



Atlantic Richfield Company  
(a BP affiliated company)

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Alameda County  
JUL 29 2003  
Environmental Health

June 30, 2003

Re: Second Quarter 2003 Groundwater Monitoring Report  
ARCO Service Station #6148  
5131 Shattuck Avenue  
Oakland, CA

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

Submitted by:

Paul Supple  
Environmental Business Manager



June 30, 2003

Ms. Susan Hugo  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Alameda County  
JUL 29 2003  
Environmental Health

**Re: Second Quarter 2003 Groundwater Monitoring Report  
ARCO Service Station #6148  
5131 Shattuck Avenue  
Oakland, California  
URS Project #38486133**

Dear Ms. Hugo:

On behalf of Atlantic Richfield Company (ARCO-an affiliated company of the Group Environmental Management Company), URS Corporation (URS) is submitting the *Second Quarter 2003 Groundwater Monitoring Report* for the ARCO Service Station #6148, located at 5131 Shattuck Avenue, Oakland, California.

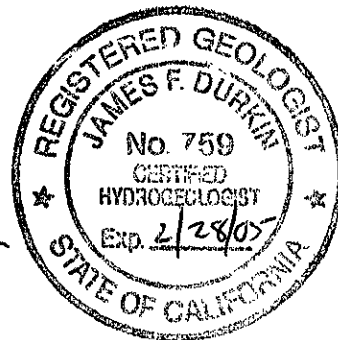
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

**URS CORPORATION**

Scott Robinson  
Project Manager

James F. Durkin, C.Hg.  
Senior Geologist



Enclosure: Second Quarter 2003 Groundwater Monitoring Report

cc: Mr. Paul Supple, ARCO, PO Box 6549, Moraga, CA 94570

**R E P O R T**

**SECOND QUARTER 2003  
GROUNDWATER MONITORING**

ARCO SERVICE STATION #6148  
5131 SHATTUCK AVENUE  
OAKLAND, CALIFORNIA

*Prepared for*  
Atlantic Richfield Company

June 30, 2003

**URS**

URS Corporation  
500 12<sup>th</sup> Street, Suite 200  
Oakland, California 94607

38486133

Date: June 30, 2003  
Quarter: 2Q 03

**ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT**

Facility No.: 6148 Address: 5131 Shattuck Avenue, Oakland, California  
Atlantic Richfield Co. Environmental Engineer: Paul Supple  
Consulting Co./Contact Person: URS Corporation / Scott Robinson  
Consultant Project No.: 38486133  
Primary Agency: Alameda County Health Care Services Agency (ACHCSA)

**WORK PERFORMED THIS QUARTER (Second – 2003):**

1. Performed second quarter 2003 groundwater monitoring event on May 13, 2003.
2. Prepared and submitted second quarter 2003 groundwater monitoring report.
3. Replaced oxygen releasing compounds (ORC) socks in wells MW-2 and MW-5 on May 12, 2003.

**WORK PROPOSED FOR NEXT QUARTER (Third – 2003):**

1. Perform third quarter 2003 groundwater monitoring event.
2. Prepare and submit third quarter 2003 groundwater monitoring report.

Current Phase of Project: GW monitoring/sampling  
Frequency of Groundwater Sampling: Quarterly : MW-1, MW-2, MW-3, & MW-5  
Semi-Annually (1<sup>st</sup>/3<sup>rd</sup> Quarter): Well MW-4  
Annually (3<sup>rd</sup> Quarter): MW-6 & MW-7  
Frequency of Groundwater Monitoring: Quarterly  
Is Free Product (FP) Present On-Site: No  
Current Remediation Techniques: Soil Vapor Extraction (SVE), Air-Sparge and Air-Bubbling Systems  
(all non-operational), ORC: (MW-2 and MW-5)  
Bulk Soil Removed to Date: 560 cubic yards  
Approximate Depth to Groundwater: 13.57 (MW-6) to 16.95 (MW-1) feet  
Groundwater Gradient (direction): Southwest  
Groundwater Gradient (magnitude): 0.013 feet per foot

**DISCUSSION:**

TPH-g was detected in one of the four wells sampled this quarter at a concentration of 300 µg/L (MW-3). Benzene was detected in well MW-2 at a concentration of 0.91 µg/L. MTBE was detected in three wells at concentrations ranging from 2.2 µg/L in well MW-3 to 15 µg/L in well MW-5.

**RECOMMENDATIONS:**

We recommend reducing the sampling frequency on the following wells from quarterly to semi-annually due to the consistently low to non-detect values for the constituents of concern: MW-2, MW-3, and MW-5. Due to consistently stable detections, we further recommend changing well MW-1 from quarterly to annual sampling and well MW-4 from semi-annual to annual sampling. All wells would continue to be gauged quarterly.

**ATTACHMENTS:**

- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Groundwater Flow Direction and Gradient
- Table 3 – Oxygenate Analytical Data
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – May 13, 2003
- 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

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

ARCO Service Station # 6148  
5131 Shattuck Avenue  
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-1	06/21/00	107.80	17.49	90.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA
	09/20/00		17.64	90.16	ND<50	ND<0.5	0.677	ND<0.5	0.969	ND<2.5	NA
	12/22/00		16.87	90.93	186	5.38	0.522	9.52	30.2	8.91	NA
	03/26/01		16.60	91.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	9.1	NA
	05/30/01		17.10	90.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	09/23/01		17.53	90.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.7	NA
	12/28/01		15.57	92.23	ND<50	2.7	ND<0.5	ND<0.5	ND<0.5	20	NA
	03/21/02		15.57	92.23	NS	NS	NS	NS	NS	NS	NA
	04/17/02		16.25	91.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	08/19/02		17.69	90.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	11/27/02		17.45	90.35	ND<50	ND<0.50	1.8	0.65	3.5	1.7	1.0
	02/05/03 <sup>4</sup>		16.93	90.87	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1	1.2
	05/13/03	NP	16.95	90.85	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.0
MW-2	06/21/00	107.28	17.19	90.09	69	ND<0.5	ND<0.5	ND<0.5	ND<1.0	12	NA
	09/20/00		17.31	89.97	ND<50	0.964	ND<0.5	ND<0.5	ND<0.5	5.05	NA
	12/22/00		16.58	90.70	2,140	174	60.2	118	438	123	NA
	03/26/01		16.45	90.83	8,490	333	148	495	1,660	ND<250	NA
	05/30/01		16.83	90.45	4,700	200	71	260	780	43	NA
	09/23/01		17.30	89.98	160	5.9	1.8	0.80	41	14	NA
	12/28/01		15.38	91.90	1,800	54	ND<5.0	ND<5.0	240	30	NA
	03/21/02		15.36	91.92	NS	NS	NS	NS	NS	NS	NA
	04/17/02		16.01	91.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10	NA
	08/19/02		17.53	89.75	170 <sup>1</sup>	22	0.92	14	26	ND<2.5	NA
	11/27/02		17.21	90.07	340	22	0.68	13	26	ND<0.50	1.6
	02/05/03 <sup>4</sup>		16.72	90.56	83	2.7	ND<0.50	0.97	15	4.3	0.7
	05/13/03	NP	16.72	90.56	ND<50	0.91	ND<0.50	ND<0.50	0.60	2.8	0.7

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

ARCO Service Station # 6148  
5131 Shattuck Avenue  
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-3	06/21/00	107.61	17.52	90.09	200	ND<0.5	ND<0.5	ND<0.5	2.1	24	NA
	09/20/00		17.61	90.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	20	NA
	12/22/00		16.85	90.76	227	4.73	1.06	2.58	5.22	27.3	NA
	03/26/01		16.79	90.82	287	6.29	1.58	6.47	12.1	24.2	NA
	05/30/01		17.11	90.50	500	10	ND<0.5	7.00	16	20	NA
	09/23/01		17.57	90.04	400	6.4	0.74	ND<0.5	0.62	22	NA
	12/28/01		15.41	92.20	270	2.5	2.4	ND<0.5	2.3	9.2	NA
	03/21/02		15.58	92.03	NS	NS	NS	NS	NS	NS	NA
	04/17/02		16.25	91.36	360	2.5	0.72	ND<0.5	ND<0.5	12	NA
	08/19/02		17.66	89.95	750 <sup>2</sup>	11	2.1	ND<0.5	2.4	14	NA
	11/27/02		17.69	89.92	470	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1
	02/05/03 <sup>4</sup>		16.82	90.79	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.4	1.3
	05/13/03	NP	17.12	90.49	300	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.2	1.4
MW-4	06/21/00	106.71	16.00	90.71	1,400	5.3	7.3	36	85	4	NA
	09/20/00		16.03	90.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/22/00		NM	NC	NS	NS	NS	NS	NS	NS	NA
	03/26/01		15.05	91.66	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	05/30/01		15.62	91.09	NS	NS	NS	NS	NS	NS	NA
	09/23/01		16.07	90.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	12/28/01		13.68	93.03	NS	NS	NS	NS	NS	NS	NA
	03/21/02		14.04	92.67	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	04/17/02		14.78	91.93	NS	NS	NS	NS	NS	NS	NA
	08/19/02		16.18	90.53	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	11/27/02		15.89	90.82	NS	NS	NS	NS	NS	NS	NS
	02/05/03 <sup>4</sup>		15.40	91.31	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1
	05/13/03		15.42	91.29	NS	NS	NS	NS	NS	NS	NS

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ARCO Service Station # 6148  
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Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)	
MW-5	06/21/00	106.60	16.52	90.08	67	ND<0.5	ND<0.5	ND<0.5	ND<1.0	10	NA	
	09/20/00		16.34	90.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.48	NA	
	12/22/00		15.58	91.02	341	11.5	2.53	4.02	6.25	146	NA	
	03/26/00		15.45	91.15	767	12.4	ND<5.0	ND<5.0	ND<5.0	163	NA	
	05/30/01		15.77	90.83	110	2.3	ND<0.5	ND<0.5	0.81	72	NA	
	09/23/01		16.16	90.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	12/28/01		14.09	92.51	240	2.8	1.9	ND<0.5	2.6	48	NA	
	03/21/02		14.43	92.17	NS	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NS	NA	
	04/17/02		14.96	91.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	08/19/02		16.34	90.26	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS
	11/27/02		NM <sup>3</sup>	NM <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS
	02/05/03 <sup>4</sup>		NM <sup>3</sup>	NM <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>
	05/13/03		<b>NP</b>	<b>15.43</b>	<b>91.17</b>	<b>ND&lt;50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>15</b>	<b>1.4</b>
MW-6	06/21/00	105.13	13.91	91.22	NS	NS	NS	NS	NS	NS	NA	
	09/20/00		14.03	91.10	NS	NS	NS	NS	NS	NS	NA	
	12/22/00		NM	NC	NS	NS	NS	NS	NS	NS	NA	
	03/26/01		12.59	92.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	05/30/01		13.40	91.73	NS	NS	NS	NS	NS	NS	NA	
	09/23/01		13.49	91.64	NS	NS	NS	NS	NS	NS	NA	
	12/28/01		12.07	93.06	NS	NS	NS	NS	NS	NS	NA	
	03/21/02		11.79	93.34	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	04/17/02		12.45	92.68	NS	NS	NS	NS	NS	NS	NA	
	08/19/02		13.96	91.17	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	11/27/02		14.07	91.06	NS	NS	NS	NS	NS	NS	NS	
	02/05/03 <sup>4</sup>		13.55	91.58	NS	NS	NS	NS	NS	NS	NS	
	05/13/03		<b>13.57</b>	<b>91.56</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	



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

ARCO Service Station # 6148  
5131 Shattuck Avenue  
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Dissolved Oxygen (mg/L)
MW-7	06/21/00	107.05	14.57	92.48	NS	NS	NS	NS	NS	NS	NA
	09/20/00		14.58	92.47	NS	NS	NS	NS	NS	NS	NA
	12/22/00		13.21	93.84	NS	NS	NS	NS	NS	NS	NA
	03/26/01		13.18	93.87	71.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	05/30/01		13.80	93.25	NS	NS	NS	NS	NS	NS	NA
	09/23/01		14.27	92.78	NS	NS	NS	NS	NS	NS	NA
	12/28/01		12.24	94.81	NS	NS	NS	NS	NS	NS	NA
	03/21/02		12.16	94.89	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	04/17/02		13.08	93.97	NS	NS	NS	NS	NS	NS	NA
	08/19/02		14.73	92.32	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA
	11/27/02		14.76	92.29	NS	NS	NS	NS	NS	NS	NS
	02/05/03 <sup>4</sup>		14.07	92.98	NS	NS	NS	NS	NS	NS	NS
	05/13/03		14.00	93.05	93.05	NS	NS	NS	NS	NS	NS

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

ARCO Service Station # 6148  
5131 Shattuck Avenue  
Oakland, California

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TPH = Total Petroleum Hydrocarbons

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted

mg/L = Micrograms per liter

µg/L = Milligrams per liter

NA = Not available

NS = Not Sampled

ND< = Not detected at or above specified laboratory detection limit

NP = No Purge

1 = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

2 = Chromatogram Pattern: Gasoline C6-C10

3 = Well MW-5 not sampled due to ORC sock wedged in well

4 = TPH-g, BTEX, and MTBE analyzed by EPA method 8260B beginning on 1st Quarter Sampling Event (2/5/03)

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

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

ARCO Service Station #6148  
5131 Shattuck Avenue  
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/21/00	South-Southwest	0.02
09/20/00	South-Southwest	0.017
12/22/00	South-Southwest	0.022
03/26/01	South-Southwest	0.020
05/30/01	South-Southwest	0.020
09/23/01	South-Southwest	0.019
12/28/01	Southwest	0.019
03/21/02	Southwest	0.019
04/17/02	Southwest	0.017
08/19/02	Southwest	0.016
11/27/02	Southwest	0.015
02/05/03	Southwest	0.017
05/13/03	Southwest	0.013

Source: The data within this table collected prior to August 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**  
**Oxygenate Analytical Data**

ARCO Service Station #6148  
5131 Shattuck Avenue  
Oakland, California

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
MW-1	02/05/03	ND<40	ND<20	1.1	ND<0.50	ND<0.50	ND<0.50
	05/13/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50
MW-2	02/05/03	ND<40	ND<20	4.3	ND<0.50	ND<0.50	ND<0.50
	05/13/03	ND<100	ND<20	2.8	ND<0.50	ND<0.50	ND<0.50
MW-3	02/05/03	ND<40	ND<20	2.4	ND<0.50	ND<0.50	ND<0.50
	05/13/03	ND<100	ND<20	2.2	ND<0.50	ND<0.50	ND<0.50
MW-4	02/05/03	ND<40	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	05/13/03	NS	NS	NS	NS	NS	NS
MW-5	02/05/03 <sup>1</sup>	NS	NS	NS	NS	NS	NS
	05/13/03	ND<100	ND<20	15	ND<0.50	ND<0.50	1.1
MW-6	02/05/03	NS	NS	NS	NS	NS	NS
	05/13/03	NS	NS	NS	NS	NS	NS
MW-7	02/05/03	NS	NS	NS	NS	NS	NS
	05/13/03	NS	NS	NS	NS	NS	NS

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< = Not detected at or above the laboratory detection limit

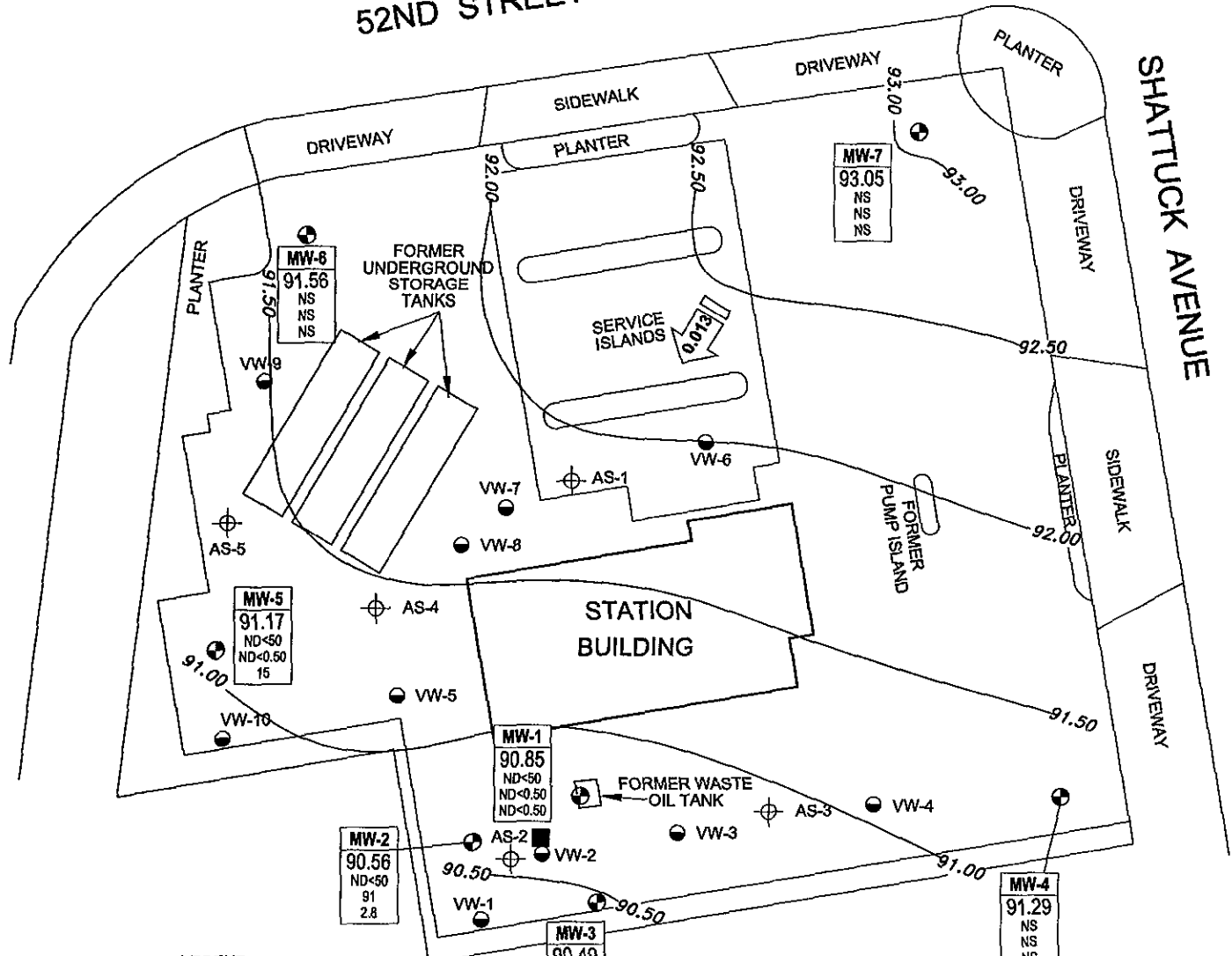
NA = Data not available, not analyzed, or not applicable

NS = Not Sampled

1 = Well MW-5 not sampled due to ORC sock wedged in well.

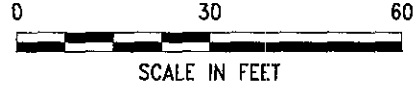
52ND STREET

SHATTUCK AVENUE



LEGEND:

- MW-1 MONITORING WELL LOCATION
- AS-2 AIR SPARGING WELL
- VW-1 SOIL VAPOR EXTRACTION WELL LOCATION
- DESTROYED WELL LOCATION
- WELL DESIGNATION
- GROUNDWATER ELEVATION (FT/MSL)
- CONCENTRATION OF TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, BENZENE, AND MTBE IN GROUNDWATER IN MICROGRAMS PER LITER (µg/L). SAMPLES COLLECTED ON 01/09/02.
- ND< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
- NS NOT SAMPLED
- APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL)



NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

X:\env\waste\BP\_GEM\Sites\Scott\_Robinson\Paul\_Supple\6148\Monitoring\Qtr\_2\_2003\Drawings\1\_GWEC\_05-13.dwg



Project No. 38465989  
 Arco Service Station 6148  
 5131 Shattuck Avenue  
 Oakland, California

**GROUNDWATER ELEVATION CONTOUR  
 AND ANALYTICAL SUMMARY MAP**  
 Second Quarter 2003 (May 13, 2003)

FIGURE  
 1

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

## **FIELD PROCEDURES**

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### **Sampling Procedures**

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear Teflon™ bailer or an oil-water interface probe.

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

# WELL GAUGING DATA

Project # 030513-RH1 Date 9/13/03 Client Arco 6148

Site 5131 Shattuck Ave, Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
mw-1	4					16.95	25.50	↓	NPC@11.5'
mw-2	4					16.72	25.55		NPC@12'
mw-3	4	Removed	EPC to gauge			17.12	25.60		NPC@10'
mw-4	4					15.42	26.05		60
mw-5	4					15.73	24.80		NPC@12'
mw-6	4					13.57	26.60		60
mw-7	4					14.00	26.95		60



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030515-EH1	Station # Arcw 6148
Sampler: Ryan H	Date: 5/13/03
Well I.D.: mw-1	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 25.50	Depth to Water: 16.95
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: <del>Bailer</del> Disposable Bailer Middleburg Electric/Submersible Extraction Pump Other: _____	Sampling Method: <del>Bailer</del> <u>Disposable Bailer</u> Extraction Port Other: _____
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Top of Screen: 11.5'      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>No Purge</u>	x	<u>0</u>	=	<u>0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
0820	69.5	6.5	455	<u>0</u>	clear

Did well dewater? <u>Yes</u> <del>No</del>	Gallons actually evacuated: <u>0</u>
Sampling Time: <u>0820</u>	Sampling Date: <u>5/13/03</u>
Sample I.D.: <u>mw-1</u>	Laboratory: Pace <u>Sequoia</u> Other _____

Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D Other: <u>Oxygenates, ethanol by #260</u>
D.O. (if req'd): Pre-purge: _____ mg/L <u>Post-purge: 1.0</u> mg/L
O.R.P. (if req'd): Pre-purge: _____ mV      Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030515-RH1	Station # Arco 6148
Sampler: Ryan H	Date: 5/13/03
Well I.D.: mw-2	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 2555	Depth to Water: 16.72
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: <del>Bailer</del> <del>Disposable Bailer</del> <del>Middleburg</del> <del>Electric Submersible Extraction Pump</del> Other: _____	Sampling Method: <del>Bailer</del> <u>Disposable Bailer</u> Extraction Port Other: _____
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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.

<u>No Purge</u>	x	<u>0</u>	=	<u>0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
0840	70.5	6.5	435	0	Clear

Did well dewater? <del>Yes</del> No	Gallons actually evacuated: <u>0</u>	
Sampling Time: <u>0840</u>	Sampling Date: <u>5/13/03</u>	
Sample I.D.: <u>mw-2</u>	Laboratory: Pace <u>Sequoia</u> Other: _____	
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D Other: <u>Oxygenates, ethanol by #260</u>		
D.O. (if req'd):	Pre-purge: _____ mg/L	Post-purge: <u>0.7</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030515-211	Station # Arco 6148
Sampler: Ryan H	Date: 5/13/03
Well I.D.: mw-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 25.60	Depth to Water: 17.12
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~~ ~~Middleburg~~ ~~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.

<u>No purge</u>	x	<u>0</u>	=	<u>0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
0830	70.1	6.7	618	<u>0</u>	clear

Did well dewater? Yes ~~No~~ Gallons actually evacuated: 0

Sampling Time: 0830 Sampling Date: 5/13/03

Sample I.D.: mw-3 Laboratory: Pace Sequoia Other: \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Oxygenates, ethanol by #260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.7	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050515-RH1	Station # Arco 6148
Sampler: Ryan H	Date: 5/13/03
Well I.D.: mw-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 24.80	Depth to Water: 15.93
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> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <u>Disposable Bailer</u> Extraction Port Other: _____
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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.

<u>No purge</u>	X	<u>0</u>	=	<u>0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
0800	68.4	6.2	490	<u>0</u>	clear

Did well dewater? <u>Yes</u> <del>No</del>	Gallons actually evacuated: <u>0</u>
Sampling Time: 0800	Sampling Date: 5/13/03
Sample I.D.: mw-5	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D Other: <u>oxygenates, ethanol by #260</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>1.4</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV



**ATTACHMENT B**

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

## **LABORATORY PROCEDURES**

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### **Laboratory Procedures**

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



30 May, 2003

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

RE: ARCO #6148, Oakland, CA  
Sequoia Work Order: MME0418

Enclosed are the results of analyses for samples received by the laboratory on 05/15/03 13:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt  
Project Manager

CA ELAP Certificate #1210





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

Project: ARCO #6148, Oakland, CA  
Project Number: INTRIM-50769  
Project Manager: Scott Robinson

MME0418  
**Reported:**  
05/30/03 09:59

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MME0418-01	Water	05/13/03 08:20	05/15/03 13:10
MW-2	MME0418-02	Water	05/13/03 08:40	05/15/03 13:10
MW-3	MME0418-03	Water	05/13/03 08:30	05/15/03 13:10
MW-5	MME0418-04	Water	05/13/03 08:00	05/15/03 13:10

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



URS Corporation [Arco]  
500 12th Street, Suite 100  
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Project: ARCO #6148, Oakland, CA  
Project Number: INTRIM-50769  
Project Manager: Scott Robinson

MME0418  
Reported:  
05/30/03 09:59

**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 (MME0418-01) Water</b> <b>Sampled: 05/13/03 08:20</b> <b>Received: 05/15/03 13:10</b>									
Ethanol	ND	100	ug/l	1	3E22039	05/22/03	05/22/03	EPA 8260B	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	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		82.2 %		78-129	"	"	"	"	
<b>MW-2 (MME0418-02) Water</b> <b>Sampled: 05/13/03 08:40</b> <b>Received: 05/15/03 13:10</b>									
Ethanol	ND	100	ug/l	1	3E22039	05/22/03	05/22/03	EPA 8260B	O-12
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>2.8</b>	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
<b>Benzene</b>	<b>0.91</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.60</b>	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.6 %		78-129	"	"	"	"	



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MME0418  
Reported:  
05/30/03 09:59

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (MME0418-03) Water</b> Sampled: 05/13/03 08:30 Received: 05/15/03 13:10									
Ethanol	ND	100	ug/l	1	3E22039	05/22/03	05/22/03	EPA 8260B	O-12
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	"
Methyl tert-butyl ether	2.2	0.50	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
Gasoline Range Organics (C6-C10)	300	50	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		86.2 %		78-129	"	"	"	"	"
<b>MW-5 (MME0418-04) Water</b> Sampled: 05/13/03 08:00 Received: 05/15/03 13:10									
Ethanol	ND	100	ug/l	1	3E22039	05/22/03	05/22/03	EPA 8260B	O-12
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	"
Methyl tert-butyl ether	15	0.50	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
tert-Amyl methyl ether	1.1	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		84.2 %		78-129	"	"	"	"	"

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

 Project: ARCO #6148, Oakland, CA  
 Project Number: INTRIM-50769  
 Project Manager: Scott Robinson

 MME0418  
 Reported:  
 05/30/03 09:59

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3E22039 - EPA 5030B P/T**
**Blank (3E22039-BLK1)**

Prepared &amp; Analyzed: 05/22/03

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 (C6-C10)	ND	50	"							

<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.16		"	5.00		83.2	78-129			
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**Laboratory Control Sample (3E22039-BS1)**

Prepared &amp; Analyzed: 05/22/03

Methyl tert-butyl ether	10.2	0.50	ug/l	10.0		102	63-137			
Benzene	11.9	0.50	"	10.0		119	78-124			
Toluene	11.4	0.50	"	10.0		114	78-129			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.79		"	5.00		95.8	78-129			
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**Laboratory Control Sample (3E22039-BS2)**

Prepared &amp; Analyzed: 05/22/03

Methyl tert-butyl ether	7.21	0.50	ug/l	9.92		72.7	63-137			
Benzene	5.66	0.50	"	6.40		88.4	78-124			
Toluene	34.4	0.50	"	29.7		116	78-129			
Gasoline Range Organics (C6-C10)	389	50	"	440		88.4	70-113			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.28		"	5.00		85.6	78-129			
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URS Corporation [Arco]  
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 MME0418  
 Reported:  
 05/30/03 09:59

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3E22039 - EPA 5030B P/T</b>									
<b>Matrix Spike (3E22039-MS1)</b> Source: MME0429-03REI Prepared: 05/22/03 Analyzed: 05/23/03									
Methyl tert-butyl ether	740	50	ug/l	992	ND	74.6	63-137		
Benzene	561	50	"	640	11	85.9	78-124		
Toluene	3370	50	"	2970	ND	113	78-129		
Gasoline Range Organics (C6-C10)	43600	5000	"	44000	19000	55.9	70-113		QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>									
	4.29		"	5.00		85.8	78-129		
<b>Matrix Spike Dup (3E22039-MSD1)</b> Source: MME0429-03REI Prepared: 05/22/03 Analyzed: 05/23/03									
Methyl tert-butyl ether	743	50	ug/l	992	ND	74.9	63-137	0.405	13
Benzene	560	50	"	640	11	85.8	78-124	0.178	12
Toluene	3490	50	"	2970	ND	118	78-129	3.50	10
Gasoline Range Organics (C6-C10)	42800	5000	"	44000	19000	54.1	70-113	1.85	9
<i>Surrogate: 1,2-Dichloroethane-d4</i>									
	4.12		"	5.00		82.4	78-129		



URS Corporation [Arco]  
500 12th Street, Suite 100  
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MME0418  
**Reported:**  
05/30/03 09:59

### Notes and Definitions

- O-12 "The continuing calibration verification was outside of client contractual acceptance limits by 12.4% low. However, it was within method acceptance limits. The data should still be useful for its intended purpose."
- QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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: BP BUCGEM CO Portfolio  
 BP BUCGEM CO Portfolio  
 BP Laboratory Contract Number: 11111111  
 Requested Due Date (month/day): 11/13/03

11111111

On-site Time: \_\_\_\_\_ Temp: \_\_\_\_\_  
 Off-site Time: \_\_\_\_\_ Temp: \_\_\_\_\_  
 Site Conditions: \_\_\_\_\_  
 Meteorological Events: \_\_\_\_\_  
 Wind Speed: \_\_\_\_\_ Direction: \_\_\_\_\_

Send To: BP/GEM Facility No.: \_\_\_\_\_  
 Lab Name: SEQUOIA BP/GEM Facility Address: 5131 Shallock Ave, OAKLAND, CA  
 Lab Address: 885 Jarvis Dr. Site ID No. ARCO 6148  
Morgan Hill, CA 95037 Site Latitude: \_\_\_\_\_

Lab POC: Lathanya Pait California Global ID #: 10600100103  
 Tele/Fax: 408-776-9600 / 408-782-6308 BP/GEM PM Contact: PAUL SUPPLE  
 Report Type & QC Level: Send BDF Reports Address: \_\_\_\_\_  
 BP/GEM Account No.: \_\_\_\_\_ Tele/Fax: \_\_\_\_\_

Lab Bottle Order No.: \_\_\_\_\_ Requested Analysis: \_\_\_\_\_  
 Item No. Sample Description Time Matrix Laboratory No. No. of containers Unpreserved H<sub>2</sub>SO<sub>4</sub> HNO<sub>3</sub> HCl TPH-G/BTEX (8260) TPH-D (8015) MTBE (8021) MTBE, TAME, ETBE DIPE, TBA (3260) 1,2-DCA & EDB (8260) Estimate (8260) Sample Point Lat/Long and Comments

Item No.	Sample Description	Time	Matrix	Laboratory No.	No. of containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-G/BTEX (8260)	TPH-D (8015)	MTBE (8021)	MTBE, TAME, ETBE DIPE, TBA (3260)	1,2-DCA & EDB (8260)	Estimate (8260)	Sample Point Lat/Long and Comments
1	MW-1	820	X	41	3				X	X	X	X	X	X		
2	MW-2	840	X	41	1				X	X	X	X	X	X		
3	MW-3	830	X	41	1				X	X	X	X	X	X		
4	MW-5	800	X	41	1				X	X	X	X	X	X		
5																
6																
7																
8																
9																
10																

Sampler's Name: Ryan H. Hanks Relinquished By/Amplifier: \_\_\_\_\_  
 Sampler's Company: Blayne Tech Date: 5/15/03 Time: 12:14  
 Shipment Date: \_\_\_\_\_ Accepted By/Amplifier: \_\_\_\_\_  
 Shipment Method: \_\_\_\_\_ Date: 5/16/03 Time: 13:10  
 Payment Tracking No.: \_\_\_\_\_ Date: 5/15/03 Time: 12:14  
 Additional Instructions: Address Invoice to BP/GEM but send to URS for approval Date: 5/16/03 Time: 13:10  
 Seals in Place Yes  No  Temperature Blank Yes  No  Cooler Temperature on Receipt  Y/N   
 Trip Blank Yes  No





**ATTACHMENT C**

**HISTORIC GROUNDWATER DATA**

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

**ARCO Service Station 6148**  
**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)		
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)	TRPH (mg/L)
MW-1	03-20-95	108.03	15.75	ND	92.28	830	140	5	41	110	--	--		
MW-1	06-06-95	108.03	17.68	ND	90.35	210	30	<0.5	7.3	16	--	--		
MW-1	08-24-95	107.80	17.45	ND	90.35	Not sampled: well was inaccessible due to construction								
MW-1	11-16-95	107.80	17.64	ND	90.16	<50	5.6	<0.5	1.4	1.2	55	--		
MW-1	02-27-96	107.80	15.21	ND	92.59	1,400	240	88	44	110	200	--		
MW-1	05-15-96	107.80	17.53	ND	90.27	Not sampled: well sampled semi-annually, during the first and third quarter								
MW-1	08-14-96	107.80	17.15	ND	90.65	98	18	<0.5	1.9	1	45	--		
MW-1	11-11-96	107.80	17.78	ND	90.02	Not sampled: well sampled semi-annually, during the first and third quarter								
MW-1	03-25-97	107.80	17.68	ND	90.12	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-1	05-15-97	107.80	17.91	ND	89.89	Not sampled: well sampled semi-annually, during the first and third quarter								
MW-1	10-26-97	107.80	18.85	ND	88.95	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-1	11-10-97	107.80	18.10	ND	89.70	<50	<0.5	<0.5	<0.5	<0.5	4	--		
MW-1	02-13-98	107.80	13.15	ND	94.65	<100	8.4	<1	<1	14	130	--		
MW-1	05-12-98	107.80	12.30	ND	95.50	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-1	07-28-98	107.80	17.04	ND	90.76	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-1	10-28-98	107.80	18.10	ND	89.70	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-1	02-12-99	107.80	15.84	ND	91.96	72	<0.5	<0.5	<0.5	<0.5	23	--		
MW-1	06-03-99	107.80	17.62	ND	90.18	890	33	1.5	12	2.8	250	--	1.44	NP
MW-1	10-26-99	107.80	16.92	ND	90.88	<50	<0.5	<0.5	<0.5	<1	9	--	9.58	NP
MW-2	03-20-95	107.43	15.50	ND#	91.93	Not sampled: floating product entered well during purging								
MW-2	06-06-95	107.43	17.43	ND	90.00	1,200	60	21	35	140	--	--		
MW-2	08-24-95	107.28	17.22	ND	90.06	Not sampled: well was inaccessible due to construction								
MW-2	11-16-95	107.28	17.36	ND	89.92	360	45	1.3	7.1	7.5	210	--		
MW-2	02-27-96	107.28	14.82	ND	92.46	8,900	1,400	980	150	550	940	--		
MW-2	05-15-96	107.28	17.40	ND	89.88	480	82	48	8	48	87	--		
MW-2	08-14-96	107.28	17.00	ND	90.28	130	22	4	2	9	120	--		

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

**ARCO Service Station 6148**  
**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)		
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)	TRPH (mg/L)
MW-2	11-11-96	107.28	17.55	ND	89.73	1,200	150	120	21	160	110	--		
MW-2	03-25-97	107.28	17.32	ND	89.96	670	23	58	13	120	28	--		
MW-2	05-15-97	107.28	17.61	ND	89.67	<50	<0.5	<0.5	<0.5	<0.5	23	--		
MW-2	10-26-97	107.28	18.43	ND	88.85	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-2	11-10-97	107.28	17.84	ND	89.44	<100	<1	<1	<1	1	74	--		
MW-2	02-13-98	107.28	12.75	ND	94.53	220	9.5	3.9	3.7	48	84	--		
MW-2	05-12-98	107.28	17.02	ND	90.26	3,900	210	280	86	910	35	--		
MW-2	07-28-98	107.28	17.30	ND	89.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-2	10-28-98	107.28	17.80	ND	89.48	170	17	<0.5	1.7	5.0	24	--		
MW-2	02-12-99	107.28	15.55	ND	91.73	12,000	620	95	490	2,200	270	--		
MW-2	06-03-99	107.28	17.31	ND	89.97	<50	<0.5	<0.5	<0.5	1.1	8	--	2.53 NP	
MW-2	10-26-99	107.28	16.58	ND	90.70	<50	1.0	<0.5	<0.5	3	<3	--	8.17 NP	
MW-3	03-20-95	107.77	15.60	ND	92.17	29,000	880	190	760	2,000	--	16		
MW-3	06-06-95	107.77	17.54	ND	90.23	22,000	450	54	380	1,300	--	7.1		
MW-3	08-24-95	107.61	17.42	ND	90.19	Not sampled: well was inaccessible due to construction								
MW-3	11-16-95	107.61	17.58	ND	90.03	13,000	210	<20	320	1,000	790	8.3		
MW-3	02-27-96	107.61	15.03	ND	92.58	9,700	94	15	290	720	430	10		
MW-3	05-15-96	107.61	17.35	ND	90.26	5,600	66	12	37	67	230	--		
MW-3	08-14-96	107.61	17.10	ND	90.51	830	17	<1*	8	7	110	--		
MW-3	11-11-96	107.61	17.73	ND	89.88	500	28	3	12	13	150	--		
MW-3	03-25-97	107.61	17.99	ND	89.62	<50	<0.5	<0.5	<0.5	<0.5	94	--		
MW-3	05-15-97	107.61	17.84	ND	89.77	<50	<0.5	<0.5	<0.5	<0.5	65	--		
MW-3	10-26-97	107.61	18.50	ND	89.11	220	4	<1	<1	<1	160	--		
MW-3	11-10-97	107.61	18.00	ND	89.61	350	8	<2	3	3	230	--		
MW-3	02-13-98	107.61	13.00	ND	94.61	<50	1.3	<0.5	<0.5	1	21	--		
MW-3	05-12-98	107.61	17.20	ND	90.41	120	<0.5	<0.5	<0.5	<0.9	71	--		

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**1995 - Present\*\***

**ARCO Service Station 6148**  
**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)		
MW-3	07-28-98	107.61	17.46	ND	90.15	<50	1.4	<0.5	<0.5	<0.5	52	--				
MW-3	10-28-98	107.61	18.00	ND	89.61	170	<0.5	<0.5	<0.5	0.7	35	--				
MW-3	02-12-99	107.61	15.76	ND	91.85	120	2.0	0.6	<0.5	1.3	37	--				
MW-3	06-03-99	107.61	Well inaccessible: Surveyed well VW-1 as an alternative													
MW-3	10-26-99	107.61	16.69	ND	90.92	630	14	0.7	13	2	38	--	1.24	NP		
MW-4	03-20-95	106.58	13.85	ND	92.73	88	1	<0.5	<0.5	0.7	--	--				
MW-4	06-06-95	106.58	15.70	ND	90.88	<50	<0.5	<0.5	<0.5	<0.5	--	--				
MW-4	08-24-95	106.71	15.86	ND	90.85	Not sampled: well was inaccessible due to construction										
MW-4	11-16-95	106.71	16.10	ND	90.61	<50	<0.5	<0.5	<0.5	<0.5	6	--				
MW-4	02-27-96	106.71	13.72	ND	92.99	<50	<0.5	<0.5	<0.5	<0.5	10	--				
MW-4	05-15-96	106.71	15.90	ND	90.81	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	08-14-96	106.71	15.68	ND	91.03	<50	<0.5	<0.5	<0.5	<0.5	<3	--				
MW-4	11-11-96	106.71	16.19	ND	90.52	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	03-25-97	106.71	16.10	ND	90.61	<50	<0.5	<0.5	<0.5	<0.5	<3	--				
MW-4	05-15-97	106.71	16.38	ND	90.33	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	10-26-97	106.71	17.78	ND	88.93	<50	<0.5	<0.5	<0.5	<0.5	<3	--				
MW-4	11-10-97	106.71	16.43	ND	90.28	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	02-13-98	106.71	13.05	ND	93.66	<50	1.3	0.7	<0.5	2.3	19	--				
MW-4	05-12-98	106.71	15.69	ND	91.02	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	07-28-98	106.71	15.93	ND	90.78	<50	<0.5	<0.5	<0.5	<0.5	<3	--				
MW-4	10-28-98	106.71	16.40	ND	90.31	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	02-12-99	106.71	14.13	ND	92.58	<50	<0.5	<0.5	<0.5	<0.5	<3	--				
MW-4	06-03-99	106.71	16.00	ND	90.71	Not sampled: well sampled semi-annually, during the first and third quarter										
MW-4	10-26-99	106.71	15.76	ND	90.95	Not sampled: well sampled semi-annually, during the first and third qtr.									1.72	
MW-5	03-20-95	106.68	14.92	ND	91.76	21,000	6,900	450	800	1,300	--	--				

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**1995 - Present\*\***

**ARCO Service Station 6148**  
**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
MW-5	06-06-95	106.68	16.61	ND	90.07	6,500	1,700	<20	120	69	--	--		
MW-5	08-24-95	106.60	16.47	ND	90.13	Not sampled: well was inaccessible due to construction								
MW-5	11-16-95	106.60	16.69	ND	89.91	1,800	470	<5	17	5	1,000	--		
MW-5	02-27-96	106.60	14.35	ND	92.25	10,000	1,000	71	690	1,000	440/450*	--		
MW-5	05-15-96	106.60	16.58	ND	90.02	3,400	350	6	72	20	220	--		
MW-5	08-14-96	106.60	17.26	ND	89.34	2,100	130	2.7	47	4.7	220	--		
MW-5	11-11-96	106.60	16.62	ND	89.98	1,200	31	1	8	2	130	--		
MW-5	03-25-97	106.60	16.38	ND	90.22	<50	<0.5	<0.5	<0.5	<0.5	5	--		
MW-5	05-15-97	106.60	16.54	ND	90.06	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-5	10-26-97	106.60	17.60	ND	89.00	<50	<0.5	<0.5	<0.5	<0.5	7	--		
MW-5	11-10-97	106.60	16.78	ND	89.82	<50	<0.5	<0.5	<0.5	<0.5	24	--		
MW-5	02-13-98	106.60	12.21	ND	94.39	11,200	51	<10	<10	<10	2,000	--		
MW-5	05-12-98	106.60	NR	ND	NR	Not sampled: well inaccessible								
MW-5	07-28-98	106.60	16.47	ND	90.13	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-5	10-28-98	106.60	16.80	ND	89.80	<50	0.8	<0.5	<0.5	<0.5	99	--		
MW-5	02-12-99	106.60	14.88	ND	91.72	<1,000	<10	<10	<10	<10	1,100	--		
MW-5	06-03-99	106.60	16.65	ND	89.95	290	10	<0.5	<0.5	0.6	200	--	2.45	NP
MW-5	10-26-99	106.60	16.10	ND	90.50	<50	<0.5	<0.5	<0.5	<1	11	--	NM	NP
MW-6	03-20-95	105.16	12.13	ND	93.03	<50	<0.5	<0.5	<0.5	<0.5	--	--		
MW-6	06-06-95	105.16	13.95	ND	91.21	<50	<0.5	<0.5	<0.5	<0.5	--	--		
MW-6	08-24-95	105.13	14.07	ND	91.06	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-6	11-16-95	105.13	14.34	ND	90.79	<60	<0.5	<0.5	<0.5	<0.5	--	--		
MW-6	02-27-96	105.13	12.00	ND	93.13	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-6	05-15-96	105.13	14.10	ND	91.03	Not sampled: well sampled annually, during the first quarter								
MW-6	08-14-96	105.13	13.70	ND	91.43	Not sampled: well sampled annually, during the first quarter								
MW-6	11-11-96	105.13	14.11	ND	91.02	Not sampled: well sampled annually, during the first quarter								

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**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)				
MW-6	03-25-97	105.13	14.15	ND	90.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-6	05-15-97	105.13	14.44	ND	90.69	Not sampled: well sampled annually, during the first quarter								
MW-6	10-26-97	105.13	16.02	ND	89.11	Not sampled: well sampled annually, during the first quarter								
MW-6	11-10-97	105.13	14.52	ND	90.61	Not sampled: well sampled annually, during the first quarter								
MW-6	02-13-98	105.13	10.06	ND	95.07	<50	<0.5	<0.5	<0.5	<0.5	8	--		
MW-6	05-12-98	105.13	13.75	ND	91.38	Not sampled: well sampled annually, during the first quarter								
MW-6	07-28-98	105.13	14.06	ND	91.07	Not sampled: well sampled annually, during the first quarter								
MW-6	10-28-98	105.13	14.71	ND	90.42	Not sampled: well sampled annually, during the first quarter								
MW-6	02-12-99	105.13	12.22	ND	92.91	<100	<1	<1	<1	<1	110	--		
MW-6	06-03-99	105.13	13.95	ND	91.18	Not sampled: well sampled annually, during the first quarter								
MW-6	10-26-99	105.13	14.06	ND	91.07	Not sampled: well sampled annually, during the first quarter						3.94		
MW-7	03-20-95	107.08	12.32	ND	94.76	<50	<0.5	<0.5	<0.5	<0.5	--	--		
MW-7	06-06-95	107.08	14.59	ND	92.49	Not sampled: well sampled semi-annually, during the first and third quarters								
MW-7	08-24-95	107.05	14.64	ND	92.41	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-7	11-16-95	107.05	15.30	ND	91.75	Not sampled: well sampled semi-annually, during the first and third quarters								
MW-7	02-27-96	107.05	12.24	ND	94.81	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-7	05-15-96	107.05	14.65	ND	92.40	Not sampled: well sampled annually, during the first quarter								
MW-7	08-14-96	107.05	14.35	ND	92.70	Not sampled: well sampled annually, during the first quarter								
MW-7	11-11-96	107.05	14.92	ND	92.13	Not sampled: well sampled annually, during the first quarter								
MW-7	03-25-97	107.05	14.80	ND	92.25	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-7	05-15-97	107.05	15.27	ND	91.78	Not sampled: well sampled annually, during the first quarter								
MW-7	10-26-97	107.05	16.68	ND	90.37	Not sampled: well sampled annually, during the first quarter								
MW-7	11-10-97	107.05	15.37	ND	91.68	Not sampled: well sampled annually, during the first quarter								
MW-7	02-13-98	107.05	10.80	ND	96.25	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-7	05-12-98	107.05	14.32	ND	92.73	Not sampled: well sampled annually, during the first quarter								
MW-7	07-28-98	107.05	14.79	ND	92.26	Not sampled: well sampled annually, during the first quarter								

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**1995 - Present\*\***

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**5131 Shattuck Avenue, Oakland, California**

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
MW-7	10-28-98	107.05	15.57	ND	91.48	Not sampled: well sampled annually, during the first quarter									
MW-7	02-12-99	107.05	12.46	ND	94.59	<50	<0.5	<0.5	<0.5	<0.5	<3	--			
MW-7	06-03-99	107.05	14.53	ND	92.52	Not sampled: well sampled annually, during the first quarter									
MW-7	10-26-99	107.05	14.74	ND	92.31	Not sampled: well sampled annually, during the first quarter									1.97
VW-1	06-03-99	NR	17.51	ND	NR	420	2.3	0.6	2.0	2.2	74	--	1.28	P	

ft-MSL: elevation in feet, relative to mean sea level  
 TPH: total petroleum hydrocarbons as gasoline, California DHS LUFT Method  
 BTEX: Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/26/99)  
 MTBE: Methyl tert-butyl ether by EPA method 8021B. (EPA method 8020 prior to 10/26/99).  
 TRPH: total recoverable petroleum hydrocarbons  
 µg/L: micrograms per liter  
 mg/L: milligrams per liter  
 NR: not reported; data not available  
 ND: none detected  
 #: floating product entered the well during purging  
 --: not analyzed or not applicable  
 \*: confirmed by EPA 8240  
 \*\*: For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 6148, Oakland, California, (EMCON, March 4, 1996).*

**ATTACHMENT D**

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



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## Error Summary Log

06/19/03

EDF 1.2i All files present in deliverable.

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Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #6148, Oakland, CA
Work Order Number:	MME0418
Global ID:	T0600100103
Lab Report Number:	MME0418053020030959

## Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctf	Run	Sub
MME04180530200 MW-1 30959		MME041801	W	CS	8260+OX	SW5030B	05/13/03	05/22/03	05/22/03	3E22039	1	
MME04180530200 MW-2 30959		MME041802	W	CS	8260+OX	SW5030B	05/13/03	05/22/03	05/22/03	3E22039	1	
MME04180530200 MW-3 30959		MME041803	W	CS	8260+OX	SW5030B	05/13/03	05/22/03	05/22/03	3E22039	1	
MME04180530200 MW-5 30959		MME041804	W	CS	8260+OX	SW5030B	05/13/03	05/22/03	05/22/03	3E22039	1	
		MME042903R1	W	NC	8260+OX	SW5030B	//	05/22/03	05/23/03	3E22039	1	
		3E22039BS1	WQ	BS1	8260+OX	SW5030B	//	05/22/03	05/22/03	3E22039	1	
		3E22039BS2	WQ	BS2	8260+OX	SW5030B	//	05/22/03	05/22/03	3E22039	1	
		3E22039BLK1	WQ	LB1	8260+OX	SW5030B	//	05/22/03	05/22/03	3E22039	1	
		3E22039MS1	W	MS1	8260+OX	SW5030B	//	05/22/03	05/23/03	3E22039	1	
		3E22039MSD1	W	SD1	8260+OX	SW5030B	//	05/22/03	05/23/03	3E22039	1	

# EDFSAMP: Error Summary Log

06/19/03

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

# EDFTEST: Error Summary Log

06/19/03

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

# EDFRES: Error Summary Log

06/19/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	3E22039MS1	MS1	W	8260+OX	PR	05/23/03	1	GROC6C10
Warning: extra parameter	3E22039MSD1	SD1	W	8260+OX	PR	05/23/03	1	GROC6C10
Warning: extra parameter	MME041801	CS	W	8260+OX	PR	05/22/03	1	GROC6C10
Warning: extra parameter	MME041801	CS	W	8260+OX	PR	05/22/03	1	XYLENES
Warning: extra parameter	MME041802	CS	W	8260+OX	PR	05/22/03	1	GROC6C10
Warning: extra parameter	MME041802	CS	W	8260+OX	PR	05/22/03	1	XYLENES
Warning: extra parameter	MME041803	CS	W	8260+OX	PR	05/22/03	1	GROC6C10
Warning: extra parameter	MME041803	CS	W	8260+OX	PR	05/22/03	1	XYLENES
Warning: extra parameter	MME041804	CS	W	8260+OX	PR	05/22/03	1	GROC6C10
Warning: extra parameter	MME041804	CS	W	8260+OX	PR	05/22/03	1	XYLENES
Warning: extra parameter	MME042903R1	NC	W	8260+OX	PR	05/23/03	1	GROC6C10
Warning: extra parameter	3E22039BLK1	LB1	WQ	8260+OX	PR	05/22/03	1	GROC6C10
Warning: extra parameter	3E22039BLK1	LB1	WQ	8260+OX	PR	05/22/03	1	XYLENES
Warning: extra parameter	3E22039BS2	BS2	WQ	8260+OX	PR	05/22/03	1	GROC6C10

# EDFQC: Error Summary Log

06/19/03

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

# EDFCL: Error Summary Log

06/19/03

Error type	Clredate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

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**Confirmation Number:** 2306734681

**Date/Time of Submittal:** 6/19/2003 11:13:28 AM

**Facility Global ID:** T0600100103

**Facility Name:** ARCO

**Submittal Title:** Second Quarter 03 Groundwater Monitoring Report for site # 6148

**Submittal Type:** GW Monitoring Report

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### UPLOADING A GEO\_WELL FILE

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

**Submittal Title: Second Quarter 03 Geowell for site #  
6148**

**Submittal Date/Time: 6/19/2003 11:15:52 AM**

**Confirmation  
Number: 4632420182**

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