

C A M B R I A

MAY 03 2002

April 30, 2002

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

Re: **First Quarter 2002 Groundwater Monitoring Report**  
BP Oil Site No. 11102  
100 MacArthur Boulevard  
Oakland, California  
Cambria Project No. 852-1511



Dear Mr. Hwang:

On behalf of BP Oil Company, Cambria Environmental Technology, Inc. has prepared this *First Quarter 2002 Groundwater Monitoring Report* for the above referenced site. This report summarizes chemical data collected since 1989 including analytical results associated with samples recently collected on February 28, 2002.

Water level and analytical results for this monitoring event are summarized in Figure 1 and on Table 1 of Appendix A. Based on the contoured elevations, water generally flowed toward the west. During this monitoring event, wells MW-1 and MW-2 reported more than 10 micrograms per liter ( $\mu\text{g/L}$ ) of benzene, with a maximum concentration of 60.8  $\mu\text{g/L}$  in well MW-1. Wells MW-1 and MW-2 reported more than 1,000  $\mu\text{g/L}$  of methyl tert butyl ether (MTBE), with a maximum concentration of 7,750  $\mu\text{g/L}$  in well MW-1.

Benzene and MTBE concentrations and water level trends for well MW-1 are shown in Figure 2. Analytical results below method reporting limits are plotted at one half the detection limit (open symbol).

Oakland, CA  
San Ramon, CA  
Sonoma, CA

**Cambria  
Environmental  
Technology, Inc.**

1144 65th Street  
Suite B  
Oakland, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

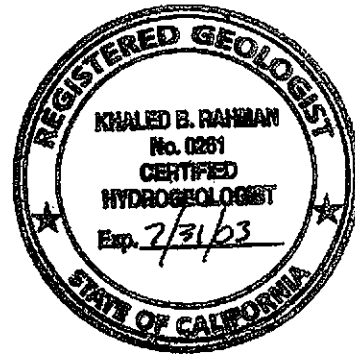
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We appreciate the opportunity to work with you on this project. If you have any questions or comments, please don't hesitate to call me at (510) 450-1985.

Sincerely,  
**Cambria Environmental Technology, Inc.**



Khaled Rahman, R.G., C.H.G.  
Associate Geologist



**Attachments**

- Figure 1 – Groundwater Elevation Contour Map
- Figure 2 – Concentration and Water Level Trends – Well MW-1

Appendix A – Blaine Tech Services, Inc., 1<sup>st</sup> Quarter 2002 Monitoring at 11102

- cc:
- Scott Hooton, BP Oil Company, Environmental Resources Management, 295 SW 41<sup>st</sup> Street, Building 13, Suite N, Renton, Washington 98055-4931 (1 original)
  - Dave Camille, Tosco Marketing Company, 2000 Crow Canyon Place, Suite 400, San Ramon, California 95118-3686 (1 copy)
  - Chris Jimmerson, Delta Environmental Consultants, 3164 Gold Camp Drive, Suite 200, Rancho Cordova, California 95670-6021 (1 copy)

CAMBRIA



FIGURES



**EXPLANATION**

- MW-1 Monitoring Well Location
- Groundwater flow direction. Approximate horizontal hydraulic gradient = 0.038
- Groundwater elevation contour, in feet above mean sea level (msl), dashed where inferred

<b>Well</b>	Well designation
<b>ELEV</b>	Groundwater elevation (msl)
<b>Benzene</b>	Benzene and MTBE concentrations are in micrograms per liter (µg/L)
<b>MTBE</b>	

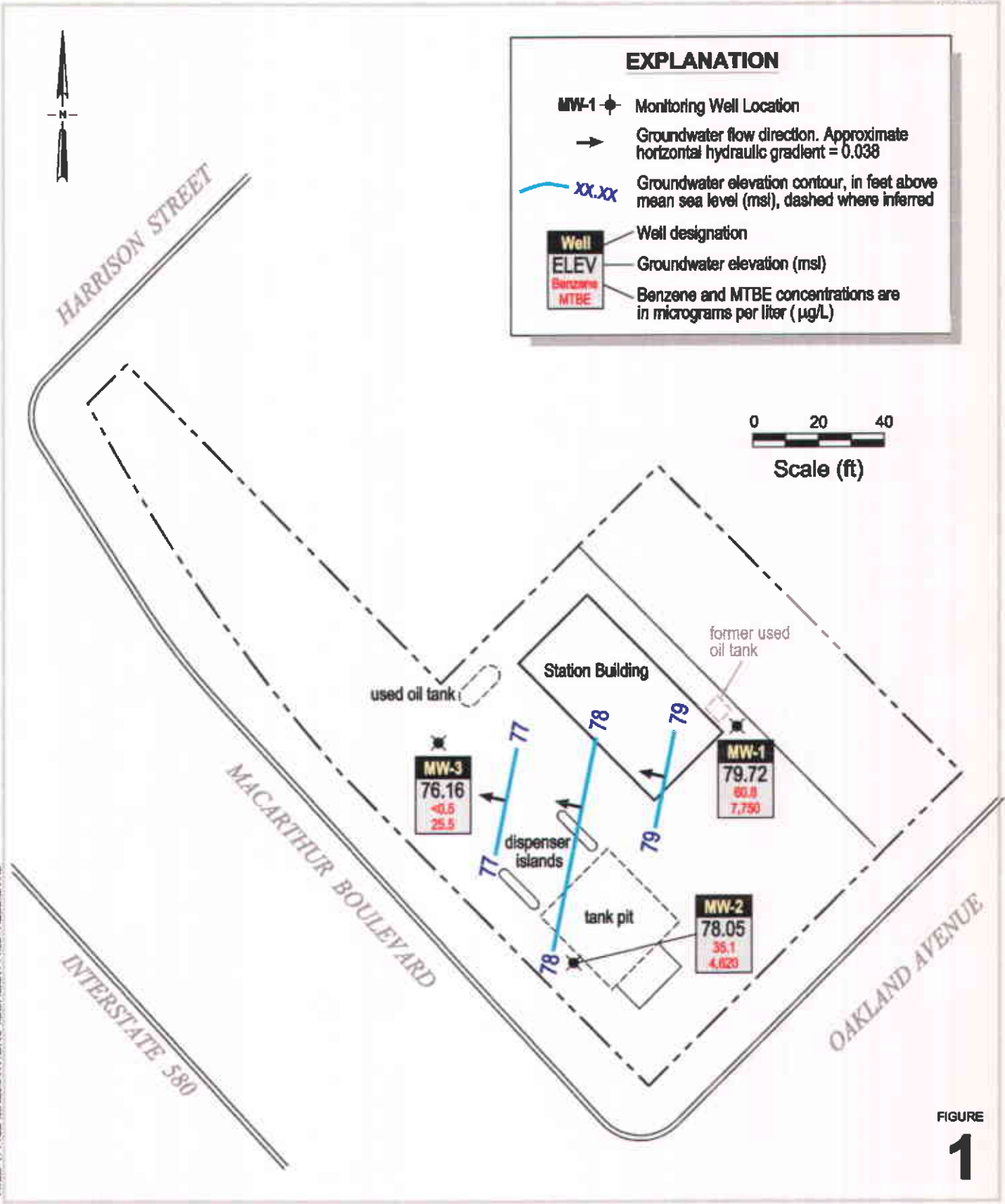
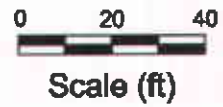


FIGURE 1

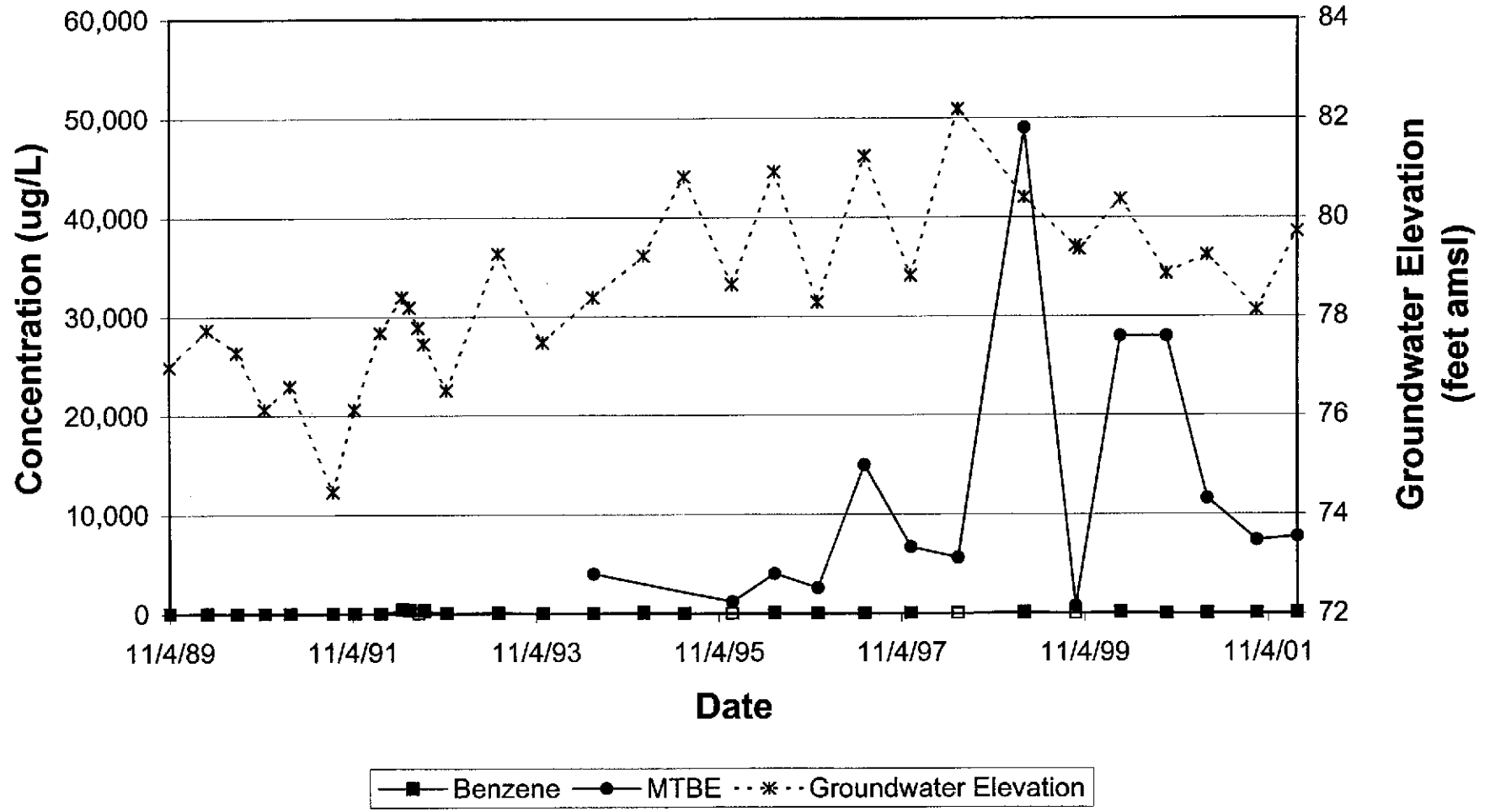
**BP Oil Service Station No. 11102**  
 100 MacArthur Boulevard  
 Oakland, California



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**Groundwater Elevation Contour Map**  
 February 28, 2002

# Concentration and Water Level Trends Well MW-1



BP Oil Site No. 11102  
100 MacArthur Boulevard  
Oakland, California

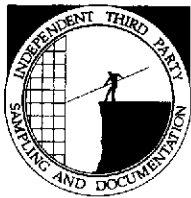
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## APPENDIX A

Blaine Tech Services, Inc.  
1<sup>st</sup> Quarter 2002 Monitoring

**BLAINE**  
TECH SERVICES, INC.



1680 ROGERS AVENUE  
SAN JOSE, CA 95112-1105  
(408) 573-7771 FAX  
(408) 573-0555 PHONE  
CONTRACTOR'S LICENSE #746684  
www.blainetech.com

March 19, 2002

Scott Hooton  
BP Oil Company  
295 SW 41st Street, Bldg. 13, Suite N  
Renton, WA 98055-4931

### **1st Quarter 2002 Monitoring at 11102**

First Quarter 2002 Groundwater Monitoring  
BP Service Station Number 11102  
100 MacArthur Blvd.  
Oakland, CA

Monitoring Performed on February 28, 2002

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#### **Groundwater Sampling Report 020228-SO-2**

This report covers the routine monitoring of groundwater wells at this BP facility. Blaine Tech Services, Inc.'s work at the site includes inspection, gauging, evacuation, purgewater containment, sample collection and sample handling in accordance with standard procedures that conform to Regional Water Quality Control Board requirements.

Routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, the appropriate calculated purge volume, elapsed evacuation time, total volume of water removed, and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater is, likewise, collected and transported to Seaport Petroleum Corporation for disposal.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**.

At a minimum, Blaine Tech Services, Inc. field personnel are certified upon completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,



Francis Thie  
Vice President

FPT/mb

Cc: Khaled B. Rahman  
Cambria Environmental Technology, Inc.  
6262 Hollis Street  
Emeryville, CA 94608

attachments: Cumulative Table of Well Data and Analytical Results  
Analytical Appendix  
Field Data Sheets



# **Table of Well Data and Analytical Results**

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	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
MW-1	11/11/89	90.20	13.32	76.88	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	04/03/90	90.20	12.46	77.74	820	--	64	1.9	23	34	--	--	--	--	--	--	ANA
MW-1	07/30/90	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	11/20/90	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	03/01/91	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	08/19/91	90.20	15.74	74.46	370	ND<50	35	0.73	6.4	5.6	--	ND<5000	--	1.4	--	--	SEQ
MW-1	11/13/91	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	02/24/92	90.20	12.52	77.68	140	100	3.9	0.66	1.2	3.8	--	ND<5000	--	1.7	--	--	SEQ
MW-1	05/19/92	90.20	11.8	78.40	4200	910	440	21	250	37	--	ND<5000	--	ND	--	--	SEQ
MW-1	06/17/92	90.20	12.01	78.19	4000	560	350	14	150	17	--	ND<5000	--	ND	--	--	SEQ
MW-1	07/22/92	90.20	12.42	77.78	4000	--	ND<5.0	19	210	61	--	--	--	--	--	--	ANA
MW-1	08/14/92	90.20	12.75	77.45	2400	1700	330	20	150	47	--	ND<5000	--	ND<2.5	--	--	SEQ
MW-1	11/11/92	90.20	13.69	76.51	260	92	30	3.4	7.6	6.8	--	ND<5000	--	ND<2.5	--	--	ANA
MW-1	06/07/93	90.20	10.93	79.27	3400	440	98	11	21	7.6	--	--	6.2	0.9	--	--	PACE
QC-1 (c)	06/07/93	--	--	--	3700	--	120	12	26	9.5	--	--	--	--	--	--	PACE
MW-1	12/02/93	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	06/22/94	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)	06/22/94	--	--	--	2100	--	30	3.2	2.0	15	2000	(d)	--	--	--	--	PACE
MW-1	01/10/95	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)	01/10/95	--	--	--	ND<500	--	120	ND<5	5	ND<10	--	--	--	--	--	--	ATI
MW-1	06/21/95	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)	06/21/95	--	--	--	3600	--	ND<13	ND<5.0	ND<5.0	ND<10	--	--	--	--	--	--	ATI
MW-1	12/27/95	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	06/13/96	90.20	9.28	80.92	3200	920	51	ND<12	ND<12	ND<12	4000	2000	--	--	--	6.3	SPL
MW-1	12/04/96	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	06/10/97	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)	06/10/97	--	--	--	7700	--	14	ND<25	ND<25	ND<25	13000	--	--	--	--	--	SPL
MW-1	12/12/97	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	06/18/98	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	03/09/99	90.20	9.80	80.40	32000	--	100	16	72	110	49000	--	--	--	--	--	SPL
MW-1	09/28/99	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	10/14/99	90.20	10.84	79.36	--	660	--	--	--	--	--	--	--	--	--	--	SPL
MW-1	03/27/00	90.20	9.83	80.37	4300	--	160	19	37	43	28000	--	--	ND<500	--	--	PACE
MW-1	09/28/00	90.20	11.33	78.87	2700	--	10	2.6	1.1	2.7	28000	--	--	--	--	--	PACE
MW-1	03/08/01	90.20	10.96	79.24	8200	--	23.5	6.09	5.23	8.97	11600	--	--	--	--	--	PACE
MW-1	09/21/01	90.20	12.07	78.13	6000	--	37.9	ND<0.5	ND<0.5	ND<1.5	7370	--	--	--	--	--	PACE
MW-1	02/28/02	90.20	10.48	79.72	6400	--	60.8	ND<5.0	6.43	ND<10	7750	--	--	--	--	--	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	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	11/04/89	87.91	15.84	72.07	ND<500	---	6.5	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-2	11/11/89	87.91	14.75	73.16	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	04/03/90	87.91	15.25	72.66	ND<500	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-2	07/30/90	87.91	15.59	72.32	61	---	6.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-2	11/20/90	87.91	17.81	70.10	ND<50	---	0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-2	03/01/91	87.91	17.11	70.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	---	4.0	---	---	SAL
MW-2	08/19/91	87.91	17.97	69.94	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-2	11/13/91	87.91	16.76	71.15	38	---	0.32	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-2	02/24/92	87.91	15.07	72.84	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.58	---	---	---	16	---	---	SEQ
MW-2	05/19/92	87.91	14.7	73.21	ND<50	---	0.55	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SEQ
MW-2	07/22/92	87.91	15.6	72.31	90	---	1.3	0.6	0.9	1.9	---	---	---	---	---	---	ANA
MW-2	08/14/92	87.91	15.88	72.03	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	11/11/92	87.91	16.19	71.72	52	---	2.8	ND<0.5	ND<0.5	0.9	---	---	---	---	---	---	ANA
QC-1 (c)	11/11/92	---	---	---	65	---	3.2	ND<0.5	ND<0.5	1.0	---	---	---	---	---	---	ANA
MW-2	06/07/93	87.91	14.42	73.49	1200	---	14	2.8	1.9	1.7	---	---	---	---	---	---	PACE
MW-2	12/02/93	87.91	14.94	72.97	790	---	3.4	0.5	10	ND<0.5	3700 (d)	---	---	---	---	---	PACE
QC-1 (c)	12/02/93	---	---	---	2100	---	32	3.8	2.2	17	3700 (d)	---	2.3	---	---	---	PACE
MW-2	06/22/94	87.91	14.25	73.66	110	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	120 (d)	---	---	---	---	---	3.9
MW-2	01/10/95	87.91	13.64	74.27	ND<50	---	ND<0.5	ND<0.5	0.6	1	---	---	---	---	---	---	4.3
MW-2	06/21/95	87.91	11.66	76.25	4700	---	ND<10	ND<10	ND<10	ND<20	---	---	---	---	---	---	7.8
MW-2	12/27/95	87.91	13.11	74.80	6100	---	ND<25	ND<25	ND<25	ND<50	20000	---	---	---	---	---	6.7
QC-1 (c)	12/27/95	---	---	---	6300	---	ND<25	ND<25	ND<25	ND<50	19000	---	---	---	---	---	ATI
MW-2	06/13/96	87.91	10.86	77.05	8300	---	ND<2.5	ND<2.5	ND<2.5	ND<2.5	13000	---	---	---	---	---	6.5
QC-1 (c)	06/13/96	---	---	---	8700	---	ND<5	ND<5	ND<5	ND<5	13000	---	---	---	---	---	SPL
MW-2	12/04/96	87.91	13.03	74.88	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	---	6.3
QC-1 (c)	12/04/96	---	---	---	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	---	SPL
MW-2	06/10/97	87.91	10.04	77.87	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	5.8
MW-2	12/12/97	87.91	12.44	75.47	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	5.7
MW-2	06/18/98	87.91	8.89	79.02	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	5.3
QC-1 (c)	06/18/98	---	---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	SPL
MW-2	03/09/99	87.91	10.20	77.71	15000	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	23000	---	---	---	---	---	SPL
MW-2	09/28/99	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	10/14/99	87.91	10.27	77.64	---	100	---	---	---	---	---	---	---	---	---	---	SPL
MW-2	03/27/00	87.91	9.98	77.93	1300	---	ND<0.5	ND<0.5	0.51	ND<0.5	5800	---	---	ND<100	---	---	PACE
MW-2	09/28/00	87.91	11.40	76.51	1600	---	1.8	1.7	0.54	2.2	15000	---	---	---	---	---	PACE
MW-2	03/08/01	87.91	11.16	76.75	20000	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	29100	---	---	---	---	---	PACE
MW-2	09/21/01	87.91	11.65	76.26	5000	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	6110	---	---	---	---	---	PACE
MW-2	02/28/02	87.91	9.86	78.05	3200	---	35.1	ND<0.5	ND<0.5	ND<1.0	4620	---	---	---	---	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	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-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
MW-3	11/11/89	87.02	14.1	72.92	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	04/03/90	87.02	13.90	73.12	ND<100	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	ANA
MW-3	07/30/90	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	11/20/90	87.02	14.67	72.35	ND<50	--	0.3	0.8	0.4	1.5	--	--	--	--	--	--	SAL
MW-3	03/01/91	87.02	15.22	71.80	ND<100	--	0.4	ND<0.3	ND<0.3	ND<0.3	--	--	--	ND	--	--	SAL
MW-3	08/19/91	87.02	13.15	73.87	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-3	11/13/91	87.02	15.66	71.36	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-3	02/24/92	87.02	15.01	72.01	ND<50	--	0.65	1.4	0.66	4.4	--	--	--	ND	--	--	SEQ
MW-3	05/19/92	87.02	15.52	71.50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	SEQ
MW-3	07/22/92	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	08/14/92	87.02	13.57	73.45	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/11/92	87.02	14.13	72.89	ND<50	--	ND<0.5	0.7	ND<0.5	1.3	--	--	--	--	--	--	ANA
MW-3	06/07/93	87.02	12.13	74.89	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	PACE
MW-3	12/02/93	87.02	13.29	73.73	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	PACE
MW-3	06/22/94	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	01/10/95	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	06/21/95	87.02	11.57	75.45	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	--	--	--	--	--	7.4 ATI
MW-3	12/27/95	87.02	13.47	73.55	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	5.7	--	--	--	--	--	7.3 ATI
MW-3	06/13/96	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	12/04/96	87.02	13.28	73.74	ND<50	--	ND<0.5	ND<1	ND<1	ND<1	ND<10	--	--	--	--	--	6.7 SPL
MW-3	06/10/97	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	12/12/97	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)	12/12/97	--	--	--	ND<50	--	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	--	--	--	--	--	SPL
MW-3	06/18/98	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	06/18/98	87.02	12.80	74.22	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	09/28/99	87.02	13.76	73.26	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	03/27/00	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	09/28/00	87.02	11.28	75.74	ND<50	--	ND<0.5	7.4	ND<0.5	1.3	2.0	--	--	--	--	--	PACE
MW-3	03/08/01	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	09/21/01	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	02/28/02	87.02	10.86	76.16	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1.0	25.5	--	--	--	--	--	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	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
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 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

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	03/27/00	26000	ND<500	ND<500	ND<500	ND<500	PACE
MW-2	03/27/00	6000	ND<100	ND<100	190	ND<100	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline	(a)	Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.
TPH-D	Total petroleum hydrocarbons as diesel	(b)	Groundwater elevations in feet above mean sea level.
B	Benzene	(c)	Blind duplicate.
T	Toluene	(d)	A copy of the documentation for this data is included in Appendix C of Alisto report 10-076-06-002.
E	Ethylbenzene	(e)	Tetrachloroethene.
X	Total xylenes	(f)	Trans-1,2-Dichloroethene
TOG	Total oil and grease	(g)	Travel blank.
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	Anamatrix, Inc.		
SEQ	Sequoia Analytical Laboratory		
PACE	Pace, Inc.		
ATI	Analytical Technologies, Inc.		
SPL	Southern Petroleum Laboratories		

# **Analytical Appendix**





**Pace Analytical™**  
www.pacelabs.com

**Pace Analytical Services, Inc.**  
900 Gemini Avenue  
Houston, TX 77058  
Phone: 281.488.1810  
Fax: 281.488.4661

March 11, 2002

Ms. Cindy Magyar  
Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112

RE: Lab Project Number: 8526312  
Client Project ID: BP Site 11102

Dear Ms. Magyar:

Enclosed are the analytical results for sample(s) received by the laboratory on March 5, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,



Paula Kirtley  
pkirtley@pacelabs.com  
Project Manager

Enclosures

## REPORT OF LABORATORY ANALYSIS

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Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112

Lab Project Number: 8526312  
Client Project ID: BP Site 11102

Attn: Ms. Cindy Magyar  
Phone: (713)246-7851

Lab Sample No: 851741790      Project Sample Number: 8526312-001      Date Collected: 02/28/02 14:55  
Client Sample ID: MW-1 (11102)      Matrix: Water      Date Received: 03/05/02 08:50

Parameters	Results	Units	Report Limit	Dilution	Analyzed	by	CAS No.	Ftnote	Reg Limi
<b>GC Volatiles</b>									
GAS by Mod 8015, Water      Prep/Method: EPA 8015 Modified / EPA 8015 Modified									
Gasoline Range Organics	6400	ug/l	500	10.0	03/08/02 19:53	WRIC			
1,4-Difluorobenzene (S)	85	%		1.0	03/08/02 19:53	WRIC			
4-Bromofluorobenzene (S)	80	%		1.0	03/08/02 19:53	WRIC	460-00-4		
SW8021 Aromatics, Water      Prep/Method: See analytical method / EPA 8021									
Benzene	60.8	ug/l	5.00	10.0	03/08/02 19:53	WRIC	71-43-2		
Ethylbenzene	6.43	ug/l	5.00	10.0	03/08/02 19:53	WRIC	100-41-4		
Toluene	ND	ug/l	5.00	10.0	03/08/02 19:53	WRIC	108-88-3		
Xylene (Total)	ND	ug/l	10.0	10.0	03/08/02 19:53	WRIC	1330-20-7		
Methyl-tert-butyl ether	7750	ug/l	25.0	50.0	03/08/02 19:53	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	97	%		1.0	03/08/02 19:53	WRIC			
4-Bromofluorobenzene (S)	92	%		1.0	03/08/02 19:53	WRIC	460-00-4		

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**Pace Analytical Services, Inc.**  
 900 Gemini Avenue  
 Houston, TX 77058  
 Phone: 281.488.1810  
 Fax: 281.488.4661

Lab Project Number: 8526312  
 Client Project ID: BP Site 11102

Lab Sample No: 851741791      Project Sample Number: 8526312-002      Date Collected: 02/28/02 14:44  
 Client Sample ID: MW-2 (11102)      Matrix: Water      Date Received: 03/05/02 08:50

Parameters	Results	Units	Report Limit	Dilution	Analyzed by	CAS No.	Ftnote	Reg Limi
<b>GC Volatiles</b>								
GAS by Mod 8015, Water      Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	3200	ug/l	50.	1.0	03/08/02 13:53	WRIC		
1,4-Difluorobenzene (S)	84	%		1.0	03/08/02 13:53	WRIC		
4-Bromofluorobenzene (S)	81	%		1.0	03/08/02 13:53	WRIC	460-00-4	
SW8021 Aromatics, Water      Prep/Method: See analytical method / EPA 8021								
Benzene	35.1	ug/l	0.500	1.0	03/08/02 13:53	WRIC	71-43-2	
Ethylbenzene	ND	ug/l	0.500	1.0	03/08/02 13:53	WRIC	100-41-4	
Toluene	ND	ug/l	0.500	1.0	03/08/02 13:53	WRIC	108-88-3	
Xylene (Total)	ND	ug/l	1.00	1.0	03/08/02 13:53	WRIC	1330-20-7	
Methyl-tert-butyl ether	4620	ug/l	12.5	25.0	03/08/02 13:53	WRIC	1634-04-4	
1,4-Difluorobenzene (S)	98	%		1.0	03/08/02 13:53	WRIC		
4-Bromofluorobenzene (S)	92	%		1.0	03/08/02 13:53	WRIC	460-00-4	

Date: 03/11/02

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## REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, Inc.**  
 900 Gemini Avenue  
 Houston, TX 77058  
 Phone: 281.488.1810  
 Fax: 281.488.4661

Lab Project Number: 8526312  
 Client Project ID: BP Site 11102

Lab Sample No: 851741792      Project Sample Number: 8526312-003      Date Collected: 02/28/02 14:33  
 Client Sample ID: MW-3 (11102)      Matrix: Water      Date Received: 03/05/02 08:50

Parameters	Results	Units	Report Limit	Dilution	Analyzed	by	CAS No.	Fnote	Reg Limi
<b>GC Volatiles</b>									
GAS by Mod 8015, Water      Prep/Method: EPA 8015 Modified / EPA 8015 Modified									
Gasoline Range Organics	ND	ug/l	50.	1.0	03/08/02 14:13	WRIC			
1,4-Difluorobenzene (S)	83	%		1.0	03/08/02 14:13	WRIC			
4-Bromofluorobenzene (S)	79	%		1.0	03/08/02 14:13	WRIC	460-00-4		
SW8021 Aromatics, Water      Prep/Method: See analytical method / EPA 8021									
Benzene	ND	ug/l	0.500	1.0	03/08/02 20:52	WRIC	71-43-2		
Ethylbenzene	ND	ug/l	0.500	1.0	03/08/02 20:52	WRIC	100-41-4		
Toluene	ND	ug/l	0.500	1.0	03/08/02 20:52	WRIC	108-88-3		
Xylene (Total)	ND	ug/l	1.00	1.0	03/08/02 20:52	WRIC	1330-20-7		
Methyl-tert-butyl ether	25.5	ug/l	0.500	1.0	03/08/02 20:52	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	97	%		1.0	03/08/02 20:52	WRIC			
4-Bromofluorobenzene (S)	93	%		1.0	03/08/02 20:52	WRIC	460-00-4		

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**Pace Analytical Services, Inc.**  
900 Gemini Avenue  
Houston, TX 77058  
Phone: 281.488.1810  
Fax: 281.488.4661

Lab Project Number: 8526312  
Client Project ID: BP Site 11102

---

**PARAMETER FOOTNOTES**

- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- (S) Surrogate

Date: 03/11/02

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**REPORT OF LABORATORY ANALYSIS**

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Lab Project Number: 8526312  
Client Project ID: BP Site 11102

QC Batch: 66378                      Analysis Method: EPA 8021  
QC Batch Method: See analytical method      Analysis Description: SW8021 Aromatics, Water  
Associated Lab Samples:      851741790      851741791      851741792

METHOD BLANK: 851742718  
Associated Lab Samples:      851741790      851741791      851741792

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	0.500	
Ethylbenzene	ug/l	ND	0.500	
Toluene	ug/l	ND	0.500	
Xylene (Total)	ug/l	ND	1.00	
Methyl-tert-butyl ether	ug/l	ND	0.500	
1,4-Difluorobenzene (S)	%	97		
4-Bromofluorobenzene (S)	%	92		

LABORATORY CONTROL SAMPLE: 851742719

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50	48.80	98	
Ethylbenzene	ug/l	50	48.38	97	
Toluene	ug/l	50	47.62	95	
Xylene (Total)	ug/l	100	48.12	48	
Methyl-tert-butyl ether	ug/l	50	49.34	99	
1,4-Difluorobenzene (S)				98	
4-Bromofluorobenzene (S)				95	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851742720 851742721

Parameter	Units	851741792 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	49.94	49.27	100	98	1	
Ethylbenzene	ug/l	0	50.00	50.05	49.41	100	99	1	
Toluene	ug/l	0	50.00	49.26	48.65	98	97	1	
Xylene (Total)	ug/l	0	100.00	98.82	97.45	99	98	1	

## REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 8526312  
Client Project ID: BP Site 11102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851742720 851742721

Parameter	Units	851741792	Spike	MS	MSD	MS	MSD	RPD	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec		
Methyl-tert-butyl ether	ug/l	25.49	50.00	73.66	73.42	96	96	0	
1,4-Difluorobenzene (S)						97	97		
4-BromoFluorobenzene (S)						96	96		

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Lab Project Number: 8526312  
Client Project ID: BP Site 11102

QC Batch: 66379                                      Analysis Method: EPA 8015 Modified  
QC Batch Method: EPA 8015 Modified              Analysis Description: GAS by Mod 8015, Water  
Associated Lab Samples:                              851741790    851741791    851741792

METHOD BLANK: 851742722  
Associated Lab Samples:    851741790    851741791    851741792

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline Range Organics	ug/l	ND	50.	
1,4-Difluorobenzene (S)	%	83		
4-Bromofluorobenzene (S)	%	79		

LABORATORY CONTROL SAMPLE: 851742723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline Range Organics	ug/l	1000	837.3	84	
1,4-Difluorobenzene (S)				101	
4-Bromofluorobenzene (S)				97	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851742724 851742725

Parameter	Units	851741792 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Gasoline Range Organics	ug/l	34.54	1000.00	1037	1038	100	100	0	
1,4-Difluorobenzene (S)						103	104		
4-Bromofluorobenzene (S)						89	89		

**REPORT OF LABORATORY ANALYSIS**

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Lab Project Number: 8526312  
Client Project ID: BP Site 11102

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**QUALITY CONTROL DATA PARAMETER FOOTNOTES**

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D) Laboratory Control Sample (Duplicate)  
MS(D) Matrix Spike (Duplicate)  
DUP Sample Duplicate  
ND Not detected at or above adjusted reporting limit  
NC Not Calculable  
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit  
RPD Relative Percent Difference  
(S) Surrogate

**REPORT OF LABORATORY ANALYSIS**

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**CHAIN OF CUSTODY**

CONSULTANT'S NAME <b>Blaine Tech Services, Inc.</b>		CONSULTANT'S ADDRESS <b>1680 Rogers Ave., San Jose CA 95112</b>			
BP SITE NUMBER <b>11102</b>	GLOBAL ID <b>T0600100908</b>	BP SITE / FACILITY ADDRESS <b>100 MacArthur Blvd., Oakland</b>			CONSULTANT PROJECT NUMBER <b>020228-80-3</b>
CONSULTANT PROJECT MANAGER <b>Cindy Magyar</b>		PHONE NUMBER <b>(408) 573-0555 x 221</b>	FAX NUMBER <b>(408) 573-7771</b>		CONSULTANT CONTRACT NUMBER <b>J966552</b>
BP CONTACT <b>Scott Hooton</b>		BP ADDRESS <b>295 SW 41st Street, Suite N, Renton WA</b>	PHONE NUMBER <b>(425) 251-0689</b>	FAX NO. <b>(425) 251-0736</b>	
AB CONTACT <b>Pace - Paula Kirtley</b>		LABORATORY ADDRESS <b>900 Gemini Ave., Houston, TX 77058</b>	PHONE NUMBER <b>(281) 488-1810</b>	FAX NO. <b>(281) 488-4661</b>	
BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name)		RUSH REQUESTED OF (Print Consultant Contact Name)	DATE/TIME	SHIPMENT DATE	SHIPMENT METHOD

AT:  24 HOURS     48 HOURS     72 HOURS     Standard 7 or 14 Days

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	TPH-G + BTEX / MTBE (8015M)	TPH-D (8015M)	FUEL OXYGENATES (8260)	1,2 DCA + EDB (8010)								COMMENTS	
				NO.	TYPE (VOL)	LAB SAMPLE #													
MW-1	2/28/02	1455	W	3	VOA	HCL	X												8526312
MW-2	↓	1444	↓	↓	↓	↓	X												85174 1790
MW-3	↓	1433	↓	↓	↓	↓	X												91
																			92

SAMPLED BY (Please Print Name) <b>Shawn O'Byryan</b>			SAMPLED BY (Signature) <i>[Signature]</i>				ADDITIONAL COMMENTS	
RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	0.1°C		
<i>[Signature]</i>	3/4/02	1310	ARBORNE EXPRESS	3/4/02	1310			
			CO. Patros/Geo	3/5/02	0850			

# Field Data Sheets

WELL GAUGING DATA

Project # 020228-80-2 Date 2/28/02 Client BP

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					10.48	32.01	TOC	
MW-2	4					9.86	32.43		
MW-3	4					10.86	32.55	↓	

### BP WELL MONITORING DATA SHEET

Project #: <b>020228-50-3</b>	Station # <b>11102</b>
Sampler: <b>O'Brien</b>	Date: <b>2/28/02</b>
Well I.D.: <b>MW-1</b>	Well Diameter: 2 3 <b>4</b> 6 8 <u>    </u>
Total Well Depth: <b>32.01</b>	Depth to Water: <b>10.48</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> 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

<u>14.0</u>	X	<u>3</u>	=	<u>42.0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
1478	68.2	6.5	712	15	
1449	67.7	6.6	772	30	
1451	68.0	6.6	814	45	

Did well dewater? Yes  No  Gallons actually evacuated: ~~455~~ **45**

Sampling Time: **1455**    Sampling Date: **2/28/02**

Sample I.D. (Blind): **MW-1**                                  Laboratory: Pace                                  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 WELL MONITORING DATA SHEET

Project #: <b>020228-50-3</b>	Station # <b>11102</b>
Sampler: <b>O'Bryan</b>	Date: <b>2/28/02</b>
Well I.D.: <b>MW-2</b>	Well Diameter: 2 3 <b>(4)</b> 6 8 <u>    </u>
Total Well Depth: <b>32.43</b>	Depth to Water: <b>9.86</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> 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: <b>Bailer</b> Disposable Bailer Middleburg <b>Electric Submersible</b> Extraction Pump Other: _____	Sampling Method: <b>Bailer</b> <b>Disposable Bailer</b> Extraction Port Other: _____
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<u>14.7</u>	x	<u>3</u>	=	<u>44.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
1437	69.5	6.9	440	15	
1439	68.2	6.7	287	30	
1440	68.2	6.6	335	45	

Did well dewater? Yes <b>(No)</b>	Gallons actually evacuated: <b>45</b>	
Sampling Time: <b>1444</b>	Sampling Date: <b>2/28/02</b>	
Sample I.D. (Blind): <b>MW-2</b>	Laboratory: <b>Pace</b> Other _____	
Analyzed for: <b>TPH-G</b> <b>BTEX</b> <b>MTBE</b> TPH-D Other:		
D.O. (if req'd):	Pre-purge: <span style="float: right;">mg/L</span>	Post-purge: <span style="float: right;">mg/L</span>
O.R.P. (if req'd):	Pre-purge: <span style="float: right;">mV</span>	Post-purge: <span style="float: right;">mV</span>

## BP WELL MONITORING DATA SHEET

Project #: <b>020228-50-3</b>	Station # <b>11102</b>
Sampler: <b>O'Brien</b>	Date: <b>2/28/02</b>
Well I.D.: <b>MW-3</b>	Well Diameter: 2 3 <b>4</b> 6 8
Total Well Depth: <b>32.55</b>	Depth to Water: <b>10.86</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> 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      Disposable Bailer      Middleburg      Electric Submersible      Extraction Pump      Other: \_\_\_\_\_

Sampling Method: Bailer      Disposable Bailer      Extraction Port      Other: \_\_\_\_\_

<u>14.1</u>	x	<u>3</u>	=	<u>42.3</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
1426	72.3	7.1	792	15	
1428	71.2	6.9	721	30	
1429	70.7	6.9	716	45	

Did well dewater? Yes  No       Gallons actually evacuated: **45**

Sampling Time: **1433**      Sampling Date: **2/28/02**

Sample I.D. (Blind): **MW-3**      Laboratory: Pace      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