

**RECEIVED**

*1:33 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:** October 4, 2007

**Subject:** Second Quarter 2007 Groundwater Remediation and Monitoring Report  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

**Project Number:** 4097041918 Task 05

Enclosed please find 4 sets (1 original and 3 copies) of the *Groundwater Remediation and Monitoring Report for the Second Quarter 2007* 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). 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. Please contact David Nanstad if you are interested in having MACTEC perform this analysis for BPS.

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

Enclosed: Second Quarter 2007 Groundwater Remediation and Monitoring Report  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

Cc: Susan Panttaja – MACTEC E&C, Transmittal Only



**MACTEC**

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



engineering and constructing a better tomorrow

October 2, 2007

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

Subject: **Groundwater Remediation and Monitoring Report  
Second Quarter 2007  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California  
MACTEC Project No. 4097041918 05**

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 Second Quarter 2007 groundwater monitoring event was performed on July 2, 2007. Information presented in this letter-report represent the Second Quarter 2007 (April through July 2) 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 of 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 release 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 is 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.

## SECOND QUARTER 2007 GROUNDWATER SAMPLING AND ANALYSIS

On July 02, 2007, 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 shows groundwater field parameters, including DO, collected prior to sampling. During the Second Quarter 2007 event, the DO concentrations ranged from 1.5 mg/L in MW-3 to 2.0 mg/L in MW-1. MACTEC will continue to monitor DO in these wells.

Prior to sampling, MACTEC measured the depth to groundwater from the top of casing (TOC) of wells MW-1, MW-3, MW-5, and MW-6 using an electronic water level indicator. Current and historical measurements and calculated groundwater elevations are displayed on Plate 2 and tabulated in Table 2. As shown in Table 2, the groundwater surface elevation increased an average of 0.04 feet across the site, as compared to last quarter's measurements. Groundwater elevations at the site have generally been increasing since groundwater monitoring began. MACTEC will continue to monitor groundwater elevations in these wells.

The groundwater elevation contours shown on Plate 3 were drawn using the July 02, 2007 groundwater measurements from MW-1, MW-3, MW-5, and MW-6. Based on the groundwater elevations, the groundwater gradient is approximately 0.003 ft/ft. The direction of flow appears to be in the 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 Second Quarter 2007 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) are presented in Appendix A.

## DISCUSSION

As shown in Table 4 and Plates 5a, 5b, and 5c, the Second Quarter 2007 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 Second Quarter 2007 event are as follows:

- TPHg ranged from non-detectable with a detection limit of 0.05 milligrams per liter (mg/L; MW-6) to 33 mg/l (MW-5).
- Benzene ranged from non-detectable with a detection limit of 0.5 micrograms per liter ( $\mu\text{g/L}$ ; MW-6) to 9,400  $\mu\text{g/L}$  (MW-5).
- Toluene ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 2,000  $\mu\text{g/L}$  (MW-1).
- Ethylbenzene ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 1,000  $\mu\text{g/L}$  (MW-5).
- Total Xylenes ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 1,500  $\mu\text{g/L}$  (MW-5).
- 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 500  $\mu\text{g/L}$  (MW-1 and MW-5).
- EDC was detected in MW-1 at a concentration of 220  $\mu\text{g/L}$  and in MW-5 at a concentration of 410  $\mu\text{g/L}$ .

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. The Second Quarter 2007 concentrations of TPHg and BTEX in MW-1 have all decreased since the First Quarter 2007.

In MW-3, chemical concentrations peaked in 2003; decreased significantly in mid-2005, and subsequently increased (Plate 5b). Relative to the First Quarter 2007 results, the Second Quarter 2007 TPHg and BTEX concentrations are very similar or the same (benzene).

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. Relative to the First Quarter 2007 results, the Second Quarter 2007 TPHg and BTEX concentrations are very similar or the same (toluene).

Typically, groundwater collected from MW-6 contains no detectable concentrations of TPHg or BTEX compounds. The Second Quarter 2007 monitoring data for MW-6 indicates no TPHg or BTEX compounds were detected in this well. 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 (220 ug/L and 410 ug/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.

October 2, 2007  
4097041918 05  
Mr. David Blain  
BPS Reprographic Services  
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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



Richard Manser  
Principal Scientist

DSN/mlb:MB62061.doc-BPS



Susan K. Panttaja, PG  
Senior Geologist



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

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

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

REDOX (mvolts)	MW-1	MW-3	MW-5	MW-6
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	-316.8	-291.8	169.2	-92.7
Temperature (deg F)	MW-1	MW-3	MW-5	MW-6
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
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

**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

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 SKP

Accepted SKP

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

Date Sampled	MW-1 TOC Elev.   32.36		MW-3 TOC Elev.   31.77		MW-5 TOC Elev.   30.56		MW-6 TOC Elev.   31.26		Average Change Since Preceding Quarter
	Water Level	Water Elevation	Water Level	Water Elevation	Water Level	Water Elevation	Water Level	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

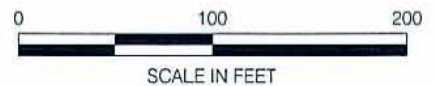
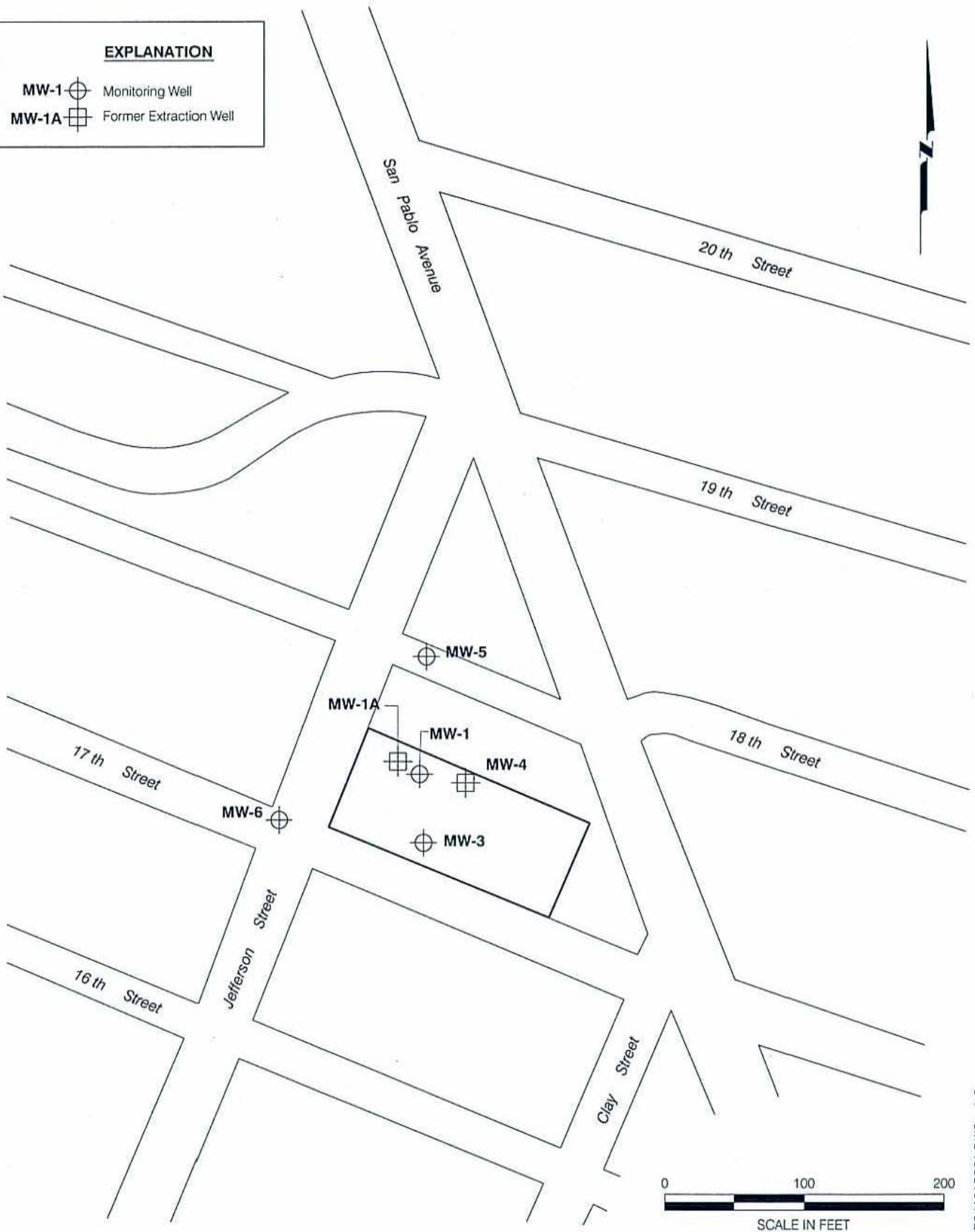
Note: All measurements shown in feet.  
 TOC Elev. = top of casing elevation  
 NM = not monitored  
 FP = free product  
 -- = no data collected  
 NA = not available  
 \* This data not available due to ORC socks stuck in well  
 \*\* This data is suspect due to probable equipment malfunction or operator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

Checked SKP  
 Approved BW

**PLATES**

**EXPLANATION**

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



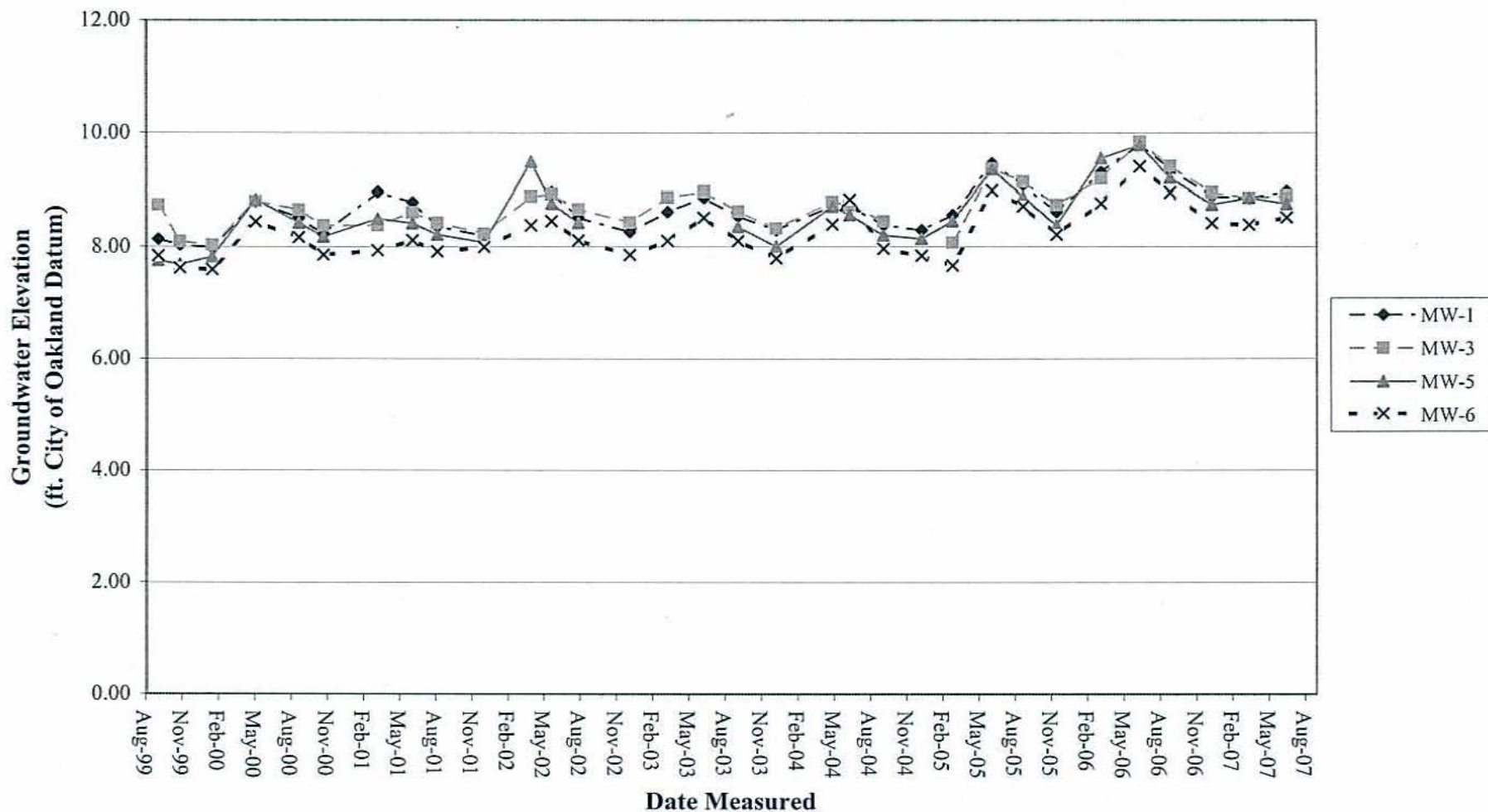
4097041918001.DWG 1.0  
20070530.1424



**Site Map**  
**Groundwater Remediation and Monitoring Report**  
**Second Quarter 2007**  
**BPS Reprographic Services Facility**  
**Oakland, California**

PLATE  
**1**

DRAWN RF	JOB NUMBER 4097041918 01	CHECKED <i>SHF</i>	CHECKED DATE 07/07	APPROVED <i>[Signature]</i>	APPROVED DATE 9-26-07
-------------	-----------------------------	-----------------------	-----------------------	--------------------------------	--------------------------



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



**MACTEC**

**Groundwater Elevation Data**

Second Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

Plate

**2**

DRAWN  
DSN

JOB NUMBER  
4097041918





APPROVED  
*DSN SLP*

DATE  
September-07

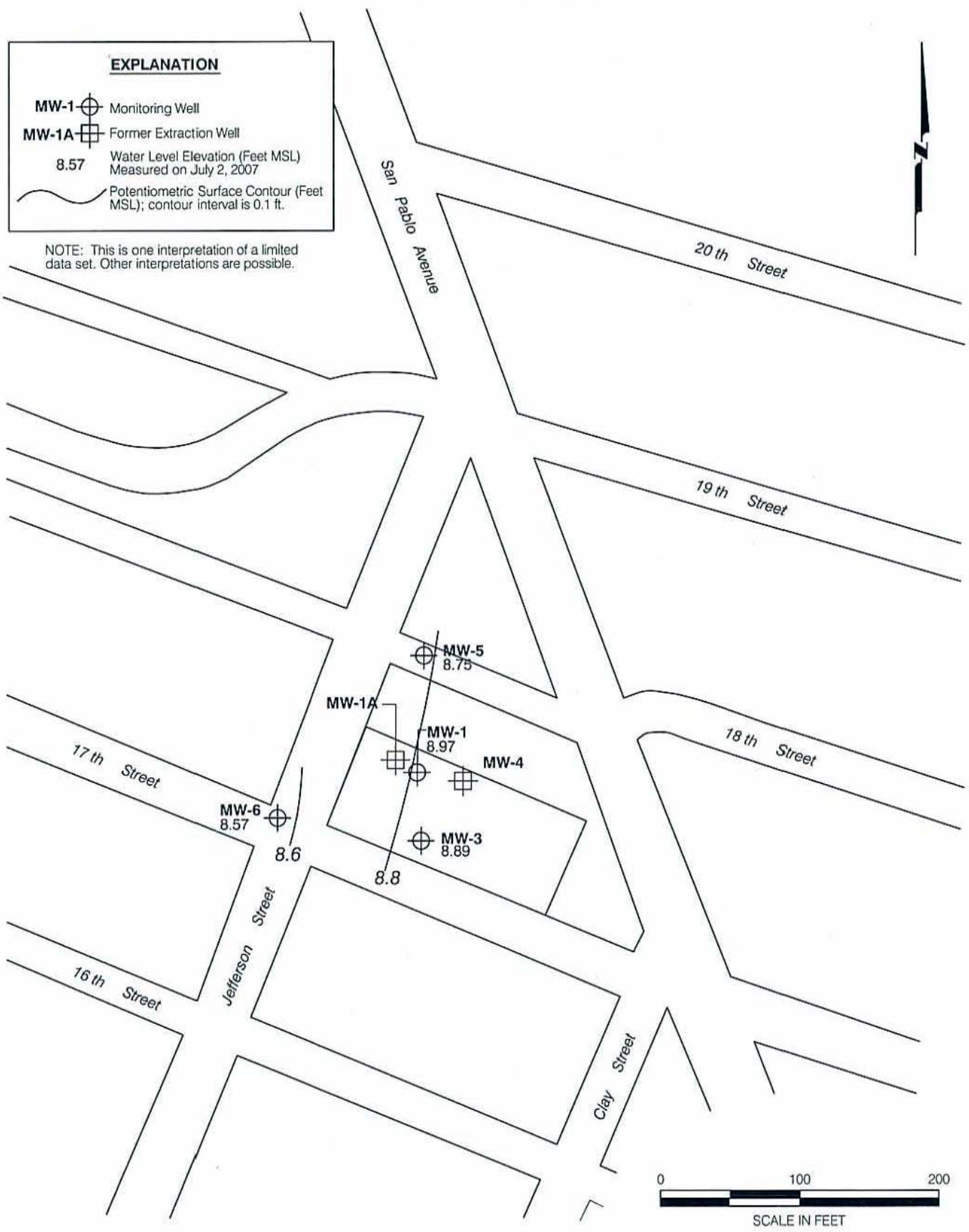
REVISION DATE



**EXPLANATION**

- MW-1  Monitoring Well
- MW-1A  Former Extraction Well
- 8.57  Water Level Elevation (Feet MSL)  
Measured on July 2, 2007
-  Potentiometric Surface Contour (Feet MSL); contour interval is 0.1 ft.

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



4097041918001.DWG 1.0  
20070530.1343



**Groundwater Contours  
Groundwater Remediation and Monitoring Report  
Second Quarter 2007  
BPS Reprographic Services Facility  
Oakland, California**

PLATE  
**3**

DRAWN  
RF

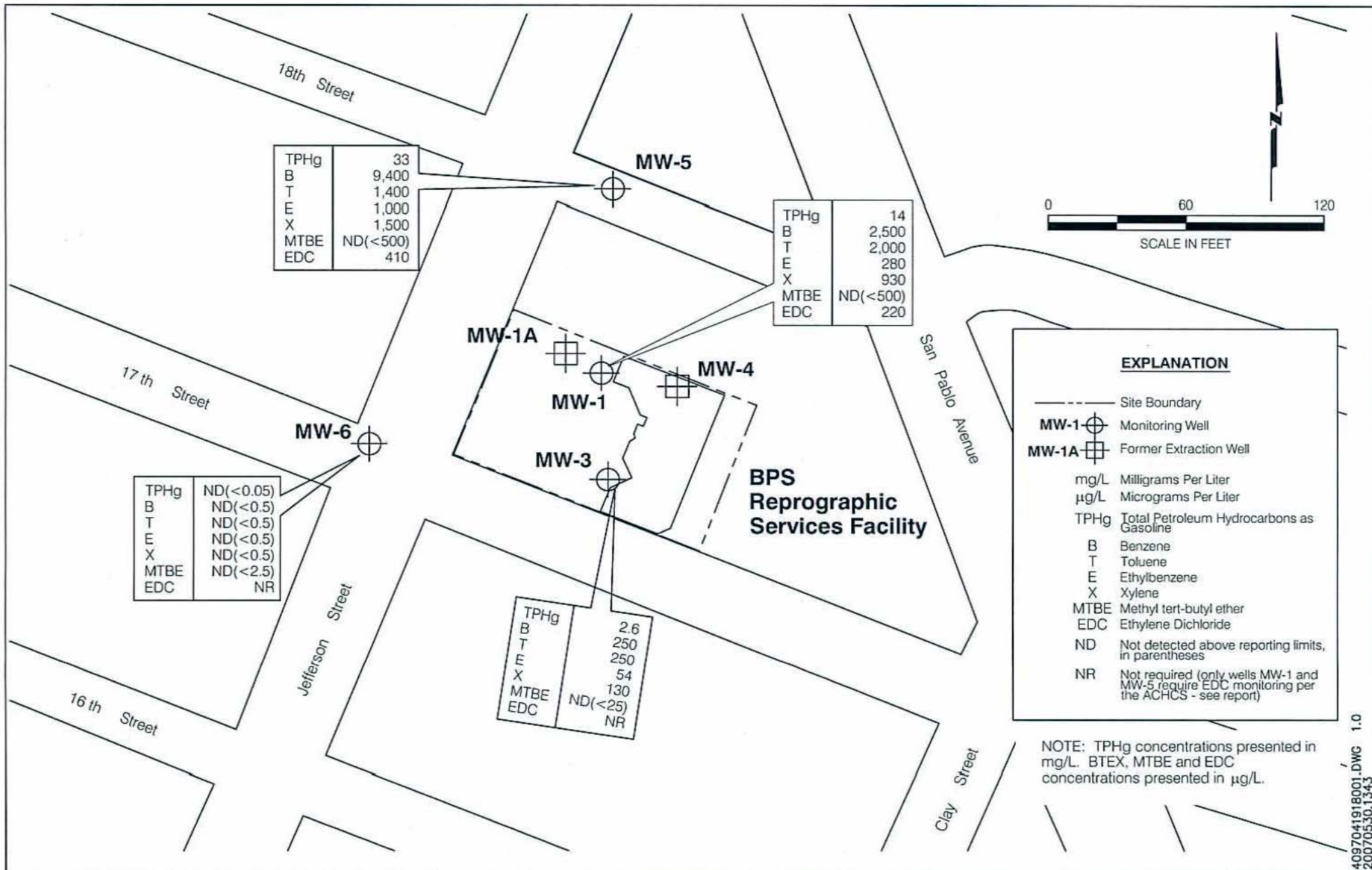
JOB NUMBER  
4097041918 01

CHECKED  
*SKP*

CHECKED DATE  
07/07

APPROVED  
*ISV*

APPROVED DATE  
7-26-07



**TPHg, BTEX, MTBE and EDC Concentrations in Groundwater  
Groundwater Remediation and Monitoring Report  
Second Quarter 2007  
BPS Reprographic Services Facility  
Oakland, California**

PLATE

**4**

DRAWN  
RF

JOB NUMBER  
4097041918 01

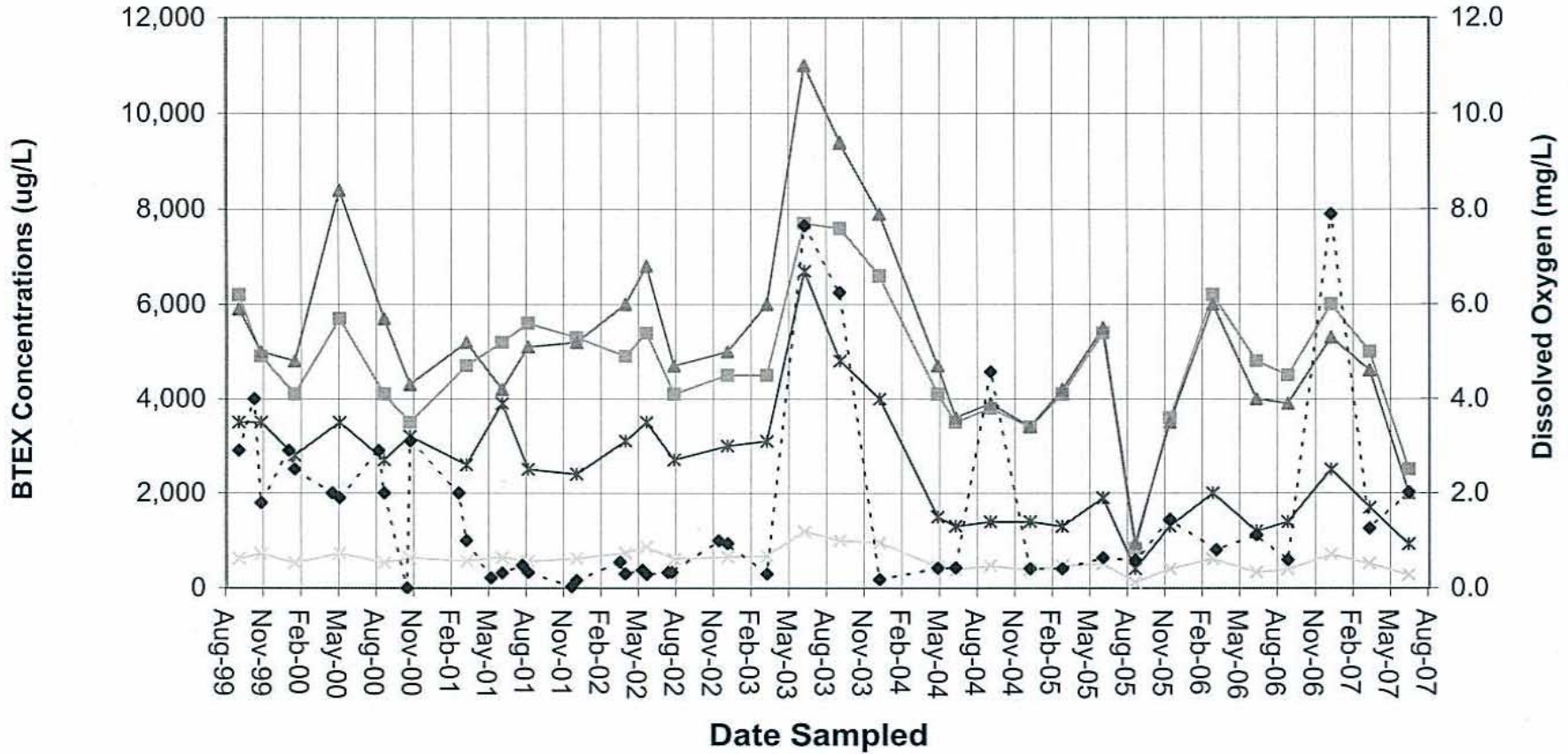
CHECKED  
SWP

CHECKED DATE  
07/07

APPROVED  
[Signature]

APPROVED DATE  
7-6-07

MW-1



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



**MACTEC**

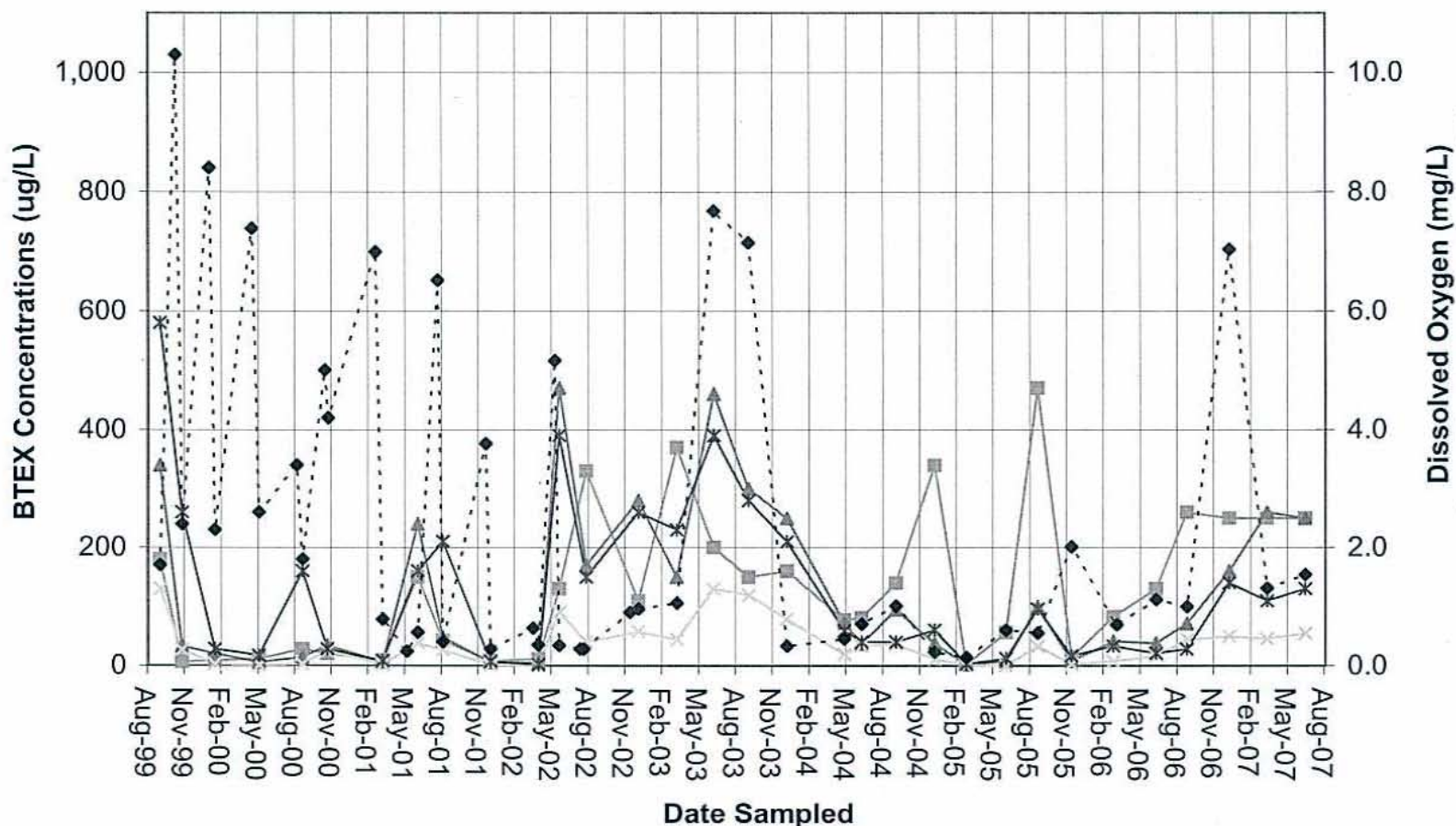
MW-1 BTEX and DO Results  
 Second Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California

Plate

**5a**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	4097041918	<i>DBV SJP</i>	September-07	

MW-3



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

Legend: Benzene (square), Toluene (triangle), Ethylbenzene (x), Total Xylenes (\*), Dissolved Oxygen (diamond)

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



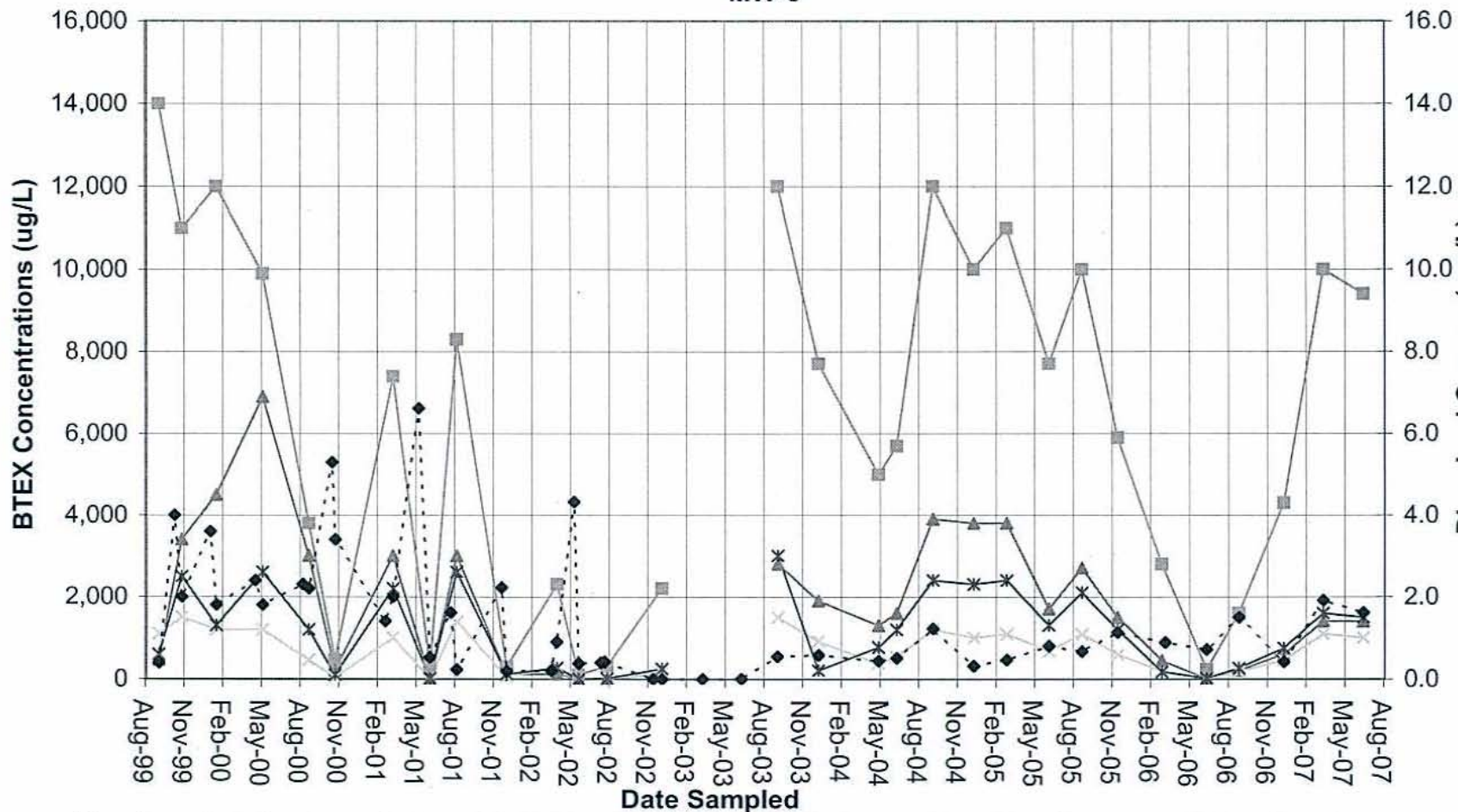
**MW-3 BTEX and DO Results**  
 Second Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California

Plate

**5b**

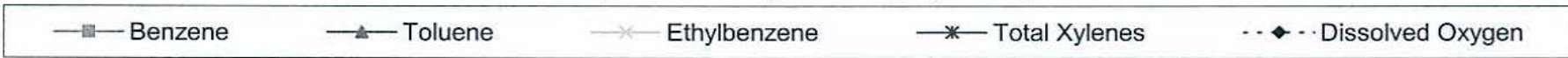
DRAWN	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	4097041918	<i>[Signature]</i>	September-07	

MW-5



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 sock stuck in MW-5 for April 2003 and July 2003 sampling events.)



MW-5 BTEX and DO Results  
 Second Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

Plate

5c

DRAWN DSN	JOB NUMBER 4097041918	APPROVED <i>BS ✓ SLP</i>	DATE September-07	REVISION DATE
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**APPENDIX A**

**LABORATORY REPORTS**

18 July, 2007

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

RE: BPS City Blue  
Work Order: MQG0140

Enclosed are the results of analyses for samples received by the laboratory on 07/02/07 19:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 1210

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 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.

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: 4097041918.01 Project Manager: David Nanstad	MQG0140 Reported: 07/18/07 10:58
---	---	--

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
409704-4	MQG0140-01	Water	07/02/07 09:30	07/02/07 19:20
409704-2	MQG0140-02	Water	07/02/07 09:50	07/02/07 19:20
409704-1	MQG0140-03	Water	07/02/07 10:15	07/02/07 19:20
409704-3	MQG0140-04	Water	07/02/07 10:30	07/02/07 19:20
409704-5	MQG0140-05	Water	07/02/07 10:40	07/02/07 19:20



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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

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

### TestAmerica - Morgan Hill, CA

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>409704-4 (MQG0140-01) Water</b> Sampled: 07/02/07 09:30 Received: 07/02/07 19:20									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	7G11005	07/11/07	07/11/07	EPA 8015B/8021B	
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		106 %	85-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	75-125		"	"	"	"	
<b>409704-2 (MQG0140-02) Water</b> Sampled: 07/02/07 09:50 Received: 07/02/07 19:20									
Gasoline Range Organics (C4-C12)	2600	500	ug/l	10	7G11005	07/11/07	07/11/07	EPA 8015B/8021B	
Benzene	250	5.0	"	"	"	"	"	"	
Toluene	250	5.0	"	"	"	"	"	"	
Ethylbenzene	54	5.0	"	"	"	"	"	"	
Xylenes (total)	130	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		103 %	85-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	75-125		"	"	"	"	
<b>409704-1 (MQG0140-03) Water</b> Sampled: 07/02/07 10:15 Received: 07/02/07 19:20									
Gasoline Range Organics (C4-C12)	14000	10000	ug/l	200	7G11005	07/11/07	07/11/07	EPA 8015B/8021B	
Benzene	2500	100	"	"	"	"	"	"	
Toluene	2000	100	"	"	"	"	"	"	
Ethylbenzene	280	100	"	"	"	"	"	"	
Xylenes (total)	930	100	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		105 %	85-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	75-125		"	"	"	"	

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

**Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
409704-3 (MQG0140-04) Water Sampled: 07/02/07 10:30 Received: 07/02/07 19:20									
Gasoline Range Organics (C4-C12)	33000	10000	ug/l	200	7G11005	07/11/07	07/11/07	EPA 8015B/8021B	
Benzene	9400	100	"	"	"	"	"	"	
Toluene	1400	100	"	"	"	"	"	"	
Ethylbenzene	1000	100	"	"	"	"	"	"	
Xylenes (total)	1500	100	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		100 %	85-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	75-125		"	"	"	"	

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

**Volatile Organic Compounds by EPA Method 8260B**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>409704-1 (MQG0140-03) Water</b> Sampled: 07/02/07 10:15    Received: 07/02/07 19:20									
<b>1,2-Dichloroethane</b>	<b>220</b>	<b>10</b>	ug/l	20	7G11007	07/11/07	07/11/07	EPA 8260B	
Surrogate: Dibromofluoromethane		110 %	75-120		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		111 %	60-125		"	"	"	"	
Surrogate: Toluene-d8		101 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	60-135		"	"	"	"	
<b>409704-3 (MQG0140-04) Water</b> Sampled: 07/02/07 10:30    Received: 07/02/07 19:20									
<b>1,2-Dichloroethane</b>	<b>410</b>	<b>25</b>	ug/l	50	7G11007	07/11/07	07/11/07	EPA 8260B	
Surrogate: Dibromofluoromethane		106 %	75-120		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		111 %	60-125		"	"	"	"	
Surrogate: Toluene-d8		102 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94 %	60-135		"	"	"	"	

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

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

### TestAmerica - Morgan Hill, CA

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 7G11005 - EPA 5030B [P/T] / EPA 8015B/8021B

##### Blank (7G11005-BLK1)

Prepared & Analyzed: 07/11/07

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: <i>a,a,a</i> -Trifluorotoluene	42.4		"	40.0		106	85-120			
Surrogate: 4-Bromofluorobenzene	40.3		"	40.0		101	75-125			

##### Laboratory Control Sample (7G11005-BS1)

Prepared & Analyzed: 07/11/07

Gasoline Range Organics (C4-C12)	245	50	ug/l	275		89	60-115			
Benzene	4.13	0.50	"	3.30		125	35-145			
Toluene	23.1	0.50	"	24.2		95	70-115			
Ethylbenzene	4.47	0.50	"	5.05		88	65-115			
Xylenes (total)	25.9	0.50	"	29.0		89	70-115			
Methyl tert-butyl ether	5.99	2.5	"	4.60		130	35-130			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	43.1		"	40.0		108	85-120			
Surrogate: 4-Bromofluorobenzene	42.7		"	40.0		107	75-125			

##### Matrix Spike (7G11005-MS1)

Source: MQG0078-01

Prepared & Analyzed: 07/11/07

Gasoline Range Organics (C4-C12)	302	50	ug/l	275	43.6	94	60-115			
Benzene	4.38	0.50	"	3.30	ND	133	35-145			
Toluene	24.4	0.50	"	24.2	ND	101	70-115			
Ethylbenzene	4.70	0.50	"	5.05	ND	93	65-115			
Xylenes (total)	27.4	0.50	"	29.0	ND	95	70-115			
Methyl tert-butyl ether	6.46	2.5	"	4.60	ND	140	35-130			M7
Surrogate: <i>a,a,a</i> -Trifluorotoluene	43.4		"	40.0		109	85-120			
Surrogate: 4-Bromofluorobenzene	43.4		"	40.0		109	75-125			

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7G11005 - EPA 5030B [P/T] / EPA 8015B/8021B**

Matrix Spike Dup (7G11005-MSD1)	Source: MQG0078-01			Prepared & Analyzed: 07/11/07						
Gasoline Range Organics (C4-C12)	285	50	ug/l	275	43.6	88	60-115	6	20	
Benzene	4.23	0.50	"	3.30	ND	128	35-145	3	25	
Toluene	23.3	0.50	"	24.2	ND	96	70-115	5	20	
Ethylbenzene	4.48	0.50	"	5.05	ND	89	65-115	5	25	
Xylenes (total)	26.1	0.50	"	29.0	ND	90	70-115	5	20	
Methyl tert-butyl ether	6.20	2.5	"	4.60	ND	135	35-130	4	25	M7
Surrogate: a,a,a-Trifluorotoluene	42.8		"	40.0		107	85-120			
Surrogate: 4-Bromofluorobenzene	42.8		"	40.0		107	75-125			

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 7G11007 - EPA 5030B P/T / EPA 8260B**

**Blank (7G11007-BLK1)**

Prepared & Analyzed: 07/11/07

1,2-Dichloroethane	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	2.68		"	2.50		107	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.61		"	2.50		104	60-125			
Surrogate: Toluene-d8	2.39		"	2.50		96	80-120			
Surrogate: 4-Bromofluorobenzene	2.44		"	2.50		98	60-135			

**Laboratory Control Sample (7G11007-BS1)**

Prepared & Analyzed: 07/11/07

1,2-Dichloroethane	11.2	0.50	ug/l	10.0		112	70-125			
Surrogate: Dibromofluoromethane	2.81		"	2.50		112	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.72		"	2.50		109	60-125			
Surrogate: Toluene-d8	2.50		"	2.50		100	80-120			
Surrogate: 4-Bromofluorobenzene	2.21		"	2.50		88	60-135			

**Matrix Spike (7G11007-MS1)**

Source: MQG0125-02

Prepared & Analyzed: 07/11/07

1,2-Dichloroethane	9.81	0.50	ug/l	10.0	ND	98	70-125			
Surrogate: Dibromofluoromethane	2.54		"	2.50		102	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.35		"	2.50		94	60-125			
Surrogate: Toluene-d8	2.39		"	2.50		96	80-120			
Surrogate: 4-Bromofluorobenzene	2.38		"	2.50		95	60-135			

**Matrix Spike Dup (7G11007-MSD1)**

Source: MQG0125-02

Prepared & Analyzed: 07/11/07

1,2-Dichloroethane	9.57	0.50	ug/l	10.0	ND	96	70-125	2	25	
Surrogate: Dibromofluoromethane	2.60		"	2.50		104	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.32		"	2.50		93	60-125			
Surrogate: Toluene-d8	2.51		"	2.50		100	80-120			
Surrogate: 4-Bromofluorobenzene	2.26		"	2.50		90	60-135			

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

Project: BPS City Blue  
Project Number: 4097041918.01  
Project Manager: David Nanstad

MQG0140  
Reported:  
07/18/07 10:58

**Notes and Definitions**

M7 The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).  
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

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

MQG0148

**SAMPLING INFORMATION**

NAME OF FACILITY: \_\_\_\_\_  
STREET ADDRESS: \_\_\_\_\_  
CITY / STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PROJECT NAME <b>BPS</b>		JOB NO. <b>4097041918.01</b>	TOTAL NO. OF CONTAINERS	ANALYSES <b>TPH GAS 8015 BTEX 8020 MTBE 8020 Ethylene Dichloride</b>	<i>eyf</i>
SAMPLERS (SIGNATURE) <i>eyf</i>		SAMPLERS INITIALS (PRINT) <b>CS</b>			
SAMPLING DATE <b>7/2/07</b>					

TIME	GRAB	COMP.	MATRIX	SAMPLE NO.	SAMPLE LOCATION	FIELD MEASUREMENT	TOTAL NO. OF CONTAINERS	ANALYSES	FOR LAB USE ONLY
0930	X		W	409704-4			3	X X X	
0950	X		W	409704-2			2	X X X	
1015	X		W	409704-1			4	X X X X	
1630	X		W	409704-3			5	X X X X	
1040	X		W	409704-5		Hold This Samples	2	X X X	
<i>eyf</i>									

RELINQUISHED BY: <i>eyf</i> (SIGNATURE)	DATE / TIME <b>7/2/07 1920</b>	RECEIVED BY: <i>phufy</i> TAMH (SIGNATURE)	DATE / TIME <b>7/2/07 1920</b>	RELINQUISHED BY: _____ (SIGNATURE)	RECEIVED BY: _____ (SIGNATURE)	DATE / TIME
---	-----------------------------------	--	-----------------------------------	--	--------------------------------------	-------------

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

**REMARKS**

**DISTRIBUTION: ORIGINAL AND YELLOW COPIES ACCOMPANY SAMPLE SHIPMENT TO LABORATORY. PINK COPY RETAINED BY SAMPLERS. YELLOW COPIES RETAINED BY LABORATORY.**

**Standard TAT**

**Detections of MTBE to be confirmed by 8260**

**For Lab Use Only**

Seals Present? Yes  No  Are Custody Seals Intact? Yes  No  N/A  Inspected By *phufy* Date **7/2/07**



# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: MACTEC  
 REC. BY (PRINT) PH  
 WORKORDER: M&G 0140

DATE REC'D AT LAB: 7/2/07  
 TIME REC'D AT LAB: 1920  
 DATE LOGGED IN: 7/6/07

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

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / <input checked="" type="radio"/> Absent Intact / Broken*								All HCU Vols 7/2/07 sherry
2. Chain-of-Custody <input checked="" type="radio"/> Present / Absent*								
3. Traffic Reports or Packing List: Present / <input checked="" type="radio"/> Absent								
4. Airbill: Airbill / Sticker Present / <input checked="" type="radio"/> Absent								
5. Airbill #:								
6. Sample Labels: <input checked="" type="radio"/> Present / Absent								
7. Sample IDs: <input checked="" type="radio"/> Listed / Not Listed on Chain-of-Custody								
8. Sample Condition: <input checked="" type="radio"/> Intact / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree? <input checked="" type="radio"/> Yes / No*								
10. Sample received within hold time? <input checked="" type="radio"/> Yes / No*								
11. Adequate sample volume received? <input checked="" type="radio"/> Yes / No*								
12. Proper preservatives used? <input checked="" type="radio"/> Yes / No*								
13. <input checked="" type="radio"/> Trip Blank / Temp Blank Received? (circle which, if yes) <input checked="" type="radio"/> Yes / No*								
14. Read Temp: <u>4.2°C</u> Corrected Temp: <u>2.2°C</u> Is corrected temp 4 +/-2°C? <input checked="" type="radio"/> Yes / No**								

(Acceptance range for samples requiring thermal pres.)  
 \*\*Exception (if any): METALS / DFF ON ICE  
 or Problem COC

\*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	409704-1
MW-3	409704-2
MW-5	409704-3
MW-6	409704-4

# MACTEC

## GROUNDWATER SAMPLING FORM

Job Name: BPS  
Job Number: 4097041918.01  
Recorded By: *chw*  
(Signature)

Well Number: MW-6  
Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
Date: 7/2/2007  
Sampled By: CS  
(initials)

### WELL PURGING

**PURGE VOLUME**  
Casing Diameter (D in inches): 2  
Total Depth of Casing (TD in ft BTOC): 32.5  
Water Level Depth (WL in ft BTOC): 22.75  
No. of Well Volumes to be purged: 3

**PURGE METHOD**  
 Bailer - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: Micro Purge

No Construction logs

### PURGE VOLUME CALCULATION

$$\left( \frac{\text{TD (feet)} - \text{WL (feet)}}{12 \text{ (inches)}} \right)^2 \times 3 \times 0.0408 = \text{Calculated Purge Volume (gals)}$$

### PUMP INTAKE SETTING

Near Bottom  Near Top  
 Other Middle of screen  
Depth in feet (BTOC): \_\_\_\_\_  
Screen Interval in feet (BTOC): from \_\_\_\_\_ to \_\_\_\_\_

### Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp.		Turbidity (NTU)
			<input checked="" type="checkbox"/> °C	<input type="checkbox"/> °F	
Initial	<u>6.45</u>	<u>776</u>	<u>18.9</u>		<u>31.2</u>

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

**PURGE TIME**  
Purge Start: 0925  
Purge Stop: 0930  
Elapsed: 5  
**PURGE RATE**  
GPM: \_\_\_\_\_

**PURGE VOLUME**  
Volume: 1.4 gallons  
D.O.: 1.66 Redox: -92.7  
Observations During Purging (Well Condition, Color, Odor):  
clear, slight odor  
Discharge Water Disposal:  Sanitary Sewer  
 Storm Sewer  Other 55 Gal. drum on site

### WELL SAMPLING

Bailer - Type: \_\_\_\_\_ Sample Time: 0930

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
409704-4	3 VOA's	T.P.H gas (8015 Modified) BTEX (8020) MTBE (8020)	HCL	Test America	

### QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

# MACTEC

## GROUNDWATER SAMPLING FORM

Job Name: BPS  
 Job Number: 4097041918.01  
 Recorded By: (Signature)

Well Number: MW-3  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 7/21/2007  
 Sampled By: CS (initials)

### WELL PURGING

#### PURGE VOLUME

Casing Diameter (D in inches): 4  
 Total Depth of Casing (TD in ft BTOC): 31  
 Water Level Depth (WL in ft BTOC): 22.00  
 No. of Well Volumes to be purged: 3

Screen Interval = 22-32 ft.

#### PURGE VOLUME CALCULATION

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

#### PURGE METHOD

Bailor - Type: \_\_\_\_\_  
 Submersible - Type: \_\_\_\_\_  
 Other - Type: Micro Purge

#### PUMP INTAKE SETTING

Near Bottom  Near Top  
 Other    Middle of screen  
 Depth in feet (BTOC): \_\_\_\_\_  
 Screen Interval in feet (BTOC): from \_\_\_\_\_ to \_\_\_\_\_

#### Field Parameter Measurement

Minutes	pH	Conductivity (μS)	Temp.		Turbidity (NTU)
			<input checked="" type="checkbox"/> °C	<input type="checkbox"/> °F	
Initial	<u>6.12</u>	<u>937.6</u>	<u>19.2</u>		<u>15.6</u>

Meter S/N

#### PURGE TIME

Purge Start: 0940      GPM: \_\_\_\_\_  
 Purge Stop: 0950      GPM: \_\_\_\_\_  
 Elapsed: 10

#### PURGE VOLUME

Volume: 1 lit. gallons  
 D.O. 1.54 Redox -291.8  
 Observations During Purging (Well Condition, Color, Odor):  
Clear, slight odor

Discharge Water Disposal:  Sanitary Sewer  
 Storm Sewer  Other 55 Gal. drum on site

### WELL SAMPLING

Bailor - Type: \_\_\_\_\_      Sample Time: 0950

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
409704-2	<u>2</u> VOA's	T.P.H gas (8015 Modified) BTEX (8020) MTBE (8020)	HCL	Test America	

### QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.



GROUNDWATER SAMPLING FORM

Well Number: MW-1

Well Type:  Monitor  Extraction  Other
 PVC  St. Steel  Other

Date: 7/2/2007

Sampled By: CS (Initials)

Reviewed by

Job Name: BPS
Job Number: 4097041918.01
Recorded By: [Signature]

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 33.5
Water Level Depth (WL in ft BTOC): 23.39
No. of Well Volumes to be purged: 3

Screen Interval = 22-32 ft.

PURGE VOLUME CALCULATION

( ) X 3 X 0.0408 = gals
TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

PURGE METHOD

Bailer - Type:
 Submersible - Type:
 Other - Type: Micro Purge

PUMP INTAKE SETTING

Near Bottom  Near Top
 Other Middle of screen
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from to

Field Parameter Measurement

Table with 5 columns: Minutes, pH, Conductivity (µS), Temp. (°C/°F), Turbidity (NTU). Row 1: Initial, 6.32, 887, 18.4, 10.2

PURGE TIME

Purge Start: 1010 GPM:
Purge Stop: 1015 GPM:
Elapsed: 5

PURGE RATE

PURGE VOLUME

Volume: 164 gallons
D.O. 2.62 Redox -316.8

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

Clear, slight odor

Discharge Water Disposal:  Sanitary Sewer
 Storm Sewer  Other 55 Gal. drum on site

WELL SAMPLING

Bailer - Type: Sample Time: 1015

Table with 6 columns: Sample No., Volume/Cont., Analysis Requested, Preservatives, Lab, Comments. Row 1: 409704-1, 4 VOA's, T.P.H gas (8015 Modified), HCL, Test America

QUALITY CONTROL SAMPLES

Table for Duplicate Samples with columns: Original Sample No., Dupl. Sample No.

Table for Blank Samples with columns: Type, Sample No.

Table for Other Samples with columns: Type, Sample No.



GROUNDWATER SAMPLING FORM

Job Name: BPS
Job Number: 4097041918.01
Recorded By: [Signature]

Well Number: MW-5
Well Type: [X] Monitor [ ] Extraction [ ] Other
[ ] PVC [ ] St. Steel [ ] Other
Date: 7/21/2007
Sampled By: CS

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 33.5
Water Level Depth (WL in ft BTOC): 21.61
No. of Well Volumes to be purged: 3

Screen Interval = 19-39

PURGE VOLUME CALCULATION

( ) X 2 X 3 X 0.0408 = gals
TD (feet) WL (feet) D (inches) # V Calculated Purge Volume

PURGE METHOD

[ ] Bailer - Type:
[ ] Submersible - Type:
[X] Other - Type: Micro Purge

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[X] Other Middle of screen
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from to

Field Parameter Measurement

Table with 5 columns: Minutes, pH, Conductivity (µS), Temp. (°C/°F), Turbidity (NTU). Row 1: Initial, 6.69, 949, 19.2, 8.8

PURGE TIME: Purge Start: 1025, Purge Stop: 1030, Elapsed: 5
PURGE RATE: GPM:

PURGE VOLUME: Volume: 1 ct. gallons
D.O.: 1.61 Redox: 169.2
Observations During Purging (Well Condition, Color, Odor): Clear, slight odor

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [ ] Other 55 Gal. drum on site

WELL SAMPLING

[ ] Bailer - Type: Sample Time:

Table with 6 columns: Sample No., Volume/Cont., Analysis Requested, Preservatives, Lab, Comments. Row 1: 409704-3, 5VOA's, T.P.H gas (8015 Modified), HCL, Test America

QUALITY CONTROL SAMPLES

Table for Duplicate Samples with columns: Original Sample No., Dupl. Sample No.

Table for Blank Samples with columns: Type, Sample No. (Trip, 409704-5)

Table for Other Samples with columns: Type, Sample No.

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	7/2	0910	23.39	23.39	Y	Y	OK	Y	4	
MW-3	7/2	0855	22.86	22.86	Y	N	OK	Y	4	
MW-5	7/2	0920	21.81	21.41	Y	N	OK	Y	2	
MW-6	7/2	0845	22.75	22.75	Y	N	OK	Y	2	
MW-1A	7/2									Car parked on top.
MW-4										In garage

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

pH: YSI 63 pH, Cond, Temp SN 00M0186

Temperature: " "

Specific Conductance: " "

Dissolved Oxygen: YSI 55 SN 0100873 AD

Turbidity: 2100P HACH 911000263



Project: BPS - Oakland, Ca Job No.: 4097041918.01  
 Subject: FIELD INVESTIGATION DAILY REPORT Date: 7/2/07  
 Equipment Rental: \_\_\_\_\_ Company: \_\_\_\_\_ To: D. Vansted  
 Equipment Hours: \_\_\_\_\_ F.E. Time from: \_\_\_\_\_ to: \_\_\_\_\_ By: C. Simpson

(outside service and expense record must be attached for any outside costs)

0700 Depart Petaluma

0830 @ BPS Site

Calibrated Equipment

YST 03 # 00M0186

ALCOF Turbidimeter # 911000267

YST 55 DO meter # 6170673

0845 MW-6 WL = 22.75

DO = 1.66 Redox = -92.7

0855 MW-3 WL = 22.88

DO = 1.54 Redox = -291.8

0910 MW-1 WL = 23.39

DO = 2.02 Redox = -316.8

0915 MW 1A - car parked on well. could not get MW

0920 MW-5 WL = 21.61

DO = 1.61 Redox = 169.2

0930 Sampled MW-6 409704-4

0950 Sampled MW-3 409704-2

1015 Sampled MW-1 409704-1

1030 Sampled MW-5 409704-3

1040 Trip Blank 409704-5

Attachments:

Initial

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: \_\_\_\_\_  
 STREET ADDRESS: \_\_\_\_\_  
 CITY / STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PROJECT NAME				JOB NO.		TOTAL NO. OF CONTAINERS	ANALYSES										FOR LAB USE ONLY								
SAMPLERS (SIGNATURE)				SAMPLERS INITIALS (PRINT)			TPH	Pb	Cu	Zn	Mn	Fe	Ni	Cr	Cd	Hg		As	Se	V	Co	Mg	Ca	K	Na
SAMPLING DATE																									
TIME	GRAB	COMP.	MATRIX	SAMPLE NO.	SAMPLE LOCATION	FIELD MEASUREMENT																			
0930	X		W	409704-4	MW-6		X	X	X																
0950	X		W	409704-2	MW-3		X	X	X																
1015	X		W	409704-1	MW-1		X	X	X	X															
1630	X		W	409704-3	MW-5		X	X	X	X															
1040	X		W	409704-5	Trip	Hold This Samples	X	X	X																
<i>[Signature]</i>																									

**RELINQUISHED BY:** CWJ (SIGNATURE)      **DATE / TIME:** 7/2/07 1920

**RECEIVED BY:** [Signature] TAMM (SIGNATURE)      **DATE / TIME:** 7/2/07 1920

**REMARKS:** Standard FAT  
 Detections of MTBE to be confirmed by 4260

**For Lab Use Only**

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



