RO 151

MACTEC

December 12, 2003

Project 53087 Task 007

Mr. Jeff Christoff
Blue Print Service Company
149 Second Street
San Francisco, California 94105

Quarterly Groundwater Remediation and Monitoring Report
July through September, 2003
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

Dear Mr. Christoff:

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). This letter-report covers the period from July 1 through September 1, 2003, 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 indicated that the local groundwater gradient was in a north to northwest direction.

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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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 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 County to terminate groundwater extraction and to modify the remediation technique to insitu-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 County 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* remediation 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 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 damage to the monitoring well.

THIRD QUARTER 2003 GROUNDWATER SAMPLING AND ANALYSIS

On September 24, 2003, MACTEC conducted the quarterly groundwater monitoring of MW-1, MW-3, MW-5 and MW-6 (Plate 1) using the purge and sample method as described in the September 27, 2002 ACHCS letter. 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.

Monitoring well samples were collected according to methods described in the September 27, 2002 ACHCS letter and typical well purging protocol as described in *Ground-Water Sampling Preparations and Purging Methods at Water-Supply Wells and Monitoring Wells* dated September 1999 by Jacob Gibs and F.D. Wilde. This document was provided as a reference for groundwater monitoring procedures by the ACHCS case worker.

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.

The analytical results for TPH-g, BTEX and MTBE are displayed on Plates 3 and 4. Historical groundwater elevations are shown graphically on Plate 5. Historical analytical results for TPH-g, BTEX and MTBE are shown on Table 3. Analytical results for groundwater samples collected pre-purge are presented on Table 4a. Analytical results for groundwater samples collected post-purge are presented on

Table 4b. Analytical results for samples collected pre and post purge during the First Quarter 2003 groundwater monitoring event are displayed on Table 4c. Historical 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. The certified analytical reports (CARs) are presented in the Appendix A.

DISCUSSION

Groundwater Monitoring Data

As shown in Table 2 and on Plate 5, the groundwater surface elevation decreased an average of.0.36 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 24, 2003, 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 West to Northwest.

Table 3 displays a summary of historical groundwater sample results through September 29, 1999, when the typical purge and sample protocol was terminated. Plate 3 presents the sample results from this quarter's sampling event. Table 4a and Plate 4 display historical groundwater sample results since instituting *in situ* bioremediation using ORC™ socks and a non-purge sampling protocol. As of December 2002 *in situ* bioremediation using ORC™ socks was suspended. As of July 1, 2003 the data displayed on Table 4a and Plate 4 were collected by the purge and sample protocol described in the previous section.

As shown on Plate 3 and Table 4a, concentrations of TPH-g, BTEX and MTBE remained within the range of historical values (including historical concentrations monitored prior to September 1999) for all the wells sampled. TPH-g and BTEX concentrations in MW-5 are within the historical range but appear to have rebounded to values typically seen before the year 2000. This may be due to well disturbance during recent removal of the stuck ORC socks. TPH-g and BTEX concentrations in MW-1 continue (since Second Quarter 2003) to be higher than typical concentrations monitored since initiating *in situ* remediation using ORC™ in September 1999. TPH-g ranged from non-detectable with a detection limit of 0.05 mg/l (MW-6) to 59 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 0.05 ug/l (MW-6) to 9,400 ug/l (MW-1). Ethylbenzene ranged from non-detectable with a detection limit of 0.5 ug/l (MW-6) to 1,500 ug/l (MW-5). Total Xylenes ranged from non-detectable with a detection limit of 2.5 ug/l (MW-6) to 4,800 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 1200 ug/L (MW-1 and MW-5). A laboratory provided trip blank consisting of organic free water was transported to and from the Site with the samples described above. The trip blank was analyzed for TPH-g, BTEX and MTBE with the groundwater samples using EPA Method 8015M/8020M. The CARS

reported no analytes of concern were present in the trip blank equal to or above their respective detection limits.

Historical 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. As a result of these detections of EDC an analysis was performed for EDC in groundwater samples from MW-1 and MW-5 during the Third Quarter 2003 event. EDC was detected in the sample from MW-1 at the same concentration as the detection limit of 500 ug/L. EDC was detected in the sample from MW-5 at a concentration of 610 ug/L.

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 2003 event, DO was monitored in each well. The DO concentrations monitored in wells MW-1 and MW-3 remain significantly greater than typical DO concentrations monitored in these wells (Table 1) with or with out ORC™ socks. The DO concentrations in wells MW-5 and MW-6 appear to have returned to background levels. DO will continue to be monitored in these wells.

The ACHCS letter of September 27, 2002 suggests that the presence of ORC™ socks may effect contaminant concentrations in wells containing them. The letter asks if contaminant concentrations will rebound after ORC™ socks have been removed from the wells longer than two weeks. As described above, ORC™ socks were removed from all wells containing them during the Fourth Quarter Monitoring Event in 2002 and not replaced. Groundwater has been sampled post purge during the subsequent First, Second and Third Quarter Monitoring Events in 2003. There continues to be a slight increasing trend of BTEX concentrations in MW-3 over the last four events beginning in June of 2002 compared to analytical results from two years previous. However, as MW-3 was being used as a treatment well up until the 4th Quarter 2002 event, the presence of ORC™ socks appears unrelated to this trend.

TPH-g and BTEX concentrations in MW-1 were significantly higher the last two monitoring events compared to data collected during the previous three years. Well MW-5 was monitored for the first time during the Third Quarter 2003 monitoring since treatment using the ORC™ socks was terminated (as described above) in December 2002. TPH-g and BTEX concentrations monitored this quarter in well MW-5 are higher than concentrations typically monitored during the last two to three years. Comparison of pre and post ORC treatment TPH-g and BTEX concentrations in wells MW-1 and MW-5 suggest that TPH-g and BTEX concentrations have begun to increase in these wells since ORC treatment has been

terminated. This suggests that in-situ ORC™ treatment may have been associated with reduction of contaminant impact in these wells. Wells MW-1 and MW-5 will continue to be monitored during the upcoming quarterly events and TPH-g and BTEX concentrations evaluated for increased values. The impact ORC™ socks had on contaminant concentrations in the treatment wells will continue to be evaluated as the data becomes available. An evaluation using data available currently will be included in the workplan referenced below.

RECOMMENDATIONS

MACTEC recommends continued quarterly monitoring utilizing the procedures outlined in the ACHCS September 27, 2002 letter. Based upon the results of the pre and post purge groundwater data presented in the Second Quarter 2003 Groundwater Monitoring Report, MACTEC recommends continuing pre-purge groundwater monitoring with ACHCS approval.

The workplan requested in the ACHCS September 27, 2002 letter is currently being created and will contain responses to the remaining comments in the ACHCS letter that have not been addressed by this or previous quarterly reports.

MACTEC recommends that Blue Print Services 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

Steven Hickey
Senior Engineer

DSN SFOmain:/Cityblue/3q03

4 copies submitted

Attachments: Table 1 – Groundwater Parameters
Table 2 – Groundwater Elevation Data
Table 3 – Historical Groundwater Monitoring Analytical Results - Using Purge Method
Table 4a – Groundwater Monitoring Analytical Results – Non-Purge Method
Table 4b – Groundwater Monitoring Analytical Results – Comparison of Non-Purge and Purge Methods
Table 4c – Groundwater Monitoring Analytical Results 1Q03 – Comparison of Non-Purge and Purge Methods
Table 5 – Groundwater Monitoring Analytical Results – EPA Method 8260

Plate 1 – Site Map
Plate 2 – Groundwater Contours, Third Quarter 2003
Plate 3 – TPH-g, BTEX and MTBE Concentrations in Groundwater, Third Quarter 2003
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	0.62
12/27/2002	0.94	0.96	NA	1.24
4/1/2003[b]	0.30	1.06	*NA	NA[1]
7/1/2003[ab]	7.65	7.70	NA	7.2
9/24/2003	6.25	7.16	0.55	0.9
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	-12
4/1/2003[b]	-82	-75	NA	172
7/1/2003[b]	212	230	NA	227
9/24/2003	-166	-300	-183	50
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	41.7
4/1/2003[b]	64.6	67.6	NA	68.0
7/1/2003[ab]	79.4	80.3	NA	81.9
9/24/2003	65.1	67.1	65.7	68.5

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	6.91
12/27/2002	6.33	6.41	NA	6.49
4/1/2003[b]	6.90	7.08	NA	6.70
7/1/2003[b]	7.42	7.59	NA	7.68
9/24/2003	7.12	7.34	7.25	7.17
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	903
4/1/2003[b]	1128	800	NA	1021
7/1/2003[b]	1020	690	NA	970
9/24/2003	951	697	987	890

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

mg/l = milligrams per liter
mvolts = millivolts
deg F = degrees Fahrenheit
µS/cm = micro-ohms per centimeter
NA = Not Available
1 = indicates data not available due to equipment malfunction
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	-0.36

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. Historical Groundwater Monitoring Analytical Results - Using Purge Method

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
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	68	59	41	44	32	25	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	20	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	840	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	6,800	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	590	400	310	160	120	306	270	710
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Ethylbenzene (µg/L)																										
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	1,500	1,600	1,400	1,100	550	730	820	870	950	1,200
MW-1A	3,000	FP	FP	FP	2,100	1,500	1,400	910	500	710	790	2,700	2,800	2,100	FP	1,400	1,000	1,400	1,400	1,100	870	31	720	1,600	660	NA
MW-3	670	FP	FP	FP	FP	580	6,000	580	190	68	140	49	68	15	FP	FP	2,400	930	800	870	490	430	25	250	200	230
MW-4	1,000	FP	FP	FP	520	51	310	280	77	110	14	780	3,700	2,000	FP	540	140	350	580	NA	ND(15)	890	ND(15)	88	150	NA
MW-5	1,900	1,400	1,800	1,400	1,500	2,800	1,800	2,800	1,400	2,000	16,000	2,000	2,000	2,300	2,700	1,900	1,500	1,500	1,900	2,000	420	1,100	1,500	1,800	1,100	1,100
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.5	ND(0.5)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Xylenes (µg/L)																										
MW-1	FP	FP	FP	FP	FP	FP	FP	NA	NA	NA	NA	NA	FP	FP	FP	FP	11,000	8,600	6,600	4,300	3,000	2,100	2,800	3,500	2,500	5,500
MW-1A	22,000	FP	FP	FP	14,000	12,000	11,000	9,800	6,300	6,800	5,300	22,000	19,000	14,000	FP	100	7,200	8,500	12,000	6,800	5,800	3,000	6,700	2,300	4,100	NA
MW-3	4,300	FP	FP	FP	FP	4,300	95,000	4,800	1,700	500	1,700	440	1,500	300	FP	FP	16,000	5,900	5,900	5,200	3,700	3,800	360	2,300	1,800	1,300
MW-4	7,300	FP	FP	FP	3,200	3,400	5,400	5,800	1,800	2,100	1,800	10,000	28,000	13,000	FP	5,500	3,500	4,800	8,200	NA	6,400	5,000	2,300	1,600	2,700	NA
MW-5	4,900	2,600	2,700	2,700	2,100	4,500	2,900	4,500	1,600	2,100	1,900	2,400	2,700	4,000	6,500	2,800	1,700	1,300	1,700	2,200	850	900	840	1,100	690	1,100
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)	ND(0.60)
MTBE (µg/L)																										
MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	FP	FP	ND(500)	ND(500)	300	420	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	NA	1,800	ND(500)	ND(500)	1,900	300	ND(50)	ND(50)	ND(50)	ND(50)	NA
MW-3	NA	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)	10
MW-4	NA	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)	NA
MW-5	NA	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(100)
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	NA	NA	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(2.0)	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 parentheses
NA = Not analyzed
FP = Free Product - well not sampled
-- = Well did not exist at date indicated

Table 4a. Groundwater Monitoring Analytical Results – Non-Purge Method Through 1Q03
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

TPHg (mg/L)		9/29/1999	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	[5]4/1/2003
	MW-1	14	24	19	19	20	18	19	39	31	34	35	35	26	28	16
	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
	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]
	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
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	4500
	MW-3	180	6.5	8.3	11	28	20	9	150	42	8	11	130	330	110	370
	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]
	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
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
	MW-3	340	33	20	5.6	14	34	6.2	240	48	5.2	4.8	470	170	280	150
	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]
	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
Ethylbenzene (µg/L)																
	MW-1	620	730	530	730	540	640	570	660	560	630	740	870	620	660	680
	MW-3	130	27	2.4	0.45	2.6	25	1.4	38	26	1.1	0.72	91	40	57	44
	MW-5	1,100	1,500	1,200	1,200	460	39	1000	16	1,400	55	300	7.2	22	*160	NA[4]
	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
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
	MW-3	580	260	28	17	160	28	8.1	160	210	7	1.4	390	150	260	230
	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]
	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
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
	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]
	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]
	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
Ethylene Dichloride (µg/L) (EPA Method 8260)																
	MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	ND<120
	MW-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<12	NA
	MW-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220	NA[4]
	MW-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.5	NA

mg/l = milligrams per liter
µg/l = micrograms per liter
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, 2003 sampling event not available due to ORC sock obstruction in well (see report for details)
5 Table 4b displays post purge sample analytical results

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

Table 4b. Groundwater Monitoring Analytical Results - Samples Collected Post Purge
Beggining 1Q03
EPA Method EPA 8015M/8020M
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

TPHg (mg/L)		4/1/2003	7/1/2003	9/25/2003
	MW-1	23	61	59
	MW-3	6.6	12	10
	[2]MW-5	NA[4]	NA[4]	43
	MW-6	ND<0.05	ND<0.05	ND<0.05
Benzene (µg/L)				
	MW-1	5100	7,700	7600
	MW-3	240	200	150
	[2]MW-5	NA[4]	NA[4]	12000
	MW-6	ND<0.5	ND<0.5	ND<0.5
Toluene (µg/L)				
	MW-1	6900	11,000	9400
	MW-3	200	460	300
	[2]MW-5	NA[4]	NA[4]	2800
	MW-6	ND<0.05	ND<0.05	ND<0.05
Ethylbenzene (µg/L)				
	MW-1	840	1200	1000
	MW-3	63	130	120
	[2]MW-5	NA[4]	NA[4]	1500
	MW-6	ND<0.5	ND<0.5	ND<0.5
Xylenes (µg/L)				
	MW-1	4100	6700	4800
	MW-3	220	390	280
	[2]MW-5	NA[4]	NA[4]	3000
	MW-6	ND<0.5	ND<2.5	ND<2.5
MTBE (µg/L) (EPA Method 8020)				
	MW-1	ND<120	ND<250	ND<1200
	MW-3	ND<2.5	ND<5[1]	ND<2.5[1]
	[2]MW-5	NA[4]	NA[4]	ND<1200
	MW-6	ND<2.5	ND<2.5	ND<2.5

mg/l = milligrams per liter
µg/l = micrograms per liter
ND = Not detected above the reporting limit following the less than sign
NA = Not Available
MTBE = methyl t-butyl ether
1 Result of MTBE confirmation by EPA Method 8260.
2 Data not available from April 1 and July 1, 2003 sampling events due to ORC socks stuck in well
* Detected at same concentration as reporting limit

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

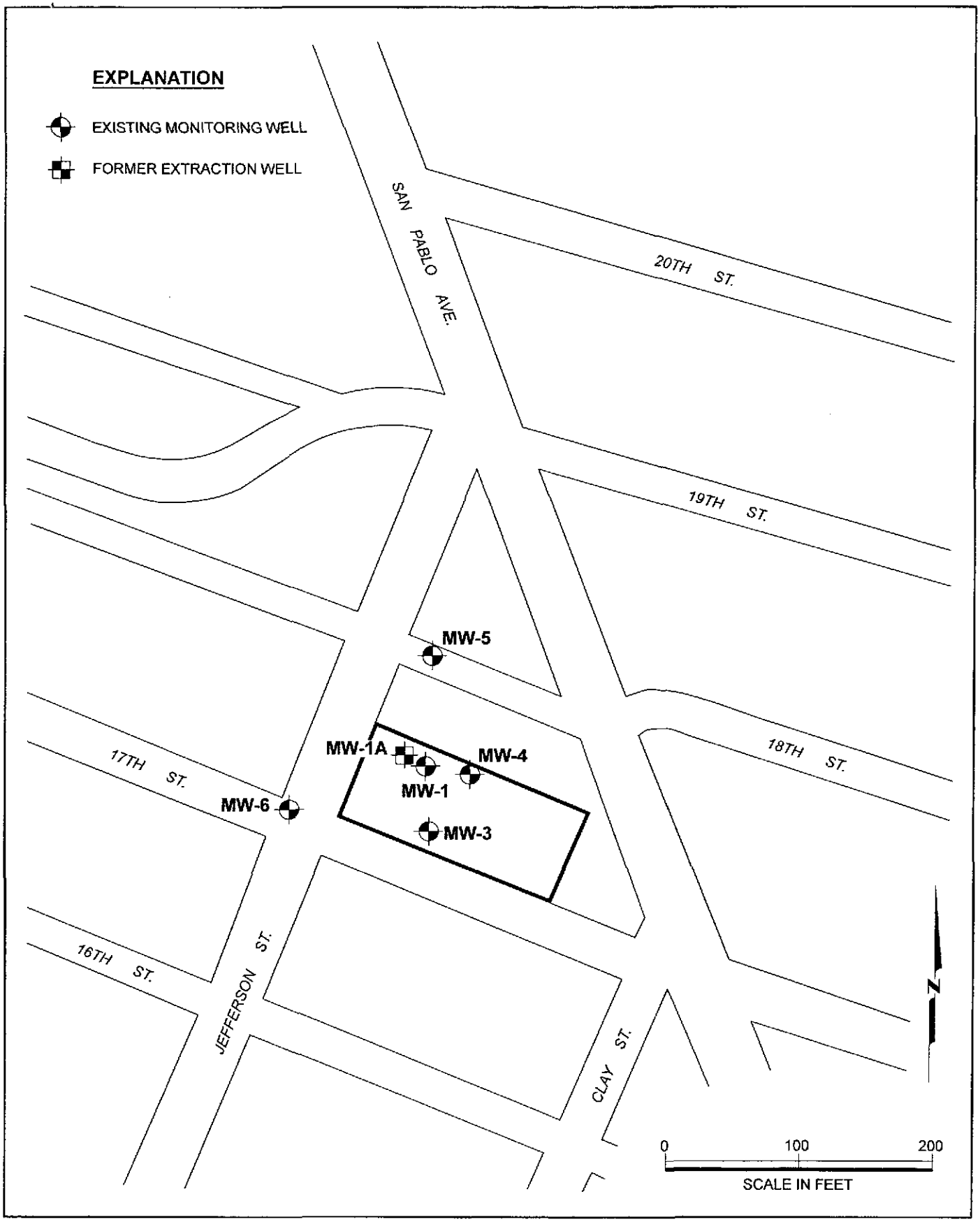
tert Amyl Methyl Ether (µg/L)	[1]12/27/2002	4/1/2003	7/1/2003	9/25/2003
MW-1	ND<250	NA	NA	NA
MW-3	ND<25	NA	NA	NA
MW-5	*ND<100	NA	NA	NA
MW-6	ND<1	NA	NA	NA
Ethyl tert Butyl Ether (µg/L)				
MW-1	ND<250	NA	NA	NA
MW-3	ND<25	NA	NA	NA
MW-5	*ND<100	NA	NA	NA
MW-6	ND<1	NA	NA	NA
Di-isopropyl Ether (µg/L)				
MW-1	ND<250	NA	NA	NA
MW-3	ND<25	NA	NA	NA
MW-5	*ND<100	NA	NA	NA
MW-6	ND<1	NA	NA	NA
tert Butyl Alcohol (µg/L)				
MW-1	ND<5000	NA	NA	NA
MW-3	ND<500	NA	NA	NA
MW-5	*ND<2000	NA	NA	NA
MW-6	ND<20	NA	NA	NA
Ethylene Dibromide (µg/L)				
MW-1	ND<120	NA	NA	NA
MW-3	ND<12	NA	NA	NA
MW-5	*ND<50	NA	NA	NA
MW-6	ND<0.5	NA	NA	NA
Ethylene Dichloride (µg/L)				
MW-1	370	ND<120	400	[a]500
MW-3	ND<12	NA	NA	NA
MW-5	*220	NA	NA	610
MW-6	ND<0.5	NA	NA	NA

Notes:
Analytical results shown here collected post purge after 12/27/2002
µg/l = micrograms per liter
ND = Not detected above the reporting limit
NA = Not Available/MW-1 is the only well currently sampled for Ethylene Dichloride (see report 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 pre-purge

Table 4c. Groundwater Monitoring Analytical Results 1Q03 – Comparison of Non-Purge and Purge Methods
BPS Reprographic Services Facility
1700 Jefferson Street
Oakland, California

		Pre-Purge 4/1/2003	Post-Purge 4/1/2003
TPHg (mg/L)			
	MW-1	16	23
	MW-3	5.9	6.6
	*MW-5	NA[2]	NA[2]
	MW-6	ND<0.05	ND<0.05
Benzene (µg/L)			
	MW-1	4500	5100
	MW-3	370	240
	*MW-5	NA[2]	NA[2]
	MW-6	ND<0.5	ND<0.5
Toluene (µg/L)			
	MW-1	6000	6900
	MW-3	150	200
	*MW-5	NA[2]	NA[2]
	MW-6	ND<0.05	ND<0.05
Ethylbenzene (µg/L)			
	MW-1	680	840
	MW-3	44	63
	*MW-5	NA[2]	NA[2]
	MW-6	ND<0.5	ND<0.5
Xylenes (µg/L)			
	MW-1	3100	4100
	MW-3	230	220
	*MW-5	NA[2]	NA[2]
	MW-6	ND<0.5	ND<0.5
MTBE (µg/L) (EPA Method 8020)			
	MW-1	ND<120	ND<120
	MW-3	ND<1.0[1]	ND<2.5[1]
	*MW-5	NA[2]	NA[2]
	MW-6	ND<2.5	ND<2.5
Ethylene Dichloride (µg/L) (EPA Method 8260)			
	MW-1	ND<120	ND<120
	MW-3	NA	NA
	*MW-5	NA	NA
	MW-6	NA	NA

mg/l = milligrams per liter
µg/l = micrograms per liter
ND = Not detected above the reporting limit following the less than sign
NA = Not Available
MTBE = methyl t-butyl ether
1 Result of MTBE confirmation by EPA Method 8260.
2 Data not available from April 1, 2003 sampling date due to ORC socks stuck in well
* = Analytical data collected for MW-5 on January 3, 2003



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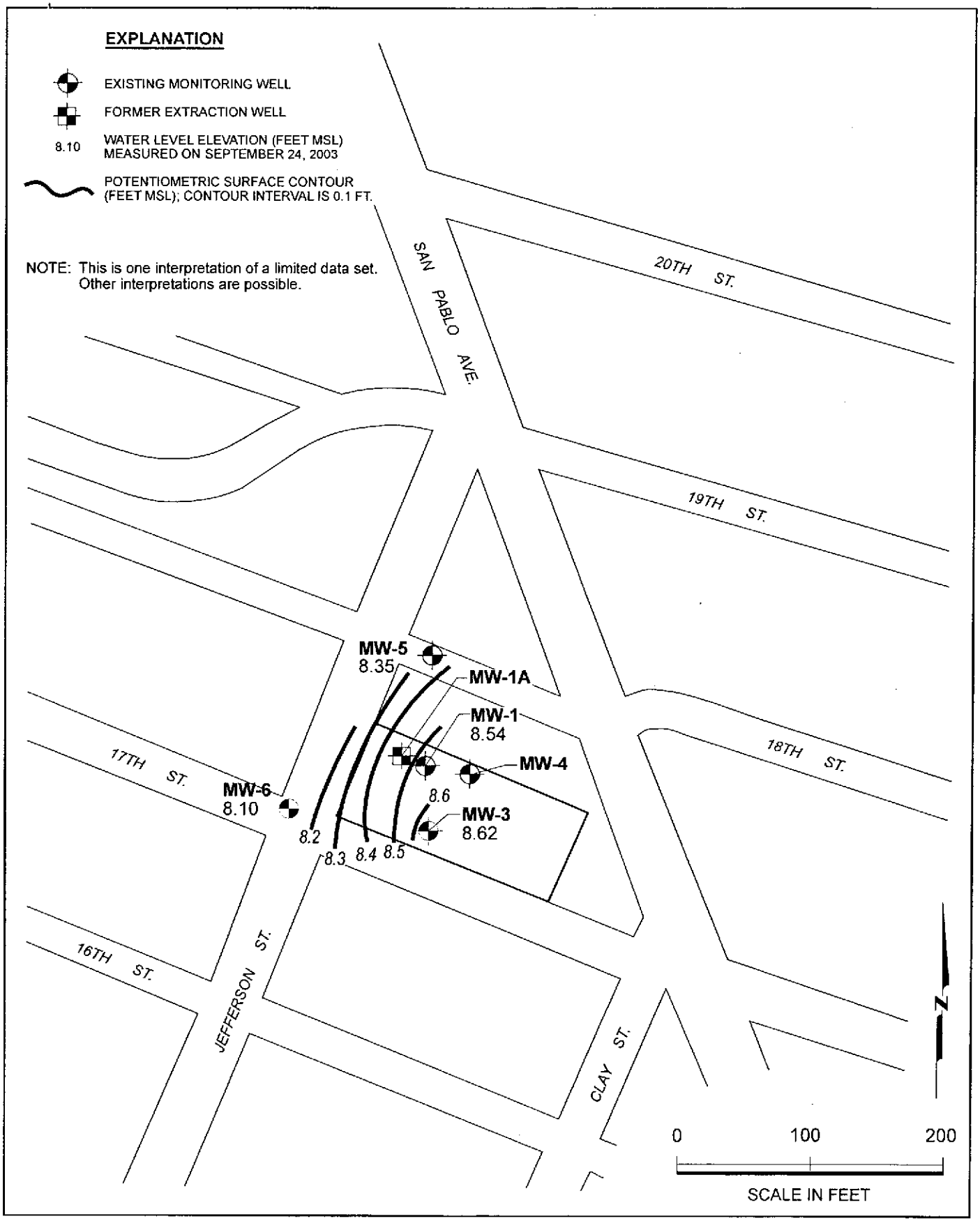
Site Map
Third Quarter 2003
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE
1

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
CN	53087 010		11/03	



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Groundwater Contours
Third Quarter 2003
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE **2**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
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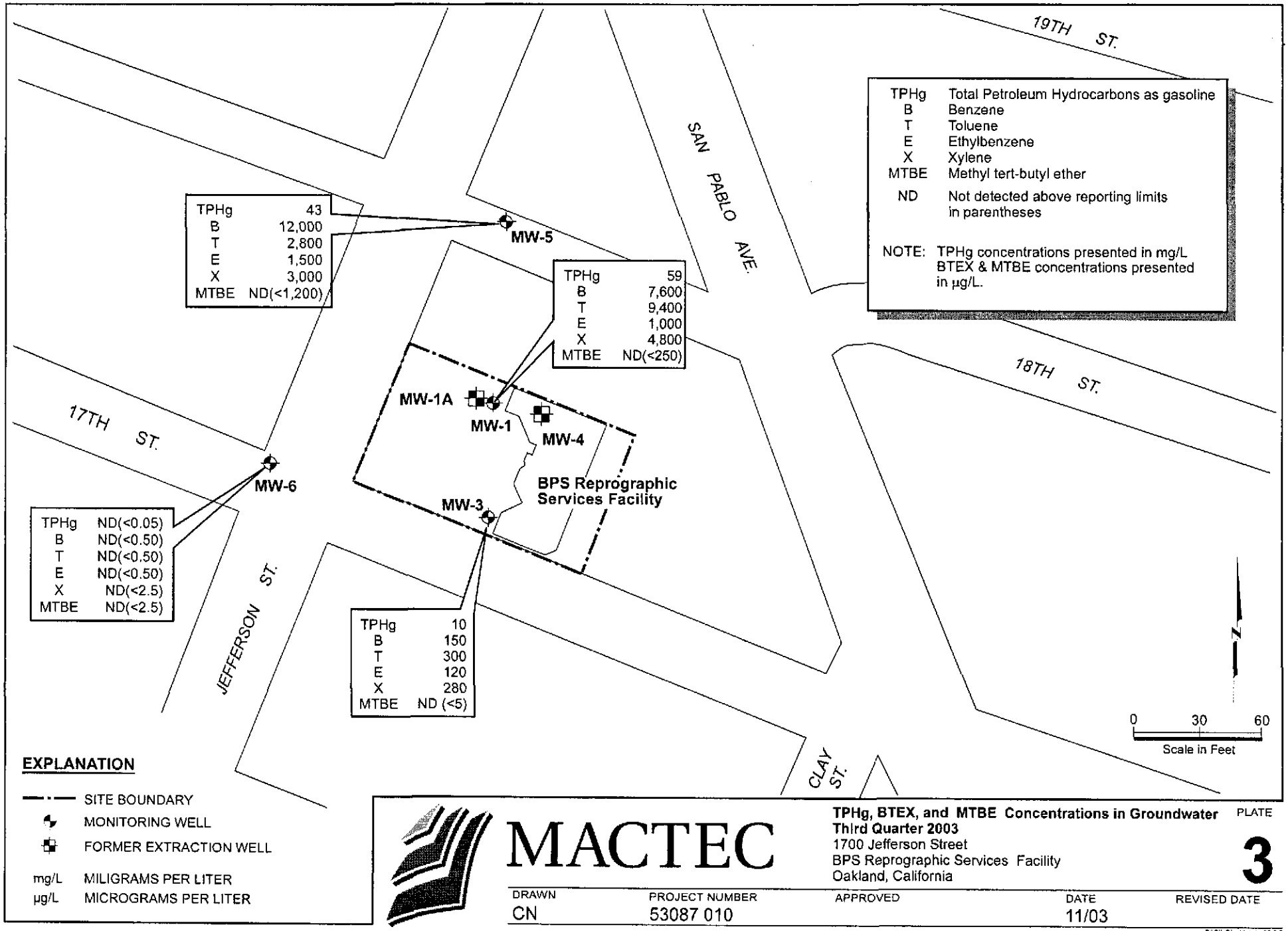

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TPHg, BTEX, and MTBE Concentrations in Groundwater
Third Quarter 2003
1700 Jefferson Street
BPS Reprographic Services Facility
Oakland, California

PLATE **3**

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
CN	53087 010		11/03	

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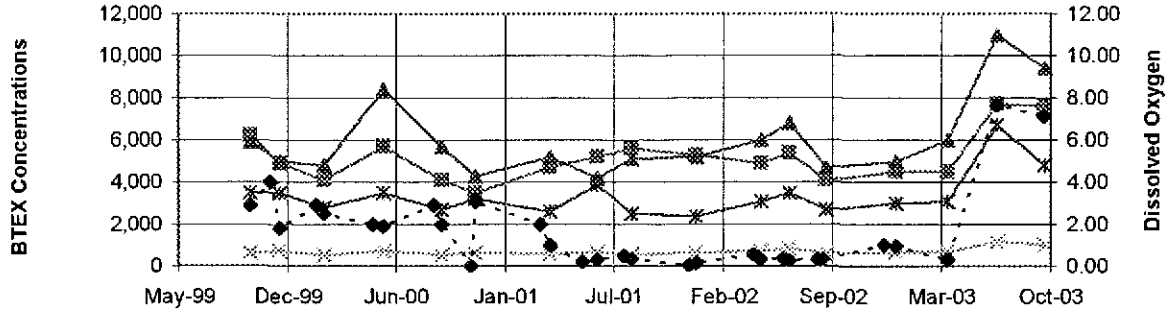
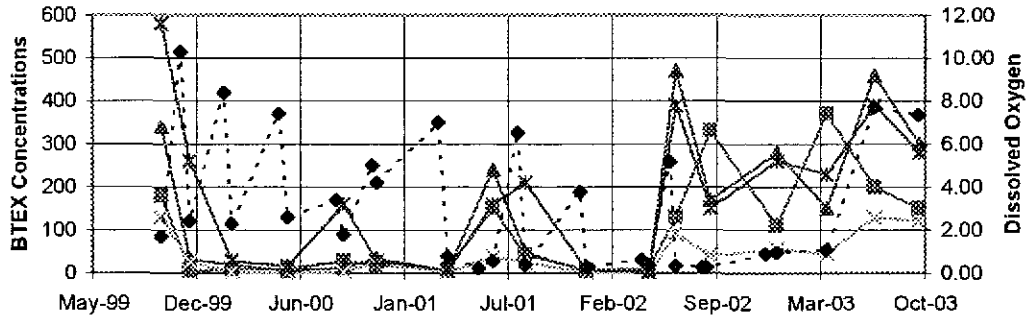
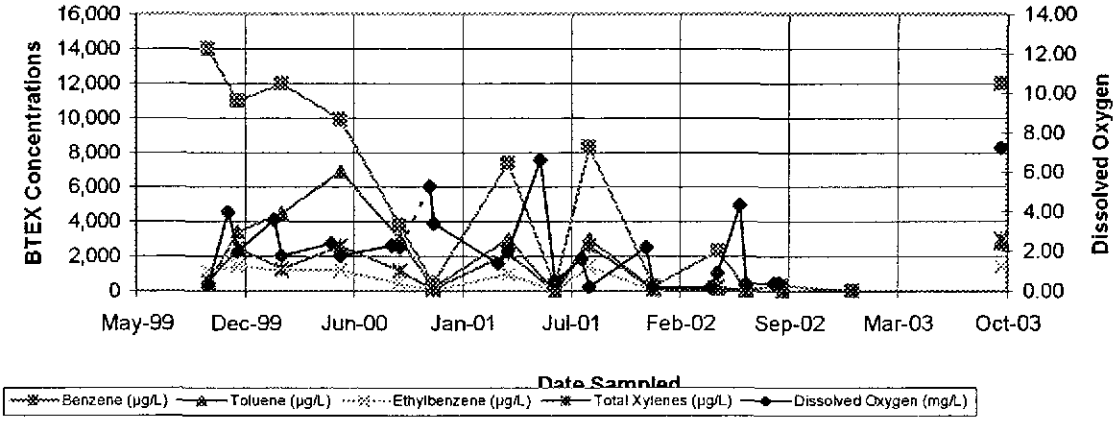
MW-1



MW-3



MW-5

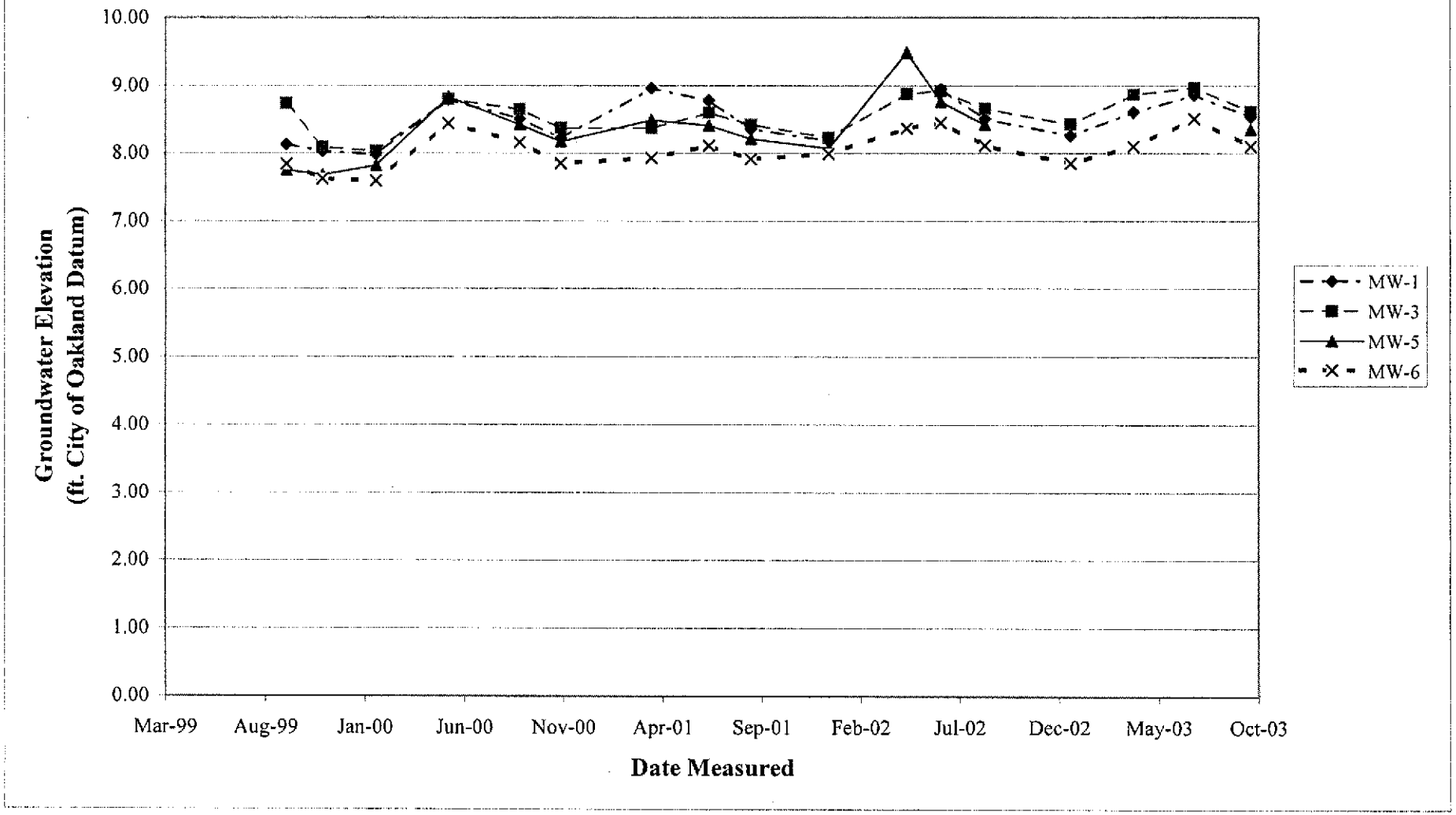


MACTEC

Historical BTEX and DO Results
Third Quarter 2003
BPS Reprographic Services Facility
1700 Jefferson Steet
Oakland, California

Plate
4

Drawn by	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	53087.007		10/13/2003	



MACTEC

Groundwater Elevation Data
Third Quarter 2003
BPS Reprographic Services Facility
1700 Jefferson Steet
Oakland, California

Plate
5

DRAWN	JOB NUMBER	APPROVED	DATE	REVISION DATE
DSN	53087.007		10/2/2003	

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9 October, 2003

David Nanstad
Harding ESE - Novato
5341 Old Redwood Highway, Suite 300
Petaluma, CA 94954

RE: General Commercial
Work Order: P310037

Enclosed are the results of analyses for samples received by the laboratory on 09/25/03 08:30. 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

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
03530874	P310037-01	Water	09/24/03 12:00	09/25/03 08:30
03530872	P310037-02	Water	09/24/03 16:00	09/25/03 08:30
03530871	P310037-03	Water	09/24/03 17:05	09/25/03 08:30
03530873	P310037-04	Water	09/24/03 17:40	09/25/03 08:30
03530875	P310037-05	Water	09/24/03 18:20	09/25/03 08:30

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530874 (P310037-01) Water Sampled: 09/24/03 12:00 Received: 09/25/03 08:30									
Gasoline Range Organics	ND	50	ug/l	1	3100097	10/06/03	10/06/03	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90 %*	*65-135*		"	"	"	"	
03530872 (P310037-02) Water Sampled: 09/24/03 16:00 Received: 09/25/03 08:30									
Gasoline Range Organics	**10000**	1000	ug/l	20	3100097	10/06/03	10/06/03	EPA 8015B/8021B	
Benzene	**150**	10	"	"	"	"	"	"	
Toluene	**300**	10	"	"	"	"	"	"	
Ethylbenzene	**120**	10	"	"	"	"	"	"	
Xylenes (total)	**280**	10	"	"	"	"	"	"	
Methyl tert-butyl ether	**52**	50	"	"	"	"	"	"	QR-04
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91 %*	*65-135*		"	"	"	"	
03530871 (P310037-03) Water Sampled: 09/24/03 17:05 Received: 09/25/03 08:30									
Gasoline Range Organics	**59000**	25000	ug/l	500	3100097	10/06/03	10/06/03	EPA 8015B/8021B	
Benzene	**7600**	250	"	"	"	"	"	"	
Toluene	**9400**	250	"	"	"	"	"	"	
Ethylbenzene	**1000**	250	"	"	"	"	"	"	
Xylenes (total)	**4800**	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1200	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*105 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92 %*	*65-135*		"	"	"	"	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530873 (P310037-04) Water Sampled: 09/24/03 17:40 Received: 09/25/03 08:30									
Gasoline Range Organics	**43000**	25000	ug/l	500	3100097	10/06/03	10/06/03	EPA 8015B/8021B	
Benzene	**12000**	250	"	"	"	"	"	"	
Toluene	**2800**	250	"	"	"	"	"	"	
Ethylbenzene	**1500**	250	"	"	"	"	"	"	
Xylenes (total)	**3000**	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1200	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99 %*	*65-135*		"	"	"	"	
03530875 (P310037-05) Water Sampled: 09/24/03 18:20 Received: 09/25/03 08:30									
Gasoline Range Organics	ND	50	ug/l	1	3100097	10/06/03	10/06/03	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*105 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91 %*	*65-135*		"	"	"	"	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530872 (P310037-02) Water Sampled: 09/24/03 16:00 Received: 09/25/03 08:30									
Methyl tert-butyl ether	ND	2.5	ug/l	5	3100167	10/08/03	10/08/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*118 %*		*84-122*		"	"	"	"
03530871 (P310037-03) Water Sampled: 09/24/03 17:05 Received: 09/25/03 08:30									
1,2-Dichloroethane	**500**	500	ug/l	500	3100127	10/07/03	10/07/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*119 %*		*84-122*		"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		*113 %*		*74-135*		"	"	"	"
Surrogate: Toluene-d8		*102 %*		*84-119*		"	"	"	"
Surrogate: 4-Bromofluorobenzene		*104 %*		*86-119*		"	"	"	"
03530873 (P310037-04) Water Sampled: 09/24/03 17:40 Received: 09/25/03 08:30									
1,2-Dichloroethane	**610**	500	ug/l	500	3100127	10/07/03	10/07/03	EPA 8260B	
Surrogate: Dibromofluoromethane		*102 %*		*84-122*		"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*74-135*		"	"	"	"
Surrogate: Toluene-d8		*102 %*		*84-119*		"	"	"	"
Surrogate: 4-Bromofluorobenzene		*104 %*		*86-119*		"	"	"	"

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530874 (P310037-01) Water Sampled: 09/24/03 12:00 Received: 09/25/03 08:30									
Total Alkalinity as CaCO3	**540**	20	mg/l	1	3100191	10/08/03	10/08/03	EPA 310.1	
Carbonate Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Bicarbonate Alkalinity as CaCO3	**540**	20	"	"	"	"	"	"	
Hydroxide Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Carbon dioxide, free	**74**	5.0	"	"	3100240	"	10/09/03	SM 4500 CO2 D	
03530872 (P310037-02) Water Sampled: 09/24/03 16:00 Received: 09/25/03 08:30									
Total Alkalinity as CaCO3	**240**	20	mg/l	1	3100191	10/08/03	10/08/03	EPA 310.1	
Carbonate Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Bicarbonate Alkalinity as CaCO3	**240**	20	"	"	"	"	"	"	
Hydroxide Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Carbon dioxide, free	**22**	5.0	"	"	3100240	"	10/09/03	SM 4500 CO2 D	
03530871 (P310037-03) Water Sampled: 09/24/03 17:05 Received: 09/25/03 08:30									
Total Alkalinity as CaCO3	**480**	20	mg/l	1	3100191	10/08/03	10/08/03	EPA 310.1	
Carbonate Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Bicarbonate Alkalinity as CaCO3	**480**	20	"	"	"	"	"	"	
Hydroxide Alkalinity as CaCO3	ND	20	"	"	"	"	"	"	
Carbon dioxide, free	**72**	5.0	"	"	3100240	"	10/09/03	SM 4500 CO2 D	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Anions by EPA Method 300.0

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530874 (P310037-01) Water	**Sampled: 09/24/03 12:00**	**Received: 09/25/03 08:30**							
Nitrate as N	ND	1.0	mg/l	5	3100027	09/25/03	09/25/03	EPA 300.0	
Sulfate as SO4	**6.4**	5.0	"	"	"	"	"	"	
03530872 (P310037-02) Water	**Sampled: 09/24/03 16:00**	**Received: 09/25/03 08:30**							
Nitrate as N	**5.3**	1.0	mg/l	5	3100027	09/25/03	09/25/03	EPA 300.0	
Sulfate as SO4	**65**	5.0	"	"	"	"	"	"	
03530871 (P310037-03) Water	**Sampled: 09/24/03 17:05**	**Received: 09/25/03 08:30**							
Nitrate as N	ND	1.0	mg/l	5	3100027	09/25/03	09/25/03	EPA 300.0	
Sulfate as SO4	**25**	5.0	"	"	"	"	"	"	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Dissolved Volatile Gases by Method RSK 175 Modified

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03530874 (P310037-01) Water	**Sampled: 09/24/03 12:00**	**Received: 09/25/03 08:30**							
Methane	ND	0.010	mg/l	1	3100105	10/08/03	10/08/03	RSK 175	
03530872 (P310037-02) Water	**Sampled: 09/24/03 16:00**	**Received: 09/25/03 08:30**							
Methane	**0.088**	0.010	mg/l	1	3100105	10/08/03	10/08/03	RSK 175	
03530871 (P310037-03) Water	**Sampled: 09/24/03 17:05**	**Received: 09/25/03 08:30**							
Methane	**0.017**	0.010	mg/l	1	3100105	10/08/03	10/08/03	RSK 175	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Total Petroleum Hydrocarbons as Gasoline 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 3100097 - EPA 5030, waters										
Blank (3100097-BLK1)				Prepared & Analyzed: 10/06/03						
Gasoline Range Organics	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	*302*		"	*300*		*101*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*270*		"	*300*		*90*	*65-135*			
Laboratory Control Sample (3100097-BS1)				Prepared & Analyzed: 10/06/03						
Gasoline Range Organics	2170	50	ug/l	2750		79	65-135			
Benzene	38.2	0.50	"	34.0		112	65-135			
Toluene	203	0.50	"	208		98	65-135			
Ethylbenzene	45.6	0.50	"	47.0		97	65-135			
Xylenes (total)	222	0.50	"	241		92	65-135			
Methyl tert-butyl ether	60.9	2.5	"	56.0		109	65-135			
Surrogate: a,a,a-Trifluorotoluene	*321*		"	*300*		*107*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*287*		"	*300*		*96*	*65-135*			
Matrix Spike (3100097-MS1)	**Source: P309471-17**			Prepared & Analyzed: 10/06/03						
Gasoline Range Organics	2230	50	ug/l	2750	74	78	65-135			
Benzene	40.3	0.50	"	34.0	ND	119	65-135			
Toluene	221	0.50	"	208	ND	106	65-135			
Ethylbenzene	48.6	0.50	"	47.0	ND	103	65-135			
Xylenes (total)	232	0.50	"	241	ND	96	65-135			
Methyl tert-butyl ether	74.4	2.5	"	56.0	10	115	65-135			
Surrogate: a,a,a-Trifluorotoluene	*352*		"	*300*		*117*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*291*		"	*300*		*97*	*65-135*			

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Total Petroleum Hydrocarbons as Gasoline 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 3100097 - EPA 5030, waters										
Matrix Spike Dup (3100097-MSD1)	**Source: P309471-17**			Prepared & Analyzed: 10/06/03						
Gasoline Range Organics	2240	50	ug/l	2750	74	79	65-135	0.4	20	
Benzene	40.2	0.50	"	34.0	ND	118	65-135	0.2	20	
Toluene	212	0.50	"	208	ND	102	65-135	4	20	
Ethylbenzene	48.9	0.50	"	47.0	ND	104	65-135	0.6	20	
Xylenes (total)	233	0.50	"	241	ND	97	65-135	0.4	20	
Methyl tert-butyl ether	72.8	2.5	"	56.0	10	112	65-135	2	20	
Surrogate: a,a,a-Trifluorotoluene	*335*		"	*300*		*112*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*290*		"	*300*		*97*	*65-135*			

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

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 3100127 - EPA 5030 waters										
Blank (3100127-BLK1)				Prepared & Analyzed: 10/07/03						
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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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

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 3100127 - EPA 5030 waters										
Blank (3100127-BLK1)				Prepared & Analyzed: 10/07/03						
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	*5.55*		"	*6.00*		*92*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.55*		"	*6.00*		*92*	*74-135*			
Surrogate: Toluene-d8	*6.20*		"	*6.00*		*103*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*6.02*		"	*6.00*		*100*	*86-119*			

Sequoia Analytical

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

Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

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 3100127 - EPA 5030 waters										
Laboratory Control Sample (3100127-BS1)				Prepared & Analyzed: 10/07/03						
Benzene	5.01	1.0	ug/l	5.00		100	81-118			
Chlorobenzene	5.22	1.0	"	5.00		104	88-119			
1,1-Dichloroethene	4.58	1.0	"	5.00		92	77-121			
Toluene	4.66	1.0	"	5.00		93	84-119			
Trichloroethene	5.23	1.0	"	5.00		105	83-126			
Surrogate: Dibromofluoromethane	*6.24*		"	*6.00*		*104*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.92*		"	*6.00*		*99*	*74-135*			
Surrogate: Toluene-d8	*6.26*		"	*6.00*		*104*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.95*		"	*6.00*		*99*	*86-119*			
Laboratory Control Sample Dup (3100127-BSD1)				Prepared & Analyzed: 10/07/03						
Benzene	4.86	1.0	ug/l	5.00		97	81-118	3	20	
Chlorobenzene	5.10	1.0	"	5.00		102	88-119	2	20	
1,1-Dichloroethene	4.53	1.0	"	5.00		91	77-121	1	20	
Toluene	4.50	1.0	"	5.00		90	84-119	3	20	
Trichloroethene	5.06	1.0	"	5.00		101	83-126	3	20	
Surrogate: Dibromofluoromethane	*6.17*		"	*6.00*		*103*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*6.00*		"	*6.00*		*100*	*74-135*			
Surrogate: Toluene-d8	*6.18*		"	*6.00*		*103*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*6.21*		"	*6.00*		*104*	*86-119*			
Batch 3100167 - EPA 5030 waters										
Blank (3100167-BLK1)				Prepared & Analyzed: 10/08/03						
Methyl tert-butyl ether	ND	0.50	ug/l							
Surrogate: Dibromofluoromethane	*6.08*		"	*6.00*		*101*	*84-122*			

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

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 3100167 - EPA 5030 waters										
Laboratory Control Sample (3100167-BS1)				Prepared & Analyzed: 10/08/03						
Methyl tert-butyl ether	4.94	0.50	ug/l	5.00		99	77-123			
Surrogate: Dibromofluoromethane	*6.44*		"	*6.00*		*107*	*84-122*			
Laboratory Control Sample Dup (3100167-BSD1)				Prepared & Analyzed: 10/08/03						
Methyl tert-butyl ether	5.11	0.50	ug/l	5.00		102	77-123	3	20	
Surrogate: Dibromofluoromethane	*6.37*		"	*6.00*		*106*	*84-122*			

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3100191 - General Preparation										
Blank (3100191-BLK1)				Prepared & Analyzed: 10/08/03						
Total Alkalinity as CaCO3	ND	20	mg/l							
Carbonate Alkalinity as CaCO3	ND	20	"							
Bicarbonate Alkalinity as CaCO3	ND	20	"							
Hydroxide Alkalinity as CaCO3	ND	20	"							
Laboratory Control Sample (3100191-BS1)				Prepared & Analyzed: 10/08/03						
Total Alkalinity as CaCO3	246	20	mg/l	250		98	80-120			
Duplicate (3100191-DUP1)	**Source: P310129-01**			Prepared & Analyzed: 10/08/03						
Total Alkalinity as CaCO3	194	20	mg/l		200			3	20	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Anions by EPA Method 300.0 - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3100027 - General Preparation										
Blank (3100027-BLK1)				Prepared & Analyzed: 09/25/03						
Nitrate as N	ND	0.20	mg/l							
Sulfate as SO4	ND	1.0	"							
Laboratory Control Sample (3100027-BS1)				Prepared & Analyzed: 09/25/03						
Nitrate as N	9.30	0.20	mg/l	10.0		93	90-110			
Sulfate as SO4	9.19	1.0	"	10.0		92	90-110			
Matrix Spike (3100027-MS1)	**Source: P310037-03**			Prepared & Analyzed: 09/25/03						
Nitrate as N	24.3	1.0	mg/l	25.0	ND	97	80-120			
Sulfate as SO4	54.1	5.0	"	25.0	25	116	80-120			
Matrix Spike Dup (3100027-MSD1)	**Source: P310037-03**			Prepared & Analyzed: 09/25/03						
Nitrate as N	24.0	1.0	mg/l	25.0	ND	96	80-120	1	20	
Sulfate as SO4	49.5	5.0	"	25.0	25	98	80-120	9	20	

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Dissolved Volatile Gases by Method RSK 175 Modified - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3100105 - General Prep										
Blank (3100105-BLK1)				Prepared & Analyzed: 10/08/03						
Methane	ND	0.010	mg/l							
Laboratory Control Sample (3100105-BS1)				Prepared & Analyzed: 10/08/03						
Methane	0.0612	0.010	mg/l	0.0942		65	50-150			
Matrix Spike (3100105-MS1)	**Source: P310037-01**			Prepared & Analyzed: 10/08/03						
Methane	0.0491	0.010	mg/l	0.0942	ND	52	50-150			
Matrix Spike Dup (3100105-MSD1)	**Source: P310037-01**			Prepared & Analyzed: 10/08/03						
Methane	0.0440	0.010	mg/l	0.0942	ND	47	50-150	11	20	Q-LIM

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Harding ESE - Novato	Project: General Commercial	P310037
5341 Old Redwood Highway, Suite 300	Project Number: BPS Services - City Blue/53087.007	**Reported:**
Petaluma CA, 94954	Project Manager: David Nanstad	10/09/03 16:58

Notes and Definitions

Q-LIM	The percent recovery was outside of the control limits. The samples results may still be useful for their intended purpose.
QR-04	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
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Harding ESE
A MACTEC Company
90 Digital Drive
Novato, CA 94949
(415) 883-0112

CHAIN OF CUSTODY FORM

Seq. No.: № 10299

Lab: Severn

Samplers: David Browne

Job Number: 53087.007

Name/Location: BPS Services - City Blue

Project Manager: Dave Nanstatt

Recorder: David Browne (Signature Required)

P310037

MATRIX			#CONTAINERS & PRESERV.				SAMPLE NUMBER	DATE				STATION DESCRIPTION	
Water	Soil	Air	Unpres	H_2SO_4	HNO_3	HCL	YR SEQ	YR	MO	DAY	TIME		DEPTH
X			4			3	03530874	03	09	24	1200	P310037	
X			4			3	03530872	03	09	24	1600		
X			3			3	03530871	03	09	24	1705		
X						3	03530873	03	09	24	1740		
X						1	03530875	03	09	24	1820		

ANALYSIS REQUESTED

Gasoline Range Organics 8015B	Diesel Range Organics 8015B	BTEX plus MTBE (8020)	CCR Title 22 Metals (17)	EPA 8021B	EPA 8260B	EPA 8270C	TPH gas (8015)	Nitrate (300.0)	Sulfate (300.0)	Alkalinity (310.1)	Methane (RSK175)
		X					X	X	X	X	X
		X					X	X	X	X	X
		X					X	X	X	X	X
		X					X				
		X					X				

ADDITIONAL INFORMATION

SAMPLE NUMBER YR SEQ	TURNAROUND TIME/REMARKS
	STANDARD TAT

COOLER CUSTODY SEALS INTACT ☐

NOT INTACT ☐

COOLER TEMPERATURE 4.8 °C

CHAIN OF CUSTODY RECORD

	(Print Name)	(Company)	Date/Time
Relinquished By: (signature) David Browne	David Browne	MACTEC	9/24/03 0830
Received By: (signature) Gail Herrman	GAIL HERRMANN	Severn	9/24/03 830
Relinquished By: (signature)			
Received By: (signature)			
Relinquished By: (signature)			
Received By: (signature)			
Received By: (signature)			

Method of Shipment:

Laboratory Copy Project Office Copy Field or Office Copy

00291.1

revised

P3010 P310037

Harding ESE
A MACTEC Company
90 Digital Drive
Novato, CA 94949
(415) 883-0112

CHAIN OF CUSTODY FORM

Seq. No.: N° 10299

Lab: Sequoia

Samplers: David Browne

Job Number: 53087.007

Name/Location: BPS Services - City Blue

Project Manager: Dave Nasslatt

Recorder: David Browne (Signature Required)

Matrix: Water	Sed	Air	Unpres	H_2SO_4	HNO_3	HCL	Sample No. YR	SEQ	Date YR	MO	DAY	TIME	Station Description	Depth	Gasoline Range Organics 8015B	Diesel Range Organics 8015B	BTEX plus MTBE (8020)	CAM Title 22 Metals (17)	EPA 8021B	EPA 8260B	EPA 8270C	TPH (9016)	Nitrate (300.0)	Sulfate (300.0)	Alkalinity (310.1)	Methane (RSK175)	DC	CO_2
[illegible]			[illegible]			[illegible]	[illegible]	[illegible]	03	[illegible]	2[illegible]	[illegible]		-01														
X			4			3	03	530872	03	09	24	1530	MW-3	02		X						X	X	X	X			X
X			2			3	03	530871	03	09	24	1605	MW-4	03		X						X	X	X	X	X		X
X						2	03	530873	03	09	24	1740	MW-5	04		X						X	/					
X						1	03	530875	03	09	24	1320	Trip	05		X						X						

ADDITIONAL INFORMATION

Sample Number YR	SEQ	Turnaround Time/Remarks
		STANDARD TAT

CHAIN OF CUSTODY RECORD

Signature	Print Name	Company	Date/Time
Relinquished By: David Browne	David Browne	MACTEC	9/25/03 0830
Received By: Gail Hermann	GAIL HERMANN	Sequoia	9/25/03 15[illegible]
Relinquished By:			
Received By:			
Relinquished By:			
Received By:			
Received By:			

Method of Shipment:

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Huffman-Broadway Group
REC. BY (PRINT) SP
WORKORDER: 0310037

DATE Received at Lab: 9/25/03
TIME Received at Lab: 830
LOG IN DATE: 9/26/03

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

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*			03530874	3-VOA, 3 PV	W	9/24/03	
2. Chain-of-Custody	Present / Absent*			2	500 P			
3. Traffic Reports or Packing List:	Present / Absent			1	2-VOA-3 PV 500 P			
4. Airbill:	Airbill / Sticker Present / Absent			3	3 PVS			
5. Airbill #:				5	1 PV			
6. Sample Labels:	Present / Absent							
7. Sample IDs:	Listed / Not Listed on Chain-of-Custody							
8. Sample Condition:	Intact / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	Yes / No*							
10. Sample received within hold time:	Yes / No*							
11. Proper Preservatives used:	Yes / No*							
12. Temp Rec. at Lab: 4.8 (Acceptance range for samples requiring thermal pres.: 4+/-2°C)	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	3530871
MW-3	3530872
MW-5	3530873
MW-6	3530874
Field Blank	3530875

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	9/24	1345	23.82	23.82	Yes	No	Good	Good	4"	
MW-3	9/24	1300	23.15	23.15	Yes	No	Good	Good	4"	
MW-5	9/24	1330	27.21	27.21	Yes	No	Good	Good	2"	
MW-6	9/24	1100	23.16	23.16	Yes	~~No~~	Yes	Good	2"	
MW-1A	9/24	1350			Yes	No	Good	Good	4"	
MW-4										

MW-1A Diameter: 4" **inches**

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

pH: Hanna HI 9025 Serial #0303 to 7+4

PCOOX SERIAL #; ~~95180~~ 2956
ORION MODEL SA 230
FACTORY CALIBRATED BY EQUIPCO 9/23/03

Temperature: Serial #; 951000009092

Specific Conductance: See Daily Report

Dissolved Oxygen: Serial # 01G0095 Page 1

Turbidity: Serial # 951000009092

Ferrouse Iron:

Ferrouse Iron Values for MW-1: 1.87 mg/l **MW-3:** 2.06 mg/l **MW-6:** 0.50 mg/l

MW-5 = 2.06 mg/l

Project: BPS Services – City Blue
Subject: FIELD INVESTIGATION DAILY REPORT
Equipment Rental: _____ Company: _____
Equipment Hours: _____ F.E. Time from: _____ to: _____

Job No.: 53087.007
Date: 9/24/03
To: Dave Nemstadt
By: DSR

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

~~@ MW-~~

1345 ~~@ MW-3 WL= 23.15 TD= DSR~~

1345 @ MW-1 WL = 23.82
Redox = -166.2
D.O = 6.25 mg/lt
Ferrous iron = 1.97 mg/lt

1515 @ MW-3
WL = 23.15 TD = 31' 3 well volumes = 15.3 gallons

1530 Start bailing

1550 Stop bailing – 15.3 gallons purged

1600 Sample MW-3
Sample # 0353087-2 Same analysis as above

1640 @ MW-1
WL = 23.82 TD = 32.0 3 well volumes = 16 gallons

1645 Start bailing

1700 Stop bailing 16 gallons purged

1705 Sample MW-1
Sample # 0353087-4
Same analysis as above

1720 @ MW-5
WL = 27.21 TD = 33.5 3 well volumes = 5.5 gallons

1725 Start bailing

1735 Stop bailing – 6.0 gallons purged

1740 ~~1740~~ Sample MW-5
Sample # 0353087.007
3 vows for 8260's

1800 Pump purge water into 55 gallon drum behind office
Drum is marked, labeled – But Because the gate was locked, I had to leave the drum outside the gate

Attachments:

Initial DSR

Project: BPS Services City Blue Job No.: 53087.007
Subject: FIELD INVESTIGATION DAILY REPORT Date: 9/24/03
Equipment Rental: _____ Company: _____ To: Dave Nanstuff
Equipment Hours: _____ F.E. Time from: _____ to: _____ By: DSB

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

1010 @ MW-6 Calibrate equipment
pH meter - Hanna Hi 9025 Serial # D003 to 7 & 4
Conductivity YSI 30 Serial # 99L0249 to 1000 mS/cm
t= 25 Conduct = 995
Turbidity meter Serial # 95100000 9092
0-10 = 4.56 10-100 = 50.8 100-1000 = 539
D.O. meter Serial # 01G0075 to 0 Ch Att, 0.0 Salinity
Redox Serial # 2956 ORION model SA230

1045 @ MW-6
WL = 23.16
Redox Sample Serial # 9711900000807
Factory Calibrated by equipco 9/23/03
Ferrous iron Redox = -50 MS/cm
Redox = 99.9 MV
D.O = 0.90 mg/l

1130 Start bailing WL = 23.16 TD = 32.5 3 volume = 4.6 gallons
1200 Sample MW-6
Sample # 03530874 3 VOAs w/ HCl for TPH gas, BTEX, MTBE
3 VOAs unpres for methane
1-500ml p for Sulfate, nitrate, Alkalinity

1245 Need 12 batteries - for equipment
1300 @ MW-3 WL = 23.15
Redox = -300.3 MV
D.O = 7.16 mg/l
Ferrous iron = 2.06 MS/cm
1330 @ MW-5 WL =
Redox = ~~-193.~~ -183.0
D.O. = 0.55 mg/l
Ferrous iron = 2.06

Attachments:

Initial DSB

MACTEC

GROUNDWATER SAMPLING FORM

Job Name: City Blue
Job Number: 53087 007
Recorded By: David Browne (Signature)

*** Well Number:** MW-1
Well Type: [ ] Monitor [ ] Extraction [ ] Other ___ [ ] PVC [ ] St. Steel [ ] Other ___
Date: 9/24/2003
Sampled By: D.S.B (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 4
Total Depth of Casing (TD in ft BTOC): 32
Water Level Depth (WL in ft BTOC): 23.82
No. of Well Volumes to be purged (# V): 3

PURGE METHOD

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

(32.0 - 23.82) x 4 ² X 3 X 0.0408 = ~~5~~ 16 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	7.39	940	18.9	29.8
5	7.24	947	18.4	>1000
10	7.17	952	18.3	56.5
16	7.12	951	18.4	300.5
Meter S/N				

PURGE TIME

Purge Start: 1645
Purge Stop: 1700
Elapsed: 15

PURGE RATE

GPM:
GPM:

PURGE VOLUME

Volume: 16 gallons

Observations During Purging (Well Condition, Color, Odor):
Cloudy grays to black moderate hydro carbon odor Sheen on surface

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

WELL SAMPLING

[ ] Bailer - Type:
Sample Time: 1705

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
T.P.H. gas (8015 modified)	3 VOAs	035-30887-1	HCl	Sey	
BTEX (8020)	↓	↓	↓	↓	
MTBE (8020)	↓	↓	↓	↓	
Sulfate Nitrate	1-500ml P	↓	None	↓	
Alkalinity	↓	↓	↓	↓	
Methane	3 VOAs	↓	↓	↓	

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: 53087 007
Recorded By: David Boone (Signature)

Well Number: MW-3
Well Type: [ ] Monitor [ ] Extraction [ ] Other ___ [ ] PVC [ ] St. Steel [ ] Other ___
Date: 9/24/2003
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): 23.15
No. of Well Volumes to be purged (# V): 3

PURGE METHOD

[X] Bailer - Type: P.V.C.
[ ] Submersible - Type:
[ ] Other - Type:

PURGE VOLUME CALCULATION

(31.0 - 23.15) x 4 ² X 3 X 0.0408 = 15.3 gals
TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

PUMP INTAKE SETTING

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

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [X] °C [ ] °F	Turbidity (NTU)
Initial	7.63	667.0	20.4	110 NTU
5	6817.936801	20.3	97.2	
10	7.32	698	19.9	765.0
15.3	7.34	697	19.5	458
Meter S/N				

PURGE TIME

Purge Start: 1530
Purge Stop: 1550
Elapsed: 20.0

PURGE RATE

GPM: /
GPM: /

PURGE VOLUME

Volume: 15.5 gallons

Observations During Purging (Well Condition, Color, Odor):
cloudy gray moderate hydrocarbon odor Sheen on Surface

Discharge Water Disposal: [ ] Storm Sewer [ ] Sanitary Sewer [X] Other 55 gal drum on Site

WELL SAMPLING

[ ] Bailer - Type: Disposable
Sample Time: 1600

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
T.P.H. gas (8015 modified)	3 VOAs	53087 2	HCl	Sq	
BTEX (8020)	↓	↓	↓		
MTBE (8020)	↓		↓		
Sulfate, Nitrate	1-250 ml/p		None		
Alkalinity	↓		↓		
Methane	3 VOAs		None		

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

Job Name: City Blue

Job Number: 53087 007

Recorded By: David Brown (Signature)

Date: 9/24/2003

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): 22.21
No. of Well Volumes to be purged (# V): 3

PURGE METHOD

☒ Bailer - Type: P.V.C.
☐ 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

(33.5 - 22.21) X 2 ² X 3 X 0.0408 = 5.5 gals

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

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. ☒ °C ☐ °F	Turbidity (NTU)
Initial	7.44	944 uS	19.2	51.0
1.5	7.25	938	19.3	>1000
3.0	7.25	984	19.0	>1000
5.5	7.25	987	18.7	>1000
Meter S/N				

PURGE TIME

Purge Start: 1725
Purge Stop: 1735
Elapsed: 10

PURGE RATE

GPM: —
GPM:

PURGE VOLUME

Volume: 6 gallons

Observations During Purging (Well Condition, Color, Odor):
cloudy dark - Black - Slight hydrocarbon odor - No sheen

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

WELL SAMPLING

☒ Bailer - Type: S.S. bailer

Sample Time: 1740

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
T.P.H. gas (8015 modified)	3 VOAs	0353087 3	HCl	Sty	
BTEX (8020)	↓	↓	↓	↓	
MTBE (8020)	↓	↓	↓	↓	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.
Trip	0353087S

Other Samples	
Type	Sample No.

MACTEC

GROUNDWATER SAMPLING FORM

Job Name: City Blue
Job Number: 53087 007
Recorded By: David Browne (Signature)

Well Number: MW-6
Well Type: [X] Monitor [ ] Extraction [ ] Other
[X] PVC [ ] St. Steel [ ] Other
Date: 9/24/2003
Sampled By: D.S.B (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC):
Water Level Depth (WL in ft BTOC): 23.16
No. of Well Volumes to be purged (# V): 3

PURGE METHOD

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

(32.5 - 23.16) X 2 ² X 3 X 0.0408 = 4.6 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	6.88	480	19.7	41.2
1.5	7.22	880	20.2	>1000
3.0	7.22	880	20.3	>1000
4.6	7.17	890	20.3	>1000
Meter S/N				

PURGE TIME

Purge Start: 1400
Purge Stop: 1200
Elapsed: 1 hr.

PURGE RATE

GPM: —
GPM: —

PURGE VOLUME

Volume: 5.0 gallons

Observations During Purging (Well Condition, Color, Odor):
cloudy olive brown
odorless, no sheen

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [X] Other 55 gall drum onsite

WELL SAMPLING

[X] Bailer - Type: Disposable Sample Time: 1200

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
T.P.H. gas (8015 modified)	3 VOAs	MO 530874	HCl	Sey	
BTEX (8020)	↓	↓	↓	↓	
MTBE (8020)	↓	↓	↓	↓	
Nitrate Sulfate	1-500ml p	↓	None	↓	
Alkalinity,	↓	↓	↓	↓	
Methane	3 VOAs	↓	None	↓	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.