

**RECEIVED**

*1:27 pm, Jun 18, 2012*

Alameda County  
Environmental Health

Barbara Jakub  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577


Re: BPS Reprographics (Formerly City Blue Print)  
RWQCB Case #01-0210  
1700 Jefferson St  
Oakland CA, 94612

Dear Barbara Jakub,

BPS had directed MACTEC to provide, on our behalf, professional environmental consulting services to the best of their ability. To the best of my knowledge the information in this report is accurate and all local Agency and/or Regional Water Quality Control Board regulations and guidelines have been followed.

This report was prepared by MACTEC and BPS has relied on their advice and assistance. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,




---

Authorized Representative

Attachment: Report

**To:** Mr. David Blain  
BPS Reprographic Services  
945 Bryant Street  
San Francisco, California 94103

**From:** David S. Nanstad   
MACTEC E&C

**Date:** May 7, 2008

**Subject:** First Quarter 2008 Groundwater Remediation and Monitoring Report  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

**Project Number:** 4088087514 Task 01

Enclosed please find 3 sets (1 original and 2 copies) of the *Groundwater Remediation and Monitoring Report for the First Quarter 2008* for the subject Site.

Please be advised that this report is due to the Alameda County Environmental Health Services (ACEHS) as recommended in the report.

Evaluation of current and historical groundwater monitoring information suggests that contaminant concentrations are not decreasing at a rate that would support a request for monitoring frequency reduction to Alameda County Health Care Services (the local oversight agency). As we discussed, MACTEC recommends performing a cost benefit analysis of appropriate remedial technologies that could be used to hasten site cleanup, minimize ongoing monitoring, and potentially result in long-term cost savings.

If you have any questions please feel free to call me at (415) 278-2118.

Enclosed: First Quarter 2008 Groundwater Remediation and Monitoring Report  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

Cc: Warren Chamberlain – MACTEC E&C, Transmittal Only



Engineering and Environmental Services  
28 Second Street, Suite 700  
San Francisco, CA 94103



engineering and constructing a better tomorrow

May 5, 2008

Mr. David Blain  
BPS Reprographic Services  
945 Bryant Street  
San Francisco, California 94103

Subject: **Groundwater Remediation and Monitoring Report  
First Quarter 2008  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California  
MACTEC Project No. 4088087514 01**

Dear Mr. Blain:

MACTEC Engineering and Consulting, Inc. (MACTEC) presents this quarterly status letter-report on the groundwater monitoring and remedial activities at the BPS Reprographic Services (BPS) facility located at 1700 Jefferson Street in Oakland, California (Plate 1). The Fourth Quarter 2007 groundwater monitoring event was performed on December 13, 2007, and results were presented in a letter report dated March 11, 2008. The First Quarter 2008 groundwater monitoring event was performed on March 26, 2008. Information presented in this letter-report represent the First Quarter 2008 (January 1, 2008 through March 31, 2008) groundwater conditions at the subject site, and was prepared to satisfy the quarterly groundwater monitoring requirements of the Alameda County Department of Health Care Services (ACHCS).

## **BACKGROUND**

Three underground gasoline storage tanks were removed from the property in 1987, and a preliminary soil and groundwater investigation indicated that a release of fuel into the subsurface had occurred. Subsequent investigation indicated the presence of free phase hydrocarbons (FPH) in groundwater beneath the site and a local groundwater gradient direction that ranges from north-northwest to west.

The existing groundwater monitoring wells (MW-1, MW-3, MW-5, and MW-6) and extraction wells (MW-1A and MW-4) are shown on Plate 1. Groundwater extraction and treatment began in 1992. The treatment system consisted of an oil-water separator that removed the FPH, a 3,000-gallon bioreactor tank for treatment by hydrocarbon reducing microbes, and three granular activated carbon vessels. The treated water was discharged under a wastewater discharge permit from the East Bay Municipal Utility District to the sanitary sewer. During its operation, the treatment system processed approximately 1,385,490 gallons of groundwater and an estimated 5,062 pounds of FPH were recovered.

By 1999, the oil-water separator was no longer recovering FPH, and FPH was no longer present in any of the groundwater monitoring wells. In June 1999, as approved by the ACHCS, groundwater extraction and treatment ceased. In September 1999, MACTEC implemented *in-situ* bioremediation using ORC™ in treatment wells MW-1A, MW-3, MW-4, and MW-5. The ORC™ is contained in fabric “socks” and releases oxygen over time to encourage aerobic microbes to metabolize the hydrocarbons. As described in the Groundwater Monitoring Plan, the ORC™ socks were removed from the treatment wells two weeks before each quarterly groundwater monitoring event, and then replaced after sampling was complete. *In-situ* bioremediation continued until the Fourth Quarter 2002. In late 2002 and early 2003, MACTEC removed the ORC™ socks from the monitoring wells, as requested by the ACHCS in their letter dated September 27, 2002. Since then, the ORC has not been replaced; however, quarterly monitoring has continued.

#### **FIRST QUARTER 2008 GROUNDWATER SAMPLING AND ANALYSIS**

On March 26, 2008, MACTEC conducted quarterly groundwater monitoring of MW-1, MW-3, MW-5, and MW-6 (Plate 1) using a non-purge method, in accordance with the SFBRWQCB January 31, 1997 letter *Utilization of Non-Purge Approach for Sampling of Monitoring Wells Impacted by Petroleum Hydrocarbons, BTEX and MTBE*, file No. 1123.64.

Table 1 presents groundwater field parameters, including DO, collected prior to sampling. During the First Quarter 2008 event, the DO concentrations ranged from 0.5 mg/L in MW-1 to 1.3 milligrams per liter (mg/L) in MW-6. MACTEC will continue to monitor DO in these wells.

Prior to sampling, MACTEC measured the depth to groundwater within each well casing from the top of casing (TOC) of wells MW-1, MW-3, MW-5, and MW-6 using an electronic water level indicator. The groundwater elevation at each well is calculated by subtracting the measured depth to water from the surveyed top of well casing elevation. Current and historical groundwater measurements and groundwater elevations are tabulated in Table 2 and a time history plot of groundwater elevations are displayed on Plate 2. As presented in Table 2, the elevation of the groundwater surface increased an average of 0.46 feet across the site, as compared to last quarter’s measurements. MACTEC will continue to monitor groundwater elevations in at Site wells.

The groundwater elevation contours shown on Plate 3 were drawn using the March 26, 2008 groundwater measurements from wells MW-1, MW-3, MW-5, and MW-6. Based on the groundwater elevations, the groundwater gradient is approximately 0.0037 ft/ft. The direction of flow appears to be in the west-westerly direction.

Immediately after sample collection, MACTEC labeled and stored the samples in a cooler with ice. The groundwater samples were kept chilled until submitted to Test America Analytical Testing Corporation (Test America), a California state-certified laboratory (CA ELAP Certificate #1214), under chain-of-custody protocol for the following analyses:

- Total petroleum hydrocarbons as gasoline (TPHg) in accordance with EPA Method 8015 modified.

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) in accordance with EPA Method 8020.
- Methyl tertiary butyl ether (MTBE) in accordance with EPA Method 8020, with confirmation of detections by EPA Method 8260.
- Ethylene dichloride (EDC) by EPA Method 8260.

The First Quarter 2008 analytical results for TPHg, BTEX, MTBE, and EDC are displayed on Plate 4. Historical analytical results for TPHg, BTEX, and MTBE collected through September 29, 1999, are shown in Table 3. Analytical results collected since September 29, 1999, are shown in Table 4 and presented graphically on Plates 5a, 5b, and 5c. The certified analytical reports (CARs) for this quarter's monitoring event are presented in Appendix A.

## **DISCUSSION**

As shown in Table 4 and Plates 5a, 5b, and 5c, the First Quarter 2008 monitoring event concentrations of TPHg and BTEX are within the range of historical concentrations of these compounds. The range of chemical concentrations detected in samples collected during the First Quarter 2008 event are as follows:

- TPHg ranged from non-detectable with a detection limit of 0.05 milligrams per liter (mg/L; MW-6) to 28 mg/L (MW-1 and MW-5).
- Benzene ranged from non-detectable with a detection limit of 0.5 micrograms per liter ( $\mu\text{g/L}$ ; MW-6) to 7,700  $\mu\text{g/L}$  (MW-5).
- Toluene ranged from 0.68  $\mu\text{g/L}$  (MW-6) to 4,900  $\mu\text{g/L}$  (MW-1).
- Ethylbenzene ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 860  $\mu\text{g/L}$  (MW-5).
- Total Xylenes ranged from 0.88  $\mu\text{g/L}$  (MW-6) to 2,100  $\mu\text{g/L}$  (MW-1).
- MTBE was not detected in samples from any of the groundwater monitoring wells this quarter, with detection limits ranging from 2.5  $\mu\text{g/L}$  (MW-6) to 1,200  $\mu\text{g/L}$  (MW-5).
- EDC was detected in MW-1 at a concentration of 240  $\mu\text{g/L}$  and in MW-5 at a concentration of 220  $\mu\text{g/L}$ .

An overview of recent concentration trends observed in each monitoring well is presented below.

In MW-1, chemical concentrations peaked during the Second Quarter 2003 monitoring event, decreased to unusually low levels during the Third Quarter 2005, and increased again through the First Quarter 2006 (Plate 5a). Since then concentrations have remained relatively stable with seasonal fluctuations. The

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BPS Reprographic Services  
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First Quarter 2008 concentrations of TPHg and BTEX in MW-1 have increased since the Fourth Quarter 2007 concentrations, and remain within their respective recent historical ranges.

In MW-3, chemical concentrations peaked in 2003; decreased significantly in mid-2005, and subsequently increased (Plate 5b). Since then, concentrations have remained relatively stable. The First Quarter 2008 concentrations of TPHg and BTEX in MW-3 have all decreased, with the exception of Benzene, has been on the increase, since the Fourth Quarter 2007. Chemical concentrations remain within their respective recent historical ranges.

Chemical concentrations in MW-5 decreased to historical lows during the First and Second Quarter 2006 (Plate 5c). Subsequently, TPHg and BTEX concentrations have increased, but remain within their respective recent historical ranges. First Quarter 2008 concentrations of TPHg and BTEX in MW-5 have decreased since the Fourth Quarter 2007 concentrations, and remain within their respective recent historical ranges.

Typically, groundwater collected from MW-6 contains no detectable concentrations of TPHg or BTEX compounds. However, Fourth Quarter 2007 monitoring data from MW-6 indicated Toluene was detected at a concentration of 0.84 µg/L. First Quarter 2008 data indicate Toluene and Xylenes were detected at 0.68 and 0.88 µg/L, respectively. These concentrations are far below the California maximum contaminant level (MCL) for Toluene and Xylenes of 1.5 and 1.75 mg/L, respectively. MW-6 will continue to be monitored for these analytes.

Beginning with the Fourth Quarter 2002 event, EDC was added to the list of analytes monitored at MW-1 and MW-5. The current concentrations of EDC detected in MW-1 and MW-5 (240 µg/L and 220 µg/L, respectively) are similar to concentrations detected during previous quarters. EDC concentrations in both wells remain within their respective historical concentration ranges.

## **RECOMMENDATIONS**

MACTEC recommends continued groundwater monitoring at the Site to satisfy the quarterly groundwater monitoring requirements of the ACHCS, and continued evaluation of monitoring parameters for more favorable conditions under which to make a monitoring frequency reduction request. MACTEC recommends that BPS send a copy of this report to the following address:

Mr. Don Hwang  
Alameda County  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California, 94502-6577

While under contract to BPS, MACTEC will continue to provide quarterly groundwater monitoring and reporting as required by ACHCS.

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Mr. David Blain  
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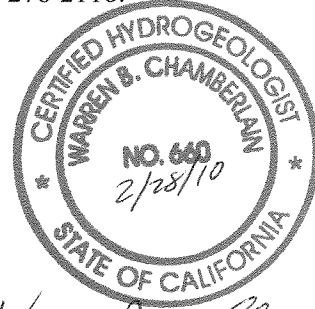
If you have any questions, please contact David S. Nanstad at (415) 278-2118.

Yours very truly,

MACTEC ENGINEERING AND CONSULTING, INC.



David S. Nanstad, REA  
Project Engineer



Warren B. Chamberlain RG, CHG, PE  
Senior Principal Engineer

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- Attachments:
- Table 1 – Groundwater Parameters
  - Table 2 – Groundwater Elevation Data
  - Table 3 – Historical Groundwater Monitoring Analytical Results - Using Purge Method
  - Table 4 – Groundwater Monitoring Analytical Results
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- Plate 1 – Site Map
  - Plate 2 – Groundwater Elevation Data
  - Plate 3 – Groundwater Contours
  - Plate 4 – TPHg, BTEX, MTBE and EDC Concentrations in Groundwater
  - Plate 5a – MW-1 BTEX and DO Results
  - Plate 5b – MW-3 BTEX and DO Results
  - Plate 5c – MW-5 BTEX and DO Results
- 
- Appendix A – Laboratory Reports
  - Appendix B – Groundwater Sampling Forms
    - Table B1. Sample Location/Sample Description Cross-Reference

## **TABLES**



**Table 1. Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson St.**  
**Oakland CA**

Dissolved Oxygen (mg/L)	MW-1	MW-3	MW-5	MW-6
9/29/1999	2.9	1.7	0.4	1.8
11/5/1999	4.0	10.3	4.0	2.8
11/22/1999	1.8	2.4	2.0	3.2
1/28/2000	2.9	8.4	3.6	2.2
2/11/2000	2.5	2.3	1.8	3.5
5/12/2000	2.0	7.4	2.4	1.7
5/30/2000	1.9	2.6	1.8	3.2
9/1/2000	2.9	3.4	2.3	2.7
9/15/2000	2.0	1.8	2.2	3.8
11/9/2000	NA	5.0	5.3	NA
11/17/2000	3.1	4.2	3.4	6.0
3/15/2001	2.0	7.0	1.4	2.1
4/2/2001	1.0	0.8	2.0	1.0
6/1/2001	0.2	0.2	6.6	0.3
6/28/2001	0.3	0.6	0.5	0.7
8/16/2001	0.5	6.5	1.6	0.8
8/30/2001	0.3	0.4	0.2	0.5
12/14/2001	0.0	3.8	2.2	0.2
12/26/2001	0.2	0.3	0.2	0.2
4/10/2002	0.6	0.6	0.2	0.4
4/23/2002	0.3	0.4	0.9	0.5
6/3/2002	0.4	5.2	4.3	0.7
6/14/2002	0.3	0.3	0.4	0.3
8/5/2002	0.3	0.3	0.4	0.4
8/14/2002	0.3	0.3	0.4	0.6
12/6/2002	1.0	0.9	NA <sup>1</sup>	0.6
12/27/2002	0.9	1.0	NA <sup>2</sup>	1.2
4/1/2003	0.3	1.1	NA <sup>2</sup>	NA <sup>1</sup>
7/1/2003	7.7	7.7	NA <sup>2</sup>	7.2
9/24/2003	6.3	7.2	0.6	0.9
12/29/2003	0.2	0.3	0.6	0.6
5/18/2004	0.4	0.5	0.4	0.4
6/30/2004	0.4	0.7	0.5	1.1
9/23/2004	4.6	1.0	1.2	1.8
12/28/2004	0.4	0.2	0.3	4.3
3/16/2005	0.4	0.1	0.5	0.5
6/23/2005	0.6	0.6	0.8	0.6
9/9/2005	0.6	0.6	0.7	1.1
12/2/2005	1.5	2.0	1.1	0.9
3/24/2006	0.8	0.7	0.9	0.9
6/29/2006	1.1	1.1	0.7	1.2
9/13/2006	0.6	1.0	1.5	1.1
12/27/2006	7.9	7.0	0.4	0.6
3/30/2007	1.3	1.3	1.9	1.9
7/2/2007	2.0	1.5	1.6	1.7
10/2/2007	6.3	7.8	5.7	0.2
12/13/2007	0.6	0.3	0.7	0.7
3/26/2008	0.5	0.5	0.6	1.3

**Table 1. Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson St.**  
**Oakland CA**

<b>REDOX (mvolts)</b>	<b>MW-1</b>	<b>MW-3</b>	<b>MW-5</b>	<b>MW-6</b>
5/30/2000	-322	197	-128	203
9/15/2000	-269	3	-89	206
11/17/2000	64	178	296	230
4/2/2001	-194	26	-36	102
6/28/2001	-310	-283	-360	107
8/30/2001	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
12/26/2001	12	11	11	11
4/23/2002	3	62	-299	158
6/14/2002	0	245	-215	254
8/20/2002	-294	-315	-238	228
12/27/2002	-315	-357	NA <sup>2</sup>	-12
4/1/2003 <sup>b</sup>	-82	-75	NA <sup>2</sup>	172
7/1/2003 <sup>b</sup>	212	230	NA <sup>2</sup>	227
9/24/2003 <sup>b</sup>	-166	-300	-183	50
12/29/2003 <sup>b</sup>	-329	-198	-269	114
5/18/2004	-309	-189	-248	115
6/30/2004	-270	-343	-165	104
9/23/2004	-314	-284	-162	96
12/28/2004	-303	101	-110	127
3/16/2005	-36	-50	-162	177
6/23/2005	-225	-42	-117	109
9/9/2005	-30	-52	-152	98
12/2/2005	-26	-141	-108	20
3/24/2006	-179	-118	-112	87
6/29/2006	-202	-182	-151	6
9/13/2006	-270	-257	-222	36
12/27/2006	-329	-265	-305	36
3/30/2007	-324	-340	243	-61
7/2/2007	-317	-292	169	-93
10/2/2007	13	-305	-217	16
12/13/2007	-283	-322	-240	106
3/26/2008	-171.8	-33.6	-90.8	229.0
<b>Temperature (deg F)</b>	<b>MW-1</b>	<b>MW-3</b>	<b>MW-5</b>	<b>MW-6</b>
9/29/1999	67.0	72.6	67.7	73.8
11/22/1999	66.4	62.9	65.0	69.8
2/11/2000	61.3	63.2	62.0	68.5
5/30/2000	77.7	74.8	76.3	76.2
9/15/2000	64.4	64.3	64.7	67.0
11/17/2000	54.5	58.1	68.1	65.9
4/2/2001	63.5	64.9	66.2	66.4
6/28/2001	73.0	71.2	74.7	74.3
8/30/2001	74.8	77.6	78.3	78.7
12/26/2001	65.7	65.8	65.8	65.1
4/23/2002	64.4	69.8	37.1	71.6
6/14/2002	66.7	67.5	66.7	68.0
8/20/2002	64.6	67.6	66.2	68.0
12/27/2002	41.7	42.5	NA <sup>2</sup>	41.7
4/1/2003 <sup>b</sup>	64.6	67.6	NA <sup>2</sup>	68.0
7/1/2003 <sup>ab</sup>	79.4	80.3	NA <sup>2</sup>	81.9
9/24/2003 <sup>b</sup>	65.1	67.1	65.7	68.5

**Table 1. Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson St.**  
**Oakland CA**

Temperature (deg F)	MW-1	MW-3	MW-5	MW-6
12/29/2003 <sup>b</sup>	65.0	67.5	67.1	68.0
5/18/2004	69.0	69.0	63.0	68.0
6/30/2004	65.8	68.0	69.1	70.0
9/23/2004	67.6	69.3	68.9	74.5
12/28/2004	60.3	60.4	59.2	62.6
3/16/2005	63.3	66.0	64.4	66.0
6/23/2005	64.4	66.7	65.8	66.9
9/9/2005	69.0	70.3	69.8	71.0
12/2/2005	61.5	63.7	62.2	62.1
3/24/2006	63.7	66.4	65.3	62.6
6/29/2006	69.3	68.2	71.2	72.1
9/13/2006	64.8	66.6	65.7	68.5
12/26/2006	59.7	60.4	61.2	57.9
3/30/2007	64.0	65.8	66.0	64.4
7/2/2007	65.1	66.6	66.6	66.0
10/2/2007	68.0	67.3	66.0	71.6
12/13/2007	60.1	62.4	61.5	61.3
3/26/2008	66.6	64.9	64.1	66.6
pH	MW-1	MW-3	MW-5	MW-6
9/29/1999	8.4	8.5	8.4	8.4
11/22/1999	6.9	8.4	6.8	6.8
2/11/2000	6.8	6.9	6.8	6.7
5/30/2000	7.0	7.4	7.5	7.6
9/15/2000	7.1	7.5	6.8	6.6
11/17/2000	7.4	7.7	7.1	7.3
4/2/2001	7.0	6.6	7.1	7.0
6/28/2001	6.9	6.7	6.8	6.8
8/30/2001	7.9	7.9	7.9	8.4
12/26/2001	6.2	6.9	7.1	6.7
4/23/2002	6.9	7.0	6.9	6.9
6/14/2002	7.1	7.2	7.1	6.9
8/20/2002	NA <sup>1</sup>	6.9	NA <sup>1</sup>	6.9
12/27/2002	6.3	6.4	NA <sup>2</sup>	6.5
4/1/2003 <sup>b</sup>	6.9	7.1	NA <sup>2</sup>	6.7
7/1/2003 <sup>b</sup>	7.4	7.6	NA <sup>2</sup>	7.7
9/24/2003 <sup>b</sup>	7.1	7.3	7.3	7.2
12/29/2003 <sup>b</sup>	6.7	6.5	6.8	6.7
5/18/2004	6.7	6.5	6.7	6.5
6/30/2004	6.6	6.6	6.3	NA <sup>1</sup>
9/23/2004	6.7	6.6	6.5	6.5
12/28/2004	6.5	5.3	6.6	6.8
3/16/2005	6.3	5.7	5.8	6.2
6/23/2005	6.4	6.1	6.5	6.6
9/9/2005	6.5	6.1	6.1	7.0
12/2/2005	6.5	5.9	7.6	7.1
3/24/2006	7.1	7.6	6.8	7.4
6/29/2006	6.5	6.1	7.3	7.0
9/13/2006	6.9	7.4	6.6	8.3
12/27/2006	6.3	5.2	6.0	6.0
3/30/2007	6.5	5.5	6.4	6.3
7/2/2007	6.3	6.1	6.7	6.5
10/2/2007	6.1	5.9	6.4	6.7
12/13/2007	6.9	6.8	7.1	6.8
3/26/2008	6.9	6.0	6.8	6.9

**Table 1. Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson St.**  
**Oakland CA**

Specific Conductance (µS/cm)	MW-1	MW-3	MW-5	MW-6
9/29/1999	976	880	1,577	966
11/22/1999	1,004	1,500	1,352	1,038
2/11/2000	992	1,327	1,275	1,149
5/30/2000	845	1,020	758	924
9/15/2000	800	917	989	1,009
11/17/2000	785	970	742	886
4/2/2001	725	365	839	821
6/28/2001	1080	704	876	1021
8/30/2001	924	1015	975	931
12/26/2001	848	496	333	891
4/23/2002	922	601	848	977
6/14/2002	932	767	810	961
8/20/2002	1015	809	891	985
12/27/2002	956	791	NA <sup>2</sup>	903
4/1/2003 <sup>b</sup>	1128	800	NA <sup>2</sup>	1021
7/1/2003 <sup>b</sup>	1020	690	NA <sup>2</sup>	970
9/24/2003 <sup>b</sup>	951	697	987	890
12/29/2003 <sup>b</sup>	1143	396	993	934
5/18/2004	1060	692	922	1037
6/30/2004	1006	725	970	962
9/23/2004	1027	656	966	1007
12/28/2004	875	69	807	873
3/16/2005	899	69	831	872
6/23/2005	799	102	718	814
9/9/2005	852	103	817	881
12/2/2005	891	39	750	811
3/24/2006	1156	208	996	1042
6/29/2006	1113	658	795	932
9/13/2006	1088	591	873	650
12/27/2006	996	145	775	847
3/30/2007	1063	303	919	918
7/2/2007	887	337.8	949	776
10/2/2007	1133	364.4	930	1033
12/13/2007	1033	490	839	394.3
3/26/2008	1208	242	670	1080

Note:

Baseline dissolved oxygen measurement taken on 09/29/99, prior to initial installation of oxygen releasing compound

mg/l = milligrams per liter

mvolts = millivolts

deg F = degrees Fahrenheit

µS/cm = micro-ohms per centimeter

NA = Not Available

1 = indicates data not available due to equipment malfunction

2= not available due to ORC socks stuck in well on these dates

a = indicates dissolved oxygen and temperature readings collected on this date above typical range and should be considered suspect

b = indicates this data collected post purge



Checked DW

Accepted SAB

**Table 2. Groundwater Elevation Data**  
**BPS Reptographic Services Facility**  
**1700 Jefferson St**  
**Oakland CA**

Date Sampled	MW-1		MW-3		MW-5		MW-6		Average Change Since Preceding Quarter
	TOC Elev.	32.36	TOC Elev.	31.77	TOC Elev.	30.56	TOC Elev.	31.26	
	Depth to Water	Water Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation	
3/6/1996	NM	--	24.79	6.98	23.53	7.03	NA	--	
6/11/1996	FP	--	25.60	6.17	23.78	6.78	25.16	6.10	-0.53
9/19/1996	FP	--	26.09	5.68	24.48	6.08	25.76	5.50	-0.60
12/23/1996	FP	--	FP	--	24.83	5.73	25.88	5.38	-0.23
3/27/1997	FP	--	FP	--	23.82	6.74	24.78	6.48	1.06
6/4/1997	26.41	5.95	25.11	6.66	23.92	6.64	24.60	6.66	0.04
9/26/1997	26.80	5.56	25.41	6.36	24.29	6.27	24.80	6.46	-0.32
12/22/1997	26.00	6.36	24.91	6.86	24.02	6.54	24.71	6.55	0.42
3/31/1998	26.06	6.30	24.05	7.72	22.78	7.78	23.75	7.51	0.75
6/18/1998	25.60	6.76	23.71	8.06	22.51	8.05	23.22	8.04	0.40
8/28/1998	25.45	6.91	23.70	8.07	22.74	7.82	22.23	9.03	0.23
12/2/1998	24.92	7.44	23.60	8.17	23.16	7.40	23.72	7.54	-0.32
3/10/1999	24.90	7.46	22.65	9.12	22.82	7.74	23.54	7.72	0.37
6/30/1999	25.53	6.83	23.07	8.70	22.41	8.15	23.04	8.22	-0.04
9/29/1999	24.23	8.13	23.03	8.74	22.81	7.75	23.42	7.84	0.14
11/22/1999	24.33	8.03	23.68	8.09	22.88	7.68	23.64	7.62	-0.26
2/11/2000	24.38	7.98	23.74	8.03	22.74	7.82	23.67	7.59	0.00
5/30/2000	23.57	8.79	22.97	8.80	21.73	8.83	22.82	8.44	0.86
9/15/2000	23.85	8.51	23.12	8.65	22.14	8.42	23.10	8.16	-0.28
11/16/2000	24.14	8.22	23.40	8.37	22.39	8.17	23.41	7.85	-0.28
4/2/2001	23.40	8.96	23.40	8.37	22.07	8.49	23.33	7.93	0.29
6/28/2001	23.58	8.78	23.17	8.60	22.15	8.41	23.15	8.11	0.04
8/30/2001	24.00	8.36	23.35	8.42	22.35	8.21	23.35	7.91	-0.25
12/26/2001	24.18	8.18	23.54	8.23	22.49	8.07	23.27	7.99	-0.11
4/23/2002	NA	NA	22.89	8.88	21.07	9.49	22.89	8.37	0.82
6/14/2002	23.41	8.95	22.85	8.92	21.80	8.76	22.81	8.45	-0.20
8/20/2002	23.85	8.51	23.11	8.66	22.14	8.42	23.15	8.11	-0.31
12/27/2002	24.10	8.26	23.34	8.43	*NA	*NA	23.41	7.85	-0.24
4/1/2003	23.75	8.61	22.90	8.87	*NA	*NA	23.16	8.10	0.35
7/1/2003	23.50	8.86	22.80	8.97	*NA	*NA	22.75	8.51	0.25
9/24/2003	23.82	8.54	23.15	8.62	22.21	8.35	23.16	8.10	-0.27
12/29/2003	24.07	8.29	23.45	8.32	22.56	8.00	23.47	7.79	-0.30
5/18/2004	23.64	8.72	22.98	8.79	21.85	8.71	22.87	8.39	0.55
6/30/2004	23.64	8.72	23.04	8.73	22.00	8.56	22.43	8.83	0.06
9/23/2004	23.98	8.38	23.32	8.45	22.36	8.20	23.30	7.96	-0.46
12/28/2004	24.07	8.29	28.71	3.06**	22.42	8.14	23.42	7.84	-1.42
3/16/2005	23.80	8.56	23.70	8.07	22.11	8.45	23.60	7.66	1.35
6/23/2005	22.90	9.46	22.40	9.37	21.20	9.36	22.27	8.99	1.11
9/9/2005	23.27	9.09	22.63	9.14	21.68	8.88	22.55	8.71	-0.34
12/2/2005	23.75	8.61	23.03	8.74	22.19	8.37	23.05	8.21	-0.47
3/24/2006	23.05	9.31	22.57	9.20	21.01	9.55	22.50	8.76	0.72
6/29/2006	22.56	9.80	21.93	9.84	20.78	9.78	21.85	9.41	0.50
9/13/2006	23.00	9.36	22.35	9.42	21.35	9.21	22.31	8.95	-0.47
12/27/2006	23.47	8.89	22.82	8.95	21.82	8.74	22.85	8.41	-0.49
3/30/2007	23.51	8.85	22.91	8.86	21.70	8.86	22.88	8.38	-0.01
7/2/2007	23.39	8.97	22.88	8.89	21.81	8.75	22.75	8.51	0.04
10/2/2007	23.87	8.49	23.20	8.57	22.22	8.34	23.17	8.09	-0.41
12/13/2007	24.05	8.31	23.40	8.37	22.31	8.25	23.37	7.89	-0.17
3/26/2008	23.56	8.80	23.00	8.77	21.77	8.79	22.97	8.29	0.46

Note: All measurements shown in feet.  
 TOC Elev. = top of casing elevation  
 NM = not monitored  
 FP = free product  
 -- = no data collected  
 NA = not available  
 \* This data not available due to ORC socks stuck in well  
 \*\* This data is suspect due to probable equipment malfunction or operator error.

Checked   
 Approved 





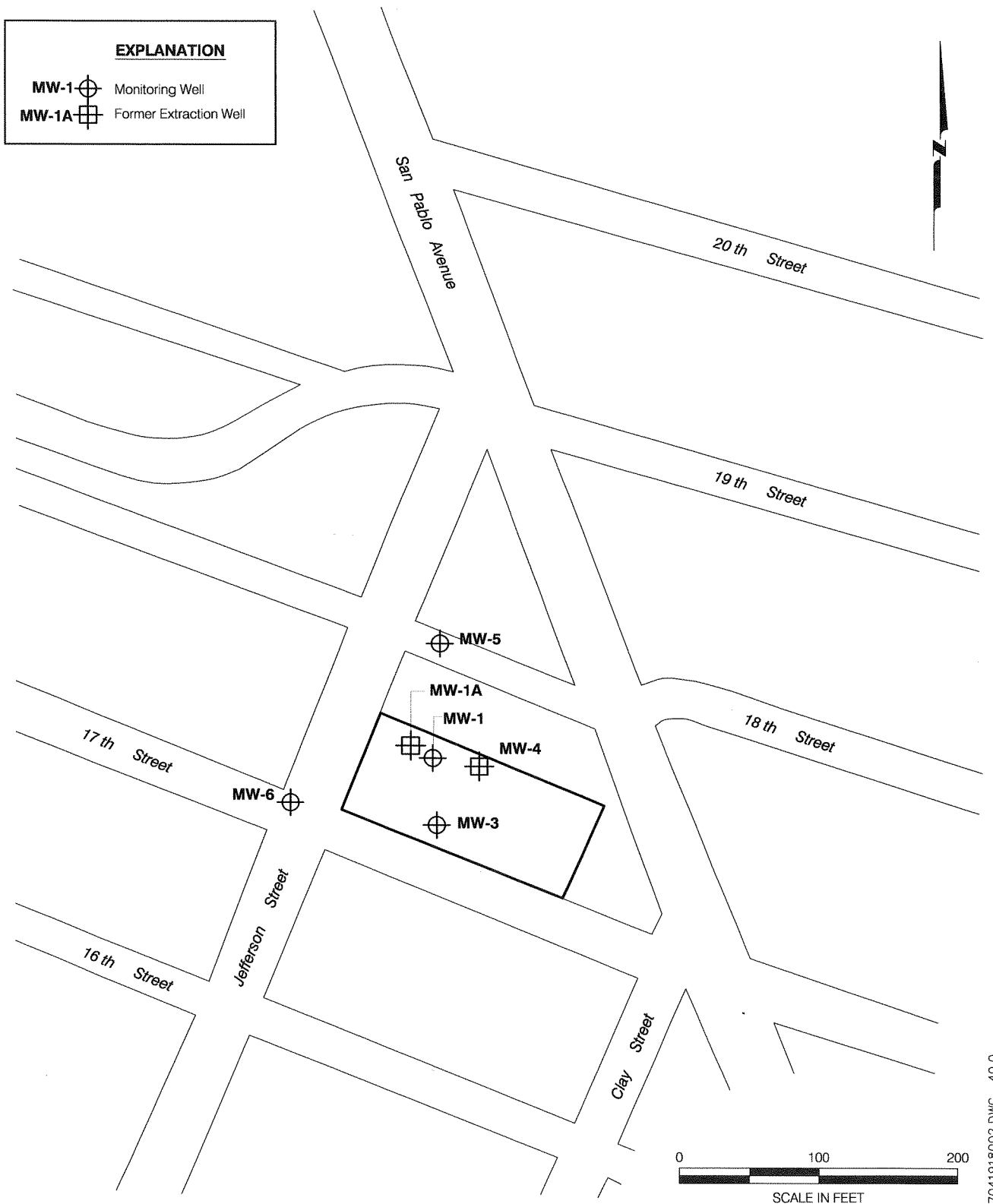


## **PLATES**



**EXPLANATION**

- MW-1  Monitoring Well
- MW-1A  Former Extraction Well



4097041918002.DWG 40.0  
20080228.0915




**Site Map**  
**Groundwater Remediation and Monitoring Report**  
 First Quarter 2008  
 BPS Reprographic Services Facility  
 Oakland, California

PLATE

**1**

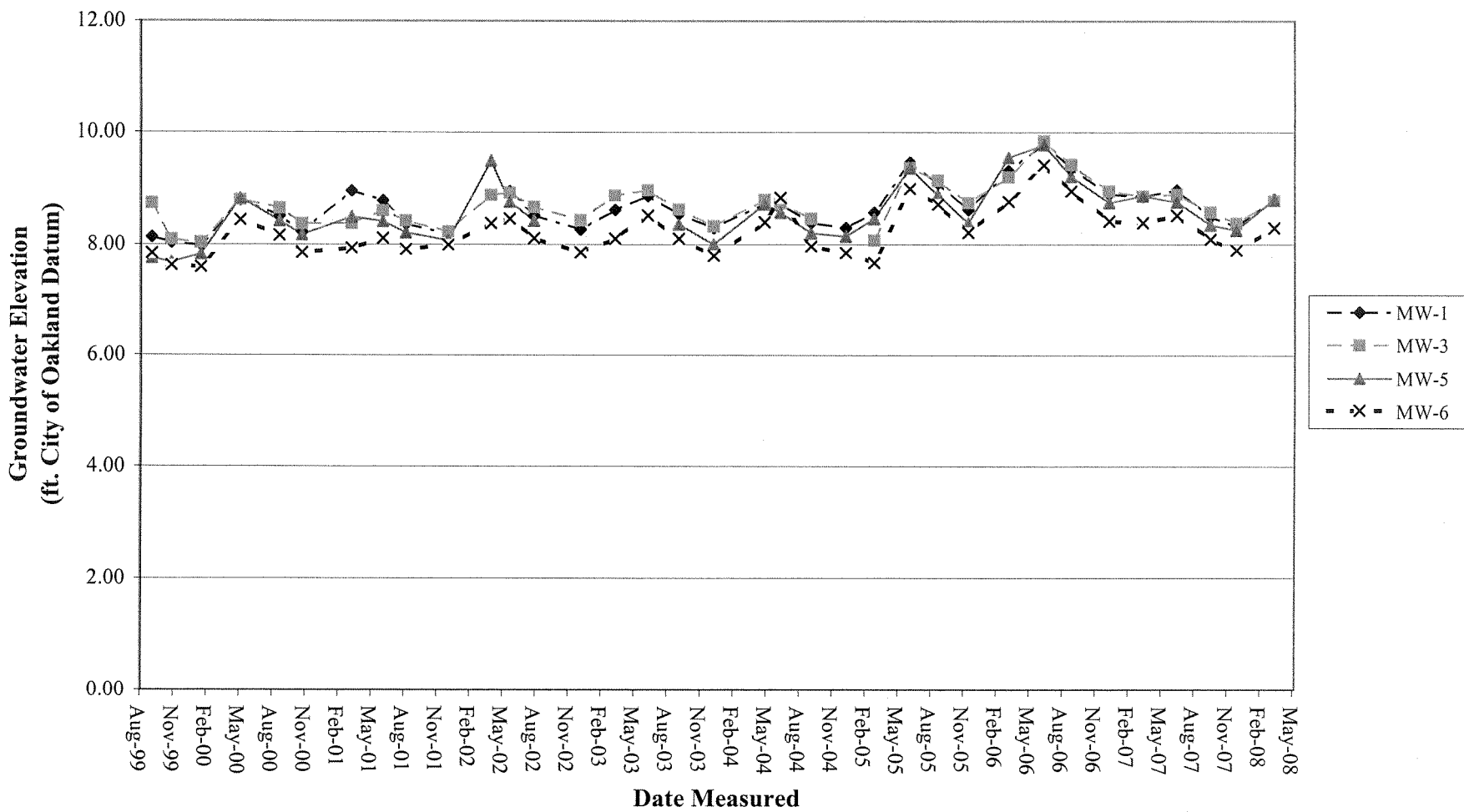
DRAWN  
JHD

JOB NUMBER  
4088087514 01

CHECKED  CHECKED DATE  
04/08

APPROVED 

APPROVED DATE  
3.6.08



(ORC sock stuck in MW-5 from Dec. 2002 until Sep. 2003 - No groundwater elevations monitored in MW-5 during that time)



**Groundwater Elevation Data**  
 First Quarter 2008  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California


Plate


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
DRAWN DSN	JOB NUMBER 4088087514	APPROVED <i>SAB</i>	DATE May-08	REVISION DATE
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Reviewed by: *[Signature]*

**EXPLANATION**

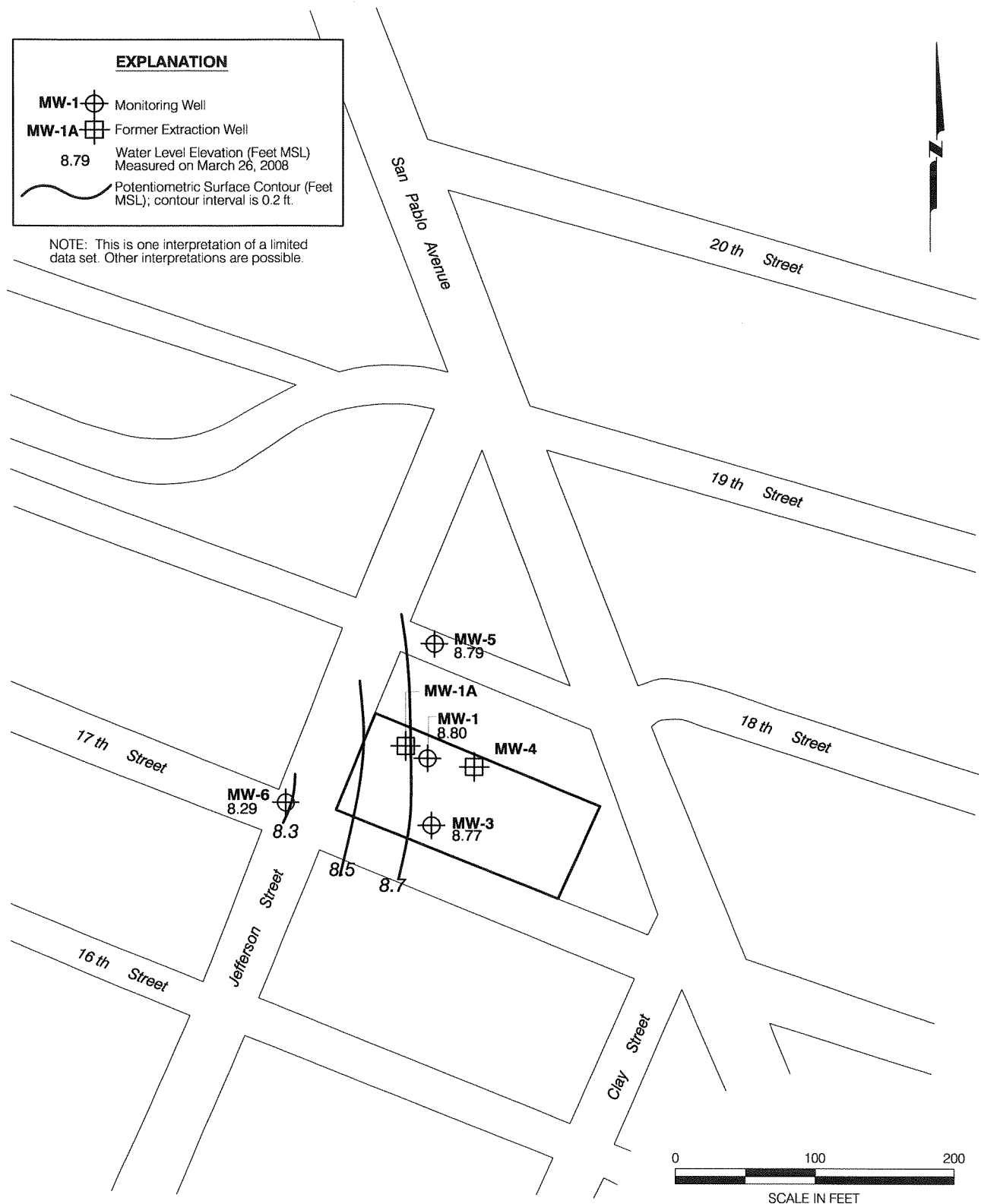
MW-1  Monitoring Well

MW-1A  Former Extraction Well


8.79  Water Level Elevation (Feet MSL)  
Measured on March 26, 2008

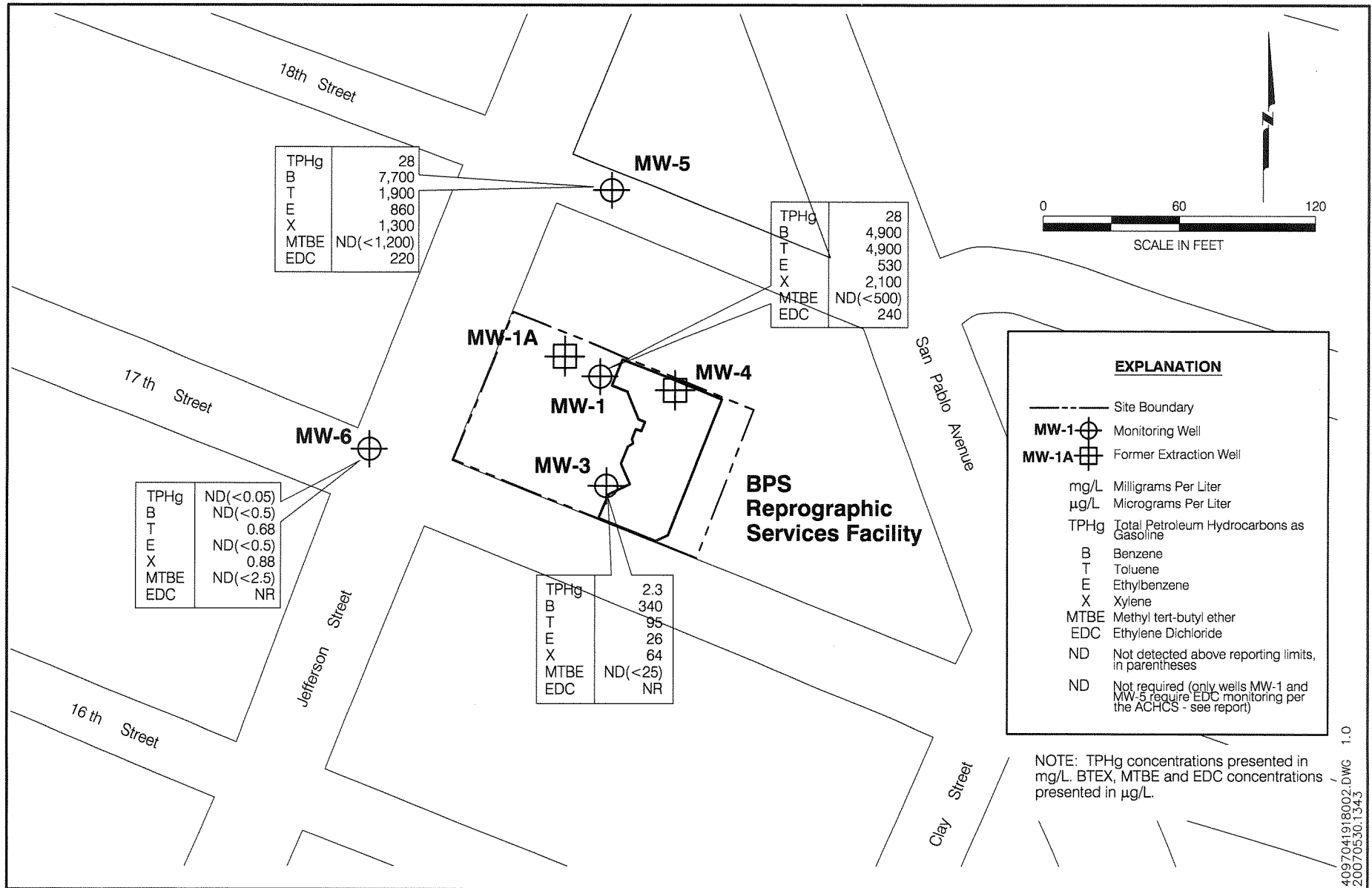
 Potentiometric Surface Contour (Feet MSL); contour interval is 0.2 ft.

NOTE: This is one interpretation of a limited data set. Other interpretations are possible.



4097041918002.DWG 1.0  
20070530.1343

	<b>Groundwater Elevation Map</b> <b>Groundwater Remediation and Monitoring Report</b> First Quarter 2008 BPS Reprographic Services Facility Oakland, California			PLATE <b>3</b>	
	DRAWN JHD	JOB NUMBER 4088087514 01	CHECKED <i>BS</i>	CHECKED DATE 04/08	APPROVED <i>SP</i>



**TPHg, BTEX, MTBE and EDC Concentrations in Groundwater  
Groundwater Remediation and Monitoring Report**  
First Quarter 2008  
BPS Reprographic Services Facility  
Oakland, California

PLATE

**4**

DRAWN  
JHD

JOB NUMBER  
4088087514 01

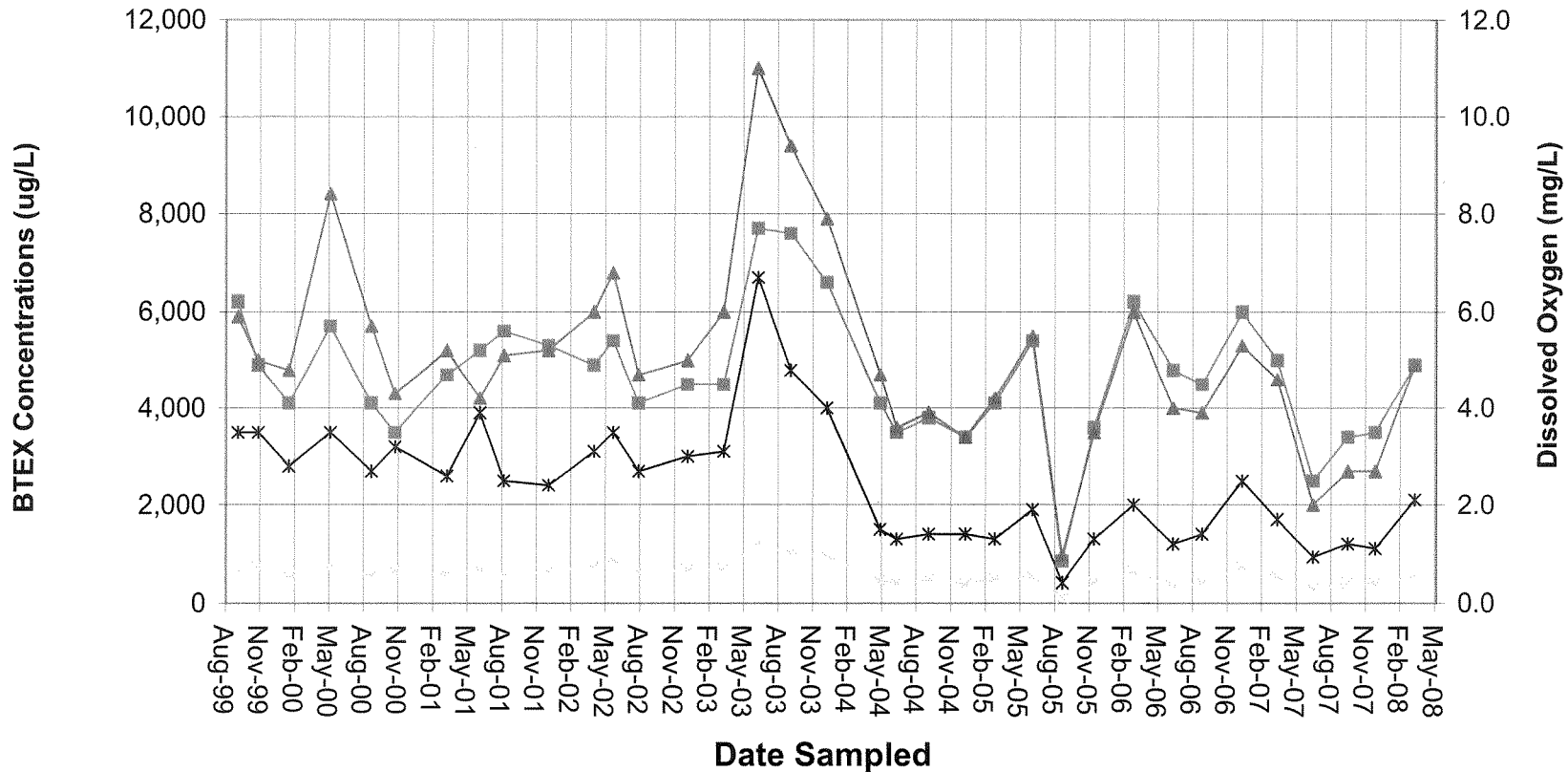
CHECKED  
*[Signature]*

CHECKED DATE  
04/08

APPROVED  
*[Signature]*

APPROVED DATE  
5-6-08

MW-1



Note: DO values collected after ORC removal and prior to sampling between Sept. 99 and Sept. 2002.

(Samples collected post purge between July 2003 and December 2003, all other samples collected pre-purge. ORC removed after Sept. 2002.)



MW-1 BTEX and DO Results  
 First Quarter 2008  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California

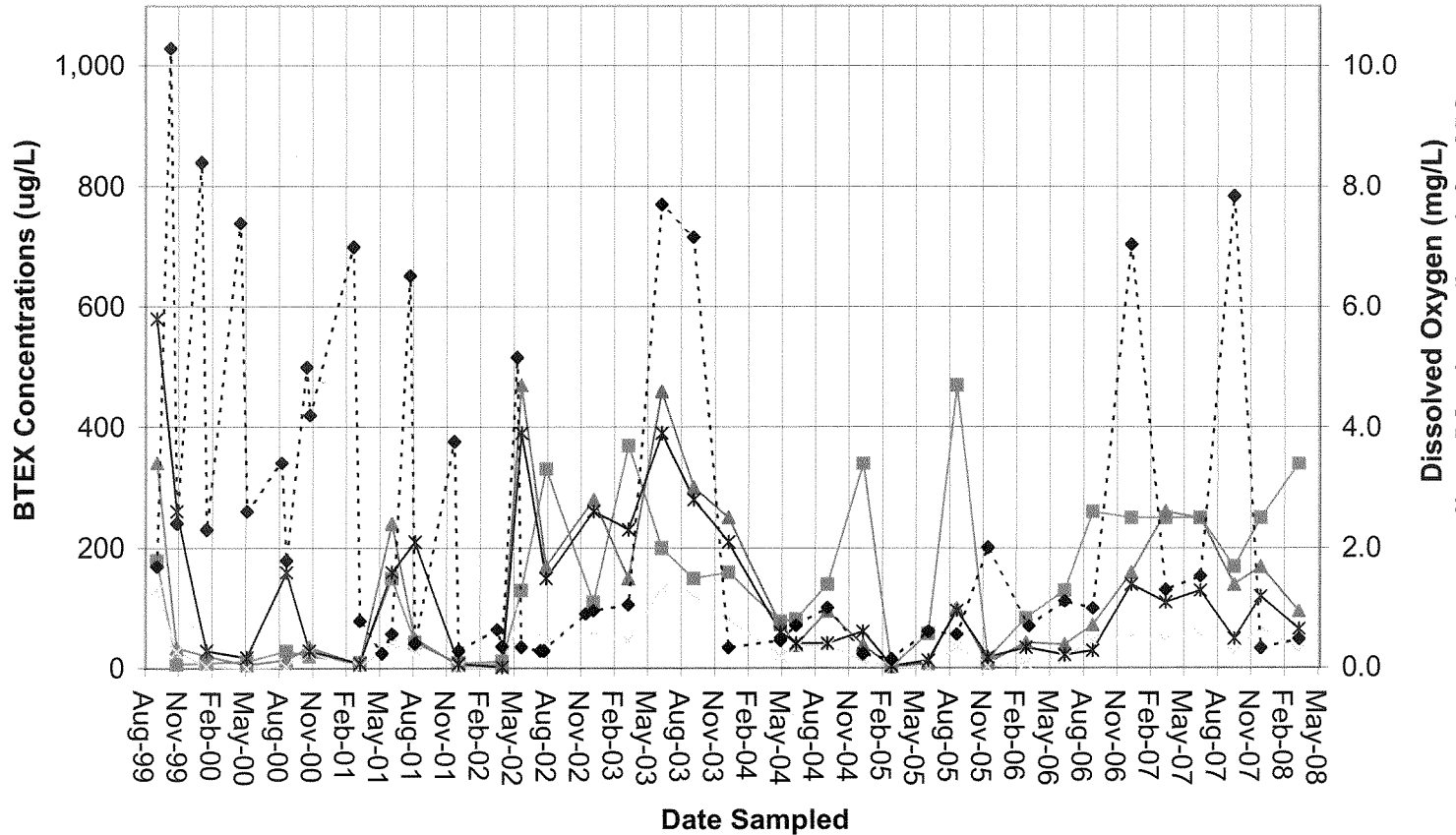
Plate

5a

DRAWN JHD	JOB NUMBER 4088087514	APPROVED <i>[Signature]</i>	DATE May-2008	REVISION DATE
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Reviewed by: *[Signature]*

MW-3



Dissolved Oxygen (mg/L)  
 Note: DO values collected after ORC removal and prior to sampling between Sept. 99 and Sept. 2002.

(Samples collected post purge between July 2003 and December 2003, all other samples collected pre-purge. ORC removed after Sept. 2002.)

Benzene  
  Toluene  
  Ethylbenzene  
  Total Xylenes  
  Dissolved Oxygen



MW-3 BTEX and DO Results  
 First Quarter 2008  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California

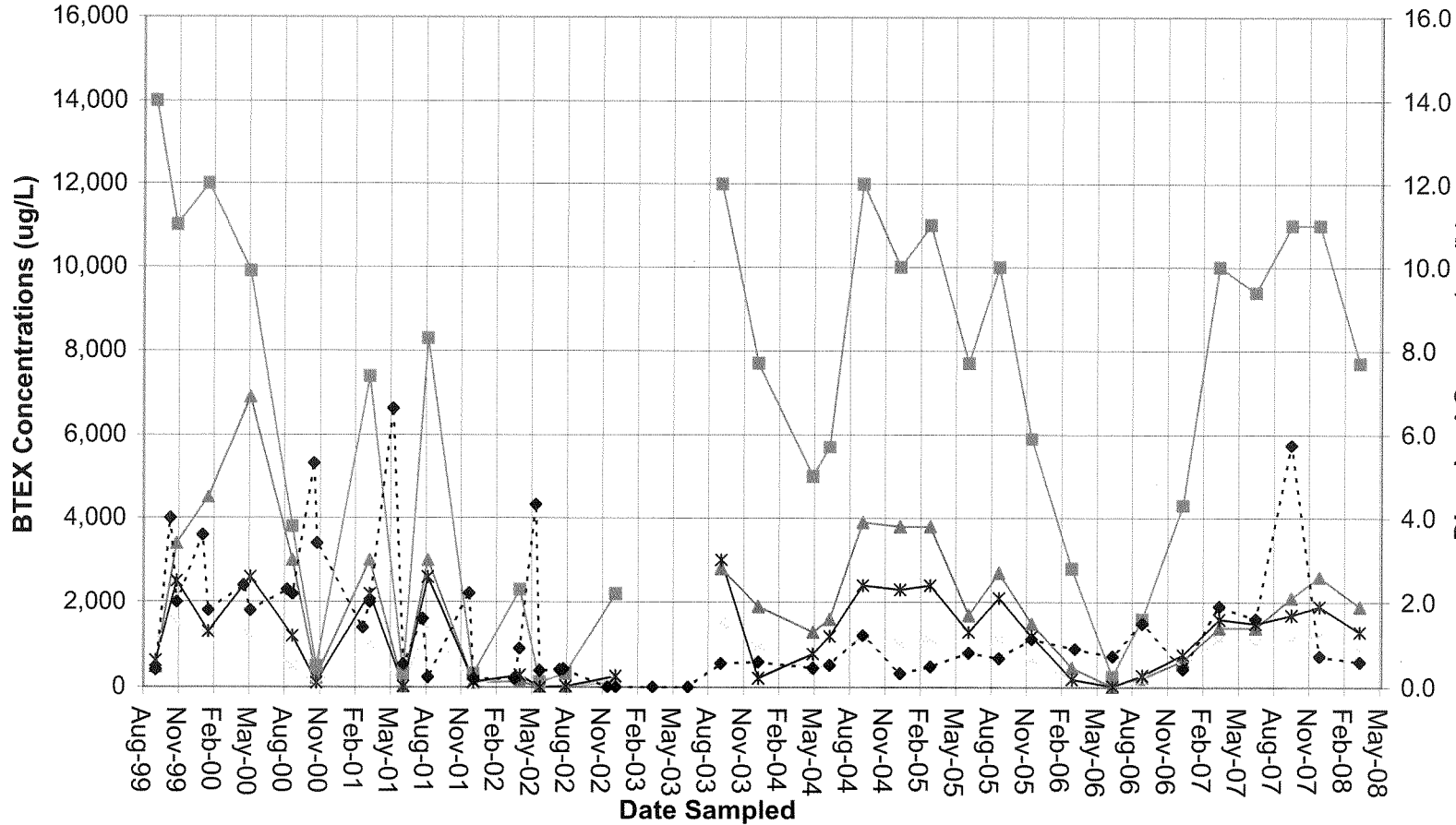
Plate

**5b**

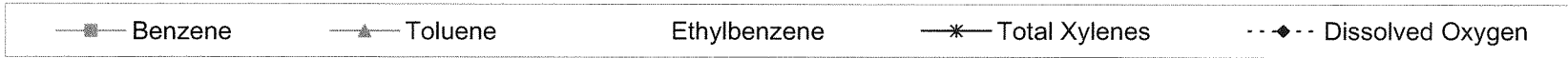
DRAWN	JOB NUMBER	APPROVED	DATE	REVISION DATE
JHD	4088087514	<i>SAD</i>	May - 2008	

Reviewed by: *BZ*

MW-5



(Samples collected post purge between July 2003 and December 2003, all other samples collected pre-purge. ORC sock stuck in MW-5 for April 2003 and July 2003 sampling events.)



MW-5 BTEX and DO Results  
 First Quarter 2008  
 BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

Plate

5c

DRAWN JHD	JOB NUMBER 4088087514	APPROVED <i>SJS</i>	DATE May-2008	REVISION DATE
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Reviewed by: *[Signature]*

**APPENDIX A**

**LABORATORY REPORTS**



10 April, 2008

David Nanstad  
MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma, CA 94954

RE: BPS City Blue  
Work Order: MRC0633

Enclosed are the results of analyses for samples received by the laboratory on 03/27/08 09:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 2682

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

The report shall not be reproduced except in full, without the written approval of the laboratory. The client, by accepting this report, also agrees not to alter any reports whether in the hard copy or electronic format and to use reasonable efforts to preserve the reports in the form and substance originally provided by TestAmerica.

For Volatile Analysis a trip blank is required to be provided. If trip blank results are not included in the report, then either the trip blank was not submitted or requested to be analyzed.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
**Reported:**  
04/10/08 15:33

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
4097041918-1	MRC0633-01	Water	03/26/08 11:35	03/27/08 09:15
4097041918-2	MRC0633-02	Water	03/26/08 10:35	03/27/08 09:15
4097041918-3	MRC0633-03	Water	03/26/08 11:05	03/27/08 09:15
4097041918-4	MRC0633-04	Water	03/26/08 09:50	03/27/08 09:15
4097041918-5	MRC0633-05	Water	03/26/08 08:00	03/27/08 09:15

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
Reported:  
04/10/08 15:33

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B

### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>4097041918-1 (MRC0633-01) Water</b> Sampled: 03/26/08 11:35 Received: 03/27/08 09:15									
<b>Gasoline Range Organics (C4-C12)</b>	<b>28000</b>	10000	ug/l	200	8D01004	04/01/08	04/01/08	EPA 8015B/8021B	
Benzene	4900	100	"	"	"	"	"	"	
Toluene	4900	100	"	"	"	"	"	"	
Ethylbenzene	530	100	"	"	"	"	"	"	
Xylenes (total)	2100	100	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	70-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96 %	70-125	"	"	"	"	"	
<b>4097041918-2 (MRC0633-02) Water</b> Sampled: 03/26/08 10:35 Received: 03/27/08 09:15									
<b>Gasoline Range Organics (C4-C12)</b>	<b>2300</b>	500	ug/l	10	8D01004	04/01/08	04/01/08	EPA 8015B/8021B	
Benzene	340	5.0	"	"	"	"	"	"	
Toluene	95	5.0	"	"	"	"	"	"	
Ethylbenzene	26	5.0	"	"	"	"	"	"	
Xylenes (total)	64	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98 %	70-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98 %	70-125	"	"	"	"	"	
<b>4097041918-3 (MRC0633-03) Water</b> Sampled: 03/26/08 11:05 Received: 03/27/08 09:15									
<b>Gasoline Range Organics (C4-C12)</b>	<b>28000</b>	25000	ug/l	500	8D01004	04/01/08	04/01/08	EPA 8015B/8021B	
Benzene	7700	250	"	"	"	"	"	"	
Toluene	1900	250	"	"	"	"	"	"	
Ethylbenzene	860	250	"	"	"	"	"	"	
Xylenes (total)	1300	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1200	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		105 %	70-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	70-125	"	"	"	"	"	

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
Reported:  
04/10/08 15:33

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B TestAmerica Morgan Hill

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>4097041918-4 (MRC0633-04) Water</b> Sampled: 03/26/08 09:50 Received: 03/27/08 09:15										
Gasoline Range Organics (C4-C12)	ND	50		ug/l	1	8D01004	04/01/08	04/01/08	EPA 8015B/8021B	
Benzene	ND	0.50		"	"	"	"	"	"	
<b>Toluene</b>	<b>0.68</b>	0.50		"	"	"	"	"	"	
Ethylbenzene	ND	0.50		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.88</b>	0.50		"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5		"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		106 %		70-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95 %		70-125		"	"	"	"	

MACTEC Engineering & Consulting [Petaluma] 5341 Old Redwood Highway, Suite 300 Petaluma CA, 94954	Project: BPS City Blue Project Number: 4097041918-05 Project Manager: David Nanstad	MRC0633 Reported: 04/10/08 15:33
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**Volatile Organic Compounds by EPA Method 8260B**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>4097041918-1 (MRC0633-01) Water</b> Sampled: 03/26/08 11:35 Received: 03/27/08 09:15									
<b>1,2-Dichloroethane</b>	<b>240</b>	5.0	ug/l	10	8C28010	03/28/08	03/28/08	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		96 %	75-130		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	60-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	75-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	55-130		"	"	"	"	
<b>4097041918-3 (MRC0633-03) Water</b> Sampled: 03/26/08 11:05 Received: 03/27/08 09:15									
<b>1,2-Dichloroethane</b>	<b>220</b>	10	ug/l	20	8C28010	03/28/08	03/28/08	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		100 %	75-130		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99 %	60-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99 %	75-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	55-130		"	"	"	"	

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
Reported:  
04/10/08 15:33

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B - Quality Control

### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 8D01004 - EPA 5030B [P/T] / EPA 8015B/8021B

##### Blank (8D01004-BLK1)

Prepared & Analyzed: 04/01/08

Gasoline Range Organics (C4-C12)	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	42.2		"	40.0		106	70-135			
Surrogate: 4-Bromofluorobenzene	37.2		"	40.0		93	70-125			

##### Laboratory Control Sample (8D01004-BS1)

Prepared & Analyzed: 04/01/08

Benzene	9.63	0.50	ug/l	10.0		96	75-140			
Toluene	9.90	0.50	"	10.0		99	65-125			
Ethylbenzene	9.91	0.50	"	10.0		99	60-125			
Xylenes (total)	30.0	0.50	"	30.0		100	60-130			
Methyl tert-butyl ether	9.09	2.5	"	10.0		91	60-145			
Surrogate: a,a,a-Trifluorotoluene	42.3		"	40.0		106	70-135			

##### Laboratory Control Sample (8D01004-BS2)

Prepared & Analyzed: 04/01/08

Gasoline Range Organics (C4-C12)	222	50	ug/l	250		89	60-120			
Surrogate: 4-Bromofluorobenzene	40.7		"	40.0		102	70-125			

##### Laboratory Control Sample Dup (8D01004-BSD2)

Prepared & Analyzed: 04/01/08

Gasoline Range Organics (C4-C12)	215	50	ug/l	250		86	60-120	3	20	
Surrogate: 4-Bromofluorobenzene	40.1		"	40.0		100	70-125			

##### Matrix Spike (8D01004-MS1)

Source: MRC0667-03

Prepared & Analyzed: 04/01/08

Gasoline Range Organics (C4-C12)	106	50	ug/l	91.0	ND	116	45-135			
Benzene	9.89	0.50	"	10.0	ND	99	70-150			
Toluene	10.2	0.50	"	10.0	ND	102	65-130			
Ethylbenzene	10.1	0.50	"	10.0	ND	101	65-125			
Xylenes (total)	30.9	0.50	"	30.0	ND	103	65-130			
Methyl tert-butyl ether	9.61	2.5	"	10.0	ND	96	45-150			
Surrogate: a,a,a-Trifluorotoluene	42.2		"	40.0		106	70-135			
Surrogate: 4-Bromofluorobenzene	41.2		"	40.0		103	70-125			

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
Reported:  
04/10/08 15:33

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 8D01004 - EPA 5030B [P/T] / EPA 8015B/8021B

Matrix Spike Dup (8D01004-MSD1)	Source: MRC0667-03	Prepared & Analyzed: 04/01/08								
Gasoline Range Organics (C4-C12)	95.5	50	ug/l	91.0	ND	105	45-135	10	20	
Benzene	9.63	0.50	"	10.0	ND	96	70-150	3	25	
Toluene	9.84	0.50	"	10.0	ND	98	65-130	4	20	
Ethylbenzene	9.90	0.50	"	10.0	ND	99	65-125	2	25	
Xylenes (total)	30.3	0.50	"	30.0	ND	101	65-130	2	20	
Methyl tert-butyl ether	9.61	2.5	"	10.0	ND	96	45-150	0.03	25	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	42.4		"	40.0		106	70-135			
Surrogate: 4-Bromofluorobenzene	37.7		"	40.0		94	70-125			

MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
Reported:  
04/10/08 15:33

## Volatile Organic Compounds by EPA Method 8260B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 8C28010 - EPA 5030B P/T / EPA 8260B

#### Blank (8C28010-BLK1)

Prepared & Analyzed: 03/28/08

1,2-Dichloroethane	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	2.36		"	2.50		94	75-130			
Surrogate: 1,2-Dichloroethane-d4	2.44		"	2.50		98	60-150			
Surrogate: Toluene-d8	2.21		"	2.50		88	75-120			
Surrogate: 4-Bromofluorobenzene	2.01		"	2.50		80	55-130			

#### Laboratory Control Sample (8C28010-BS1)

Prepared & Analyzed: 03/28/08

1,2-Dichloroethane	9.74	0.50	ug/l	10.0		97	65-130			
Surrogate: Dibromofluoromethane	2.53		"	2.50		101	75-130			
Surrogate: 1,2-Dichloroethane-d4	2.46		"	2.50		98	60-150			
Surrogate: Toluene-d8	2.48		"	2.50		99	75-120			
Surrogate: 4-Bromofluorobenzene	2.60		"	2.50		104	55-130			

#### Matrix Spike (8C28010-MS1)

Source: MRC0652-02

Prepared & Analyzed: 03/28/08

1,2-Dichloroethane	10.8	0.50	ug/l	10.0	ND	108	65-145			
Surrogate: Dibromofluoromethane	2.52		"	2.50		101	75-130			
Surrogate: 1,2-Dichloroethane-d4	2.50		"	2.50		100	60-150			
Surrogate: Toluene-d8	2.47		"	2.50		99	75-120			
Surrogate: 4-Bromofluorobenzene	2.67		"	2.50		107	55-130			

#### Matrix Spike Dup (8C28010-MSD1)

Source: MRC0652-02

Prepared & Analyzed: 03/28/08

1,2-Dichloroethane	10.6	0.50	ug/l	10.0	ND	106	65-145	2	25	
Surrogate: Dibromofluoromethane	2.56		"	2.50		102	75-130			
Surrogate: 1,2-Dichloroethane-d4	2.52		"	2.50		101	60-150			
Surrogate: Toluene-d8	2.44		"	2.50		98	75-120			
Surrogate: 4-Bromofluorobenzene	2.66		"	2.50		106	55-130			



MACTEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918-05  
Project Manager: David Nanstad

MRC0633  
**Reported:**  
04/10/08 15:33

## Notes and Definitions

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



## TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: MACTEC  
 REC. BY (PRINT) D. Lima  
 WORKORDER: MRC0633

DATE REC'D AT LAB: 3/27/08  
 TIME REC'D AT LAB: 9:15  
 DATE LOGGED IN: 3/27/08

For Regulatory Purposes?  
 DRINKING WATER  
 WASTE WATER  
 OTHER

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / <u>Absent</u> Intact / Broken*	-01	4097041918-1	3 VOA	HCl	-	W	3/26/08	
2. Chain-of-Custody	<u>Present</u> / Absent*	-02	4097041918-2	↓	↓	↓	↓	↓	
3. Traffic Reports or Packing List:	Present / <u>Absent</u>	-03	4097041918-3	↓	↓	↓	↓	↓	
4. Airbill:	Airbill / Sticker Present / <u>Absent</u>	-04	4097041918-4	↓	↓	↓	↓	↓	
5. Airbill #:		-05	4097041918-5	2 VOA	HCl	✓	✓	✓	
6. Sample Labels:	<u>Present</u> / Absent								
7. Sample IDs:	<u>Listed</u> / Not Listed on Chain-of-Custody								
8. Sample Condition:	<u>Intact</u> / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree?	Yes / <u>No</u> *								
10. Sample received within hold time?	Yes / <u>No</u> *								
11. Adequate sample volume received?	Yes / <u>No</u> *								
12. Proper preservatives used?	Yes / <u>No</u> *								
13. Trip Blank / Temp Blank Received? (circle which, if yes)	<u>Yes</u> / No*								
14. Read Temp: <u>4.2</u> Correction Factor: <u>-1.0</u> Corrected Temp: <u>3.2</u> Is corrected temp. 0-6°C? <u>Yes</u> / No**									
**Exception (if any): Metals / Perchlorate DFF on Ice or Problem COC									

*Rec'd  
3/27/08  
D. Lima  
8:15 AM*

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

**APPENDIX B**

**GROUNDWATER SAMPLING FORM**

**Table B1. Sample Location/Sample Description Cross-Reference  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California**

Well/Sample Number	Sample ID
MW-1	4097041918-1
MW-3	4097041918-2
MW-5	4097041918-3
MW-6	4097041918-4



# GROUNDWATER SAMPLING FORM

Job Name: BPS Services Oakland, CA  
 Job Number: 4097041918-05  
 Recorded By: David Allert  
 (Signature)

Well Number: MW-6  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 3/26/08  
 Sampled By: DA SK  
 (initials)

### WELL PURGING

#### PURGE VOLUME

Casing Diameter (D in inches): 2  
 Total Depth of Casing (TD in ft BTOC): ~  
 Water Level Depth (WL in ft BTOC): 22.97  
 No. of Well Volumes to be purged (#V): N/A no purge

#### PURGE METHOD

Bailer - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: peristaltic w/ dedicated tubing

#### PURGE VOLUME CALCULATION

(   -   ) X   <sup>2</sup> X 3 X 0.0408 =    gals  
 TD (feet)    WL (Feet)    D (inches)    # V                      Calculated Purge Volume

#### PUMP INTAKE SETTING

Near Bottom                       Near Top 3' below DPW  
 Other  
 Depth in feet (BTOC): \_\_\_\_\_  
 Screen Interval in feet (BTOC): from \_\_\_\_\_ to \_\_\_\_\_

#### Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU) <u>DO</u>
Initial	<u>6.85</u>	<u>1080</u>	<u>19.21</u>	<u>21.2 / 1.29</u> <u>ORP 229.0 (mV)</u>

Meter S/N: \_\_\_\_\_

#### PURGE TIME

Purge Start: 0940  
 Purge Stop: 0950  
 Elapsed: 10 min

#### PURGE RATE

GPM: 200 ml/min → 100  
 GPM: \_\_\_\_\_

#### PURGE VOLUME

Volume: 280 ml gallons ml

Observations During Purging (Well Condition, Color, Odor):  
clear

Discharge Water Disposal:  Sanitary Sewer  
 Storm Sewer                       Other N/A

### WELL SAMPLING

Bailer - Type: peristaltic pump w/ dedicated tubing Sample Time: 0950

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
<u>4097041918-4</u>	<u>3x40ml Voa</u>	<u>TPH-G, BTEX, MTBE</u>	<u>HCl</u>	<u>C&amp;T</u>	<u>Time = 0950</u>

### QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.



# GROUNDWATER SAMPLING FORM

Job Name: BPS Services Oakland, CA  
 Job Number: 4097041918-05  
 Recorded By: David A. St  
 (Signature)

Well Number: MW-3  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 3/26/08  
 Sampled By: DA SK  
 (Initials)

## WELL PURGING

### PURGE VOLUME

Casing Diameter (D in inches): 2  
 Total Depth of Casing (TD in ft BTOC): -  
 Water Level Depth (WL in ft BTOC): 23.00  
 No. of Well Volumes to be purged (# V): no purge

### PURGE METHOD

Bailer - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: peristaltic w/ dedicated tubing

### PUMP INTAKE SETTING

Near Bottom  Near Top 3' below DSW  
 Other \_\_\_\_\_  
 Depth in feet (BTOC): \_\_\_\_\_  
 Screen Interval in feet (BTOC): from \_\_\_\_\_ to \_\_\_\_\_

### PURGE VOLUME CALCULATION

(- - - - -) X -<sup>2</sup> X 3 X 0.0408 = - gals  
 TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

### Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU) <u>0.0</u>
Initial	<u>5.98</u>	<u>242</u>	<u>18.25</u>	<u>14.5</u>
				<u>ORP -33.6 (mV)</u>

Meter S/N \_\_\_\_\_

### PURGE TIME

Purge Start: 1025  
 Purge Stop: 1040  
 Elapsed: 15 min

### PURGE RATE

GPM: 200 ml/min → 100  
 GPM: \_\_\_\_\_

### PURGE VOLUME

Volume: 250 gallons ml

Observations During Purging (Well Condition, Color, Odor):

clear, slight hydrocarbon odor

Discharge Water Disposal:  Sanitary Sewer  Storm Sewer  Other N/A

## WELL SAMPLING

Bailer - Type: dedicated tubing Sample Time: 1035

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
<u>4097041918-2</u>	<u>3x40ml Vol</u>	<u>TPH-G; BTEX; MTBE</u>	<u>HCl</u>	<u>C&amp;T</u>	<u>time = 1035</u>

## QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.



# GROUNDWATER SAMPLING FORM

Job Name: BPS Services Oakland, CA  
 Job Number: 4097041918-05  
 Recorded By: David Allbut  
 (Signature)

Well Number: MW-5  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 3/26/08  
 Sampled By: SK DA  
 (initials)

### WELL PURGING

#### PURGE VOLUME

Casing Diameter (D in inches): 2  
 Total Depth of Casing (TD in ft BTOC): -  
 Water Level Depth (WL in ft BTOC): 21.77  
 No. of Well Volumes to be purged (#V): no purge

#### PURGE METHOD

Bailer - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: peristaltic w/ dedicated tubing

#### PURGE VOLUME CALCULATION

(- - -) X -<sup>2</sup> X 3 X 0.0408 = - gals  
 TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

#### PUMP INTAKE SETTING

Near Bottom  Near Top  3' below PTW  
 Other \_\_\_\_\_  
 Depth in feet (BTOC): -  
 Screen Interval in feet (BTOC): from - to -

#### Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp.		Turbidity (NTU)	DO (mg/L)
			<input checked="" type="checkbox"/> °C	<input type="checkbox"/> °F		
Initial	<u>6.77</u>	<u>670</u>	<u>17.83</u>		<u>13.9</u>	<u>0.58</u>
					<u>ORP (mV)</u>	<u>-90.8</u>

Meter S/N \_\_\_\_\_

#### PURGE TIME

Purge Start: 1055  
 Purge Stop: 1109  
 Elapsed: 8 min

#### PURGE RATE

GPM: 200 ml/min → 100  
 GPM: \_\_\_\_\_

#### PURGE VOLUME

Volume: 280 gallons ml

Observations During Purging (Well Condition, Color, Odor):

clear, hydrocarbon odor

Discharge Water Disposal:  Sanitary Sewer  
 Storm Sewer  Other no purge

### WELL SAMPLING

Bailer - Type: dedicated tubing Sample Time: 1105

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
<u>4097041918-3</u>	<u>3x40ml VOA</u>	<u>TPH-g, BTEX, MBE</u>	<u>PTCI</u>	<u>C&amp;T</u>	<u>time = 1105</u>

### QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.





# GROUNDWATER SAMPLING FORM

Job Name: BPS Services Oakland, CA  
 Job Number: 4097041918-05  
 Recorded By: David Allbut  
 (Signature)

Well Number: MW-1  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 3/26/08  
 Sampled By: SK DA  
 (initials)

## WELL PURGING

### PURGE VOLUME

Casing Diameter (D in inches): 4  
 Total Depth of Casing (TD in ft BTOC): -  
 Water Level Depth (WL in ft BTOC): 23.56  
 No. of Well Volumes to be purged (#V): no purge

### PURGE METHOD

Bailer - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: peristaltic w/ dedicated tubing

### PURGE VOLUME CALCULATION

(- - -) X -<sup>2</sup> X 3 X 0.0408 = - gals  
 TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

### PUMP INTAKE SETTING

Near Bottom  Near Top 3' below DTW  
 Other  
 Depth in feet (BTOC): \_\_\_\_\_  
 Screen Interval in feet (BTOC): from \_\_\_\_\_ to \_\_\_\_\_

### Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU) <sup>PC (single)</sup>	ORP (mV)
Initial	<u>6.90</u>	<u>1208</u>	<u>19.20</u>	<u>13.0</u>	<u>-771.8</u>
Meter S/N					

### PURGE TIME

Purge Start: 1125  
 Purge Stop: 1138  
 Elapsed: 13 min

### PURGE RATE

GPM: 200 ml/min → 100  
 GPM: \_\_\_\_\_

### PURGE VOLUME

Volume: 280 gallons ml

Observations During Purging (Well Condition, Color, Odor):

clear, hydrocarbon odor

Discharge Water Disposal:

Sanitary Sewer

Storm Sewer

Other no purge

## WELL SAMPLING

Bailer - Type: dedicated tubing

Sample Time: 1135

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
<u>4097041918-01</u>	<u>3x40 ml vac</u>	<u>TH-6, DICK, MTBE</u>	<u>HCl</u>	<u>C&amp;T</u>	<u>time = 1135</u>

## QUALITY CONTROL SAMPLES

### Duplicate Samples

Original Sample No.	Dupl. Sample No.

### Blank Samples

Type	Sample No.
<u>Trip Blank</u>	<u>4097041918-5</u>
	<u>Time = 0800</u>

### Other Samples

Type	Sample No.

# CHAIN OF CUSTODY RECORD

MACTEC Engineering and Consulting, Inc.  
 5341 Old Redwood Highway, Suite 300  
 Petaluma, CA 94954  
 (707) 793-3800 • FAX (707) 793-3900

**SAMPLING INFORMATION**

NAME OF FACILITY: Test American  
 STREET ADDRESS: \_\_\_\_\_  
 CITY / STATE: Morgan Hill, CA ZIP: \_\_\_\_\_

PROJECT NAME				JOB NO.		TOTAL NO. OF CONTAINERS	ANALYSES										FOR LAB USE ONLY					
SAMPLERS (SIGNATURE)				SAMPLERS INITIALS (PRINT)			TPH-a (4015 mL/50 mL)	BTEX (4020)	MTBE (4020)	EDC (4020)												
SAMPLING DATE																						
TIME	GRAB	COMP.	* MATRIX	SAMPLE NO.	SAMPLE LOCATION	FIELD MEASUREMENT																
1135	X		W	4097041918-1	MW-1		3	X	X	X	X											
1035	X		W	4097041918-2	MW-3		3	X	X	X												
1105	X		W	4097041918-3	MW-5		3	X	X	X	X											
0950	X		W	4097041918-4	MW-6		3	X	X	X												
0800	X		W	4097041918-5	Trip Blank	on Hold	2	X	X	X												
RELINQUISHED BY:			DATE / TIME	RECEIVED BY:			DATE / TIME	RELINQUISHED BY:			DATE / TIME	RECEIVED BY:			DATE / TIME							
<u>David A.IBUT</u>			3/27/08	<u>DLUNE TAMIL</u>			3/27/08	_____			_____	_____			_____							
(SIGNATURE)				(SIGNATURE)				(SIGNATURE)				(SIGNATURE)										

\*MATRIX  
 WATER - W  
 SOIL / SEDIMENT - SO  
 OTHER - NA

REMARKS: Standard TAT  
Detections of MTBE are to be confirmed by EPA 8260  
Sample 4097041918-5 is "on hold" Project Manager = David Namstad

**For Lab Use Only**

Are Custody Seals Present? Yes  No  Are Custody Seals Intact? Yes  No  N/A  Inspected By: \_\_\_\_\_ Date: \_\_\_\_\_

**FIELD INVESTIGATION DAILY REPORT**

Date: 3/26/08  
 Project name/task: BPS Services / Olin Standard F-see  
 Project No.: 4097041918-05, 6100080013-02,  
 Team Members: DA  
 Time work started: 0700  
 Time work ended: 1700

Description of work completed: Sampled BPS Services site in Oakland,  
Arranged Bottled water sampling logs

Number and type of wells sampled: BPS → 6 water levels, 4 - NO purge samples

Problems encountered: N/A

Corrective actions taken: N/A

**QA/QC Check list:**

COCs	Field Logs & Parameter Sheets
<input type="checkbox"/> Sample ID, date, and time has been cross-checked with COC, field log, and sample bottle.	<input checked="" type="checkbox"/> Every appropriate line has been filled out completely and accurately.
<input checked="" type="checkbox"/> Project name and # is correct.	<input checked="" type="checkbox"/> Calibration of equipment is w/in 1 day.
<input checked="" type="checkbox"/> Analyses requested is correctly indicated.	<input checked="" type="checkbox"/> Any corrections have been initialed.
<input checked="" type="checkbox"/> Sampler has been initialed.	<input checked="" type="checkbox"/> Log book is accurate and complete.
<input checked="" type="checkbox"/> Proper zone has been indicated.	<input checked="" type="checkbox"/> Appropriate sample registry has been updated.
<input checked="" type="checkbox"/> Any corrections have been initialed.	
Misc.	
<input checked="" type="checkbox"/> Field equipment has been cleaned and stored in proper location.	<input checked="" type="checkbox"/> Field logs and COCs are separated and in chronological order.
<input checked="" type="checkbox"/> Team file boxes are in field trailer and sufficiently stocked.	<input checked="" type="checkbox"/> An attention to detail has been applied to all aspects of my work today.

**Additional comments:**

Signatures: David Ault Date & Time 3/26/08

**DATE:** 3/26/08

**FIELD PERSONNEL:** David Allbut

**PROJECT #:** 4097041918-05

BPS Services (former City Blue)

**PROJECT DESCRIPTION:** 1 Q08 Sampling

Oakland, CA

**WEATHER CONDITIONS:** clear, mild

0700 left for Oakland

0800 Site arrival, decon

0805 Began water levels

0830 Finished water levels

0845 left for MACTEC Oakland office to pick up equipment

0930 Returned to site; calibrated YSI

0940 @ MW-6 No-purge sample for 8015, 8020, DO pre-purge

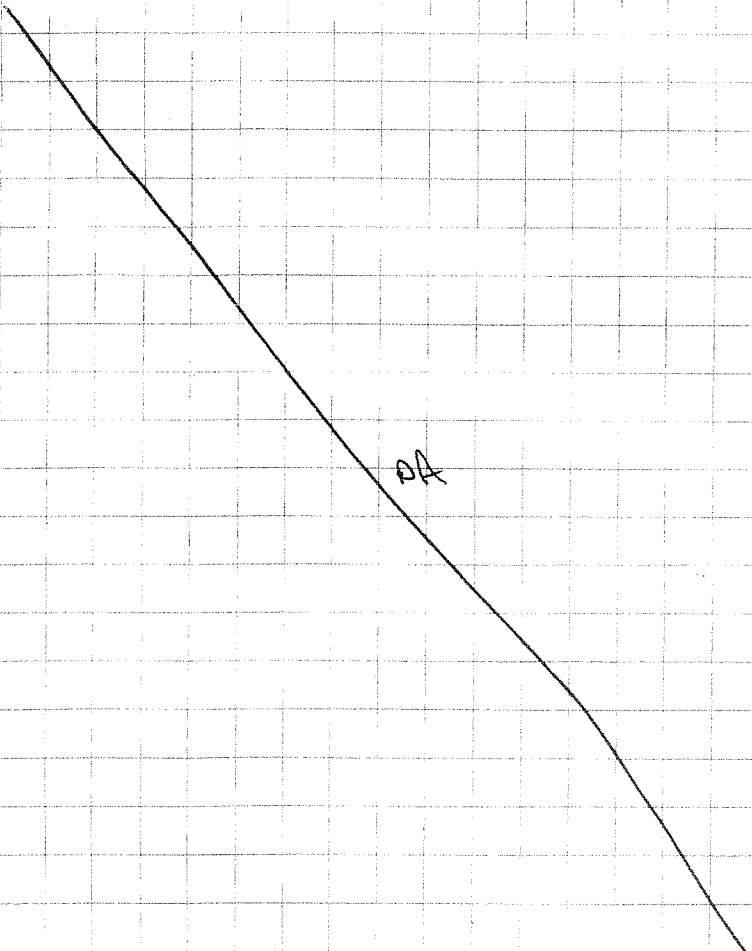
1020 @ MW-3 No-purge sample for 8015, 8020, DO pre-purge

1050 @ MW-5 Pre-purge DO, No-purge sample for 8015, 8020, EDC

1120 @ MW-1 Pre-purge DO, No-purge sample for 8015, 8020, EDC

1140 Paperwork; QA/QC;

1200 Left site



Continued on Page

Read and Understood By

David Allbut 3/27/08

Signed

Date

Signed

Date

Groundwater Monitoring Data Sheet

City Blue  
1700 Jefferson Street  
Oakland, CA

Well Number	Date	Time	Water Depth First Reading (TOC)	Water Depth Second Reading (TOC)	Cap	Lock	Casing	Box/Lid	Well Diameter	Comments	
MW-1	3/26/08	0818	23.56	23.56	Y	2	OK	OK	4	No SPH detected w/IF	
MW-3		0812	23.00	23.00	Y	2	OK	OK	4		
MW-5		0815	21.77	21.77	Y	2	OK	OK	2		
MW-6		0807	22.97	22.97	Y	2	OK		2		3/3 tabs stripped
MW-1A		0825	22.03	22.03	Y	2	OK		4		2/2 tabs stripped
MW-4		0830	23.48	23.48	Y	2	OK	OK	4		

Please record all monitoring equipment model numbers, serial numbers and calibration dates here. Also record expiration dates of calibration fluids if applicable: 3/26/08

	Meter:	Calibration Solution Info
pH:	YSI 55b # 04A0031A1	PH 7: EXP 5/10/08 Lot 5713 PH 10: EXP 12/23/08 Lot 1706759
Temperature:		N/A
Specific Conductance:		1000 µS/cm: EXP 4/4/08 Lot 5666
Dissolved Oxygen:	YSI 55 # 01D0873AD	N/A
Turbidity:	La Motte 2020 # 2766-3601	N/A
Redox:	YSI 55b # 04A0031A1	EXP 2/8/09 Lot # 020808