

**RECEIVED**

*2:00 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 *DS*  
MACTEC E&C

**Date:** November 26, 2007

**Subject:** Third 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 Third 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 me 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: Third 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

November 26, 2007

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

Subject: **Groundwater Remediation and Monitoring Report  
Third 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 and results were presented in a letter report dated October 2, 2007. Information presented in this letter-report represent the Third Quarter 2007 (July 3 through October 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.

### THIRD QUARTER 2007 GROUNDWATER SAMPLING AND ANALYSIS

On October 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 Third Quarter 2007 event, the DO concentrations ranged from 0.2 mg/L in MW-6 to 7.8 mg/L in MW-3. 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 decreased an average of 0.41 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 October 02, 2007 groundwater measurements from MW-1, MW-3, MW-5, and MW-6. Based on the groundwater elevations, the groundwater gradient is approximately 0.005 ft/ft. The direction of flow appears to be in the west-northwesterly 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 Third 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 Third 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 Third 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 36 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 11,000  $\mu\text{g/L}$  (MW-5).
- Toluene ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 2,700  $\mu\text{g/L}$  (MW-5).
- Ethylbenzene ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 1,100  $\mu\text{g/L}$  (MW-5).
- Total Xylenes ranged from non-detectable with a detection limit of 0.5  $\mu\text{g/L}$  (MW-6) to 1,700  $\mu\text{g/L}$  (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 620  $\mu\text{g/L}$  (MW-5).
- EDC was detected in MW-1 at a concentration of 190  $\mu\text{g/L}$  and in MW-5 at a concentration of 400  $\mu\text{g/L}$ .

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



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(Plate 5a). Since then concentrations have remained relatively stable with seasonal fluctuations. The Third Quarter 2007 concentrations of TPHg and BTEX in MW-1 are higher than the Second Quarter 2007 concentrations, but are 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 Third Quarter 2007 concentrations of TPHg and BTEX in MW-3 have all decreased since the Second Quarter 2007.

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. The Third Quarter 2007 concentrations of TPHg and BTEX in MW-5 have all increased since the Second Quarter 2007.

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 (190 ug/L and 400 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

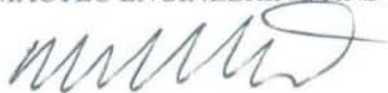
While under contract to BPS, MACTEC will continue to provide quarterly groundwater monitoring and reporting as required by ACHCS.

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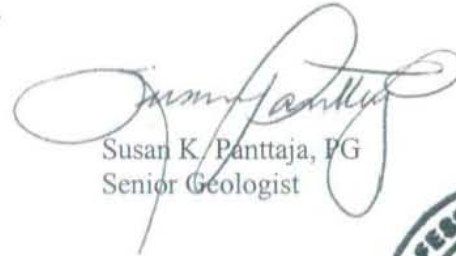
If you have any questions, please contact David S. Nanstad at (415) 278-2118.

Yours very truly,

MACTEC ENGINEERING AND CONSULTING, INC.



David S. Nanstad, REA  
Project Engineer



Susan K. Panttaja, PG  
Senior Geologist



Richard Manser  
Principal Scientist



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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

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

**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	-317	-292	169	-93
10/2/2007	13	-305	-217	16
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
10/2/2007	68.0	67.3	66.0	71.6
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

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

Specific Conductance ( $\mu\text{S}/\text{cm}$ )	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

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

$\mu\text{S}/\text{cm}$  = 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 DSW

Accepted SKP



**Table 2. Groundwater Elevation Data**  
**BPS Reprographic 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	
	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
10/2/2007	23.87	8.49	23.20	8.57	22.22	8.34	23.17	8.09	-0.41

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 RBW  
 Approved SKP



**Table 3. Groundwater Monitoring Analytical Results - Using Purge Method**  
 8/1/1991 to 9/29/1999

TPHg (mg/L)	Date Sampled														Date Sampled												
	8/1/1991	9/30/1992	3/30/1993	1/13/1994	4/13/1994	6/29/1994	12/8/1994	4/3/1995	6/27/1995	9/19/1995	12/13/1995	3/6/1996	6/11/1996	9/19/1996	12/23/1996	3/27/1997	6/4/1997	9/26/1997	12/23/1997	3/31/1998	6/18/1998	8/28/1998	12/2/1998	3/10/1999	6/30/1999	9/29/1999 <sup>1</sup>	
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	68	59	41	44	32	26	26	26	18	21	
MW-1A	350	FP	FP	FP	170	95	190	67	53	52	62	200	140	100	FP	66	54	73	66	51	50	15	41	10	18	NA	
MW-3	74	FP	FP	FP	FP	39	4,600	51	20	6.2	19	7	16	6	FP	FP	85	47	32	32	16	17	3.2	9.6	7.9	5.0	
MW-4	86	FP	FP	FP	58	16	92	35	13	14	11	110	260	95	FP	37	24	41	48	NA	25	48	10	11	8.8	NA	
MW-5	120	51	74	80	63	64	59	51	41	50	45	51	48	48	45	44	35	36	39	48	17	16	15	23	7.7	11	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	
Benzene (µg/L)																											
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	2,200	6,000	6,800	8,300	1,100	8,600	9,200	8,200	7,000	9,200	
MW-1A	17,000	FP	FP	FP	17,000	16,000	13,000	11,000	11,000	8,900	9,900	14,000	18,000	16,000	FP	12,000	11,000	10,000	10,000	9,100	11,000	1,100	8,500	2,300	6,400	NA	
MW-3	1,600	FP	FP	FP	FP	3,200	1,500	1,100	270	70	220	120	170	45	FP	FP	8,500	610	640	690	180	84	39	86	31	120	
MW-4	1,500	FP	FP	FP	1,500	1,300	1,700	1,200	1,300	2,200	630	2,600	6,600	9,900	FP	2,600	2,600	2,900	6,000	NA	2,000	9,700	1,700	2,300	1,800	NA	
MW-5	20,000	13,000	16,000	19,000	14,000	29,000	13,000	15,000	12,000	1,600	13,000	15,000	12,000	12,000	12,000	11,000	8,900	7,900	13,000	10,000	9,500	5,400	8,400	14,000	5,200	9,600	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	
Toluene (µg/L)																											
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	14,000	4,500	3,000	3,000	3,700	3,800	2,300	4,300	5,900	5,800	10,000
MW-1A	31,000	FP	FP	FP	31,000	21,000	21,000	13,000	9,900	9,200	11,000	22,000	28,000	22,000	FP	15,000	12,000	16,000	16,000	11,000	15,000	830	11,000	1,900	7,800	NA	
MW-3	4,600	FP	FP	FP	FP	2,900	4,200	2,300	550	140	480	170	270	30	FP	FP	13,000	6,000	5,300	3,800	1,500	1,100	85	540	330	340	
MW-4	6,200	FP	FP	FP	2,500	790	4,100	3,400	1,600	2,100	470	3,600	19,000	19,000	FP	6,900	3,200	5,000	11,000	NA	460	11,000	610	2,100	3,000	NA	
MW-5	14,000	5,900	5,000	8,200	3,500	5,400	3,800	2,200	2,100	2,700	2,100	2,800	2,900	4,500	2,200	1,100	560	270	500	400	310	160	120	300	270	710	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	
Ethylbenzene (µg/L)																											
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	1,500	1,600	1,400	1,100	550	730	820	870	950	1,200	
MW-1A	3,000	FP	FP	FP	2,100	1,500	1,400	910	500	710	790	2,700	2,800	2,100	FP	1,400	1,000	1,400	1,400	1,100	870	31	720	1,600	660	NA	
MW-3	670	FP	FP	FP	FP	580	6,000	580	190	68	140	49	68	15	FP	FP	2,400	930	800	870	490	430	25	250	200	230	
MW-4	1,000	FP	FP	FP	520	51	310	280	77	110	14	780	3,700	2,000	FP	540	140	350	580	NA	ND(15)	890	ND(15)	88	150	NA	
MW-5	1,900	1,400	1,800	1,400	1,500	2,800	1,800	2,800	1,400	2,000	16,000	2,000	2,000	2,300	2,700	1,900	1,500	1,500	1,900	2,000	420	1,100	1,500	1,800	1,100	1,100	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.5	ND(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	
Xylenes (µg/L)																											
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	11,000	8,600	6,600	4,300	3,000	2,100	2,800	3,500	2,500	5,500	
MW-1A	22,000	FP	FP	FP	14,000	12,000	11,000	9,800	6,300	6,800	5,300	22,000	19,000	14,000	FP	100	7,200	8,500	12,000	6,800	5,800	3,000	6,700	2,300	4,100	NA	
MW-3	4,300	FP	FP	FP	FP	4,300	95,000	4,800	1,700	500	1,700	440	1,500	300	FP	FP	16,000	5,900	5,900	5,200	3,700	3,800	360	2,300	1,800	1,300	
MW-4	7,300	FP	FP	FP	3,200	3,400	5,400	5,800	1,800	2,100	1,800	10,000	28,000	13,000	FP	5,500	3,500	4,800	8,200	NA	6,400	5,000	2,300	1,600	2,700	NA	
MW-5	4,900	2,600	2,700	2,700	2,100	4,500	2,900	4,500	1,600	2,100	1,900	2,400	2,700	4,000	6,500	2,800	1,700	1,300	1,700	2,200	850	900	840	1,100	690	1,100	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)	
MTBE (µg/L)																											
MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	FP	FP	ND(500)	ND(500)	300	420	ND(50)	ND(50)	ND(50)	ND(50)	ND(25)	ND(250)	
MW-1A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,800	ND(500)	ND(500)	1,900	300	ND(50)	ND(50)	ND(50)	ND(50)	ND(25)	NA	
MW-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	FP	FP	ND(500)	ND(100)	ND(300)	350	ND(25)	ND(50)	ND(50)	ND(25)	ND(25)	10	
MW-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,400	ND(300)	ND(500)	270	NA	ND(50)	ND(50)	ND(50)	ND(25)	ND(25)	NA	
MW-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	600	300	ND(100)	ND(500)	ND(1000)	350	ND(10)	ND(50)	ND(50)	ND(50)	ND(25)	ND(100)	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	NA	NA	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	

TPHg = total petroleum hydrocarbons as gasoline  
 MTBE = methyl t-butyl ether  
 (mg/l) milligrams per liter  
 (µg/l) micrograms per liter

ND = Not detected above the reporting limit in parenthesis  
 NA = Not analyzed  
 FP = Free Product - well not sampled  
 -- = Well did not exist at date indicated

<sup>1</sup> A sample was collected on this date both post and pre purge. Sample results collected pre purge are shown on Table 3. Sample results collected post purge are shown on Table 4.

Checked BPJ  
 Approved SKP







## PLATES



**EXPLANATION**

MW-1  Monitoring Well

MW-1A  Former Extraction Well



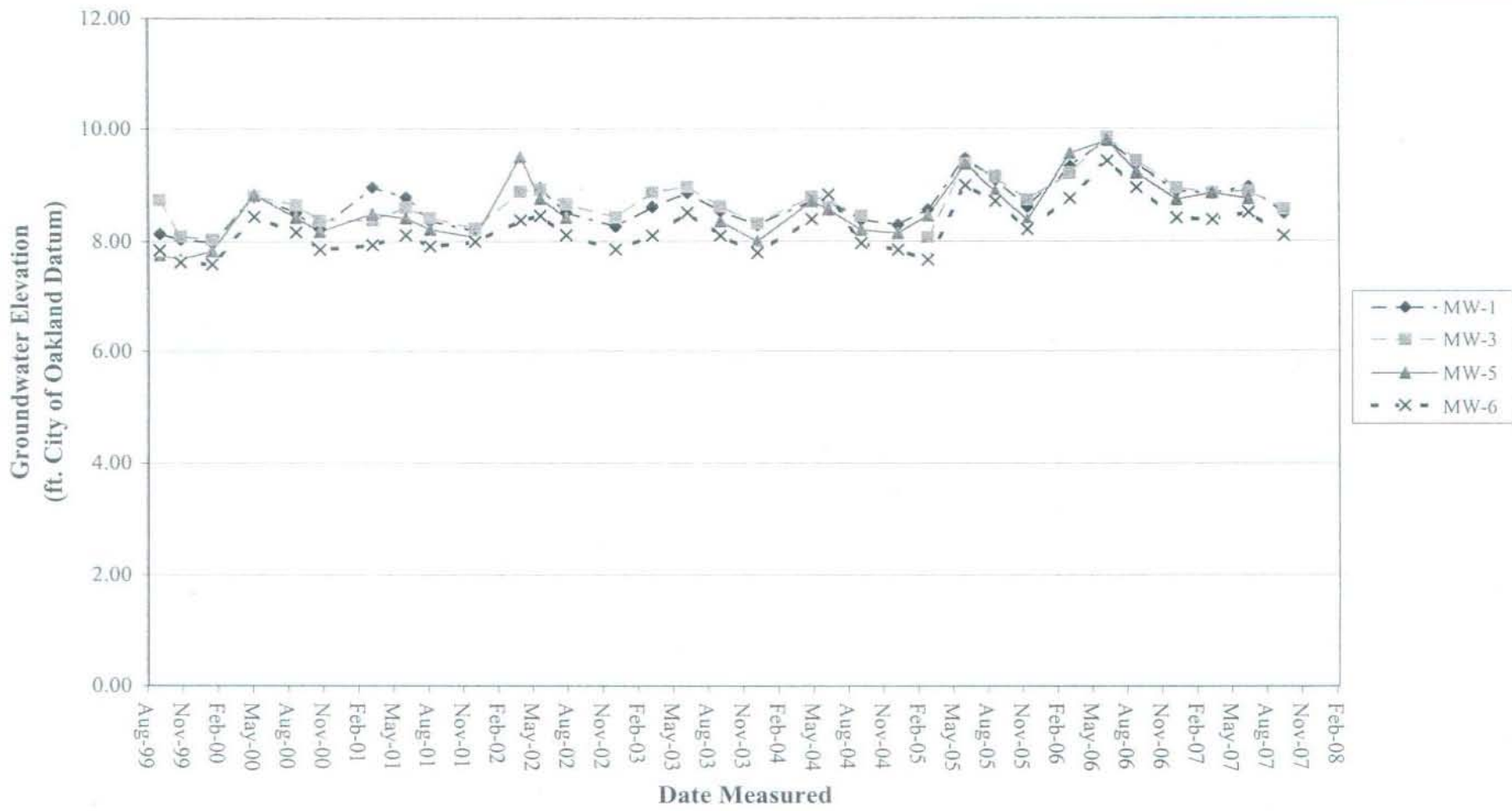
4097041918002.DWG 40.0  
20071113.0929



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

PLATE  
**1**

DRAWN ACM	JOB NUMBER 4097041918 05	CHECKED <i>DS</i>	CHECKED DATE 10/07	APPROVED <i>SIG</i>	APPROVED DATE 11/07
--------------	-----------------------------	----------------------	-----------------------	------------------------	------------------------



(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**  
 Third Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

Plate

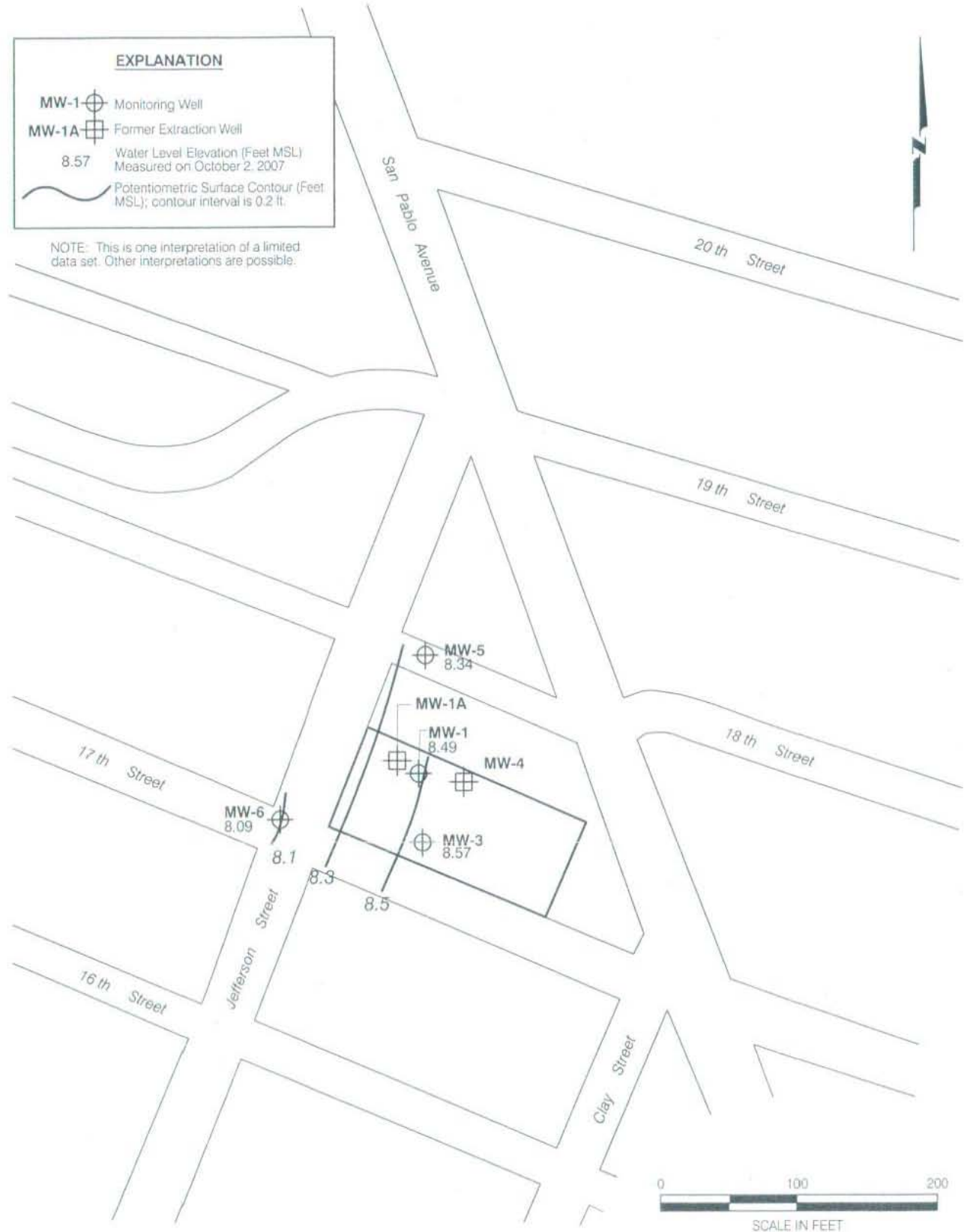
**2**

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

**EXPLANATION**

- MW-1  Monitoring Well
- MW-1A  Former Extraction Well
- 8.57  Water Level Elevation (Feet MSL)  
Measured on October 2, 2007
-  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



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

PLATE

**3**

DRAWN  
ACM

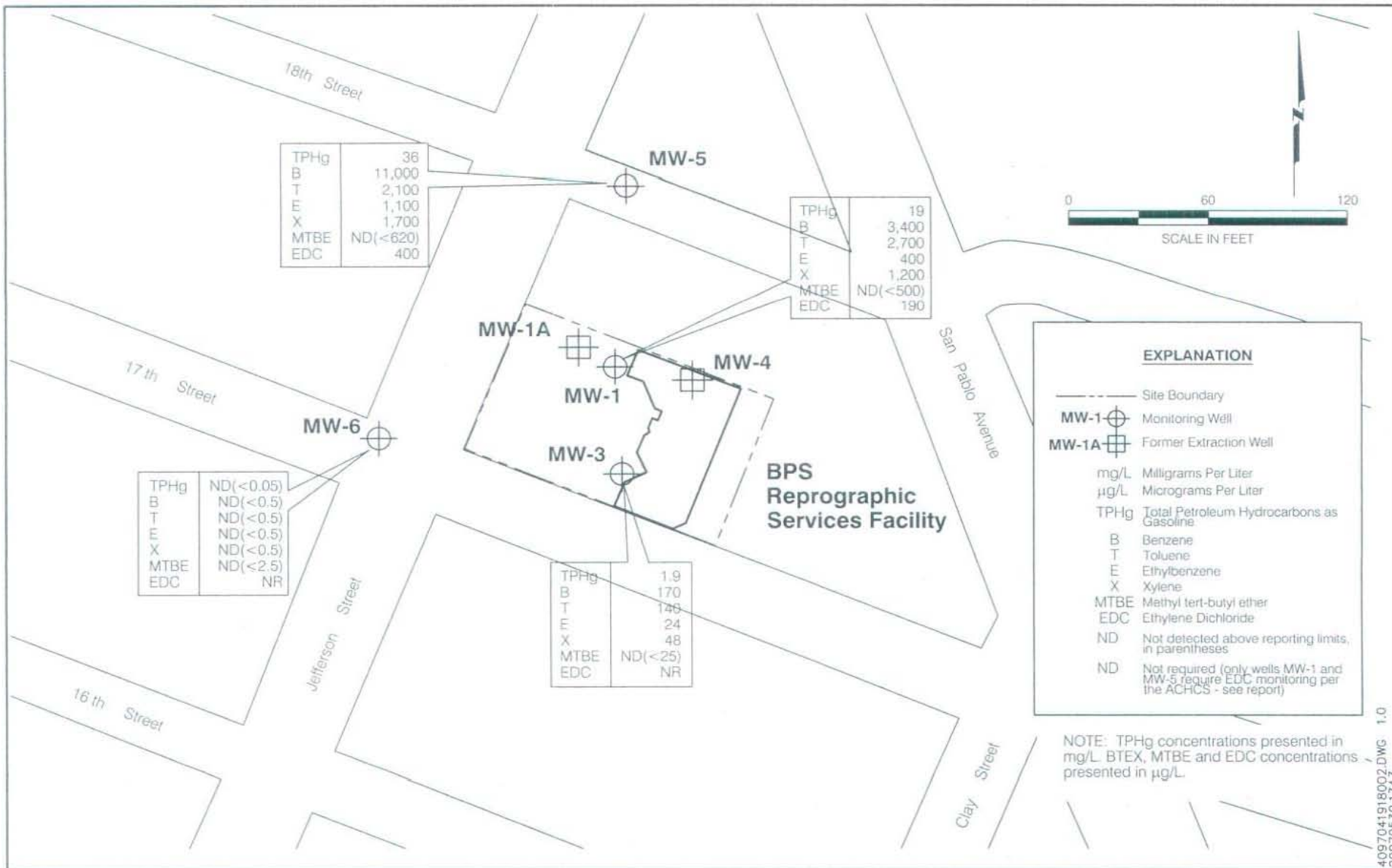
JOB NUMBER  
4097041918 05

CHECKED  
*PSW*

CHECKED DATE  
10/07

APPROVED

APPROVED DATE



TPHg	36
B	11,000
T	2,100
E	1,100
X	1,700
MTBE	ND(<620)
EDC	400

TPHg	19
B	3,400
T	2,700
E	400
X	1,200
MTBE	ND(<500)
EDC	190

TPHg	ND(<0.05)
B	ND(<0.5)
T	ND(<0.5)
E	ND(<0.5)
X	ND(<0.5)
MTBE	ND(<2.5)
EDC	NR

TPHg	1.9
B	170
T	140
E	24
X	48
MTBE	ND(<25)
EDC	NR



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

PLATE

**4**

DRAWN  
ACM

JOB NUMBER  
4097041918 05

CHECKED  
*DSW*

CHECKED DATE  
10/07

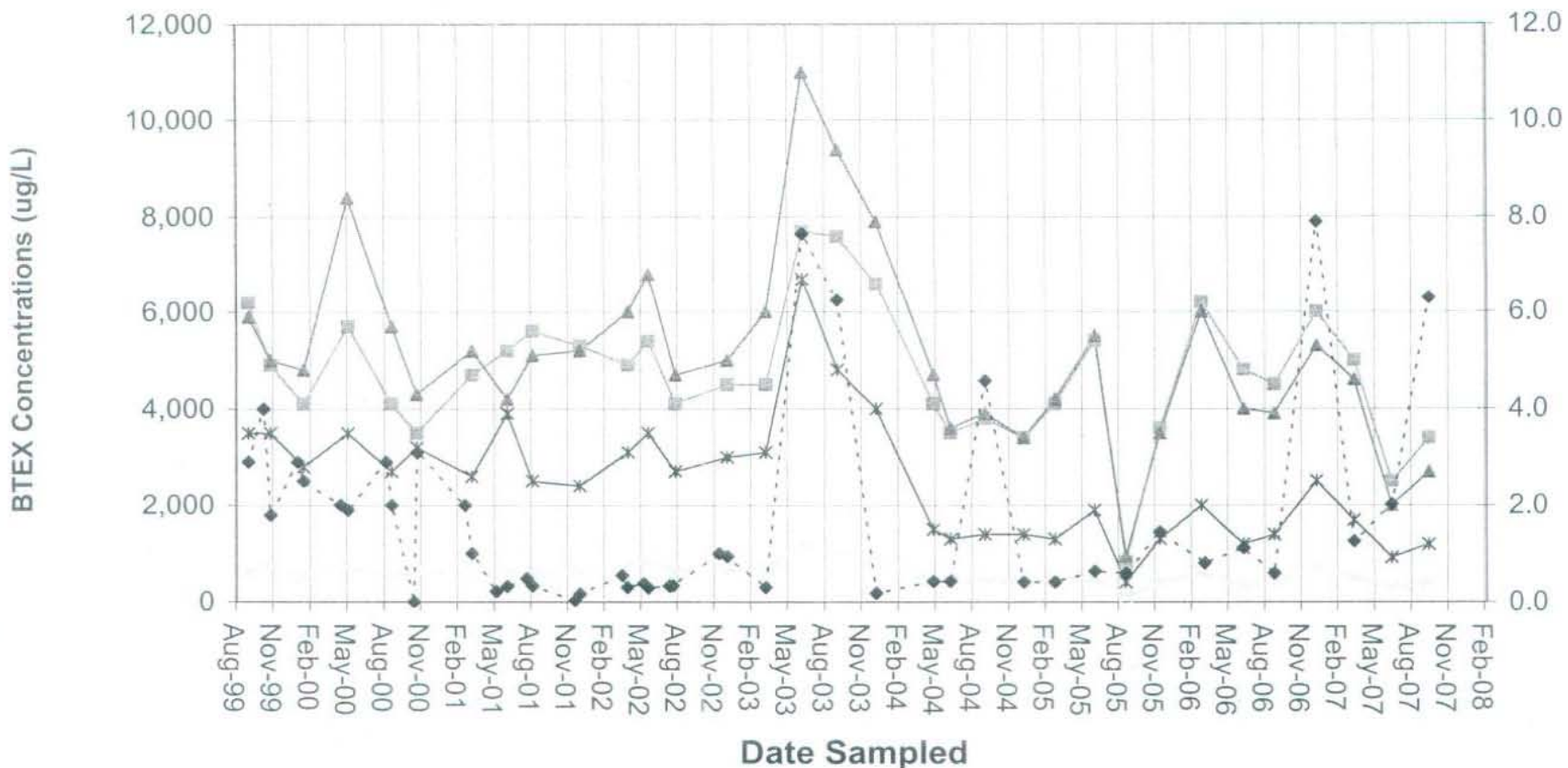
APPROVED  
*SKP*

APPROVED DATE  
11/07

4097041918002.DWG 1.0  
20070530.1343

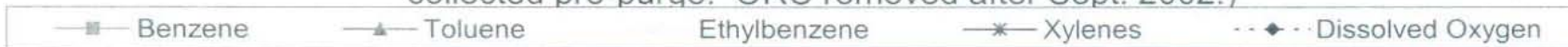


MW-1



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.)



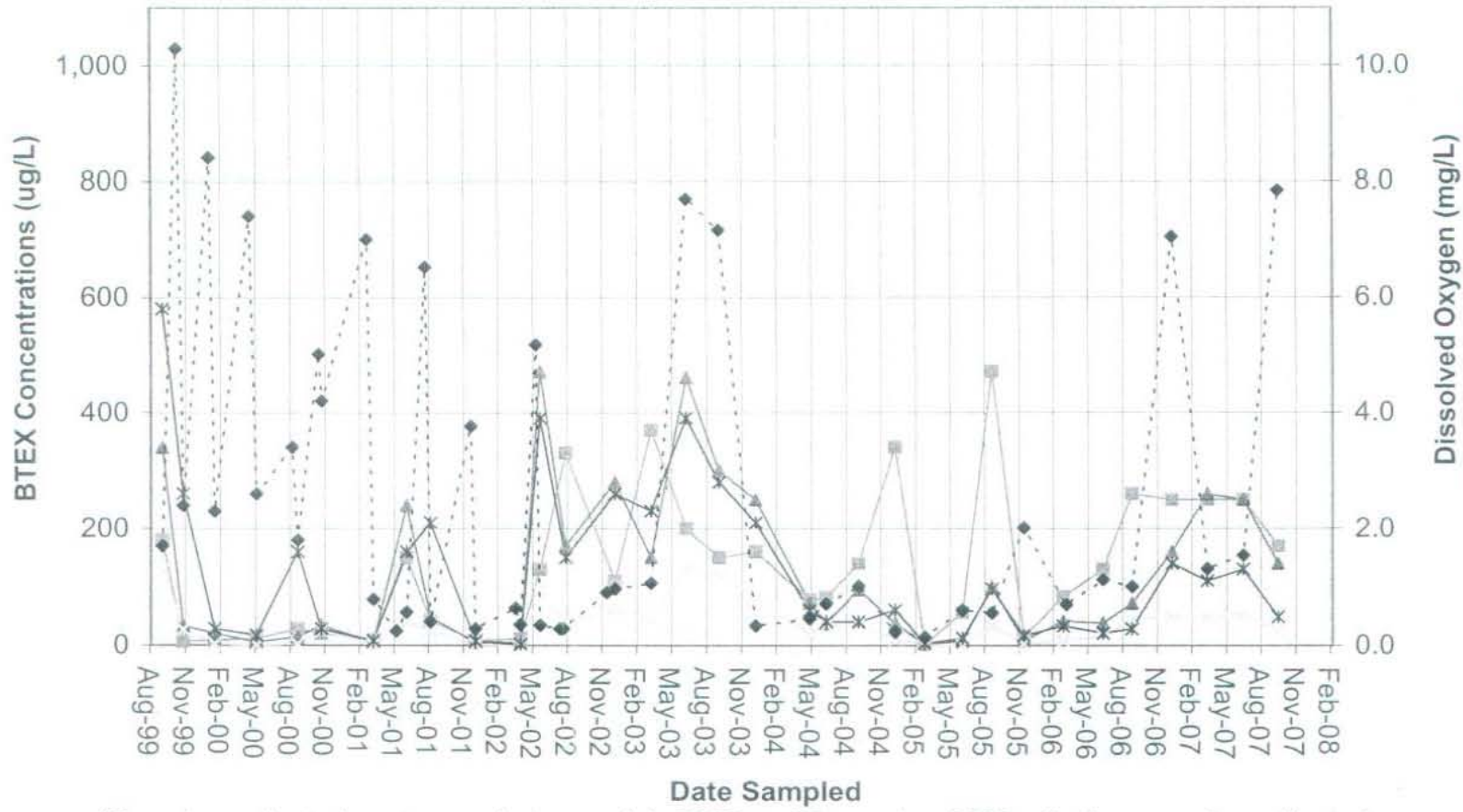
MW-1 BTEX and DO Results  
 Third Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

Plate

5a

DRAWN DSN	JOB NUMBER 4097041918	APPROVED <i>ASV</i>	DATE November-07	REVISION DATE
--------------	--------------------------	------------------------	---------------------	---------------

MW-3



(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



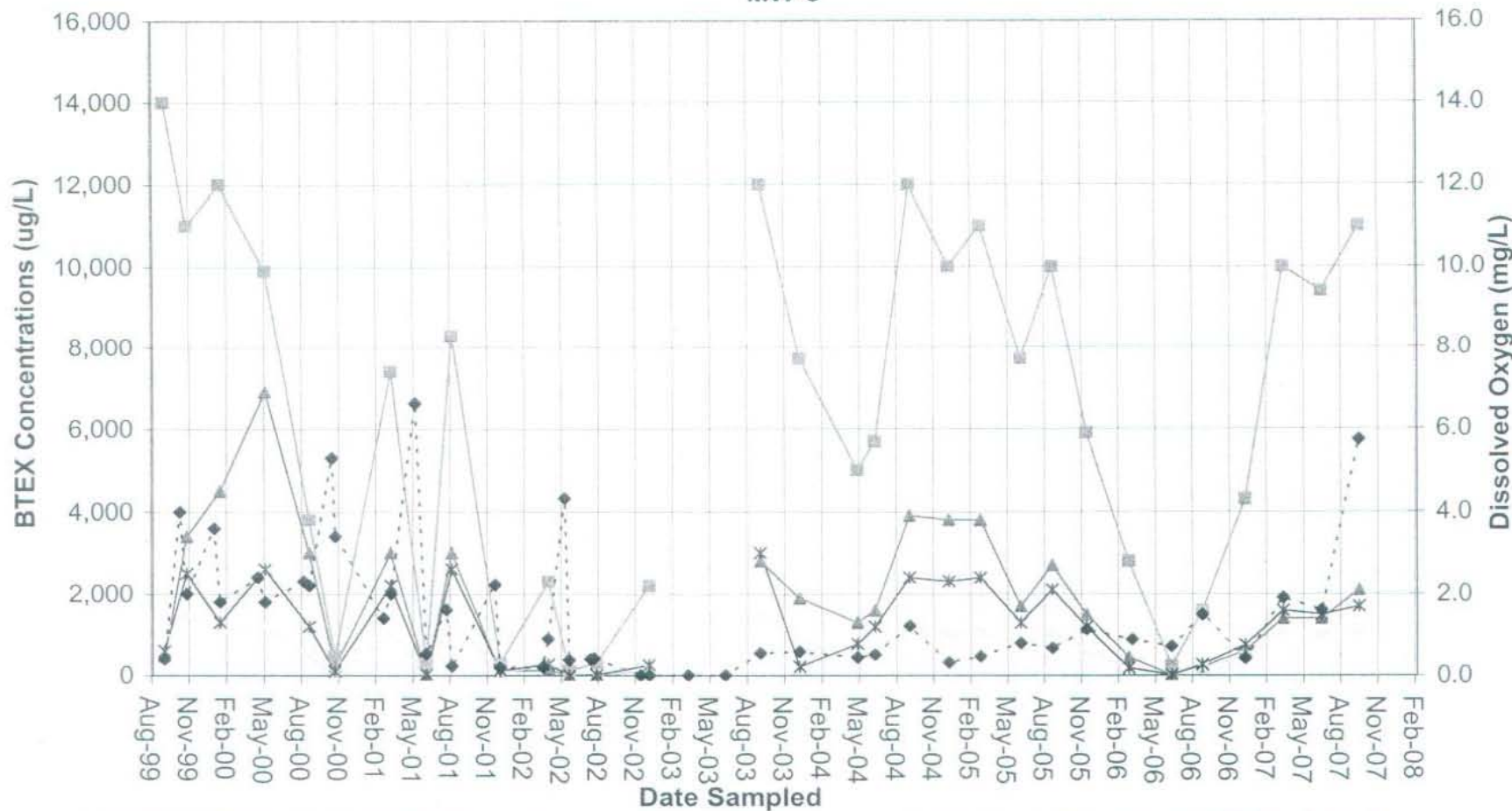
**MW-3 BTEX and DO Results**  
 Third Quarter 2007  
 BPS Reprographic Services Facility  
 1700 Jefferson Steet  
 Oakland, California

Plate

**5b**

DRAWN DSN	JOB NUMBER 4097041918	APPROVED 	DATE November-07	REVISION DATE
--------------	--------------------------	--------------	---------------------	---------------

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.)

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



MW-5 BTEX and DO Results

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

Plate

5c

DRAWN DSN	JOB NUMBER 4097041918	APPROVED <i>DSW</i>	DATE November-07	REVISION DATE
--------------	--------------------------	------------------------	---------------------	---------------

**APPENDIX A**  
**LABORATORY REPORTS**



24 October, 2007

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

RE: BPS City Blue  
Work Order: MQJ0279

Enclosed are the results of analyses for samples received by the laboratory on 10/03/07 15:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Tim Costello For Lisa Race  
Senior Project Manager

**Amended Report**

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, 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.

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

Amended Report

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

MQJ0279  
Reported:  
10/24/07 15:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
409704-3	MQJ0279-01	Water	10/02/07 16:00	10/03/07 15:46
409704-4	MQJ0279-02	Water	10/02/07 16:30	10/03/07 15:46
409704-2	MQJ0279-03	Water	10/02/07 17:00	10/03/07 15:46
409704-1	MQJ0279-04	Water	10/02/07 17:20	10/03/07 15:46
409704-5	MQJ0279-05	Water	10/02/07 17:45	10/03/07 15:46

**Amended Report**

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

Project: BPS City Blue  
Project Number: 4097041918.05  
Project Manager: David Narstad

MQJ0279  
Reported:  
10/24/07 15:30

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

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units							
409704-3 (MQJ0279-01) Water Sampled: 10/02/07 16:00 Received: 10/03/07 15:46										
Gasoline Range Organics (C4-C12)	36000	12000	ug/l	250	7110002	10/10/07	10/10/07	EPA 8015B/8021B		
Benzene	11000	120	"	"	"	"	"	"		
Toluene	2100	120	"	"	"	"	"	"		
Ethylbenzene	1100	120	"	"	"	"	"	"		
Xylenes (total)	1700	120	"	"	"	"	"	"		
Methyl tert-butyl ether	ND	620	"	"	"	"	"	"		
Surrogate: <i>a,a,a</i> -Trifluorotoluene		103%		85-120	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		95%		75-125	"	"	"	"		
409704-4 (MQJ0279-02) Water Sampled: 10/02/07 16:30 Received: 10/03/07 15:46										
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	7110002	10/10/07	10/10/07	EPA 8015B/8021B		
Benzene	ND	0.50	"	"	"	"	"	"		
Toluene	ND	0.50	"	"	"	"	"	"		
Ethylbenzene	ND	0.50	"	"	"	"	"	"		
Xylenes (total)	ND	0.50	"	"	"	"	"	"		
Surrogate: <i>a,a,a</i> -Trifluorotoluene		112%		85-120	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		100%		75-125	"	"	"	"		
409704-2 (MQJ0279-03) Water Sampled: 10/02/07 17:00 Received: 10/03/07 15:46										
Gasoline Range Organics (C4-C12)	1900	500	ug/l	10	7110002	10/10/07	10/10/07	EPA 8015B/8021B		
Benzene	170	5.0	"	"	"	"	"	"		
Toluene	140	5.0	"	"	"	"	"	"		
Ethylbenzene	24	5.0	"	"	"	"	"	"		
Xylenes (total)	48	5.0	"	"	"	"	"	"		
Surrogate: <i>a,a,a</i> -Trifluorotoluene		111%		85-120	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		99%		75-125	"	"	"	"		

**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

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

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
409704-1 (MQJ0279-04) Water Sampled: 10/02/07 17:20 Received: 10/03/07 15:46									
Gasoline Range Organics (C4-C12)	19000	10000	ug/l	200	7110002	10/10/07	10/11/07	EPA 8015B/8021B	
Benzene	3400	100	"	"	"	"	"	"	
Toluene	2700	100	"	"	"	"	"	"	
Ethylbenzene	400	100	"	"	"	"	"	"	
Xylenes (total)	1200	100	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Surrogate <i>n.o.a.</i> -Trifluorobenzene		108%		85-120					
Surrogate <i>n.o.a.</i> -Bromofluorobenzene		97%		75-125					



**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**MTBE by EPA Method 8021B  
TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
409704-4 (MQJ0279-02) Water Sampled: 10/02/07 16:30 Received: 10/03/07 15:46										
Methyl tert-butyl ether	ND	2.5		ug/l	1	7110002	10/10/07	10/10/07	EPA 8021B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>			112 %		70-135	"	"	"	"	
409704-2 (MQJ0279-03) Water Sampled: 10/02/07 17:00 Received: 10/03/07 15:46										
Methyl tert-butyl ether	ND	25		ug/l	10	7110002	10/10/07	10/10/07	EPA 8021B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>			111 %		70-135	"	"	"	"	

**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**Volatile Organic Compounds by EPA Method 8260B**

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>409704-3 (MQJ0279-01) Water</b> Sampled: 10/02/07 16:00 Received: 10/03/07 15:46										
<b>1,2-Dichloroethane</b>	400	25		ug/l	50	7J14004	10/14/07	10/14/07	EPA 8260B	
Surrogate: Dibromofluoromethane		100 %		75-120		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130		"	"	"	"	
Surrogate: Toluene-d8		102 %		80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95 %		60-135		"	"	"	"	
<b>409704-1 (MQJ0279-04) Water</b> Sampled: 10/02/07 17:20 Received: 10/03/07 15:46										
<b>1,2-Dichloroethane</b>	190	5.0		ug/l	10	7J14004	10/14/07	10/14/07	EPA 8260B	
Surrogate: Dibromofluoromethane		103 %		75-120		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130		"	"	"	"	
Surrogate: Toluene-d8		107 %		80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		60-135		"	"	"	"	

**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**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	Limit	RPD	RPD Limit	Notes
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**Batch 7J10002 - EPA 5030B [P/T] / EPA 8015B/8021B**

**Blank (7J10002-BLK1)**

Prepared & Analyzed: 10/10/07

Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Gasoline Range Organics (C4-C12)	ND	50	"							
Benzene	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Spike: <i>o,o</i> -Difluorotoluene	89.1		"	80.0		111	85-120			
Spike: <i>m,m</i> -Difluorotoluene	89.1		"	80.0		111	85-120			
Spike: 1-Bromofluorobenzene	78.7		"	80.0		98	75-125			
Spike: 4-Bromofluorobenzene	78.7		"	80.0		98	75-125			

**Laboratory Control Sample (7J10002-BS1)**

Prepared & Analyzed: 10/10/07

Benzene	10.8	0.50	ug/l	10.0		108	35-145			
Benzene	10.8	0.50	"	10.0		108	35-145			
Toluene	10.8	0.50	"	10.0		108	70-115			
Toluene	10.8	0.50	"	10.0		108	70-115			
Ethylbenzene	10.6	0.50	"	10.0		106	65-115			
Ethylbenzene	10.6	0.50	"	10.0		106	65-115			
Xylenes (total)	32.6	0.50	"	30.0		109	70-115			
Xylenes (total)	32.6	0.50	"	30.0		109	70-115			
Methyl tert-butyl ether	10.5	2.5	"	10.0		105	35-130			
Spike: <i>o,o</i> -Difluorotoluene	89.1		"	80.0		111	85-120			
Spike: <i>m,m</i> -Difluorotoluene	89.1		"	80.0		111	85-120			

**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**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 7J10002 - EPA 5030B [P/T] / EPA 8015B/8021B**

**Laboratory Control Sample (7J10002-BS2)**

Prepared & Analyzed: 10/10/07

Gasoline Range Organics (C4-C12)	216	50	ug/l	275		79	60-115			
Gasoline Range Organics (C4-C12)	216	50	"	275		79	60-115			
Surrogate: 4-Bromofluorobenzene	81.9		"	80.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	81.9		"	80.0		102	75-125			

**Laboratory Control Sample Dup (7J10002-BSD2)**

Prepared & Analyzed: 10/10/07

Gasoline Range Organics (C4-C12)	212	50	ug/l	275		77	60-115	2	20	
Gasoline Range Organics (C4-C12)	212	50	"	275		77	60-115	2	20	
Surrogate: 4-Bromofluorobenzene	81.4		"	80.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	81.4		"	80.0		102	75-125			

**Matrix Spike (7J10002-MS1)**

Source: MQJ0095-04

Prepared & Analyzed: 10/10/07

Gasoline Range Organics (C4-C12)	96.5	50	ug/l	91.0	ND	106	60-115			
Gasoline Range Organics (C4-C12)	96.5	50	"	91.0	ND	106	60-115			
Benzene	10.6	0.50	"	10.0	ND	106	35-145			
Benzene	10.6	0.50	"	10.0	ND	106	35-145			
Toluene	10.4	0.50	"	10.0	ND	104	70-115			
Toluene	10.4	0.50	"	10.0	ND	104	70-115			
Ethylbenzene	10.4	0.50	"	10.0	ND	104	65-115			
Ethylbenzene	10.4	0.50	"	10.0	ND	104	65-115			
Xylenes (total)	51.8	0.50	"	30.0	ND	106	70-115			
Xylenes (total)	51.8	0.50	"	30.0	ND	106	70-115			
Methyl tert-butyl ether	10.4	2.5	"	10.0	ND	104	35-150			
Surrogate: (1,1,1)-trifluoroethane	87.7		"	80.0		110	85-120			
Surrogate: (1,1,1)-trifluoroethane	87.7		"	80.0		110	85-120			
Surrogate: 4-Bromofluorobenzene	83.0		"	80.0		104	75-125			
Surrogate: 4-Bromofluorobenzene	83.0		"	80.0		104	75-125			



**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**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 Limit	RPD	RPD Limit	Notes
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**Batch 7J10002 - EPA 5030B [P/T] / EPA 8015B/8021B**

Matrix Spike Dup (7J10002-MSD1)	Source: MQJ0095-04			Prepared & Analyzed: 10/10/07						
Gasoline Range Organics (C4-C12)	93.2	50	ug/l	91.0	ND	102	60-115	3	20	
Gasoline Range Organics (C4-C12)	93.2	50	"	91.0	ND	102	60-115	3	20	
Benzene	10.5	0.50	"	10.0	ND	105	35-145	1	25	
Benzene	10.5	0.50	"	10.0	ND	105	35-145	1	25	
Toluene	10.3	0.50	"	10.0	ND	103	70-115	1	20	
Toluene	10.3	0.50	"	10.0	ND	103	70-115	1	20	
Ethylbenzene	10.3	0.50	"	10.0	ND	103	65-115	1	25	
Ethylbenzene	10.3	0.50	"	10.0	ND	103	65-115	1	25	
Xylenes (total)	31.4	0.50	"	30.0	ND	105	70-115	1	20	
Xylenes (total)	31.4	0.50	"	30.0	ND	105	70-115	1	20	
Methyl tert-butyl ether	10.6	2.5	"	10.0	ND	106	35-130	2	25	
Surrogate: 1,1,1-Trifluoroethane	89.3		"	80.0		112	85-120			
Surrogate: 1,1,2-Trifluoroethane	89.3		"	80.0		112	85-120			
Surrogate: 1-Bromofluorobenzene	82.2		"	80.0		103	75-125			
Surrogate: 1-Bromofluorobenzene	82.2		"	80.0		103	75-125			

**Amended Report**

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

MQJ0279  
Reported:  
10/24/07 15:30

**MTBE by EPA Method 8021B - Quality Control**

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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**Batch 7J10002 - EPA 5030B [P/T] / EPA 8021B**

**Blank (7J10002-BLK1)**

Prepared & Analyzed: 10/10/07

Methyl tert-butyl ether	ND	2.5	ug/l							
Surrogate: <i>o,o,o</i> -Trifluorotoluene	89.1		"	80.0		111	70-135			

**Laboratory Control Sample (7J10002-BS1)**

Prepared & Analyzed: 10/10/07

Methyl tert-butyl ether	10.5	2.5	ug/l	10.0		105	60-145			
Surrogate: <i>o,o,o</i> -Trifluorotoluene	89.0		"	80.0		111	70-135			

**Matrix Spike (7J10002-MS1)**

Source: MQJ0095-04

Prepared & Analyzed: 10/10/07

Methyl tert-butyl ether	10.4	2.5	ug/l	10.0	ND	104	45-150			
Surrogate: <i>o,o,o</i> -Trifluorotoluene	87.7		"	80.0		110	70-135			

**Matrix Spike Dup (7J10002-MSD1)**

Source: MQJ0095-04

Prepared & Analyzed: 10/10/07

Methyl tert-butyl ether	10.6	2.5	ug/l	10.0	ND	106	45-150	2	25	
Surrogate: <i>o,o,o</i> -Trifluorotoluene	89.7		"	80.0		112	70-135			

**Amended Report**

MAC/TEC Engineering & Consulting [Petaluma]  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: BPS City Blue  
Project Number: 4097041918.05  
Project Manager: David Nanstad

MQJ0279  
Reported:  
10/24/07 15:30

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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**Batch 7J14004 - EPA 5030B P/T / EPA 8260B**

**Blank (7J14004-BLK1)**

Prepared & Analyzed: 10/14/07

1,2-Dichloroethane	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	2.41		"	2.50		96	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.61		"	2.50		104	70-130			
Surrogate: Toluene-d8	2.37		"	2.50		95	80-120			
Surrogate: 4-Bromofluorobenzene	2.12		"	2.50		85	60-135			

**Laboratory Control Sample (7J14004-BS1)**

Prepared & Analyzed: 10/14/07

1,2-Dichloroethane	10.6	0.50	ug/l	10.0		106	70-125			
Surrogate: Dibromofluoromethane	2.58		"	2.50		103	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.54		"	2.50		102	70-130			
Surrogate: Toluene-d8	2.36		"	2.50		102	80-120			
Surrogate: 4-Bromofluorobenzene	2.68		"	2.50		107	60-135			

**Matrix Spike (7J14004-MS1)**

Source: MQJ0180-02

Prepared & Analyzed: 10/14/07

1,2-Dichloroethane	10.9	0.50	ug/l	10.0	ND	109	70-125			
Surrogate: Dibromofluoromethane	2.71		"	2.50		108	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.68		"	2.50		107	70-130			
Surrogate: Toluene-d8	2.66		"	2.50		106	80-120			
Surrogate: 4-Bromofluorobenzene	2.66		"	2.50		106	60-135			

**Matrix Spike Dup (7J14004-MSD1)**

Source: MQJ0180-02

Prepared & Analyzed: 10/14/07

1,2-Dichloroethane	11.3	0.50	ug/l	10.0	ND	113	70-125	3	25	
Surrogate: Dibromofluoromethane	2.77		"	2.50		111	75-120			
Surrogate: 1,2-Dichloroethane-d4	2.78		"	2.50		111	70-130			
Surrogate: Toluene-d8	2.66		"	2.50		106	80-120			
Surrogate: 4-Bromofluorobenzene	2.61		"	2.50		104	60-135			

Amended Report

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

MQJ0279  
Reported:  
10/24/07 15:30

### 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: Mactee  
 REC. BY (PRINT) DN  
 WORKORDER: MQJ0279

DATE REC'D AT LAB: 10/12/07  
 TIME REC'D AT LAB: 1546  
 DATE LOGGED IN: 10/9/07

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 / <u>Absent</u> Intact / Broken*								/
2. Chain-of-Custody <u>Present</u> / Absent*								
3. Traffic Reports or Packing List: Present / <u>Absent</u>								
4. Airbill: Airbill / Sticker Present / <u>Absent</u>								
5. Airbill #:								
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? <u>Yes</u> / No*								
10. Sample received within hold time? <u>Yes</u> / No*								
11. Adequate sample volume received? <u>Yes</u> / No*								
12. Proper preservatives used? <u>Yes</u> / No*								
13. Trip Blank / Temp Blank Received? (circle which, if yes) Yes / <u>No</u> *								
14. Read Temp: <u>4.8</u> <sup>o</sup> Correction Factor: <u>0</u> Corrected Temp: <u>4.8</u> <sup>o</sup> Is corrected temp. 0-6°C? <u>Yes</u> / No**								
**Exception (if any): METALS / DFF ON ICE or Problem COC								

see COC  
10/12/07  
DN

\*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 Engineering and Consulting, Inc.  
5341 Old Redwood Highway, Suite 300  
Petaluma, CA 94954

JOB NO. \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_

PHASE \_\_\_\_\_ TASK \_\_\_\_\_

JOB NAME \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

0600 Depart Petaluma for BPS.

0745 @ site - Calibrate equipment

YSI Serial # 1324 to 1,000  $\mu$ S/cm

T = 17°C EC = 621

PH meter Serial # DB03 to 7.24 Buffers

Turbidity meter Serial # 9090

0-10 = 5.15 10-100 = 51.8 100-1000 = 515

YSI 50 D.O. meter Serial # 0075 set to Sea Level

Redox taken with Hanna 9025 pH/meter

0805 @ mw-6 WL = 23.17 D.O. =  $0.24 \text{ mg/l}$  ~~16.4~~  $\text{mg/l}$  Redox = 16.6 mV

0835 @ mw-3 WL = 23.20 D.O. =  $7.84 \text{ mg/l}$  Redox = -304.5 mV

0845 @ mw-5 WL = 22.22 D.O. = 5.74 Redox = -216.5

0900 @ mw-1 WL = 23.87 D.O. =  $6.29 \text{ mg/l}$  Redox = 12.53 mV

0905 @ MW-1A WL = 22.25

0915 @ mw-6 - Flaps won't work Battery is dead  
Need to get a new one

1600 @ mw-5 Sample # 409704-3 - 6 volts

1630 @ mw-6 Sample # 409704-4 3 volts

1700 @ mw-3 Sample # 409704-2 3 volts

1720 @ mw-1 Sample # 409704-1 6 volts

1730 Report site

Job Name: BPS  
 Job Number: 4097041918.05  
 Recorded By: David Boone  
 (Signature)

Well Number: MW-3  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 10/2/2007  
 Sampled By: DSB  
 (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): 23-20  
 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**

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**

Minutes	pH	Conductivity (uS)	Temp <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU)
Initial	<u>5.87</u>	<u>364.4</u>	<u>8</u> <u>19.4</u>	<u>8.68</u>

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

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

**PURGE VOLUME**  
 Volume: \_\_\_\_\_ gallons  
 D.O. 7.84 mg/l Redox: -304.5  
 Observations During Purging (Well Condition, Color, Odor): \_\_\_\_\_

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

**WELL SAMPLING**

Bailer - Type: \_\_\_\_\_ Sample Time: 1700

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
409704-2	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.



Job Name: BPS  
 Job Number: 4097041918.05  
 Recorded By: David Boone  
 (Signature)

Well Number: MW-5  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 10/2/2007  
 Sampled By: DSB  
 (initials)

**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): 22.22  
 No. of Well Volumes to be purged: 3  
 Screen Interval = 19-39

**PURGE METHOD**

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

**PURGE VOLUME CALCULATION**

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

**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 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU)
Initial	<u>6.35</u>	<u>930</u>	<u>18.9</u>	<u>7.49</u>
Meter S/N	<u>DR03</u>	<u>1394</u>	<u>1394</u>	<u>9090</u>

**PURGE TIME**      **PURGE RATE**

Purge Start: \_\_\_\_\_ GPM: \_\_\_\_\_  
 Purge Stop: \_\_\_\_\_ GPM: \_\_\_\_\_  
 Elapsed: \_\_\_\_\_

**PURGE VOLUME**

Volume: \_\_\_\_\_ gallons  
 D.O. 5.74 mg/lt Redox \_\_\_\_\_

Observations During Purging (Well Condition, Color, Odor):  
Clear, slight hydro carbon odor

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

**WELL SAMPLING**

Bailer - Type: \_\_\_\_\_ Sample Time: 1600

Sample No.	Volume/Cont	Analysis Requested	Preservatives	Lab	Comments
409704-3	6 VOA's	T.P.H gas (8015 Modified) BTEX (8020) MTBE (8020) Ethylene Dichloride	HCL	Test America	

**QUALITY CONTROL SAMPLES**

**Duplicate Samples**

Original Sample No.	Dupl. Sample No.

**Blank Samples**

Type	Sample No.

**Other Samples**

Type	Sample No.



Job Name: BPS  
 Job Number: 4097041918.05  
 Recorded By: David Boone  
 (Signature)

Well Number: MW-6  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 10/2/2007  
 Sampled By: DSB  
 (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): 23.17  
 No. of Well Volumes to be purged: 3

No Construction logs

**PURGE METHOD**

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

**PURGE VOLUME CALCULATION**

(        ) X 3 X 0.0408 =          gals

TD (feet)    WL (Feet)    D (inches)    #V                      Calculated Purge Volume

**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 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU)
Initial	<u>6.67</u>	<u>1033</u>	<u>22.6</u>	<u>0.2</u>

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

**PURGE TIME**

Purge Start: \_\_\_\_\_ GPM: \_\_\_\_\_  
 Purge Stop: \_\_\_\_\_ GPM: \_\_\_\_\_  
 Elapsed: \_\_\_\_\_

**PURGE RATE**

Volume: \_\_\_\_\_ gallons  
 D.O. 0.24 mg/L Redox 16.6

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

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

### WELL SAMPLING

Bailer - Type: \_\_\_\_\_ Sample Time: 1630

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
409704-4	3 VOA's <u>6</u>	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 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	10/21/07	0900 23.87	23.87	23.87	Y	Y	G	G	4	
MW-3	↓	0835	23.20	23.20	Y	Y	G		4	
MW-5		0845	22.22	22.22	Y	Y	G		2	
MW-6		0805	23.17	23.17	Y	Y	G	G	2	
MW-1A		0905	22.25	22.25	Y	Y	G	G	4	
MW-4		↓								

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

pH: Hanna Serial # D803 G 724

Temperature: YSI Serial # 1394

Specific Conductance: YSI # 1394

Dissolved Oxygen: YSI 50 # 6075

Turbidity: HACH 9090