



January 5, 2007

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

Subject: **Groundwater Remediation and Monitoring Report  
Third Quarter 2006  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California  
MACTEC Project No. 4097041918 01**

Dear Mr. Blain:

MACTEC Engineering and Consulting, Inc. (MACTEC) presents this quarterly status letter-report on the groundwater monitoring and remedial activities at the BPS Reprographic Services (BPS) facility located at 1700 Jefferson Street in Oakland, California (Plate 1). Information presented in this letter-report represents groundwater conditions at the subject site during the Third Quarter 2006 (July through September), 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.

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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" which 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, 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 2006 GROUNDWATER SAMPLING AND ANALYSIS**

On September 13, 2006, 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 2006 event, the DO concentrations ranged from 0.6 mg/L in MW-1 to 1.5 mg/L in MW-5. 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 0.47 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 September 13, 2006 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 Sequoia Analytical Laboratory (Sequoia), a California state-certified laboratory (CA ELAP Certificate #2374), under chain-of-custody protocol for the following analyses:

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

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- 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.

Historical analytical results for TPHg, BTEX, and MTBE collected through September 29, 1999 are shown in Table 3. Third Quarter 2006 analytical results for TPHg, BTEX, MTBE, and EDC are displayed on Plate 4. 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, Third Quarter 2006 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 2006 event are as follows:

- TPHg ranged from non-detectable with a detection limit of 0.05 milligrams (mg/L; MW-6) to 20 mg/l (MW-1).
- Benzene ranged from non-detectable with a detection limit of 0.5 micrograms per liter (ug/L; MW-6) to 4,500 ug/L (MW-1).
- Toluene ranged from non-detectable with a detection limit of 0.5 ug/L (MW-6) to 3,900 ug/L (MW-1).
- Ethylbenzene ranged from non-detectable with a detection limit of 0.5 ug/L (MW-6) to 400 ug/L (MW-1).
- Total Xylenes ranged from non-detectable with a detection limit of 0.5 ug/L (MW-6) to 1,400 ug/L (MW-1).
- MTBE was not detected in samples from any of the groundwater monitoring wells this quarter, with detection limits ranging from 2.5 ug/L (MW-6) to 250 ug/L (MW-1).
- EDC was detected in MW-1 at a concentration of 260 ug/L and in MW-5 at a concentration 55 ug/L.

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

As indicated on Plate 5a, chemical concentrations at MW-1 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. Third Quarter 2006 concentrations of TPHg, benzene and toluene in MW-1 have all decreased since the First and Second Quarter 2006. Third Quarter 2006 concentrations of

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ethylbenzene and total xylenes in MW-1 have all increased since the Second Quarter 2006 but are still below recent First Quarter 2006 peak values.

As indicated on Plate 5b, significant spikes in TPHg, ethylbenzene, toluene, and xylenes concentrations occurred in MW-3 during the Second Quarter 2003 monitoring event and spikes in benzene in MW-3 occurred during the Fourth Quarter 2004 and Third Quarter 2005 monitoring events. However, since Second Quarter 2004, the overall concentrations in MW-3 have been low and relatively stable. Third Quarter 2006 concentration data in MW-3 indicate a slight increase in TPHg and BTEX compared to Second Quarter 2006 data.

As indicated on Plate 5c, chemical concentrations in MW-5 increased significantly in the Third Quarter 2003 and remained elevated through the Third Quarter 2005. Since then, TPHg and BTEX concentrations have followed decreasing trends with historical lows monitored during the First and Second Quarter 2006. Third Quarter 2006 TPHg and BTEX concentrations were elevated compared to Second Quarter 2006 but remain low compared to historical values.

Typically, groundwater collected from MW-6 contains no detectable concentrations of TPHg or BTEX compounds. Third Quarter 2006 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 in the Fourth Quarter 2002, 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 (260 ug/L and 55 ug/L, respectively) represent an increase from the Second Quarter 2006 non-detectable results, but 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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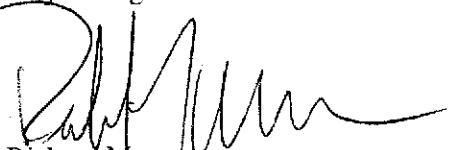
If you have any questions, please contact David S. Nanstad at (415) 278-2118.

Yours very truly,

MACTEC ENGINEERING AND CONSULTING, INC.

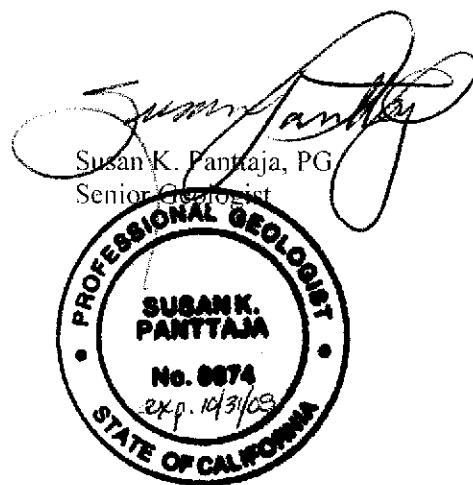


David S. Nanstad, REA  
Project Engineer



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

**Table 1.**  
**Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson Street**  
**Oakland, California**

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

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Approved AB

**Table 1.**  
**Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson Street**  
**Oakland, California**

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

**Table 1.**  
**Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson Street**  
**Oakland, California**

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
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

**Table 1.**  
**Groundwater Parameters**  
**BPS Reprographic Services Facility**  
**1700 Jefferson Street**  
**Oakland, California**

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

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

Table 3. Groundwater Monitoring Analytical Results - Using Purge Method

8/1/1991 to 9/29/1999

BPS Reprographic Services Facility  
 1700 Jefferson Street  
 Oakland, California

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	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP				
MW-1A	350	FP	FP	FP	FP	170	95	190	67	53	52	62	200	140	100	FP	FP	66	54	73	66	51	50	15	41	10	18	NA	NA	NA	NA	NA	NA				
MW-3	74	FP	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	NA	NA	NA	NA	NA	NA				
MW-4	86	FP	FP	FP	FP	58	16	92	35	13	14	11	110	260	95	FP	FP	37	24	41	48	NA	25	48	10	11	8.8	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA					
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)	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	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP				
MW-1A	17,000	FP	FP	FP	FP	17,000	16,000	13,000	11,000	8,900	9,900	14,000	18,000	16,000	FP	FP	12,000	11,000	10,000	10,000	9,100	11,000	1,100	8,500	2,300	6,400	NA	NA	NA								
MW-3	1,600	FP	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW-4	1,500	FP	FP	FP	FP	1,500	1,300	1,200	1,300	2,200	630	2,600	9,900	FP	FP	2,600	2,600	2,900	6,000	NA	2,000	9,700	1,700	2,300	1,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	11,000	8,900	7,900	13,000	10,000	9,500	5,400	8,400	14,000	5,200	9,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
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(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	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	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP				
MW-1A	31,000	FP	FP	FP	FP	31,000	21,000	21,000	13,000	9,900	9,200	11,000	22,000	28,000	22,000	FP	FP	15,000	12,000	16,000	16,000	11,000	15,000	830	11,000	1,900	7,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW-3	4,600	FP	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW-4	6,200	FP	FP	FP	FP	2,500	790	4,100	3,400	1,600	2,100	470	3,600	19,000	19,000	FP	FP	6,900	3,200	5,000	11,000	NA	460	11,000	610	2,100	3,000	NA	NA	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA							
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(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	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	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP				
MW-1A	3,000	FP	FP	FP	FP	2,100	1,500	1,400	910	500	710	790	2,700	2,800	2,100	FP	FP	1,400	1,000	1,400	1,400	1,100	870	31	720	1,600	660	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW-3	670	FP	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	1,000	FP	FP	FP	FP	520	51	310	280	110	14	780	3,700	2,000	2,000	FP	FP																				

**Table 4. Groundwater Monitoring Analytical Results****BPS Reprographic Services Facility****1700 Jefferson Street****Oakland, California**

TPHg (mg/L)	3/16/2005	6/23/2005	9/9/2005	12/2/2005	3/24/2006	6/29/2006	9/13/2006
MW-1	21	30	7.1	19	29	23	20
MW-3	0.97	0.85	3.9	0.76	0.59	1.1	1.3
MW-5	37	27	46	21	ND<10	1.2	5.8
MW-6	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
<b>Benzene (µg/L)</b>							
MW-1	4,100	5,400	840	3,600	6,200	4,800	4500
MW-3	1.4	56	470	14	83	130	260
MW-5	11,000	7,700	10,000	5900	2800	240	1600
MW-6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>Toluene (µg/L)</b>							
MW-1	4,200	5,500	950	3,500	6,000	4,000	3900
MW-3	1.8	7.3	100	8	41	38	71
MW-5	3,800	1,700	2,700	1500	450	11	210
MW-6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>Ethylbenzene (µg/L)</b>							
MW-1	470	520	120	410	620	330	400
MW-3	0.66	ND<5	33	2.4	7.3	16	44
MW-5	1,100	680	1,100	600	190	13	180
MW-6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>Total Xylenes (µg/L)</b>							
MW-1	1,300	1,900	410	1,300	2,000	1,200	1400
MW-3	2.9	12	96	17	33	21	28
MW-5	2,400	1,300	2,100	1200	180	18	270
MW-6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>MTBE (µg/L)</b>							
MW-1	ND<50 <sup>1</sup>	ND<1,200	ND<120	ND<2.5	ND<500	ND<500	ND<250
MW-3	ND<2.5	ND<25	ND<62	ND<0.5	ND<12	ND<25	ND<25
MW-5	ND<120	ND<1,200	ND<1,200	ND<500	ND<500	ND<2.5	ND<120
MW-6	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
<b>Ethylene Dichloride (µg/L)</b>							
MW-1	190	240	290	300	280	ND<0.50	260
MW-3	NR	NR	NR	NR	NR	NR	NR
MW-5	610	190	300	320	330	ND<0.50	55
MW-6	NR	NR	NR	NR	NR	NR	NR

**Table 4. Groundwater Monitoring Analytical Results**

**BPS Reprographic Services Facility**

1700 Jefferson Street

## **Oakland, California**

mg/L = milligrams per liter

$\mu\text{g/L}$  = micrograms per liter

ND = Not detected above the reporting limit following the less than sign

NA = Not Available

MTBE = methyl t-butyl eth

NR = Not Required per ACHCS direction indicating if analyte not detected during 12/27/02 sampling event then the analyte does not need continued monitoring/MW-1 and MW-5 are the only wells currently sampled for

Ethylene Dichloride (see report text for details)

1 Result of MTBE confirmation by EPA Method 824

2 Reporting limits elevated due to matrix interference.

3 Detection limit = 5 µg/L, backup sample analyzed after hold time had a result of ND<5 µg/L.

4 Data from April 1 and July 1, 2003 sampling event not available due to ORC sock obstruction in well (see report).

5 Samples collected post purge on this date, all other samples collected without purging (see report for details)

6 A sample was collected on this date both post and pre purge. The sample results collected post purge are shown on Table 3.

7 EDC Detected at same concentration as detection limit.

\* EBC Detected at same concentration as detection limit

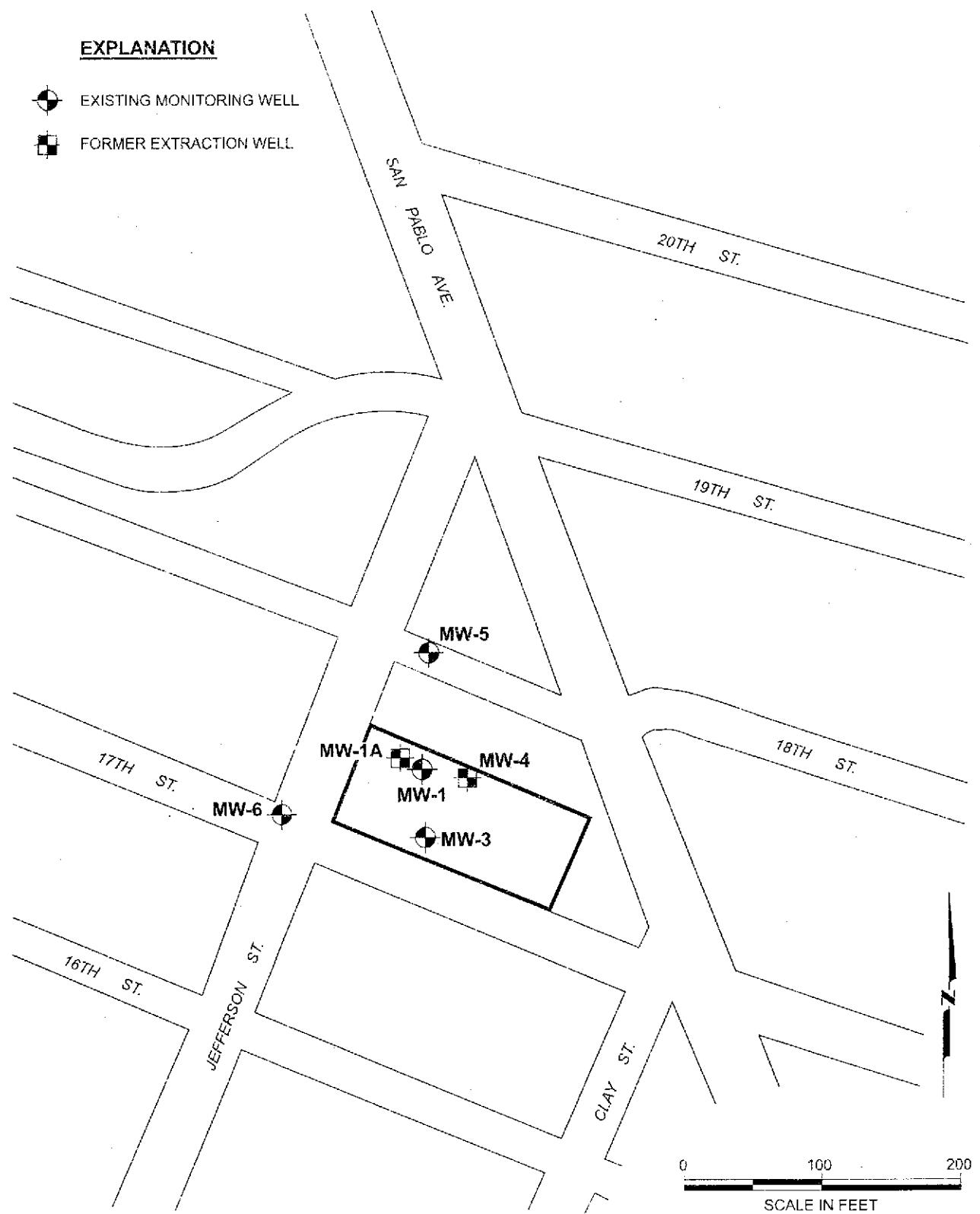
\* = Fourth Quarter 2002 analytical data for MW-5 collected on January 3, 2003

Checked *SKP*

Approved

### EXPLANATION

- EXISTING MONITORING WELL
- FORMER EXTRACTION WELL



 MACTEC

Site Map  
Third Quarter 2006  
1700 Jefferson Street  
BPS Reprographic Services Facility  
Oakland, California

PLATE

1

DRAWN  
CN

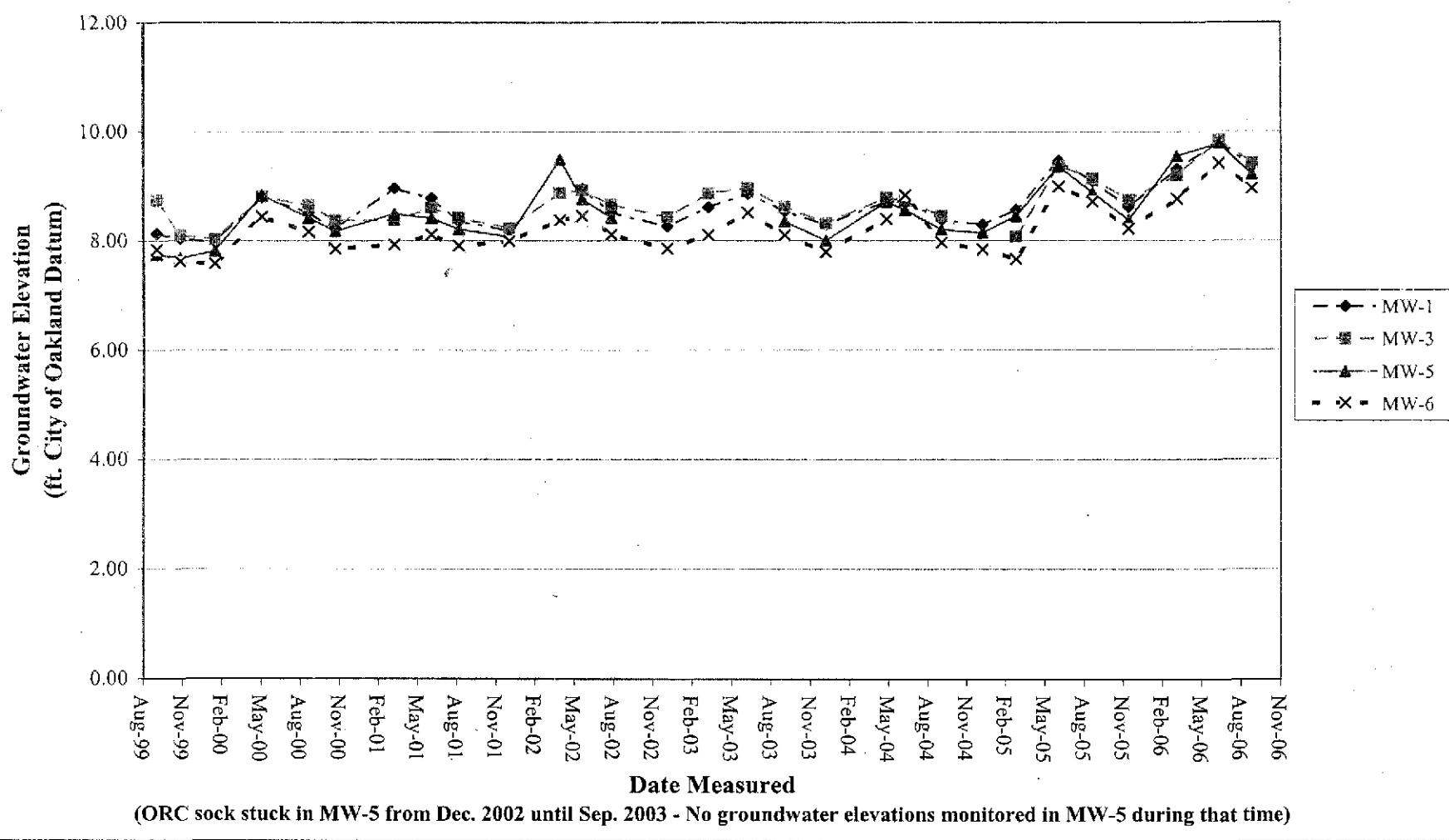
PROJECT NUMBER  
4097041918 01

CHECKED  
PDR

CHECKED DATE  
12/06

APPROVED  
SJP DR

APPROVED DATE  
12/06



### Groundwater Elevation Data

Third Quarter 2006  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

Plate

2

DRAWN  
DSN

JOB NUMBER  
4097041918

APPROVED  
*[Signature]*

DATE  
12/06

REVISION DATE

### EXPLANATION



EXISTING MONITORING WELL



FORMER EXTRACTION WELL

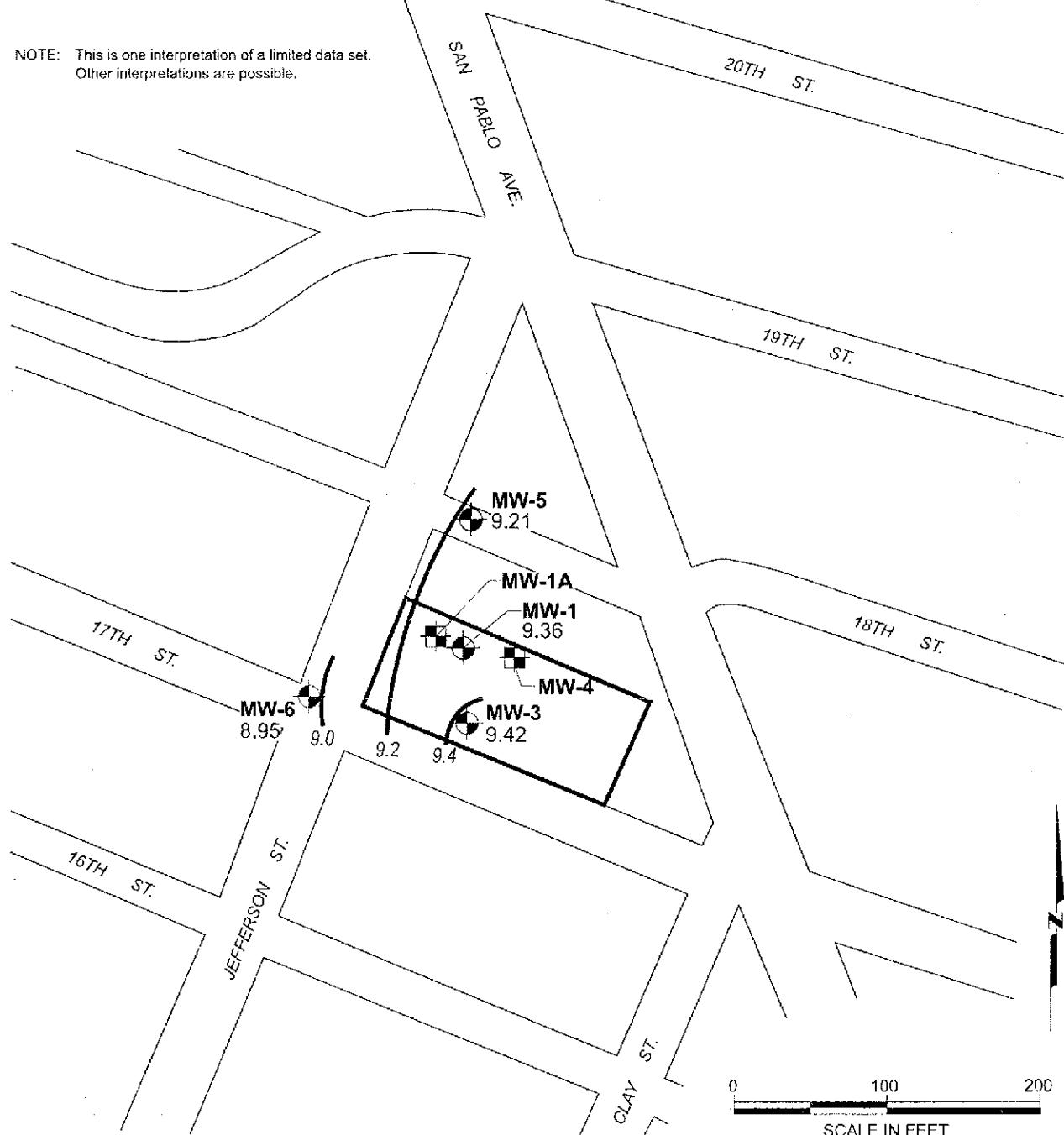
9.21

WATER LEVEL ELEVATION (FEET MSL)  
MEASURED ON SEPTEMBER 13, 2006



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.



 **MACTEC**

DRAWN  
CN

PROJECT NUMBER  
4097041918 01

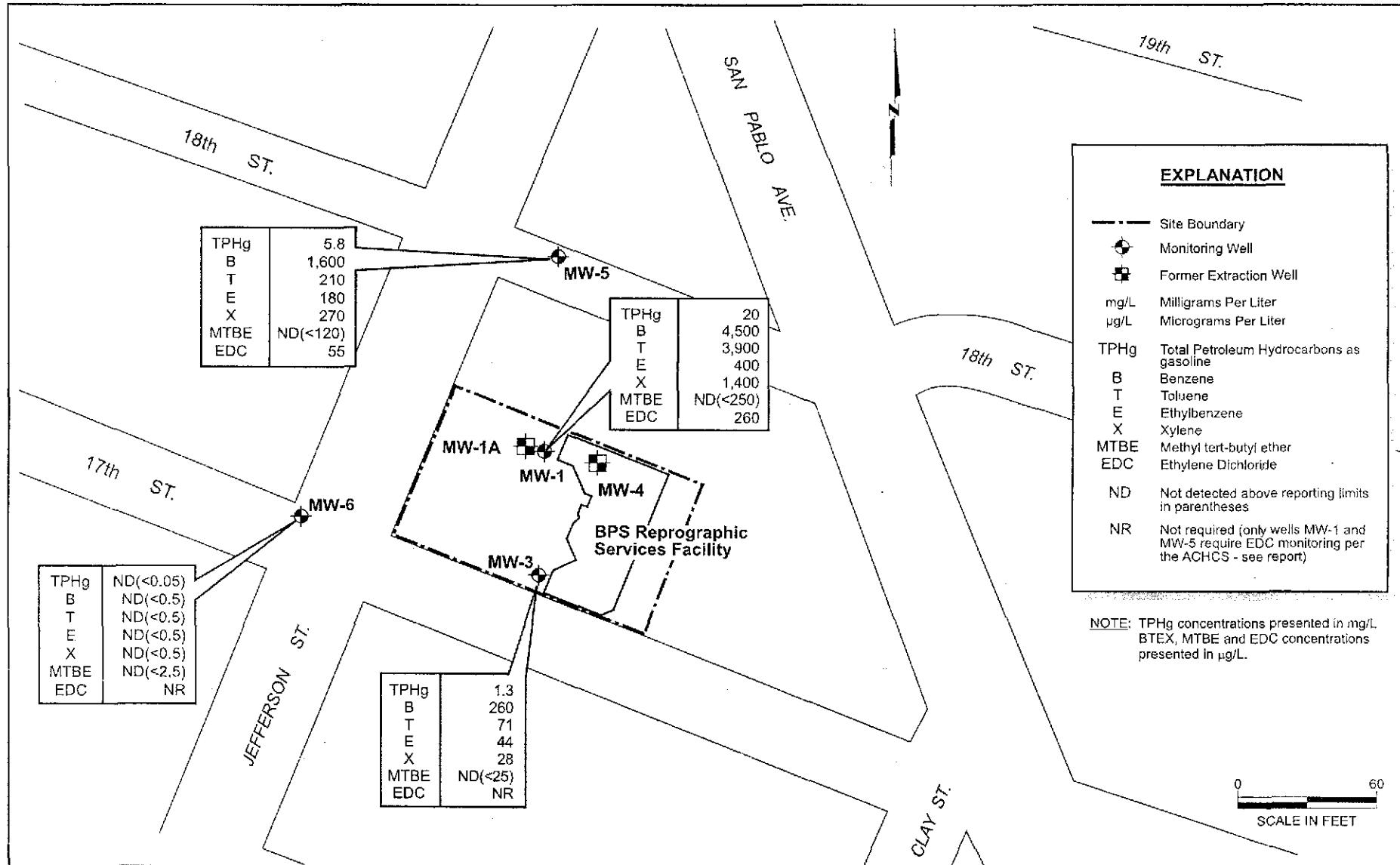
Groundwater Contours  
Third Quarter 2006  
1700 Jefferson Street  
BPS Reprographic Services Facility  
Oakland, California

CHECKED  
*[Signature]*

CHECKED DATE  
12/06

APPROVED  
*[Signature]*

PLATE  
**3**  
APPROVED DATE  
12/06



**MACTEC**

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CN

JOB NUMBER  
4097041918 01

TPHg, BTEX, MTBE and EDC Concentrations in Groundwater  
Third Quarter 2006  
1700 Jefferson Street  
BPS Reprographic Services Facility  
Oakland, California

CHECKED  
*Ron*

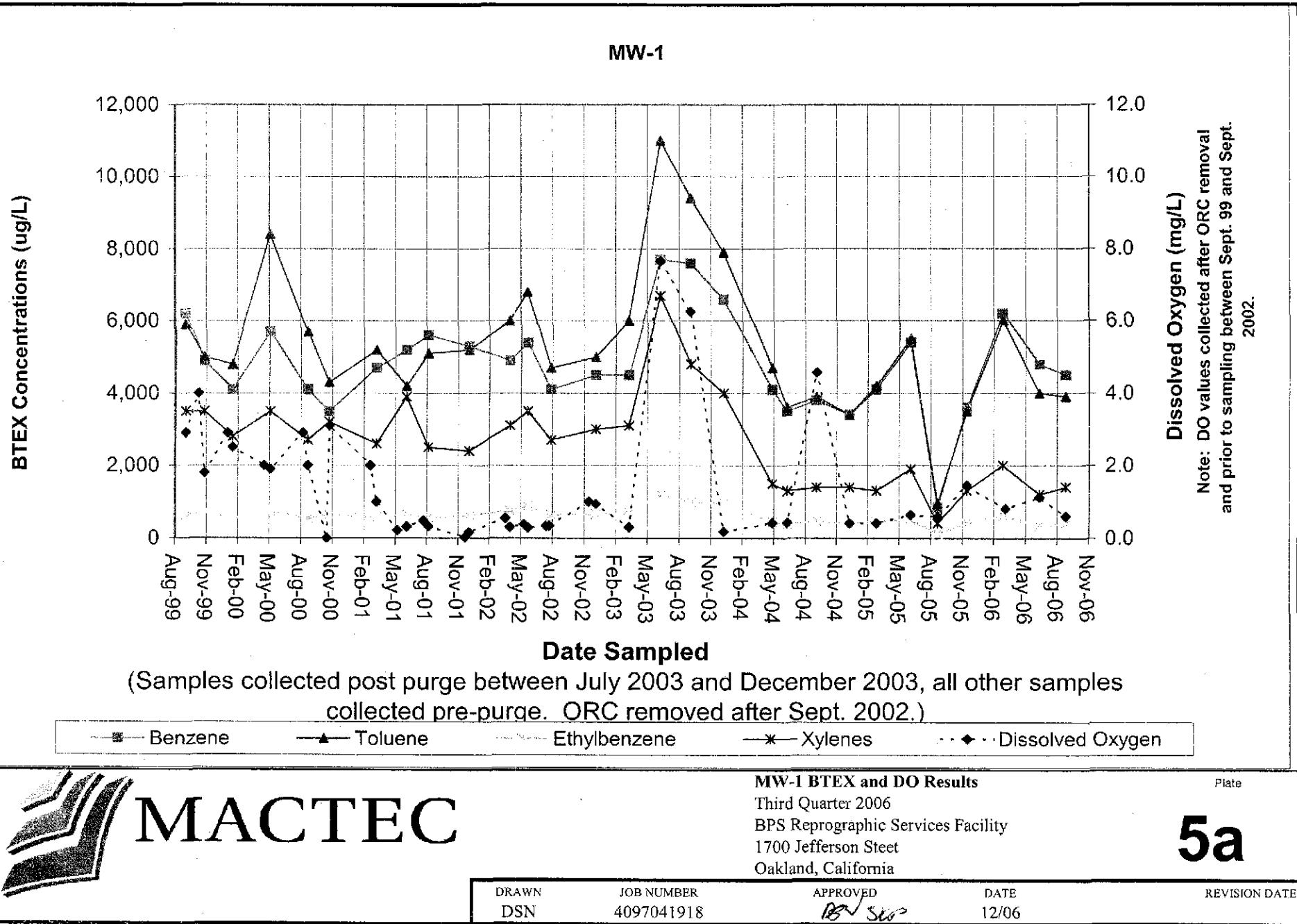
CHECKED DATE  
12/06

APPROVED  
*Ron*

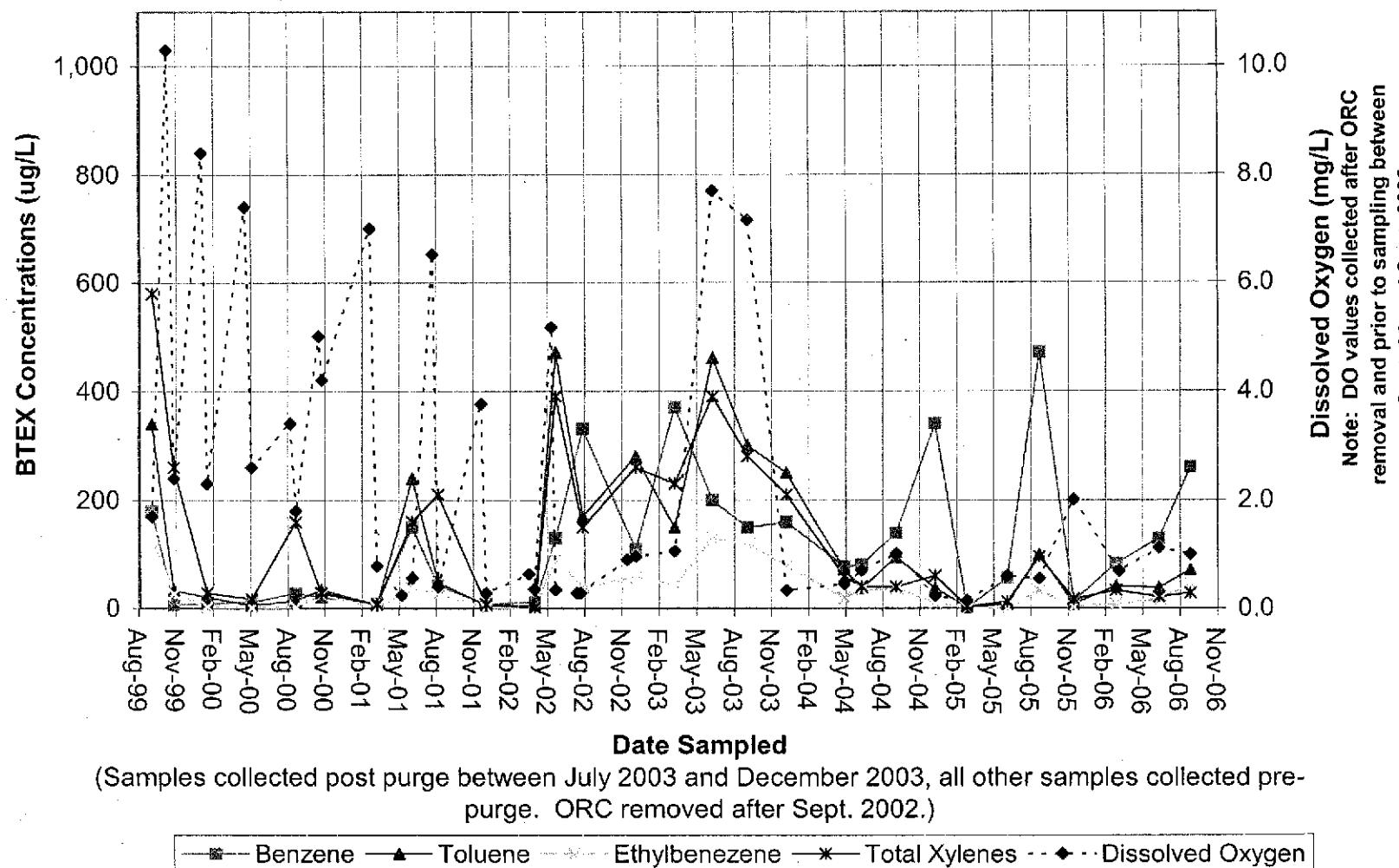
PLATE

**4**

APPROVED DATE  
12/16



### MW-3



# MACTEC

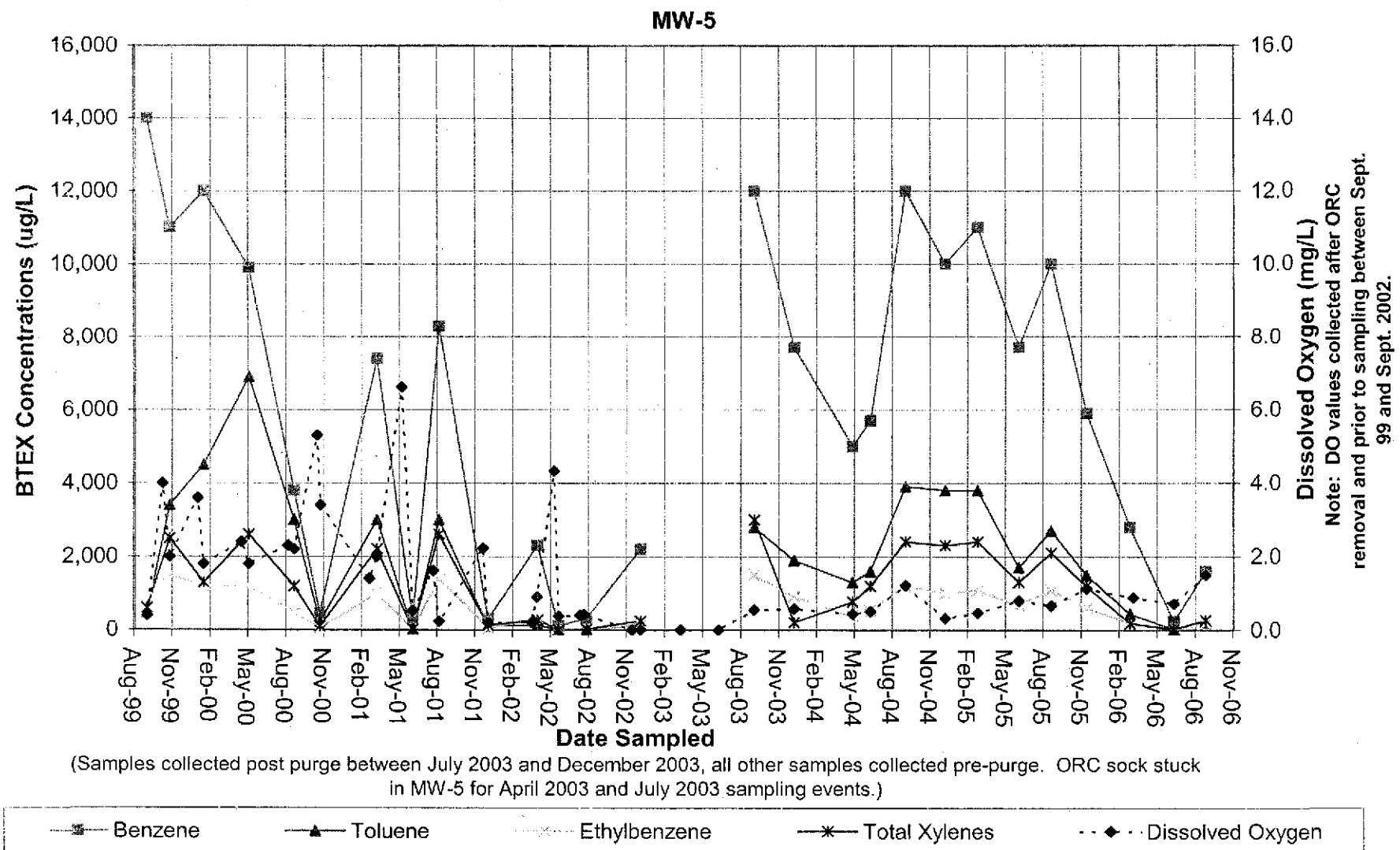
### MW-3 BTEX and DO Results

Third Quarter 2006  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

Plate

**5b**

DRAWN DSN	JOB NUMBER 4097041918	APPROVED <i>[Signature]</i>	DATE 12/06	REVISION DATE
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# MACTEC

## MW-5 BTEX and DO Results

Third Quarter 2006  
BPS Reprographic Services Facility  
1700 Jefferson Street  
Oakland, California

Plate

**5c**

DRAWN  
DSN

JOB NUMBER  
4097041918

APPROVED  
*An SLP*

DATE  
12/06

REVISION DATE

**APPENDIX A**

**LABORATORY REPORTS**

10 October, 2006

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

RE: BPS City Blue  
Work Order: MPI0490

Enclosed are the results of analyses for samples received by the laboratory on 09/15/06 10:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 1210

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

MPI0490  
Reported:  
10/10/06 16:18

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
4097041918-4	MPI0490-01	Water	09/13/06 08:18	09/15/06 10:15
4097041918-2	MPI0490-02	Water	09/13/06 08:45	09/15/06 10:15
4097041918-1	MPI0490-03	Water	09/13/06 09:05	09/15/06 10:15
4097041918-3	MPI0490-04	Water	09/13/06 09:35	09/15/06 10:15
4097041918-5	MPI0490-05	Water	09/13/06 09:45	09/15/06 10:15

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

MPI0490  
Reported:  
10/10/06 16:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>4097041918-4 (MPI0490-01) Water    Sampled: 09/13/06 08:18    Received: 09/15/06 10:15</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	6I26001	09/26/06	09/26/06	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: <i>a,a,a</i> -Trifluorotoluene		112 %	85-120	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		109 %	75-125	"	"	"	"	"	"
<b>4097041918-2 (MPI0490-02) Water    Sampled: 09/13/06 08:45    Received: 09/15/06 10:15</b>									
Gasoline Range Organics (C4-C12)	1300	500	ug/l	10	6I26001	09/26/06	09/26/06	EPA 8015B/8021B	
Benzene	260	5.0	"	"	"	"	"	"	"
Toluene	71	5.0	"	"	"	"	"	"	"
Ethylbenzene	44	5.0	"	"	"	"	"	"	"
Xylenes (total)	28	5.0	"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	25	"	"	"	"	"	"	"
Surrogate: <i>a,a,a</i> -Trifluorotoluene		104 %	85-120	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		99 %	75-125	"	"	"	"	"	"
<b>4097041918-1 (MPI0490-03) Water    Sampled: 09/13/06 09:05    Received: 09/15/06 10:15</b>									
Gasoline Range Organics (C4-C12)	20000	5000	ug/l	100	6I26001	09/26/06	09/26/06	EPA 8015B/8021B	
Benzene	4500	50	"	"	"	"	"	"	"
Toluene	3900	50	"	"	"	"	"	"	"
Ethylbenzene	400	50	"	"	"	"	"	"	"
Xylenes (total)	1400	50	"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	"
Surrogate: <i>a,a,a</i> -Trifluorotoluene		106 %	85-120	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		99 %	75-125	"	"	"	"	"	"

TestAmerica - Morgan Hill, CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

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

MPI0490  
Reported:  
10/10/06 16:18

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

**TestAmerica - Morgan Hill, CA**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>4097041918-3 (MPI0490-04) Water Sampled: 09/13/06 09:35 Received: 09/15/06 10:15</b>									
Gasoline Range Organics (C4-C12)	5800	2500	ug/l	50	6I26001	09/26/06	09/26/06	EPA 8015B/8021B	
Benzene	1600	25	"	"	"	"	"	"	
Toluene	210	25	"	"	"	"	"	"	
Ethylbenzene	180	25	"	"	"	"	"	"	
Xylenes (total)	270	25	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	120	"	"	"	"	"	"	
Surrogate: <i>a,a,a-Trifluorotoluene</i>		105 %	85-120		"	"	"	"	
Surrogate: <i>4-Bromofluorobenzene</i>		98 %	75-125		"	"	"	"	

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

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

MPI0490  
 Reported:  
 10/10/06 16:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>4097041918-1 (MPI0490-03) Water   Sampled: 09/13/06 09:05   Received: 09/15/06 10:15</b>									
<b>1,2-Dichloroethane</b>	<b>260</b>	50	ug/l	100	6I26014	09/26/06	09/27/06	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		118 %		60-145	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79 %		60-120	"	"	"	"	
Surrogate: Dibromofluoromethane		112 %		75-130	"	"	"	"	
Surrogate: Toluene-d8		73 %		70-130	"	"	"	"	
<b>4097041918-3 (MPI0490-04) Water   Sampled: 09/13/06 09:35   Received: 09/15/06 10:15</b>									
<b>1,2-Dichloroethane</b>	<b>55</b>	2.5	ug/l	5	6I26014	09/26/06	09/27/06	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		136 %		60-145	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86 %		60-120	"	"	"	"	
Surrogate: Dibromofluoromethane		96 %		75-130	"	"	"	"	
Surrogate: Toluene-d8		92 %		70-130	"	"	"	"	

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

MPI0490  
 Reported:  
 10/10/06 16:18

**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 6I26001 - EPA 5030B [P/T] / EPA 8015B/8021B**

<b>Blank (6I26001-BLK1)</b>										Prepared & Analyzed: 09/26/06
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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	86.9		"	80.0		109	85-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	80.1		"	80.0		100	75-125			
<b>Laboratory Control Sample (6I26001-BS1)</b>										Prepared & Analyzed: 09/26/06
Gasoline Range Organics (C4-C12)	208	50	ug/l	275		76	60-115			
Benzene	4.65	0.50	"	4.85		96	45-150			
Toluene	23.1	0.50	"	23.5		98	70-115			
Ethylbenzene	4.54	0.50	"	4.70		97	65-115			
Xylenes (total)	26.3	0.50	"	26.5		99	70-115			
Methyl tert-butyl ether	5.16	2.5	"	6.50		79	45-150			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	85.3		"	80.0		107	85-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	81.0		"	80.0		101	75-125			
<b>Matrix Spike (6I26001-MS1)</b>										Prepared & Analyzed: 09/26/06
Gasoline Range Organics (C4-C12)	200	50	ug/l	275	ND	73	60-115			
Benzene	4.06	0.50	"	4.85	ND	84	45-150			
Toluene	19.6	0.50	"	23.5	ND	83	70-115			
Ethylbenzene	3.77	0.50	"	4.70	ND	80	65-115			
Xylenes (total)	21.8	0.50	"	26.5	ND	82	70-115			
Methyl tert-butyl ether	4.63	2.5	"	6.50	ND	71	45-150			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	74.9		"	80.0		94	85-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	80.9		"	80.0		101	75-125			

TestAmerica - Morgan Hill, CA

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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

MPI0490  
Reported:  
10/10/06 16:18

**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
<b>Batch 6I26001 - EPA 5030B [P/T] / EPA 8015B/8021B</b>										
<b>Matrix Spike Dup (6I26001-MSD1)</b>										
<b>Source: MPI0457-01</b>										
Gasoline Range Organics (C4-C12)	187	50	ug/l	275	ND	68	60-115	7	20	
Benzene	3.92	0.50	"	4.85	ND	81	45-150	4	25	
Toluene	18.9	0.50	"	23.5	ND	80	70-115	4	20	
Ethylbenzene	3.62	0.50	"	4.70	ND	77	65-115	4	25	
Xylenes (total)	20.9	0.50	"	26.5	ND	79	70-115	4	25	
Methyl tert-butyl ether	4.58	2.5	"	6.50	ND	70	45-150	1	30	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	78.0		"	80.0		98	85-120			
<i>Surrogate: 4-Bromo fluoro benzene</i>	89.8		"	80.0		101	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

MPI0490  
Reported:  
10/10/06 16:18

**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	RPD Limit	Notes
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**Batch 6I26014 - EPA 5030B P/T / EPA 8260B**

<b>Blank (6I26014-BLK1)</b>	Prepared & Analyzed: 09/26/06					
1,2-Dichloroethane	ND	0.50	ug/l			
Surrogate: 1,2-Dichloroethane-d4	2.79	"		2.50	112	60-145
Surrogate: 4-Bromofluorobenzene	1.81	"		2.50	72	60-120
Surrogate: Dibromofluoromethane	2.81	"		2.50	112	75-130
Surrogate: Toluene-d8	1.99	"		2.50	80	70-130

<b>Laboratory Control Sample (6I26014-BS1)</b>	Prepared & Analyzed: 09/26/06					
1,2-Dichloroethane	10.0	0.50	ug/l	10.0	100	75-125
Surrogate: 1,2-Dichloroethane-d4	2.45	"		2.50	98	60-145
Surrogate: 4-Bromofluorobenzene	2.42	"		2.50	97	60-120
Surrogate: Dibromofluoromethane	2.49	"		2.50	100	75-130
Surrogate: Toluene-d8	2.53	"		2.50	101	70-130

<b>Matrix Spike (6I26014-MS1)</b>	Source: MPI0478-01 Prepared & Analyzed: 09/26/06					
1,2-Dichloroethane	49.8	2.5	ug/l	50.0	ND	100
Surrogate: 1,2-Dichloroethane-d4	2.49	"		2.50	100	60-145
Surrogate: 4-Bromofluorobenzene	2.34	"		2.50	94	60-120
Surrogate: Dibromofluoromethane	2.46	"		2.50	98	75-130
Surrogate: Toluene-d8	2.58	"		2.50	103	70-130

<b>Matrix Spike Dup (6I26014-MSD1)</b>	Source: MPI0478-01 Prepared & Analyzed: 09/26/06					
1,2-Dichloroethane	48.3	2.5	ug/l	50.0	ND	97
Surrogate: 1,2-Dichloroethane-d4	2.43	"		2.50	97	60-145
Surrogate: 4-Bromofluorobenzene	2.42	"		2.50	97	60-120
Surrogate: Dibromofluoromethane	2.49	"		2.50	100	75-130
Surrogate: Toluene-d8	2.54	"		2.50	102	70-130

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

MPI0490  
Reported:  
10/10/06 16:18

#### 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



5341 Old Redwood Highway  
Suite 300  
Petaluma, CA 94954  
(707) 793-3800

**CHAIN OF CUSTODY** SUR

Seq. No.: No 2078

Job Number:

4097041918.01

Name/Location:

BPS Oakland, Ca

**Project Manager:**

D. Vanstad Recorder: CW  
(Signature Required)

Water Soil Air	MATRIX	# CONTAINERS & PRESERV.	SAMPLE NUMBER				DATE			
			Unpres.	H2SO4	HNO3	HCl	YR	SEQ	YR	MO
X		3 -		4097041918	-40609130818					
X		3 -		4097041918	-20609130845					
X		6 -		4097041918	-10609130905					
X		6 -		4097041918	-30609130935					
X		3 -		4097041918	-50609130945					

#### **ADDITIONAL INFORMATION**

SAMPLE NUMBER		TURNAROUND TIME/ REMARKS
YR	SEQ	
		Detections of MTBE are to be confirmed by EPA 8260
		Standard TAT

CHAIN OF CUSTODY RECORD			
<i>CS</i>	Chad Simpson	Macfee	9/14/06 / 6900
Relinquished By (Signature)	(Print Name)	(Company)	Date/Time
<i>CHS</i>	JWENG (MH)		9.15.06 1015
Received By (Signature)	(Print Name)	(Company)	Date/Time
Relinquished By (Signature)	(Print Name)	(Company)	Date/Time
Received By (Signature)	(Print Name)	(Company)	Date/Time
Relinquished By (Signature)	(Print Name)	(Company)	Date/Time
Received By (Signature)	(Print Name)	(Company)	Date/Time
Method of Shipment:			

# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME:  
REC. BY (PRINT)  
WORKORDER:

MACFC  
JULIE NG.  
MPL 0490

DATE REC'D AT LAB: 9/16/06  
TIME REC'D AT LAB: 1015  
DATE LOGGED IN: 9/16/06

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

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESER VATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1.	2.								
1. Custody Seal(s)	<input checked="" type="radio"/> Present / Absent <input checked="" type="radio"/> Intact / Broken*								
2. Chain-of-Custody	<input checked="" type="radio"/> Present / Absent*								
3. Traffic Reports or Packing List:	<input checked="" type="radio"/> Present / Absent								
4. Airbill:	<input checked="" type="radio"/> Airbill / Sticker <input checked="" type="radio"/> Present / Absent								
5. Airbill #:	<input checked="" type="radio"/> see attached								
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. Trip Blank / Temp Blank Received? (circle which, if yes)	<input checked="" type="radio"/> Yes / No*								
14. Read Temp: Corrected Temp:	4.8°C ↓								
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**



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

ԵՐԱՎՈՐԻԱԼՅԱ ՀԱՄԲԱՐՁՄԱՆ ԲՈՒԺ

Well Number:	<b>MW-5</b>
Well Type:	<input checked="" type="checkbox"/> Monitor <input type="checkbox"/> Extraction <input type="checkbox"/> Other <input type="checkbox"/> PVC <input type="checkbox"/> St. Steel <input type="checkbox"/> Other
Date:	<b>9/13/2006</b>
Sampled By:	<b>CS</b> (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): 21.35  
No. of Well Volumes to be purged : 3

Screen Interval = 19-39

## PURGE VOLUME CALCULATION

(                  ) X    ^ X 3 X 0.0408 =                  gals

PURGE METHOD

Danner - Type: Swinging Deployable Bar  
 Submersible - Type:  
 X Other - Type: Micro Purge

## PUMP INTAKE SETTING

Near Bottom       Near Top  
 Other      Middle of screen

Depth in feet (BTOC): \_\_\_\_\_

## Field Parameter Measurement

PURGE TIME	PURGE RATE
Purge Start: <u>0920</u>	GPM: <u>11-4</u>
Purge Stop: <u>0930</u>	GPM: _____
Elapsed: <u>10</u>	

**PURGE VOLUME**      Volume: 1 L.      gallons  
DO 1.54      Redox -222

Observations During Purging (Well Condition, Color, Odor):  
Sampling Peristaltic pump broke  
to use disposable bags

## **WELL SAMPLING**

Bailer - Type: plastic sample CS Sampling Bailer Sample Time: 0935

**QUALITY CONTROL SAMPLES**

**Duplicate Samples**

Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.
Trip	409704/916-5





## GROUNDWATER SAMPLING FORM

Job Name: BPS  
Job Number: 4097041918.01  
Recorded By: C.W.  
(Signature)

Well Number:	<b>MW-1</b>
Well Type:	<input checked="" type="checkbox"/> Monitor <input type="checkbox"/> Extraction <input type="checkbox"/> Other <input type="checkbox"/> PVC <input type="checkbox"/> St. Steel <input type="checkbox"/> Other
Date:	<u>9/13/2006</u>
Sampled By:	<u>C.S.</u> (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): 23.0  
No. of Well Volumes to be purged : 3

Screen Interval = 22-32 ft.

## PURGE METHOD

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

#### PUMP INTAKE SETTING

<input type="checkbox"/> Near Bottom	<input type="checkbox"/> Near Top
<input checked="" type="checkbox"/> Other	Middle of screen
Depth in feet (BTOC):	
Screen Interval in feet (BTOC): from _____ to _____	

#### **PURGE VOLUME CALCULATION**

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

## Field Parameter Measurement

Minutes	pH	Conductivity (µS)	<input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU)
Initial	6.90	1088	14.2	11.9
Meter S/N				

**PURGE TIME**

Purge Start: 0853 GPM: N/A  
Purge Stop: 0902 GPM: \_\_\_\_\_  
Elapsed: 10

**PURGE VOLUME**

Volume: 167 gallons  
D.O. .61 Redox -270

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

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

## WELL SAMPLING

Bailer - Type: per pump Sample Time: 0905

#### QUALITY CONTROL SAMPLES

Duplicate Samples		Blank Samples		Other Samples	
Original Sample No.	Dupl. Sample No.	Type	Sample No.	Type	Sample No.

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

Well Number: MW-3  
 Well Type:  Monitor  Extraction  Other  
 PVC  St. Steel  Other  
 Date: 9/13/2006  
 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): 22.35  
 No. of Well Volumes to be purged : 3

Screen Interval = 22-32 ft.

**PURGE METHOD**

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

**PURGE VOLUME CALCULATION**

$$\text{TD (feet)} \times \text{WL (Feet)}^2 \times \text{D (inches)} \times \# \text{V} = \text{Calculated Purge Volume}$$

) X 2 X 3 X 0.0408 = 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. <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Turbidity (NTU)
Initial	<u>7.41</u>	<u>591</u>	<u>19.2</u>	<u>18.0</u>
Meter S/N				

**PURGE TIME**

Purge Start: 0820 GPM: 100  
 Purge Stop: 0830 GPM: 100  
 Elapsed: 10

**PURGE VOLUME**

Volume: 167 gallons  
 D.O.: 9.8 Redox: -257

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

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

**WELL SAMPLING**

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
<u>4097041918-2</u>	<u>3 VOA's</u>	T.P.H gas (8015 Modified) BTEX (8020) MTBE (8020)	HCL	Sequoia	

**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	9/14/06	0850	23.00	23.00	Y	N	ok	Y	4"	
MW-3	9/13/06	0815	22.35	22.35	Y	N	ok	Y	4"	
MW-5	9/13/06	0915	21.35	21.35	Y	N	ok	Y	2"	
MW-6	9/13/06	0737	22.31	22.31	N	N	ok	Y	2"	
MW-1A	9/13/06	0852	21.45	21.45	Y	N	ok	Y	4"	
MW-4										unable to locate

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 SN 00M686

Temperature: 11 11

Specific Conductance: 11

Dissolved Oxygen: YSI 55 SN 01D0873AD

Turbidity: 2100P Turbimeter SN 911000263

Reflex Orion Research model SA230 equipped 4A

Sounder Unit #01 M200 BAYA 02