

R 456

March 31, 2003

Alameda County  
APR 01 2003  
Environmental Health

Mr. Don Hwang  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-8577

**Re: First Semi-Annual 2003 Groundwater Monitoring Report  
BP Service Station #11102  
100 MacArthur Boulevard  
Oakland, California  
URS Project #38486238**

Dear Mr. Hwang:

On behalf of the Group Environmental Management Company ( a BP affiliated company), URS Corporation (URS) is submitting the *First Semi-Annual 2003 Groundwater Monitoring Report* for 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 Niles, R.G.  
Senior Geologist



Enclosure: First Semi-Annual 2003 Groundwater Monitoring Report

cc: Scott Hooton, BP GEM, 295 SW 41<sup>st</sup> Street, Building 13, Suite N, Renton, Washington 98055-4931  
Liz Sewell, ConocoPhillips, 76 Broadway, Sacramento, CA 95818  
Chris Jimmerson, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200, Rancho Cordova, California 95670-6021

**R E P O R T**

Alameda County  
APR 01 2003  
Environmental Health

**FIRST SEMI-ANNUAL 2003  
GROUNDWATER MONITORING**

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

*Prepared for*  
BP GEM

March 31, 2003

**URS**

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

38486238

Date: March 31, 2002  
Quarter: 1Q 03

**ATLANTIC RICHFIELD COMPANY SEMI-ANNUAL GROUNDWATER MONITORING REPORT**

Facility No.: 11102 Address: 100 MacArthur Boulevard, Oakland, CA  
BP Oil Company Environmental Engineer: Scott Hooton  
Consulting Co./Contact Person: URS Corporation/ Leonard Niles  
Consultant Project No.: 38486238  
Primary Agency/Case #: Alameda County Department of Environmental Health  
(ACDEH)/Case #RO0000456

**WORK PERFORMED THIS PERIOD (First Semi-Annual – 2003):**

1. Performed first semi-annual groundwater monitoring event on February 19, 2003.
2. Prepared and submitted second semi-annual 2002 groundwater monitoring report.
3. Prepare and submit first semi-annual 2003 groundwater monitoring report.
4. Perform off-site subsurface investigation.

**WORK PROPOSED FOR NEXT QUARTER (Second Semi-Annual – 2003):**

1. Perform second semi-annual 2003 groundwater monitoring event.
2. Prepare and submit off-site subsurface investigation / second 2003 semi-annual monitoring report.

Current Phase of Project:	<u>GW monitoring/sampling</u>
Frequency of Groundwater Sampling:	<u>Wells MW-1 through MW-3 biannually (1<sup>st</sup> and 3<sup>rd</sup> quarters)</u>
Frequency of Groundwater Monitoring:	<u>Biannual</u>
Is Free Product (FP) Present On-Site:	<u>No</u>
Current Remediation Techniques:	<u>None currently</u>
Approximate Depth to Groundwater:	<u>11.29 (MW-1) to 11.72 (MW-3) feet</u>
Groundwater Gradient (direction):	<u>West</u>
Groundwater Gradient (magnitude):	<u>0.04 feet per foot</u>

**DISCUSSION:**

Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates. TPH-g was detected in one of the three wells sampled this quarter at a concentration of 45,000 µg/L (MW-2). Benzene was not detected in any of the wells sampled. MTBE was detected in all three wells at concentrations ranging from 110 µg/L (MW-3) to 32,000 µg/L (MW-2). Due to elevated reporting limits, we propose analyzing groundwater samples using EPA method 8015/8021 for TPHg/BTEX and EPA method 8260 for fuel oxygenates.

A subsurface investigation is proposed per the ACDEH letters dated May 19, 1999 and July 18, 2001 to further define the downgradient extent of fuel hydrocarbons. The number and location of borings or monitoring wells is to be determined.

**ATTACHMENTS:**

- Table 1 – Groundwater Elevation and Analytical Data
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – February 19, 2002
- Chart 1 – Concentration and Water Level Trends, Well MW-1
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records
- Attachment C - EDCC Report and EDF/Geowell Submittal Confirmation

**ATTACHMENTS:**

- Table 1 – Groundwater Elevation and Analytical Data
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – February 19, 2002
- Chart 1 – Concentration and Water Level Trends, Well MW-1
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records
- Attachment C - EDCC Report and EDF/Geowell Submittal Confirmation

**Table 1  
Groundwater Elevation and Analytical Data**

BP Oil Site #11102  
100 MacArthur Boulevard  
Oakland, CA

WELL ID	DATE OF SAMPLING/ MONITORING	TOC (Feet) (a)	DEPTH TO WATER (Feet)	GWE (Feet) (b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
MW-1	11/04/89	90.20	13.21	76.99	ND<500	ND<50	3.4	0.6	ND<0.3	ND<0.3	---	ND<5000	---	0.9	---	---	SAL
	11/11/89		13.32	76.88	---	---	---	---	---	---	---	---	---	---	---	---	---
	04/03/90		12.46	77.74	---	---	64	1.9	23	34	---	---	---	---	---	---	ANA
	07/30/90		12.92	77.28	190	ND<50	11	ND<5.0	ND<5.0	ND<5.0	---	ND<5000	---	ND	---	---	ANA
	11/20/90		14.08	76.12	50	79	2.4	ND<0.3	ND<0.3	ND<0.3	---	ND<5000	---	4.0	---	---	SAL
	03/01/91		13.61	76.59	ND<100	ND<1000	0.9	ND<0.3	ND<0.3	0.3	---	14000	---	ND	---	---	SAL
	08/19/91		15.74	74.46	370	ND<50	35	0.73	6.4	5.6	---	ND<5000	---	1.4	---	---	SEQ
	11/13/91		14.08	76.12	60	ND<50	0.68	ND<0.3	ND<0.3	ND<0.3	---	ND<5000	---	1.0	---	---	SEQ
	02/24/92		12.52	77.68	140	100	3.9	0.66	1.2	3.8	---	ND<5000	---	1.7	---	---	SEQ
	05/19/92		11.8	78.40	4200	910	440	21	250	37	---	ND<5000	---	ND	---	---	SEQ
	06/17/92		12.01	78.19	4000	560	350	14	150	17	---	ND<5000	---	ND	---	---	SEQ
	07/22/92		12.42	77.78	4000	---	ND<5.0	19	210	61	---	---	---	---	---	---	ANA
	08/14/92		12.75	77.45	2400	1700	330	20	150	47	---	ND<5000	---	ND<2.5	---	---	SEQ
	11/11/92		13.69	76.51	260	92	30	3.4	7.6	6.8	---	ND<5000	---	ND<2.5	---	---	ANA
	06/07/93		10.93	79.27	3400	440	98	11	21	7.6	---	---	6.2	0.9	---	---	PACE
(c)	06/07/93		---	---	3700	---	120	12	26	9.5	---	---	---	---	---	---	PACE
	12/02/93		12.72	77.48	1100	120	8.3	3.6	0.6	1.5	---	ND<5000	2.6	1.8	---	---	PACE
	06/22/94		11.81	78.39	2100	ND<50	32	3.8	2.2	17	4000	(d) ND<5000	2.3	3.3	---	3.2	PACE
(c)	06/22/94		---	---	2100	---	30	3.2	2.0	15	2000	(d)	---	---	---	---	PACE
	01/10/95		10.97	79.23	ND<500	420	120	ND<5	ND<5	ND<10	---	---	ND<1	1	---	3.9	ATI
(c)	01/10/95		---	---	ND<500	---	120	ND<5	5	ND<10	---	---	---	---	---	---	ATI
	06/21/95		9.38	80.82	4700	1300	16	ND<5.0	ND<5.0	ND<10	---	2900	2.0	0.38	0.6	(e) 6.7	ATI
(c)	06/21/95		---	---	3600	---	ND<13	ND<5.0	ND<5.0	ND<10	---	---	---	---	---	---	ATI
	12/27/95		11.55	78.65	430	2100	ND<2.5	ND<2.5	ND<2.5	ND<5.0	1200	640	0.67	ND<0.20	---	6.3	ATI
	06/13/96		9.28	80.92	3200	920	51	ND<12	ND<12	ND<12	4000	2000	---	---	---	6.3	SPL
	12/04/96		11.91	78.29	1400	280	6.2	ND<5	ND<5	ND<5	2600	2000	ND<5.0	ND<5.0	6.0	(f) 6.7	SPL
	06/10/97		8.97	81.23	7900	1700	12	ND<10	ND<10	ND<10	15000	ND<5	ND<250	ND<250	ND	6.0	SPL
(c)	06/10/97		---	---	7700	---	14	ND<25	ND<25	ND<25	13000	---	---	---	---	---	SPL
	12/12/97		11.37	78.83	440	760	8.8	ND<1.0	2.6	9.4	6700	1200	ND<1.0	ND<1.0	ND	5.5	SPL
	06/18/98		8.02	82.18	7500	2900	ND<2.5	ND<5.0	ND<5.0	ND<5.0	5600	ND<5	ND<5.0	ND<5.0	ND	4.9	SPL
	03/09/99		9.80	80.40	32000	---	100	16	72	110	49000	---	---	---	---	---	SPL
	09/28/99		10.78	79.42	1000	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	730	---	ND<1.0	ND<1.0	ND<1.0	---	SPL
	10/14/99		10.84	79.36	---	660	---	---	---	---	---	---	---	---	---	---	SPL
	03/27/00		9.83	80.37	4300	---	160	19	37	43	28000	---	---	ND<500	---	---	PACE
	09/28/00		11.33	78.87	2700	---	10	2.6	1.1	2.7	28000	---	---	---	---	---	PACE
	03/08/01		10.96	79.24	8200	---	23.5	6.09	5.23	8.97	11600	---	---	---	---	---	PACE
	09/21/01		12.07	78.13	6000	---	37.9	ND<0.5	ND<0.5	ND<1.5	7370	---	---	---	---	---	PACE
	02/28/02		10.48	79.72	6400	---	60.8	ND<5.0	6.43	ND<10	7750	---	---	---	---	---	PACE
	09/06/02*		11.20	79.00	1400	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6000	---	---	---	---	---	SEQ
	02/19/03 (b)		11.29	78.91	ND<10,000	---	ND<100	110	ND<100	ND<100	4,500	---	---	---	---	---	SEQ

**Table 1  
Groundwater Elevation and Analytical Data**

BP Oil Site #11102  
100 MacArthur Boulevard  
Oakland, CA

WELL ID	DATE OF SAMPLING/ MONITORING	TOC (Feet)	DEPTH TO WATER (Feet)	GWE (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBB (ug/l)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
MW-2	11/04/89	87.91	15.84	72.07	ND<500	---	6.5	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
	11/11/89		14.75	73.16	---	---	---	---	---	---	---	---	---	---	---	---	---
	04/03/90		15.25	72.66	ND<500	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
	07/30/90		15.59	72.32	61	---	6.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
	11/20/90		17.81	70.10	ND<50	---	0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
	03/01/91		17.11	70.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	4.0	---	---	---	SAL
	08/19/91		17.97	69.94	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SBQ
	11/13/91		16.76	71.15	38	---	0.32	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SBQ
	02/24/92		15.07	72.84	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.58	---	---	16	---	---	---	SBQ
	05/19/92		14.7	73.21	ND<50	---	0.55	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SBQ
	07/22/92		15.6	72.31	90	---	1.3	0.6	0.9	1.9	---	---	---	---	---	---	ANA
	08/14/92		15.88	72.03	---	---	---	---	---	---	---	---	---	---	---	---	---
	11/11/92		16.19	71.72	52	---	2.8	ND<0.5	ND<0.5	0.9	---	---	---	---	---	---	ANA
(c)	11/11/92		---	---	65	---	3.2	ND<0.5	ND<0.5	1.0	---	---	---	---	---	---	ANA
	06/07/93		14.42	73.49	1200	---	14	2.8	1.9	1.7	---	---	---	---	---	---	PACE
	12/02/93		14.94	---	790	---	3.4	0.5	10	ND<0.5	3700 (d)	---	---	---	---	---	PACE
(c)	12/02/93		---	---	2100	---	32	3.8	2.2	17	3700 (d)	---	2.3	---	---	---	PACE
	06/22/94		14.25	73.66	110	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	120 (d)	---	---	---	---	3.9	PACE
	01/10/95		13.64	74.27	ND<50	---	ND<0.5	ND<0.5	0.6	1	---	---	---	---	---	4.3	ATI
	06/21/95		11.66	76.25	4700	---	ND<10	ND<10	ND<10	ND<20	---	---	---	---	---	7.8	ATI
	12/27/95		13.11	74.80	6100	---	ND<25	ND<25	ND<25	ND<50	20000	---	---	---	---	6.7	ATI
(c)	12/27/95		---	---	6300	---	ND<25	ND<25	ND<25	ND<50	19000	---	---	---	---	---	ATI
	06/13/96		10.86	77.05	8300	---	ND<2.5	ND<2.5	ND<2.5	ND<2.5	13000	---	---	---	---	6.5	SPL
(c)	06/13/96		---	---	8700	---	ND<5	ND<5	ND<5	ND<5	13000	---	---	---	---	---	SPL
	12/04/96		13.03	74.88	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	6.3	SPL
(c)	12/04/96		---	---	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	---	SPL
	06/10/97		10.04	77.87	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.8	SPL
	12/12/97		12.44	75.47	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.7	SPL
	06/18/98		8.89	79.02	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.3	SPL
(c)	06/18/98		---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	SPL
	03/09/99		10.20	77.71	15000	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	23000	---	---	---	---	---	SPL
	09/28/99		11.81	76.10	36000	---	ND<5.0	12	7.0	26	35000	---	ND<5.0	7.7	ND<5.0	---	SPL
	10/14/99		10.27	77.64	---	100	---	---	---	---	---	---	---	---	---	---	SPL
	03/27/00		9.98	77.93	1300	---	ND<0.5	ND<0.5	0.51	ND<0.5	5800	---	---	ND<100	---	---	PACE
	09/28/00		11.40	76.51	1600	---	1.8	1.7	0.54	2.2	15000	---	---	---	---	---	PACE
	03/08/01		11.16	76.75	20000	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	29100	---	---	---	---	---	PACE
	09/21/01		11.65	76.26	5000	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	6110	---	---	---	---	---	PACE
	02/28/02		9.86	78.05	3200	---	35.1	ND<0.5	ND<0.5	ND<1.0	4620	---	---	---	---	---	PACE
	09/06/02*		12.32	75.59	1900	---	ND<10	ND<10	ND<10	ND<10	15000	---	---	---	---	---	SEQ
	02/19/03 (h)		11.63	76.28	45,000*	---	ND<250	ND<250	ND<250	ND<250	32,000	---	---	---	---	---	SEQ

**Table 1  
Groundwater Elevation and Analytical Data**

BP Oil Site #11102  
100 MacArthur Boulevard  
Oakland, CA

WELL ID	DATE OF SAMPLING/ MONITORING	TOC (Feet)	DEPTH TO WATER (Feet)	GWE (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MIBE (ug/l)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB	
MW-3	11/04/89	87.02	15.4	71.62	ND<500	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL	
	11/11/89		14.1	72.92	---	---	---	---	---	---	---	---	---	---	---	---	---	
	04/03/90		13.90	73.12	ND<100	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA	
	07/30/90		13.77	73.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ND<5000	---	---	---	---	ANA	
	11/20/90		14.67	72.35	ND<50	---	0.3	0.8	0.4	1.5	---	---	---	---	---	---	SAL	
	03/01/91		15.22	71.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	---	ND	---	---	SAL	
	08/19/91		13.15	73.87	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ	
	11/13/91		15.66	71.36	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ	
	02/24/92		15.01	72.01	ND<50	---	0.65	1.4	0.66	4.4	---	---	---	ND	---	---	SEQ	
	05/19/92		15.52	71.50	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SEQ	
	07/22/92		15.63	71.39	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ND<5000	---	ND<0.50	---	---	ANA	
	08/14/92		13.57	73.45	---	---	---	---	---	---	---	---	---	---	---	---	---	
	11/11/92		14.13	72.89	ND<50	---	ND<0.5	0.7	ND<0.5	1.3	---	---	---	---	---	---	ANA	
	06/07/93		12.13	74.89	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE	
	12/02/93		13.29	73.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE	
	06/22/94		12.78	74.24	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	2.9	PACE	
	01/10/95		12.01	75.01	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	1	---	---	3.8	ATI
	06/21/95		11.57	75.45	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	---	7.4	ATI
	12/27/95		13.47	73.55	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	5.7	---	---	---	---	---	7.3	ATI
	06/13/96		11.22	75.80	60	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	---	---	---	6.8	SPL
	12/04/96		13.28	73.74	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	---	---	---	6.7	SPL
	06/10/97		10.22	76.80	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	6.1	SPL
	12/12/97		12.61	74.41	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	5.6	SPL
(c)	12/12/97		---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	---	SPL
	06/18/98		9.07	77.95	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	5.3	SPL
	06/18/98		12.80	74.22	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09/28/99		13.76	73.26	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03/27/00		13.77	73.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	---	---	---	---	---	---	PACE
	09/28/00		11.28	75.74	ND<50	---	ND<0.5	7.4	ND<0.5	1.3	2.0	---	---	---	---	---	---	PACE
	03/08/01		11.75	75.27	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	60.4	---	---	---	---	---	---	PACE
	09/21/01		11.33	75.69	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	8.18	---	---	---	---	---	---	PACE
	02/28/02		10.86	76.16	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1.0	25.5	---	---	---	---	---	---	PACE
	09/06/02*		12.73	74.29	ND<50	---	1.2	ND<0.5	ND<0.5	1.0	16	---	---	---	---	---	---	SEQ
	02/19/03 (h)		11.72	75.30	ND<500	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	110	---	---	---	---	---	---	SEQ



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

BP Oil Site #11102  
100 MacArthur Boulevard  
Oakland, CA

WELL ID	DATE OF SAMPLING/ MONITORING	TOC (Feet)	DEPTH TO WATER (Feet)	GWB (Feet)	TPH-G (b) (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
QC-2 (g)	11/11/92	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
QC-2 (g)	06/07/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	12/02/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	06/22/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	01/10/95	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	---	---	ATI
QC-2 (g)	06/21/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	---	ATI
QC-2 (g)	12/27/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	---	---	---	ATI
QC-2 (g)	06/13/96	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	---	---	---	SPL

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

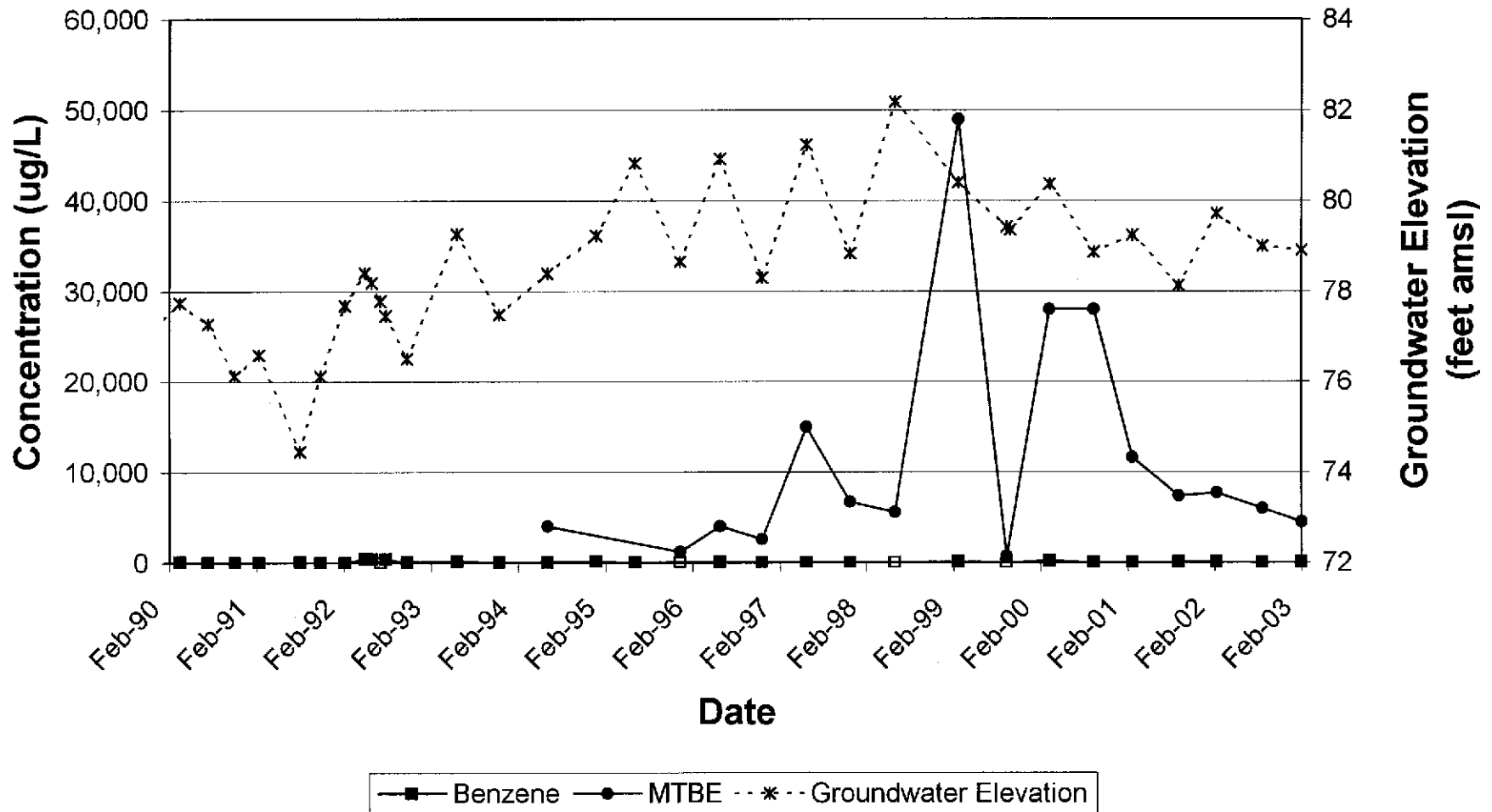
BP Oil Site #11102  
100 MacArthur Boulevard  
Oakland, CA

**ABBREVIATIONS:**

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
1,1-DCA	1,1-Dichloroethane
1,2-DCA	1,2-Dichloroethane
1,2-DBA	1,2-Dibromoethane
HVOC's	Halogenated volatile organic compounds
MTBE	Methyl tert butyl ether
DIPE	Di-Isopropyl Ether
ETBE	Ethyl t-Butyl Ether
TAMB	t-Amyl Methyl Ether
DO	Dissolved oxygen
ug/l	Micrograms per liter
ppm	Parts per million
ND	Not detected 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

- (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 Appendix C of Alisto report 10-076-06-002.
- (e) Tetrachloroethene.
- (f) Trans-1,2-Dichloroethene
- (g) Travel blank.
- (h) TPH, BTEX, and MTBE analyzed by EPA Method 8260B beginning on 1st Quarter Sampling event (2/19/03)
- (i) Discrete peak @ C6-C7.
- \* During the second quarter of 2002, URS Corporation assumed groundwater monitoring activities for BP



# Concentration and Water Level Trends Well MW-1




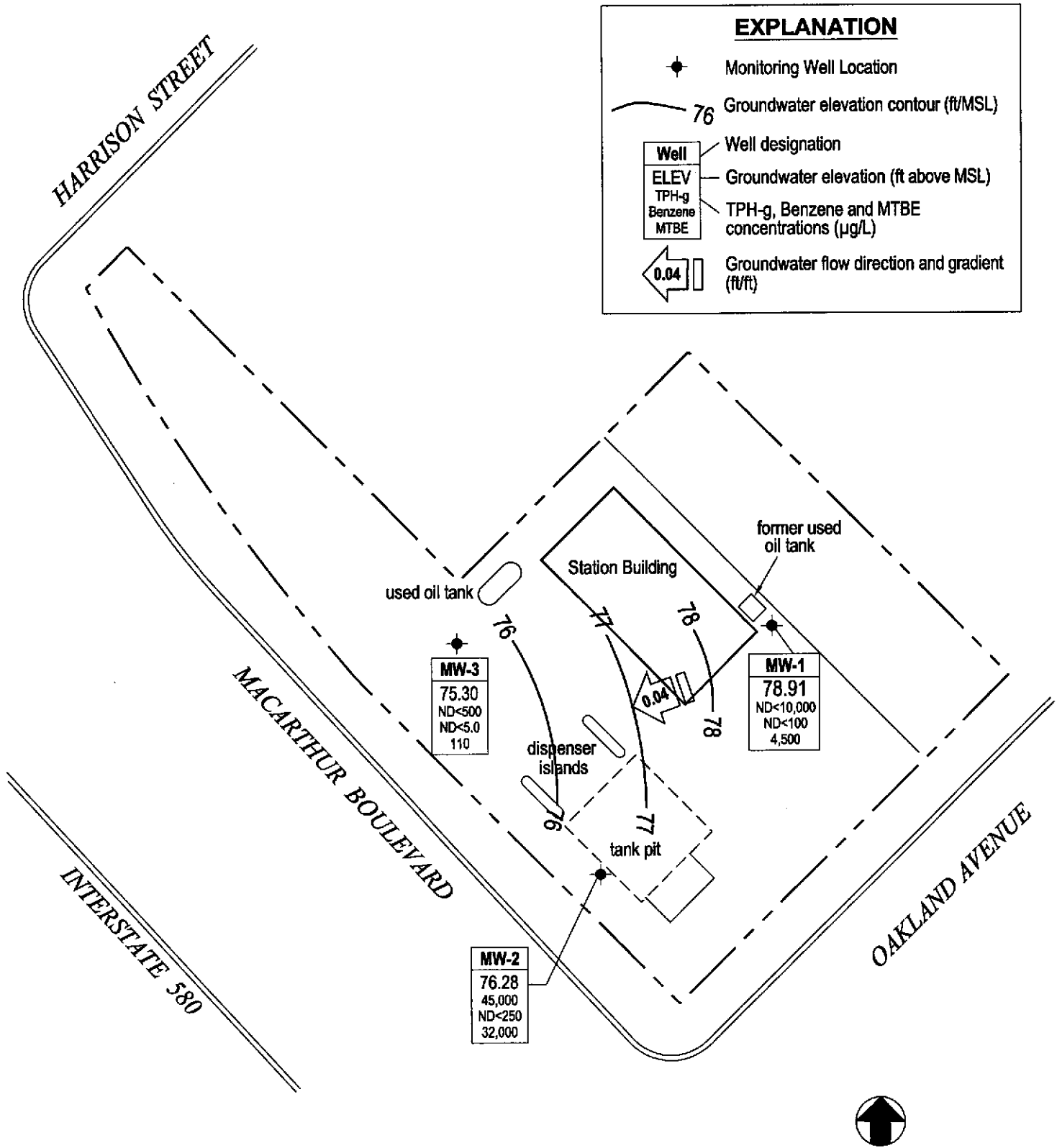
**Chart 1**

X:\env\waste\BP\_GEMASites\Niles Sites\11102\Reports\Monitoring\Qtr. 1, 2003\GWEC-AS\_2-19.dwg

**EXPLANATION**

-  Monitoring Well Location
-  76 Groundwater elevation contour (ft/MSL)
- |         |
|---------|
| Well    |
| ELEV    |
| TPH-g   |
| Benzene |
| MTBE    |

 Well designation  
Groundwater elevation (ft above MSL)  
TPH-g, Benzene and MTBE concentrations (µg/L)
-  0.04 Groundwater flow direction and gradient (ft/ft)



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

<b>URS</b>	Project No. 38486238	<b>GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP</b> First Quarter 2003 (February 19, 2003)	FIGURE <b>1</b>
	Former BP Service Station #11102 100 MacArthur Boulevard Oakland, California		

**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<sup>TM</sup> 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 # 030219-SS2 Date 2/19/03 Client BP 11102

Site 100 MACARTHUR BLVD. OAKLAND

Well ID	Well Size (in.)	Sheen/Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW-1	4					11.29	32.01	↓
MW-2	4					11.63	32.43	
MW-3	4					11.72	32.55	

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>070219-552</u>	Station # <u>11102</u>
Sampler: <u>Soott</u>	Date: <u>2/19/03</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: <u>32.01</u>	Depth to Water: <u>11.29</u>
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 <sup>2</sup> * 0.163

Purge Method:  Bailer      Sampling Method:  Bailer  
 Disposable Bailer       Disposable Bailer  
 Middleburg       Extraction Port  
 Electric Submersible      Other: \_\_\_\_\_  
 Extraction Pump

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.

$$\frac{13.5}{\text{I Case Volume (Gals.)}} \times \frac{3}{\text{Specified Volumes}} = \frac{40.5}{\text{Calculated Volume}} \text{ Gals.}$$

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1401	66.9	7.0	775	13.5	CLAMP
1404	67.3	6.9	820	27.0	"
1407	67.2	6.9	833	40.5	TURBID

Did well dewater? Yes  No  Gallons actually evacuated: 40.5

Sampling Time: 1412 Sampling Date: 2/19/03

Sample I.D.: MW-1 Laboratory: Pace Sequoia Other: \_\_\_\_\_

Analyzed for: <u>TPH-G BTEX MTBE</u> TPH-D Other: _____			
D.O. (if req'd):	Pre-purge:	mg/L	Post-purge: <span style="float: right;">mg/L</span>
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: <span style="float: right;">mV</span>



# ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>070219-SS2</u>	Station # <u>11102</u>
Sampler: <u>SOOCH</u>	Date: <u>2/19/03</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>32.43</u>	Depth to Water: <u>11.63</u>
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 <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u>	Sampling Method: <u>Bailer</u>
<u>Disposable Bailer</u>	<u>Disposable Bailer</u>
<u>Middleburg</u>	<u>Extraction Port</u>
<u>Electric Submersible</u>	Other: _____
<u>Extraction Pump</u>	
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>13.5</u>	x	<u>3</u>	=	<u>40.5</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
<u>1427</u>	<u>67.4</u>	<u>6.6</u>	<u>721</u>	<u>13.5</u>	<u>CLEAR</u>
<u>1430</u>	<u>67.8</u>	<u>6.6</u>	<u>718</u>	<u>27.0</u>	<u>MURBID</u>
<u>WELL DEWATERED @</u>			<u>27 gal.</u>		<u>DNW = 29.55</u>
<u>1455</u>	<u>66.9</u>	<u>6.9</u>	<u>1914</u>	_____	<u>DNW = 27.50 @ SITE DEPART.</u>

Did well dewater? Yes No      Gallons actually evacuated: 27

Sampling Time: 1455      Sampling Date: 2/19/03

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

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

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





# Chain of Custody Record

Project Name BP # 11102  
 BP BU/GEM CO Portfolio: \_\_\_\_\_  
 BP Laboratory Contract Number: \_\_\_\_\_  
 Date: 2/19/03 Requested Due Date (mm/dd/yy) \_\_\_\_\_

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

Send To:	BP/GEM Facility No.:	Consultant/Contractor: URS
Lab Name: SEQUOIA	BP/GEM Facility Address: 100 MCARTHUR BLVD., OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr.	Site ID No. 11102	Oakland, CA 94609-4014
Morgan Hill, CA 95037	Site Lat/Long:	e-mail EDD: syed_rehan@urscorp.com
Lab PM: Latonya Pelt	California Global ID #: T0600100908	Consultant/Contractor Project No.:
Tele/Fax: 408-776-9600 / 408-782-6308	BP/GEM PM Contact: Scott Hooton	Consultant Tele/Fax: 510-874-1720 / 510-874-3268
Report Type & QC Level: Send EDF Reports	Address: 295 SW 41st St., Bldg. 13 Ste N	Consultant/Contractor PM: Leonard Niles
BP/GEM Account No.: 400-6-21124	Renton, WA 98055	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
	Tele/Fax: 425-251-0689/425-251-0736	BP/GEM Work Release No:

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives			Requested Analysis						Sample Point Lat/Long and Comments
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-G/BTEX (8015/8021)	TPH-D (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE, DIPE, TDA (8260)	
1	MW-1	1412	X				6			X		X						
2	MW-2	1455	X				6				X		X					
3	MW-3	1450	X				6				X		X					
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name: <u>SUCHAN SUNG</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>OLIVE TREE</u>						
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

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

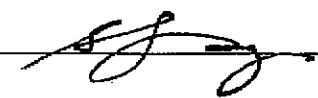
Custody Seals In Place Yes No Temperature Blank Yes No Cooler Temperature on Receipt °F/C Trip Blank Yes No

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:

Station #	
11102	
Station Address	
100 MCARTHUR BLVD. OAKLAND	
Total Gallons Collected From Groundwater Monitoring Wells:	
_____	
added equip. rinse water _____	any other adjustments _____
TOTAL GALS. RECOVERED <u>95</u>	loaded onto BTS vehicle # <u>98</u>
BTS event #	time                      date
<u>030219-552</u>	<u>1510</u> <u>2/19/03</u>
signature _____	
*****	
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 Dr  
Morgan Hill, CA 95037  
(408) 776-9600  
FAX (408) 782-6308  
[www.sequoialabs.com](http://www.sequoialabs.com)

---

7 March, 2003

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

RE: BP Heritage Site #11102, Oakland, CA  
Sequoia Work Order: MMB0644

Enclosed are the results of analyses for samples received by the laboratory on 02/20/03  
16:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt  
Project Manager

CA ELAP Certificate #1210



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

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

Project: BP Heritage Site #11102, Oakland, CA  
Project Number: BP Heritage Site #11102, Oakland, CA  
Project Manager: Leonard Niles

MMB0644  
**Reported:**  
03/07/03 13:06

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MMB0644-01	Water	02/19/03 14:12	02/20/03 16:05
MW-2	MMB0644-02	Water	02/19/03 14:55	02/20/03 16:05
MW-3	MMB0644-03	Water	02/19/03 14:50	02/20/03 16:05

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





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

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

Project: BP Heritage Site #11102, Oakland, CA  
 Project Number: BP Heritage Site #11102, Oakland, CA  
 Project Manager: Leonard Niles

MMB0644  
 Reported:  
 03/07/03 13:06

**Total Purgeable Hydrocarbons (C6-C10) and Volatile Organic Compounds by EPA method 8260B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (MMB0644-01) Water</b> <b>Sampled: 02/19/03 14:12</b> <b>Received: 02/20/03 16:05</b>									
Methyl tert-butyl ether	4500	100	ug/l	200	3B26001	02/25/03	02/26/03	EPA 8260B	
Benzene	ND	100	"	"	"	"	"	"	
Toluene	110	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	10000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		119 %	78-129	"	"	"	"	"	
<b>MW-2 (MMB0644-02) Water</b> <b>Sampled: 02/19/03 14:55</b> <b>Received: 02/20/03 16:05</b>									
Methyl tert-butyl ether	32000	250	ug/l	500	3B26001	02/25/03	02/26/03	EPA 8260B	
Benzene	ND	250	"	"	"	"	"	"	
Toluene	ND	250	"	"	"	"	"	"	
Ethylbenzene	ND	250	"	"	"	"	"	"	
Xylenes (total)	ND	250	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	45000	25000	"	"	"	"	"	"	HC-19
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	78-129	"	"	"	"	"	
<b>MW-3 (MMB0644-03) Water</b> <b>Sampled: 02/19/03 14:50</b> <b>Received: 02/20/03 16:05</b>									
Methyl tert-butyl ether	110	5.0	ug/l	10	3B26001	02/25/03	02/26/03	EPA 8260B	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	500	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %	78-129	"	"	"	"	"	

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*



**Sequoia  
Analytical**

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

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

Project: BP Heritage Site #11102, Oakland, CA  
Project Number: BP Heritage Site #11102, Oakland, CA  
Project Manager: Leonard Niles

MMB0644  
**Reported:**  
03/07/03 13:06

**I Purgeable Hydrocarbons (C6-C10) and 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 3B26001 - EPA 5030B P/T**

**Blank (3B26001-BLK1)**

Prepared: 02/25/03 Analyzed: 02/26/03

Methyl tert-butyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C6-C10)	ND	50	"							

*Surrogate: 1,2-Dichloroethane-d4*      5.72      "      5.00      114      78-129

**Laboratory Control Sample (3B26001-BS1)**

Prepared & Analyzed: 02/25/03

Methyl tert-butyl ether	11.8	0.50	ug/l	10.0		118	63-137			
Benzene	10.0	0.50	"	10.0		100	78-124			
Toluene	9.80	0.50	"	10.0		98.0	78-129			

*Surrogate: 1,2-Dichloroethane-d4*      5.11      "      5.00      102      78-129

**Laboratory Control Sample (3B26001-BS2)**

Prepared: 02/25/03 Analyzed: 02/26/03

Methyl tert-butyl ether	9.36	0.50	ug/l	9.04		104	63-137			
Benzene	5.66	0.50	"	5.44		104	78-124			
Toluene	34.0	0.50	"	32.8		104	78-129			
Gasoline Range Organics (C6-C10)	487	50	"	440		111	70-113			

*Surrogate: 1,2-Dichloroethane-d4*      4.93      "      5.00      98.6      78-129

**Matrix Spike (3B26001-MS1)**

Source: MMB0644-01

Prepared: 02/25/03 Analyzed: 02/26/03

Methyl tert-butyl ether	5840	100	ug/l	1810	4500	74.0	0-200			
Benzene	938	100	"	1090	ND	78.3	78-124			
Toluene	5800	100	"	6560	110	86.7	78-129			
Gasoline Range Organics (C6-C10)	103000	10000	"	88000	ND	107	70-113			

*Surrogate: 1,2-Dichloroethane-d4*      5.12      "      5.00      102      78-129

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*

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

 Project: BP Heritage Site #11102, Oakland, CA  
 Project Number: BP Heritage Site #11102, Oakland, CA  
 Project Manager: Leonard Niles

 MMB0644  
**Reported:**  
 03/07/03 13:06

### I Purgeable Hydrocarbons (C6-C10) and Volatile Organic Compounds by EPA method 8260B - Quality Cont Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3B26001 - EPA 5030B P/T</b>										
<b>Matrix Spike Dup (3B26001-MSD1)</b>										
		<b>Source: MMB0644-01</b>			<b>Prepared: 02/25/03</b>		<b>Analyzed: 02/26/03</b>			
Methyl tert-butyl ether	6300	100	ug/l	1810	4500	99.4	0-200	7.58	200	
Benzene	1010	100	"	1090	ND	85.0	78-124	7.39	12	
Toluene	6170	100	"	6560	110	92.4	78-129	6.18	10	
Gasoline Range Organics (C6-C10)	109000	10000	"	88000	ND	114	70-113	5.66	9	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.40		"	5.00		108	78-129			



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

Project: BP Heritage Site #11102, Oakland, CA  
Project Number: BP Heritage Site #11102, Oakland, CA  
Project Manager: Leonard Niles

MMB0644  
**Reported:**  
03/07/03 13:06

### Notes and Definitions

HC-19 Discrete peak @ C6-C7.

QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

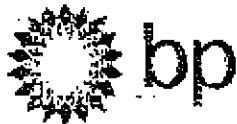
DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



# Chain of Custody Record

Project Name BP # 11102  
 BP BU/GEM CO Portfolio: \_\_\_\_\_  
 BP Laboratory Contract Number: \_\_\_\_\_

Date: 2/19/03

Requested Due Date (mm/dd/yy) \_\_\_\_\_

MMB0644

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

Send To:	BP/GEM Facility No.:	Consultant/Contractor:
Lab Name: SEQUOIA	BP/GEM Facility Address: 100 MCARTHUR BLVD., OAKLAND, CA	Address: 500 12th St, Ste. 200
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. 11102	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDD: syed_rehan@urscorp.com
	California Global ID #: 70600100908	Consultant/Contractor Project No.:
Lab PM: Latonya Pelt	BP/GEM PM Contact: Scott Hooton	Consultant Tele/Fax: 510-874-1720 / 510-874-3268
Tele/Fax: 408-776-9600 / 408-782-6308	Address: 295 SW 41st St. Bldg. 13 Ste N.	Consultant/Contractor PM: Leonard Miles
Report Type & QC Level: Send EDF Reports	Renton, WA 98055	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
BP/GEM Account No.: 400-6-21124	Tele/Fax: 425-251-0689/425-251-0736	BP/GEM Work Release No:

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis						Sample Point Lat/Long and Comments
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH/G/HTEX (8015/8021)	TPH-D (8015)	MTBE (8021)	MTBS (8260)	MTBE, TAME, ETBE	ETBE, TBA (8260)	
1	MW-1	1412	X				01	6					X	X					
2	MW-2	1455	X				02	6					X	X					
3	MW-3	1450	X				03	6					X	X					
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>SUCHONS SINGH</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>OLIVE TEST</u>	<i>[Signature]</i>	<u>2/20/03</u>	<u>1327</u>	<i>[Signature]</i>	<u>2/20/03</u>	<u>1327</u>
Shipment Date:	<i>[Signature]</i>	<u>2/20/03</u>	<u>1605</u>	<i>[Signature]</i>	<u>2/20/03</u>	<u>1605</u>
Shipment Method:						
Shipment Tracking No:						

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

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

**SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG**

CLIENT NAME: URS  
 REC. BY (PRINT) TJ  
 WORKORDER: MMB0644

DATE Received at Lab: 2/20/03  
 TIME Received at Lab: 1605  
 LOG IN DATE: 2-22-03

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

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	#	CLIENT ID	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / <input checked="" type="radio"/> Absent Intact / Broken*	1		MW-1	(3) 100m HC	L	2/19/03	
2. Chain-of-Custody	<input checked="" type="radio"/> Present / Absent*	2		L-2	L	L	L	
3. Traffic Reports or Packing List:	Present / <input checked="" type="radio"/> Absent							
4. Airbill:	Airbill / Sticker Present / <input checked="" type="radio"/> 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 custody reports, traffic reports and sample labels agree?	<input checked="" type="radio"/> Yes / No*							
10. Sample received within hold time:	<input checked="" type="radio"/> Yes / No*							
11. Proper Preservatives used:	<input checked="" type="radio"/> Yes / No*							
12. Temp Rec. at Lab: Is temp 4 +/- 2°C? (Acceptance range for samples requiring thermal pres.)	<u>5°C</u> <input checked="" type="radio"/> Yes / No**							
**Exception (if any): Metals / DFF on ice? / DFF no ice? or Problem COC								

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

**ATTACHMENT C**

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

---

## Error Summary Log

03/10/03

EDF 1.2i All files present in deliverable.

---

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	BP Heritage Site #11102,
Work Order Number:	MMB0644
Global ID:	T0600100908
Lab Report Number:	MMB0644030720031306



## Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotcl	Run Sub
MMB06440307200	MW-1	MMB064401	W	CS	8260TPH	SW5030B	02/19/03	02/25/03	02/26/03	3B26001	1
	31306										
MMB06440307200	MW-2	MMB064402	W	CS	8260TPH	SW5030B	02/19/03	02/25/03	02/26/03	3B26001	1
	31306										
MMB06440307200	MW-3	MMB064403	W	CS	8260TPH	SW5030B	02/19/03	02/25/03	02/26/03	3B26001	1
	31306										
		3B26001BS1	WQ	BS1	8260TPH	SW5030B	//	02/25/03	02/25/03	3B26001	1
		3B26001BS2	WQ	BS2	8260TPH	SW5030B	//	02/25/03	02/26/03	3B26001	1
		3B26001BLK1	WQ	LB1	8260TPH	SW5030B	//	02/25/03	02/26/03	3B26001	1
		3B26001MS1	W	MS1	8260TPH	SW5030B	//	02/25/03	02/26/03	3B26001	1
		3B26001MSD1	W	SD1	8260TPH	SW5030B	//	02/25/03	02/26/03	3B26001	1

# EDFSAMP: Error Summary Log

03/10/03

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

# EDFTEST: Error Summary Log

03/10/03

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

# EDFRES: Error Summary Log

03/10/03

Error type	Labsampid	Qccode	Matrix	Anrcode	Pvccode	Anadate	Run number	Parlabel
There are no errors in this data file						//	0	

# EDFQC: Error Summary Log

03/10/03

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

# EDFCL: Error Summary Log

03/10/03

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

## AB2886 Electronic Delivery

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

Your EDF file has been successfully uploaded!

**Confirmation Number:** 3764517426

**Date/Time of Submittal:** 3/10/2003 10:45:03 AM

**Facility Global ID:** T0600100908

**Facility Name:** BP

**Submittal Title:** 1q03 11102

**Submittal Type:** GW Monitoring Report

Logged in as URSCORP-OAKLAND  
(CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).

## AB2886 Electronic Delivery

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

### UPLOADING A GEO\_WELL FILE

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

<b>Submittal Title:</b>	<b>1q03 11102</b>
<b>Submittal Date/Time:</b>	<b>3/10/2003 10:45:33 AM</b>
<b>Confirmation Number:</b>	<b>5369190812</b>

**[Back to Main Menu](#)**

Logged in as URSCORP-OAKLAND  
(CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).