



Shaw Environmental, Inc.
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October 13, 2004
Project 101960

Mr. Joseph T. Martella, II
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908-5767

Re:

**Monthly Status Report-September 2004
Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, RI
Site Remediation Case No. 97-030**

Dear Mr. Martella:

Shaw Environmental, Inc. (Shaw) has prepared this monthly status report on behalf of Textron, Inc. (Textron). This status report is for the remediation of tetrachloroethene (PCE) contaminated groundwater at the former Gorham Manufacturing Facility in Providence, Rhode Island (Figure 1). The Rhode Island Department of Environmental Management (RIDEM) originally approved the groundwater remediation in a Revised Order of Approval dated March 15, 2002. A revised RAWP was prepared by Shaw dated June 11, 2004 providing a final plan for the follow-on injection of sodium permanganate as part of the remediation of PCE contaminated groundwater. The Revised RAWP was approved by RIDEM in a letter dated July 27, 2004.

Field activities associated with this Site resumed in September 2004. This status report describes activities conducted in accordance with the approved Revised RAWP dated June 11, 2004.

INTRODUCTION

The Former Gorham Manufacturing facility is located at 333 Adelaide Avenue, Providence, Rhode Island (the Site). The contaminant of concern for groundwater is primarily PCE. As discussed in the Remedial Action Work Plan and subsequent revisions, the PCE source area in the vicinity of the former building W is the area of concern being treated, using an in-situ application of sodium permanganate, to achieve the site-specific remedial goal of 7,700 micrograms per liter (ug/L).

FIELD ACTIVITIES

The following field activities were conducted in September 2004:

Injection Well Installation

Nine permanganate injection wells were installed between September 20 and September 24, 2004 as outlined in the Revised RAWP dated June 11, 2004 (Figure 2). The wells were constructed of 2-inch diameter PVC and were advanced to depths ranging from 45 feet to 70 feet below ground surface (bgs) in the treatment area and were finished with road-boxes. Due to grout seeping into 04IS03, the well was re-drilled on September 28, 2004.

The well screen injection interval for each well is listed below:

Injection Well Location	Injection Interval (feet bgs)
04 I S 01	50 to 70
04 I S 02	50 to 70
04 I S 03	40 to 60
04 I S 04	25 to 45
04 I S 05	30 to 50
04 I N 01	30 to 50
04 I N 02	30 to 50
04 I N 03	30 to 50
04 I N 04	35 to 55

Permanganate Injection

The permanganate injections were started on September 28 and were finished on October 4, 2004. Per the Revised RAWP 24,400 pounds of oxidant as sodium permanganate was applied to the treatment zone. The liquid sodium permanganate solution (40%) was mixed with water to produce a 10% solution for injection.

The final injection volumes for each injection well are listed below:

Injection Well Location	Injection Volume (gallons)
04IS01	3,434
04IS02	2,913
04IS03	2,491
04IS04	3,531
04IS05	2,841
04IN01	1,460
04IN02	1,450
04IN03	1,362

04IN04	1,415
Total	20,897

Monitoring Activities

During injection activities field parameters were measured in selected treatment area monitoring wells daily and in all treatment area wells weekly. Field measurements included oxidation/reduction potential (ORP), dissolved oxygen (DO), pH, temperature, and specific conductance (SC). Groundwater elevation measurements were also collected during injection activities to confirm that significant groundwater mounding was not occurring. These results are presented in Table 1. Current monitoring activities include weekly Field parameter measurements for ORP, DO, temperature, pH, and SC.

SUMMARY OF ANALYTICAL DATA

None this period.

FUTURE ACTIVITIES

Field parameter measurements will continue to be collected weekly for ORP, DO, temperature, pH, and SC during October. Groundwater samples will be collected for VOC analysis (EPA Method 8260) approximately 4 to 8 weeks post-injection from seven wells within the treatment area (MW-112, MW-209D, MW-205, MW 101-S&D, and MW-202S&D).

Groundwater samples will be collected from all 21 source area monitoring wells for VOC analysis (EPA Method 8260) approximately 12 to 16 weeks post-injection. The samples collected 12 to 16 weeks post-injection will constitute the first round of quarterly sampling.

Following the 12 to 16 week post-injection groundwater sampling for VOCs, the quarterly monitoring program will begin, and an additional three (3) quarters of groundwater sampling will be conducted. Field parameter measurements will also be conducted during the quarterly groundwater sampling events.

Mr. Joseph T. Martella, II
October 13, 2004
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If you have any questions, please contact Ed Van Doren at (978) 691-2130.

Sincerely,

SHAW ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Edward P. Van Doren". The signature is written in a cursive, flowing style.

Edward P. Van Doren, PE
Project Manager

Attachments

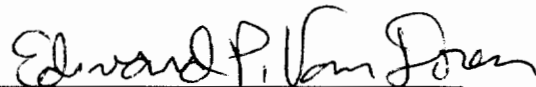
cc: Craig Roy, RIDEM OWR
Greg Simpson, Textron
Dave McCabe, Textron
Jamieson Schiff, Textron
Thomas Dellar, City of Providence
Karriem Van Leesten, City of Providence
Amelie Mailloux, Stop & Shop

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CERTIFICATIONS

The following certifications are provided pursuant to Rule 9.19 of the Remediation Regulations:

I, Edward P. Van Doren, as an authorized representative of Shaw Environmental, Inc. and the person responsible for the preparation of this Monthly Status Report dated October 13, 2004, certify that the information contained in this report is complete and accurate to the best of my knowledge.



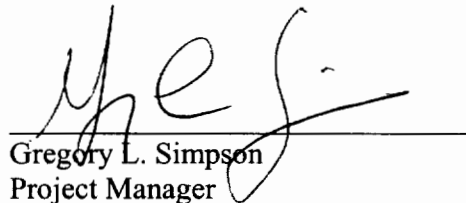
Edward P. Van Doren, P.E.
Project Manager

10/21/04

Date:

We, Textron, Inc., as the party responsible for submittal of this Monthly Status Report, certify that this report is a complete and accurate representation of the contaminated site and the release, and contains all known facts surrounding the release, to the best of our knowledge.

Certification on behalf of Textron Inc.



Gregory L. Simpson
Project Manager

10/18/04

Date:

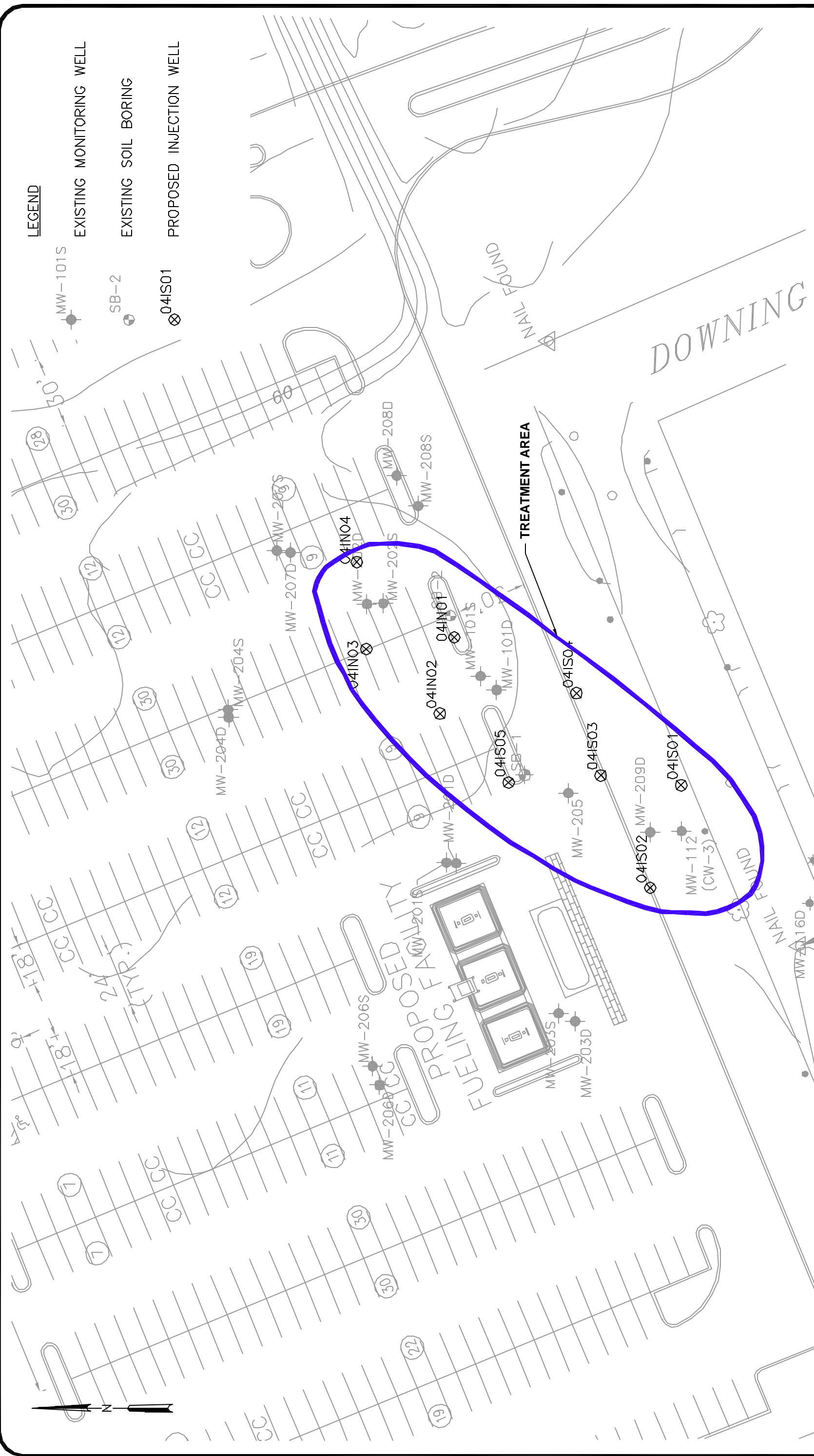


FIGURE 2
 TEXTRON PROVIDENCE
 333 ADELAIDE AVENUE
 PROVIDENCE, RHODE ISLAND

PROPOSED INJECTION WELL LOCATIONS

DATE	5/11/04
DWN	J.O.D.
APP	
REV	
PROJECT NO.	101980

Shaw Shaw Environmental, Inc.

**Table 1
Field Parameters**

Well ID	Date	DTW	Temperature	Specific Conductivity	ORP	pH	DO
		feet	°C	mS/cm	mV	std. units	mg/L
MW-205	09/24/04	25.71					
	09/27/04	25.58	14.78	0.106	181.0	5.63	2.23
	09/28/04	25.66					
	09/29/04	25.59	14.47	1.549	18.1	6.41	1.48
	09/30/04	25.52	16.37	1.392	150.0	4.85	4.50
	10/01/04	25.52	15.01	1.782	247.0	6.61	2.54
	10/03/04	25.46	14.88	0.964	232.5	6.12	8.69
	10/04/04	NM	15.12	2.236	404.0	6.84	2.23
	10/07/04	25.48	14.96	2.114	286.0	6.79	3.89
MW-201D	09/24/04	25.03					
	09/27/04	24.97					
	09/28/04	25.01					
	09/29/04	25.10	14.19	4.455	158.0	6.65	0.53
	09/30/04	24.83					
	10/01/04	24.90					
	10/03/04	24.84					
	10/04/04	24.79	14.55	0.939	411	6.94	9.27
	10/07/04	24.83	14.56	0.885	331	6.94	7.80
MW-201S	09/24/04	24.99					
	09/27/04	24.94	14.78	NM	NM	NM	NM
	09/28/04	--					
	09/29/04	24.93	14.57	2.469	215.0	6.59	1.82
	09/30/04	24.84					
	10/01/04	24.82					
	10/03/04	24.73					
	10/04/04	24.72					
	10/07/04	24.79	14.77	3.333	330	7.09	3.34
MW-206S	09/24/04	24.83					
	09/27/04	24.80					
	09/28/04	--					
	09/29/04	24.80	14.58	1.950	303.6	6.65	2.65
	09/30/04	24.71					
	10/01/04	24.69					
	10/03/04	24.63					
	10/04/04	24.58					
	10/07/04	24.63	15.05	1.951	340	6.94	5.51
MW-206D	09/24/04	25.00					
	09/27/04	24.97					
	09/28/04	24.97					
	09/29/04	24.99	14.20	0.530	266.3	6.03	1.02
	09/30/04	24.88					
	10/01/04	24.85					
	10/03/04	24.79					
	10/04/04	24.74					
	10/07/04	24.80	14.90	0.590	310	5.76	7.78
MW-203S	09/24/04	25.15					
	09/27/04	25.11					
	09/28/04	25.12					
	09/26/04	25.12	14.78	1.309	339.8	6.56	0.67

**Table 1
Field Parameters**

Well ID	Date	DTW	Temperature	Specific Conductivity	ORP	pH	DO
		feet	°C	mS/cm	mV	std. units	mg/L
	09/30/04	24.99					
	10/01/04	24.99					
	10/03/04	24.94					
	10/04/04	24.88					
	10/07/04	24.94	15.78	1.975	270	7.03	2.14
MW-203D	09/24/04	25.13					
	09/27/04	25.10					
	09/28/04	25.10					
	09/29/04	25.09	14.36	0.668	332.8	5.98	1.04
	09/30/04	24.95					
	10/01/04	24.95					
	10/03/04	24.93					
	10/04/04	24.83					
	10/07/04	24.93	14.59	1.162	278	6.73	1.80
MW-112	09/24/04	26.86					
	09/27/04	NM	14.61	0.997	442	4.92	2.78
	09/28/04	NM	14.48	1.013	285	5.30	1.25
	09/29/04	26.88	14.24	0.995	334.4	5.33	1.53
	09/30/04	26.61	15.05	0.596	333.8	5.77	1.78
	10/01/04	26.65	14.67	1.782	348	5.86	3.56
	10/03/04	26.60	13.91	1.478	271.1	5.28	6.88
	10/04/04	26.49	14.36	1.795	342	5.92	2.98
	10/07/04	26.62	14.64	0.840	353	4.92	4.00
MW-209	09/24/04	26.53					
	09/27/04	26.69	15.55	0.460	399	5.99	3.19
	09/28/04	26.65	14.36	0.487	76	6.53	1.19
	09/29/04	26.55	14.16	0.477	201.4	6.50	2.22
	09/30/04	Purple					
	10/01/04	Purple					
	10/03/04	Purple					
	10/04/04	Purple					
	10/07/04	Purple					
MW-116S	09/24/04	25.60					
	09/28/04	25.58					
	09/29/04	25.56					
	09/30/04	25.44					
	10/01/04	25.45					
	10/03/04	25.52					
	10/04/04	25.32					
	10/07/04	25.35	16.77	0.539	325	5.32	7.14
MW-16D	09/24/04	25.15					
	09/28/04	25.12					
	09/29/04	25.11	13.91	0.267	331.4	5.29	3.29
	09/30/04	24.91					
	10/01/04	24.95					
	10/03/04	24.92					
	10/04/04	24.80					
	10/07/04	NM	14.26	0.573	342	5.10	3.87
MW-204S	09/24/04	25.12					

**Table 1
Field Parameters**

Well ID	Date	DTW	Temperature	Specific Conductivity	ORP	pH	DO
		feet	°C	mS/cm	mV	std. units	mg/L
	09/27/04	25.08					
	09/28/04	25.10					
	09/29/04	25.10	14.16	0.763	159.4	6.78	4.26
	09/30/04	24.96					
	10/01/04	24.94					
	10/03/04	24.89					
	10/04/04	24.85					
MW-204D	09/24/04	25.18					
	09/27/04	25.14					
	09/28/04	25.16					
	09/29/04	25.18	14.07	1.139	266.5	6.82	0.10
	09/30/04	25.03					
	10/01/04	24.99					
	10/03/04	24.96					
	10/04/04	24.91					
MW-207S	09/24/04	24.55					
	09/27/04	24.52					
	09/28/04	--					
	09/29/04	24.52	14.44	0.945	71.0	6.10	0.41
	09/30/04	24.38					
	10/01/04	24.40					
	10/03/04	24.34					
	10/04/04	24.31					
	10/07/04	24.35	14.96	0.526	340	5.33	4.13
MW-207D	09/24/04	24.46					
	09/27/04	24.43					
	09/28/04	--					
	09/29/04	24.43	14.22	0.881	198.5	5.65	2.64
	09/30/04	24.33					
	10/01/04	24.28					
	10/03/04	24.23					
	10/04/04	24.21					
	10/07/04	24.27	14.76	0.557	347	5.69	3.01
MW-208S	09/24/04	25.76					
	09/27/04	25.73					
	09/28/04	25.74					
	09/29/04	25.73	14.44	0.710	255.7	5.70	0.60
	09/30/04	25.60					
	10/01/04	25.57					
	10/03/04	25.54					
	10/04/04	25.50					
	10/07/04	25.57	14.83	0.740	328	5.42	3.51
MW-208D	09/24/04	--					
	09/29/04	25.86	14.16	0.658	275.8	5.83	0.50
	09/30/04	25.78					
	10/01/04	25.75					
	10/03/04	25.72					
	10/04/04	25.67					

**Table 1
Field Parameters**

Well ID	Date	DTW	Temperature	Specific Conductivity	ORP	pH	DO
		feet	°C	mS/cm	mV	std. units	mg/L
	10/07/04	25.74	14.67	0.785	292	5.43	2.07
MW-202D	09/24/04	24.45	16.14	0.565	465.6	5.44	7.89
	09/27/04	24.38	15.23	0.573	308	6.08	4.28
	09/29/04	24.42	14.26	0.99	208.3	5.85	1.84
	09/30/04	24.28	14.87	0.458	199	6.92	7.68
	10/01/04	24.25	14.51	1.263	390	6.41	3.23
	10/03/04	24.23	14.82	0.983	229.4	6.62	12.79
	10/04/04	24.18	14.82	1.602	448	6.38	9.25
	10/07/04	24.24	14.96	0.899	341	5.78	6.58
MW-202S	09/24/04	24.33	15.75	0.200	363.0	5.41	8.62
	09/27/04	24.26	14.54	0.915	337.0	5.77	6.75
	09/29/04	24.31	14.66	0.802	198.5	6.80	4.12
	09/30/04	24.17	15.03	0.357	126.0	9.34	8.70
	10/01/04	24.13	15.39	15.12	403	8.41	11.93
	10/03/04	24.10	14.54	0.68	214	6.83	12.38
	10/04/04	24.07	14.98	1.420	397.0	6.80	4.48
	10/07/04	24.13	15.04	0.827	340.0	5.77	9.55
MW-101S	09/24/04	25.15	16.13	1.066	207.9	3.99	7.39
	09/27/04	25.08	14.85	1.062	200	5.63	2.65
	09/28/04	25.12	14.80	1.062	154	5.81	0.62
	09/29/04	25.01	14.60	1.08	187.0	5.82	0.88
	09/30/04	25.00	14.93	1.129	145.0	5.93	2.53
	10/01/04	24.98	15.00	2.658	388.0	6.68	4.74
	10/03/04	24.93	14.46	1.443	240.6	5.72	5.72
	10/04/04	24.91	14.84	1.887	138.0	6.38	2.00
	10/07/04	24.81	14.92	1.070	184	5.46	2.26
MW-101D	09/24/04	25.15	15.60	0.173	57.6	5.36	7.27
	09/27/04	25.06	14.98	0.145	7.0	6.53	4.12
	09/28/04	25.09	15.33	0.190	185	7.37	8.97
	09/29/04	Purple	Purple	Purple	Purple	Purple	Purple
	10/01/04	Purple	Purple	Purple	Purple	Purple	Purple
	10/03/04	24.92	14.08	0.616	218.5	6.37	11.36
	10/04/04	Purple	Purple	Purple	Purple	Purple	Purple
	10/07/04	Purple	Purple	Purple	Purple	Purple	Purple