MACTEC

November 18, 2004

Project 4097041918 Task 01

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

Groundwater Remediation and Monitoring Report
Third Quarter 2004
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

Dear Mr. Blain:

MACTEC Engineering and Consulting, Inc., 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 2004 (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. Three groundwater-monitoring wells (MW-1, MW-2, and MW-3) were installed on the property to evaluate the distribution of petroleum hydrocarbons in the groundwater and to determine the direction of groundwater flow. Free phase hydrocarbon (FPH) was found in MW-1. Groundwater level measurements at that time indicated that the local groundwater gradient was in a north to northwest direction. Groundwater level measurements would later indicate the direction of the local groundwater gradient changing (to typically east to west or north to northwest).

In November 1987, monitoring well MW-2 was abandoned to facilitate the construction of the present BPS facility and, in January 1988, two additional wells, MW-1A and MW-4, were installed as groundwater extraction wells. MACTEC also installed one offsite monitoring well, MW-5, in August 1988 and a second offsite well, MW-6, in April 1996. The monitoring well locations are shown on Plate 1.

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28 Second Street
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In 1992, a groundwater extraction system was constructed at the site to remove FPH from the groundwater surface. Groundwater was extracted from MW-1A and MW-4 and passed through an oil-water separator that removed the FPH. The water was then drawn into a 3,000-gallon bioreactor tank for treatment by hydrocarbon reducing microbes. Air and nutrients were supplied to the water within the bioreactor to facilitate microbial growth. The treated water from the bioreactor was pumped in batches of approximately 500 gallons through three granular activated carbon vessels before discharge under a wastewater discharge permit from the East Bay Municipal Utility District to the sanitary sewer. 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. Dissolved hydrocarbon concentrations were decreasing and MACTEC requested approval from the ACHCS to terminate groundwater extraction and to modify the remediation technique to in situ-bioremediation using an oxygen-releasing compound (ORC™). ORC™ is manufactured and distributed by Regenesis, Inc.; its purpose is to increase the concentration of dissolved oxygen (DO) in the groundwater and to augment the ability of naturally occurring microbial organisms in the groundwater to biodegrade the dissolved petroleum hydrocarbons. The ACHCS approved this plan in a letter dated September 28, 1999, following the submittal of an ORC™ calculation sheet and a Groundwater Monitoring Plan, dated September 23, 1999.

MACTEC implemented the in situ bioremediation technique by placing ORC™ in treatment wells: MW-1A, MW-3, MW-4, and MW-5 on September 29, 1999. The ORC™ is contained in fabric "socks" which release oxygen over time until the compound's oxygen releasing potential is depleted. MACTEC installed five socks in each treatment well at the approximate depth of the well's screened interval. As described in the Groundwater Monitoring Plan, the ORC™ socks are removed from the treatment wells two weeks before each quarterly groundwater monitoring event, then replaced after sampling is complete.

The Groundwater Monitoring Plan outlined procedures for groundwater sampling using a non-purge method approved by the Regional Water Quality Control Board in a letter dated January 31, 1997. The first quarter that the new Groundwater Monitoring Plan was implemented, sampling included duplicate sampling using both the purge and non-purge methods (see MACTEC's quarterly report, dated October 25, 1999).

During the Fourth Quarter 2002 groundwater monitoring event MACTEC removed the ORC™ socks from the treatment wells per a request from the ACHCS in a September 27, 2002 letter to BPS. The ACHCS suggested that contaminant concentrations may not be accurate due to the presence of the ORC™ socks and requested the socks be removed and DO allowed to return to back ground levels. Additionally, the ACHCS suggested in the same letter that the ORC™ socks appear to be ineffective as contaminant concentrations continue to be high in MW-1 and MW-5.

During the Fourth Quarter 2002 groundwater monitoring event MACTEC monitored groundwater monitoring MW-1, MW-3, MW-5 and MW-6 for tert Amyl Methyl Ether, Ethyl tert Butyl Ether, Diisopropyl Ether, tert Butly Alcholol, Ethylene Dibromide, and Ethlene Dichloride (EDC) per a request from the ACHCS in the September 27, 2002 letter to BPS. Analytical results indicated none of these analytes were detected in any wells except EDC in MW-1 and MW-5. EDC is monitored in MW-1 and MW-5 quarterly now as required by the ACHCS.

During the ORC™ socks removal effort from MW-5 it was discovered that the socks were stuck. ORC™ socks can become stuck in monitoring wells when the well casing has become disturbed or bent. This can typically be caused by even minor seismic occurrences in the area of the well. .The ORC™ socks remained stuck in MW-5 despite three removal attempts including attempts incorporating an industrial winch and tripod. An ORC™ sock removal effort was performed on September 17, 2003 utilizing a drill rig. The socks were successfully removed with no apparent damage to the monitoring well.

THIRD QUARTER 2004 GROUNDWATER SAMPLING AND ANALYSIS

On September 23, 2004, MACTEC conducted the quarterly groundwater monitoring of MW-1, MW-3, MW-5 and MW-6 (Plate 1) using the non-purge sampling method as described in the Enhanced Insitu-Bioremediation and Groundwater Monitoring Procedures letter dated August 17, 1999. The non-purge sampling method was re-evaluated as requested by the ACHCS in a letter dated September 27, 2002. After review of the evaluation data and analysis presented in the Second Quarter 2003 Groundwater Monitoring Report, the ACHCS approved non-purge sampling for use at the site in a letter dated February 13, 2004.

Groundwater parameters collected during sampling are shown on Table 1. 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. These measurements are displayed on Plate 2 and tabulated in Table 2.

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.
- 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 TPH-g, BTEX and MTBE collected through September 29, 1999 are shown on Table 3. Third Quarter 2004 analytical results for TPH-g, BTEX, MTBE and EDC are displayed on Plate 3. Analytical results collected since September 29, 1999 are shown on Table 4 and presented graphically on Plate 4. Analytical results for Tert-amyl methyl ether (TAME), Tert-butyl alcohol (TBA), Di-isopropyl ether (DIPE), Ethylene Dibromide (EDB), Ethyl tert Butyl Ether (ETBE) and EDC are displayed on Table 5. Historical groundwater elevations are shown graphically on Plate 5. The certified analytical reports (CARs) are presented in Appendix A.

DISCUSSION

Groundwater Monitoring Data

As shown in Table 2 and on Plate 5, the groundwater surface elevation decreased an average of 0.46 feet across the site as compared to last quarter's measurements. Using the groundwater elevations from MW-1, MW-3, MW-5 and MW-6 as measured on September 23, 2004, groundwater contours were created and are shown on Plate 2. Based on the groundwater elevations, the groundwater gradient is approximately 0.005 ft/ft. The direction of flow appears to be in a Westerly direction.

As shown on Plate 4 and Table 4, Third Quarter 2004 monitoring event concentrations of TPH-g and BTEX in wells MW-1 and MW-3 generally appear to be trending down when compared to historical values. As shown on Table 4, MTBE remains non-detectable in all wells. As shown on Plate 4 and Table 4, significant spikes in TPH-g and BTEX concentrations occurred in MW-1 during the Second Quarter 2003 monitoring event. Since that event, concentrations appear to be trending down and significant reductions in these analytes have occurred as demonstrated by the First and Second Quarter 2004 monitoring events. The Third Quarter 2004 TPH-g and BTEX analytical data for MW-1 remains the same or slightly higher than last quarter concentrations. Similarly, significant spikes in TPH-g and TEX concentrations occurred in MW-3 during the Second Quarter 2003 monitoring event and a significant spike in Benzene in MW-3 occurred during the First Quarter 2003 monitoring event. Since these events, concentrations appear to be trending down and significant reductions in these analytes occurred as demonstrated by the recent analytical data. The Third Quarter 2004 TPH-g and BTEX analytical data for MW-3 remains the same or slightly higher than last quarter concentrations.

Significant spikes in TPH-g and BTEX concentrations occurred in MW-5 during the Third Quarter 2003 (September 2003) monitoring event. Since that event, concentrations appear to be trending down and significant reductions in these analytes occurred as demonstrated by the recent analytical data. However, the Third Quarter 2004 TPH-g and BTEX concentrations in MW-5 appear to have increased significantly compared to data collected during the last three quarters, approaching the high concentration levels monitored during the Third Quarter 2003. Concentrations of TPH-g and BTEX in MW-6 remain non-detectable.

As shown in Table 4, the following show the range of monitored data for the Third Quarter 2004 event:

TPH-g ranged from non-detectable with a detection limit of 0.05 mg/l (MW-6) to 24 mg/l (MW-1). Benzene ranged from non-detectable with a detection limit of 0.5 ug/l (MW-6) to 12,000 ug/l (MW-5). Toluene ranged from non-detectable with a detection limit of 0.5 ug/l (MW-6) to 3,900 ug/l (MW-1 and MW-5). Ethylbenzene ranged from non-detectable with a detection limit of 0.5 ug/l (MW-6) to 1200 ug/l (MW-5). Total Xylenes ranged from non-detectable with a detection limit of 0.5 ug/l (MW-6) to 2,400 ug/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 ug/l (MW-6) to 120 ug/L (MW-5).

Analytical results for TAME, TBA, DIPE, EDB, ETBE and EDC are displayed on Table 5. As described in the ACHCS September 27, 2002 letter to BPS these analyses were performed per ACHCS request during the Fourth Quarter 2002 monitoring event. None of these analytes were detected in any of the groundwater samples collected from MW-1, MW-3, MW-5 and MW-6 except for EDC. EDC was detected in the samples collected from MW-1 at a concentration of 370 ug/L and MW-5 at a concentration of 220 ug/L. Per ACHCS direction, if any of these analytes were not detected during the Fourth Quarter 2002 monitoring event then the analyte does not need subsequent monitoring. Analysis for EDC was performed in groundwater samples from MW-1 and MW-5 during the Third Quarter 2004 event. Concentrations of EDC in MW-1 and MW-5 remain within a similar range as previously detected. EDC was detected in the sample from MW-1 at a concentration of 260 ug/L, a slight reduction from last quarter results. EDC was detected in the sample from MW-5 at a concentration of 670 ug/L, a slight increase from last quarter results.

As described above, the ORC™ socks were removed from all treatment wells during the Fourth Quarter 2002 monitoring event per ACHCS request (except MW-5, ORC™ socks removed from this well September 17, 2003). The ORC™ socks were removed to allow the DO concentrations in each well to return to background levels. Prior to sampling during the Third Quarter 2004 event, DO was monitored in each well. The DO concentrations ranged from 1.01 in MW-3 to 4.57 in MW-1. The DO concentrations appear to have returned to background levels. DO will continue to be monitored in these wells.

RECOMMENDATIONS

MACTEC recommends continued quarterly groundwater monitoring at the Site. 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 The County.

If you have any questions, please contact the undersigned at (415) 278-2118.

Sincerely,

MACTEC ENGINEERING AND CONSULTING, INC.

David S. Nanstad
Project Engineer

Henry Lin
Principal Engineer

Expire 12/31/05

DSN :/Cityblue/2Q04

4 copies submitted

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
Table 5 – Groundwater Monitoring Analytical Results – EPA Method 8260

Plate 1 – Site Map
Plate 2 – Groundwater Contours
Plate 3 – TPH-g, BTEX and MTBE Concentrations in Groundwater
Plate 4 – BTEX and DO Results
Plate 5 – Groundwater Elevation Data

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	2.90	1.70	0.40	1.80
11/5/1999	4.00	10.30	4.00	2.80
11/22/1999	1.80	2.40	2.00	3.20
1/28/2000	2.90	8.40	3.60	2.20
2/11/2000	2.50	2.30	1.80	3.50
5/12/2000	2.00	7.40	2.40	1.70
5/30/2000	1.90	2.60	1.80	3.20
9/1/2000	2.90	3.40	2.30	2.70
9/15/2000	2.00	1.80	2.20	3.80
11/9/2000	NA	5.00	5.30	NA
11/17/2000	3.10	4.20	3.40	6.00
3/15/2001	2.00	7.00	1.40	2.10
4/2/2001	1.00	0.78	2.00	0.99
6/1/2001	0.22	0.24	6.62	0.32
6/28/2001	0.32	0.56	0.53	0.71
8/16/2001	0.48	6.52	1.61	0.78
8/30/2001	0.33	0.40	0.23	0.46
12/14/2001	0.03	3.76	2.22	0.16
12/26/2001	0.16	0.28	0.19	0.21
4/10/2002	0.55	0.63	0.20	0.37
4/23/2002	0.30	0.35	0.90	0.45
6/3/2002	0.38	5.16	4.32	0.65
6/14/2002	0.29	0.34	0.38	0.31
8/5/2002	0.33	0.28	0.40	0.39
8/14/2002	0.34	0.28	0.42	0.63
12/6/2002	1.00	0.90	NA[2]	0.62
12/27/2002	0.94	0.96	NA[2]	1.24
4/1/2003[b]	0.30	1.06	NA[2]	NA[1]
7/1/2003[ab]	7.65	7.70	NA[2]	7.2
9/24/2003[ab]	6.25	7.16	0.55	0.9
12/29/2003[b]	0.18	0.33	0.58	0.6
5/18/2004	0.42	0.45	0.44	0.44
6/30/2004	0.43	0.70	0.51	1.08
9/23/2004	4.57	1.01	1.22	1.83
REDOX (mvolts)				
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	NA	NA	NA
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[2]	-12
4/1/2003[b]	-82	-75	NA[2]	172
7/1/2003[b]	212	230	NA[2]	227
9/24/2003[b]	-166	-300	-183	50
12/29/2003[b]	-329	-198	-269.1	113.7
5/18/2004	-309	-189	-248	115.4
6/30/2004	-270	-343	-164.5	104.2
9/23/2004	-314	-284	-162.3	96.4
Temperature (deg F)				
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[2]	41.7
4/1/2003[b]	64.6	67.6	NA[2]	68.0
7/1/2003[ab]	79.4	80.3	NA[2]	81.9
9/24/2003[b]	65.1	67.1	65.7	68.5
12/29/2003[b]	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

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

pH	MW-1	MW-3	MW-5	MW-6
9/29/1999	8.39	8.53	8.43	8.44
11/22/1999	6.86	8.42	6.84	6.79
2/11/2000	6.80	6.94	6.83	6.72
5/30/2000	7.02	7.35	7.54	7.56
9/15/2000	7.06	7.54	6.76	6.62
11/17/2000	7.37	7.69	7.12	7.34
4/2/2001	6.98	6.61	7.07	6.96
6/28/2001	6.90	6.74	6.78	6.83
8/30/2001	7.85	7.91	7.9	8.41
12/26/2001	6.23	6.91	7.11	6.72
4/23/2002	6.90	6.95	6.94	6.86
6/14/2002	7.05	7.24	7.08	6.89
8/20/2002	NA	6.89	NA[1]	6.91
12/27/2002	6.33	6.41	NA[2]	6.49
4/1/2003[b]	6.90	7.08	NA[2]	6.70
7/1/2003[b]	7.42	7.59	NA[2]	7.68
9/24/2003[b]	7.12	7.34	7.25	7.17
12/29/2003[b]	6.72	6.47	6.75	6.69
5/18/2004	6.67	6.54	6.7	6.48
6/30/2004	6.60	6.57	6.28	[1]NA
9/23/2004	6.66	6.56	6.54	6.48
Specific Conductance (µS/cm)				
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[2]	903
4/1/2003[b]	1128	800	NA[2]	1021
7/1/2003[b]	1020	690	NA[2]	970
9/24/2003[b]	951	697	987	890
12/29/2003[b]	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

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

mg/l = milligrams per liter
mvolts = millivolts
deg F = degrees Fahrenheit
µS/cm = micro-ohms per centimeter
NA = Not Available due to instrument malfunction
1 = indicates data not available due to equipment malfunction
2= DO 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 2. Groundwater Elevation Data
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

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

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

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

	Date Sampled																									
TPHg (mg/L)	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[1]
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	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)
thylbenzene (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	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	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

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

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

		9/29/1999[6]	11/22/1999	2/11/2000	5/30/2000	9/15/2000	11/16/2000	4/2/2001	6/28/2001	8/30/2001	12/26/2001	4/24/2002	6/14/2002	8/20/2002	12/27/2002	4/1/2003	7/1/2003[5]	9/25/2003[5]	12/29/2003[5]	5/18/2004	6/30/2004	9/23/2004
TPHg (mg/L)																						
	MW-1	14	24	19	19	20	18	19	39	31	34	35	35	26	28	16	61	59	46	23	24	24
	MW-3	4.1	3.1	0.54	0.49	1.5	1.3	0.17	4.9	3.1	0.95	300	4.6	4.9	4	5.9	12	10	7.3	1.5	2.0	3.4
	MW-5	10	30	23	19	24	1.8	15	3.6	34	1.9	9.4	1.7	3.2	*6.2	NA[4]	NA[4]	43	26	15	18	42
	MW-6	ND<0.5	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.066	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	6,200	4,900	4,100	5,700	4,100	3,500	4,700	5,200	5,600	5,300	4,900	5400	4100	4,500	4,500	7,700	7600	6600	4,100	3,500	3,800
	MW-3	180	6.5	8.3	11	28	20	9	150	42	8	11	130	330	110	370	200	150	160	77	81	140
	MW-5	14,000	11,000	12,000	9,900	3,800	470	7,400	300	8,300	300	2,300	110	320	*2200	NA[4]	NA[4]	12,000	7700	5,000	5,700	12,000
	MW-6	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.30	ND<0.30	ND<0.50	ND<0.50	3.6	ND<0.50	ND<0.50	ND<0.50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene (µg/L)																						
	MW-1	5,900	5,000	4,800	8,400	5,700	4,300	5,200	4,200	5,100	5,200	6,000	6,800	4700	5,000	6000	11,000	9400	7900	4,700	3,600	3,900
	MW-3	340	33	20	5.6	14	34	6.2	240	48	5.2	4.8	470	170	280	150	460	300	250	72	37	95
	MW-5	470	3,400	4,500	6,900	3,000	220	3,000	11	3,000	110	130	ND<2.5	8.6	*140	NA[4]	NA[4]	2800	1900	1,300	1,600	3,900
	MW-6	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.30	ND<0.30	2.9	ND<0.50	3.6	ND<0.50	ND<0.50	ND<0.50	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.5	ND<0.5	ND<0.5
Ethylbenzene (µg/L)																						
	MW-1	620	730	530	730	540	640	570	660	560	630	740	870	620	660	680	1200	1000	960	450	390	470
	MW-3	130	27	2.4	0.45	2.6	25	1.4	38	26	1.1	0.72	91	40	57	44	130	120	79	19.00	34.0	36
	MW-5	1,100	1,500	1,200	1,200	460	39	1000	16	1,400	55	300	7.2	22	*160	NA[4]	NA[4]	1500	910	380	540	1200
	MW-6	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.30	ND<0.30	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Total Xylenes (µg/L)																						
	MW-1	3,500	3,500	2,800	3,500	2,700	3,200	2,600	3,900	2,500	2,400	3,100	3500	2700	3,000	3100	6700	4800	4000	1,500	1,300	1,400
	MW-3	580	260	28	17	160	28	8.1	160	210	7	1.4	390	150	260	230	390	280	210	59	40	40
	MW-5	600	2,500	1,300	2,600	1,200	100	2,200	15	2,600	120	270	ND<2.5	19	*250	NA[4]	NA[4]	3000	210	770	1,200	2,400
	MW-6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.60	ND<0.30	2.7	ND<0.50	8.7	ND<0.50	ND<0.50	ND<0.50	ND<0.5	ND<0.5	ND<2.5	ND<2.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MTBE (µg/L) (EPA Method 8020)																						
	MW-1	ND<250	ND<100	6.6	ND<5.0[1]	ND<12[1,2]	ND<40[1,2]	50[1]	8.5[1]	ND<100[1,2]	ND<120	ND<120	ND<250	ND<120	ND<120	ND<120	ND<250	ND<1200	ND<250	ND<50	ND<50	[1]ND<25
	MW-3	14	ND<1.0	31	ND<5.0[1]	ND<5[1]	ND<5[1]	77[1]	ND<2[1]	ND<1.2[1]	ND<0.50[1]	ND<0.50[1]	ND<0.50[1]	ND<5[1]	19	ND<1.0[1]	ND<5[1]	ND<2.5[1]	ND<2.5[1]	ND<12	ND<1.0	[1]ND<10
	MW-5	ND<100	ND<100	6.6	ND<200	ND<10[1,2]	ND<5[1]	ND<50[1]	4.4[1]	ND<50[1]	ND<10[1]	ND<50	ND<0.50[1]	ND<0.50[1]	*ND(25)	NA[4]	NA[4]	ND<1200	ND<2.5[1]	ND<50	ND<50	ND<120
	MW-6	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5[1,3]	17[1]	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
Ethylene Dichloride[7] (µg/L) (EPA Method 8260)																						
	MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	ND<120	400	[8]500	360	320	320	260
	MW-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<12	NR	NR	NR	NR	NR	NR	NR
	MW-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220	NA[4]	NA[4]	610	410	290	610	670
	MW-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.5	NR	NR	NR	NR	NR	NR	NR

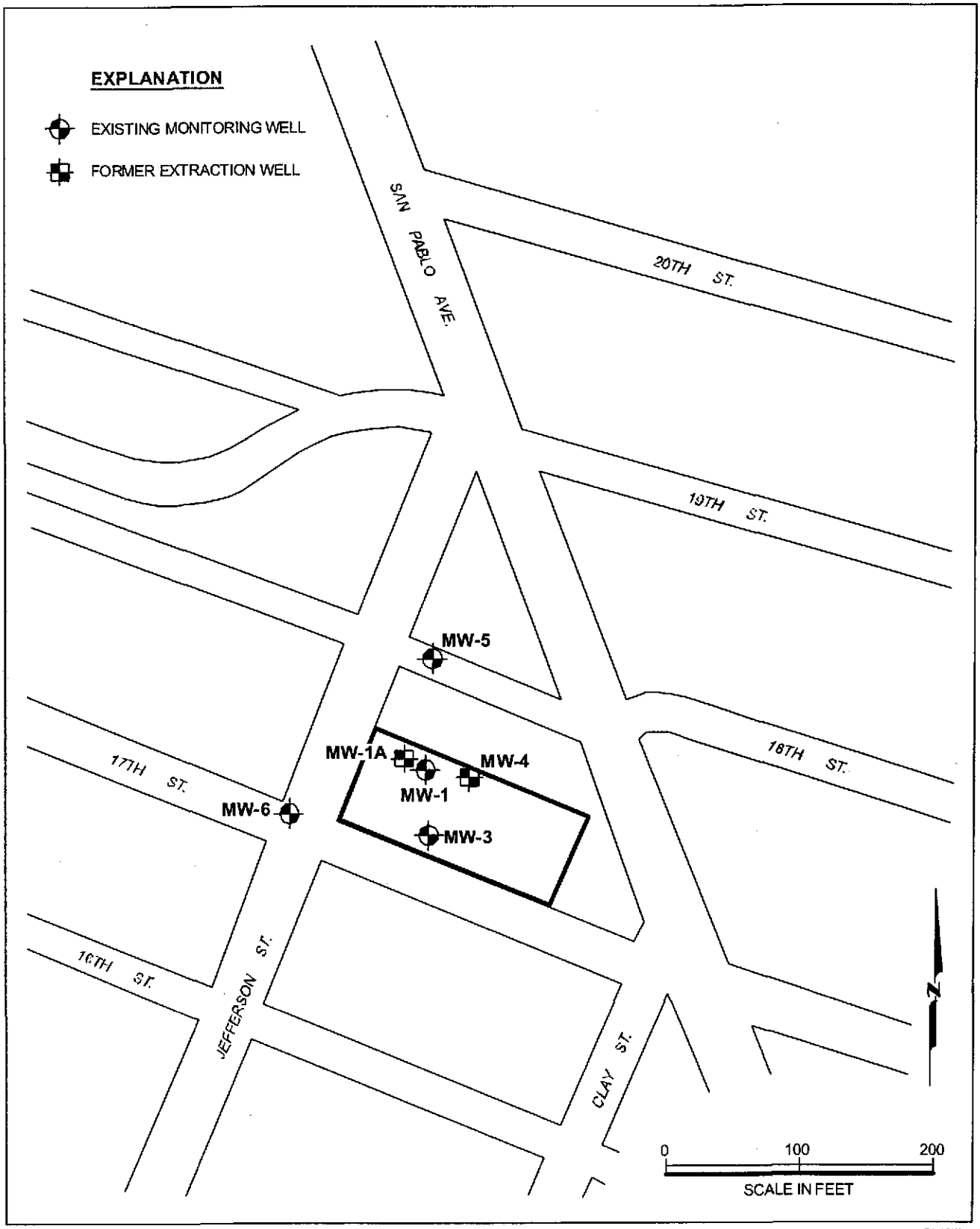
mg/l = milligrams per liter
µg/l = micrograms per liter
NR = Not Required
ND = Not detected above the reporting limit following the less than sign
NA = Not Applicable
MTBE = methyl t-butyl ether
1 Result of MTBE confirmation by EPA Method 8260.
2 Reporting limits elevated due to matrix interference.
3 Detection limit = 5 ug/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 for details)
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 is shown on Table 3.
7 Monitoring for EDC began 12/27/02 per ACHCS requirement - See Table 5 for complete list of EPA 8260 analytes initially requested for monitoring. EDC was the only analyte detected of the ACHCS list and only in wells MW-1 and MW-5.

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

Table 5. Groundwater Monitoring Analytical Results
EPA Method 8260
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

	[1]12/27/2002	[2]4/1/2003	[2]7/1/2003	[2]9/25/2003	[2]12/29/2003	[1]5/18/2004	[1]6/30/2004	[1]9/23/2004
tert Amyl Methyl Ether (µg/L)								
MW-1	ND<250	NR	NR	NR	NR	NR	NR	NR
MW-3	ND<25	NR	NR	NR	NR	NR	NR	NR
MW-5	*ND<100	NR	NR	NR	NR	NR	NR	NR
MW-6	ND<1	NR	NR	NR	NR	NR	NR	NR
Ethyl tert Butyl Ether (µg/L)								
MW-1	ND<250	NR	NR	NR	NR	NR	NR	NR
MW-3	ND<25	NR	NR	NR	NR	NR	NR	NR
MW-5	*ND<100	NR	NR	NR	NR	NR	NR	NR
MW-6	ND<1	NR	NR	NR	NR	NR	NR	NR
Di-isopropyl Ether (µg/L)								
MW-1	ND<250	NR	NR	NR	NR	NR	NR	NR
MW-3	ND<25	NR	NR	NR	NR	NR	NR	NR
MW-5	*ND<100	NR	NR	NR	NR	NR	NR	NR
MW-6	ND<1	NR	NR	NR	NR	NR	NR	NR
tert Butyl Alcohol (µg/L)								
MW-1	ND<5000	NR	NR	NR	NR	NR	NR	NR
MW-3	ND<500	NR	NR	NR	NR	NR	NR	NR
MW-5	*ND<2000	NR	NR	NR	NR	NR	NR	NR
MW-6	ND<20	NR	NR	NR	NR	NR	NR	NR
Ethylene Dibromide (µg/L)								
MW-1	ND<120	NR	NR	NR	NR	NR	NR	NR
MW-3	ND<12	NR	NR	NR	NR	NR	NR	NR
MW-5	*ND<50	NR	NR	NR	NR	NR	NR	NR
MW-6	ND<0.5	NR	NR	NR	NR	NR	NR	NR
Ethylene Dichloride (µg/L)								
MW-1	370	ND<120	400	[a]500	360	320	320	260
MW-3	ND<12	NR	NR	NR	NR	NR	NR	NR
MW-5	*220	[3]NA	[3]NA	610	410	290	610	670
MW-6	ND<0.5	NR	NR	NR	NR	NR	NR	NR

Notes:
Analytes shown on this table monitored per ACHCS requriement described in the September 27, 2002 letter to BPS from the ACHCS (see report text for details).
µg/l = micrograms per liter
NA = Not Applicable
ND = Not detected above the reporting limit
NR = Not Requried per ACHCS direction indicating if analyte not detected during 12/27/02 sampling event then the anayted does not need continued monitoring/MW-1 and MW-5 are the only wells currently sampled for Ethylene Dichloride (see report text for details)
* = Analytical data collected for MW-5 on January 3, 2003
a = EDC detected at same concentration as detecton limit
1 = Samples on this date collected without purging
2= Samples on this date collected post purge
3 = Data from April 1 and July 1, 2003 sampling event not available due to stuck ORC socks obstructing well (see Report for details).

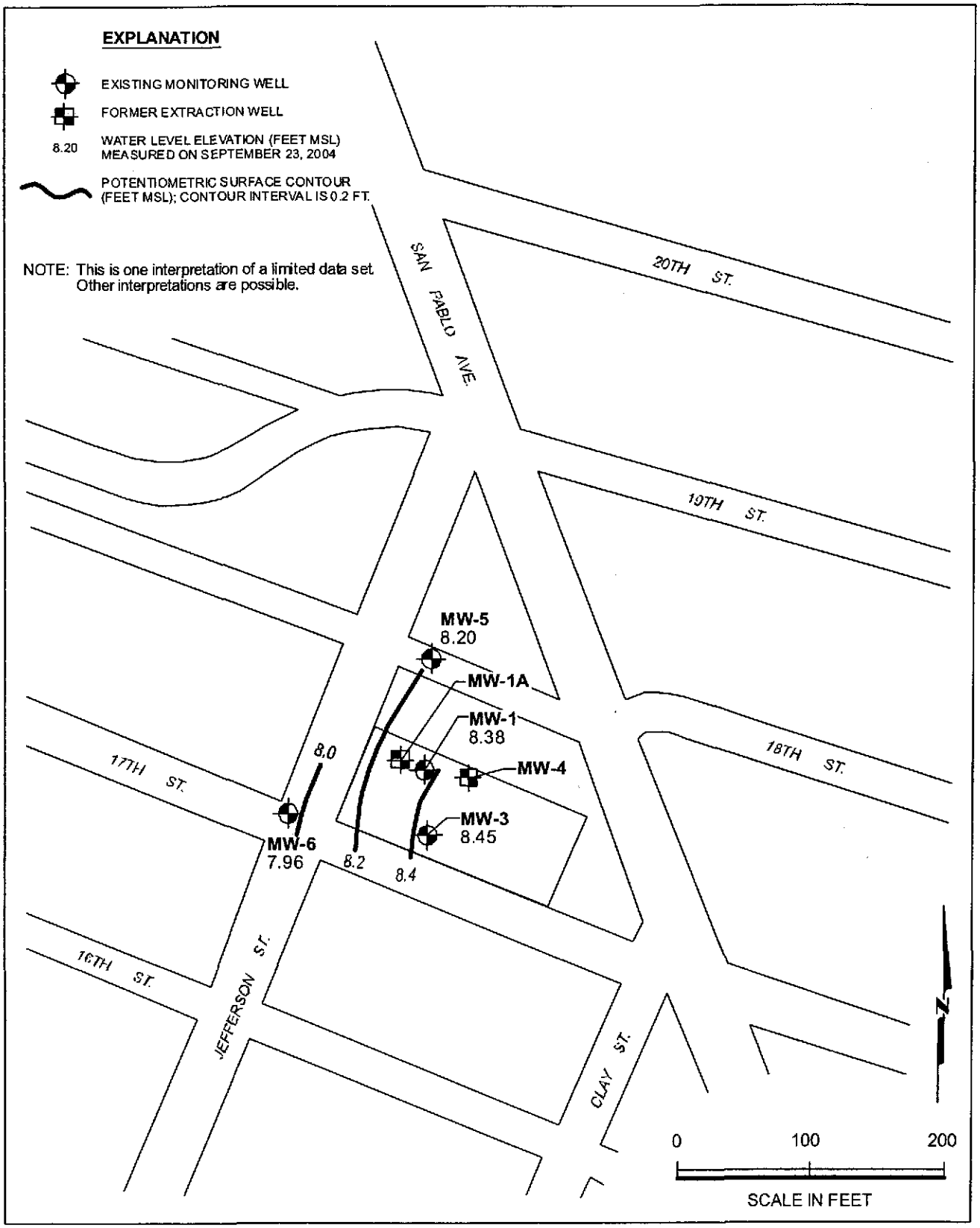


MACTEC

Site Map
Third Quarter 2004
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE
1

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
CN	4097041918 01		9/29/04	

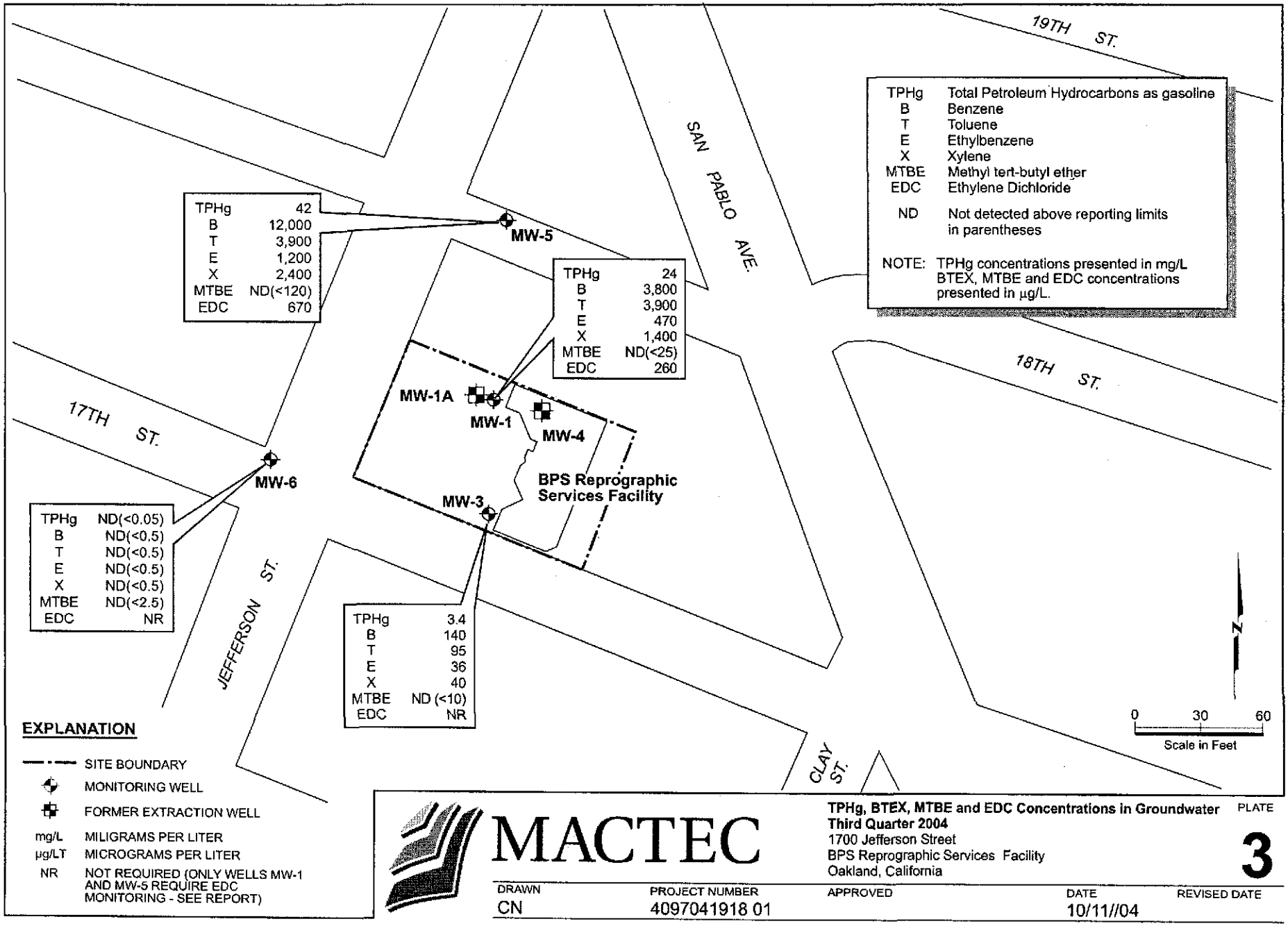


MACTEC

Groundwater Contours
Third Quarter 2004
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE
2

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
CN	4097041918 01		9/29/04	



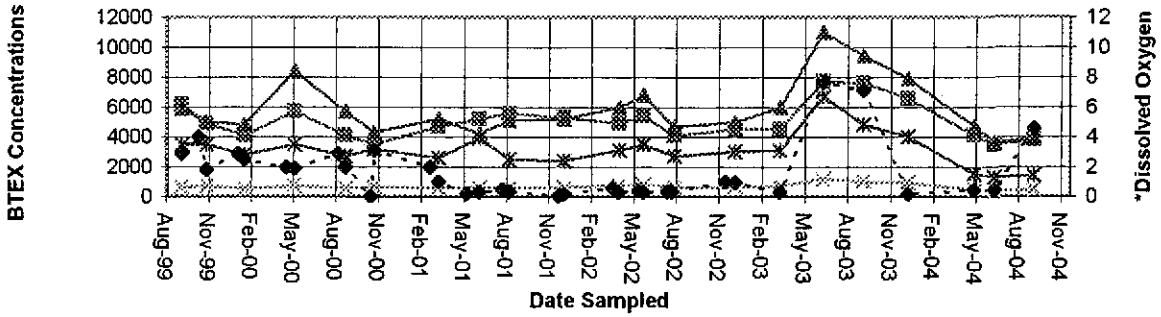
MACTEC

TPHg, BTEX, MTBE and EDC Concentrations in Groundwater
Third Quarter 2004
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE **3**

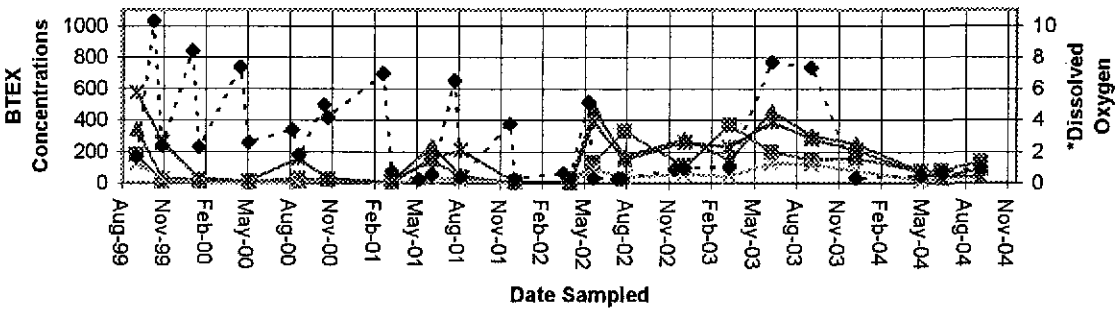
DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
CN	4097041918 01		10/11//04	

MW-1



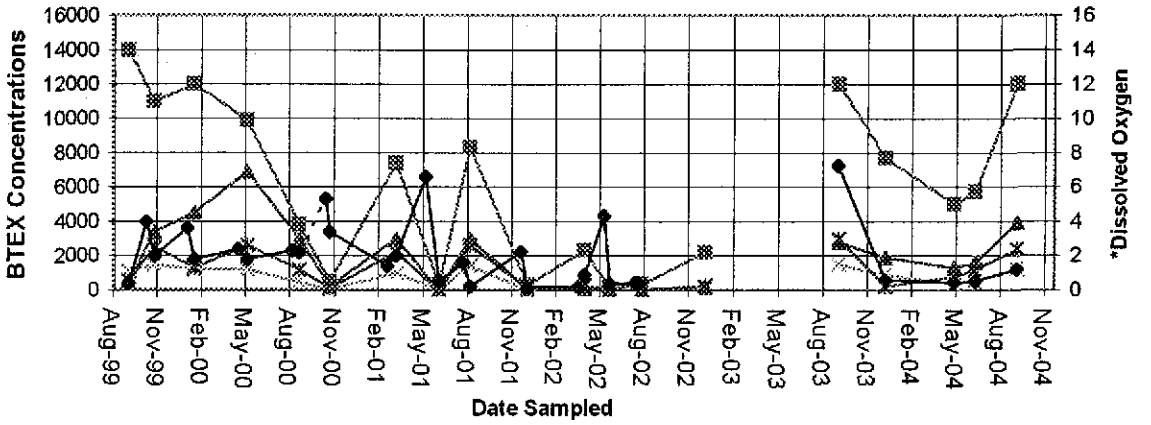
(Samples collected post purge between July 2003 and December 2003, all other samples collected pre-purge. ORC removed after Sept. 2002.)

MW-3



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

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.)

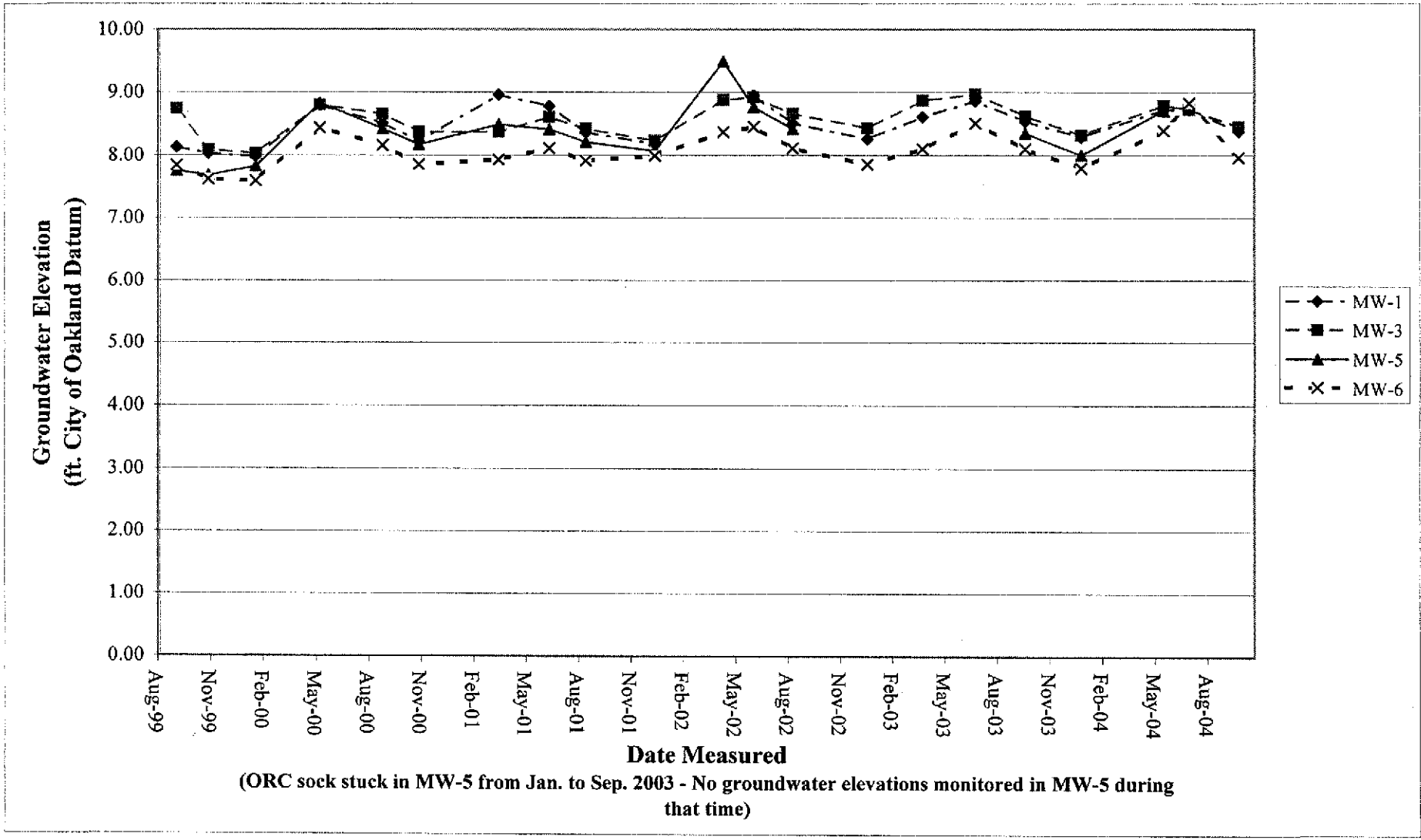
* DO values collected after ORC removal and prior to sampling between Sept. 99 and Sept. 2002.

MACTEC

BTEX and DO Results
Third Quarter 2004
BPS Reprographic Services Facility
1700 Jefferson Steet
Oakland, California

Plate
4

Drawn by	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	4097041918		Aug-04	



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

MACTEC

Groundwater Elevation Data
Third Quarter 2004
BPS Reprographic Services Facility
1700 Jefferson Steet
Oakland, California

Plate
5

DRAWN	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	4097041918		October-04	

APPENDIX A

LABORATORY REPORTS

Sequoia
Analytical

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13 October, 2004

David Nanstad
MACTEC E&C - Petaluma
5341 Old Redwood Highway, Suite 300
Petaluma, CA 94954

RE: General Commercial
Work Order: P409411

Enclosed are the results of analyses for samples received by the laboratory on 09/23/04 12:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stacy P. Hoch

Stacy P. Hoch
Dept Manager - Client Services

CA ELAP Certificate #2374

Sequoia Analytical

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MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
043923002	P409411-01	Water	09/23/04 08:45	09/23/04 12:50
043923001	P409411-02	Water	09/23/04 09:15	09/23/04 12:50
043923003	P409411-03	Water	09/23/04 10:15	09/23/04 12:50
043923004	P409411-04	Water	09/23/04 11:00	09/23/04 12:50
043923005	P409411-05	Water	09/23/04 11:20	09/23/04 12:50

Sequoia Analytical

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MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
043923002 (P409411-01) Water	**Sampled: 09/23/04 08:45**	**Received: 09/23/04 12:50**							
Gasoline Range Organics (C6-C10)	**3400**	250	ug/l	5	4100005	10/01/04	10/01/04	EPA 8015B/8021 B	
Benzene	**140**	2.5	"	"	"	"	"	"	
Toluene	**95**	2.5	"	"	"	"	"	"	
Ethylbenzene	**36**	2.5	"	"	"	"	"	"	
Xylenes (total)	**40**	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	**41**	12	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97 %*	*89-131*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91 %*	*65-135*		"	"	"	"	
043923001 (P409411-02) Water	**Sampled: 09/23/04 09:15**	**Received: 09/23/04 12:50**							
Gasoline Range Organics (C6-C10)	**24000**	1000	ug/l	20	4100005	10/01/04	10/01/04	EPA 8015B/8021 B	
Benzene	**3800**	10	"	"	"	"	"	"	
Toluene	**3900**	10	"	"	"	"	"	"	
Ethylbenzene	**470**	10	"	"	"	"	"	"	
Xylenes (total)	**1400**	10	"	"	"	"	"	"	
Methyl tert-butyl ether	**56**	50	"	"	"	"	"	"	CF1
Surrogate: a,a,a-Trifluorotoluene		*97 %*	*89-131*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84 %*	*65-135*		"	"	"	"	
043923003 (P409411-03) Water	**Sampled: 09/23/04 10:15**	**Received: 09/23/04 12:50**							
Gasoline Range Organics (C6-C10)	**42000**	2500	ug/l	50	4100005	10/01/04	10/01/04	EPA 8015B/8021 B	
Benzene	**12000**	25	"	"	"	"	"	"	
Toluene	**3900**	25	"	"	"	"	"	"	
Ethylbenzene	**1200**	25	"	"	"	"	"	"	
Xylenes (total)	**2400**	25	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	120	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98 %*	*89-131*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86 %*	*65-135*		"	"	"	"	

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5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
043923004 (P409411-04) Water	**Sampled: 09/23/04 11:00**		**Received: 09/23/04 12:50**						
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	4100005	10/01/04	10/01/04	EPA 8015B/8021 B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*100 %*	*89-131*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*76 %*	*65-135*		"	"	"	"	

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5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
043923002 (P409411-01) Water	**Sampled: 09/23/04 08:45**	**Received: 09/23/04 12:50**							**HT-RA, R-05**
Methyl tert-butyl ether	ND	10	ug/l	20	4100272	10/12/04	10/13/04	EPA 8260B	
Surrogate: Dibromofluoromethane		*101 %*	*84-122*		"	"	"	"	
043923001 (P409411-02) Water	**Sampled: 09/23/04 09:15**	**Received: 09/23/04 12:50**							
1,2-Dichloroethane	**260**	25	ug/l	25	4100106	10/06/04	10/06/04	EPA 8260B	
Methyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*96 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*86-119*		"	"	"	"	
043923003 (P409411-03) Water	**Sampled: 09/23/04 10:15**	**Received: 09/23/04 12:50**							
1,2-Dichloroethane	**670**	100	ug/l	100	4100106	10/06/04	10/06/04	EPA 8260B	
Surrogate: Dibromofluoromethane		*96 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*86-119*		"	"	"	"	

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5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

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

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100005 - EPA 5030B, waters / EPA 8015B/8021B										
Blank (4100005-BLK1)				Prepared & Analyzed: 10/01/04						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*274*		"	*300*		*91*	*89-131*			
Surrogate: 4-Bromofluorobenzene	*258*		"	*300*		*86*	*65-135*			
Laboratory Control Sample (4100005-BS1)				Prepared & Analyzed: 10/01/04						
Gasoline Range Organics (C6-C10)	2300	50	ug/l	2750		84	65-135			
Benzene	34.7	0.50	"	40.0		87	82-139			
Toluene	178	0.50	"	200		89	75-123			
Ethylbenzene	42.0	0.50	"	47.0		89	75-114			
Xylenes (total)	210	0.50	"	228		92	78-116			
Methyl tert-butyl ether	67.9	2.5	"	62.0		110	64-168			
Surrogate: a,a,a-Trifluorotoluene	*329*		"	*300*		*110*	*89-131*			
Surrogate: 4-Bromofluorobenzene	*274*		"	*300*		*91*	*65-135*			
Matrix Spike (4100005-MS1)	**Source: P409411-04**			Prepared & Analyzed: 10/01/04						
Gasoline Range Organics (C6-C10)	2170	50	ug/l	2750	20	78	65-135			
Benzene	33.4	0.50	"	40.0	0.18	83	82-139			
Toluene	170	0.50	"	200	ND	85	75-123			
Ethylbenzene	40.9	0.50	"	47.0	ND	87	75-114			
Xylenes (total)	206	0.50	"	228	ND	90	78-116			
Methyl tert-butyl ether	63.2	2.5	"	62.0	ND	102	64-168			
Surrogate: a,a,a-Trifluorotoluene	*329*		"	*300*		*110*	*89-131*			
Surrogate: 4-Bromofluorobenzene	*266*		"	*300*		*89*	*65-135*			

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MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

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

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100005 - EPA 5030B, waters / EPA 8015B/8021B										
Matrix Spike Dup (4100005-MSD1)	**Source: P409411-04**			Prepared & Analyzed: 10/01/04						
Gasoline Range Organics (C6-C10)	2250	50	ug/l	2750	20	81	65-135	4	20	
Benzene	33.3	0.50	"	40.0	0.18	83	82-139	0.3	20	
Toluene	170	0.50	"	200	ND	85	75-123	0	20	
Ethylbenzene	41.0	0.50	"	47.0	ND	87	75-114	0.2	20	
Xylenes (total)	207	0.50	"	228	ND	91	78-116	0.5	20	
Methyl tert-butyl ether	61.6	2.5	"	62.0	ND	99	64-168	3	20	
Surrogate: a,a,a-Trifluorotoluene	*324*		"	*300*		*108*	*89-131*			
Surrogate: 4-Bromofluorobenzene	*269*		"	*300*		*90*	*65-135*			

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5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100106 - EPA 5030B waters / EPA 8260B										
Blank (4100106-BLK1)			Prepared & Analyzed: 10/06/04							
Acetone	ND	10	ug/l							
Benzene	ND	1.0	"							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
2-Butanone	ND	10	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon disulfide	ND	10	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							

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MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100106 - EPA 5030B waters / EPA 8260B										
Blank (4100106-BLK1)			Prepared & Analyzed: 10/06/04							
cis-1,3-Dichloropropene	ND	1.0	ug/l							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Freon 113	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							
2-Hexanone	ND	10	"							
Isopropylbenzene	ND	1.0	"							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
4-Methyl-2-pentanone	ND	10	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
Vinyl acetate	ND	20	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
Surrogate: Dibromofluoromethane	*4.90*		"	*5.00*		*98*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*4.56*		"	*5.00*		*91*	*74-135*			
Surrogate: Toluene-d8	*4.90*		"	*5.00*		*98*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.04*		"	*5.00*		*101*	*86-119*			

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5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100106 - EPA 5030B waters / EPA 8260B										
Laboratory Control Sample (4100106-BS1)				Prepared & Analyzed: 10/06/04						
Benzene	5.02	1.0	ug/l	5.00		100	81-118			
Chlorobenzene	5.08	1.0	"	5.00		102	88-119			
1,1-Dichloroethene	5.19	1.0	"	5.00		104	77-121			
Toluene	5.12	1.0	"	5.00		102	84-119			
Trichloroethene	5.21	1.0	"	5.00		104	83-126			
Surrogate: Dibromofluoromethane	*4.67*		"	*5.00*		*93*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*4.36*		"	*5.00*		*87*	*74-135*			
Surrogate: Toluene-d8	*5.03*		"	*5.00*		*101*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.00*		"	*5.00*		*100*	*86-119*			
Laboratory Control Sample Dup (4100106-BSD1)				Prepared & Analyzed: 10/06/04						
Benzene	4.99	1.0	ug/l	5.00		100	81-118	0.6	20	
Chlorobenzene	5.23	1.0	"	5.00		105	88-119	3	20	
1,1-Dichloroethene	5.16	1.0	"	5.00		103	77-121	0.6	20	
Toluene	5.18	1.0	"	5.00		104	84-119	1	20	
Trichloroethene	5.13	1.0	"	5.00		103	83-126	2	20	
Surrogate: Dibromofluoromethane	*4.79*		"	*5.00*		*96*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*4.40*		"	*5.00*		*88*	*74-135*			
Surrogate: Toluene-d8	*4.98*		"	*5.00*		*100*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.00*		"	*5.00*		*100*	*86-119*			
Batch 4100272 - EPA 5030B waters / EPA 8260B										
Blank (4100272-BLK1)				Prepared & Analyzed: 10/12/04						
Methyl tert-butyl ether	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	*5.16*		"	*5.00*		*103*	*84-122*			

Sequoia Analytical

1455 McDowell Blvd, North Ste D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342
www.sequoialabs.com

MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4100272 - EPA 5030B waters / EPA 8260B										
Laboratory Control Sample (4100272-BS1)				Prepared & Analyzed: 10/12/04						
Methyl tert-butyl ether	5.81	0.50	ug/l	5.00		116	77-123			
Surrogate: Dibromofluoromethane	*5.32*		"	*5.00*		*106*	*84-122*			
Matrix Spike (4100272-MS1)	**Source: P410030-01**			Prepared: 10/12/04		Analyzed: 10/13/04				
Methyl tert-butyl ether	273	25	ug/l	250	ND	109	77-123			
Surrogate: Dibromofluoromethane	*5.31*		"	*5.00*		*106*	*84-122*			
Matrix Spike Dup (4100272-MSD1)	**Source: P410030-01**			Prepared: 10/12/04		Analyzed: 10/13/04				
Methyl tert-butyl ether	262	25	ug/l	250	ND	105	77-123	4	20	
Surrogate: Dibromofluoromethane	*5.36*		"	*5.00*		*107*	*84-122*			

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MACTEC E&C - Petaluma	Project:General Commercial	P409411
5341 Old Redwood Highway, Suite 300	Project Number:BPS Services-City Blue/4097041918.01	**Reported:**
Petaluma CA, 94954	Project Manager:David Nanstad	10/13/04 14:49

Notes and Definitions

R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
HT-RA	This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be used for their intended purpose.
CF1	Primary and confirmation results varied by greater than 40% RPD. The results may still be useful for their intended purpose.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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

CHAIN OF CUSTODY FORM

Seq. No.: № 1126

Samplers: David Browne

Lab: Sequoia

Job Number: 4097041918.01

Name/Location: BPS Services - City Blue

Project Manager: David Nanstad

Recorder: David Browne (Signature Required)

Matrix: Water	Soil	Air	# Containers & Preserv.: Unpres.	H2SO4	HNO3	HCL	Sample Number YR	SEQ	Date YR	MO	DAY	TIME	Station Description	Depth	TPH g 8015 Mod	BTEX 8020	MTBE 8020	Ethylene dichloride
X						3	04	3923002	04	09	23	0845	P409411-1		X	X	X	
X						6	04	3923001	04	09	23	0915	2		X	X	X	X
X						6	04	3923003	04	09	23	1015	3		X	X	X	X
X						3	04	3923004	04	09	23	1100	4		X	X	X	
X						2	04	3923005	04	09	23	1120	5		X	—		

Hold per David Nanstad 9/24/04

ADDITIONAL INFORMATION

Sample Number YR	SEQ	Turnaround Time/ Remarks
		Standard TAT

COOLER CUSTODY SEALS INTACT ☐

NOT INTACT ☐

COOLER TEMPERATURE 4.9 °C

CHAIN OF CUSTODY RECORD

	(Signature)	(Print Name)	(Company)	Date/Time
Relinquished By	David Browne	David Browne	MACTEC	9/23/04 1250
Received By	Gail Herrmann	GAIL HERRMANN	SEQUOIA	9/23/04 12:5[illegible]
Relinquished By				
Received By				
Relinquished By				
Received By				

Method of Shipment:

Laboratory Copy White | Project Office Copy | Field or Office Copy Pink

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Mactec
REC. BY (PRINT): ACL
WORKORDER: 409411

DATE Received at Lab: 9-23-04
TIME Received at Lab: 1250
LOG IN DATE: 9-23-04

(Drinking water) for regulatory purposes: YES/NO
(Wastewater) for regulatory purposes: YES/NO

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	Dash #	CLIENT ID	CONTAINER DESCRIPTION	pH	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s)	Present / ~~Absent~~ Intact / Broken*			043923002 3 4 5	3xpv 6xpv 3xpv 2xpv		W	9-23	
2. Chain-of-Custody	~~Present~~ / Absent*								
3. Airbill:	Airbill / Sticker Present / ~~Absent~~								
4. Airbill #:									
5. Sample Labels:	~~Present~~ / Absent								
6. Sample IDs:	(Listed) / Not Listed on Chain-of-Custody								
7. Sample Condition:	(Intact) / Broken* / Leaking*								
8. Does information on custody reports, traffic reports, and sample labels agree?	(Yes) / No*								
9. Sample received within hold time:	(Yes) / No*								
10. Proper Preservatives used:	(Yes) / No*								
11. Temperature Blank Received?	Yes / (No)*								
12. Temp Rec. at Lab:	4.9 degrees C								
(Acceptance range for samples requiring thermal pres.:4+/-2°C)	(Yes) / No*								
13. Samples collected more than 4 days ago?	Yes */ (No)								

*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	Client Sample ID
MW-1	43923001
MW-3	43923002
MW-5	43923003
MW-6	43923004

MACTEC

GROUNDWATER SAMPLING FORM

Job Name: City Blue
Job Number: 4097041918 .01
Recorded By: David Boone (Signature)

Well Number: MW-1
Well Type: [X] Monitor [ ] Extraction [ ] Other ___ [X] PVC [ ] St. Steel [ ] Other ___
Date: 09/23/04
Sampled By: D.S.B (initials)
Reviewed by ___

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): 23.98
No. of Well Volumes to be purged (# V 3

PURGE METHOD

[X] ~~Bailer - Type:~~ ~~P.V.C.~~ DSB
[ ] Submersible - Type:
[ ] Other - Type: Micro purge

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(_____ - _____) X ___ ~~^{2}~~ X 3 X 0.0408 = _____ gals
TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [x] °C [ ] °F	Turbidity (NTU)
Initial	6.66	1027µs	19.8	7.14
Meter S/N	9025	1394	1394	9090

PURGE TIME

Purge Start: ___
Purge Stop: ___
Elapsed: ___

PURGE RATE

GPM: ___
GPM: ___

PURGE VOLUME

Volume: ___ gallons
D.O. 4.57 mg/lt Redox -314.2 MV
Observations During Purging (Well Condition, Color, Odor):
clear, slight to moderate hydrocarbon odor - No sheen
Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [X] Other 55 Gal. drum on site

WELL SAMPLING

[ ] Bailer - Type: Micro Purge
Sample Time: 0915

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
0439 23001	6 VOA's	T.P.H gas (8015 Modified)	HCL	Sequoia	
		BTEX (8020)			
		MTBE (8020)			
		Ethylene Dichloride			

QUALITY CONTROL SAMPLES

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

MACTEC

GROUNDWATER SAMPLING FORM

Well Number: MW-3

Well Type: ☐ Monitor ☐ Extraction ☐ Other ___ ☐ PVC ☐ St. Steel ☐ Other ___

Job Name: City Blue

Job Number: 4097041918.01

Date: 09/23/04

Recorded By: David Browne (Signature)

Sampled By: D.S.B (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): 23.32
No. of Well Volumes to be purged (# V 3

PURGE METHOD

☒ Bailer - Type: P.V.C.
☐ Submersible - Type:
☐ Other - Type: Micro purge

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top
☐ Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(_____ - _____) X ____ ² X 3 X 0.0408 = _____ gals
TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. ☒ °C ☐ °F	Turbidity (NTU)
Initial	6.56	656	20.7°C	8.34
Meter S/N	9025	1394	1394	9090

PURGE TIME

Purge Start:
Purge Stop:
Elapsed:

PURGE RATE

GPM:
GPM:

PURGE VOLUME

Volume: gallons
D.O. 1.01 mg/l Redox -284.3
Observations During Purging (Well Condition, Color, Odor):
clear, slight hydro carbon odor - No sheen
Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55 Gal. drum on site

WELL SAMPLING

☐ Bailer - Type: Micro purge Sample Time: 0845

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
0439 23002	3 VOA's	T.P.H gas (8015 Modified)	HCL	Sequoia	
↓	↓	BTEX (8020)	↓	↓	
		MTBE (8020)			

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

MACTEC

GROUNDWATER SAMPLING FORM

Well Number: MW-5

Well Type: [X] Monitor [ ] Extraction [ ] Other ___ [X] PVC [ ] St. Steel [ ] Other ___

Job Name: City Blue

Job Number: 4097041918

Date: 6/30/2004

Recorded By: David Brown (Signature)

Sampled By: D.S.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): 22.36

No. of Well Volumes to be purged (# V 3

PURGE METHOD

[X] Bailer - Type: P.V.C. DSB

[ ] Submersible - Type:

[ ] Other - Type: Micro purge

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top

[ ] Other

Depth in feet (BTOC):

Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(_____ - _____) X ____ ² X 3 X 0.0408 = _____ gals

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

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [X] °C [ ] °F	Turbidity (NTU)
Initial	6.54	966 uS	20.5	13.5
Meter S/N	9025	1394	1394	9090

PURGE TIME

Purge Start:

Purge Stop:

Elapsed:

PURGE RATE

GPM:

GPM:

PURGE VOLUME

Volume: ___ gallons

D.O. 1.22 mg/l Redox 162.3 MV

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

Clear Slight to moderate hydrocarbon odor, No sheen

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

WELL SAMPLING

[ ] Bailer - Type: Micropurge Sample Time: 1015

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
043923003	6 VOA's	T.P.H gas (8015 Modified)	HCL	Sequoia	
		BTEX (8020)			
		MTBE (8020)			
		Ethylene Dichloride			

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

MACTEC

GROUNDWATER SAMPLING FORM

Job Name: City Blue
Job Number: 4097041918.01
Recorded By: David Brown (Signature)

Well Number: MW-6
Well Type: ☐ Monitor ☐ Extraction ☐ Other ___ ☐ PVC ☐ St. Steel ☐ Other ___
Date: 6/30/2004
Sampled By: D.S.B (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): 23.30
No. of Well Volumes to be purged (# V 3

PURGE METHOD

☒ Bailer - Type: P.V.C. Micropurge
☐ Submersible - Type:
☐ Other - Type:

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top
☐ Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

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

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. ☒ °C ☐ °F	Turbidity (NTU)
Initial	6.48	10074s	23.6	47.3
Meter S/N	9025	1394	1394	9090

PURGE TIME

Purge Start: _____
Purge Stop: _____
Elapsed: _____

PURGE RATE

GPM: _____
GPM: _____

PURGE VOLUME

Volume: _____ gallons
D.O. 1.83 mg/L Redox 96.4 mg/L SHE MV

Observations During Purging (Well Condition, Color, Odor):
clear odorless, No sheen

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

WELL SAMPLING

☐ Bailer - Type: Micro purge
Sample Time: 1100

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
0439230004	3 VOA's	T.P.H gas (8015 Modified)	HCL	Sequoia	
↓	↓	BTEX (8020)	↓	↓	
		MTBE (8020)			

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Dupl. Sample No.

Blank Samples

Type	Sample No.
TRIP	043923005

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	9/23									
MW-3	↓		23.32	23.32	Yes	No	Good	Good	4"	
MW-5			22.36	22.36	Yes	No	Good	Good	2"	
MW-6			23.30	23.30	Yes	No	Good	Good	2"	
MW-1A										
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: Serial # 9025 to 7 & 4 ph Buffers

Temperature: YSI 30 Serial # 1394

Specific Conductance: YSI 30 Serial # 1394

Dissolved Oxygen: YSI 55 Serial # 0075

Turbidity: Hach Serial # 9090