RO 831

Atlantic Richfield Company
(a BP affiliated company)

P.O. Box 6549
Moraga, California 94570
Phone: (925) 299-8891
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December 17, 2003

RE: Fourth Quarter 2003 Groundwater Monitoring Report
ARCO Service Station #0276
10600 MacArthur Blvd.
Oakland, CA
URS Project# 38486308

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

URS

December 17, 2003

Mr. Don Hwang
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Second Floor, Suite 250
Alameda, CA 94502

Re: Fourth Quarter 2003 Groundwater Monitoring Report
ARCO Service Station #0276
10600 MacArthur Boulevard
Oakland, California
URS Project #38486308

Dear Mr. Hwang:

On behalf of Atlantic Richfield Company (ARCO – a BP affiliated company), URS Corporation (URS) is submitting the *Fourth Quarter 2003 Groundwater Monitoring Report* for ARCO Service Station #0276, located at 10600 MacArthur Boulevard, 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

REGISTERED GEOLOGIST
JAMES F DURKIN
NO 7569
CERTIFIED HYDROGEOLOGIST
Exp. 2/28/05
STATE OF CALIFORNIA

Enclosure: Fourth Quarter 2003 Groundwater Monitoring Report

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

REPORT

FOURTH QUARTER 2003 GROUNDWATER MONITORING

ARCO SERVICE STATION #0276
10600 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Prepared for
Atlantic Richfield Company

December 17, 2003

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

38486308

Date: December 17, 2003

Quarter: 4Q 03

ATLANTIC RICHFIELD COMPANY ANNUAL GROUNDWATER MONITORING REPORT

Facility No.:	0276	Address:	10600 MacArthur Boulevard, Oakland, California
Atlantic Richfield Co. Business Manager:			Paul Supple
Consulting Co./Contact Person:			URS Corporation / Scott Robinson
Consultant Project No.:			38486308
Primary Agency:			Alameda County Health Care Services Agency (ACHCSA)

WORK PERFORMED THIS QUARTER (Fourth – 2003):

1. Performed fourth quarter 2003 groundwater monitoring event on November 7, 2003.
2. Prepared fourth quarter 2003 groundwater monitoring report.

WORK PROPOSED FOR NEXT QUARTER (First – 2004):

1. Perform first quarter 2004 groundwater monitoring event.
2. Prepare and submit first quarter 2004 groundwater monitoring report.

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Quarterly: Wells MW-1 through MW-8, RW-1 and WGR-3..
Frequency of Groundwater	Annual changed to quarterly starting from third quarter 2003
Is Free Product (FP) Present On-Site:	Sheen: MW-7
Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	18.22 (MW-2) to 35.70 (MW-6) feet
Groundwater Gradient (direction):	Southwest
Groundwater Gradient (magnitude):	0.0035 feet per foot

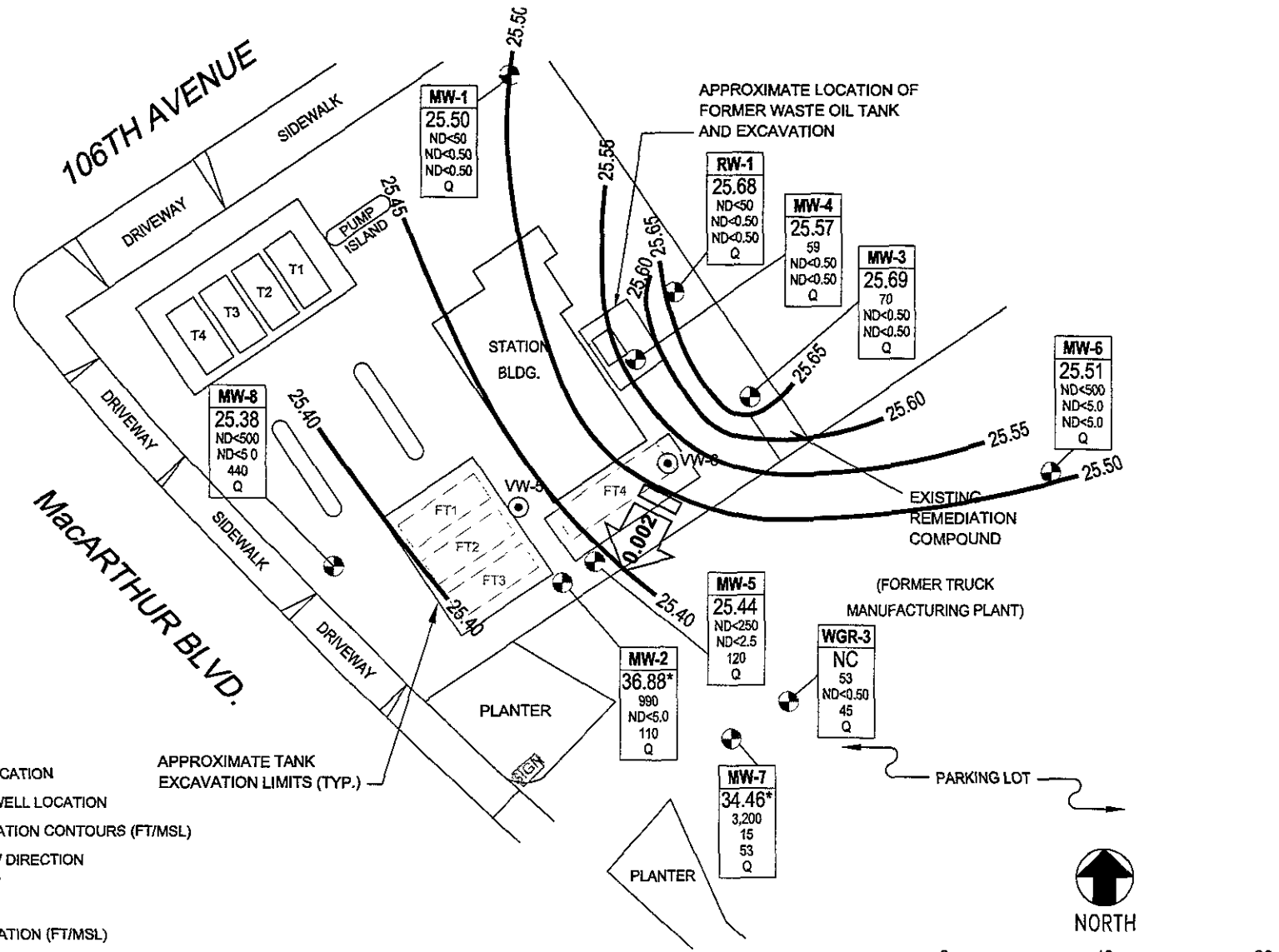
DISCUSSION:

This site was previously sampled on an annual basis for PCE only. However, due to a recent new release discovered during line up-grade work, this Site is being monitored quarterly since September 2003 (3Q 2003) for TPH-g, BTEX, fuel oxygenates, 1,2-DCA, and EDB.

During this quarter, all groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, fuel oxygenates, Ethanol, and PCE. TPH-g was detected above the laboratory reporting limit in five of the ten wells sampled at concentrations ranging from 53 µg/L (WGR-3) to 3,200 µg/L (MW-7). Benzene, was only detected above the laboratory reporting limit in well MW-7 at concentrations of 15µg/L. MTBE and TAME were detected above the laboratory reporting limit in wells MW-2, MW-5, MW-7, MW-8 and WGR-3. MTBE was detected at concentrations ranging from 45 µg/L (WGR-3) to 440 µg/L (MW-8). TAME was detected above the laboratory reporting limit at concentrations ranging from 6.6 µg/L (MW-5) to 28 µg/L (MW-2). PCE was detected in six wells at concentrations ranging from of 3.0 µg/L (MW-1) to 560 µg/L (MW-6).

ATTACHMENTS:

- Figure 1 - Groundwater Elevation Contour and Analytical Summary Map – November 7, 2003
- Table 1 - Groundwater Elevation and Analytical Data
- Table 2 - Fuel Oxygenates Analytical Data
- Table 3 - Groundwater Flow Direction and Gradient
- 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



LEGEND

- MONITORING WELL LOCATION
- VAPOR EXTRACTION WELL LOCATION
- 25.40 — GROUNDWATER ELEVATION CONTOURS (FT/MSL)
- 0.002 — GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- Well — WELL DESIGNATION
- ELEV — GROUNDWATER ELEVATION (FT/MSL)
- TPH-g, Benzene, MTBE — CONCENTRATIONS OF TPH-g, BENZENE, MTBE & PCE IN MICROGRAMS PER LITER (µg/L)
- Q — SAMPLING FREQUENCY
- * NOT USED IN GROUNDWATER CONTOURS
- NC NOT CALCULATED
- NS NOT SAMPLED
- ND< NOT DETECTED
- Q SAMPLED QUARTERLY

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

URS	Project No. 38486308 ARCO Service Station 0276 10600 MacArthur Boulevard Oakland, California	GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP Fourth Quarter 2003 (November 7, 2003)	FIGURE 1

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #0276
10600 MacArthur Boulvard
Oakland, California

Well Number	Date Sampled		Well Elevation (ft-MSL)	Top of Screen (ft., MSL)	Depth of Well (ft., BGS)	Depth to Water (ft, TOC)	Groundwater Elevation (ft-MSL)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO [d] (mg/L)	pH [d]
MW-1	12/17/00		55.92	36.92	38.80	29.16	26.76	5.09	ND	ND	ND	NA	NA	NA	NA
	12/28/01					27.38	28.54	8.8	ND	ND	ND	NA	NA	NA	NA
	11/27/02	NP				29.45	26.47	4.2	NA	NA	NA	NA	NA	2.3	6.7
	07/22/03	NP				27.58	28.34	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.1	6.7
	11/07/03	**NP**				**30.42**	**25.50**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**2.1**	**6.6**
MW-2	12/17/00		55.10	40.10	27.60	15.72	39 38	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01					27.38	27.72	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/02					16.35	38.75	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03					16.20	38.90	NS	NS	NS	NS	NS	NS	NS	NS
	11/07/03	**P**				**18.22**	**36.88**	**990**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**110**	**1.8**	**6.7**
MW-3	12/17/00		56.55	34.55	38.60	29.78	26.77	158	ND	ND	ND	NA	NA	NA	NA
	12/28/01					27.95	28.60	310	20	1.5	13	NA	NA	NA	NA
	11/27/02	NP				30.10	26.45	110	NA	NA	NA	NA	NA	2.0	7.2
	07/22/03	NP				28.32	28.23	120	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0 50	2.2	5.9
	11/07/03	**NP**				**30.86**	**25.69**	**70**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**2.8**	**6.5**
MW-4	12/17/00		55.98	30.98	48.30	29 22	26.76	225	ND	ND	ND	NA	NA	NA	NA
	12/28/01					27.37	28.61	160	1.2	ND	ND	NA	NA	NA	NA
	11/27/02	NP				29.55	26.43	95	NA	NA	NA	NA	NA	3.7	6.7
	07/22/03	NP				27.73	28.25	130	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.9	6.6
	11/07/03	**NP**				**30.41**	**25.57**	**59**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**2.6**	**6.5**
MW-5	12/17/00		55.43	23.23	47.00	28.82	26.61	1,040	ND	ND	ND	NA	NA	NA	NA
	12/28/01					26.91	28.52	3,200	190	36	140	1.9 [a], 3.2 [b], 2.0 [c]	NA	NA	NA
	11/27/02	P				29.15	26.28	110	NA	NA	NA	NA	NA	1.4	6 4
	07/22/03	P				27.43	28.00	160	ND<1.0	ND<1.0	ND<1.0	ND<1.0	110	1.5	6.6
	11/07/03	**P**				**29.99**	**25.44**	**ND<250**	**ND<2.5**	**ND<2.5**	**ND<2.5**	**ND<2.5**	**120**	**0.6**	**6.2**
MW-6	12/17/00		61.21	24.21	54.10	34.61	26.60	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01					32.80	28.41	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/02					35.00	26.21	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03					33.17	28.04	NS	NS	NS	NS	NS	NS	NS	NS
	11/7/2003 [e, f]	**P**				**35.70**	**25.51**	**ND<500**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**2.7**	**6.9**

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #0276
10600 MacArthur Boulvard
Oakland, California

Well Number	Date Sampled		Well Elevation (ft-MSL)	Top of Screen (ft., MSL)	Depth of Well (ft., BGS)	Depth to Water (ft, TOC)	Groundwater Elevation (ft-MSL)	TPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO [d] (mg/L)	pH [d]
MW-7	12/17/00		58.22	40.72	55.00	19.94	38.28	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01					17.29	40.93	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/02					21.30	36.92	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03					21.36	36.86	NS	NS	NS	NS	NS	NS	NS	NS
	11/7/2003[e]	**P**				**23.76**	**34.46**	**3200**	**15**	**ND<2.5**	**130**	**11**	**53**	**2.2**	**6.8**
MW-8	12/17/00		53.65	24.65	47.70	27.02	26.63	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01					24.99	28.66	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/02					27.45	26.20	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03					25.74	27.91	NS	NS	NS	NS	NS	NS	NS	NS
	11/07/03	**P**				**28.27**	**25.38**	**ND<500**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**440**	**2.6**	**6.5**
RW-1	12/17/00		56.32		48.90	29.57	26.75	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01					27.64	28.68	NS	NS	NS	NS	NS	NS	NS	NS
	11/27/02					29.93	26.39	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03					28.09	28.23	NS	NS	NS	NS	NS	NS	NS	NS
	11/07/03	**P**				**30.64**	**25.68**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**3.1**	**7.0**
WGR-3	12/17/00		NR	22.00	27.50	19.21	NR	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/01		NR			DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	11/27/02		NR			20.60	NR	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/03		NR			20 77	NR	NS	NS	NS	NS	NS	NS	NS	NS
	11/07/03	**P**	**NR**			**23.11**	**NR**	**53**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**45**	**0.9**	**6.4**

Note
TOC = Top of Casing
ft-MSL = Elevation in feet, relative to mean sea level
µg/L = Micrograms per liter
ND< = None detected
NR = Not reported; data not available or not measurable
NS = Not sampled
P = Purged
NP = Not purged
mg/L = Milligrams per liter
a = 1,1 DCE
b = 1,2 DCA
c = Chlorobenzene
d = pH and DO levels are field measurements
e = this sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be used for their intended purpose.
f = The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits

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

Table 2
Fuel Oxygenates Analytical Data

ARCO Service Station #0276
10600 MacArthur Boulvard
Oakland, California

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	PCE (µg/L)	TCE (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	trans-1,2-DCE (µg/L)	cis-1,2-DCE (µg/L)	VOCs (µg/L)
MW-1	12/17/00	NA	NA	NA	NA	NA	NA	5.09	ND	NA	NA	ND	ND	NA
	12/28/01	NA	NA	NA	NA	NA	NA	8.8	ND	NA	NA	ND	ND	NA
	11/27/02	NA	NA	NA	NA	NA	NA	4.2	NA	NA	NA	NA	NA	NA
	07/22/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6 0	NA	ND<0 50	ND<0.50	NA	NA	NA
	11/07/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**3.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-2	**11/07/03**	**ND<1000**	**ND<200**	**110**	**ND<5.0**	**ND<5.0**	**28**	**ND<5.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-3	12/17/00	NA	NA	NA	NA	NA	NA	158	ND	NA	NA	ND	ND	NA
	12/28/01	NA	NA	NA	NA	NA	NA	310	20	NA	NA	1.5	13	NA
	11/27/02	NA	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA
	07/22/03	ND<100	ND<20	ND<0.50	ND<0 50	ND<0.50	ND<0.50	80	NA	ND<0.50	ND<0.50	NA	NA	NA
	11/07/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**80**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-4	12/17/00	NA	NA	NA	NA	NA	NA	225	ND	NA	NA	ND	ND	NA
	12/28/01	NA	NA	NA	NA	NA	NA	160	1.2	NA	NA	ND	ND	NA
	11/27/02	NA	NA	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	NA
	07/22/03	ND<100	ND<20	ND<0.50	ND<0.50	ND<0 50	ND<0 50	94	NA	ND<0.50	ND<0.50	NA	NA	NA
	11/07/03	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**68**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-5	12/17/00	NA	NA	NA	NA	NA	NA	1,040	ND	NA	NA	ND	ND	NA
	12/28/01	NA	NA	NA	NA	NA	NA	3,200	190	NA	NA	36	140	1.9 [a], 3.2 [b], 2.0 [c]
	11/27/02	NA	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA
	07/22/03	ND<200	ND<40	110	1.4	ND<1.0	3.2	55	NA	12	ND<1.0	NA	NA	NA
	11/07/03	**ND<500**	**ND<100**	**120**	**ND<2.5**	**ND<2.5**	**6.6**	**42**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-6	**11/07/03**	**ND<1000**	**ND<200**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**560**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-7	**11/07/03**	**ND<500**	**ND<100**	**53**	**ND<2.5**	**ND<2.5**	**13**	**ND<2.5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-8	**11/07/03**	**ND<1000**	**ND<200**	**440**	**ND<5.0**	**ND<5.0**	**18**	**ND<5.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
RW-1	**11/07/03**	**ND<100**	**ND<20**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**3.1**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
WGR-3	**11/07/03**	**ND<100**	**ND<20**	**45**	**ND<0.50**	**ND<0.50**	**10**	**ND<0.50**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Note = Tetrachloroethene analyzed using EPA Method 8260B
µg/L = Micrograms per liter
NA = Not analyzed
ND< = Not detected at or above laboratory reporting limit
PCE = Tetra chloroethene
TCE = Trichloroethene
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
trans-1,2-DCE = trans 1,2-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
VOC = Volatile Organic Compounds
a = 1,1 DCE
b = 1,2 DCA
c = Chlorobenzene

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

Table 3
Groundwater Flow Direction and Gradient

ARCO Service Station #0276
10600 MacArthur Boulevard,
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
12/17/00	South-Southeast	0.003
12/28/01	Southeast	0.002
11/27/02	South-Southeast	0.003
07/22/03	South	0.007
11/07/03	**Southwest**	**0.0035**

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

ATTACHMENT A

FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

Sampling Procedures

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

WELL GAUGING DATA

Project # 031107-DA2 Date 11/7/03 Client Arco/BP 276

Site 10600 Macarthur Blvd. Oakland, CA

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	NP@
MW-1	2					30.42	38.80	TOC	19'
MW-2	4					18.22	27.60		
MW-3	2					30.86	38.60		23'
MW-4	2					30.41	48.30		25'
MW-5	4					29.99	47.00		
MW-6	2					35.70	54.10		
MW-7	2					23.76	55.00		
MW-8	4					28.27	47.70		
RW-1	6					30.64	48.90		
WGR-3	4					23.11	27.50	↓	

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/07/03
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8
Total Well Depth: 38.80	Depth to Water: 30.42
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; (Extraction Pump); Other: _____

Sampling Method: Bailer; (X) Disposable Bailer; Extraction Port; Other: _____

Top of Screen: 19'

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

1 Case Volume (Gals.)	x	Specified Volumes	=	Calculated Volume
—	x	NO PURGE	=	— Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1040	65.5	6.6	1566	—	

Did well dewater? Yes (No)		Gallons actually evacuated:	—
Sampling Time: 1640		Sampling Date: 11/07/03	
Sample I.D.: MW-1		Laboratory: Pace (Sequoia) Other	
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D	Other: Oxys, Methanol, PCE's		
D.O. (if req'd): 2.1 mg	Pre-purge:	mg/L	Post-purge: 2.1 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 27.60	Depth to Water: 18.22
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

Top of Screen: ___

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

6.1 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 18.3 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1314	67.8	6.9	802	6.5	clear
1315	68.3	6.6	730	13.0	"
1316	68.4	6.7	721	19.5	"

Did well dewater? Yes (No) Gallons actually evacuated: 18.5

Sampling Time: 1320 Sampling Date: 11/7/03

Sample I.D.: MW-2 Laboratory: Pace (Sequoia) Other ___

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: See COC

D.O. (if req'd):	Pre-purge:		mg/L	Post-purge:	1.8 mg/L
O.R.P. (if req'd):	Pre-purge:		mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/07/03
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 38.60	Depth to Water: 30.86
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

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

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

Sampling Method: Bailer / (X) Disposable Bailer / Extraction Port / Other: _____

Top of Screen: 22'

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

1 Case Volume (Gals.)	X	Specified Volumes	=	Calculated Volume
—	X	No Purge	=	— Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1005	63.6	6.5	638	—	clear

Did well dewater? Yes (No)		Gallons actually evacuated: —	
Sampling Time: 1008		Sampling Date: 11/07/03	
Sample I.D.: MW-3		Laboratory: Pace (Sequoia) Other _____	
Analyzed for: (TPH-G) BTEX MTBE TPH-D	Other:	Oil & Grease, Methanol, PCE	
D.O. (if req'd):	Pre-purge:	mg/L	Post-purge: 2.8 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 48.30	Depth to Water: 30.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

Sampling Method: Bailer / Disposable Bailer / Extraction Port / Other: ___

Top of Screen: 25'

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

___ (1 Case Volume (Gals.)) x No Purge (Specified Volumes) = ___ Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or ~~uS~~)	Gals. Removed	Observations
1020	64.9	6.5	567	—	clear

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

Sampling Time: 1023 Sampling Date: —

Sample I.D.: MW-4 Laboratory: Pace (Sequoia) Other ___

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxy's, Ethanol, PCE

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	2.0 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 47.00	Depth to Water: 29.99
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

Top of Screen: ~

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

11.0 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 33.0 Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or (uS))	Gals. Removed	Observations
1403	65.7	6.5	763	11	clear
1405	65.8	6.4	840	22	"
1407	65.9	6.2	868	33	"

Did well dewater? Yes (No)				Gallons actually evacuated: 33	
Sampling Time: 1410				Sampling Date: 11/07/03	
Sample I.D.: MW-5				Laboratory: Pace (Sequoia) Other_____	
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D				Other: See COC	
D.O. (if req'd):	Pre-purge:		mg/L	Post-purge:	0.6 mg/L
O.R.P. (if req'd):	Pre-purge:		mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA / MZ	Date: 11/07/03
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 54.10	Depth to Water: 35.70
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

Top of Screen: —

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

2.9 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 8.8 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1109	63.9	7.1	1746	3	tan, turbid
1112	64.1	6.9	1723	6	"
1115	64.1	6.9	1710	9	"

Did well dewater? Yes (No)		Gallons actually evacuated:	9
Sampling Time: 1120		Sampling Date:	11/07/03
Sample I.D.: MW-6		Laboratory: Pace (Sequoia)	Other _____
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D	Other:	Oxys, Methanol, DCE	
D.O. (if req'd): Pre-purge:	____ mg/L	Post-purge:	2.7 mg/L
O.R.P. (if req'd): Pre-purge:	____ mV	Post-purge:	____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 55.00 (33.55)	Depth to Water: 23.76
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

Sampling Method:
- Bailer
- X Disposable Bailer
- Extraction Port
- Other: ____

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

4.9 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 14.9 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1351	65.2	6.4	646	5	grey, gas odor, sheen
1355	67.0	6.2	650	5	" " "
1359	66.8	6.8	653	15	"
		#ORC's stuck in well			

Did well dewater? Yes (No) Gallons actually evacuated: 15

Sampling Time: 1402 Sampling Date: 11/7/03

Sample I.D.: MW-7 Laboratory: Pace (Sequoia) Other____

Analyzed for: ~~TPH-G~~ (BTEX) MTBE TPH-D Other: See COC

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	2.2 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: MW-8	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 47.70	Depth to Water: 28.27
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: ___

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

12.6 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 37.8 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (uS))	Gals. Removed	Observations
1253	67.0	6.3	759	13	clear
1256	67.9	6.5	767	26	
1258	68.0	6.5	775	39	

Did well dewater? Yes (No)		Gallons actually evacuated: 38	
Sampling Time: 1302		Sampling Date: 11/7/03	
Sample I.D.: MW-8		Laboratory: Pace (Sequoia) Other ___	
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D	Other: See COC		
D.O. (if req'd): Pre-purge:	mg/L	Post-purge: 2.6	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/07/03
Well I.D.: RW-1	Well Diameter: 2 3 4 (6) 8 ___
Total Well Depth: 48.90	Depth to Water: 30.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

Sampling Method:
- Bailer
- X Disposable Bailer
- Extraction Port
- Other: ___

Top of Screen: ___

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

26e-84 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 80.5 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1336	64.4	7.1	1566	27	clear
1341	64.5	6.9	1587	54	
1346	64.5	7.0	1583	81	

Did well dewater? Yes (No)		Gallons actually evacuated: 81	
Sampling Time: 1350		Sampling Date: 11/07/03	
Sample I.D.: ~~RW-1~~ dup RW-1		Laboratory: Pace (Sequoia) Other ___	
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D	Other:	See COC	
D.O. (if req'd):	Pre-purge: ___ mg/L	Post-purge: 3.1	mg/L
O.R.P. (if req'd):	Pre-purge: ___ mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 031107-DA2	Station # Arco 276
Sampler: DA	Date: 11/7/03
Well I.D.: WGR-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 27.50	Depth to Water: 23.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

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

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

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

2.9	x	3	=	8.7 Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1127	64.8	7.7	712	3	clear
1128	66.3	6.7	563	6	cloudy
1129	66.6	6.4	526	9	"

Did well dewater? Yes (No)		Gallons actually evacuated: 9	
Sampling Time: 1132		Sampling Date: 11/7/03	
Sample I.D.: WGR-3		Laboratory: Pace ~~Sequoia~~ Other_____	
Analyzed for: ~~TPH-G~~ ~~BTEX~~ MTBE TPH-D		Other: See COC	
D.O. (if req'd):	Pre-purge: ____ mg/L	Post-purge: 0.9 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:

Arco 276

Station #

10600 Macarthur Blvd. Oakland, CA

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

203.

added equip. rinse water 20

any other adjustments

TOTAL GALS. RECOVERED 223

loaded onto BTS vehicle # 49

BTS event #	time	date
031107-DA2	1030	11/7/03

signature David Altaut

* *

REC'D AT	time	date
		/ /

unloaded by signature

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.

Sequoia Analytical

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

1 December, 2003

Scott Robinson
URS Corporation [Arco]
500 12th Street, Suite 200
Oakland, CA 94607

RE: ARCO #0276, Oakland, CA
Work Order: MMK0358

Enclosed are the results of analyses for samples received by the laboratory on 11/10/03 16:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Theresa Allen

Theresa Allen
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Morgan Hill, CA 95037
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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MMK0358-01	Water	11/07/03 10:40	11/10/03 16:55
MW-2	MMK0358-02	Water	11/07/03 13:20	11/10/03 16:55
MW-3	MMK0358-03	Water	11/07/03 10:08	11/10/03 16:55
MW-4	MMK0358-04	Water	11/07/03 10:23	11/10/03 16:55
MW-5	MMK0358-05	Water	11/07/03 14:10	11/10/03 16:55
MW-6	MMK0358-06	Water	11/07/03 11:20	11/10/03 16:55
MW-7	MMK0358-07	Water	11/07/03 14:02	11/10/03 16:55
MW-8	MMK0358-08	Water	11/07/03 13:02	11/10/03 16:55
RW-1	MMK0358-09	Water	11/07/03 13:50	11/10/03 16:55
WGR-3	MMK0358-10	Water	11/07/03 13:50	11/10/03 16:55
TB	MMK0358-11	Water	11/07/03 00:00	11/10/03 16:55

There were custody seals received with this project.

Sequoia Analytical

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

URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MMK0358-01) Water Sampled: 11/07/03 10:40 Received: 11/10/03 16:55									
Ethanol	ND	100	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-10
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	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*96.4 %*		*78-129*	"	"	"	"	
MW-2 (MMK0358-02) Water Sampled: 11/07/03 13:20 Received: 11/10/03 16:55									
Ethanol	ND	1000	ug/l	10	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	**110**	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	**28**	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Gasoline Range Organics	**990**	500	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*78.2 %*		*78-129*	"	"	"	"	

Sequoia Analytical

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Morgan Hill, CA 95037
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www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MMK0358-03) Water Sampled: 11/07/03 10:08 Received: 11/10/03 16:55									
Ethanol	ND	100	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-10
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	**70**	50	"	"	"	"	"	"	HC-19
Surrogate: 1,2-Dichloroethane-d4		*91.2 %*	*78-129*		"	"	"	"	
MW-4 (MMK0358-04) Water Sampled: 11/07/03 10:23 Received: 11/10/03 16:55									
Ethanol	ND	100	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-10
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	**59**	50	"	"	"	"	"	"	HC-19
Surrogate: 1,2-Dichloroethane-d4		*90.8 %*	*78-129*		"	"	"	"	

Sequoia Analytical

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (MMK0358-05) Water Sampled: 11/07/03 14:10 Received: 11/10/03 16:55									
Ethanol	ND	500	ug/l	5	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	100	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	**120**	2.5	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.5	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
tert-Amyl methyl ether	**6.6**	2.5	"	"	"	"	"	"	
Benzene	ND	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	ND	2.5	"	"	"	"	"	"	
Xylenes (total)	ND	2.5	"	"	"	"	"	"	
Gasoline Range Organics	ND	250	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.8 %*	*78-129*		"	"	"	"	
MW-6 (MMK0358-06) Water Sampled: 11/07/03 11:20 Received: 11/10/03 16:55									**HT-RA, R-05**
Ethanol	ND	1000	ug/l	10	3K21006	11/21/03	11/22/03	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Gasoline Range Organics	ND	500	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.6 %*	*78-129*		"	"	"	"	

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (MMK0358-07) Water Sampled: 11/07/03 14:02 Received: 11/10/03 16:55									**HT-RA**
Ethanol	ND	500	ug/l	5	3K21006	11/21/03	11/22/03	EPA 8260B	
tert-Butyl alcohol	ND	100	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	**53**	2.5	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.5	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
tert-Amyl methyl ether	**13**	2.5	"	"	"	"	"	"	
Benzene	**15**	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	**130**	2.5	"	"	"	"	"	"	
Xylenes (total)	**11**	2.5	"	"	"	"	"	"	
Gasoline Range Organics	**3200**	250	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*		*78-129*	"	"	"	"	
MW-8 (MMK0358-08) Water Sampled: 11/07/03 13:02 Received: 11/10/03 16:55									
Ethanol	ND	1000	ug/l	10	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	**440**	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	**18**	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Gasoline Range Organics	ND	500	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.8 %*		*78-129*	"	"	"	"	

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RW-1 (MMK0358-09) Water Sampled: 11/07/03 13:50 Received: 11/10/03 16:55									
Ethanol	ND	100	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-10
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	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*94.4 %*		*78-129*	"	"	"	"	
WGR-3 (MMK0358-10) Water Sampled: 11/07/03 13:50 Received: 11/10/03 16:55									
Ethanol	ND	100	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-10
Methyl tert-butyl ether	**45**	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	**10**	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics	**53**	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.4 %*		*78-129*	"	"	"	"	

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

EPA 8010 list Volatile Organic Compounds by EPA 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MMK0358-01) Water Sampled: 11/07/03 10:40 Received: 11/10/03 16:55									
Tetrachloroethene	**3.0**	0.50	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*92.6 %*		*73-130*		"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*96.4 %*		*78-129*		"	"	"	
Surrogate: Toluene-d8		*95.8 %*		*81-116*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.4 %*		*71-117*		"	"	"	
MW-2 (MMK0358-02) Water Sampled: 11/07/03 13:20 Received: 11/10/03 16:55									
Tetrachloroethene	ND	5.0	ug/l	10	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*80.0 %*		*73-130*		"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*78.2 %*		*78-129*		"	"	"	
Surrogate: Toluene-d8		*97.4 %*		*81-116*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.0 %*		*71-117*		"	"	"	
MW-3 (MMK0358-03) Water Sampled: 11/07/03 10:08 Received: 11/10/03 16:55									
Tetrachloroethene	**80**	0.50	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*92.8 %*		*73-130*		"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.2 %*		*78-129*		"	"	"	
Surrogate: Toluene-d8		*97.6 %*		*81-116*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.0 %*		*71-117*		"	"	"	
MW-4 (MMK0358-04) Water Sampled: 11/07/03 10:23 Received: 11/10/03 16:55									
Tetrachloroethene	**68**	0.50	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*87.6 %*		*73-130*		"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.8 %*		*78-129*		"	"	"	
Surrogate: Toluene-d8		*97.2 %*		*81-116*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.6 %*		*71-117*		"	"	"	

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

EPA 8010 list Volatile Organic Compounds by EPA 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (MMK0358-05) Water Sampled: 11/07/03 14:10 Received: 11/10/03 16:55									
Tetrachloroethene	**42**	2.5	ug/l	5	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*97.2 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.8 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*98.0 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.8 %*	*71-117*		"	"	"	"	
MW-6 (MMK0358-06) Water Sampled: 11/07/03 11:20 Received: 11/10/03 16:55									**HT-RA**
Tetrachloroethene	**560**	5.0	ug/l	10	3K21006	11/21/03	11/22/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*93.2 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.6 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*92.4 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*71-117*		"	"	"	"	
MW-7 (MMK0358-07) Water Sampled: 11/07/03 14:02 Received: 11/10/03 16:55									**HT-RA**
Tetrachloroethene	ND	2.5	ug/l	5	3K21006	11/21/03	11/22/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*89.8 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.0 %*	*71-117*		"	"	"	"	
MW-8 (MMK0358-08) Water Sampled: 11/07/03 13:02 Received: 11/10/03 16:55									
Tetrachloroethene	ND	5.0	ug/l	10	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*89.0 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.8 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*91.4 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.8 %*	*71-117*		"	"	"	"	

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500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

EPA 8010 list Volatile Organic Compounds by EPA 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RW-1 (MMK0358-09) Water Sampled: 11/07/03 13:50 Received: 11/10/03 16:55									
Tetrachloroethene	**3.1**	0.50	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*94.0 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*94.4 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*94.2 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.6 %*	*71-117*		"	"	"	"	
WGR-3 (MMK0358-10) Water Sampled: 11/07/03 13:50 Received: 11/10/03 16:55									
Tetrachloroethene	ND	0.50	ug/l	1	3K21006	11/21/03	11/21/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*93.6 %*	*73-130*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.4 %*	*78-129*		"	"	"	"	
Surrogate: Toluene-d8		*93.6 %*	*81-116*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*71-117*		"	"	"	"	

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3K21006 - EPA 5030B P/T										
Blank (3K21006-BLK1)				Prepared & Analyzed: 11/21/03						
Ethanol	ND	100	ug/l							
tert-Butyl alcohol	ND	20	"							O-10
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	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	*6.03*		"	*5.00*		*121*	*78-129*			
Laboratory Control Sample (3K21006-BS1)				Prepared: 11/21/03 Analyzed: 11/22/03						
Ethanol	214	100	ug/l	200		107	31-186			
tert-Butyl alcohol	40.4	20	"	50.0		80.8	0-206			O-10
Methyl tert-butyl ether	8.24	0.50	"	10.0		82.4	63-137			
Di-isopropyl ether	9.51	0.50	"	10.0		95.1	76-130			
Ethyl tert-butyl ether	8.84	0.50	"	10.0		88.4	61-141			
tert-Amyl methyl ether	8.42	0.50	"	10.0		84.2	56-140			
Benzene	8.92	0.50	"	10.0		89.2	78-124			
Toluene	9.56	0.50	"	10.0		95.6	78-129			
Ethylbenzene	9.82	0.50	"	10.0		98.2	84-117			
Xylenes (total)	29.8	0.50	"	30.0		99.3	83-125			
Surrogate: 1,2-Dichloroethane-d4	*3.84*		"	*5.00*		*76.8*	*78-129*			*S-LIM*
Laboratory Control Sample (3K21006-BS2)				Prepared: 11/21/03 Analyzed: 11/22/03						
Gasoline Range Organics	449	50	ug/l	440		102	70-113			
Surrogate: 1,2-Dichloroethane-d4	*4.43*		"	*5.00*		*88.6*	*78-129*			

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URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3K21006 - EPA 5030B P/T										
Laboratory Control Sample Dup (3K21006-BSD1)				Prepared: 11/21/03 Analyzed: 11/22/03						
Ethanol	206	100	ug/l	200		103	31-186	3.81	37	
tert-Butyl alcohol	41.4	20	"	50.0		82.8	0-206	2.44	22	O-10
Methyl tert-butyl ether	9.69	0.50	"	10.0		96.9	63-137	16.2	13	QR-02
Di-isopropyl ether	10.7	0.50	"	10.0		107	76-130	11.8	9	QR-02
Ethyl tert-butyl ether	10.3	0.50	"	10.0		103	61-141	15.3	9	QR-02
tert-Amyl methyl ether	9.78	0.50	"	10.0		97.8	56-140	14.9	12	QR-02
Benzene	9 35	0.50	"	10.0		93.5	78-124	4.71	12	
Toluene	8.99	0.50	"	10.0		89.9	78-129	6.15	10	
Ethylbenzene	9.39	0.50	"	10.0		93.9	84-117	4.48	10	
Xylenes (total)	28.3	0.50	"	30 0		94.3	83-125	5.16	11	
Surrogate: 1,2-Dichloroethane-d4	*4.32*		"	*5.00*		*86.4*	*78-129*			
Laboratory Control Sample Dup (3K21006-BSD2)				Prepared: 11/21/03 Analyzed: 11/22/03						
Gasoline Range Organics	462	50	ug/l	440		105	70-113	2.85	9	
Surrogate: 1,2-Dichloroethane-d4	*2.02*		"	*5.00*		*40.4*	*78-129*			*S-LIM*

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500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

EPA 8010 list Volatile Organic Compounds by EPA 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3K21006 - EPA 5030B P/T										
Blank (3K21006-BLK1)			Prepared & Analyzed: 11/21/03							
Bromochloromethane	ND	0.50	ug/l							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	1.0	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	0.50	"							
Chloroethane	ND	0.50	"							
Chloroform	ND	0.50	"							
Chloromethane	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,1-Dichloroethane	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.50	"							
1,2-Dichloropropane	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Methylene chloride	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Freon 113	ND	0.50	"							
Trichloroethene	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
Vinyl chloride	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Surrogate: Dibromofluoromethane	*5.60*		"	*5.00*		*112*	*73-130*			
Surrogate: 1,2-Dichloroethane-d4	*6.03*		"	*5.00*		*121*	*78-129*			
Surrogate: Toluene-d8	*4.88*		"	*5.00*		*97.6*	*81-116*			
Surrogate: 4-Bromofluorobenzene	*4.87*		"	*5.00*		*97.4*	*71-117*			

Sequoia Analytical

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

URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

EPA 8010 list Volatile Organic Compounds by EPA 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3K21006 - EPA 5030B P/T										
Laboratory Control Sample (3K21006-BS1)				Prepared: 11/21/03 Analyzed: 11/22/03						
Chlorobenzene	9.60	0.50	ug/l	10.0		96.0	80-127			
1,1-Dichloroethene	9.97	0.50	"	10.0		99.7	75-124			
Trichloroethene	9.35	0.50	"	10.0		93.5	75-133			
Surrogate: Dibromofluoromethane	*4.07*		"	*5.00*		*81.4*	*73-130*			
Surrogate: 1,2-Dichloroethane-d4	*3.84*		"	*5.00*		*76.8*	*78-129*			*S-LIM*
Surrogate: Toluene-d8	*4.73*		"	*5.00*		*94.6*	*81-116*			
Surrogate: 4-Bromofluorobenzene	*4.34*		"	*5.00*		*86.8*	*71-117*			
Laboratory Control Sample Dup (3K21006-BSD1)				Prepared: 11/21/03 Analyzed: 11/22/03						
Chlorobenzene	9.54	0.50	ug/l	10.0		95.4	80-127	0.627	10	
1,1-Dichloroethene	9.85	0.50	"	10.0		98.5	75-124	1.21	16	
Trichloroethene	9.83	0.50	"	10.0		98.3	75-133	5.01	16	
Surrogate: Dibromofluoromethane	*4.73*		"	*5.00*		*94.6*	*73-130*			
Surrogate: 1,2-Dichloroethane-d4	*4.32*		"	*5.00*		*86.4*	*78-129*			
Surrogate: Toluene-d8	*4.87*		"	*5.00*		*97.4*	*81-116*			
Surrogate: 4-Bromofluorobenzene	*4.87*		"	*5.00*		*97.4*	*71-117*			

Sequoia Analytical

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FAX (408) 782-6308
www.sequoialabs.com

URS Corporation [Arco]	Project: ARCO #0276, Oakland, CA	MMK0358
500 12th Street, Suite 200	Project Number: INTRIM-50353	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/01/03 18:18

Notes and Definitions

HC-19	Discrete peak @ C7-C8.
HT-RA	This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be used for their intended purpose.
O-10	The result was reported with a possible low bias due to the continuing calibration verification falling outside the acceptance criteria.
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.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
S-LIM	The surrogate recovery was outside control limits. The result may still be useful for its intended purpose.
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 276 GWM
BP BU/GEM CO Portfolio Retail
BP Laboratory Contract Number: Atlantic Richfield Company MNK0358
Requested Due Date (mm/dd/yy) 14 day TAT

Date: 11/7/03

On-site Time: 1300 Temp: 66.8
Off-site Time: 1434 Temp: 66.6
Sky Conditions: cloudy
Meteorological Events: showers
Wind Speed: — Direction: —

Send To:	BP/GEM Facility No.: ARCO 276	Consultant/Contractor: URS
Lab Name: SEQUOIA	BP/GEM Facility Address: 10600 MacArthur Blvd, OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr.	Site ID No. ARCO 276	Oakland, CA 94609-4014
Morgan Hill, CA 95037	Site Lat/Long:	e-mail IDD: donna.cosper@URSCorp.com
	California Global ID #: T0600100082	Consultant/Contractor Project No.: 15-00000276.01 00427
Lab PM Theresa Allen	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-893-3600/510-874-3268
Tele/Fax: 408-776-9600 / 408-782-6308	Address: P.O. Box 6549	Consultant/Contractor PM: Scott Robinson
Report Type & QC Level: 1 Send EDF Reports	Moraga, CA 94570	Invoice to: Consultant/Contractor or BP/GEM (Circle one)
BP/GEM Account No.:	Tele/Fax: 925-299-8891/925-299-8872	BP/GEM Work Release No: INTRIM -50353

Lab Bottle Order No:

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8015/8021 & 8260)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE (8260)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Requested Analysis: Ethanol (8260)	Requested Analysis: PCE (8010)	Sample Point Lat/Long and Comments
1	MW-1	1040		X			01	6				X	X				X		X	X	
2	MW-2	1320					02						X				X		X	X	
3	MW-3	1009					03						X				X		X	X	
4	MW-4	1023					04						X				X		X	X	
5	MW-5	1410					05						X				X		X	X	
6	MW-6	1120					06						X				X		X	X	
7	MW-7	1402					07						X				X		X	X	
8	MW-8	1502					08						X				X		X	X	
9	RW-1	1350					09						X				X		X	X	
10	WBR-3	1132					10						X				X		X	X	

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: David Ankut	David Ankut / RTS	11/6/03	1150		11/6/03	1150
Sampler's Company: Blaine Tech		11/6/03	1655	Austin Junior	11/6/03	1655
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

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

Y Seals In Place Yes X No Temperature Blank Yes X No Cooler Temperature on Receipt 4.3 °F/C Trip Blank Yes X No

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

BP COC Rev. 1 2/5/02

Chain of Custody Record

Project Name 276 GWM
BP BU/GEM CO Portfolio Retail (MNK0358)
BP Laboratory Contract Number: Atlantic Richfield Company
Requested Due Date (mm/dd/yy) 14 day TAT

Date: 11/3/03

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	Sept. 1
Meteorological Events:	
Wind Speed:	Direction:

Send To:	
Lab Name:	SEQUOIA
Lab Address:	885 Jarvis Dr.
	Morgan Hill, CA 95037
Lab PM	Theresa Allen
Tele/Fax:	408-776-9600 / 408-782-6308
Report Type & QC Level:	1 Send EDF Reports
BP/GEM Account No.:	
Lab Bottle Order No:	

BP/GEM Facility No.:	ARCO 276
BP/GEM Facility Address:	10600 MacArthur Blvd, OAKLAND, CA
Site ID No.	ARCO 276
Site Lat/Long:	
California Global ID #:	T0600100082
BP/GEM PM Contact:	PAUL SUPPLE
Address:	P.O. Box 6549
	Moraga, CA 94570
Tele/Fax:	925-299-8891/925-299-8872

Consultant/Contractor:	URS
Address:	500 12th St., Ste. 200
	Oakland, CA 94607-4014
e-mail EDD:	donna_cospec@URSCorp.com
Consultant/Contractor Project No.:	35-00000276.01 00427
Consultant Tele/Fax:	510-893-7600/510-874-3268
Consultant/Contractor PM:	Scott Robinson
Invoice to:	Consultant/Contractor or BP/GBM (Circle one)
BP/GEM Work Release No:	INTRIM-50353

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	TPH-G / BTEX (8015/8021 or 8260)	TPH-D (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE, DIPE, TBA (8260)	1,2-DCA & EDB (8260)	Ethanol (8260)	PCE (8010)	Sample Point Lat/Long and Comments
1	TB	-		X			4	2				X									on hold
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: David Allbur	David Allbur / BTS	11/3/03	1150		11/3/03	1150
Sampler's Company: Blaine Tech		11/3/03	1655		11/4/03	1655
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

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

Temperature Blank Yes X No ____ Cooler Temperature on Receipt 4.3 °F/C Trip Blank Yes X No ____

Custody Seals In Place Yes X No ____

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

BP COC Rev. 1 2/02

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: IRS
REC. BY (PRINT): AS
WORKORDER: MMK0358

DATE REC'D AT LAB: 11-10-03
TIME REC'D AT LAB: 1655
DATE LOGGED IN: 11-11-03

Drinking water for regulatory purposes: YES (NO)
Wastewater for regulatory purposes: YES (NO)

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s): (Present / Absent) (N/A) / (Intact / Broken*)			MW-1	(6) VOAs	HCl	L	11-7-03	10+HA326500
2. Chain-of-Custody: (Present / Absent*)			MW-2					
3. Traffic Reports or Packing List: Present / (Absent)			MW-3					
4. Airbill: Airbill / Sticker Present / (Absent)			MW-4					
			MW-5					
			MW-6					
			MW-7					
5. Airbill #:			MW-8					
6. Sample Labels: (Present) / Absent			RW-1					
7. Sample IDs: (Listed) / Not Listed on Chain-of-Custody			WGR-3					
			TB	(2) VOAs				
8. Sample Condition: (Intact) / Broken* / Leaking*								
9. Does information on custody reports, traffic reports and sample labels agree? (Yes) / No*								
10. Sample received within hold time: (Yes) / No*								
11. Proper Preservatives used: (Yes) / No*								
12. Temp Rec. at Lab: 4.3°C Is temp 4 +/-2°C? (Yes) / No**								

(Acceptance range for samples requiring thermal pres.)

**)Exception (if any): Metals / DEF (Direct From Field) or Problem COC

11-10-03 A3

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

ATTACHMENT C

HISTORIC GROUNDWATER DATA

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged Not Purg (P/NP)
MW-1	03-10-95	55.92	26.26	ND	29.66	03-10-95	170	<1	--	<1	--		
MW-1	06-05-95	55.92	25.71	ND	30.21	06-05-95	210	<5	--	<5	--		
MW-1	08-29-95	55.92	28.44	ND	27.48	08-29-95	130	<1	--	<1	--		
MW-1	11-16-95	55.92	30.85	ND	25.07	11-16-95	45	<1	--	<1	<1		
MW-1	02-28-96	55.92	24.99	ND	30.93	02-28-96	97	<1	<1	<1	--		
MW-1	05-28-96	55.92	24.92	ND	31.00	05-28-96	160	<5	<5	<5	--		
MW-1	08-19-96	55.92	28.04	ND	27.88	08-19-96	77	<1	<1	<1	--		
MW-1	11-21-96	55.92	30.19	ND	25.73	11-21-96	30	<1	<1	<1	--		
MW-1	03-26-97	55.92	24.90	ND	31.02	03-26-97	66	<1	<1	<1	--		
MW-1	05-20-97	55.92	26.99	ND	28.93	05-20-97	36	<0.5	<0.5	<0.5	--		
MW-1	08-18-97	55.92	29.98	ND	25.94	08-18-97	11	<0.5	<0.5	<0.5	--		
MW-1	11-17-97	55.92	31.72	ND	24.20	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-1	12-02-99	55.92	Not surveyed			12-02-99	Not surveyed: well was inaccessible						
MW-2	03-10-95	55.10	13.98	ND	41.12	03-11-95	<1	<1	--	<1	--		
MW-2	06-05-95	55.10	15.65	ND	39.45	06-05-95	<1	<1	--	<1	--		
MW-2	08-29-95	55.10	17.14	ND	37.96	08-29-95	<5	<5	--	<5	--		
MW-2	11-16-95	55.10	Not surveyed			11-16-95	Not surveyed: well was inaccessible						
MW-2	02-28-96	55.10	12.46	ND	42.64	02-28-96	<1	<1	<1	<1	--		
MW-2	05-28-96	55.10	15.23	ND	39.87	05-28-96	<1	<1	<1	<1	--		
MW-2	08-19-96	55.10	16.84	ND	38.26	08-21-96	<1	<1	<1	<1	--		
MW-2	11-21-96	55.10	15.44	ND	39.66	11-21-96	<1	<1	<1	<1	--		
MW-2	03-26-97	55.10	15.73	ND	39.37	03-26-97	<10^	<10^	<10^	<10^	--		
MW-2	05-20-97	55.10	16.07	ND	39.03	05-20-97	<1^	<1^	<1^	<1^	--		
MW-2	08-18-97	55.10	17.28	ND	37.82	08-18-97	<5^	<5^	<5^	<5^	--		
MW-2	11-17-97	55.10	16.75	ND	38.35	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-2	12-02-99	55.10	Not surveyed			12-02-99	Not sampled: not on sampling schedule						

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Recreated from electronic data provided by Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged Not Purg (P/NP)
MW-3	03-10-95	56.55	26.74	ND	29.81	03-11-95	1700	<10	--	<10	--		
MW-3	06-05-95	56.55	26.34	ND	30.21	06-05-95	2500	<20	--	<20	--		
MW-3	08-29-95	56.55	29.15	ND	27.40	08-29-95	1600	<20	--	<20	--		
MW-3	11-16-95	56.55	31.50	ND	25.05	11-16-95	1100	<20	--	<20	<20		
MW-3	02-28-96	56.55	25.32	ND	31.23	02-28-96	1100	<10	<10	<10	--		
MW-3	05-28-96	56.55	25.46	ND	31.09	05-28-96	1700	<20	<20	<20	--		
MW-3	08-19-96	56.55	28.71	ND	27.84	08-19-96	1200	<20	<20	<20	--		
MW-3	11-21-96	56.55	30.85	ND	25.70	11-21-96	710	<20^	<20^	<20^	--		
MW-3	03-26-97	56.55	25.36	ND	31.19	03-26-97	710	<40^	<40^	<40^	--		
MW-3	05-20-97	56.55	27.61	ND	28.94	05-20-97	800	<25^	<25^	<25^	--		
MW-3	08-18-97	56.55	30.62	ND	25.93	08-18-97	420	<5^	<5^	<5^	--		
MW-3	11-17-97	56.55	32.40	ND	24.15	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-3	12-02-99	56.55	30.75	ND	25.80	12-02-99	210*	<0.5*	<0.5*	<0.5*	--	0.47	NP
MW-4	03-10-95	55.98	26.22	ND	29.76	03-11-95	2600	<20	--	<20	--		
MW-4	06-05-95	55.98	25.79	ND	30.19	06-05-95	3100	<20	--	<20	--		
MW-4	08-29-95	55.98	28.56	ND	27.42	08-29-95	2900	<20	--	<20	--		
MW-4	11-16-95	55.98	31.00	ND	24.98	11-16-95	2100	<20	--	<20	<20		
MW-4	02-28-96	55.98	24.77	ND	31.21	02-28-96	2400	<20	<20	<20	--		
MW-4	05-28-96	55.98	24.91	ND	31.07	05-28-96	2700	<20	<20	<20	--		
MW-4	08-19-96	55.98	28.17	ND	27.81	08-19-96	2600	<20	<20	<20	--		
MW-4	11-21-96	55.98	30.30	ND	25.68	11-21-96	1100	<20^	<20^	<20^	--		
MW-4	03-26-97	55.98	24.80	ND	31.18	03-26-97	1900	<40^	<40^	<40^	--		
MW-4	05-20-97	55.98	27.03	ND	28.95	05-20-97	1600	<50^	<50^	<50^	--		
MW-4	08-18-97	55.98	30.10	ND	25.88	08-18-97	600	<125^	<125^	--	--		
MW-4	11-17-97	55.98	31.84	ND	24.14	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-4	12-02-99	55.98	30.20	ND	25.78	12-02-99	320*	<0.5*	<0.5*	<0.5*	--	1.03	NP

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Recreated from electronic cata provided by Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged/ Not Purge (P/NP)
MW-5	03-10-95	55.43	25.62	ND	29.81	03-10-95	270	<5	--	<5	--		
MW-5	06-05-95	55.43	25.30	ND	30.13	06-05-95	310	<5	--	<5	--		
MW-5	08-29-95	55.43	28.21	ND	27.22	08-29-95	240	<5	--	<5	--		
MW-5	11-16-95	55.43	30.63	ND	24.80	11-16-95	940	<5	--	<5	<5		
MW-5	02-28-96	55.43	24.07	ND	31.36	02-28-96	1100	<10	<10	<10	--		
MW-5,	05-28-96	55.43	24.42	ND	31.01	05-28-96	360	<5	<5	<5	--		
MW-5	08-19-96	55.43	27.82	ND	27.61	08-21-96	150	<1	<1	2	--		
MW-5	11-21-96	55.43	29.92	ND	25.51	11-21-96	1900	<20^	<20^	<20^	--		
MW-5	03-26-97	55.43	24.22	ND	31.21	03-26-97	270	<10^	<10^	<10^	--		
MW-5	05-20-97	55.43	26.60	ND	28.83	05-20-97	290	<5^	<5^	<5^	--		
MW-5	08-18-97	55.43	NR	ND	NR	08-18-97	--	--	--	--	--		
MW-5	11-17-97	55.43	Not surveyed			11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-5	12-02-99	55.43	29.84	ND	25.59	12-02-99	46*	<0.5*	<0.5*	<0.5*	--	0.53	P
MW-6	03-10-95	61.21	31.54	ND	29.67	03-11-95	1300	<20	--	<20	--		
MW-6	06-05-95	61.21	31.15	ND	30.06	06-05-95	2000	<20	--	<20	--		
MW-6	08-29-95	61.21	34.03	ND	27.18	08-29-95	1300	<20	--	<20	--		
MW-6	11-16-95	61.21	36.40	ND	24.81	11-16-95	1300	<20	--	<20	<20		
MW-6	02-28-96	61.21	30.18	ND	31.03	02-28-96	960	<20	<20	<20	--		
MW-6	05-28-96	61.21	30.29	ND	30.92	05-28-96	970	<20	<20	<20	--		
MW-6	08-19-96	61.21	33.54	ND	27.67	08-19-96	820	<20	<20	<20	--		
MW-6	11-21-96	61.21	35.70	ND	25.51	11-21-96	680	<20^	<20^	<20^	--		
MW-6	03-26-97	61.21	30.15	ND	31.06	03-26-97	830	<40^	<40^	<40^	--		
MW-6	05-20-97	61.21	32.40	ND	28.81	05-20-97	270	<5^	<5^	<5^	--		
MW-6	08-18-97	61.21	35.47	ND	25.74	08-18-97	420	<62.5^	<62.5^	--	--		
MW-6	11-17-97	61.21	37.25	ND	23.96	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-6	12-02-99	61.21	35.55	ND	25.66	12-02-99	Not sampled: not on sampling schedule						

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged/ Not Purge (P/NP)
MW-7	03-10-95	58.22	17.69	ND^^	40.53	03-11-95	Not sampled: floating product entered the well during purging						
MW-7	06-05-95	58.22	19.68	ND	38.54	06-05-95	<10	<10	--	<10	--		
MW-7	08-29-95	58.22	21.70	ND	36.52	08-29-95	<10	<10	--	<10	--		
MW-7	11-16-95	58.22	23.02	ND	35.20	11-16-95	<20	<20	--	<20	<20		
MW-7	02-28-96	58.22	16.54	ND	41.68	02-28-96	<10	<10	<10	<10	--		
MW-7	05-28-96	58.22	19.29	ND	38.93	05-28-96	<10	<10	<10	<10	--		
MW-7	08-19-96	58.22	21.84	ND	36.38	08-21-96	<1	<1	<1	<1	--		
MW-7	11-21-96	58.22	19.58	ND	38.64	11-21-96	<10^	<10^	<10^	<10^	--		
MW-7	03-26-97	58.22	19.67	ND	38.55	03-26-97	<20^	<20^	<20^	<20^	--		
MW-7	05-20-97	58.22	20.18	ND	38.04	05-20-97	<10^	<10^	<10^	<10^	--		
MW-7	08-18-97	58.22	22.21	ND	36.01	08-18-97	<10^	<10^	<10^	<10^	--		
MW-7	11-17-97	58.22	20.85	ND	37.37	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-7	12-02-99	58.22	20.92	ND	37.30	12-02-99	Not sampled: not on sampling schedule						
MW-8	03-10-95	53.65	23.60	ND	30.05	03-10-95	<1	<1	--	<1	--		
MW-8	06-05-95	53.65	23.48	ND	30.17	06-05-95	<1	<1	--	<1	--		
MW-8	08-29-95	53.65	26.44	ND	27.21	08-29-95	<1	<1	--	<1	--		
MW-8	11-16-95	53.65	28.90	ND	24.75	11-16-95	<1	<1	--	<1	--		
MW-8	02-28-96	53.65	22.16	ND	31.49	02-28-96	3	<1	<1	<1	<1		
MW-8	05-28-96	53.65	22.62	ND	31.03	05-28-96	<1	<1	<1	<1	--		
MW-8	08-19-96	53.65	26.70	ND	26.95	08-21-96	<1	<1	<1	<1	--		
MW-8	11-21-96	53.65	28.16	ND	25.49	11-21-96	7	<1	<1	<1	--		
MW-8	03-26-97	53.65	22.42	ND	31.23	03-26-97	<1	<1	<1	<1	--		
MW-8	05-20-97	53.65	24.84	ND	28.81	05-20-97	<0.5	<0.5	<0.5	<0.5	--		
MW-8	08-18-97	53.65	28.03	ND	25.62	08-18-97	<5	<5	<5	--	--		
MW-8	11-17-97	53.65	29.16	ND	24.49	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
MW-8	12-02-99	53.65	28.07	ND	25.58	12-02-99	Not sampled: not on sampling schedule						

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged/ Not Purge (P/NP)
RW-1	03-10-95	56.32	26.48	Sheen	29.84	03-10-95	260	<5	--	<5	--		
RW-1	06-05-95	56.32	26.20	ND	30.12	06-05-95	59	<1	--	<1	--		
RW-1	08-29-95	56.32	28.98	ND	27.34	08-29-95	570	<5	--	<5	--		
RW-1	11-16-95	56.32	31.34	ND	24.98	11-16-95	140	<1	--	<1	<1		
RW-1	02-28-96	56.32	25.12	ND	31.20	02-28-96	6	<1	<1	<1	--		
RW-1	05-28-96	56.32	25.26	ND	31.06	05-28-96	12	<1	<1	<1	--		
RW-1	08-19-96	56.32	28.51	ND	27.81	08-21-96	100	<1	<1	<1	--		
RW-1	11-21-96	56.32	30.65	ND	25.67	11-21-96	190	1	<1	<1	--		
RW-1	03-26-97	56.32	25.15	ND	31.17	03-26-97	6	<1	<1	<1	--		
RW-1	05-20-97	56.32	27.44	ND	28.88	05-20-97	5.3	<0.5	<0.5	<0.5	--		
RW-1	08-18-97	56.32	30.46	ND	25.86	08-18-97	46	<5	<5	--	--		
RW-1	11-17-97	56.32	32.16	ND	24.16	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
RW-1	12-02-99	56.32	30.54	ND	25.78	12-02-99	Not sampled: not on sampling schedule						
WGR-3	03-10-95	NR	15.20	ND	NR	03-11-95	<1	<1	--	<1	--		
WGR-3	06-05-95	NR	19.25	ND	NR	06-05-95	<1	<1	--	<1	--		
WGR-3	08-29-95	NR	21.41	ND	NR	08-29-95	<1	<1	--	<1	--		
WGR-3	11-16-95	NR	22.50	ND	NR	11-16-95	<1	<1	--	<1	<1		
WGR-3	02-28-96	NR	14.90	ND	NR	02-28-96	<1	<1	<1	<1	--		
WGR-3	05-28-96	NR	18.33	ND	NR	05-28-96	<1	<1	<1	<1	--		
WGR-3	08-19-96	NR	21.38	ND	NR	08-19-96	<1	<1	<1	<1	--		
WGR-3	11-21-96	NR	18.70	ND	NR	11-21-96	<1	<1	<1	<1	--		
WGR-3	03-26-97	NR	18.98	ND	NR	03-26-97	<1	<1	<1	<1	--		
WGR-3	05-20-97	NR	19.70	ND	NR	05-20-97	<0.5	<0.5	<0.5	<0.5	--		

Table 1
Historical Groundwater Elevation and Analytical Data
Halogenated Volatile Organic Compounds (EPA method 8010 or 8240)
1995-Present**

ARCO Service Station 276
10600 MacArthur Boulevard, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (ft-MSL)	Groundwater Elewation (ft-MSL)	Date Sampled	Tetra-chloro-ethene (PCE) µg/L	Tetra-chloro-ethene (TCE) µg/L	trans-1,2-Dichloro-ethene µg/L	cis-1,2-Dichloro-ethene µg/L	Freon 12 µg/L	Dissolved Oxygen (mg/l)	Purged/ Not Purge((P/NP)
WGR-3	08-18-97	NR	21.81	ND	NR	08-18-97	<5	<5	<5	--	--		
WGR-3	11-17-97	NR	20.42	ND	NR	11-17-97	Not analyzed for Halogenated Volatile Organic Compounds						
WGR-3	12-02-99	NR	20.58	ND	NR	12-02-99	Not sampled: not on sampling schedule						

TOC: Top of Casing
ft-MSL: elevation in feet, relative to mean sea level
µg/L: micrograms per liter
ND: none detected
NR: not reported; data not available or not measurable
--: not analyzed or not applicable
*: analyzed by EPA method 8021B
^: method reporting limit was raised due to: (1) high analyte concentration requiring sample dilution, or (2) matrix interference
^^: floating product entered the well during purging
**: For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Results and Remediation System Performance Evaluation Report, Retail Service Station 10600 and 10700 MacArthur Boulevard, Oakland, California, (EMCON, March 22, 1996).*

ATTACHMENT D

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

12/08/03

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #0276, Oakland, CA
Work Order Number:	MMK0358
Global ID:	T0600100082
Lab Report Number:	MMK0358120120031818

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MMK03581201200 31818	MW-1	MMK035801	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-1	MMK035801	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-2	MMK035802	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-2	MMK035802	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-3	MMK035803	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-3	MMK035803	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-4	MMK035804	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-4	MMK035804	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-5	MMK035805	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-5	MMK035805	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-6	MMK035806	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK03581201200 31818	MW-6	MMK035806	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK03581201200 31818	MW-7	MMK035807	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK03581201200 31818	MW-7	MMK035807	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK03581201200 31818	MW-8	MMK035808	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	MW-8	MMK035808	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	RW-1	MMK035809	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	RW-1	MMK035809	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	WGR-3	MMK035810	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK03581201200 31818	WGR-3	MMK035810	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
		3K21006BSD1	WQ	BD1	8260TPH	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		3K21006BSD1	WQ	BD1	SW8260B	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	
		3K21006BSD2	WQ	BD2	8260TPH	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	
		3K21006BS1	WQ	BS1	8260TPH	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	
		3K21006BS1	WQ	BS1	SW8260B	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	
		3K21006BS2	WQ	BS2	8260TPH	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	
		3K21006BLK1	WQ	LB1	8260TPH	SW5030B	/ /	11/21/03	11/21/03	3K21006	1	
		3K21006BLK1	WQ	LB1	SW8260B	SW5030B	/ /	11/21/03	11/21/03	3K21006	1	

EDFSAMP: Error Summary Log

12/08/03

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

EDFTEST: Error Summary Log

12/08/03

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

EDFRES: Error Summary Log

12/08/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	3K21006BLK1	LB1	WQ	SW8260B	PR	11/21/03	1	FC113

EDFQC: Error Summary Log

12/08/03

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

EDFCL: Error Summary Log

12/08/03

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

Error Summary Log

12/08/03

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #0276, Oakland, CA
Work Order Number:	MMK0358
Global ID:	T0600100082
Lab Report Number:	MMK0358120120031818

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MMK0358120120031818	MW-1	MMK035801	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-1	MMK035801	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-2	MMK035802	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-2	MMK035802	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-3	MMK035803	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-3	MMK035803	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-4	MMK035804	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-4	MMK035804	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-5	MMK035805	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-5	MMK035805	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-6	MMK035806	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK0358120120031818	MW-6	MMK035806	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK0358120120031818	MW-7	MMK035807	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK0358120120031818	MW-7	MMK035807	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/22/03	3K21006	1	
MMK0358120120031818	MW-8	MMK035808	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	MW-8	MMK035808	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	RW-1	MMK035809	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	RW-1	MMK035809	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	WGR-3	MMK035810	W	CS	8260TPH	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
MMK0358120120031818	WGR-3	MMK035810	W	CS	SW8260B	SW5030B	11/07/03	11/21/03	11/21/03	3K21006	1	
		3K21006BSD1	WQ	BD1	8260TPH	SW5030B	/ /	11/21/03	11/22/03	3K21006	1	

AB2886 Electronic Delivery

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Confirmation Number:	5694995522
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Facility Name:	ARCO
Submittal Title:	Fourth Quarter 2003 Groundwater Monitoring Report
Submittal Type:	GW Monitoring Report

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