

RO456



Atlantic Richfield Company
(a BP affiliated company)

4 Centerpointe Drive, Room 172
La Palma, CA 90623-1066
Phone: (714) 670-5303
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December 10, 2004

RE: Fourth Quarter 2004 Groundwater Monitoring Report
ARCO Service Station #11102
100 Mac Arthur Boulevard
Oakland, California
URS Project #38486804

RECEIVED
DEC 20 2004
Environmental Business Manager

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

Submitted by:

Kyle Christie
Environmental Business Manager



December 10, 2004

Mr. Robert Schultz
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-8577

RECEIVED
DEC 20 2004
ALAMEDA COUNTY
ENVIRONMENTAL HEALTH

**Re: Fourth Quarter 2004 Groundwater Monitoring Report
Former BP Service Station #11102
100 MacArthur Boulevard
Oakland, California
URS Project #38486804**

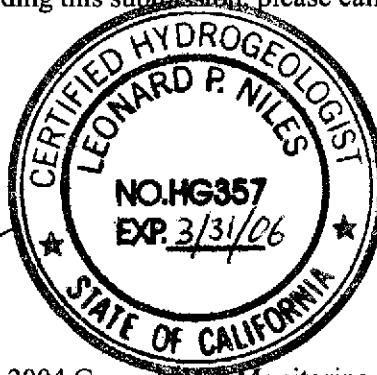
Dear Mr. Schultz:

On behalf of the Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *Fourth Quarter 2004 Groundwater Monitoring Report* for Former BP Service Station #11102, located at 100 MacArthur Boulevard, Oakland, California.

If you have any questions regarding this submission, please call (510) 874-1720.

Sincerely,
URS CORPORATION

Leonard P. Niles
Leonard P. Niles, R.G., C.H.G.
Project Manager



Enclosure: Fourth Quarter 2004 Groundwater Monitoring Report

cc: Mr. Kyle Christie, Atlantic Richfield Company (RM), electronic copy uploaded to ENFOS
Ms. Liz Sewell, ConocoPhillips, electronic copy uploaded to URS FTP server
Mr. Chris Jimmerson, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200,
Rancho Cordova, California 95670-6021

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3288

R E P O R T

**FOURTH QUARTER 2004
GROUNDWATER MONITORING
REPORT**

**FORMER BP SERVICE STATION #11102
100 MACARTHUR BOULEVARD,
OAKLAND, CALIFORNIA**

Prepared for
RM

December 10, 2004

URS

URS Corporation
1333 Broadway
Oakland, California 94612

38486804

Date: December 10, 2004
Quarter: 4Q 04

RM QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 11102 Address: 100 MacArthur Boulevard, Oakland, CA
RM Environmental Business Manager: Kyle Christie
Consulting Co./Contact Person: URS Corporation/ Leonard Niles
Consultant Project No.: 38486804
Primary Agency/Case #: Alameda County Environmental Health (ACEH)/Case #RO0000456

WORK PERFORMED THIS QUARTER (Fourth – 2004):

1. Performed fourth quarter 2004 groundwater monitoring event on October 28, 2004.
2. Prepared and submitted this fourth quarter 2004 groundwater monitoring report.

WORK PROPOSED FOR NEXT QUARTER (First – 2005):

1. Perform first quarter 2005 groundwater monitoring event.
2. Prepare and submit first quarter 2005 groundwater monitoring report.
3. Implement workplan for subsurface investigation pending agency approval

Current Phase of Project: GW monitoring/sampling
Frequency of Groundwater Sampling: Wells MW-1 through MW-3 quarterly
Frequency of Groundwater Monitoring: Quarterly
Is Free Product (FP) Present On-Site: No
Current Remediation Techniques: None
Approximate Depth to Groundwater: 12.56 (MW-1) to 15.50 (MW-3) feet
Groundwater Gradient (direction): West-northwest
Groundwater Gradient (magnitude): 0.068 feet per foot

DISCUSSION:

Gasoline range organics (GRO) were detected at or above laboratory reporting limits in two of the three wells sampled this quarter at concentrations of 390 µg/L (MW-1) and 8,500 µg/L (MW-2). Benzene was detected at or above laboratory reporting limits in one of the wells sampled at a concentration of 0.94 µg/L (MW-1). Methyl tert-butyl ether (MTBE) was detected at or above laboratory reporting limits in all three wells at concentrations ranging from 43 µg/L (MW-1) to 6,800 µg/L (MW-2). Tert-butyl alcohol (TBA) was detected at or above laboratory reporting limits two wells at concentrations of 1,500 µg/L (MW-1) and 6,700 µg/L (MW-2). Tert-amyl methyl ether (TAME) was detected at or above laboratory reporting limits in two wells at concentrations of 0.58 µg/L (MW-1) and 120 µg/L (MW-2). No other fuel additives were detected in any of the wells sampled this quarter.

ATTACHMENTS:

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – October 28, 2004
- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Fuel Additives Analytical Data
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records
- Attachment C – Error Check Reports and EDF/Geowell Submittal Confirmations

HARRISON STREET

MACARTHUR BOULEVARD

INTERSTATE 580

OAKLAND AVENUE

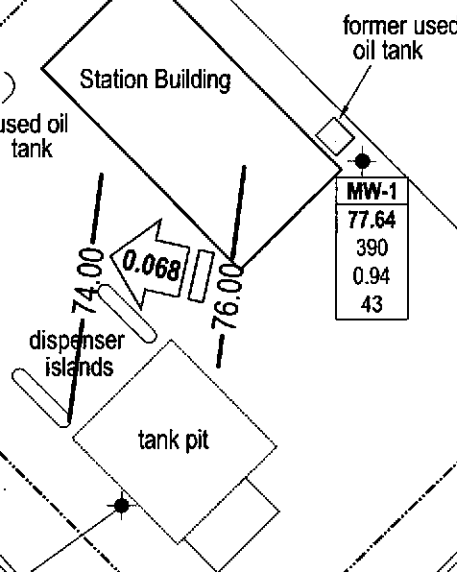
EXPLANATION

- Monitoring Well Location
- 72.00 — Groundwater elevation contour (ft/MSL)
- Well — Well designation
- ELEV — Groundwater elevation (ft/MSL)
- GRO — GRO, Benzene and MTBE concentrations (µg/L)
- Benzene
- MTBE
- 0.068 — Groundwater flow direction and gradient (ft/ft)

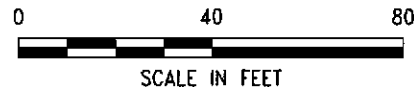
MW-3
71.52
<500
<5
290

MW-1
77.64
390
0.94
43

MW-2
74.89
8,500
<50
6,800



NORTH



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

Nov 30, 2004 - 1:34pm X:\x_env\waste\BP_CEM\Sites\1102\Reports\Monitoring\Qr. 4, 2004\Drawings\1102-4004-GW.dwg



Project No. 38486804
Former BP Service Station #11102
100 MacArthur Boulevard
Oakland, California

**GROUNDWATER ELEVATION CONTOUR
AND ANALYTICAL SUMMARY MAP**
Fourth Quarter 2004 (October 28, 2004)

FIGURE
1

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

Well No.	Date	P/ NP	Foot Note	TOC (feet)	DTW (feet)	Product Thickness (feet)	GWE (feet)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	DRO/ TPH-d (µg/L)	TOG (µg/L)	HVOC (µg/L)
MW-1	11/4/1989	--	--	90.20	13.21	--	76.99	<500	3.4	0.6	<0.3	<0.3	--	--	SAL	--	<50	<5000	--
	11/11/1989	--	--	90.20	13.32	--	76.88	--	--	--	--	--	--	--	--	--	--	--	--
	4/3/1990	--	--	90.20	12.46	--	77.74	820	64	1.9	23	34	--	--	ANA	--	--	--	--
	7/30/1990	--	--	90.20	12.92	--	77.28	190	11	<5.0	<5.0	<5.0	--	--	ANA	--	<50	<5000	--
	11/20/1990	--	--	90.20	14.08	--	76.12	50	2.4	<0.3	<0.3	<0.3	--	--	SAL	--	79	<5000	--
	3/1/1991	--	--	90.20	13.61	--	76.59	<100	0.9	<0.3	<0.3	0.3	--	--	SAL	--	<1000	14,000	--
	8/19/1991	--	--	90.20	15.74	--	74.46	370	35	0.73	6.4	5.6	--	--	SEQ	--	<50	<5000	--
	11/13/1991	--	--	90.20	14.08	--	76.12	60	0.68	<0.3	<0.3	<0.3	--	--	SEQ	--	<50	<5000	--
	2/24/1992	--	--	90.20	12.52	--	77.68	140	3.9	0.66	1.2	3.8	--	--	SEQ	--	100	<5000	--
	5/19/1992	--	--	90.20	11.80	--	78.40	4,200	440	21	250	37	--	--	SEQ	--	910	<5000	--
	6/17/1992	--	--	90.20	12.01	--	78.19	4,000	350	14	150	17	--	--	SEQ	--	560	<5000	--
	7/22/1992	--	--	90.20	12.42	--	77.78	4,000	<5.0	19	210	61	--	--	ANA	--	--	--	--
	8/14/1992	--	--	90.20	12.75	--	77.45	2,400	330	20	150	47	--	--	SEQ	--	1,700	<5000	--
	11/11/1992	--	--	90.20	13.69	--	76.51	260	30	3.4	7.6	6.8	--	--	ANA	--	92	<5000	--
	6/7/1993	--	c	90.20	--	--	--	3,700	120	12	26	9.5	--	--	PACE	--	--	--	--
	6/7/1993	--	--	90.20	10.93	--	79.27	3,400	98	11	21	7.6	--	--	PACE	--	440	--	--
	12/2/1993	--	--	90.20	12.72	--	77.48	1,100	8.3	3.6	0.6	1.5	--	--	PACE	--	120	<5000	--
	6/22/1994	--	c	90.20	--	--	--	2,100	30	3.2	2	15	2,000 d	--	PACE	--	--	--	--
	6/22/1994	--	--	90.20	11.81	--	78.39	2,100	32	3.8	2.2	17	4,000 d	3.2	PACE	--	<50	<5000	--
	1/10/1995	--	c	90.20	--	--	--	<500	120	<5	5	<10	--	--	ATI	--	--	--	--
	1/10/1995	--	--	90.20	10.97	--	79.23	<500	120	<5	<5	<10	--	3.9	ATI	--	420	--	--
	6/21/1995	--	c,e	90.20	--	--	--	3,600	<13	<5.0	<5.0	<10	--	--	ATI	--	--	--	--
	6/21/1995	--	--	90.20	9.38	--	80.82	4,700	16	<5.0	<5.0	<10	--	6.7	ATI	--	1,300	2,900	0.6
	12/27/1995	--	--	90.20	11.55	--	78.65	430	<2.5	<2.5	<2.5	<5.0	1,200	6.3	ATI	--	2,100	640	--
	6/13/1996	--	--	90.20	9.28	--	80.92	3,200	51	<12	<12	<12	4,000	6.3	SPL	--	920	2,000	--
	12/4/1996	--	f	90.20	11.91	--	78.29	1,400	6.2	<5	<5	<5	2,600	6.7	SPL	--	280	2,000	6
	6/10/1997	--	c	90.20	--	--	--	7,700	14	<25	<25	<25	13,000	--	SPL	--	--	--	--
	6/10/1997	--	--	90.20	8.97	--	81.23	7,900	12	<10	<10	<10	15,000	6	SPL	--	1,700	<5	ND
	12/12/1997	--	--	90.20	11.37	--	78.83	440	8.8	<1.0	2.6	9.4	6,700	5.5	SPL	--	760	1,200	ND
	6/18/1998	--	--	90.20	8.02	--	82.18	7,500	<2.5	<5.0	<5.0	<5.0	5,600	4.9	SPL	--	2,900	<5	ND
	3/9/1999	--	--	90.20	9.80	--	80.40	32,000	100	16	72	110	49,000	--	SPL	--	--	--	--
	9/28/1999	--	--	90.20	10.78	--	79.42	1,000	<5.0	<5.0	<5.0	<5.0	730	--	SPL	--	--	--	<1.0
	10/14/1999	--	--	90.20	10.84	--	79.36	--	--	--	--	--	--	--	SPL	--	660	--	--
	3/27/2000	--	--	90.20	9.83	--	80.37	4,300	160	19	37	43	28,000	--	PACE	--	--	--	--

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

Well No.	Date	P/ NP	Foot Note	TOC (feet)	DTW (feet)	Product Thickness (feet)	GWE (feet)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	DRO/ TPH-d (µg/L)	TOG (µg/L)	HVOC (µg/L)
MW-1	9/28/2000	--	--	90.20	11.33	--	78.87	2,700	10	2.6	1.1	2.7	28,000	--	PACE	--	--	---	---
	3/8/2001	--	--	90.20	10.96	--	79.24	8,200	23.5	6.09	5.23	8.97	11,600	--	PACE	--	--	---	---
	9/21/2001	--	--	90.20	12.07	--	78.13	6,000	37.9	<0.5	<0.5	<1.5	7,370	--	PACE	--	--	---	---
	2/28/2002	--	--	90.20	10.48	--	79.72	6,400	60.8	<5.0	6.43	<10	7,750	--	PACE	--	--	---	---
	9/6/2002	--	--	90.20	11.20	--	79.00	1,400	<5.0	<5.0	<5.0	<5.0	6,000	--	SEQ	--	--	---	---
	2/19/2003	--	h	90.20	11.29	--	78.91	<10000	<100	110	<100	<100	4,500	--	SEQ	--	--	---	---
	7/14/2003	--	--	90.20	11.18	--	79.02	710	11	<10	<10	<10	940	--	SEQ	--	--	---	---
	01/14/2004	--	--	90.20	11.74	--	78.46	<500	<5.0	<5.0	<5.0	<5.0	220	--	SEQM	6.6	--	--	---
	04/23/2004	P	--	90.20	11.95	--	78.25	470 l	3.4	<2.5	<2.5	<2.5	150	--	SEQM	6.7	--	--	---
	07/01/2004	P	--	90.20	11.52	--	78.68	360	<2.5	<2.5	<2.5	<2.5	96	--	SEQM	6.0	--	--	---
	10/28/2004	P	--	90.20	12.56	--	77.64	390	0.94	<0.50	<0.50	<0.50	43	--	SEQM	6.2	--	--	---
MW-2	11/4/1989	--	--	87.91	15.84	--	72.07	<500	6.5	<0.3	<0.3	<0.3	--	--	SAL	--	--	---	---
	11/11/1989	--	--	87.91	14.75	--	73.16	--	--	--	--	--	--	--	---	--	--	---	---
	4/3/1990	--	--	87.91	15.25	--	72.66	<500	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	---	---
	7/30/1990	--	--	87.91	15.59	--	72.32	61	6.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	---	---
	11/20/1990	--	--	87.91	17.81	--	70.10	<50	0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	---	---
	3/1/1991	--	--	87.91	17.11	--	70.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	---	---
	8/19/1991	--	--	87.91	17.97	--	69.94	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	---	---
	11/13/1991	--	--	87.91	16.76	--	71.15	38	0.32	<0.3	<0.3	<0.3	--	--	SEQ	--	--	---	---
	2/24/1992	--	--	87.91	15.07	--	72.84	<50	<0.5	<0.5	<0.5	0.58	--	--	SEQ	--	--	---	---
	5/19/1992	--	--	87.91	14.70	--	73.21	<50	0.55	<0.5	<0.5	<0.5	--	--	SEQ	--	--	---	---
	7/22/1992	--	--	87.91	15.60	--	72.31	90	1.3	0.6	0.9	1.9	--	--	ANA	--	--	---	---
	8/14/1992	--	--	87.91	15.88	--	72.03	--	--	--	--	--	--	--	---	--	--	---	---
	11/11/1992	--	c	87.91	--	--	--	65	3.2	<0.5	<0.5	1	--	--	ANA	--	--	---	---
	11/11/1992	--	--	87.91	16.19	--	71.72	52	2.8	<0.5	<0.5	0.9	--	--	ANA	--	--	---	---
	6/7/1993	--	--	87.91	14.42	--	73.49	1,200	14	2.8	1.9	1.71	--	--	PACE	--	--	---	---
	12/2/1993	--	c	87.91	--	--	--	2,100	32	3.8	2.2	17	3,700 d	--	PACE	--	--	---	---
	12/2/1993	--	--	87.91	14.94	--	72.97	790	3.4	0.5	10	<0.5	3,700 d	--	PACE	--	--	---	---
	6/22/1994	--	--	87.91	14.25	--	73.66	110	<0.5	<0.5	<0.5	<0.5	120 d	3.9	PACE	--	--	---	---
	1/10/1995	--	--	87.91	13.64	--	74.27	<50	<0.5	<0.5	0.6	1	--	4.3	ATI	--	--	---	---
	6/21/1995	--	--	87.91	11.66	--	76.25	4,700	<10	<10	<10	<20	--	7.8	ATI	--	--	---	---
	12/27/1995	--	c	87.91	--	--	--	6,300	<25	<25	<25	<50	19,000	--	ATI	--	--	---	---
	12/27/1995	--	--	87.91	13.11	--	74.80	6,100	<25	<25	<25	<50	20,000	6.7	ATI	--	--	---	---

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11102

100 MacArthur Blvd., Oakland, CA

Well No.	Date	P/ NP	Foot Note	TOC (feet)	DTW (feet)	Product Thickness (feet)	GWE (feet)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	DRO/ TPH-d (µg/L)	TOG (µg/L)	HVOC (µg/L)
MW-2	6/13/1996	--	c	87.91	--	--	--	8,700	<5	<5	<5	<5	13,000	--	SPL	--	--	---	---
	6/13/1996	--	--	87.91	10.86	--	77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL	--	--	---	---
	12/4/1996	--	c	87.91	--	--	--	5,900	<2.5	<5	<5	<5	11,000	--	SPL	--	--	---	---
	12/4/1996	--	--	87.91	13.03	--	74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	SPL	--	--	---	---
	6/10/1997	--	--	87.91	10.04	--	77.87	<50	<0.5	<1.0	<1.0	<1.0	<10	5.8	SPL	--	--	---	---
	12/12/1997	--	--	87.91	12.44	--	75.47	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	--	---	---
	6/18/1998	--	c	87.91	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	---	---
	6/18/1998	--	--	87.91	8.89	--	79.02	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	---	---
	3/9/1999	--	--	87.91	10.20	--	77.71	15,000	<5.0	<5.0	<5.0	<5.0	23,000	--	SPL	--	--	---	---
	9/28/1999	--	--	87.91	11.81	--	76.10	36,000	<5.0	12	7	26	35,000	--	SPL	--	--	---	<5.0
	10/14/1999	--	--	87.91	10.27	--	77.64	--	--	--	--	--	--	--	SPL	--	100	---	---
	3/27/2000	--	--	87.91	9.98	--	77.93	1,300	<0.5	<0.5	0.51	<0.5	5,800	--	PACE	--	--	---	---
	9/28/2000	--	--	87.91	11.40	--	76.51	1,600	1.8	1.7	0.54	2.2	15,000	--	PACE	--	--	---	---
	3/8/2001	--	--	87.91	11.16	--	76.75	20,000	<0.5	<0.5	<0.5	<0.5	29,100	--	PACE	--	--	---	---
	9/21/2001	--	--	87.91	11.65	--	76.26	5,000	<0.5	<0.5	<0.5	<1.5	6,110	--	PACE	--	--	---	---
	2/28/2002	--	--	87.91	9.86	--	78.05	3,200	35.1	<0.5	<0.5	<1.0	4,620	--	PACE	--	--	---	---
	9/6/2002	--	--	87.91	12.32	--	75.59	1,900	<10	<10	<10	<10	15,000	--	SEQ	--	--	---	---
	2/19/2003	--	h	87.91	11.63	--	76.28	45,000	<250	<250	<250	<250	32,000	--	SEQ	--	--	---	---
	7/14/2003	--	--	87.91	12.07	--	75.84	9,300	<500	<500	<500	<500	24,000	--	SEQ	--	--	---	---
	01/14/2004	P	--	87.91	11.45	--	76.46	<50,000	<500	<500	<500	<500	21,000	--	SEQM	6.9	--	--	--
	04/23/2004	P	--	87.91	11.45	--	76.46	5,100 l	<250	<250	<250	<250	22,000	--	SEQM	6.8	--	--	--
	07/01/2004	P	--	87.91	12.32	--	75.59	<5,000	<50	<50	<50	<50	5,200	--	SEQM	5.6	--	--	--
	10/28/2004	P	--	87.91	13.02	--	74.89	8,500	<50	<50	<50	<50	6,800	--	SEQM	6.2	--	--	--
MW-3	11/4/1989	--	--	87.02	15.40	--	71.62	<500	<0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	---	---
	11/11/1989	--	--	87.02	14.10	--	72.92	--	--	--	--	--	--	--	---	--	--	---	---
	4/3/1990	--	--	87.02	13.90	--	73.12	<100	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	---	---
	7/30/1990	--	--	87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	<5000	---
	11/20/1990	--	--	87.02	14.67	--	72.35	<50	0.3	0.8	0.4	1.5	--	--	SAL	--	--	---	---
	3/1/1991	--	--	87.02	15.22	--	71.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	---	---
	8/19/1991	--	--	87.02	13.15	--	73.87	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	---	---
	11/13/1991	--	--	87.02	15.66	--	71.36	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	---	---
	2/24/1992	--	--	87.02	15.01	--	72.01	<50	0.65	1.4	0.66	4.4	--	--	SEQ	--	--	---	---
	5/19/1992	--	--	87.02	15.52	--	71.50	<50	<0.5	<0.5	<0.5	<0.5	--	--	SEQ	--	--	---	---

Table 1
Groundwater Elevation and Analytical Data
Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

Well No.	Date	P/ NP	Foot Note	TOC (feet)	DTW (feet)	Product Thickness (feet)	GWE (feet)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	DRO/ TPH-d (µg/L)	TOG (µg/L)	HVOC (µg/L)
MW-3	7/22/1992	--	--	87.02	15.63	--	71.39	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	<50	<5000	---
	8/14/1992	--	--	87.02	13.57	--	73.45	--	--	--	--	--	--	--	---	--	--	---	---
	11/11/1992	--	--	87.02	14.13	--	72.89	<50	<0.5	0.7	<0.5	1.3	--	--	ANA	--	--	---	---
	6/7/1993	--	--	87.02	12.13	--	74.89	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	---	---
	12/2/1993	--	--	87.02	13.29	--	73.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	---	---
	6/22/1994	--	--	87.02	12.78	--	74.24	<50	<0.5	<0.5	<0.5	<0.5	--	2.9	PACE	--	--	---	---
	1/10/1995	--	--	87.02	12.01	--	75.01	<50	<0.5	<0.5	<0.5	<1	--	3.8	ATI	--	--	---	---
	6/21/1995	--	--	87.02	11.57	--	75.45	<50	<0.50	<0.50	<0.50	<1.0	--	7.4	ATI	--	--	---	---
	12/27/1995	--	--	87.02	13.47	--	73.55	<50	<0.50	<0.50	<0.50	<1.0	5.7	7.3	ATI	--	--	---	---
	6/13/1996	--	--	87.02	11.22	--	75.80	60	<0.5	<0.5	<0.5	<0.5	<10	6.8	SPL	--	--	---	---
	12/4/1996	--	--	87.02	13.28	--	73.74	<50	<0.5	<1	<1	<1	<10	6.7	SPL	--	--	---	---
	6/10/1997	--	--	87.02	10.22	--	76.80	<50	<0.5	<1.0	<1.0	<1.0	<10	6.1	SPL	--	--	---	---
	12/12/1997	--	c	87.02	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	---	---
	12/12/1997	--	--	87.02	12.61	--	74.41	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	--	---	---
	6/18/1998	--	--	87.02	12.80	--	74.22	--	--	--	--	--	--	--	---	--	--	---	---
	6/18/1998	--	--	87.02	9.07	--	77.95	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	---	---
	9/28/1999	--	--	87.02	13.76	--	73.26	--	--	--	--	--	--	--	---	--	--	---	---
	3/27/2000	--	--	87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	1.6	--	PACE	--	--	---	---
	9/28/2000	--	--	87.02	11.28	--	75.74	<50	<0.5	7.4	<0.5	1.3	2	--	PACE	--	--	---	---
	3/8/2001	--	--	87.02	11.75	--	75.27	<50	<0.5	<0.5	<0.5	<0.5	60.4	--	PACE	--	--	---	---
	9/21/2001	--	--	87.02	11.33	--	75.69	<50	<0.5	<0.5	<0.5	<1.5	8.18	--	PACE	--	--	---	---
	2/28/2002	--	--	87.02	10.86	--	76.16	<50	<0.5	<0.5	<0.5	<1.0	25.5	--	PACE	--	--	---	---
	9/6/2002	--	--	87.02	12.73	--	74.29	<50	1.2	<0.5	<0.5	1	16	--	SEQ	--	--	---	---
	2/19/2003	--	h	87.02	11.72	--	75.30	<500	<5.0	<5.0	<5.0	<5.0	110	--	SEQ	--	--	---	---
	7/14/2003	--	--	87.02	13.76	--	73.26	<50	<0.50	<0.50	<0.50	0.67	28	--	SEQ	--	--	---	---
	01/14/2004	P	--	87.02	14.83	--	72.19	550	<5.0	<5.0	<5.0	<5.0	380	--	SEQM	8.1	--	--	--
	04/23/2004	P	--	87.02	13.17	--	73.85	<200 l	<25	<25	<25	<25	560	--	SEQM	6.8	--	--	--
	07/01/2004	P	--	87.02	15.19	--	71.83	<50	<0.50	<0.50	<0.50	0.50	48	--	SEQM	6.4	--	--	--
	10/28/2004	P	--	87.02	15.50	--	71.52	<500	<5.0	<5.0	<5.0	<5.0	290	--	SEQM	6.3	--	--	--
QC-2	11/11/1992	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	---	---
	6/7/1993	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	---	---
	12/2/1993	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	---	---
	6/22/1994	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	---	---

Table 1

Groundwater Elevation and Analytical Data

Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

Well No.	Date	P/ NP	Foot Note	TOC (feet)	DTW (feet)	Product Thickness (feet)	GWE (feet)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	Lab	pH	DRO/ TPH-d (µg/L)	TOG (µg/L)	HVOC (µg/L)
QC-2	1/10/1995	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<1	--	--	ATI	--	--	---	---
	6/21/1995	--	g	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	ATI	--	--	---	---
	12/27/1995	--	g	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	--	---	---
	6/13/1996	--	g	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<10	--	SPL	--	--	---	---

Table 1
Groundwater Elevation and Analytical Data
Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

ABBREVIATIONS:

TPH-g = Total petroleum hydrocarbons as gasoline
GRO = Gasoline Range Organics
TPH-d = Total petroleum hydrocarbons as diesel
DRO = Diesel Range Organics
GWE = Groundwater Elevation, feet above mean sea level
TOG = Total oil and grease
HVOC = Halogenated volatile organic compounds
MtBE = Methyl tert-butyl ether
DIPE = Di-Isopropyl Ether
EtBE = Ethyl tert-Butyl Ether
TAME = tert-Amyl Methyl Ether
DO = Dissolved oxygen
ug/l = Micrograms per liter
< = Not detected at or above reported detection limit
-- Not analyzed/measured/applicable
SAL Superior Analytical Laboratory
ANA Anametrix, Inc.
SEQ Sequoia Analytical Laboratory
PACE Pace, Inc.
ATI Analytical Technologies, Inc.
SPL Southern Petroleum Laboratories

FOOTNOTES:

a = Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.
b = Groundwater elevations in feet above mean sea level.
c = Blind duplicate.
d = A copy of the documentation for this data is included in Alisto report 10-076-06-002.
e = Tetrachloroethene.
f = Trans-1,2-Dichloroethene
g = Travel blank.
h = TPH-g, BTEX, and MTBE analyzed by EPA Method 8260B beginning on 1st Quarter Sampling event (2/19/03)
i = Discrete peak @ C6-C7.
l = GRO analyzed by EPA Method 8015B.

NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. Total petroleum hydrocarbons as gasoline (TPHg) has been changed to gasoline range organics (GRO). The resulting data may be impacted by the potential of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

pH and dissolved oxygen are field measurements.

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

Table 2

Fuel Additives Analytical Data
 Former BP Station #11102
 100 MacArthur Blvd., Oakland, CA

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Footnotes/ Comments
MW-1	7/14/2003	<2000	2,700	940	<20	<20	<20	--	--	
	01/14/2004	<1,000	2,500	220	<5.0	<5.0	<5.0	<5.0	<5.0	
	04/23/2004	<500	2,500	150	<2.5	<2.5	<2.5	<2.5	<2.5	
	07/01/2004	<500	2,000	96	<2.5	<2.5	<2.5	<2.5	<2.5	
	10/28/2004	<5.0	1,500	43	<0.50	<0.50	0.58	<0.50	<0.50	
MW-2	7/14/2003	<100000	<20000	24,000	<1000	<1000	<1000	--	--	
	01/14/2004	<100,000	<20,000	21,000	<500	<500	<500	<500	<500	
	04/23/2004	<50,000	11,000	22,000	<250	<250	420	<250	<250	
	07/01/2004	<10,000	2,900	5,200	<50	<50	110	<50	<50	
	10/28/2004	<5.0	6,700	6,800	<50	<50	120	<50	<50	
MW-3	7/14/2003	<100	<20	28	<1.0	<1.0	<1.0	--	--	
	01/14/2004	<1,000	<200	380	<5.0	<5.0	<5.0	<5.0	<5.0	
	04/23/2004	<5,000	<1,000	560	<25	<25	<25	<25	<25	
	07/01/2004	<100	<20	48	<0.50	<0.50	0.52	<0.50	<0.50	
	10/28/2004	<5.0	<200	290	<5.0	<5.0	<5.0	<5.0	<5.0	

Table 2

Fuel Additives Analytical Data

Former BP Station #11102
100 MacArthur Blvd., Oakland, CA

ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available

< = Not detected at or above the laboratory reporting limit.

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

ug/L = Micrograms per Liter

NOTES:

All volatile organic compounds (Ethanol, TBA, MTBE, DIPE, ETBE, and TAME) analyzed using EPA Method 8260B.

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 #: 041028-WC2	Station # 11102
Sampler: WC	Date: 10/28/04
Well I.D.: MW-1	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 32.06	Depth to Water: 12.56
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(VC)</u> Grade	D.O. Meter (if req'd): YSI HACH

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

$80\% = 16.46$

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

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

<u>12.7</u>	x	<u>3</u>	=	<u>38.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
1205	66.4	6.3	708	13	clear
1207	68.0	6.2	724	26	"
1209	68.1	6.2	805	39	"

Did well dewater? Yes <u>(No)</u>	Gallons actually evacuated: <u>39</u>
Sampling Time: <u>1213</u>	Sampling Date: <u>10/28/04</u>
Sample I.D.: <u>MW-1A / MW-1B</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____
Analyzed for: <u>(GRO BTEX)</u> MTBE DRO	Other: <u>Oxyg, 1,2 OCA, EDS & Ethanol</u>
D.O. (if req'd):	Pre-purge: $\frac{mg}{L}$ Post-purge: $\frac{mg}{L}$
O.R.P. (if req'd):	Pre-purge: mV Post-purge: mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 041028-WC2	Station # 11102
Sampler: WC	Date: 10/28/04
Well I.D.: MW-2	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 32.36	Depth to Water: 13.02
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163 80% = 16 89

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

Sampling Method: Bailer Disposable Bailer Extraction Port Other: _____

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

<u>12.6</u>	x	<u>3</u>	=	<u>37.8</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1141	68.7	6.1	724	13	clear/slight odor
1143	70.6	6.2	714	26	" / " "
1145	69.9	6.2	732	38	" / " "

Did well dewater? Yes No! Gallons actually evacuated: 38

Sampling Time: 1149 Sampling Date: 10/28/04

Sample I.D.: MW-2A / MW-2B Laboratory: Pace Seqoia Other _____

Analyzed for: GRO BTEX MTBE DRO Other: Oxy's, 1,2 DCA & EOB & Ethanol by #2

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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>041028-WC2</u>	Station # <u>1102</u>
Sampler: <u>WC</u>	Date: <u>10/28/04</u>
Well I.D.: <u>MW-3</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u> </u>
Total Well Depth: <u>32.47</u>	Depth to Water: <u>15.50</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163 <u>80% = 18.50</u>

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

Sampling Method: Bailer
~~Disposable Bailer~~
 Extraction Port
 Other:

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

<u>11.0</u>	x	<u>3</u>	=	<u>33.0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1115	66.9	6.6	714	11	clear
1117	70.1	6.1	601	22	"
1119	69.8	6.3	634	33	"

Did well dewater? Yes <u>No</u>	Gallons actually evacuated: <u>33</u>
Sampling Time: <u>1123</u>	Sampling Date: <u>10/28/04</u>
Sample I.D.: <u>MW-3A / MW-3B</u>	Laboratory: Pace <u>Sequoia</u> Other <u> </u>
Analyzed for: <u>GRO</u> BTEX MTBE DRO	Other: <u>oxy's, 12 DCA & ED B & Eth. by 8260</u>
D.O. (if req'd):	Pre-purge: <u> </u> mg/L
O.R.P. (if req'd):	Pre-purge: <u> </u> mV
	Post-purge: <u> </u> mg/L
	Post-purge: <u> </u> 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:

1102
Station #

100 MacArthur Blvd, Oakland
Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

100

added equip.
rinse water 10

any other
adjustments -

TOTAL GALS.
RECOVERED 110

loaded onto
BTS vehicle # 23

BTS event #

time date

041028-wc2 1230 10/28/04

signature W. H. Green

REC'D AT

time date

Blaine Tech 1630 10/28/04

unloaded by
signature W. H. Green

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 RM have been reviewed and verified by that laboratory.



12 November, 2004

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

RE: BP Heritage #11102, Oakland, CA
Work Order: MNK0028

Enclosed are the results of analyses for samples received by the laboratory on 10/29/04 13:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Race
Senior Project Manager

CA ELAP Certificate #1210

URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project:BP Heritage #11102, Oakland, CA Project Number:N/P Project Manager:Leonard Niles	MNK0028 Reported: 11/12/04 16:55
---	--	--

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MNK0028-01	Water	10/28/04 12:13	10/29/04 13:52
MW-2	MNK0028-02	Water	10/28/04 11:49	10/29/04 13:52
MW-3	MNK0028-03	Water	10/28/04 11:23	10/29/04 13:52

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with intact custody seals.

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

 Project: BP Heritage #11102, Oakland, CA
 Project Number: N/P
 Project Manager: Leonard Niles

 MNK0028
 Reported:
 11/12/04 16:55

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MNK0028-01) Water Sampled: 10/28/04 12:13 Received: 10/29/04 13:52									
tert-Amyl methyl ether	0.58	0.50	ug/l	1	4K06001	11/06/04	11/06/04	EPA 8260B	
Benzene	0.94	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	1500	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	43	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	390	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91 %	78-129	"	"	"	"	"	
MW-2 (MNK0028-02) Water Sampled: 10/28/04 11:49 Received: 10/29/04 13:52									
tert-Amyl methyl ether	120	50	ug/l	100	4K06001	11/06/04	11/06/04	EPA 8260B	
Benzene	ND	50	"	"	"	"	"	"	
tert-Butyl alcohol	6700	2000	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	6800	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	8500	5000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86 %	78-129	"	"	"	"	"	

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

Project:BP Heritage #11102, Oakland, CA
Project Number:N/P
Project Manager:Leonard Niles

MNK0028
Reported:
11/12/04 16:55

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
MW-3 (MNK0028-03) Water Sampled: 10/28/04 11:23 Received: 10/29/04 13:52										
tert-Amyl methyl ether	ND	5.0		ug/l	10	4K06001	11/06/04	11/06/04	EPA 8260B	
Benzene	ND	5.0		"	"	"	"	"	"	
tert-Butyl alcohol	ND	200		"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0		"	"	"	"	"	"	
Ethylbenzene	ND	5.0		"	"	"	"	"	"	
Methyl tert-butyl ether	290	5.0		"	"	"	"	"	"	
Toluene	ND	5.0		"	"	"	"	"	"	
Xylenes (total)	ND	5.0		"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	500		"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		86 %		78-129		"	"	"	"	

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

Project:BP Heritage #11102, Oakland, CA
Project Number:N/P
Project Manager:Leonard Niles

MNK0028
Reported:
11/12/04 16:55

**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 4K06001 - EPA 5030B P/T / EPA 8260B									
Blank (4K06001-BLK1)					Prepared & Analyzed: 11/06/04				
tert-Amyl methyl ether	ND	0.50	ug/l						
Benzene	ND	0.50	"						
tert-Butyl alcohol	ND	20	"						
Di-isopropyl ether	ND	0.50	"						
1,2-Dibromoethane (EDB)	ND	0.50	"						
1,2-Dichloroethane	ND	0.50	"						
Ethyl tert-butyl ether	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Methyl tert-butyl ether	ND	0.50	"						
Toluene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
Gasoline Range Organics (C4-C12)	ND	50	"						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.24		"	5.00		85		78-129	
Laboratory Control Sample (4K06001-BS1)					Prepared & Analyzed: 11/06/04				
tert-Amyl methyl ether	10.1	0.50	ug/l	10.0		101		82-140	
Benzene	8.96	0.50	"	10.0		90		69-124	
tert-Butyl alcohol	52.1	20	"	50.0		104		56-131	
Di-isopropyl ether	9.44	0.50	"	10.0		94		76-130	
1,2-Dibromoethane (EDB)	10.4	0.50	"	10.0		104		77-132	
1,2-Dichloroethane	10.4	0.50	"	10.0		104		77-136	
Ethyl tert-butyl ether	9.78	0.50	"	10.0		98		81-121	
Ethylbenzene	10.6	0.50	"	10.0		106		84-132	
Methyl tert-butyl ether	9.86	0.50	"	10.0		99		63-137	
Toluene	10.2	0.50	"	10.0		102		78-129	
Xylenes (total)	29.9	0.50	"	30.0		100		83-137	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.54		"	5.00		91		78-129	

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

 Project: BP Heritage #11102, Oakland, CA
 Project Number: N/P
 Project Manager: Leonard Niles

 MNK0028
 Reported:
 11/12/04 16:55

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 4K06001 - EPA 5030B P/T / EPA 8260B										
Laboratory Control Sample (4K06001-BS2)				Prepared & Analyzed: 11/06/04						
Benzene	5.31	0.50	ug/l	6.40		83	69-124			
Ethylbenzene	8.06	0.50	"	7.52		107	84-132			
Methyl tert-butyl ether	9.54	0.50	"	9.92		96	63-137			
Toluene	32.9	0.50	"	31.9		103	78-129			
Xylenes (total)	36.8	0.50	"	36.6		101	83-137			
Gasoline Range Organics (C4-C12)	391	50	"	440		89	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.58</i>		<i>"</i>	<i>5.00</i>		<i>92</i>	<i>78-129</i>			
Laboratory Control Sample Dup (4K06001-BSD1)				Prepared & Analyzed: 11/06/04						
tert-Amyl methyl ether	10.0	0.50	ug/l	10.0		100	82-140	1	20	
Benzene	9.33	0.50	"	10.0		93	69-124	4	20	
tert-Butyl alcohol	52.7	20	"	50.0		105	56-131	1	20	
Di-isopropyl ether	9.43	0.50	"	10.0		94	76-130	0.1	20	
1,2-Dibromoethane (EDB)	10.3	0.50	"	10.0		103	77-132	1	20	
1,2-Dichloroethane	10.3	0.50	"	10.0		103	77-136	1	20	
Ethyl tert-butyl ether	9.86	0.50	"	10.0		99	81-121	0.8	20	
Ethylbenzene	10.3	0.50	"	10.0		103	84-132	3	20	
Methyl tert-butyl ether	9.98	0.50	"	10.0		100	63-137	1	20	
Toluene	9.25	0.50	"	10.0		92	78-129	10	20	
Xylenes (total)	29.0	0.50	"	30.0		97	83-137	3	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.55</i>		<i>"</i>	<i>5.00</i>		<i>91</i>	<i>78-129</i>			
Matrix Spike (4K06001-MS1)		Source: MNK0027-08		Prepared & Analyzed: 11/06/04						
Benzene	250	25	ug/l	320	6.0	76	69-124			
Ethylbenzene	376	25	"	376	ND	100	84-132			
Methyl tert-butyl ether	3440	25	"	496	3100	69	63-137			
Toluene	1520	25	"	1600	ND	95	78-129			
Xylenes (total)	1730	25	"	1830	ND	95	83-137			
Gasoline Range Organics (C4-C12)	20900	2500	"	22000	3200	80	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.44</i>		<i>"</i>	<i>5.00</i>		<i>89</i>	<i>78-129</i>			

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1333 Broadway, Suite 800
Oakland CA, 94612

Project:BP Heritage #11102, Oakland, CA
Project Number:N/P
Project Manager:Leonard Niles

MNK0028
Reported:
11/12/04 16:55

**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 4K06001 - EPA 5030B P/T / EPA 8260B

Matrix Spike Dup (4K06001-MSD1)	Source: MNK0027-08			Prepared & Analyzed: 11/06/04						
Benzene	258	25	ug/l	320	6.0	79	69-124	3	20	
Ethylbenzene	389	25	"	376	ND	103	84-132	3	20	
Methyl tert-butyl ether	3530	25	"	496	3100	87	63-137	3	20	
Toluene	1580	25	"	1600	ND	99	78-129	4	20	
Xylenes (total)	1820	25	"	1830	ND	99	83-137	5	20	
Gasoline Range Organics (C4-C12)	21900	2500	"	22000	3200	85	70-124	5	20	
Surrogate: 1,2-Dichloroethane-d4	4.50		"	5.00		90	78-129			

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

Project:BP Heritage #11102, Oakland, CA
Project Number:N/P
Project Manager:Leonard Niles

MNK0028
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11/12/04 16:55

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference



Chain of Custody Record

Project Name 1102 GWM
 BP BPGEM CO Portfolio Retail
 BP Laboratory Contract Number: Atlantic Richfield Company

Date: 10/28/04 Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: 1030 Temp: 68°F
 Off-site Time: 1245 Temp: 67°F
 Sky Conditions: Cloudy
 Meteorological Events: -
 Wind Speed: Sech Direction: NE

Send To: Lab Name: <u>SEQUOIA</u> Lab Address: <u>885 Jarvis Dr.</u> <u>Morgan Hill, CA 95037</u>	BP/GEM Facility No.: <u>11102</u> BP/GEM Facility Address: <u>100 MCARTHUR BLVD., OAKLAND, CA</u> Site ID No. <u>11102</u> Site Lat/Long: California Global ID #: <u>T0600100908</u> BP/GEM PM Contact: <u>PAUL SUPPLE Kyle Christie</u> Address: <u>P.O. Box 6648 - 4 Cornerpointe Dr. 9464-172</u> <u>Moraga, CA 94570 La Palma, CA 94627</u> Tele/Fax: <u>925 299 8801/925 299 8872</u> <u>(714) 670-5163 / 5195</u>	Consultant/Contractor: <u>URS</u> Address: <u>1333 Broadway, Suite 800</u> <u>Oakland, CA 94612</u> e-mail EDD: <u>donna.casper@URSCorp.com</u> Consultant/Contractor Project No.: Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u> Consultant/Contractor PM: <u>Leonard Niles</u> Invoice to: Consultant/Contractor of <u>BPGEM</u> (Circle one) BP/GEM Work Release No:
Lab PM <u>Lisa Race</u> Tele/Fax: <u>408-776-9600 / 408-782-6308</u> Report Type & QC Level: <u>I Send EDF Reports</u> BP/GEM Account No.: <u>400-6-21124</u>		

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis						Sample Point Lat/Long and Comments
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	GR0 / BTX (8260)	DRO w/SGC (8015)	MTBE (8261)	MTBE (8260)	MTBE, TAME, ETBE (8260)	DICP, TBA (8260)	
1	MW-1A	1213		X			01	3					X						MPK 6628
2	MW-2 A	1149					02	1					X						
3	MW-3 A	1123					03	1					X						
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>Will Crow</u>	Relinquished By / Affiliation: <u>Will Crow</u>	Date: <u>10/29/04</u>	Time: <u>1030</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>10/29/04</u>	Time: <u>1030</u>
Sampler's Company: <u>Blaine Tech</u>						
Shipment Date: <u>10/29/04</u>						
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Address Invoice to BPGEM but send to URS for approval

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: BP 1102
 REC. BY (PRINT): JN
 WORKORDER: MICK 6028

DATE REC'D AT LAB: 10/29/04
 TIME REC'D AT LAB: 1352
 DATE LOGGED IN: 11-1-04

For Regulatory Purposes?
 DRINKING WATER YES/NO
 WASTE WATER YES/NO

(For clients requiring preservation checks at receipt, document here)

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	PHI	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) <input checked="" type="radio"/> Present / Absent <input checked="" type="radio"/> Intact / Broken*	01	B.C	MW-1A	VPA(3)	Hcl	-	W	10/28/04	[A large diagonal line is drawn across the table from the bottom-left to the top-right. The date <u>10/24/04</u> is written across the line in the middle section.]
2. Chain-of-Custody <input checked="" type="radio"/> Present / Absent*	02	L	-2A	↓	↓	↓	↓	↓	
3. Traffic Reports or Packing List: Present / Absent									
4. Airbill: Airbill / Sticker Present / Absent									
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 chain-of-custody, 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. Adequate sample volume received? <input checked="" type="radio"/> Yes / No*									
12. Proper Preservatives used? <input checked="" type="radio"/> Yes / No*									
13. Trip Blank / Temp Blank Received? (circle which, if yes) <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No*									
14. Temp Rec. at Lab: <u>3.4</u> Is temp 4 +/- 2°C? <input checked="" type="radio"/> Yes / No** <small>(Acceptance range for samples requiring thermal pres.)</small>									

**Exception (if any): METALS / OFF ON ICE or Problem COC

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

ATTACHMENT C

**ERROR CHECK REPORTS AND EDF/GEOWELL SUBMITTAL
CONFIRMATIONS**

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<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
<u>USER NAME:</u>	URSCORP-OAKLAND
<u>DATE CHECKED:</u>	11/15/2004 6:07:19 PM

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Submittal Title: 4Q04 GEOWELL SUBMITTAL SITE
11102

Submittal Date/Time: 11/15/2004 6:08:27 PM

**Confirmation
Number:** 6281605362

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SUCCESSFUL EDF CHECK - NO ERRORS

<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
<u>USER NAME:</u>	URSCORP-OAKLAND
<u>DATE CHECKED:</u>	11/15/2004 6:01:52 PM
<u>GLOBAL ID:</u>	T0600100908
<u>FILE UPLOADED:</u>	BP#11102-EDF-MNK0028.zip

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BP	<u>Regional Board - Case #: 01-0985</u>
100 MACARTHUR BLVD	SAN FRANCISCO BAY RWQCB (REGION 2)
OAKLAND, CA 94610	- (BG)
	<u>Local Agency (lead agency) - Case #: 1108</u>
	ALAMEDA COUNTY LOP - (RWS)

SAMPLE DETECTIONS REPORT

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

METHOD QA/QC REPORT

METHODS USED	8260FA
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- 8260FA REQUIRES ETHANOL TO BE TESTED	
- 8260FA REQUIRES DBFM TO BE TESTED	
- 8260FA REQUIRES BR4FBZ TO BE TESTED	
- 8260FA REQUIRES BZMED8 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	N

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y

- BLANK SPIKE		Y
- SURROGATE SPIKE		Y
WATER SAMPLES FOR 8021/8260 SERIES		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%		Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%		Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%		Y
SOIL SAMPLES FOR 8021/8260 SERIES		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%		n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%		n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%		n/a
FIELD QC SAMPLES		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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CONTACT SITE ADMINISTRATOR

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Confirmation Number: 8409038066
Date/Time of Submittal: 11/15/2004 6:04:55 PM
Facility Global ID: T0600100908
Facility Name: BP
Submittal Title: 4Q04 GW Monitoring Report 11102
Submittal Type: GW Monitoring Report

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BP 100 MACARTHUR BLVD OAKLAND, CA 94610	<u>Regional Board - Case #: 01-0985</u> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <u>Local Agency (lead agency) - Case #: 1108</u> ALAMEDA COUNTY LOP - (RWS)
---	--

CONF #	TITLE	QUARTER
8409038066	4Q04 GW Monitoring Report 11102	Q4 2004
SUBMITTED BY	SUBMIT DATE	STATUS
Srijesh Thapa	11/15/2004	PENDING REVIEW

SAMPLE DETECTIONS REPORT

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

METHOD QA/QC REPORT

METHODS USED	8260FA
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- 8260FA REQUIRES ETHANOL TO BE TESTED	
- 8260FA REQUIRES DBFM TO BE TESTED	
- 8260FA REQUIRES BR4FBZ TO BE TESTED	
- 8260FA REQUIRES BZMED8 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	N

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
---	---

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y	
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	Y	
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y	
SOIL SAMPLES FOR 8021/8260 SERIES		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a	
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a	
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a	
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a	
FIELD QC SAMPLES		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as URSCORP-OAKLAND (CONTRACTOR)

CONTACT SITE ADMINISTRATOR