82	24.86	ND<50,000 <sup>f</sup>	ND<500 <sup>f</sup>	ND<500 <sup>f</sup>	ND<500 <sup>f</sup>	2,200 <sup>f</sup>	33,000 <sup>f</sup>	NA	0.8	6.6
	04/07/03 <sup>n</sup>	NP					14.52	24.16	ND<2,500	30	ND<25	ND<25	ND<25	NA	710	1.0	7.0
	07/09/03	NP					15.97	22.71	66,000	ND<500	ND<500	ND<500	ND<500	NA	36,000	1.6	6.7
	10/01/03	NP					17.03	21.65	130,000	570	ND<500	ND<500	ND<500	NA	84,000	0.7	6.6
02/05/04 <sup>q</sup>	NP	38.54				14.75	23.79	55,000	300	ND<250	ND<250	ND<250	NA	34,000	1.0	6.7	
MW-8	02/05/04 <sup>q</sup>	P	38.91				15.61	23.30	3,600	ND<25	ND<25	ND<25	ND<25	NA	1,900	0.9	6.8

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

---

Notes:

bgs	= Below ground surface
BTEX	= Benzene, Toluene, Ethyl-benzene, and Total Xylenes analyzed by EPA method 8260B. (Prior to 04/07/03, analyzed by EPA method 8021B.)
GRO	= Gasoline range organics, analyzed by EPA method 8260B.
µg/L	= Micrograms per liter
mg/L	= Milligrams per liter
MSL	= Mean sea level
MTBE	= Methyl tertiary butyl ether analyzed by EPA Method 8260B. (Prior to 04/07/03, analyzed by EPA method 8021B unless otherwise noted.)
NA	= Not available
NC	= Not calculated
ND<	= Not detected at or above specified laboratory method detection limit
NM	= Not measured
NP	= Well not purged before sampling
P	= Well purged before sampling
TOC	= Top of casing
TPH-g	= Total Petroleum Hydrocarbons as Gasoline analyzed by EPA method 8260B. (Prior to 04/07/03, analyzed by EPA method 8015 modified.)
a	= Product sheen noted
b	= Well was sampled after batch extraction event.
c	= Chromatogram Pattern: Gasoline C6-C10
d	= Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel
e	= Discrete peak @C6-C7
f	= This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
g	= Well not sampled due to the detection of free product.
h	= Groundwater elevation adjusted for free product: (thickness of free product x 0.8) + measured groundwater elevation
j	= The closing calibration was outside acceptance limits by 1%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggests that calibration linearity is not a factor.
k	= The closing calibration was outside acceptance limits by 6%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggests that calibration linearity is not a factor.
l	= This analyse was not confirmed using a secondary column in accordance to client contract.
n	= TPH-g, BTEX, and MTBE analyzed by EPA method 8260B beginning on the second quarter 2003 sampling event (04/07/03).
o	= Dissolved Oxygen and pH levels are field measurements.
p	= Please note that beginning in the Fourth Quarter 2003, the laboratory modified the reported analyte list. Total Petroleum Hydrocarbons as Gasoline (TPHg) has been changed to Gasoline Range Organics (GRO). The resulting data may be impacted by the potential inclusion of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported.
q	= TOC elevations re-surveyed to NAVD'88 on February 23, 2004.
r	= Data collected during batch extraction activities

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

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

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
07/20/00	West-Northwest	0.006
09/19/00	West-Northwest	0.004
12/21/00	West-Northwest	0.004
03/13/01	West-Northwest	0.005
05/30/01	West-Northwest	0.004
09/18/01	West-Northwest	0.003
12/28/01	West-Northwest	0.003
03/14/02	West	0.004
04/23/02	West	0.006
07/17/02	West	0.003
10/09/02	West	0.002
01/13/03	Southwest	0.004
04/07/03	West-Northwest	0.009-0.011
07/09/03	West-Northwest	0.004
10/01/03	West	0.002
<b>02/05/04</b>	<b>West</b>	<b>0.004</b>

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

**Table 3  
Fuel Oxygenate Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-1	04/07/03	ND<100	ND<20	22	ND<0.50	ND<0.50	ND<0.50	NA	NA
	07/09/03	ND<5,000	ND<1,000	690	ND<25	ND<25	ND<25	NA	NA
	10/01/03	ND<500	ND<100	360	ND<2.5	ND<2.5	9.3	NA	NA
	<b>02/05/04</b>	<b>ND&lt;5,000</b>	<b>ND&lt;1,000</b>	<b>1,100</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>32</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>
MW-3	04/07/03	ND<100	ND<20	75	ND<0.50	ND<0.50	6.5	NA	NA
	07/09/03	ND<100	ND<20	52	ND<0.50	ND<0.50	4.2	NA	NA
	10/01/03	ND<100	ND<20	36	ND<0.50	ND<0.50	2.6	NA	NA
	<b>02/05/04</b>	<b>ND&lt;100</b>	<b>ND&lt;20</b>	<b>37</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>3.1</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>
MW-4	04/07/03	ND<100	ND<20	24	ND<0.50	ND<0.50	7.3	NA	NA
	07/09/03	ND<100	ND<20	34	ND<0.50	ND<0.50	9.8	NA	NA
	10/01/03	ND<100	ND<20	28	ND<0.50	ND<0.50	7.0	NA	NA
	<b>02/05/04</b>	<b>ND&lt;100</b>	<b>ND&lt;20</b>	<b>22</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>6.2</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>
MW-5	04/07/03	ND<20,000	ND<4,000	3,700	ND<100	ND<100	ND<100	NA	NA
	07/09/03	ND<10,000	ND<2,000	6,500	ND<50	ND<50	ND<50	NA	NA
	10/01/03	ND<10,000	ND<2,000	6,100	ND<50	ND<50	ND<50	NA	NA
	<b>02/05/04</b>	<b>ND&lt;10,000<sup>a</sup></b>	<b>ND&lt;2,000</b>	<b>7,900</b>	<b>ND&lt;50</b>	<b>ND&lt;50</b>	<b>ND&lt;50</b>	<b>ND&lt;50</b>	<b>ND&lt;50</b>
MW-6	04/07/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
	07/09/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	NA
MW-7	04/07/03	ND<5,000	ND<1,000	710	ND<25	ND<25	ND<25	NA	NA
	07/09/03	ND<100,000	ND<20,000	36,000	ND<500	ND<500	ND<500	NA	NA
	10/01/03	ND<100,000	ND<20,000	84,000	ND<500	ND<500	ND<500	NA	NA
	<b>02/05/04</b>	<b>ND&lt;50,000</b>	<b>ND&lt;10,000</b>	<b>34,000</b>	<b>ND&lt;250</b>	<b>ND&lt;250</b>	<b>ND&lt;250</b>	<b>ND&lt;250</b>	<b>ND&lt;250</b>
MW-8	<b>02/05/04</b>	<b>ND&lt;5,000</b>	<b>ND&lt;1,000</b>	<b>1,900</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>

**Table 3**  
**Fuel Oxygenate Analytical Data**

ARCO Service Station #2111  
1156 Davis Street  
San Leandro, California

---

Note	= All fuel oxygenate compounds analyzed using EPA Method 8260B
TBA	= tert-Butyl alcohol
MTBE	= Methyl tert-butyl ether
DIPE	= Di-isopropyl ether
ETBE	= Ethyl tert butyl ether
TAME	= tert-Amyl methyl ether
µg/L	= micrograms per liter
ND<	= Less than laboratory reporting limit
NA	= Data not available, not analyzed, or not applicable
NS	= Not Sampled
a	= The continuing calibration verification was outside of client contractual acceptance limits. However, it was within method acceptance limits. The data should still be used for its intended purpose.

---

**Table 4**  
**Approximate Cumulative Floating Product Recovered**  
**1999 - present**

ARCO Service Station 2153  
2800 Homestead Road, Santa Clara, California

Well Designation	Product Recovery Field Date	Floating Product Thickness (feet)	Floating Product Recovered (gallons)
MW-2	06/28/99	0.45	0.300
MW-2	06/30/99	0.015	0.010
MW-2	07/07/99	0.06	0.040
MW-2	07/23/99	0.008	0.005
MW-2	08/25/99	0.02	0.013
MW-2	09/21/99	0.01	0.013
MW-2	11/10/99	ND	0.000
MW-2	02/09/00	ND	0.000
MW-2	04/23/02	ND	0.000
MW-2	07/17/02	Sheen	0.000
MW-2	10/9/2002*	NA	0.000
MW-2	01/13/03	0.26	0.132
MW-2	02/14/03	ND	0.000
MW-2	03/24/03	ND	0.000
MW-2	04/07/03	0.05	0.003
MW-2	05/23/03	ND	0.000
MW-2	06/24/03	0.03	0.012
MW-2	07/09/03	0.07	0.028
MW-2	07/31/03	0.05	0.034
MW-2	09/04/03	0.02	0.013
MW-2	10/01/03	0.07	0.021
MW-2	11/12/03	0.59	0.360
MW-2	12/11/03	0.05	0.066
MW-2	02/05/04	0.13	0.021
MW-2	02/16/04	0.02	0.013
<b>Approximate Cumulative Floating Product:</b>			<b>1.085</b>

\* = Free product encountered, but unable to gauge.

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



## FIELD PROCEDURES

---

### Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear Teflon™ bailer or an oil-water interface probe. Wells not containing free product are purged approximately three casing volumes of water (or until dewatered) using a centrifugal pump, gas displacement pump, or bailer. Equipment and purging method used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially (approximately 80%) recover. Groundwater samples (both purge and no purge) are collected using a Teflon bailer, placed into appropriate Environmental Protection Agency- (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California State-certified laboratory. Wells with free product are not sampled and free product is removed according to California Code of Regulation, Title 23, Div. 3, Chap. 16, Section 2655, UST Regulations.

WELL GAUGING DATA

Project # 040205-PC2 Date 2/5/04 Client URS 2111

Site 1156 Davis St., San Leandro

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 <del>TOE</del>	<i>No Purge</i>
MW-1	4					16.28	26.22	TOC	12.5'
MW-2	4	sheen odor	17.30	.13	79	14.43	26.68	↓	12' - SPH
MW-3	4					15.66	26.65		11.9'
MW-4	4					14.39	21.63		10'
MW-5	2					14.10	23.85		9.4'
MW-6	2					13.30	24.82		10' TC
MW-7	2					14.75	27.18		12'
MW-8	2					15.61	39.64		



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040805-PLZ</u>	Station # <u>211</u>
Sampler: <u>PC</u>	Date: <u>2/5/04</u>
Well I.D.: <u>MJ-2</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u>   </u>
Total Well Depth: <u>26.68</u>	Depth to Water: <u>14.43</u>
Depth to Free Product: <u>14.30</u>	Thickness of Free Product (feet): <u>.13</u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: <u>Bailer</u> <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
--	--

Top of Screen: 12' 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	=	Gals.
				Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
			No Purge - No Sample taken		
			77 ml SPH removed		

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: <u>2/5/04</u>
Sample I.D.: <u>MJ-2</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: <del>MTBE</del> <del>HTER</del> MTBE TPH-D Other: <u>oxy; &amp; PH and all by 8260</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>0.2</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040805-PC2</u>	Station # <u>211</u>
Sampler: <u>PC</u>	Date: <u>2/5/04</u>
Well I.D.: <u>MU-3</u>	Well Diameter: 2 3 <u>⊕</u> 6 8 _____
Total Well Depth: <u>26.65</u>	Depth to Water: <u>15.66</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: 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.

<u>11.9'</u>	x		=		Gals.
1 Case Volume (Gals.)		Specified Volume		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
			<u>No Purge</u>	<u>-</u>	<u>Water below screen level</u>
<u>1240</u>	<u>67.6</u>	<u>6.6</u>	<u>688</u>	<u>-</u>	<u>clear</u>

Did well dewater? Yes  No  Gallons actually evacuated: \_\_\_\_\_

Sampling Time: 1240 Sampling Date: 2/5/04

Sample I.D.: MU-3 Laboratory: Pace Scientific Other \_\_\_\_\_

Analyzed for: ~~TRIC~~ ~~BTX~~ MTBE TPH-D Other: oxy & ethanol all by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.5	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040805-PC2</u>	Station # <u>211</u>
Sampler: <u>PC</u>	Date: <u>2/5/04</u>
Well I.D.: <u>MJ-4</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u>    </u>
Total Well Depth: <u>21.63</u>	Depth to Water: <u>14.39</u>
Depth to Free Product: <u>    </u>	Thickness of Free Product (feet): <u>    </u>
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): <u>ESL</u> HACH

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

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

Sampling Method: Bailer  
 \*Disposable Bailer  
 Extraction Port  
 Other:     

Top of Screen: 10' 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	=	Gals. Calculated Volume
-----------------------	---	-------------------	---	----------------------------

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
			NO Purge	-	Water below screen level
1308	68.2	6.6	752	-	cloudy

Did well dewater? Yes  No  Gallons actually evacuated:     

Sampling Time: 1308 Sampling Date: 2/5/04

Sample I.D.: MJ-4 Laboratory: Pace Scoria Other     

Analyzed for: ~~MLG BTEX~~ MTHE TPH-D Other: oxy's & Ethanol all by 8260

D.O. (if req'd):	Pre-purge:	$\text{mg/L}$	<del>Post-purge:</del>	<u>0.5</u> $\text{mg/L}$
	Post-purge:	$\text{mV}$	<del>Post-purge:</del>	$\text{mV}$



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040205-PC2</u>	Station # <u>2111</u>
Sampler: <u>PC</u>	Date: <u>2/5/04</u>
Well I.D.: <u>MW-7</u>	Well Diameter: <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="checkbox"/> _____
Total Well Depth: <u>27.18</u>	Depth to Water: <u>14.75</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: <u>Bailer</u> <input type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
---	---

Top of Screen: 12' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

_____	X	_____	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <del>µS</del> )	Gals. Removed	Observations
			<u>No Purge</u>		
<u>1325</u>	<u>66.6</u>	<u>6.7</u>	<u>1007</u>	-	<u>clear odor</u>

Did well dewater? Yes  No  Gallons actually evacuated: \_\_\_\_\_

Sampling Time: 1325 Sampling Date: 2/5/04

Sample I.D.: MW-7 Laboratory: Pace Sequoia Other: \_\_\_\_\_

Analyzed for: ~~TPH-G~~ ~~BTE~~ MTBE TPH-D Other: oxy's & Ethanol all by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
			<u>1.0</u>	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040805-PC2</u>	Station # <u>2111</u>
Sampler: <u>PC</u>	Date: <u>2/5/04</u>
Well I.D.: <u>MU-8</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>39.64</u>	Depth to Water: <u>15.61</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVT</u> Grade	D.O. Meter (if req'd): <u>SL</u> HACH

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

Purge Method:  Bailer      Sampling Method:  Bailer

Disposable Bailer       Disposable Bailer

Positive Air Displacement       Extraction Port

Electric Submersible      Other: \_\_\_\_\_

Extraction Pump

Other: \_\_\_\_\_

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

<u>3.8</u>	x	<u>3</u>	=	<u>11.4</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <del>µS</del> )	Gals. Removed	Observations
1230	67.1	6.4	699	3.8	brown, cloudy
1238	66.8	6.6	703	7.6	↓ ↑
1245	66.7	6.8	701	11.4	

Did well dewater? Yes  No  Gallons actually evacuated: 11.4

Sampling Time: 1255      Sampling Date: 2/5/04

Sample I.D.: MU-8      Laboratory: Pace Sequoia Other \_\_\_\_\_

Analyzed for: ~~THLH BTBR~~ MTBE TPH-D Other: oxy's & ethanol all by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L	<u>6.9</u>
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV	

**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:

2111		
Station #		
1156 Davis St. Santa Leandro		
Station Address		
Total Gallons Collected From Groundwater Monitoring Wells:		
11.4		
added equip.	any other	
rinse water 2.6	adjustments	
<b>TOTAL GALS.</b>	loaded onto	
<b>RECOVERED 14</b>	BTS vehicle # 22	
BTS event #	time	date
040205-PL2	1400	2/5/04
signature <i>[Signature]</i>		
*****		
REC'D AT	time	date
Blaine Tech		2/5/04
unloaded by		
signature <i>[Signature]</i>		



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040216-SS3</u>	Station # <u>2111</u>
Sampler: <u>Soott</u>	Date: <u>2/16/04</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 4 6 8 <u>    </u>
Total Well Depth: <u>    </u>	Depth to Water: <u>14.12</u>
Depth to Free Product: <u>14.10</u>	Thickness of Free Product (feet): <u>.02</u>
Referenced to: <u>PVC</u> 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 <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> <del>Disposable Bailer</del> Positive Air Displacement Electric Submersible Extraction Pump Other: <u>    </u>	Sampling Method: <u>Bailer</u> <del>Disposable Bailer</del> Extraction Port Other: <u>    </u>
---	---

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.

1 Case Volume (Gals.)	X	Specified Volumes	=	Gals.
		Calculated Volume		

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
<u>Purged</u>	<u>49.2</u>	<u>    </u>	<u>mV SPH +</u>	<u>1 gal. H<sub>2</sub>O</u>	<u>    </u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>    </u>
Sampling Time: <u>    </u>	Sampling Date: <u>    </u>
Sample I.D.: <u>    </u>	Laboratory: Pace Sequoia Other <u>    </u>
Analyzed for: TPH-G BTEX MTBE TPH-D Other: <u>    </u>	
D.O. (if req'd):	Pre-purge: <u>    </u> mg/L      Post-purge: <u>    </u> mg/L
O.R.P. (if req'd):	Pre-purge: <u>    </u> mV      Post-purge: <u>    </u> mV

**ATTACHMENT B**

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

## **LABORATORY PROCEDURES**

---

### **Laboratory Procedures**

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



20 February, 2004

Scott Robinson  
URS Corporation [Arco]  
1333 Broadway, Suite 800  
Oakland, CA 94612

RE: ARCO #2111, San Leandro, CA  
Work Order: MNB0243

Enclosed are the results of analyses for samples received by the laboratory on 02/06/04 11:07. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Leticia Reyes For Lisa Race  
Senior Project Manager

CA ELAP Certificate #1210

URS Corporation [Arco]  
1333 Broadway, Suite 800  
Oakland CA, 94612

Project: ARCO #2111, San Leandro, CA  
Project Number: INTRIM-50277  
Project Manager: Scott Robinson

MNB0243  
**Reported:**  
02/20/04 16:34

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MNB0243-01	Water	02/05/04 12:25	02/06/04 11:07
MW-3	MNB0243-02	Water	02/05/04 12:40	02/06/04 11:07
MW-4	MNB0243-03	Water	02/05/04 13:08	02/06/04 11:07
MW-7	MNB0243-04	Water	02/05/04 13:25	02/06/04 11:07
MW-8	MNB0243-05	Water	02/05/04 12:55	02/06/04 11:07
MW-5	MNB0243-07	Water	02/05/04 13:35	02/06/04 11:07

These samples were received with intact custody seals





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

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

MNB0243  
**Reported:**  
 02/20/04 16:34

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (MNB0243-01) Water    Sampled: 02/05/04 12:25    Received: 02/06/04 11:07</b>									
Ethanol	ND	5000	ug/l	50	4B13050	02/13/04	02/14/04	EPA 8260B	
tert-Butyl alcohol	ND	1000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1100</b>	<b>25</b>	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
<b>tert-Amyl methyl ether</b>	<b>32</b>	<b>25</b>	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
<b>Benzene</b>	<b>31</b>	<b>25</b>	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>2800</b>	<b>2500</b>	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>102 %</i>	<i>78-129</i>		"	"	"	"	
<b>MW-3 (MNB0243-02) Water    Sampled: 02/05/04 12:40    Received: 02/06/04 11:07</b>									
Ethanol	ND	100	ug/l	1	4B13050	02/13/04	02/14/04	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>37</b>	<b>0.50</b>	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<b>tert-Amyl methyl ether</b>	<b>3.1</b>	<b>0.50</b>	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>240</b>	<b>50</b>	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>98.4 %</i>	<i>78-129</i>		"	"	"	"	

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

 Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

 MNB0243  
 Reported:  
 02/20/04 16:34

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-4 (MNB0243-03) Water</b> <b>Sampled: 02/05/04 13:08</b> <b>Received: 02/06/04 11:07</b>									
Ethanol	ND	100	ug/l	1	4B13050	02/13/04	02/14/04	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>22</b>	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<b>tert-Amyl methyl ether</b>	<b>6.2</b>	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>120</b>	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		100 %	78-129		"	"	"	"	
<b>MW-7 (MNB0243-04) Water</b> <b>Sampled: 02/05/04 13:25</b> <b>Received: 02/06/04 11:07</b>									
Ethanol	ND	50000	ug/l	500	4B13050	02/13/04	02/14/04	EPA 8260B	
tert-Butyl alcohol	ND	10000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>34000</b>	250	"	"	"	"	"	"	
Di-isopropyl ether	ND	250	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	250	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	250	"	"	"	"	"	"	
1,2-Dichloroethane	ND	250	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	250	"	"	"	"	"	"	
<b>Benzene</b>	<b>300</b>	250	"	"	"	"	"	"	
Toluene	ND	250	"	"	"	"	"	"	
Ethylbenzene	ND	250	"	"	"	"	"	"	
Xylenes (total)	ND	250	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>55000</b>	25000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	78-129		"	"	"	"	

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

 Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

 MNB0243  
**Reported:**  
 02/20/04 16:34

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-8 (MNB0243-05) Water</b> <b>Sampled: 02/05/04 12:55</b> <b>Received: 02/06/04 11:07</b>									
Ethanol	ND	5000	ug/l	50	4B13050	02/13/04	02/15/04	EPA 8260B	
tert-Butyl alcohol	ND	1000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1900</b>	25	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
Benzene	ND	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>3600</b>	2500	"	"	"	"	"	"	HC-19
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.2 %	78-129	"	"	"	"	"	
<b>MW-5 (MNB0243-07) Water</b> <b>Sampled: 02/05/04 13:35</b> <b>Received: 02/06/04 11:07</b>									
Ethanol	ND	10000	ug/l	100	4B17006	02/17/04	02/17/04	EPA 8260B	O-12a
tert-Butyl alcohol	ND	2000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>7900</b>	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	50	"	"	"	"	"	"	
Benzene	ND	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
<b>Gasoline Range Organics</b>	<b>8100</b>	5000	"	"	"	"	"	"	HC-19
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.2 %	78-129	"	"	"	"	"	

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

 Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

 MNB0243  
 Reported:  
 02/20/04 16:34

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

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

**Batch 4B13050 - EPA 5030B P/T**
**Blank (4B13050-BLK1)**

Prepared: 02/13/04 Analyzed: 02/14/04

Ethanol	ND	100	ug/l							O-12
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics	ND	50	"							

*Surrogate: 1,2-Dichloroethane-d4*

4.93

"

5.00

98.6

78-129

**Laboratory Control Sample (4B13050-BS1)**

Prepared: 02/13/04 Analyzed: 02/14/04

Ethanol	226	100	ug/l	200		113	31-143			O-12
tert-Butyl alcohol	46.2	20	"	50.0		92.4	56-131			
Methyl tert-butyl ether	9.70	0.50	"	10.0		97.0	63-137			
Di-isopropyl ether	9.60	0.50	"	10.0		96.0	76-130			
Ethyl tert-butyl ether	10.2	0.50	"	10.0		102	81-121			
tert-Amyl methyl ether	9.66	0.50	"	10.0		96.6	82-140			
1,2-Dichloroethane	10.0	0.50	"	10.0		100	77-136			
1,2-Dibromoethane (EDB)	10.5	0.50	"	10.0		105	77-132			
Benzene	9.92	0.50	"	10.0		99.2	78-124			
Toluene	9.61	0.50	"	10.0		96.1	78-129			
Ethylbenzene	10.0	0.50	"	10.0		100	84-117			
Xylenes (total)	31.2	0.50	"	30.0		104	83-125			

*Surrogate: 1,2-Dichloroethane-d4*

4.77

"

5.00

95.4

78-129

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

 Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

 MNB0243  
 Reported:  
 02/20/04 16:34

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

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

**Batch 4B13050 - EPA 5030B P/T**
**Laboratory Control Sample (4B13050-BS2)**

Prepared: 02/13/04 Analyzed: 02/14/04

Methyl tert-butyl ether	8.42	0.50	ug/l	9.92	84.9	63-137				
Benzene	5.49	0.50	"	6.40	85.8	78-124				
Toluene	31.7	0.50	"	29.7	107	78-129				
Ethylbenzene	7.54	0.50	"	6.96	108	84-117				
Xylenes (total)	37.9	0.50	"	33.7	112	83-125				
Gasoline Range Organics	414	50	"	440	94.1	70-113				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.96</i>		<i>"</i>	<i>5.00</i>	<i>99.2</i>	<i>78-129</i>				

**Laboratory Control Sample Dup (4B13050-BSD1)**

Prepared: 02/13/04 Analyzed: 02/14/04

Ethanol	240	100	ug/l	200	120	31-143	6.01	20		
tert-Butyl alcohol	46.8	20	"	50.0	93.6	56-131	1.29	20		
Methyl tert-butyl ether	9.80	0.50	"	10.0	98.0	63-137	1.03	13		
Di-isopropyl ether	9.29	0.50	"	10.0	92.9	76-130	3.28	9		
Ethyl tert-butyl ether	9.93	0.50	"	10.0	99.3	81-121	2.68	9		
tert-Amyl methyl ether	10.1	0.50	"	10.0	101	82-140	4.45	12		
1,2-Dichloroethane	9.99	0.50	"	10.0	99.9	77-136	0.100	13		
1,2-Dibromoethane (EDB)	10.9	0.50	"	10.0	109	77-132	3.74	9		
Benzene	9.71	0.50	"	10.0	97.1	78-124	2.14	12		
Toluene	9.26	0.50	"	10.0	92.6	78-129	3.71	10		
Ethylbenzene	9.95	0.50	"	10.0	99.5	84-117	0.501	10		
Xylenes (total)	29.4	0.50	"	30.0	98.0	83-125	5.94	11		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.70</i>		<i>"</i>	<i>5.00</i>	<i>94.0</i>	<i>78-129</i>				

**Laboratory Control Sample Dup (4B13050-BSD2)**

Prepared: 02/13/04 Analyzed: 02/14/04

Methyl tert-butyl ether	8.61	0.50	ug/l	9.92	86.8	63-137	2.23	13		
Benzene	5.41	0.50	"	6.40	84.5	78-124	1.47	12		
Toluene	30.8	0.50	"	29.7	104	78-129	2.88	10		
Ethylbenzene	7.32	0.50	"	6.96	105	84-117	2.96	10		
Xylenes (total)	37.2	0.50	"	33.7	110	83-125	1.86	11		
Gasoline Range Organics	383	50	"	440	87.0	70-113	7.78	9		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.01</i>		<i>"</i>	<i>5.00</i>	<i>100</i>	<i>78-129</i>				

URS Corporation [Arco]  
 1333 Broadway, Suite 800  
 Oakland CA, 94612

 Project: ARCO #2111, San Leandro, CA  
 Project Number: INTRIM-50277  
 Project Manager: Scott Robinson

 MNB0243  
 Reported:  
 02/20/04 16:34

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

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

**Batch 4B17006 - EPA 5030B Modified**
**Blank (4B17006-BLK1)**

Prepared &amp; Analyzed: 02/17/04

Ethanol	ND	100	ug/l							O-12a
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics	ND	50	"							

*Surrogate: 1,2-Dichloroethane-d4*

4.45

"

5.00

89.0

78-129

**Laboratory Control Sample (4B17006-BS1)**

Prepared &amp; Analyzed: 02/17/04

Ethanol	211	100	ug/l	200		106	31-143			O-12a
tert-Butyl alcohol	44.2	20	"	50.0		88.4	56-131			
Methyl tert-butyl ether	10.7	0.50	"	10.0		107	63-137			
Di-isopropyl ether	11.0	0.50	"	10.0		110	76-130			
Ethyl tert-butyl ether	10.7	0.50	"	10.0		107	81-121			
tert-Amyl methyl ether	10.3	0.50	"	10.0		103	82-140			
1,2-Dichloroethane	10.3	0.50	"	10.0		103	77-136			
1,2-Dibromoethane (EDB)	9.71	0.50	"	10.0		97.1	77-132			
Benzene	9.86	0.50	"	10.0		98.6	78-124			
Toluene	9.73	0.50	"	10.0		97.3	78-129			
Ethylbenzene	9.92	0.50	"	10.0		99.2	84-117			
Xylenes (total)	30.2	0.50	"	30.0		101	83-125			

*Surrogate: 1,2-Dichloroethane-d4*

5.09

"

5.00

102

78-129



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2111, San Leandro, CA Project Number: INTRIM-50277 Project Manager: Scott Robinson	MNB0243 Reported: 02/20/04 16:34
---	---	--

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

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

**Batch 4B17006 - EPA 5030B Modified**

**Laboratory Control Sample (4B17006-BS2)**

Prepared & Analyzed: 02/17/04

Methyl tert-butyl ether	9.16	0.50	ug/l	10.1		90.7	63-137			
Toluene	23.4	0.50	"	29.7		78.8	78-129			
Xylenes (total)	28.6	0.50	"	33.7		84.9	83-125			
Gasoline Range Organics	343	50	"	440		78.0	70-113			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.16</i>		<i>"</i>	<i>5.00</i>		<i>103</i>	<i>78-129</i>			

**Laboratory Control Sample Dup (4B17006-BSD1)**

Prepared & Analyzed: 02/17/04

Ethanol	193	100	ug/l	200		96.5	31-143	8.91	20	
tert-Butyl alcohol	49.7	20	"	50.0		99.4	56-131	11.7	20	
Methyl tert-butyl ether	11.6	0.50	"	10.0		116	63-137	8.07	13	
Di-isopropyl ether	11.5	0.50	"	10.0		115	76-130	4.44	9	
Ethyl tert-butyl ether	11.4	0.50	"	10.0		114	81-121	6.33	9	
tert-Amyl methyl ether	10.7	0.50	"	10.0		107	82-140	3.81	12	
1,2-Dichloroethane	10.7	0.50	"	10.0		107	77-136	3.81	13	
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	77-132	8.76	9	
Benzene	10.2	0.50	"	10.0		102	78-124	3.39	12	
Toluene	9.62	0.50	"	10.0		96.2	78-129	1.14	10	
Ethylbenzene	10.2	0.50	"	10.0		102	84-117	2.78	10	
Xylenes (total)	31.0	0.50	"	30.0		103	83-125	2.61	11	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.70</i>		<i>"</i>	<i>5.00</i>		<i>94.0</i>	<i>78-129</i>			

**Laboratory Control Sample Dup (4B17006-BSD2)**

Prepared & Analyzed: 02/17/04

Methyl tert-butyl ether	9.48	0.50	ug/l	10.1		93.9	63-137	3.43	13	
Gasoline Range Organics	449	50	"	440		102	70-113	26.8	9	QR-02
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.98</i>		<i>"</i>	<i>5.00</i>		<i>99.6</i>	<i>78-129</i>			

URS Corporation [Arco]  
1333 Broadway, Suite 800  
Oakland CA, 94612Project: ARCO #2111, San Leandro, CA  
Project Number: INTRIM-50277  
Project Manager: Scott RobinsonMNB0243  
Reported:  
02/20/04 16:34**Notes and Definitions**

- HC-19 Discrete peak @ C5-C6.
- O-12 The continuing calibration verification was outside of client contractual acceptance limits by 0.6% high. However, it was within method acceptance limits. The data should still be useful for its intended purpose.
- O-12a The continuing calibration verification was outside of client contractual acceptance limits by 16.8% low. However, it was within method acceptance limits. The data should still be useful for its intended purpose.
- QR-02 The RPD result exceeded the control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference





### Chain of Custody Record

Project Name 211 GWM  
 BP BU/GEM CO Portfolio Retail  
 BP Laboratory Contract Number: Atlantic Richfield Company  
 Date: 2/5/04 Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: <u>1050</u>	Temp: <u>60°F</u>
Off-site Time: <u>1500</u>	Temp: <u>65°F</u>
Sky Conditions: <u>clear</u>	
Meteorological Events: <u>None</u>	
Wind Speed: <u>5 mph</u>	Direction: <u>SE</u>

Send To: <u>SEQUOIA</u>	BP/GEM Facility No.: <u>ARCO 2111</u>	Consultant/Contractor: <u>URS</u>
Lab Name: <u>885 Jarvis Dr.</u>	BP/GEM Facility Address: <u>1156 DAVIS ST, San Leandro, CA</u>	Address: <u>500 12th St., Ste. 200</u>
Lab Address: <u>Morgan Hill, CA 95037</u>	Site ID No. <u>ARCO 2111</u>	<u>Oakland, CA 94609-4014</u>
Lab PM <u>Theresa Allen</u>	Site Lat/Long:	mail BIDD: <u>donna.casper@URSCorp.com</u>
Tele/Fax: <u>408-776-9600 / 408-782-6308</u>	California Global ID #: <u>T0600101784</u>	Consultant/Contractor Project No.: <u>J5-00002111.01 00427</u>
Report Type & QC Level: <u>1 Send EDF Reports</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u>	Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u>
BP/GEM Account No.:	Address: <u>P.O. Box 6549</u>	Consultant/Contractor PM: <u>Scott Robinson</u>
	Address: <u>Moraga, CA 94570</u>	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
	Tele/Fax: <u>925-299-8891/925-299-8872</u>	BP/GEM Work Release No: <u>INTRIM -50277</u>

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis						Sample Point Lat/Long and Comments		
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-G / BTEX E-801-5001-8260	TPH-D (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE DPE, TEA (8260)	1,2-DCA & EDB (8260)		Ethanol (8260)	
1	MW-1	1225	K				01	3						X			X	X	K		
2	MW-2		K					2						X			X	X	K		
3	MW-3	1240	K				02	3						X			X	X	K		
4	MW-4	1308	K				03	3						X			X	X	K		
5	MW-7	1305	X				04	3						X			X	X	K		
6	MW-8	1255	K				05	3						X			X	X	K		
7	TB-21102052004		K				06	2												on hold	
8																					
9																					
10																					

Sampler's Name: <u>D. Lovish</u>	Relinquished By / Affiliation: <u>P. M. AM</u>	Date: <u>2/6/04</u>	Time: <u>10:35</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>2/6/04</u>	Time: <u>10:35</u>
Sampler's Company: <u>Blaine Tech</u>		Date: <u>2/6/04</u>	Time: <u>11:07</u>		Date: <u>2/6/04</u>	Time: <u>11:07</u>
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

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

Seals In Place Yes  No  Temperature Blank Yes  No  Cooler Temperature on Receipt 2 °F/C Trip Blank Yes  No



### Chain of Custody Record

Project Name 2111 GWM  
 BP BU/GEM CO Portfolio Retail  
 BP Laboratory Contract Number: Atlantic Richfield Company  
 Requested Due Date (mm/dd/yy) 14 day TAT

Date: 2/5/04

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

Send To:	BP/GEM Facility No.: <u>ARCO 2111</u>	Consultant/Contractor: <u>URS</u>
Lab Name: <u>SEQUOIA</u>	BP/GEM Facility Address: <u>1156 DAVIS ST, San Leandro, CA</u>	Address: <u>500 12th St, Ste. 200</u>
Lab Address: <u>885 Jarvis Dr.</u>	Site ID No. <u>ARCO 2111</u>	<u>Oakland, CA 94609-4014</u>
<u>Morgan Hill, CA 95037</u>	Site Lat/Long:	e-mail EDD: <u>donna.casper@URSCorp.com</u>
Lab PM <u>Theresa Allen</u>	California Global ID #: <u>T0600101764</u>	Consultant/Contractor Project No.: <u>J5-00002111.01 00427</u>
Tele/Fax: <u>408-776-9800 / 408-782-6308</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u>	Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u>
Report Type & QC Level: <u>1 Send EDF Reports</u>	Address: <u>P.O. Box 6549</u>	Consultant/Contractor PM: <u>Scott Robinson</u>
BP/GEM Account No.:	<u>Moraga, CA 94570</u>	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
Lab Bottle Order No.:	Tele/Fax: <u>925-299-8891/925-299-8872</u>	BP/GEM Work Release No: <u>INTRIM -50277</u>

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis							Sample Point Lat/Long and Comments			
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-G/BTEX (801-50021-8260)	TPH-D (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE DPE, IBA (8260)	1,2-DCA & EDB (8260)	Ethanol (8260)				
1	MW-5	1335		X			MNB0218 07	3							X			X	X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Sampler's Name: <u>P. Cornish</u>	Relinquished By / Affiliation:	Date:	Time:	Accepted By / Affiliation:	Date:	Time:
Sampler's Company: <u>Blaine Tech</u>	<u>[Signature]</u>	<u>2/6/04</u>	<u>1035</u>	<u>[Signature]</u>	<u>2/6/04</u>	<u>1035</u>
Shipment Date:		<u>2/6/04</u>	<u>1107</u>	<u>[Signature]</u>	<u>2/6/04</u>	<u>1107</u>
Shipment Method:						
Shipment Tracking No.:						

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

Seals In Place Yes  No       Temperature Blank Yes  No       Cooler Temperature on Receipt 7 °F/C      Trip Blank Yes  No

## SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: <u>BP</u>	DATE REC'D AT LAB: <u>2/6/04</u>	DRINKING WATER for regulatory purposes: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
REC-BY (PRINT) <u>TL</u>	TIME REC'D AT LAB: <u>1107</u>	WASTE WATER for regulatory purposes: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
WORKORDER: <u>MNB0243</u>	DATE LOGGED IN: <u>2/7/04</u>	

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) <u>Present</u> / Absent <u>Intact</u> / Broken*	<u>01</u>		<u>MW-1</u>	<u>(3) Vials</u>	<u>HCL</u>	<u>W</u>	<u>2/5/04</u>	<u>33/6070</u>
2. Chain-of-Custody <u>Present</u> / Absent*	<u>02</u>		<u>3</u>					
3. Traffic Reports or Packing List: <u>Present</u> / Absent*	<u>03</u>		<u>4</u>					
4. Airbill: <u>Present</u> / Absent*	<u>04</u>		<u>7</u>					
	<u>05</u>		<u>8</u>					
5. Airbill #:	<u>06</u>		<u>7B</u>	<u>(2)</u>				
6. Sample Labels: <u>Present</u> / Absent	<u>07</u>		<u>MW-5</u>	<u>(2)</u>				
7. Sample IDs: <u>Present</u> / Not Listed on Chain-of-Custody								
8. Sample Condition: <u>Intact</u> / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree? <u>Yes</u> / No*								
10. Sample received within hold time: <u>Yes</u> / No*								
11. Adequate sample volume received? <u>Yes</u> / No*								
12. Proper Preservatives used: <u>Yes</u> / No*								
13. Temp Rec. at Lab: <u>2°C</u> Is temp 4 +/-2°C? <u>Yes</u> / No**								

2/6/04

(Acceptance range for samples requiring thermal pres.)  
\*\*Exception (if any): METALS / DFF ON ICE or Problem COC

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

**URS-Oakland, CA**

March 08, 2004

500 12th Street, Suite 200  
Oakland, CA 94607-4014

Attn.: Scott Robinson  
Project: BP Facility No: 2111  
Site: 1156 Davis St., San Leandro, CA

Attached is our report for your samples received on 02/27/2004 20:00  
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after  
04/12/2004 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,  
please call me at (925) 484-1919.

You can also contact me via email. My email address is: [asalimpour@stl-inc.com](mailto:asalimpour@stl-inc.com)

Sincerely,



Afsaneh Salimpour  
Project Manager

**URS-Oakland, CA**

**March 08, 2004**

500 12th Street, Suite 200  
Oakland, CA 94607-4014

Attn.: Scott Robinson  
Project: BP Facility No: 2111  
Site: 1156 Davis St., San Leandro, CA

**Case Narrative**

**General and Sample Comments**

We (STL San Francisco) received 3 Water samples , on Friday, February 27, 2004 8:00 PM.

**Analysis Coments and Flags by QC Batch**

Gas/BTEX Fuel Oxygenates by 8260B (for BP)	Water	QC Batch#: 200403051A64
---	-------	-------------------------

- GW-2 2004-02-0868-002  
   Analysis Flag(s)  
     o Reporting limits were raised due to high level of analyte present in the sample.
- GW-2 2004-02-0868-002  
   Compound Flag(s)  
     dp Sample contains discrete peak in addition to gasoline.

Gas/BTEX Fuel Oxygenates by 8260B (for BP)	Water	QC Batch#: 200403051B66
---	-------	-------------------------

- GW-1 2004-02-0868-001  
   Analysis Flag(s)  
     o Reporting limits were raised due to high level of analyte present in the sample.
- GW-1 2004-02-0868-001  
   Compound Flag(s)  
     dp Sample contains discrete peak in addition to gasoline.

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
GW-1	02/26/2004 08:10	Water	1
GW-2	02/26/2004 13:15	Water	2

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/08/2004 13:31

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

Prep(s): 5030B Test(s): 8260B  
 Sample ID: GW-1 Lab ID: 2004-02-0868 - 1  
 Sampled: 02/26/2004 08:10 Extracted: 3/5/2004 12:09  
 Matrix: Water QC Batch#: 2004/03/05-1B.66  
 Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	6500	2500	ug/L	50.00	03/05/2004 12:09	dp
Benzene	62	25	ug/L	50.00	03/05/2004 12:09	
Toluene	ND	25	ug/L	50.00	03/05/2004 12:09	
Ethylbenzene	64	25	ug/L	50.00	03/05/2004 12:09	
Total xylenes	130	50	ug/L	50.00	03/05/2004 12:09	
tert-Butyl alcohol (TBA)	ND	250	ug/L	50.00	03/05/2004 12:09	
Methyl tert-butyl ether (MTBE)	6500	25	ug/L	50.00	03/05/2004 12:09	
Di-isopropyl Ether (DIPE)	ND	50	ug/L	50.00	03/05/2004 12:09	
Ethyl tert-butyl ether (ETBE)	ND	25	ug/L	50.00	03/05/2004 12:09	
tert-Amyl methyl ether (TAME)	ND	25	ug/L	50.00	03/05/2004 12:09	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	111.8	76-114	%	50.00	03/05/2004 12:09	
Toluene-d8	103.2	88-110	%	50.00	03/05/2004 12:09	





**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2004/03/05-1A.64-046

Water

Test(s): 8260B

QC Batch # 2004/03/05-1A.64

Date Extracted: 03/05/2004 13:46

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/05/2004 13:46	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	03/05/2004 13:46	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	03/05/2004 13:46	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	03/05/2004 13:46	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	03/05/2004 13:46	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	03/05/2004 13:46	
Benzene	ND	0.5	ug/L	03/05/2004 13:46	
Toluene	ND	0.5	ug/L	03/05/2004 13:46	
Ethylbenzene	ND	0.5	ug/L	03/05/2004 13:46	
Total xylenes	ND	1.0	ug/L	03/05/2004 13:46	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	93.6	76-114	%	03/05/2004 13:46	
Toluene-d8	96.8	88-110	%	03/05/2004 13:46	

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

Batch QC Report		
Prep(s): 5030B		Test(s): 8260B
Method Blank	Water	QC Batch # 2004/03/05-1B.66
MB: 2004/03/05-1B.66-009		Date Extracted: 03/05/2004 08:09

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/05/2004 08:09	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	03/05/2004 08:09	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	03/05/2004 08:09	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	03/05/2004 08:09	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	03/05/2004 08:09	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	03/05/2004 08:09	
Benzene	ND	0.5	ug/L	03/05/2004 08:09	
Toluene	ND	0.5	ug/L	03/05/2004 08:09	
Ethylbenzene	ND	0.5	ug/L	03/05/2004 08:09	
Total xylenes	ND	1.0	ug/L	03/05/2004 08:09	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	100.8	76-114	%	03/05/2004 08:09	
Toluene-d8	99.0	88-110	%	03/05/2004 08:09	

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA  
Attn.: Scott Robinson

500 12th Street, Suite 200  
Oakland, CA 94607-4014  
Phone: (510) 893-3600 Fax: (510) 874-3268  
Project: BP Facility No: 2111

Received: 02/27/2004 20:00  
Site: 1156 Davis St., San Leandro, CA

**Batch QC Report**

Prep(s): 5030B Test(s): 8260B

Laboratory Control Spike Water QC Batch # 2004/03/05-1A.64

LCS: 2004/03/05-1A.64-002 Extracted: 03/05/2004 Analyzed: 03/05/2004 13:02

LCSD: 2004/03/05-1A.64-024 Extracted: 03/05/2004 Analyzed: 03/05/2004 13:24

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	22.2	21.1	25	88.8	84.4	5.1	65-165	20		
Benzene	21.7	22.4	25	86.8	89.6	3.2	69-129	20		
Toluene	23.3	24.6	25	93.2	98.4	5.4	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	447	421	500	89.4	84.2		76-114			
Toluene-d8	479	488	500	95.8	97.6		88-110			

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike**

**Water**

**QC Batch # 2004/03/05-1B.66**

LCS 2004/03/05-1B.66-021

Extracted: 03/05/2004

Analyzed: 03/05/2004 07:21

LCSD 2004/03/05-1B.66-045

Extracted: 03/05/2004

Analyzed: 03/05/2004 07:45

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %			Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	20.1	21.6	25	80.4	86.4	7.2	65-165	20			
Benzene	22.7	23.4	25	90.8	93.6	3.0	69-129	20			
Toluene	22.4	23.0	25	89.6	92.0	2.6	70-130	20			
<b>Surrogates(s)</b>											
1,2-Dichloroethane-d4	501	491	500	100.2	98.2		76-114				
Toluene-d8	514	492	500	102.8	98.4		88-110				

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/08/2004 13:31

**Gas/BTEX Fuel Oxygenates by 8260B**

URS-Oakland, CA

Attn.: Scott Robinson

500 12th Street, Suite 200

Oakland, CA 94607-4014

Phone: (510) 893-3600 Fax: (510) 874-3268

Project: BP Facility No: 2111

Received: 02/27/2004 20:00

Site: 1156 Davis St., San Leandro, CA

---

**Legend and Notes**

---

**Analysis Flag**

o

Reporting limits were raised due to high level of analyte present in the sample.

**Result Flag**

dp

Sample contains discrete peak in addition to gasoline.

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

03/08/2004 13:31



STL

STL San Francisco

### Sample Receipt Checklist

Submission #: 2004- 02 - 0868

Checklist completed by: (Initials) DSH Date: 02/28 /04

Courier name:  STL San Francisco  Client \_\_\_\_\_

Custody seals intact on shipping container/samples? Yes \_\_\_ No \_\_\_ Not Present

Chain of custody present? Yes  No \_\_\_

Chain of custody signed when relinquished and received? Yes  No \_\_\_

Chain of custody agrees with sample labels? Yes  No \_\_\_

Samples in proper container/bottle? Yes  No \_\_\_

Sample containers intact? Yes  No \_\_\_

Sufficient sample volume for indicated test? Yes  No \_\_\_

All samples received within holding time? Yes  No \_\_\_

Container/Temp Blank temperature in compliance (4° C ± 2)? Temp: 3.1 °C Yes  No \_\_\_

Ice Present Yes  No \_\_\_

Water - VOA vials have zero headspace? No VOA vials submitted Yes \_\_\_ No

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small - O), M (medium - O) or L (large - O)

Water - pH acceptable upon receipt?  Yes  No

pH adjusted - Preservative used:  HNO<sub>3</sub>  HCl  H<sub>2</sub>SO<sub>4</sub>  NaOH  ZnOAc - Lot #(s) \_\_\_\_\_

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments: Trip Blank (from Sequoia, dated 12/24/03) has large bubble; sample is on hold

### Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (Initials) \_\_\_\_\_ Date: 1 / \_\_\_\_\_ /04

Client contacted:  Yes  No

Summary of discussion: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action (per PM/Client): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# Chain of Custody Record

Project Name: Station 2111 - Batch Extraction  
 BP BU/GEM CO Portfolio: Retail  
 BP Laboratory Contract Number: Atlantic Richfield Company  
 Requested Due Date (mm/dd/yy): 02/11/04  
 (Standard 14 day TAT)

On-site Time: Temp:  
 Off-site Time: Temp:  
 Sky Conditions: Cloudy  
 Meteorological Events: Rain  
 Wind Speed: Direction:

## 2004-02-0868

Send To: BP/GEM Facility No.: Station 2111  
 Lab Name: STL-SF (Pleasanton) BP/GEM Facility Address: 1156 Davis Street, San Leandro, CA  
 Lab Address: 1220 Quarry Lane Site ID No.: Station 2111  
 Pleasanton, CA 94566 Site Lat/Long:  
 Lab PM: Afzaneh Salimpour California Global ID #:  
 Tele/Fax: 925.484.1919/925.484.1096 BP/GEM PM Contact: Paul Supple  
 Address: P.O. Box 6549  
 Report Type & QC Level: Level 1 Mornaga, CA 94570  
 BP/GEM Account No.: Tele/Fax: 925.299.8891/925.299.8872  
 Consultant/Contractor: URS Oakland  
 Address: 1333 Broadway, Suite 800  
 Oakland, CA 94612  
 e-mail EDD: No EDF  
 Consultant/Contractor Project No.:  
 Consultant/Contractor Tele/Fax: 510.874.3600/510.874.3268  
 Consultant/Contractor PM: Scott Robinson  
 Invoice to: Consultant or BP or Atlantic Richfield Co (Circle one)  
 BP/GEM Work Release No:

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of containers	Preservatives			Requested Analysis				Sample Point Lat/Long and Comments
				Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-g (8260)	BTEX (8260)	MTBE (8260)	
1	PRE-EXTRACTION Gld-1	0910	2/24/04	X				3			X	X	X	X	Pre-extraction from MW-2	
2	POST-EXTRACTION Gld-2	1515	2/24/04	X				3			X	X	X	X	Post-extraction from MW-2	
3	Trip Blank			X				1			X				ON HOLD	
4																
5																
6															No EDF	
7																
8																
9																
10																

Sampler's Name: Chris Sheridan  
 Sampler's Company: URS  
 Shipment Date: 02/27/04  
 Shipment Method: Pick-up from Lab  
 Shipment Tracking No:  
 Relinquished By / Affiliation: [Signature]  
 Date: 2/26/04  
 Transported By / Affiliation: [Signature]  
 Date: 2/27/04  
 Special Instructions:

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

**ATTACHMENT C**

**HISTORIC GROUNDWATER DATA**



**Table 1  
Historical Groundwater Elevation and Analytical Data  
Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111  
1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/Not Purged P/NP
MW-1	08-01-95	39.60	17.45	ND	22.15	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-1	12-14-95	39.60	17.09	ND	22.51	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	03-21-96	39.60	14.72	ND	24.88	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	05-24-96	39.60	15.94	ND	23.66	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	08-09-96	39.60	17.89	ND	21.71	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	11-06-96	39.60	18.66	ND	20.94	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	03-24-97	39.60	16.13	ND	23.47	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	05-27-97	39.60	17.23	ND	22.37	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	08-07-97	39.60	18.68	ND	20.92	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	11-10-97	39.60	19.19	ND	20.41	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	02-16-98	39.60	12.61	ND	26.99	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	04-15-98	39.60	14.30	ND	25.30	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	07-24-98	39.60	16.40	ND	23.20	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	10-19-98	39.60	17.90	ND	21.70	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	∆	--	--	--		
MW-1	01-28-99	39.60	16.85	ND	22.75	01-28-99	<20,000	580	<200	<200	320	14,000	--	--	--		
MW-1	06-25-99	39.60	17.35	ND	22.25	06-25-99	730	140	5	3	2	7,700	--	--	--	0.79	NP
MW-1	08-25-99	39.60	18.20	ND	21.40	08-25-99	390	66	8.5	<2.5	8.6	3,700	--	--	--	1.56	NP
MW-1	11-10-99	39.60	17.77	ND	21.83	11-10-99	360	70	13	2.2	13	980	--	--	--	0.30	NP
MW-1	02-09-00	39.60	16.25	ND	23.35	02-09-00	190	4.5	0.9	<0.5	12	3,500	--	--	--	0.53	NP
MW-2	08-01-95	37.99	15.67	ND	22.32	08-01-95	23,000	1,300	310	500	3,500	--	--	--	--		
MW-2	12-14-95	37.99	15.36	ND	22.63	12-14-95	7,300	900	25	180	1,000	<200	--	--	--		
MW-2	03-21-96	37.99	12.84	ND	25.15	03-21-96	9,600	850	30	280	1,400	250	--	--	--		
MW-2	05-24-96	37.99	14.03	ND	23.96	05-24-96	2,300	300	<5	73	310	<25	--	--	--		
MW-2	08-09-96	37.99	16.10	ND	21.89	08-09-96	2,800	290	6	75	320	50	--	--	--		

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111**  
**1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/Not Purged P/NP
MW-2	11-06-96	37.99	16.98	ND	21.01	11-06-96	750	76	<1	15	51	110	--	--	--		
MW-2	03-24-97	37.99	14.22	ND	23.77	03-24-97	790	18	<1	2	6	280	--	--	--		
MW-2	05-27-97	37.99	15.42	ND	22.57	05-28-97	750	14	<1	<1	10	150	--	--	--		
MW-2	08-07-97	37.99	16.92	ND	21.07	08-07-97	360	31	<2.5	<2.5	15	260	--	--	--		
MW-2	11-10-97	37.99	17.52	ND	20.47	11-10-97	1,300	82	<5	14	49	550	--	--	--		
MW-2	02-16-98	37.99	12.04	ND	25.95	02-16-98	<2,500	<25	<25	<25	<25	4,200	--	--	--		
MW-2	04-15-98	37.99	12.34	ND	25.65	04-15-98	<10,000	<100	<100	<100	<100	7,300	--	--	--		
MW-2	07-24-98	37.99	14.45	ND	23.54	07-24-98	<2,500	<25	<25	<25	<25	1,500	--	--	--		
MW-2	10-19-98	37.99	16.08	ND	21.91	10-19-98	<1,000	18	<10	<10	<10	1,100	--	--	--		
MW-2	01-28-99	37.99	15.59	0.02	22.41 [1]	01-28-99	160,000	3,000	24,000	4,400	31,000	23,000	--	--	--		
MW-2	06-25-99	37.99	19.20	3.73[4]	21.51 [1]	06-25-99	120,000	6,900	21,000	2,600	19,000	18,000	17,000[3]	--	--	0.49	NP
MW-2	08-25-99	37.99	16.49	0.02	21.51 [1]	08-25-99	92,000	2,200	16,000	3,200	19,000	11,000	9,400[3]	--	--	0.84	NP
MW-2	11-10-99	37.99	16.08	ND	21.91	11-10-99	56,000	2,400	5,900	1,500	10,000	17,000	21,000[3]	--	--	0.41	NP
MW-2	02-09-00	37.99	14.85	ND	23.14	02-09-00	1,700	270	14	17	21	70,000	55,000[3]	--	--	0.97	NP
MW-3	08-01-95	39.32	17.00	ND	22.32	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	600	76[2]		
MW-3	12-14-95	39.32	16.70	ND	22.62	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50		
MW-3	03-21-96	39.32	14.17	ND	25.15	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50		
MW-3	05-24-96	39.32	15.30	ND	24.02	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50		
MW-3	08-09-96	39.32	17.58	ND	21.74	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	--		
MW-3	11-06-96	39.32	18.33	ND	20.99	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	03-24-97	39.32	15.44	ND	23.88	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	05-27-97	39.32	16.75	ND	22.57	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	08-07-97	39.32	18.35	ND	20.97	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	11-10-97	39.32	18.83	ND	20.49	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111**  
**1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-3	02-16-98	39.32	11.99	ND	27.33	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	04-15-98	39.32	13.75	ND	25.57	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	07-24-98	39.32	15.90	ND	23.42	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	10-19-98	39.32	17.45	ND	21.87	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-3	01-28-99	39.32	16.40	ND	22.92	01-28-99	<100	14	4	<1	6	100	--	--	--		
MW-3	06-25-99	39.32	17.92	ND	21.40	06-25-99	83	9.0	1.4	<0.5	2.5	220	--	--	--	1.11	NP
MW-3	08-25-99	39.32	17.79	ND	21.53	08-25-99	240	41	12	3.7	9.9	160	--	--	--	1.13	NP
MW-3	11-10-99	39.32	17.37	ND	21.95	11-10-99	620	100	9.7	4.1	21	150	--	--	--	0.24	NP
MW-3	02-09-00	39.32	15.77	ND	23.55	02-09-00	<50	<0.5	0.7	<0.5	<1	180	--	--	--	0.62	NP
MW-4	08-01-95	38.10	15.65	ND	22.45	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	12-14-95	38.10	15.35	ND	22.75	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-21-96	38.10	12.74	ND	25.36	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-24-96	38.10	14.03	ND	24.07	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-09-96	38.10	16.10	ND	22.00	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-06-96	38.10	17.00	ND	21.10	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-24-97	38.10	14.21	ND	23.89	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-27-97	38.10	15.38	ND	22.72	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-07-97	38.10	16.95	ND	21.15	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-10-97	38.10	17.53	ND	20.57	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	02-16-98	38.10	10.65	ND	27.45	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	04-15-98	38.10	12.20	ND	25.90	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	07-24-98	38.10	14.47	ND	23.63	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	10-19-98	38.10	16.20	ND	21.90	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	01-28-99	38.10	15.02	ND	23.08	01-28-99	340	52	5.5	<0.5	74	31	--	--	--		

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111**  
**1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-4	06-25-99	38.10	15.57	ND	22.53	06-25-99	510	78	4.1	0.5	18	94	--	--	--	0.90	NP
MW-4	08-25-99	38.10	16.43	ND	21.67	08-25-99	660	130	21	6.4	39	110	--	--	--	1.01	NP
MW-4	11-10-99	38.10	16.02	ND	22.08	11-10-99	510	98	5.1	3.1	15	69	--	--	--	0.28	NP
MW-4	02-09-00	38.10	14.30	ND	23.80	02-09-00	<50	<0.5	0.9	<0.5	<1	55	--	--	--	0.67	NP
MW-5	03-21-96	37.21	12.60	ND	24.61	03-22-96	<50	<0.5	<0.5	<0.5	<0.5	82	--	--	--		
MW-5	05-24-96	37.21	13.71	ND	23.50	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	7	--	--	--		
MW-5	08-09-96	37.21	15.60	ND	21.61	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--	--		
MW-5	11-06-96	37.21	16.36	ND	20.85	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	100	--	--	--		
MW-5	03-24-97	37.21	13.87	ND	23.34	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	460	--	--	--		
MW-5	05-27-97	37.21	14.71	ND	22.50	05-28-97	<100	<1	<1	<1	<1	120	--	--	--		
MW-5	08-07-97	37.21	16.90	ND	20.31	08-07-97	<250	<2.5	<2.5	<2.5	<2.5	250	--	--	--		
MW-5	11-10-97	37.21	16.88	ND	20.33	11-10-97	<1,000	<10	<10	<10	<10	770	--	--	--		
MW-5	02-16-98	37.21	10.56	ND	26.65	02-16-98	<200	<2	<2	<2	<2	230	--	--	--		
MW-5	04-15-98	37.21	12.20	ND	25.01	04-15-98	<500	<5	<5	<5	<5	900	--	--	--		
MW-5	07-24-98	37.21	14.20	ND	23.01	07-24-98	<500	<5	<5	<5	<5	570	--	--	--		
MW-5	10-19-98	37.21	15.74	ND	21.47	10-19-98	<250	<2.5	<2.5	<2.5	<2.5	300	--	--	--		
MW-5	01-28-99	37.21	14.60	ND	22.61	01-28-99	<500	8	<5	<5	<5	290	--	--	--		
MW-5	06-25-99	37.21	15.10	ND	22.11	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	1,300	--	--	--	0.76	NP
MW-5	08-25-99	37.21	15.91	ND	21.30	08-25-99	<50	<0.5	<0.5	<0.5	<0.5	6,700	--	--	--	0.98	NP
MW-5	11-10-99	37.21	15.52	ND	21.69	11-10-99	130	2.0	7.0	1.3	21	5,000	--	--	--	0.21	NP
MW-5	02-09-00	37.21	14.03	ND	23.18	02-09-00	92	<0.5	0.8	<0.5	1.0	7,900	--	--	--	0.51	NP
MW-6	03-21-96	37.11	11.55	ND	25.56	03-22-96	<50	<0.5	1.9	<0.5	<0.5	<3	--	--	--		
MW-6	05-24-96	37.11	12.80	ND	24.31	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	6	--	--	--		

**Table 1  
Historical Groundwater Elevation and Analytical Data  
Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111  
1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-6	08-09-96	37.11	Not surveyed			08-09-96	Not sampled: Car parked on well										
MW-6	11-06-96	37.11	Not surveyed			11-06-96	Not sampled: Car parked on well										
MW-6	03-24-97	37.11	13.06	ND	24.05	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	05-27-97	37.11	14.30	ND	22.81	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	08-07-97	37.11	16.40	ND	20.71	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	11-10-97	37.11	16.53	ND	20.58	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	02-16-98	37.11	Not surveyed			02-16-98	Not sampled: Car parked on well										
MW-6	04-15-98	37.11	10.95	ND	26.16	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	07-24-98	37.11	13.30	ND	23.81	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	10-19-98	37.11	Not surveyed			10-19-98	Not sampled: Car parked on well										
MW-6	01-28-99	37.11	13.92	ND	23.19	01-28-99	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--		
MW-6	06-25-99	37.11	15.47	ND	21.64	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	∩	--	--	--	0.74	NP
MW-6	08-25-99	37.11	15.39	ND	21.72	08-25-99	<50	<0.5	3.4	0.6	3.7	∩	--	--	--	0.92	NP
MW-6	11-10-99	37.11	14.92	ND	22.19	11-10-99	<50	<0.5	<0.5	<0.5	<1	∩	--	--	--	0.31	NP
MW-6	02-09-00	37.11	13.30	ND	23.81	02-09-00	<50	<0.5	0.9	<0.5	1.3	∩	--	--	--	0.79	NP
MW-7	03-21-96	38.68	13.32	ND	25.36	03-22-96	32,000	870	450	970	4,900	280	--	--	--		
MW-7	05-24-96	38.68	14.58	ND	24.10	05-24-96	22,000	570	40	42	1,900	<200[2]	--	--	--		
MW-7	08-09-96	38.68	15.33	ND	23.35	08-09-96	14,000	390	<10	180	470	<200[2]	--	--	--		
MW-7	11-06-96	38.68	16.95	ND	21.73	11-06-96	9,500	440	<10	210	150	<100[2]	--	--	--		
MW-7	03-24-97	38.68	14.65	ND	24.03	03-24-97	6,400	420	<10	260	13	480	--	--	--		
MW-7	05-27-97	38.68	15.58	ND	23.10	05-28-97	5,000	420	<5	230	10	460	--	--	--		
MW-7	08-07-97	38.68	17.10	ND	21.58	08-07-97	3,900	350	<5	200	10	330	--	--	--		
MW-7	11-10-97	38.68	18.05	ND	20.63	11-10-97	5,600	590	10	370	43	540	--	--	--		
MW-7	02-16-98	38.68	12.03	ND	26.65	02-16-98	<5,000	390	<50	<50	61	4,300	--	--	--		

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**

**ARCO Service Station 2111**  
**1156 Davis Street, San Leandro, California**

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8260 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-7	04-15-98	38.68	13.02	ND	25.66	04-15-98	<10,000	<100	<100	<100	<100	8,900	--	--	--		
MW-7	07-24-98	38.68	14.18	ND	24.50	07-24-98	5,800	180	<50	74	<50	4,200	--	--	--		
MW-7	10-19-98	38.68	15.99	ND	22.69	10-19-98	<2,500	54	<25	72	<25	3,000	--	--	--		
MW-7	01-28-99	38.68	15.69	ND	22.99	01-28-99	4,500	560	250	<50	94	6,200	--	--	--		
MW-7	06-25-99	38.68	15.36	ND	23.32	06-25-99	3,900	520	160	46	100	45,000	63,000[3]	--	--	0.56	NP
MW-7	08-25-99	38.68	16.71	ND	21.97	08-25-99	3,400	730	77	51	110	62,000	76,000[3]	--	--	0.90	NP
MW-7	11-10-99	38.68	16.76	ND	21.92	11-10-99	15,000	340	19	13	20	55,000	91,000[3]	--	--	0.37	NP
MW-7	02-09-00	38.68	14.45	0.03	24.25 [1]	02-09-00	Not sampled: free product present										

ft-MSL: elevation in feet, relative to mean sea level  
 TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method  
 MTBE: Methyl tert-butyl ether  
 TRPH: total recoverable petroleum hydrocarbons  
 TPHD: total petroleum hydrocarbons as diesel, California DHS LUFT Method  
 \*: EPA method 8020 prior to 11/10/99  
 EPA: United States Environmental Protection Agency  
 µg/L: micrograms per liter  
 mg/L: milligrams per liter  
 ND: none detected  
 --: not available or not analyzed  
 <: less than laboratory detection limit stated to the right  
 [1]: [corrected elevation (Z')] = Z + (h \* 0.73) where: Z = measured elevation, h = floating product thickness, 0.73 = density ratio of oil to water  
 [2]: chromatogram fingerprint is not characteristic of diesel  
 [3]: also analyzed for fuel oxygenates  
 [4]: this value is suspected to be erroneous based on subsequent check by bailer (following day). See discussion

**ATTACHMENT D**

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

---

## Error Summary Log

03/08/04

EDF 1.2i All files present in deliverable.

---

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #2111, San Leandro,
Work Order Number:	MNB0243
Global ID:	T0600101764
Lab Report Number:	MNB0243022020041104



## Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MNB02430220200	MW-1 41104	MNB024301	W	CS	8260TPH	SW5030B	02/05/04	02/13/04	02/14/04	4B13050	1	
MNB02430220200	MW-3 41104	MNB024302	W	CS	8260TPH	SW5030B	02/05/04	02/13/04	02/14/04	4B13050	1	
MNB02430220200	MW-4 41104	MNB024303	W	CS	8260TPH	SW5030B	02/05/04	02/13/04	02/14/04	4B13050	1	
MNB02430220200	MW-5 41104	MNB024307	W	CS	8260TPH	SW5030B	02/05/04	02/17/04	02/17/04	4B17006	1	
MNB02430220200	MW-7 41104	MNB024304	W	CS	8260TPH	SW5030B	02/05/04	02/13/04	02/14/04	4B13050	1	
MNB02430220200	MW-8 41104	MNB024305	W	CS	8260TPH	SW5030B	02/05/04	02/13/04	02/15/04	4B13050	1	
		4B13050BSD1	WQ	BD1	8260TPH	SW5030B	//	02/13/04	02/14/04	4B13050	1	
		4B13050BSD2	WQ	BD2	8260TPH	SW5030B	//	02/13/04	02/14/04	4B13050	1	
		4B13050BS1	WQ	BS1	8260TPH	SW5030B	//	02/13/04	02/14/04	4B13050	1	
		4B13050BS2	WQ	BS2	8260TPH	SW5030B	//	02/13/04	02/14/04	4B13050	1	
		4B13050BLK1	WQ	LB1	8260TPH	SW5030B	//	02/13/04	02/14/04	4B13050	1	
		4B17006BSD1	WQ	BD1	8260TPH	SW5030B	//	02/17/04	02/17/04	4B17006	1	
		4B17006BSD2	WQ	BD2	8260TPH	SW5030B	//	02/17/04	02/17/04	4B17006	1	
		4B17006BS1	WQ	BS1	8260TPH	SW5030B	//	02/17/04	02/17/04	4B17006	1	
		4B17006BS2	WQ	BS2	8260TPH	SW5030B	//	02/17/04	02/17/04	4B17006	1	
		4B17006BLK1	WQ	LB1	8260TPH	SW5030B	//	02/17/04	02/17/04	4B17006	1	

# EDFSAMP: Error Summary Log

03/08/04

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

# EDFTEST: Error Summary Log

03/08/04

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

## EDFRES: Error Summary Log

03/08/04

Error type	Labsampid	Qcocode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Error: LNOTE has an invalid note	MNB024307	CS	W	8260TPH	PR	02/17/04	1	ETHANOL
Error: LNOTE has an invalid note	4B13050BLK1	LB1	WQ	8260TPH	PR	02/14/04	1	ETHANOL
Error: LNOTE has an invalid note	4B13050BS1	BS1	WQ	8260TPH	PR	02/14/04	1	ETHANOL
Error: LNOTE has an invalid note	4B17006BLK1	LB1	WQ	8260TPH	PR	02/17/04	1	ETHANOL
Error: LNOTE has an invalid note	4B17006BS1	BS1	WQ	8260TPH	PR	02/17/04	1	ETHANOL

---

## EDFQC: Error Summary Log

03/08/04

---

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

---

## EDFCL: Error Summary Log

03/08/04

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

## AB2886 Electronic Delivery

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

Your EDF file has been successfully uploaded!

**Confirmation Number:** 5838683068

**Date/Time of Submittal:** 3/8/2004 2:35:07 PM

**Facility Global ID:** T0600101764

**Facility Name:** ARCO # 02111

**Submittal Title:** 1st Qtr 2004 Monitoring Report #2111

**Submittal Type:** GW Monitoring Report

Logged in as URSCORP-OAKLAND  
(CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).

## AB2886 Electronic Delivery

[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:** 1st Qtr 2004 Geowell for #2111

**Submittal Date/Time:** 3/8/2004 2:35:25 PM

**Confirmation Number:** 5926746964

[Back to Main Menu](#)

Logged in as URSCORP-OAKLAND  
(CONTRACTOR)

[CONTACT SITE ADMINISTRATOR](#)



**ATTACHMENT E**

**SURVEY DATA**

## BP/ARCO Survey Sheet

Site: 2111  
 Date: 2/23/2004

Well ID	X-coord (NAD'83)	Y-coord (NAD'83)	Top of Casing (NAVD'88)	Top of Lid (NAVD'88)	Ground Surface (NAVD'88)	Comments
MW-1	-122.1687969	37.7219938	39.49	39.73	39.73	
MW-2	-122.1686654	37.7217628	37.86	38.61	38.61	
MW-3	-122.1686687	37.7220180	39.19	39.87	39.87	
MW-4	-122.1684591	37.7220358	37.99	38.73	38.73	
MW-5	-122.1689275	37.7217378	37.12	37.60	37.60	
MW-6	-122.1682287	37.7219511	37.11	38.03	38.03	
MW-7	-122.1684465	37.7217826	38.54	38.90	38.90	
MW-8	-122.1687519	37.7218896	38.91	39.38	39.38	
V-1	-122.1686227	37.7218233	38.81	39.27	39.27	
V-2	-122.1685841	37.7217634	38.17	38.78	38.78	
V-3	-122.1683701	37.7217952	37.88	38.59	38.59	