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Atlantic Richfield Company
(a BP affiliated company)

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Alameda County
APR 1 8 2003
Environmental Health

March 26, 2003

Re: First Quarter 2003 Groundwater Monitoring Report
ARCO 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



March 21, 2003

Alameda County
APR 18 2003
Environmental Health

Mr. Don Hwang
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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

Dear Mr. Hwang:

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

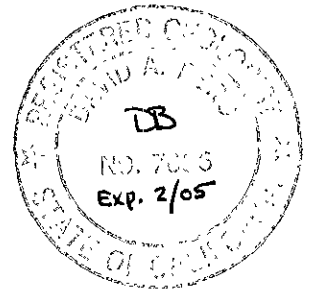
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

URS CORPORATION

Scott Robinson
Project Manager

David A. Bero, P.G.,R.G.
Senior Geologist



Enclosure: First Quarter 2003 Groundwater Monitoring Report

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

R E P O R T

**FIRST QUARTER 2003
GROUNDWATER MONITORING**

**ARCO SERVICE STATION #6148
5131 SHATTUCK AVENUE
OAKLAND, CALIFORNIA**

Prepared for
Atlantic Richfield Company

March 21, 2003

URS

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

38486133

Date: March 21, 2003
Quarter: 1Q03

ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former 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: ACHCSA

WORK PERFORMED THIS QUARTER (First – 2003):

1. Performed first quarter 2003 groundwater monitoring event on February 5, 2003.
2. Prepared and submitted fourth quarter 2002 groundwater monitoring report.
3. Prepared and submitted first quarter 2003 groundwater monitoring report.
4. ORC sock scheduled to be removed from MW-5.

WORK PROPOSED FOR NEXT QUARTER (Second – 2003):

1. Perform second quarter 2002 groundwater monitoring event.
2. Prepare and submit second quarter 2003 groundwater monitoring report.
3. Replace ORC socks

Current Phase of Project: GW monitoring/sampling
Frequency of Groundwater Sampling: Quarterly : MW-1, MW-2, MW-3, & MW-5
Semi-Annually (1st/3rd Quarter): Well MW-4
Annually (3rd Quarter): MW-6 & MW-7
Frequency of Groundwater Monitoring: Quarterly
Is Free Product (FP) Present On-Site: No
Current Remediation Techniques: SVE, Air-Sparge and Air-Bubbling Systems (all non-operational),
ORC (MW-3, MW-5)
Bulk Soil Removed to Date: 560 cubic yards
Approximate Depth to Groundwater: 13.55 (MW-6) to 16.93 (MW-1) feet
Groundwater Gradient (direction): Southwest
Groundwater Gradient (magnitude): 0.017 feet per foot

DISCUSSION:

Beginning this quarter, all groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates. TPH-g was detected in one of the four wells sampled this quarter at a concentration of 83 µg/L (MW-2). Benzene was detected in well MW-2 at a concentration of 2.7 µg/L. MTBE was detected in three wells at concentrations ranging from 1.1 µg/L in well MW-1 to 4.3 µg/L in well MW-2. Well MW-5 was not sampled due to an ORC sock wedged in the well. The ORC sock is scheduled to be removed this quarter.

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 – February 5, 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
	02/05/03⁴		16.93	90.87	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1
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 ¹	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
	02/05/03⁴		16.72	90.56	83	2.7	ND<0.50	0.97	15	4.3	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 ²	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 ⁴		16.82	90.79	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.4	1.3
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 ⁴		15.40	91.31	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1

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-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 ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS
	11/27/02		NM ³	NM ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS
	02/05/03 ⁴		NM ³	NM ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³	NS ³
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 ⁴		13.55	91.58	NS	NS	NS	NS	NS	NS	NS	

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
	02/05/03⁴		14.07	92.98	NS	NS	NS	NS	NS	NS	NS

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

NM = Not measured

NC = Not calculated

NS = Not Sampled

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

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

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 Ave.
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
MW-2	02/05/03	ND<40	ND<20	4.3	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
MW-4	02/05/03	ND<40	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50
MW-5	02/05/03 ¹	NS	NS	NS	NS	NS	NS
MW-6	02/05/03	NS	NS	NS	NS	NS	NS
MW-7	02/05/03	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

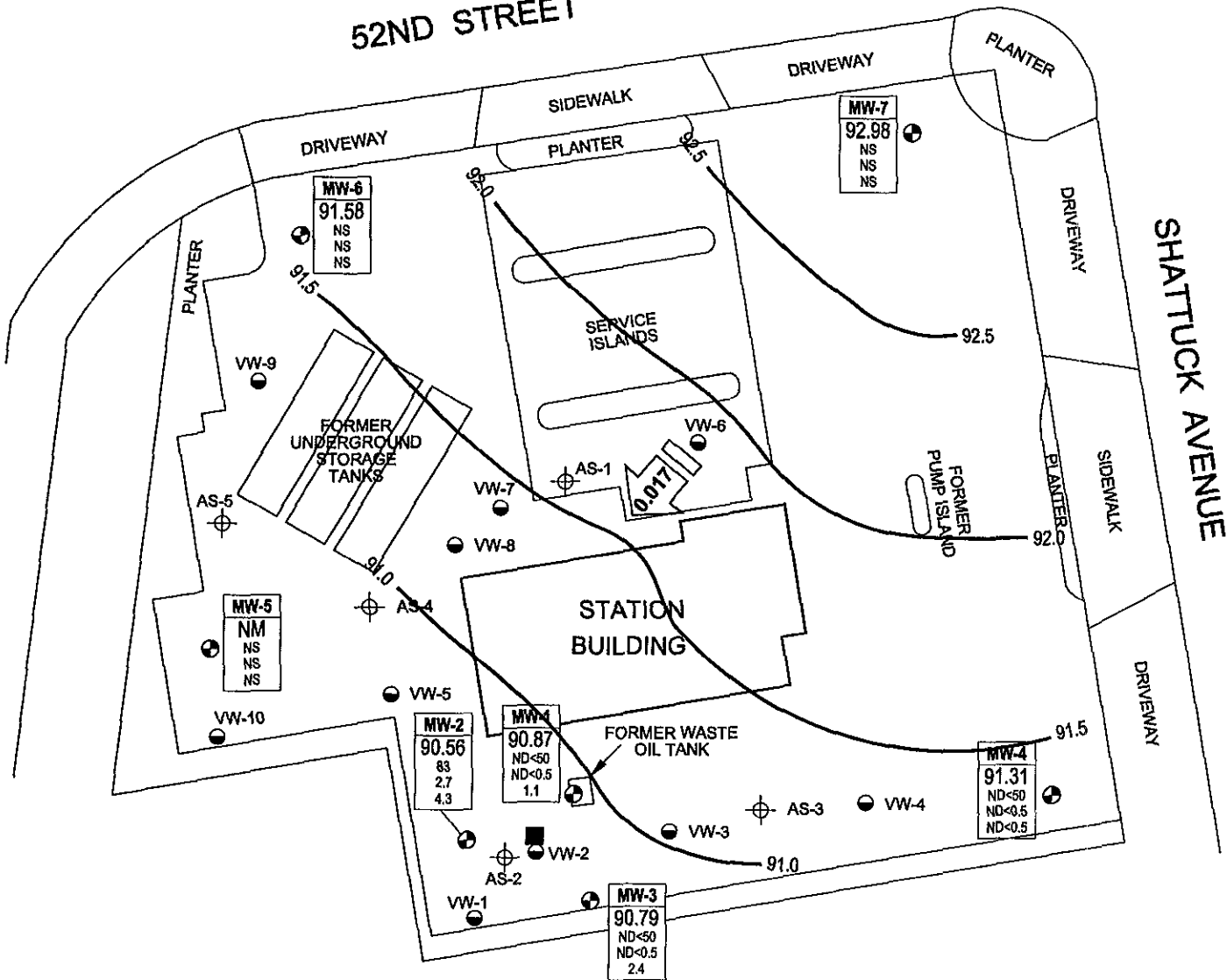
NA = Data not available, not analyzed, or not applicable

NS = Not Sampled

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

52ND STREET

SHATTUCK AVENUE

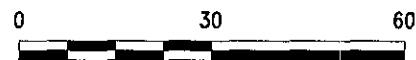


LEGEND:

- MONITORING WELL LOCATION
- AIR SPARGING WELL
- SOIL VAPOR EXTRACTION WELL LOCATION
- DESTROYED WELL LOCATION
- Well** WELL DESIGNATION
- ELEV** GROUNDWATER ELEVATION (FT/MSL)
- TPH-g** CONCENTRATION OF TPH-g, BENZENE & MTBE IN MICROGRAMS PER LITER (µg/L)
- Benzene**
- MTBE**
- ND< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS
- NS NOT SAMPLED
- GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- GROUNDWATER ELEVATION CONTOUR (FT ABOVE MSL)



NORTH



SCALE IN FEET

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\Reports\Monitoring\Qtr_1_2003\Drawings\GWEC-AS_2-5.dwg



Project No. 38486133

Arco Service Station 6148
5131 Shattuck Avenue
Oakland, California

**GROUNDWATER ELEVATION CONTOUR
AND ANALYTICAL SUMMARY MAP**
First Quarter 2003 (February 5, 2003)

FIGURE

1

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.

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>030205-BA2</u>	Station # <u>6148</u>
Sampler: <u>BRIAN ALCON</u>	Date: <u>2/5/03</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u> </u>
Total Well Depth: <u>25.70</u>	Depth to Water: H₂O <u>16.93</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 ² * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Middlaburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer 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.

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

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
<u>1352</u>	<u>108.5</u>	<u>7.3</u>	<u>438</u>	—	<u>clear</u>

Did well dewater? Yes No	Gallons actually evacuated: —
Sampling Time: <u>1352</u>	Sampling Date: <u>2/5/03</u>

Sample I.D.: <u>MW-1</u>	Laboratory: Pace <u>Sequoia</u> Other _____
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Analyzed for: <u>TPH-G</u> ⁸²⁶⁰ <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> Other: <u>Ones (5), Ethanol by 8260</u>

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.2	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>030205-BA2</u>	Station # <u>6148</u>
Sampler: <u>Brian Alcorn</u>	Date: <u>2/5/03</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>25.80</u>	Depth to Water: <u>16.72</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 ² * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer 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.

$\frac{\text{---}}{1 \text{ Case Volume (Gals.)}} \times \text{No Purge} = \text{--- Gals.}$ Specified Volumes Calculated Volume
--

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1405	67.7	7.0	469	—	clear

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Time: 1405 Sampling Date: 2/5/03

Sample I.D.: MW-2 Laboratory: Pace Sequoia Other _____

Analyzed for: TPH-G ⁸²⁶⁰ BTEX MTBE TPH-D Other: Cr6 (5), Ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.7	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030205-BA2	Station # 6148
Sampler: BRIAN ALCORN	Date: 2/5/03
Well I.D.: MW-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 25.90	Depth to Water: 16.32
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 ² * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> 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.

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

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1358	67.7	6.6	626	—	clear w/ brown particles

Did well dewater? Yes <input type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: —
Sampling Time: 1358	Sampling Date: 2/5/03

Sample I.D.: MW-3	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: <u>TPH-G</u> <u>8260</u> BTEX MTBE TPH-D Other: <u>CMMS (5), ETANOL by 8260</u>	

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030205-BA2	Station #: 6148
Sampler: BRIAN ALCOBZ	Date: 2/5/03
Well I.D.: MW-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: _____	Depth to Water: UNKNOWN OBSTRUCTIONS IN WELL UNABLE TO SAMPLE
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 ² * 0.163

Purge Method: <u>Bailer</u>	Sampling Method: <u>Bailer</u>
Disposable Bailer	Disposable Bailer
Middleburg	Extraction-Port
Electric Submersible Extraction Pump	Other: _____
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.

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

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
					OBSTRUCTION IN WELL @ 9:30
					APPEARS TO BE CRC SOCK THAT SEPARATED FROM ROPE
					UNABLE TO SAMPLE / SAMPLE

Did well dewater? Yes No	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: _____
Sample I.D.: _____	Laboratory: Pace Sequoia Other _____
Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____	
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: _____ mg/L
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:

6148

Station #

5131 SHATTUCK AVE, OAKLAND

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

21

added equip.
rinse water

4

any other
adjustments

TOTAL GALS.
RECOVERED

25

loaded onto
BTS vehicle #

14

BTS event #

time

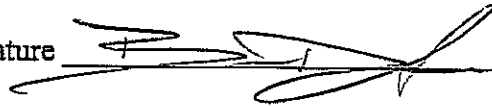
date

030205-BAR

1415

2/5/03

signature



REC'D AT

time

date

unloaded by
signature

1/1

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 Group Environmental Management Company have been reviewed and verified by that laboratory.



25 February, 2003

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

RE: ARCO #6148, Oakland, Ca
Sequoia Work Order: MMB0201

Enclosed are the results of analyses for samples received by the laboratory on 02/06/03 11:55. 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
500 12th Street, Suite 100
Oakland CA, 94607

Project: ARCO #6148, Oakland, Ca
Project Number: ARCO #6148, Oakland, CA
Project Manager: Scott Robinson

MMB0201
Reported:
02/25/03 14:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MMB0201-01	Water	02/05/03 13:52	02/06/03 11:55
MW-2	MMB0201-02	Water	02/05/03 14:05	02/06/03 11:55
MW-3	MMB0201-03	Water	02/05/03 13:58	02/06/03 11:55
MW-4	MMB0201-04	Water	02/05/03 13:45	02/06/03 11:55

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

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

 Project: ARCO #6148, Oakland, Ca
 Project Number: ARCO #6148, Oakland, CA
 Project Manager: Scott Robinson

 MMB0201
Reported:
 02/25/03 14:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MMB0201-01) Water Sampled: 02/05/03 13:52 Received: 02/06/03 11:55									
Ethanol	ND	40	ug/l	1	3B19010	02/19/03	02/19/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	1.1	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>		<i>102 %</i>	<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
MW-2 (MMB0201-02) Water Sampled: 02/05/03 14:05 Received: 02/06/03 11:55									
Ethanol	ND	40	ug/l	1	3B19010	02/19/03	02/19/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	4.3	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Benzene	2.7	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	0.97	0.50	"	"	"	"	"	"	
Xylenes (total)	15	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	83	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>98.2 %</i>	<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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

 Project: ARCO #6148, Oakland, Ca
 Project Number: ARCO #6148, Oakland, CA
 Project Manager: Scott Robinson

 MMB0201
Reported:
 02/25/03 14:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MMB0201-03) Water Sampled: 02/05/03 13:58 Received: 02/06/03 11:55									
Ethanol	ND	40	ug/l	1	3B19010	02/19/03	02/19/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	2.4	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>		99.8 %	78-129	"	"	"	"	"	
MW-4 (MMB0201-04) Water Sampled: 02/05/03 13:45 Received: 02/06/03 11:55									
Ethanol	ND	40	ug/l	1	3B19010	02/19/03	02/19/03	EPA 8260B	
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>		101 %	78-129	"	"	"	"	"	

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

 Project: ARCO #6148, Oakland, Ca
 Project Number: ARCO #6148, Oakland, CA
 Project Manager: Scott Robinson

 MMB0201
 Reported:
 02/25/03 14:41

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 3B19010 - EPA 5030B P/T
Blank (3B19010-BLK1)

Prepared & Analyzed: 02/19/03

Ethanol	ND	40	ug/l							
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
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>	4.86		"	5.00		97.2	78-129			
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Laboratory Control Sample (3B19010-BS1)

Prepared & Analyzed: 02/19/03

Methyl tert-butyl ether	9.43	0.50	ug/l	10.0		94.3	63-137			
Benzene	9.85	0.50	"	10.0		98.5	78-124			
Toluene	10.4	0.50	"	10.0		104	78-129			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.89		"	5.00		97.8	78-129			
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Laboratory Control Sample (3B19010-BS2)

Prepared & Analyzed: 02/19/03

Methyl tert-butyl ether	8.77	0.50	ug/l	9.04		97.0	63-137			
Benzene	5.51	0.50	"	5.44		101	78-124			
Toluene	33.0	0.50	"	32.8		101	78-129			
Gasoline Range Organics (C6-C10)	388	50	"	440		88.2	70-113			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.02		"	5.00		100	78-129			
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URS Corporation
 500 12th Street, Suite 100
 Oakland CA, 94607

 Project: ARCO #6148, Oakland, Ca
 Project Number: ARCO #6148, Oakland, CA
 Project Manager: Scott Robinson

 MMB0201
Reported:
 02/25/03 14:41

**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
Batch 3B19010 - EPA 5030B P/T									
Matrix Spike (3B19010-MS1)		Source: MMB0145-03			Prepared & Analyzed: 02/19/03				
Methyl tert-butyl ether	353	5.0	ug/l	90.4	240	125	0-200		
Benzene	57.7	5.0	"	54.4	ND	106	78-124		
Toluene	340	5.0	"	328	ND	104	78-129		
Gasoline Range Organics (C6-C10)	4380	500	"	4400	ND	93.6	70-113		
<hr/>									
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.15</i>		<i>"</i>	<i>5.00</i>		<i>103</i>	<i>78-129</i>		
Matrix Spike Dup (3B19010-MSD1)		Source: MMB0145-03			Prepared: 02/19/03		Analyzed: 02/20/03		
Methyl tert-butyl ether	314	5.0	ug/l	90.4	240	81.9	0-200	11.7	200
Benzene	53.7	5.0	"	54.4	ND	98.7	78-124	7.18	12
Toluene	311	5.0	"	328	ND	94.8	78-129	8.91	10
Gasoline Range Organics (C6-C10)	3790	500	"	4400	ND	80.2	70-113	14.4	9 QR-02
<hr/>									
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.04</i>		<i>"</i>	<i>5.00</i>		<i>101</i>	<i>78-129</i>		

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

Project: ARCO #6148, Oakland, Ca
Project Number: ARCO #6148, Oakland, CA
Project Manager: Scott Robinson

MMB0201
Reported:
02/25/03 14:41

Notes and Definitions

- 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

MMB0201

Project Name _____
BP BU/GEM CO Portfolio: _____
BP Laboratory Contract Number: _____

Date: 2/5/03 Requested Due Date (mm/dd/yy) Standard

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

Send To:	BP/GEM Facility No.:	Consultant/Contractor: URS
Lab Name: SEQUOIA	BP/GEM Facility Address: 5131 Shattuck Ave, OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 6148	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDD: syed.rehan@urscorp.com
	California Global ID #: 70600100103	Consultant/Contractor Project No.: JS-00006148.01 00427
Lab PM: Latonya Peit	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3268
Tele/Fax: 408-776-9600 / 408-782-8308	Address:	Consultant/Contractor PM: Scott Robinson
Report Type & QC Level; Send EDF Reports	Tele/Fax:	Invoice to: Consultant/Contractor or (BP/GEM) (circle one)
BP/GEM Account No.:		BP/GEM Work Release No: ENTRIM-50769

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 ₂ SO ₄	HNO ₃	HCl	TPH-G/RTX (8015) (8016) (8017) (8018)	TPH-D (8015) MRE (8021)	MRE, TAME, ETBE DIBP, TBA (8260)	1,2-DCA & EDB (8260)	
1	MW-1	1352		X			UN					X		X			
2	MW-2	1405		X			UN					X		X			
3	MW-3	1358		X			UN					X		X			
4	MW-4	1345		X			UN					X		X			
5																	
6																	
7																	
8																	
9																	
10																	

Sampler's Name: <u>Brian Auman</u>	Relinquished By / Affiliation: _____	Date: <u>2/6/03</u>	Time: <u>1131</u>	Accepted By / Affiliation: _____	Date: <u>2/6/03</u>	Time: <u>1130</u>
Sampler's Company: <u>Swain Tech Services</u>	_____	<u>2/6/03</u>	<u>1155</u>	<u>Brian Jensen</u>	<u>2/6/03</u>	<u>1155</u>
Shipment Date: _____						
Shipment Method: _____						
Shipment Tracking No: _____						

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

Seals In Place Yes No X Temperature Blank Yes No X Cooler Temperature on Receipt 4.4°C Trip Blank Yes No X

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS
 REC. BY (PRINT) AJ
 WORKORDER: MMP 6201

DATE Received at Lab: 2-6-03
 TIME Received at Lab: 1155
 LOG IN DATE: 2-8-03

Drinking water for regulatory purposes: YES / NO
 Wastewater for regulatory purposes: YES / NO

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	#	CLIENT ID	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / <input checked="" type="radio"/> Absent Intact / Broken*	01		MW-1	(3)UCGS HCL	L	2-5-03	LOT B 2275020
2. Chain-of-Custody	<input checked="" type="radio"/> Present / Absent*	02		MW-2	↓	↓	↓	
3. Traffic Reports or Packing List:	Present / <input checked="" type="radio"/> Absent	03		MW-3	↓	↓	↓	
4. Airbill:	Airbill / Sticker Present / <input checked="" type="radio"/> Absent	04		MW-4	↓	↓	↓	
5. Airbill #:								
6. Sample Labels:	<input checked="" type="radio"/> Present / Absent							
7. Sample IDs:	<input checked="" type="radio"/> Listed / Not Listed on Chain-of-Custody							
8. Sample Condition:	<input checked="" type="radio"/> Intact / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	<input checked="" type="radio"/> Yes / No*							
10. Sample received within hold time:	<input checked="" type="radio"/> Yes / No*							
11. Proper Preservatives used:	<input checked="" type="radio"/> Yes / No*							
12. Temp Rec. at Lab: Is temp 4 +/- 2°C?	<u>4.4°C</u> <input checked="" type="radio"/> Yes / No**							
(Acceptance range for samples requiring thermal pres.)								
**Exception (if any): Metals / DFF on ice? / DFF no ice? or Problem COC								

***If Circled, contact Project Manager and attach record of resolution.**

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 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-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-1	02-02-00	107.80	15.70	ND	92.10	<50	<0.5	<0.5	<0.5	<1	<3	--	8.9	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	--		

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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-2	08-14-96	107.28	17.00	ND	90.28	130	22	4	2	9	120	--		
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-2	02-02-00	107.28	15.30	ND	91.98	<50	<0.5	<0.5	<0.5	<1	<3	--	9.1	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	--		

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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	--		
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-3	02-02-00	107.61	15.65	ND	91.96	290	18	0.5	45	56	46	--	0.4	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								

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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-4	02-02-00	106.71	14.32	ND	92.39	<50	<0.5	<0.5	<0.5	<1	<3	--	0.7	NP
MW-5	03-20-95	106.68	14.92	ND	91.76	21,000	6,900	450	800	1,300	--	--		
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-5	02-02-00	106.60	14.65	ND	91.95	<50	<0.5	<0.5	<0.5	<1	39	--	8.6	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	--		

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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								
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								
MW-6	02-02-00	105.13	12.03	ND	93.10	<50	<0.5	<0.5	<0.5	<1	<3	--	3.94	NP
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	--		

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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								
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								
MW-7	02-02-00	107.05	12.57	ND	94.48	<50	<0.5	<0.5	<0.5	<1	<3	--	1.97	NP
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).

**Table 2
Groundwater Flow Direction and Gradient**

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

Date Measured	Average Flow Direction	Average Hydraulic Gradient
03-20-95	Southwest	0.02
06-06-95	Southwest	0.016
08-24-95	Southwest	0.014
11-16-95	Southwest	0.012
02-27-96	Southwest	0.016
05-15-96	Southwest	0.015
08-14-96	Southwest	0.021
11-11-96	Southwest	0.015
03-25-97	South-Southwest	0.018
05-15-97	South-Southwest	0.014
10-26-97	Southwest	0.009
11-10-97	South-Southwest	0.014
02-13-98	South-Southwest	0.012
05-12-98	Southwest	0.02
07-28-98	Southwest	0.02
10-28-98	Southwest	0.01
02-12-99	Southwest	0.02
06-03-99	Southwest	0.02
10-26-99	Southwest	0.01
02-02-00	South-Southwest	0.017

ATTACHMENT D

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

03/04/03

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #6148, Oakland, Ca
Work Order Number:	MMB0201
Global ID:	T0600100103
Lab Report Number:	MMB0201022520031441

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MMB02010225200 MW-1 31441		MMB020101	W	CS	8260+OX	SW5030B	02/05/03	02/19/03	02/19/03	3B19010	1	
MMB02010225200 MW-2 31441		MMB020102	W	CS	8260+OX	SW5030B	02/05/03	02/19/03	02/19/03	3B19010	1	
MMB02010225200 MW-3 31441		MMB020103	W	CS	8260+OX	SW5030B	02/05/03	02/19/03	02/19/03	3B19010	1	
MMB02010225200 MW-4 31441		MMB020104	W	CS	8260+OX	SW5030B	02/05/03	02/19/03	02/19/03	3B19010	1	
		MMB014503	W	NC	8260+OX	SW5030B	//	02/19/03	02/19/03	3B19010	1	
		3B19010BS1	WQ	BS1	8260+OX	SW5030B	//	02/19/03	02/19/03	3B19010	1	
		3B19010BS2	WQ	BS2	8260+OX	SW5030B	//	02/19/03	02/19/03	3B19010	1	
		3B19010BLK1	WQ	LB1	8260+OX	SW5030B	//	02/19/03	02/19/03	3B19010	1	
		3B19010MS1	W	MS1	8260+OX	SW5030B	//	02/19/03	02/19/03	3B19010	1	
		3B19010MSD1	W	SD1	8260+OX	SW5030B	//	02/19/03	02/20/03	3B19010	1	

EDFSAMP: Error Summary Log

03/04/03

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

EDFTEST: Error Summary Log

03/04/03

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

EDFRES: Error Summary Log

03/04/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	3B19010MS1	MS1	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	3B19010MSD1	SD1	W	8260+OX	PR	02/20/03	1	GROC6C10
Warning: extra parameter	MMB014503	NC	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	MMB020101	CS	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	MMB020101	CS	W	8260+OX	PR	02/19/03	1	XYLENES
Warning: extra parameter	MMB020102	CS	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	MMB020102	CS	W	8260+OX	PR	02/19/03	1	XYLENES
Warning: extra parameter	MMB020103	CS	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	MMB020103	CS	W	8260+OX	PR	02/19/03	1	XYLENES
Warning: extra parameter	MMB020104	CS	W	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	MMB020104	CS	W	8260+OX	PR	02/19/03	1	XYLENES
Warning: extra parameter	3B19010BLK1	LB1	WQ	8260+OX	PR	02/19/03	1	GROC6C10
Warning: extra parameter	3B19010BLK1	LB1	WQ	8260+OX	PR	02/19/03	1	XYLENES
Warning: extra parameter	3B19010BS2	BS2	WQ	8260+OX	PR	02/19/03	1	GROC6C10

EDFQC: Error Summary Log

03/04/03

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

EDFCL: Error Summary Log

03/04/03

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

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Confirmation Number: 9646853923

Date/Time of Submittal: 3/6/2003 10:32:21 AM

Facility Global ID: T0600100103

Facility Name: ARCO

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

Submittal Type: GW Monitoring Report

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6148

Submittal Date/Time: 3/4/2003 4:21:15 PM

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Number: 8762592911

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