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URS

Alameda County
NOV 07 2002
Environmental Health

November 6, 2002

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

Re: Third Quarter 2002 Monitoring Report
BP Service Station #11102
100 MacArthur Boulevard
Oakland, California
URS Project #38466025

Dear Mr. Hwang:

On behalf of BP (an affiliated company of the Group Environmental Management Company), URS Corporation (URS) is submitting the attached report, which presents the results of the third quarter 2002 groundwater monitoring program at the BP Service Station #11102, located at 100 MacArthur Boulevard, Oakland, California.

Please call if you have any questions.

REGISTERED GEOLOGIST
ROBERT M. HORWATH
NO. 5925
4/04
STATE OF CALIFORNIA

Sincerely,
URS CORPORATION

R. Horwath

Robert M. Horwath, R.G.
Senior Geologist

Attachment: Quarterly Groundwater Monitoring Report, Third Quarter 2002

cc: Scott Hooton, BP, Environmental Resources management, 295 SW 41st Street, Building 13, Suite N, Renton, Washington 98055-4931
Ms. Liz Sewell, Risk Management and Remediation Group, Tosco, 3525 Hyland Avenue, Costa Mesa, California 92626
Chris Jimmerson, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200, Rancho Cordova, California 95670-6021

URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
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Quarterly Groundwater Monitoring Report
Third Quarter 2002

BP Service Station #11102
100 MacArthur Boulevard
Oakland, California

Prepared for

BP

November 6, 2002

Prepared by

URS Corporation

500 12th Street, Suite 200
Oakland, California 94607

Project 38466025

URS

Date: November 6, 2002
Quarter: 3Q 02

ATLANTIC RICHFIELD COMPANY QUARTERLY 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/Robert M. Horwath
Consultant Project No.:			38466025
Primary Agency/Regulatory ID No.:			Alameda County Department of Environmental Health

WORK PERFORMED THIS QUARTER (Third – 2002):

1. Performed third quarter 2002 groundwater monitoring event.
2. Prepared and submitted second quarter 2002 groundwater monitoring report.

WORK PROPOSED FOR NEXT QUARTER (Fourth – 2002):

1. Perform fourth quarter 2002 groundwater monitoring event.
2. Prepare and submit third quarter 2002 groundwater monitoring report.

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Wells MW-1 through MW-3 biannually
Frequency of Groundwater Monitoring:	Biannual
Is Free Product (FP) Present On-Site:	No
Current Remediation Techniques:	None currently
Approximate Depth to Groundwater:	11.20 (MW-1) to 12.73 (MW-3) feet
Groundwater Gradient (direction):	West
Groundwater Gradient (magnitude):	0.05 feet per foot

DISCUSSION:

TPH-g was detected in two out of three wells sampled, ranging from 1,400 µg/L (MW-1) to 1,900 µg/L (MW-2). Benzene and Xylene were detected in MW-3 at 1.2 µg/L and 1.0 µg/L , respectively. MTBE was detected in all three wells, ranging from 16 µg/L (MW-3) to 15,000 µg/L (MW-2). Groundwater elevations across the site decreased by an average of approximately 1.68 feet this quarter, and the groundwater flow direction was to the west at a calculated hydraulic gradient of 0.05 feet per foot.

URS

ATTACHMENTS:

- QMR Disclaimer
- Table 1 – Groundwater Elevation and Analytical Data
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – September 6, 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

URS QUARTERLY MONITORING REPORT
DISCLAIMER
GROUP ENVIRONMENTAL MANAGEMENT COMPANY SITES

This report is based on data, site conditions, and other information that are generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame.

Background information, including but not limited to previous field measurements, analytical results, site plans, and other data has been furnished to URS by Group Environmental Management Company, its previous consultants, and/or third parties that URS has used in preparing this report. URS has relied on this information as furnished. URS is not responsible for nor has it confirmed the accuracy of this information.

The analytical data provided by the laboratory approved by Group Environmental Management Company have been reviewed and verified by that laboratory. URS has not performed an independent review of the data.

Table 1
Groundwater Elevation and Analytical Data
BP Oil Site No. 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	11/04/1989	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
MW-1	11/11/1989	90.20		13.32	76.88		---	---	---	---	---	---	---		---	---	---	---		---	---
MW-1	04/03/1990	90.20		12.46	77.74		820	---	64	1.9	23	34	---		---	---	---	---		---	ANA
MW-1	07/30/1990	90.20		12.92	77.28		190	ND<50	11	ND<5.0	ND<5.0	ND<5.0	---		ND<5000	---	ND	---		---	ANA
MW-1	11/20/1990	90.20		14.08	76.12		50	79	2.4	ND<0.3	ND<0.3	ND<0.3	---		ND<5000	---	4.0	---		---	SAL
MW-1	03/01/1991	90.20		13.61	76.59		ND<100	ND<1000	0.9	ND<0.3	ND<0.3	0.3	---		14000	---	ND	---		---	SAL
MW-1	08/19/1991	90.20		15.74	74.46		370	ND<50	35	0.73	6.4	5.6	---		ND<5000	---	1.4	---		---	SEQ
MW-1	11/13/1991	90.20		14.08	76.12		60	ND<50	0.68	ND<0.3	ND<0.3	ND<0.3	---		ND<5000	---	1.0	---		---	SEQ
MW-1	02/24/1992	90.20		12.52	77.68		140	100	3.9	0.66	1.2	3.8	---		ND<5000	---	1.7	---		---	SEQ
MW-1	05/19/1992	90.20		11.8	78.40		4200	910	440	21	250	37	---		ND<5000	---	ND	---		---	SEQ
MW-1	06/17/1992	90.20		12.01	78.19		4000	560	350	14	150	17	---		ND<5000	---	ND	---		---	SEQ
MW-1	07/22/1992	90.20		12.42	77.78		4000	---	ND<5.0	19	210	61	---		---	---	---	---		---	ANA
MW-1	08/14/1992	90.20		12.75	77.45		2400	1700	330	20	150	47	---		ND<5000	---	ND<2.5	---		---	SEQ
MW-1	11/11/1992	90.20		13.69	76.51		260	92	30	3.4	7.6	6.8	---		ND<5000	---	ND<2.5	---		---	ANA
MW-1	06/07/1993	90.20		10.93	79.27		3400	440	98	11	21	7.6	---		---	6.2	0.9	---		---	PACE
QC-1	(c) 06/07/1993	---		---	---		3700	---	120	12	26	9.5	---		---	---	---	---		---	PACE
MW-1	12/02/1993	90.20		12.72	77.48		1100	120	8.3	3.6	0.6	1.5	---		ND<5000	2.6	1.8	---		---	PACE
MW-1	06/22/1994	90.20		11.81	78.39		2100	ND<50	32	3.8	2.2	17	4000	(d)	ND<5000	2.3	3.3	---		3.2	PACE
QC-1	(c) 06/22/1994	---		---	---		2100	---	30	3.2	2.0	15	2000	(d)	---	---	---	---		---	PACE
MW-1	01/10/1995	90.20		10.97	79.23		ND<500	420	120	ND<5	ND<5	ND<10	---		---	ND<1	1	---		3.9	ATI
QC-1	(c) 01/10/1995	---		---	---		ND<500	---	120	ND<5	5	ND<10	---		---	---	---	---		---	ATI
MW-1	06/21/1995	90.20		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
QC-1	(c) 06/21/1995	---		---	---		3600	---	ND<13	ND<5.0	ND<5.0	ND<10	---		---	---	---	---		---	ATI
MW-1	12/27/1995	90.20		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
MW-1	06/13/1996	90.20		9.28	80.92		3200	920	51	ND<12	ND<12	ND<12	4000		2000	---	---	---		6.3	SPL
MW-1	12/04/1996	90.20		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
MW-1	06/10/1997	90.20		8.97	81.23		7900	1700	12	ND<10	ND<10	ND<10	15000		ND<5	ND<250	ND<250	ND		6.0	SPL
QC-1	(c) 06/10/1997	---		---	---		7700	---	14	ND<25	ND<25	ND<25	13000		---	---	---	---		---	SPL
MW-1	12/12/1997	90.20		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
MW-1	06/18/1998	90.20		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
MW-1	03/09/1999	90.20		9.80	80.40		32000	---	100	16	72	110	49000		---	---	---	---		---	SPL
MW-1	09/28/1999	90.20		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
MW-1	10/14/1999	90.20		10.84	79.36		---	660	---	---	---	---	---		---	---	---	---		---	SPL
MW-1	03/27/2000	90.20		9.83	80.37		4300	---	160	19	37	43	28000		---	---	ND<500	---		---	PACE
MW-1	09/28/2000	90.20		11.33	78.87		2700	---	10	2.6	1.1	2.7	28000		---	---	---	---		---	PACE

Table 1
Groundwater Elevation and Analytical Data
BP Oil Site No. 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	03/08/2001	90.20	10.96	79.24	8200	---	23.5	6.09	5.23	8.97	11600	---	---	---	---	---	PACE
MW-1	09/21/2001	90.20	12.07	78.13	6000	---	37.9	ND<0.5	ND<0.5	ND<1.5	7370	---	---	---	---	---	PACE
MW-1	02/28/2002	90.20	10.48	79.72	6400	---	60.8	ND<5.0	6.43	ND<10	7750	---	---	---	---	---	PACE
MW-1	**9/6/02***	**90.20**	**11.20**	**79.00**	**1400**	---	**ND<5.0**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**6000**	---	---	---	---	---	**SEQ**

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MW-2		11/04/1989	87.91		15.84	72.07		ND<500	---	6.5	ND<0.3	ND<0.3	ND<0.3	---		---	---	---	---	---	SAL
MW-2		11/11/1989	87.91		14.75	73.16		---	---	---	---	---	---	---		---	---	---	---	---	---
MW-2		04/03/1990	87.91		15.25	72.66		ND<500	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---		---	---	---	---	---	ANA
MW-2		07/30/1990	87.91		15.59	72.32		61	---	6.5	ND<0.5	ND<0.5	ND<0.5	---		---	---	---	---	---	ANA
MW-2		11/20/1990	87.91		17.81	70.10		ND<50	---	0.3	ND<0.3	ND<0.3	ND<0.3	---		---	---	---	---	---	SAL
MW-2		03/01/1991	87.91		17.11	70.80		ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---		---	---	4.0	---	---	SAL
MW-2		08/19/1991	87.91		17.97	69.94		ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---		---	---	---	---	---	SEQ
MW-2		11/13/1991	87.91		16.76	71.15		38	---	0.32	ND<0.3	ND<0.3	ND<0.3	---		---	---	---	---	---	SEQ
MW-2		02/24/1992	87.91		15.07	72.84		ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.58	---		---	---	16	---	---	SEQ
MW-2		05/19/1992	87.91		14.7	73.21		ND<50	---	0.55	ND<0.5	ND<0.5	ND<0.5	---		---	---	---	---	---	SEQ
MW-2		07/22/1992	87.91		15.6	72.31		90	---	1.3	0.6	0.9	1.9	---		---	---	---	---	---	ANA
MW-2		08/14/1992	87.91		15.88	72.03		---	---	---	---	---	---	---		---	---	---	---	---	---
MW-2		11/11/1992	87.91		16.19	71.72		52	---	2.8	ND<0.5	ND<0.5	0.9	---		---	---	---	---	---	ANA
QC-1	(c)	11/11/1992	---		---	---		65	---	3.2	ND<0.5	ND<0.5	1.0	---		---	---	---	---	---	ANA
MW-2		06/07/1993	87.91		14.42	73.49		1200	---	14	2.8	1.9	1.7	---		---	---	---	---	---	PACE
MW-2		12/02/1993	87.91		14.94	72.97		790	---	3.4	0.5	10	ND<0.5	3700	(d)	---	---	---	---	---	PACE
QC-1	(c)	12/02/1993	---		---	---		2100	---	32	3.8	2.2	17	3700	(d)	---	2.3	---	---	---	PACE
MW-2		06/22/1994	87.91		14.25	73.66		110	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	120	(d)	---	---	---	---	3.9	PACE
MW-2		01/10/1995	87.91		13.64	74.27		ND<50	---	ND<0.5	ND<0.5	0.6	1	---		---	---	---	---	4.3	ATI
MW-2		06/21/1995	87.91		11.66	76.25		4700	---	ND<10	ND<10	ND<10	ND<20	---		---	---	---	---	7.8	ATI
MW-2		12/27/1995	87.91		13.11	74.80		6100	---	ND<25	ND<25	ND<25	ND<50	20000		---	---	---	---	6.7	ATI
QC-1	(c)	12/27/1995	---		---	---		6300	---	ND<25	ND<25	ND<25	ND<50	19000		---	---	---	---	---	ATI
MW-2		06/13/1996	87.91		10.86	77.05		8300	---	ND<2.5	ND<2.5	ND<2.5	ND<2.5	13000		---	---	---	---	6.5	SPL
QC-1	(c)	06/13/1996	---		---	---		8700	---	ND<5	ND<5	ND<5	ND<5	13000		---	---	---	---	---	SPL
MW-2		12/04/1996	87.91		13.03	74.88		5900	---	ND<2.5	ND<5	ND<5	ND<5	11000		---	---	---	---	6.3	SPL
QC-1	(c)	12/04/1996	---		---	---		5900	---	ND<2.5	ND<5	ND<5	ND<5	11000		---	---	---	---	---	SPL
MW-2		06/10/1997	87.91		10.04	77.87		ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		---	---	---	---	5.8	SPL
MW-2		12/12/1997	87.91		12.44	75.47		ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		---	---	---	---	5.7	SPL
MW-2		06/18/1998	87.91		8.89	79.02		50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		---	---	---	---	5.3	SPL
QC-1	(c)	06/18/1998	---		---	---		ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		---	---	---	---	---	SPL
MW-2		03/09/1999	87.91		10.20	77.71		15000	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	23000		---	---	---	---	---	SPL
MW-2		09/28/1999	87.91		11.81	76.10		36000	---	ND<5.0	12	7.0	26	35000		---	ND<5.0	7.7	ND<5.0	---	SPL
MW-2		10/14/1999	87.91		10.27	77.64		---	100	---	---	---	---	---		---	---	---	---	---	SPL
MW-2		03/27/2000	87.91		9.98	77.93		1300	---	ND<0.5	ND<0.5	0.51	ND<0.5	5800		---	---	ND<100	---	---	PACE
MW-2		09/28/2000	87.91		11.40	76.51		1600	---	1.8	1.7	0.54	2.2	15000		---	---	---	---	---	PACE
MW-2		03/08/2001	87.91		11.16	76.75		20000	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	29100		---	---	---	---	---	PACE
MW-2		09/21/2001	87.91		11.65	76.26		5000	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	6110		---	---	---	---	---	PACE

Table 1
Groundwater Elevation and Analytical Data
BP Oil Site No. 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-2	02/28/2002	87.91	9.86	78.05	3200	---	35.1	ND<0.5	ND<0.5	ND<1.0	4620	---	---	---	---	---	PACE
MW-2	**9/6/02***	**87.91**	**12.32**	**75.59**	**1900**	---	**ND<10**	**ND<10**	**ND<10**	**ND<10**	**15000**	---	---	---	---	---	**SEQ**

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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)	HVOCs (ug/l)	DO (ppm)	LAB
MW-3	11/04/1989	87.02	15.4	71.62	ND<500	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-3	11/11/1989	87.02	14.1	72.92	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	04/03/1990	87.02	13.90	73.12	ND<100	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-3	07/30/1990	87.02	13.77	73.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ND<5000	---	---	---	---	ANA
MW-3	11/20/1990	87.02	14.67	72.35	ND<50	---	0.3	0.8	0.4	1.5	---	---	---	---	---	---	SAL
MW-3	03/01/1991	87.02	15.22	71.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	---	ND	---	---	SAL
MW-3	08/19/1991	87.02	13.15	73.87	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-3	11/13/1991	87.02	15.66	71.36	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-3	02/24/1992	87.02	15.01	72.01	ND<50	---	0.65	1.4	0.66	4.4	---	---	---	ND	---	---	SEQ
MW-3	05/19/1992	87.02	15.52	71.50	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SEQ
MW-3	07/22/1992	87.02	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
MW-3	08/14/1992	87.02	13.57	73.45	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	11/11/1992	87.02	14.13	72.89	ND<50	---	ND<0.5	0.7	ND<0.5	1.3	---	---	---	---	---	---	ANA
MW-3	06/07/1993	87.02	12.13	74.89	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
MW-3	12/02/1993	87.02	13.29	73.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
MW-3	06/22/1994	87.02	12.78	74.24	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	2.9	PACE
MW-3	01/10/1995	87.02	12.01	75.01	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	1	---	3.8	ATI
MW-3	06/21/1995	87.02	11.57	75.45	ND<50	---	D<0.5	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	7.4	ATI
MW-3	12/27/1995	87.02	13.47	73.55	ND<50	---	D<0.5	ND<0.50	ND<0.50	ND<1.0	5.7	---	---	---	---	7.3	ATI
MW-3	06/13/1996	87.02	11.22	75.80	60	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	---	---	6.8	SPL
MW-3	12/04/1996	87.02	13.28	73.74	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	---	---	6.7	SPL
MW-3	06/10/1997	87.02	10.22	76.80	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	6.1	SPL
MW-3	12/12/1997	87.02	12.61	74.41	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.6	SPL
QC-1 (c)	12/12/1997	---	---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	SPL
MW-3	06/18/1998	87.02	9.07	77.95	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.3	SPL
MW-3	06/18/1998	87.02	12.80	74.22	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	09/28/1999	87.02	13.76	73.26	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	03/27/2000	87.02	13.77	73.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	---	---	---	---	---	PACE
MW-3	09/28/2000	87.02	11.28	75.74	ND<50	---	ND<0.5	7.4	ND<0.5	1.3	2.0	---	---	---	---	---	PACE
MW-3	03/08/2001	87.02	11.75	75.27	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	60.4	---	---	---	---	---	PACE
MW-3	09/21/2001	87.02	11.33	75.69	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	8.18	---	---	---	---	---	PACE
MW-3	02/28/2002	87.02	10.86	76.16	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1.0	25.5	---	---	---	---	---	PACE
MW-3	**9/6/02***	**87.02**	**12.73**	**74.29**	**ND<50**	---	**1.2**	**ND<0.5**	**ND<0.5**	**1.0**	**16**	---	---	---	---	---	**SEQ**

Table 1
Groundwater Elevation and Analytical Data
BP Oil Site No. 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)	HVOCs (ug/l)	DO (ppm)	LAB
QC-2 (g	11/11/1992	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
QC-2 (g	06/07/1993	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g	12/02/1993	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g	06/22/1994	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g	01/10/1995	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	---	---	ATI
QC-2 (g	06/21/1995	---	---	---	ND<50	---	D<0.5	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	---	ATI
QC-2 (g	12/27/1995	---	---	---	ND<50	---	D<0.5	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	---	---	---	ATI
QC-2 (g	06/13/1996	---	---	---	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 No. 11102
100 MacArthur Boulevard
Oakland, CA

ADDITIONAL ANALYSES

Well ID	DATE OF SAMPLING/ MONITORING	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	1,2-DBA (ug/l)	LAB
MW-1	03/27/2000	26000	ND<500	ND<500	ND<500	ND<500	PACE
MW-2	03/27/2000	6000	ND<100	ND<100	190	ND<100	PACE

Table 1
Groundwater Elevation and Analytical Data
BP Oil Site No. 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

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
TAME	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.

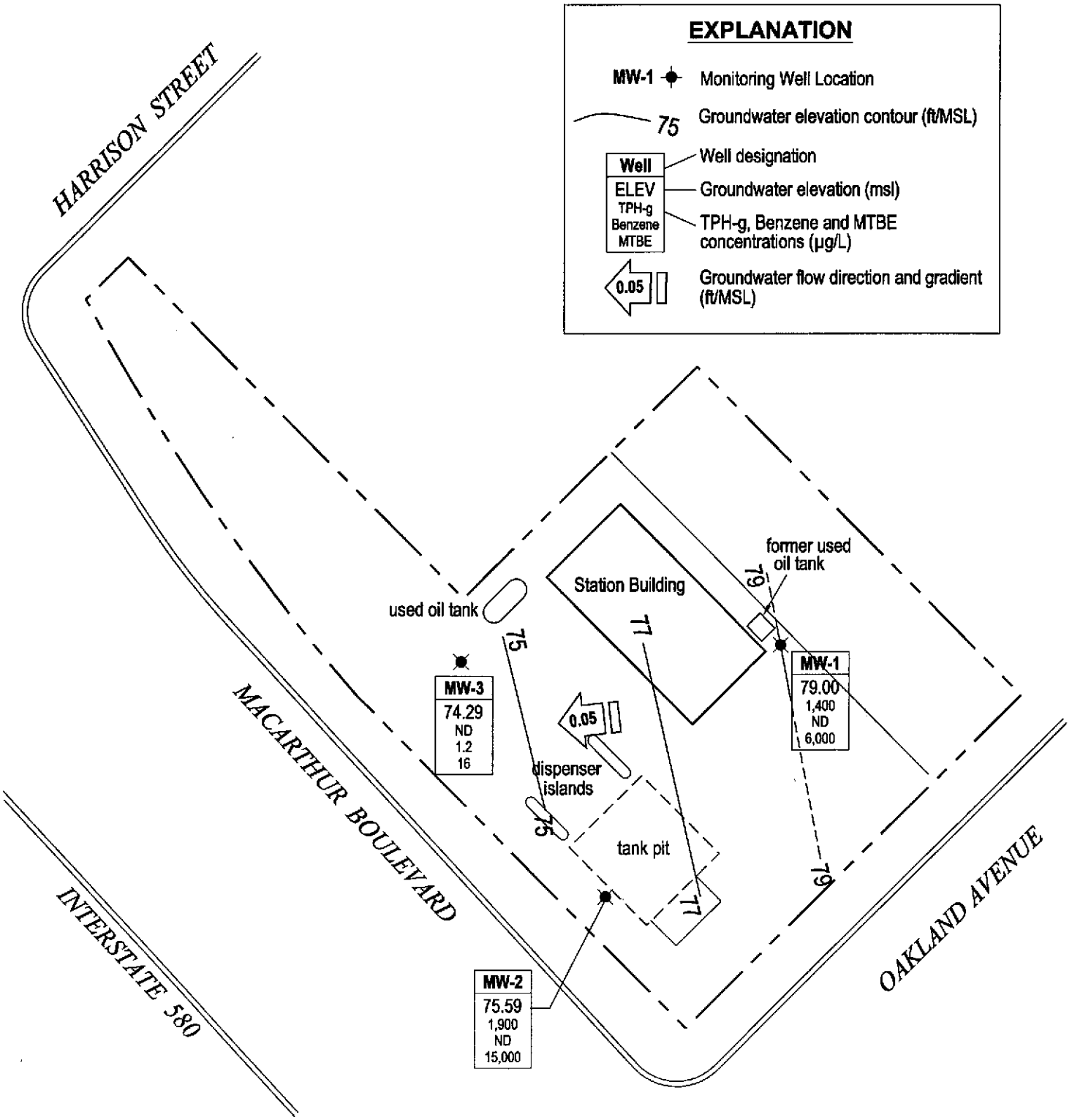
(d) A copy of the documentation for this data is included in Appendix C of Alisto report 10-076-06-002.

(e) Tetrachloroethene.

(f) Trans-1,2-Dichloroethene

(g) Travel blank.

* During the second quarter of 2002, URS Corporation assumed groudnwater monitoring activities for BP



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

URS	Project No. 38466025 Former BP Service Station #11102 100 MacArthur Boulevard Oakland, California	GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP Third Quarter 2002 (September 6, 2002)	FIGURE 1

X:\x_env_waste\BP GEMSites\RMH Sites\BP Heritage\111102\Reports\Monitoring\Qtr 3, 2002\1_GWEC-AS_9-6.dwg

Concentration and Water Level Trends
Well MW-1

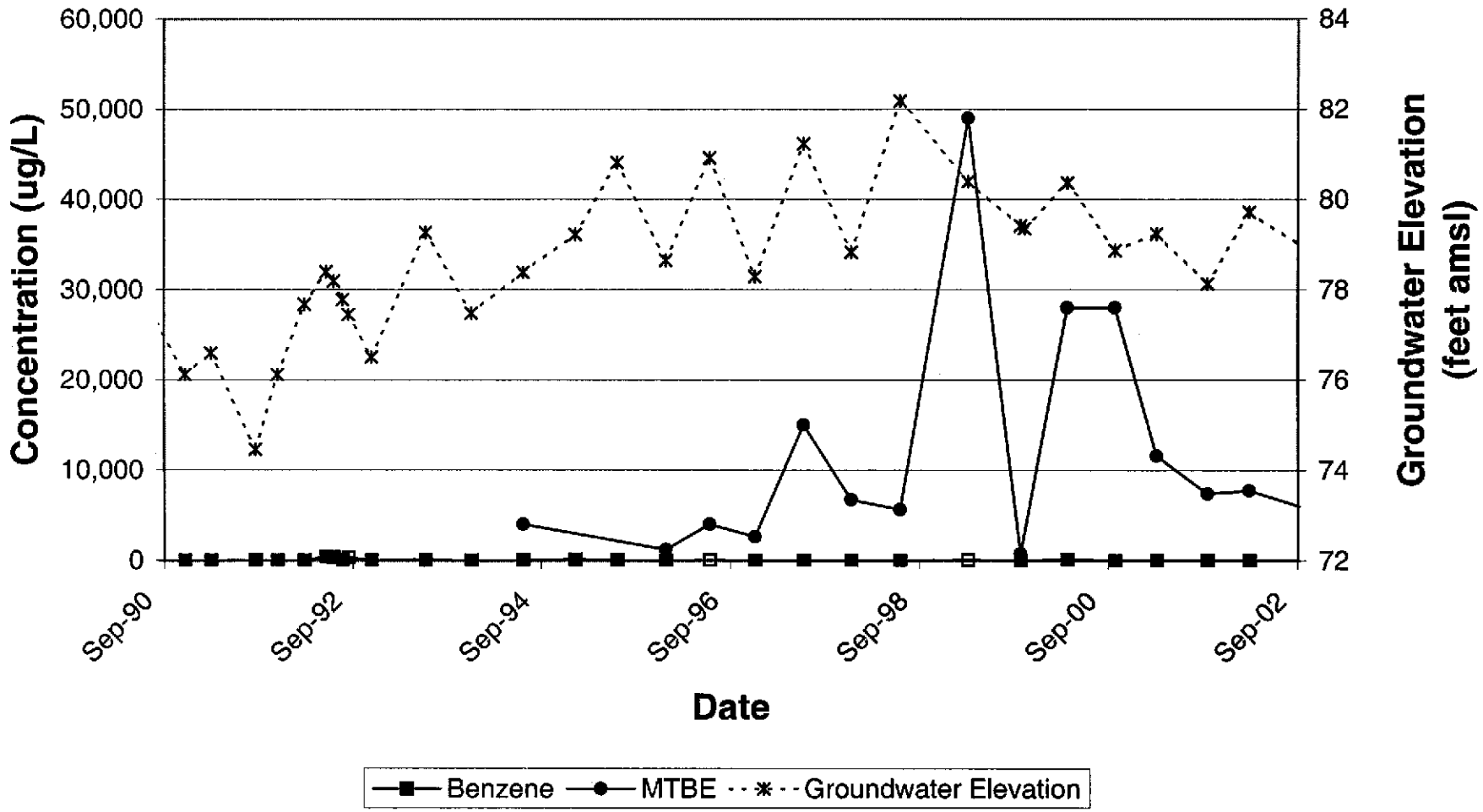


Chart 1

ATTACHMENT A

FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

Sampling Procedures

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

WELL GAUGING DATA

Project # 020906-MN2 Date 9/6/02 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 TOS	
3	MW-1	4					11.20	32.01		
2	MW-2	4					12.32	32.43		
1	MW-3	4					12.73	32.55		

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 090602-MN2	Station # 11102
Sampler: Mike N.	Date: 9/6/02
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 32.01	Depth to Water: 11.20
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

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

Purge Method:
Bailer
Disposable Bailer
Middleburg
X Electric Submersible
Extraction Pump
Other: ____

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

Top of Screen: ____

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

1 Case Volume (Gals.)	X	Specified Volumes	=	Calculated Volume
13.5	X	3	=	40.5 Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1430	70.3	6.6	795	13.5	Slightly cloudy, Sweet HC odor
1432	69.5	6.7	684	27.0	" "
1434	68.7	6.6	727	40.5	Clear, "

Did well dewater? Yes (No)		Gallons actually evacuated: 40.5	
Sampling Time: 1440		Sampling Date: 9/6/02	
Sample I.D.: MW-1		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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 090602-MN2	Station # 11102
Sampler: Mike N.	Date: 9/6/02
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 32.43	Depth to Water: 12.32
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

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

Purge Method: Bailer / Disposable Bailer / Middleburg / X Electric Submersible / Extraction Pump / Other: ____

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

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

13.0 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 39.0 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1412	71.9	7.2	839	13.0	Slightly cloudy (Sweet HC odor)
1414	70.8	6.8	712	26.0	" "
1416	70.9	6.7	732	39.0	" "

Did well dewater? Yes (No) Gallons actually evacuated: 39.0

Sampling Time: 1420 Sampling Date: 9/6/02

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

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 090602-MN2	Station # 11102
Sampler: Mike N.	Date: 9/6/02
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 32.55	Depth to Water: 12.73
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

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

Purge Method:
Bailer
Disposable Bailer
Middleburg
X Electric Submersible
Extraction Pump
Other: ___

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

Top of Screen: ___

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

13.0 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 39.0 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (uS))	Gals. Removed	Observations
1359	76.4	8.0	744	13.0	clear
1401	72.0	7.4	666	26.0	"
1403	71.4	7.2	667	39.0	"

Did well dewater? Yes (No) Gallons actually evacuated: 39.0

Sampling Time: 1408 Sampling Date: 9/6/02

Sample I.D.: MW-3 Laboratory: Pace (Sequoia) Other ___

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

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

bp

Chain of Custody Record

Project Name
BP BU/GEM CO Portfolio:
BP Laboratory Contract Number:
Requested Due Date (mm/dd/yy)

Date: 7/6/02

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

nd To:	BP/GEM Facility No.:	Consultant/Contractor: URS
b Name: SEQUOIA	BP/GEM Facility Address: 100 MCARTHUR BLVD., OAKLAND, CA	Address: 500 12th St., Ste. 200
b 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
	California Global ID #: T0600100908	Consultant/Contractor Project No.:
b PM: Latonya Pelt	BP/GEM PM Contact: Scott Hooton	Consultant Tele/Fax: 510-874-3101 / 510-874-3268
le/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Robert Horwath
port Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or (BP/GEM) (Circle one)
/GEM Account No.: 400-6-21124	Tele/Fax:	BP/GEM Work Release No:
b Bottle Order No:		

m No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8015 / 8021)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-1	1440		X								X	X		X			
2	MW-2	1420		X								X	X		X			
3	MW-3	1408		X								X	X		X			
4																		
5																		
6																		
7																		
8																		
9																		
10																		

npler's Name: Mahmud Nimoka	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date / Time
npler's Company: Blaine Tech	[illegible] / BTS				
pment Date:					
pment Method:					
pment Tracking No:					

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

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

WELLHEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client BP Inspection Date 9/6/02

Site Address 100 Macarthur Blvd., Oakland Inspected By MDM

1. Lid on box?	6. Casing secure?	12. Water standing in wellbox?	15. Well cap functional?
2. Lid broken?	7. Casing cut level?	12a. Standing above the top of casing?	16. Can cap be pulled loose?
3. Lid bolts missing?	8. Debris in wellbox?	12b. Standing below the top of casing?	17. Can cap seal out water?
4. Lid bolts stripped?	9. Wellbox is too far above grade?	12c. Water even with the top of casing?	18. Padlock present?
5. Lid seal intact?	10. Wellbox is too far below grade?	13. Well cap present?	19. Padlock functional?
	11. Wellbox is crushed/damaged?	14. Well cap found secure?	

☐ Check box if no deficiencies were found. Note below deficiencies you were able to correct.

Well I.D.	Deficiency	Corrective Action Taken

Note below all defiencies that could not be corrected and still need to be corrected.

Well I.D.	Persisting Deficiency	BTS Office assigns or defers Correction to:	Date assigned	Date corrected
MW-2	Need s New well box - Unsecure	BTS can		
	Well Rim and lid both come off	replace wellbox		
		if requested.		

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:

11102

Station #

100 Macarthur Blvd, Oakland

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

added equip. rinse water 10

any other adjustments

TOTAL GALS. RECOVERED 130.0

loaded onto BTS vehicle # 44

BTS event #	time	date
090602-MW2	1500	9/6/02

signature

* *

REC'D AT	time	date
BTS	1605	9/6/02

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.

Sequoia Analytical

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

20 September, 2002

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

RE: BP Heritage Site #11102, Oakland, CA
Sequoia Report: MLI0240

Enclosed are the results of analyses for samples received by the laboratory on 09/09/02 10:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya K. Pelt

Latonya Pelt
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

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

URS Corporation	Project: BP Heritage Site #11102, Oakland, CA	
500 12th Street, Suite 100	Project Number: BP Heritage Site #11102, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Robert Horwath	09/20/02 09:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MLI0240-01	Water	09/06/02 14:40	09/09/02 10:35
MW-2	MLI0240-02	Water	09/06/02 14:20	09/09/02 10:35
MW-3	MLI0240-03	Water	09/06/02 14:08	09/09/02 10:35

Sequoia Analytical - Morgan Hill

Latonya K. Pelt

Latonya Pelt, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sequoia Analytical

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URS Corporation	Project: BP Heritage Site #11102, Oakland, CA	
500 12th Street, Suite 100	Project Number: BP Heritage Site #11102, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Robert Horwath	09/20/02 09:13

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MLI0240-01) Water Sampled: 09/06/02 14:40 Received: 09/09/02 10:35									
Gasoline Range Organics (C6-C10)	**1400**	500	ug/l	10	2I16002	09/16/02	09/16/02	8015Bm/8021 B	HC-19
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**6000**	50	"	20	"	"	09/18/02	"	
Surrogate: a,a,a-Trifluorotoluene		*86.9 %*	*70-130*		"	"	*09/16/02*	"	
MW-2 (MLI0240-02) Water Sampled: 09/06/02 14:20 Received: 09/09/02 10:35									
Gasoline Range Organics (C6-C10)	**1900**	1000	ug/l	20	2I16002	09/16/02	09/16/02	8015Bm/8021 B	HC-19
Benzene	ND	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	09/18/02	"	
Methyl tert-butyl ether	**15000**	120	"	50	"	"	09/16/02	"	
Surrogate: a,a,a-Trifluorotoluene		*94.6 %*	*70-130*		"	"	"	"	
MW-3 (MLI0240-03) Water Sampled: 09/06/02 14:08 Received: 09/09/02 10:35									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2I18002	09/17/02	09/18/02	8015Bm/8021 B	
Benzene	**1.2**	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	**1.0**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**16**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*70-130*		"	"	"	"	

Sequoia Analytical

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URS Corporation	Project: BP Heritage Site #11102, Oakland, CA	
500 12th Street, Suite 100	Project Number: BP Heritage Site #11102, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Robert Horwath	09/20/02 09:13

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2I16002 - EPA 5030B [P/T]										
Blank (2I16002-BLK1)				Prepared & Analyzed: 09/16/02						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*9.64*		"	*10.0*		*96.4*	*70-130*			
LCS (2I16002-BS1)				Prepared & Analyzed: 09/16/02						
Benzene	10.0	0.50	ug/l	10.0		100	70-130			
Toluene	10.1	0.50	"	10.0		101	70-130			
Ethylbenzene	9.72	0.50	"	10.0		97.2	70-130			
Xylenes (total)	30.0	0.50	"	30.0		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*70-130*			
LCS (2I16002-BS2)				Prepared & Analyzed: 09/16/02						
Gasoline Range Organics (C6-C10)	254	50	ug/l	250		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.36*		"	*10.0*		*93.6*	*70-130*			
Matrix Spike (2I16002-MS1)		**Source: MLI0170-03**		Prepared & Analyzed: 09/16/02						
Gasoline Range Organics (C6-C10)	499	50	ug/l	550	ND	90.7	60-140			
Benzene	12.4	0.50	"	6.60	ND	188	60-140			QM-07
Toluene	43.2	0.50	"	39.7	ND	109	60-140			
Ethylbenzene	10.4	0.50	"	9.20	ND	113	60-140			
Xylenes (total)	50.2	0.50	"	46.1	ND	109	60-140			
Surrogate: a,a,a-Trifluorotoluene	*12.2*		"	*10.0*		*122*	*70-130*			
Matrix Spike Dup (2I16002-MSD1)		**Source: MLI0170-03**		Prepared & Analyzed: 09/16/02						
Gasoline Range Organics (C6-C10)	480	50	ug/l	550	ND	87.3	60-140	3.88	25	
Benzene	11.2	0.50	"	6.60	ND	170	60-140	10.2	25	QM-07
Toluene	40.8	0.50	"	39.7	ND	103	60-140	5.71	25	
Ethylbenzene	9.77	0.50	"	9.20	ND	106	60-140	6.25	25	
Xylenes (total)	47.3	0.50	"	46.1	ND	103	60-140	5.95	25	
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*70-130*			

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URS Corporation	Project: BP Heritage Site #11102, Oakland, CA	
500 12th Street, Suite 100	Project Number: BP Heritage Site #11102, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Robert Horwath	09/20/02 09:13

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2I18002 - EPA 5030B [P/T]										
Blank (2I18002-BLK1)				Prepared & Analyzed: 09/18/02						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*12.5*		"	*10.0*		*125*	*70-130*			
LCS (2I18002-BS1)				Prepared & Analyzed: 09/18/02						
Benzene	10.6	0.50	ug/l	10.0		106	70-130			
Toluene	10.6	0.50	"	10.0		106	70-130			
Ethylbenzene	10.9	0.50	"	10.0		109	70-130			
Xylenes (total)	32.2	0.50	"	30.0		107	70-130			
Surrogate: a,a,a-Trifluorotoluene	*11.6*		"	*10.0*		*116*	*70-130*			
LCS (2I18002-BS2)				Prepared & Analyzed: 09/18/02						
Gasoline Range Organics (C6-C10)	239	50	ug/l	250		95.6	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.73*		"	*10.0*		*97.3*	*70-130*			
Matrix Spike (2I18002-MS1)		**Source: MLI0239-01**		Prepared & Analyzed: 09/18/02						
Gasoline Range Organics (C6-C10)	427	50	ug/l	550	ND	77.6	60-140			
Benzene	10.3	0.50	"	6.60	ND	155	60-140			QM-07
Toluene	37.3	0.50	"	39.7	ND	93.5	60-140			
Ethylbenzene	10.6	0.50	"	9.20	1.5	98.9	60-140			
Xylenes (total)	46.4	0.50	"	46.1	4.5	90.9	60-140			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*70-130*			
Matrix Spike Dup (2I18002-MSD1)		**Source: MLI0239-01**		Prepared & Analyzed: 09/18/02						
Gasoline Range Organics (C6-C10)	464	50	ug/l	550	ND	84.4	60-140	8.31	25	
Benzene	10.7	0.50	"	6.60	ND	161	60-140	3.81	25	QM-07
Toluene	39.1	0.50	"	39.7	ND	98.1	60-140	4.71	25	
Ethylbenzene	11.0	0.50	"	9.20	1.5	103	60-140	3.70	25	
Xylenes (total)	48.3	0.50	"	46.1	4.5	95.0	60-140	4.01	25	
Surrogate: a,a,a-Trifluorotoluene	*9.43*		"	*10.0*		*94.3*	*70-130*			

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URS Corporation	Project: BP Heritage Site #11102, Oakland, CA	
500 12th Street, Suite 100	Project Number: BP Heritage Site #11102, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Robert Horwath	09/20/02 09:13

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

bp

Project Name
BP BU/GEM CO Portfolio:
BP Laboratory Contract Number: ML10240
Requested Due Date (mm/dd/yy)

Date: 9/6/02

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
	California Global ID #: T0600100908	Consultant/Contractor Project No.:
Lab PM: Latonya Pelt	BP/GEM PM Contact: Scott Hooton	Consultant Tele/Fax: 510-874-3101 / 510-874-3268
Tele/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Robert Horwath
Report Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or BP/GEM (Circle one)
BP/GEM Account No.: 400-6-21124	Tele/Fax:	BP/GEM Work Release No:

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Requested Analysis: TPH-G / BTEX (8015 / 8021)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE, DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-1	1440		X			01					X	X	X				
2	MW-2	1420		X			02					X	X	X				
3	MW-3	1409		X			03					X	X	X				
4																		
5																		
6																		
7																		
8																		
9																		
10																		

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Mukund Nimbekar						
Sampler's Company: Blaine Tech		9/6/02	1002		9/6/02	1002
Shipment Date:		9/6/02	1035		9/6/02	1035
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 X Cooler Temperature on Receipt ___ °F/C Trip Blank Yes ___ No X

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

BP COC Rev. 3 2/5/02

ATTACHMENT C

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

10/04/02

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:	MLI0240
Global ID:	T0600100908
Lab Report Number:	MLI0240092020020913

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run Sub
MLI024009202002 0913	MW-1	MLI024001	W	CS	SW8020F	SW5030B	09/06/02	09/16/02	09/16/02	2I16002	1
MLI024009202002 0913	MW-1	MLI024001	W	CS	SW8020F	SW5030B	09/06/02	09/16/02	09/18/02	2I16002	2
MLI024009202002 0913	MW-2	MLI024002	W	CS	SW8020F	SW5030B	09/06/02	09/16/02	09/16/02	2I16002	1
MLI024009202002 0913	MW-2	MLI024002	W	CS	SW8020F	SW5030B	09/06/02	09/16/02	09/18/02	2I16002	2
MLI024009202002 0913	MW-3	MLI024003	W	CS	SW8020F	SW5030B	09/06/02	09/17/02	09/18/02	2I18002	1
		MLI017003	W	NC	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		MLI023901	W	NC	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1
		2I16002BS1	WQ	BS1	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		2I16002BS2	WQ	BS2	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		2I16002BLK1	WQ	LB1	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		2I16002MS1	W	MS1	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		2I16002MSD1	W	SD1	SW8020F	SW5030B	/ /	09/16/02	09/16/02	2I16002	1
		2I18002BS1	WQ	BS1	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1
		2I18002BS2	WQ	BS2	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1
		2I18002BLK1	WQ	LB1	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1
		2I18002MS1	W	MS1	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1
		2I18002MSD1	W	SD1	SW8020F	SW5030B	/ /	09/18/02	09/18/02	2I18002	1

EDFSAMP: Error Summary Log

10/04/02

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

EDFTEST: Error Summary Log

10/04/02

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

EDFRES: Error Summary Log

10/04/02

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	2I16002MS1	MS1	W	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	2I16002MS1	MS1	W	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	2I16002MSD1	SD1	W	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	2I16002MSD1	SD1	W	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	2I18002MS1	MS1	W	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	2I18002MS1	MS1	W	SW8020F	PR	09/18/02	1	GROC6C10
Warning: extra parameter	2I18002MSD1	SD1	W	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	2I18002MSD1	SD1	W	SW8020F	PR	09/18/02	1	GROC6C10
Warning: extra parameter	MLI017003	NC	W	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	MLI017003	NC	W	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	MLI023901	NC	W	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	MLI023901	NC	W	SW8020F	PR	09/18/02	1	GROC6C10
Warning: extra parameter	MLI024001	CS	W	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	MLI024001	CS	W	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	MLI024001	CS	W	SW8020F	PR	09/18/02	2	MTBE
Warning: extra parameter	MLI024002	CS	W	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	MLI024002	CS	W	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	MLI024002	CS	W	SW8020F	PR	09/16/02	1	MTBE
Warning: extra parameter	MLI024003	CS	W	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	MLI024003	CS	W	SW8020F	PR	09/18/02	1	GROC6C10
Warning: extra parameter	MLI024003	CS	W	SW8020F	PR	09/18/02	1	MTBE
Warning: extra parameter	2I16002BLK1	LB1	WQ	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	2I16002BLK1	LB1	WQ	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	2I16002BLK1	LB1	WQ	SW8020F	PR	09/16/02	1	MTBE
Warning: extra parameter	2I16002BS1	BS1	WQ	SW8020F	PR	09/16/02	1	AAATFBZME
Warning: extra parameter	2I16002BS2	BS2	WQ	SW8020F	PR	09/16/02	1	AAATFBZME

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	2I16002BS2	BS2	WQ	SW8020F	PR	09/16/02	1	GROC6C10
Warning: extra parameter	2I18002BLK1	LB1	WQ	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	2I18002BLK1	LB1	WQ	SW8020F	PR	09/18/02	1	GROC6C10
Warning: extra parameter	2I18002BLK1	LB1	WQ	SW8020F	PR	09/18/02	1	MTBE
Warning: extra parameter	2I18002BS1	BS1	WQ	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	2I18002BS2	BS2	WQ	SW8020F	PR	09/18/02	1	AAATFBZME
Warning: extra parameter	2I18002BS2	BS2	WQ	SW8020F	PR	09/18/02	1	GROC6C10

EDFQC: Error Summary Log

10/04/02

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

EDFCL: Error Summary Log

10/04/02

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

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Facility Name: BP
Submittal Title: Third Quarter 2002 Monitoring Report
Submittal Type: GW Monitoring Report

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Confirmation Number:	**6386662125**

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