Groundwater Sampling and Analysis Report February 2010 Sampling Event

Former EMCA Site
Mamaroneck, New York

Prepared for:

Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company

Prepared by:

URS
77 Goodell Street
Buffalo, New York 14203

April 2010

G4427H

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT

FEBRUARY 2010 SAMPLING EVENT

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted on February 25 and 26, 2010 at the former EMCA site located in Mamaroneck, New York (Figure 1). The semi-annual sampling and analyses of groundwater at this site is detailed in the Draft Operation Maintenance and Monitoring Plan (URS 2007b); the monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2010.

The pilot program conducted in 2003, the interim remedial measure in 2004, the supplemental injection in 2007, and the supplemental injection in 2009, all involved the injections of food-grade emulsified soybean oil and sodium lactate into groundwater to stimulate anaerobic biodegradation and the reductive dechlorination of 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113; CAS No. 76-13-1) in site groundwater. This was the tenth groundwater sampling event since the interim remedial measure in 2004, the fifth following the supplemental injection event in 2007, and the second following the 2009 supplemental injection event.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from a total of six monitoring wells using low-flow purging and sampling procedures. Static groundwater level measurements were taken prior to purging and sampling. Field purging and sampling logs are presented in Appendix A.

Chain-of-custody was initiated immediately after the groundwater samples were collected and was maintained through shipment to the laboratory. Laboratory analyses were performed for the following parameters:

Parameter	Analytical Method
Freon 113	8260B
Freon 123a	8260B
Freon 1113	8260B

Parameter	Analytical Method
Methane	RSK-175/Method 3810
Sulfate	375.4

3.0 RESULTS

Groundwater level data are presented in Table 1. Over time, several of the monitoring wells have heaved or suffered other alterations such that the monitoring reference points are no longer valid. Therefore, a map of the water table surface is not provided in this report. Monitoring reference points will be reestablished by survey prior to the next groundwater monitoring event. Surface water level gauging locations WS-01, WS-02 and WS-03 were not found and were assumed to be removed. Two new surface water level gauging locations (Stream Gauge North [SGN] and Stream Gauge South [SGS]) will be established along the Sheldrake River to aid in the generation of future groundwater contour maps.

Groundwater monitoring results for the current event are provided in Table 2. Historical groundwater analytical results are presented in Table 3. Laboratory data sheets and a data usability summary report for the February 2010 results are provided in Appendix B. Freon 113, 123a and 1113 concentrations are shown in plan view on Figure 2 and trend plots are presented for Freon 113 (Figures 3 and 4), Freon 123a (Figure 5), Freon 1113 (Figure 6), sulfate (Figure 7), methane (Figure 8), dissolved oxygen (Figure 9) and oxidation-reduction potential (Figure 10). Dissolved oxygen and oxidation-reduction potential were measured in the field by real-time instrumentation.

4.0 DATA ASSESSMENT

The groundwater analytical data collected in February 2010 is the second set of data collected following the supplemental injection of food-grade emulsified soybean oil and sodium lactate completed on September 9, 2009. The previous round of groundwater sampling occurred after the injection on October 13, 2009. These results were presented in the previous Groundwater Sampling and Analysis Report for October 2009 (URS, 2009c). The groundwater analytical results for the February 2010 sampling event indicate that Freon 113 concentrations were either at or below the remedial goal of 5 μg/L or not detected at four of the six wells

sampled. A Freon 113 concentration above 5 µg/L was noted at MW-02 (76 J µg/L), decreasing from 1,200 µg/L in October 2009, and at MW-07R (18 J µg/L), decreasing from 580 µg/L in October 2009.

Freon 123a and Freon 1113 are the expected reductive dechlorination daughter products of Freon 113. Freon 123a holds one less chlorine than Freon 113. Compared to the previous sampling event (October 2009), Freon 123a increased at MW-06 (non-detect to 3.6 µg/L) and decreased at MW-02 (51 µg/L to 6.1 µg/L), MW-03 (2.1 µg/L to non-detect), and MW-07R (76 µg/L to 8.1 µg/L). Freon 123a was non-detect at GZ-06 in February 2010 and was non-detect at MW-04 in either the October 2009 or February 2010 events.

Freon 1113, which holds two less chlorines than Freon 113, decreased in concentration from the October 2009 event at MW-02 (300 µg/L to 92 J µg/L), MW-03 (20 µg/L to 17 J µg/L), MW-04 (15 µg/L to 7.7 J µg/L), and MW-07R (370 µg/L to 150 J µg/L). Concentrations increased at MW-06 (6.4 µg/L to 35 J µg/L). Freon 1113 was not-detected at GZ-06 in February 2010.

The February 2010 sulfate concentrations increased slightly at GZ-06 from its previous sampling in February 2009 and at wells MW-03, MW-06, and MW-07R, and decreased substantially at wells MW-02 and MW-04 compared to the previous event. Methane concentrations increased at all locations compared to the previous event except at well GZ-06 where it decreased from 8,700 µg/L in February 2009 to 5,000 µg/L. These two trends indicate the development of generally more favorable reducing (more anaerobic) conditions site-wide.

Dissolved oxygen concentrations have fluctuated widely since December 2005, but in August 2008 and continuing into February 2010, concentrations dropped to 0 mg/L in all wells, except GZ-06. Dissolved oxygen concentrations dropped from 0.36 mg/L to 0 mg/L at GZ-06 between February 2009 and October 2009. Dissolved oxygen concentrations are expected to drop to or near zero following injection (as was the case following the November 2004 IRM injection).

Oxidation-reduction potentials fluctuated slightly in all wells from the previous event, but remained generally within the same range between –124 to –154 millivolts.

5.0 CONCLUSIONS

A relative comparison of data from the February 2010 event and the October 2009 event, including Freon 113 and its degradation products and various indicator parameters, is presented in Table 4. Comparative data from these events is also discussed in Section 4.

The Freon data trends generally show a favorable impact of the August-September 2009 supplemental injection event. Freon 113 concentrations decreased in three (MW-02, MW-03 and MW-07R) of the six wells sampled in February 2010 and remained the same at non-detect in the remaining three wells (MW-04, MW-06 and GZ-06). A decreasing trend of the Freon 113 daughter products Freon 123a and Freon 1113 was also apparent, except for well MW-06 which showed increasing concentrations of Freon 123a and Freon 1113. However, this is expected following injection, as daughter products are created as the parent is reduced; the daughter products are then in turn reduced.

Methane concentrations increased across the site except at well GZ-06, while sulfate, which is a competing electron acceptor with Freon, increased slightly at wells GZ-06, MW-03, MW-06 and MW-07R and decreased substantially at wells MW-02 and MW-04. Despite the increase in sulfate concentrations at some locations, these changes indicate that there are improving reducing conditions present.

Oxidation-reduction potentials fluctuated in all wells. Following the IRM injection in November 2004 (a period of strong Freon reduction), oxidation-reduction potentials in site wells except GZ-06 were observed to fall to approximately –135 to –155 millivolts. Currently, the oxidation-reduction potentials in site wells (including GZ-06) appear to have a similar range (-124 to –154 millivolts).

Dissolved oxygen concentrations were measured to be zero at all locations. This indicates continued favorable conditions for anaerobic biodegradation at the site.

Reductions in Freon concentrations as a result of the August-September 2009 supplemental injection appear to be favorable across the site. The EOS injection product is advertised to last 1-3 years. Past experience at the site, however, indicates that the impact of the injections appear to diminish after a period of about 1 to 2 years. Assuming anaerobic conditions

persist, contaminant reduction will continue at a rate greater than what would occur under unaltered groundwater conditions.

Overall, there are favorable site-wide trends in the indicator parameters given the data noted above. The decrease in Freon 113 and the decrease of its daughter products at all wells except for MW-06 fits with the expected trend for reductive dechlorination; however, the increase in concentration of the daughter products at MW-06 also shows continuing reductive dechlorination of Freon 113. This also indicates continued overall mass reduction of the Freon compounds.

6.0 NEXT STEPS

1) Prior to the next groundwater-monitoring event, the following actions are proposed regarding the monitoring well network:

   - onsite monitoring wells will be re-surveyed to ensure that accurate data is collected for groundwater contour maps; and

   - new reference points SGN and SGS will be installed along the Sheldrake River and surveyed to aid in the generation of groundwater contour maps.

2) Based on experience with past events, the duration of significant impact of substrate injections appears to be on the order of about 1 to 2 years. In order to gain insight regarding the impact of the most recent injection, which employed an enhanced injection technique (Sidewinder™ tool) to address recalcitrant Freon concentrations in the vicinity of MW-02, Dow/URS proposes adding a sampling event in 2010. The timing of 2010 events are proposed for June (9 months following injection) and October (13 months following injection). Subsequent to these events, monitoring frequency will return to twice per year (every six months).

3) Contaminants of concern have not been detected at GZ-06 for four consecutive monitoring events. It is requested that the NYSDEC consider discontinuing monitoring at this location in the upcoming events.

REFERENCES

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URS Inc., 2009b. *2009 Supplemental Injection Work Plan, Former EMCA Site, Site No 360025, Mamaroneck, New York*. July.

URS Inc., 2009c. *Groundwater Sampling and Analysis Report, October 2009 Sampling Event and Summary of 2009 Supplemental Injection Event, Former EMCA Site, Site No 360025, Mamaroneck, New York.* November.

TABLES

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS (February 2010)
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location	Measuring Point Elevation (ft.)	Depth to Water (ft.)	Water Surface Elevation (ft.)
GZ-03[1]	*102.71*	6.09	*96.62*
GZ-06	101.55	6.26	95.29
MW-01	99.22	3.09	96.13
MW-02	99.18	4.58	94.60
MW-03	99.35	4.55[2]	94.80
MW-04[1]	*98.61*	4.31	*94.30*
MW-05	98.14	3.69	94.45
MW-06	ND	4.19[2]	ND
MW-07R	ND	4.50	ND

Notes:

1) The riser and protective casing are damaged at monitoring well **GZ-03**. Well MW-04 is damaged, pushed up ~2" above ground surface. The parking lot was recently repaved and all of the wells will be resurveyed prior to the next groundwater sampling event.
2) Depth to water for all wells was collected on 2/25/2010, except for wells MW-03 and MW-06 which was collected on 2/26/2010 due to the presence of standing water on top of the wells.

ND - Not Determined

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	MW-02	MW-03	MW-04	MW-04
Sample ID			20100225GZ-06V14N	20100225MW-02V08N	20100226MW-03V09N	20100225MW04V08FD	20100225MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	02/25/10	02/26/10	02/25/10	02/25/10
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1 UJ	92 J	17 J	6.6 J	7.7 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ	76 J	1 UJ	1 UJ	1 UJ
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	6.1	1 U	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	5,000	7,500	13,000	5,200	5,100
Miscellaneous Parameters							
Sulfate	MG/L	250	8.4	5 U	11.6	13	11.3
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.00	0.00	NA	0.00
pH	S.U.	-	6.73	6.57	6.32	NA	6.50
Oxidation Reduction Potential	mV	-	-154	-147	-138	NA	-124
Specific Conductance	MS/CM	-	5.49	4.48	3.39	NA	2.14
Temperature	DEG C	-	7.23	9.33	8.95	NA	8.34
Turbidity	NTU	-	300	0	94	NA	1.5

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect

J - Analyte is reported below the PQL at an estimated concentration.

UJ - Not detected above the estimated quantitation limit

NA - Not Analyzed

Detection Limits shown are PQL

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TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-07R
Sample ID			20100226MW-06V13N	20100225MW-07RV15N
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			02/26/10	02/25/10
Parameter	**Units**	**Criteria***		
Volatiles				
Chlorotrifluoroethene (Freon-1113)	UG/L	5	35 J	150 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ	18 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	3.6	8.1
Dissolved Gases				
Methane	UG/L	-	13,000	6,500
Miscellaneous Parameters				
Sulfate	MG/L	250	31.2	7.9
Field Parameter				
Dissolved Oxygen	MG/L	-	0.00	0.00
pH	S.U.	-	6.46	6.52
Oxidation Reduction Potential	mV	-	-140	-146
Specific Conductance	MS/CM	-	2.48	2.79
Temperature	DEG C	-	11.80	10.69
Turbidity	NTU	-	39	1.1

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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NA - Not Analyzed

Detection Limits shown are PQL

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-03	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			20070801GZ-03V11N	GZ06_52103	GZ06	GZ06-091703	GZ-06-121803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	05/21/03	07/23/03	09/17/03	12/18/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	5.0 U	10 U	5.0 U	5.0 U
Benzene	UG/L	1	NA	5.0 U	10 U	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	0 U	0 U	5.4 NJ	0 U
1,1-Dichloroethene	UG/L	5	NA	0.8 J	1.5 J	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
Ethylbenzene	UG/L	5	NA	4.0 U	8 U	4.0 U	4.0 U
2-Hexanone	UG/L	50	NA	5.0 U	10 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	5.0 U	10 U	5.0 U	5.0 U
Tetrachloroethene	UG/L	5	NA	0.6 J	2 U	0.5 J	1.0 U
Trichloroethene	UG/L	5	NA	1.0 U	2 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	100	230	74	5.0 U
Vinyl Chloride	UG/L	2	NA	5.0 U	10 U	5.0 U	5.0 U
Xylene (total)	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	20	41	26	0.7 J
Dissolved Gases							
Methane	UG/L	-	5.0 U	140	98	89	5.9
Total Metals							
Iron	UG/L	300	NA	2,390	866	517 J	173
Dissolved Metals							
Iron	UG/L	300	NA	2,290	778	583 J	85.3 B

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.

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Only Detected Results Reported.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-03	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			20070801GZ-03V11N	GZ06_52103	GZ06	GZ06-091703	GZ-06-121803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	05/21/03	07/23/03	09/17/03	12/18/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	559	474	477 J	218
Nitrogen, Ammonia (As N)	MG/L	2	NA	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen, Kjeldahl, Total	MG/L	-	NA	0.5 U	0.7	1.3	0.57
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	NA	0.58	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.12 J	NA	NA
Sulfate	MG/L	250	15.8	25.2	27.5	32.4	5.0 U
Ferrous Iron (field)	MG/L	-	NA	2.8	9.6	0.25	0.03
Ferric Iron (lab)	MG/L	-	NA	0.1 U	0.1 U	0.52	0.143
Fluoride	MG/L	1.5	NA	0.1 U	0.1 U	0.1 U	0.32
Oil & Grease	MG/L	-	NA	NA	NA	R	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.52	0.76	0.5	0.48	6.86
Oxidation Reduction Potential	mV	-	98.5	-110	-75	-129	73
pH	S.U.	-	6.05	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.599	2.27	1.99	1.98	1.11
Temperature	DEG C	-	21.6	NA	NA	NA	NA
Turbidity	NTU	-	28	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			GZ06	GZ-06	MW-GZ-06V08N	GZ-0608N	20061117GZ-0608
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	05/31/05	12/20/05	08/15/06	11/17/06
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	24	15	10 U	13	2.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	100 J	9.0 J	10 U	74	2.0 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	36	4.0 J	2.0 J	23	2.0 J
Dissolved Gases							
Methane	UG/L	-	48	310	74	140	180
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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([LOGDATE] BETWEEN #05/01/03# AND #2/26/10#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			GZ06	GZ-06	MW-GZ-06V08N	GZ-0608N	20061117GZ-0608
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	05/31/05	12/20/05	08/15/06	11/17/06
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	1,610	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	20.8	14.2	31.7	23.2	25.1
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	1.00 U	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.15	0.11	0.03	5.67	NA
Oxidation Reduction Potential	mV	-	-210	-107	-59	-49	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	5.25	1.43	1.16	1.28	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	20080228GZ06V08	20080812GZ06V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/17/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	2.0 J	1.0 J	2.0 J	10 U	10 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	2.0 J	14	13	10 UJ	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	2.0 J	4.0 J	10	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	210	360	23	5,900	880
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID			20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	20080228GZ06V08	20080812GZ06V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/17/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	25.4	29.3	50.4	5 U	28.1
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	4.17	1.18	4.1	0.91
Oxidation Reduction Potential	mV	-	NA	-29	15.6	-89.0	-102
pH	S.U.	-	NA	NA	6.22	6.15	6.31
Specific Conductance	MS/CM	-	NA	3.06	1.671	0.89	1.59
Temperature	DEG C	-	NA	NA	NA	8.91	17.5
Turbidity	NTU	-	NA	NA	NA	1,000	18

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	MW-01	MW-02	MW-02
Sample ID			20090218GZ-06V10N	20100225GZ-06V14N	20070801MW-01V08N	MW02-5-20-03	MW02-5-20-03DUP
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	02/25/10	08/01/07	05/20/03	05/20/03
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	140 J	130 J
Benzene	UG/L	1	NA	NA	NA	50 U	25 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1 UJ	20 U	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	20 U	4.4 J	5.1 J
cis-1,2-Dichloroethene	UG/L	5	NA	NA	250	50 U	25 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	4.0 J	50 U	25 U
Ethylbenzene	UG/L	5	NA	NA	NA	40 U	20 U
2-Hexanone	UG/L	50	NA	NA	NA	50 U	25 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	50 U	25 U
Tetrachloroethene	UG/L	5	NA	NA	8.0 J	10 U	5.0 U
Trichloroethene	UG/L	5	NA	NA	5.0 J	10 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	1 UJ	20 U	710	880
Vinyl Chloride	UG/L	2	NA	NA	5.0 J	50 U	25 U
Xylene (total)	UG/L	5	NA	NA	NA	50 U	25 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	1 U	20 U	34 J	40
Dissolved Gases							
Methane	UG/L	-	8,700	5,000	98	26	32
Total Metals							
Iron	UG/L	300	NA	NA	NA	27,800	28,300
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	27,900	28,200

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			GZ-06	GZ-06	MW-01	MW-02	MW-02
Sample ID			20090218GZ-06V10N	20100225GZ-06V14N	20070801MW-01V08N	MW02-5-20-03	MW02-5-20-03DUP
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	02/25/10	08/01/07	05/20/03	05/20/03
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	338	338
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	3.3	3.4
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	6.6	6.2
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	0.15	0.16
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 UJ	8.4	39.2	44.0	46.0
Ferrous Iron (field)	MG/L	-	NA	NA	NA	25.3	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	2.5	3
Fluoride	MG/L	1.5	NA	NA	NA	0.28	0.3
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.36	0.00	0.99	0.36	NA
Oxidation Reduction Potential	mV	-	-91	-154	95.4	-108	NA
pH	S.U.	-	6.12	6.73	6.25	NA	NA
Specific Conductance	MS/CM	-	2.13	5.49	1.755	1.68	NA
Temperature	DEG C	-	9.24	7.23	NA	NA	NA
Turbidity	NTU	-	16	300	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP-7_22_03	MW02-7_22_03	MW02-091803	MW-02-121803	MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/03	07/22/03	09/18/03	12/18/03	07/22/04
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
Acetone	UG/L	50	R	R	5.0 U	5.0 U	NA
Benzene	UG/L	1	50 U	50 U	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	R	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	0 U	14
1,1-Dichloroethene	UG/L	5	8.2 J	7.5 J	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
trans-1,2-Dichloroethene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Ethylbenzene	UG/L	5	40 U	3.4 J	4.0 U	4.0 U	NA
2-Hexanone	UG/L	50	50 U	50 U	5.0 U	5.0 U	NA
4-Methyl-2-Pentanone	UG/L	-	50 U	50 U	5.0 U	5.0 U	NA
Tetrachloroethene	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
Trichloroethene	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1,000	1,000	54	12	21 J
Vinyl Chloride	UG/L	2	50 U	50 U	5.0 U	5.0 U	NA
Xylene (total)	UG/L	5	7.1 J	11 J	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	40 J	41 J	7.8	3.3 J	4 J
Dissolved Gases							
Methane	UG/L	-	54	52	410	320	140
Total Metals							
Iron	UG/L	300	30,100	30,900	63,800 J	69,000	NA
Dissolved Metals							
Iron	UG/L	300	30,500	30,500	60,900 J	69,300	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP-7_22_03	MW02-7_22_03	MW02-091803	MW-02-121803	MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/03	07/22/03	09/18/03	12/18/03	07/22/04
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Chloride	MG/L	250	307	283	839	769	238
Nitrogen, Ammonia (As N)	MG/L	2	4.1	3.8	11.5	11.9	NA
Nitrogen, Kjeldahl, Total	MG/L	-	6.6	6.1	17.1	16.9	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	32.3	32.5	4.80	5.0 U	15.2
Ferrous Iron (field)	MG/L	-	25.7	28.0	49.3	6.3	NA
Ferric Iron (lab)	MG/L	-	4.4	2.9	48.3	62.7	NA
Fluoride	MG/L	1.5	0.37	0.39	0.3	0.31	0.294
Oil & Grease	MG/L	-	NA	NA	5 U	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.26	0.53	0 U	0.91
Oxidation Reduction Potential	mV	-	NA	-190	-99	-108	-133
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	NA	1.65	3.17	3.28	2.34
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			MW-02	MW-02V06N	MW-02V15N	20061117MW02VISN	20070207MW-02V06N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	11/17/06	02/07/07
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	120	18	200	21	84
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1,200	110	890	100	800
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	86 J	15	110	10	95
Dissolved Gases							
Methane	UG/L	-	2,000	5,800	5,500	4,300	6,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			MW-02	MW-02V06N	MW-02V15N	20061117MW02VISN	20070207MW-02V06N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	11/17/06	02/07/07
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	25.2	5.0 U	27.1	5.0 U	15.9
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0 U	4.92	NA	1.56
Oxidation Reduction Potential	mV	-	-140	-137	-144	NA	-120
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.19	2.51	1.55	NA	1.77
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20070731MW-02V15N	20080228MW02V15N	20080812MW02V10N	20090218MW-02V10N	20091013MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	61	120 J	160	81 J	300
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	290	830 J	700	1,300	1,200 D
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	40	72	38 J	34 J	51
Dissolved Gases							
Methane	UG/L	-	2,900	6,400	6,200	8,000	6,100
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
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Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20070731MW-02V15N	20080228MW02V15N	20080812MW02V10N	20090218MW-02V10N	20091013MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	27.6	23.2	47.9	35.2 J	36.9
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.31	2.87	0 U	0 U	0.00
Oxidation Reduction Potential	mV	-	-97.2	-131.0	-119	-154	-161
pH	S.U.	-	6.39	6.38	6.40	6.26	6.16
Specific Conductance	MS/CM	-	2.357	2.18	2.14	2.55	2.09
Temperature	DEG C	-	NA	10.5	18.9	11.23	18.88
Turbidity	NTU	-	NA	28	3	5	9.4

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-03	MW-03	MW-03	MW-03
Sample ID			20100225MW-02V08N	MW03_52103	MW03	DUP-91703	MW03-091703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	05/21/03	07/23/03	09/17/03	09/17/03
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	NA	250 U	78	110	110
Benzene	UG/L	1	NA	250 U	2.3	2.2	1.8
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	130 J	69 J	65 J
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92 J	0 U	7.0 NJ	6.2 NJ	0 U
1,1-Dichloroethene	UG/L	5	NA	33 J	2.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	250 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	250 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	UG/L	5	NA	200 U	0.3 J	4.0 U	4.0 U
2-Hexanone	UG/L	50	NA	250 U	5.0 U	19	16
4-Methyl-2-Pentanone	UG/L	-	NA	250 U	5.0 U	11	11
Tetrachloroethene	UG/L	5	NA	50 U	1.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	5	NA	50 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	76 J	5,800	68	26	16
Vinyl Chloride	UG/L	2	NA	250 U	5.0 U	5.0 U	5.0 U
Xylene (total)	UG/L	5	NA	250 U	1.1 J	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	6.1	78 J	43	180	110
Dissolved Gases							
Methane	UG/L	-	7,500	86	56	2,400	2,500
Total Metals							
Iron	UG/L	300	NA	1,170	150,000	174,000 J	178,000 J
Dissolved Metals							
Iron	UG/L	300	NA	267	152,000	187,000 J	186,000 J

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-03	MW-03	MW-03	MW-03
Sample ID			20100225MW-02V08N	MW03_52103	MW03	DUP-91703	MW03-091703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	05/21/03	07/23/03	09/17/03	09/17/03
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Chloride	MG/L	250	NA	113	143	99.2 J	91.5 J
Nitrogen, Ammonia (As N)	MG/L	2	NA	0.36	2.7	0.86	0.95
Nitrogen, Kjeldahl, Total	MG/L	-	NA	1.3	10.8	4.5	4.4
Nitrogen, Nitrate	MG/L	10	NA	2	NA	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.1 UJ	NA	NA
Sulfate	MG/L	250	5 U	32.7	26.9	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	NA	0.5	3.7	25.5	27.9
Ferric Iron (lab)	MG/L	-	NA	0.67	146	67.0	93.0
Fluoride	MG/L	1.5	NA	0.28	0.44	0.27	0.2
Oil & Grease	MG/L	-	NA	NA	NA	R	R
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.58	0 U	NA	0.01
Oxidation Reduction Potential	mV	-	-147	40	-103	NA	-90
pH	S.U.	-	6.57	NA	NA	NA	NA
Specific Conductance	MS/CM	-	4.48	0.638	4.35	NA	1.64
Temperature	DEG C	-	9.33	NA	NA	NA	NA
Turbidity	NTU	-	0	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			DUP1_121703	MW-03_121703	MW-03	MW-03	MW-03VION
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	12/17/03	07/23/04	05/31/05	12/20/05
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
Acetone	UG/L	50	130 J	120 J	NA	NA	NA
Benzene	UG/L	1	10 U	10 U	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	39 J	38 J	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	68 J	83	2.0 J
1,1-Dichloroethene	UG/L	5	4.0 U	4 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	10 U	10 U	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	10 U	10 U	NA	NA	NA
Ethylbenzene	UG/L	5	8.0 U	8 U	NA	NA	NA
2-Hexanone	UG/L	50	10 U	10 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	10 U	10 U	NA	NA	NA
Tetrachloroethene	UG/L	5	4.9	4.6	NA	NA	NA
Trichloroethene	UG/L	5	2.0 U	2 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	150	150	4,900 J	2.0 J	10 U
Vinyl Chloride	UG/L	2	10 U	10 U	NA	NA	NA
Xylene (total)	UG/L	5	10 U	10 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	170	160	3,900	14	1.0 J
Dissolved Gases							
Methane	UG/L	-	7,200	4,900	2,700	6,300	10,000
Total Metals							
Iron	UG/L	300	156,000	164,000	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	167,000	176,000	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			DUP1_121703	MW-03_121703	MW-03	MW-03	MW-03VION
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	12/17/03	07/23/04	05/31/05	12/20/05
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Chloride	MG/L	250	224	192	71.7	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	1.4	1.2	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	4.0	4.0	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1 U	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	23.5	30.0	NA	NA	NA
Ferric Iron (lab)	MG/L	-	132	134	NA	NA	NA
Fluoride	MG/L	1.5	0.22	0.25	0.397	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.35	1.05	1.24	0 U
Oxidation Reduction Potential	mV	-	NA	-59	-143	-133	-151
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	NA	1.99	2.40	3.19	1.20
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03V15N	20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/14/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	51	39	54	13 J	10
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10	2.0 J	0.5 J	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	0.8 J	48	7.0 J	4.0 J	1.0 J
Dissolved Gases							
Methane	UG/L	-	7,400	15,000	4,500	18,000	10,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03V15N	20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/14/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	7.80	38.4	14.1	30.0
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	5.36	2.44	0.22	2.94	NA
Oxidation Reduction Potential	mV	-	-123	-116	-79.7	-123.0	NA
pH	S.U.	-	NA	NA	6.15	6.15	NA
Specific Conductance	MS/CM	-	0.946	0.91	1.309	1.36	NA
Temperature	DEG C	-	NA	NA	NA	11.6	NA
Turbidity	NTU	-	NA	NA	NA	41	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20080812MW03V10N	20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	10/13/09	02/26/10
Parameter	Units	Criteria*			Field Duplicate (1-1)		
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10	38	20	19	17 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	5.0 J	0.92 J	0.82 J	1 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 J	40	2.1	1.9	1 U
Dissolved Gases							
Methane	UG/L	-	8,400	13,000	5,300	4,800	13,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20080812MW03V10N	20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	10/13/09	02/26/10
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	28.1	50.7 J	4.6 J	8.7	11.6
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0 U	NA	0.00	0.00
Oxidation Reduction Potential	mV	-	-149	-185	NA	-103	-138
pH	S.U.	-	6.36	6.06	NA	5.87	6.32
Specific Conductance	MS/CM	-	1.69	2.08	NA	1.85	3.39
Temperature	DEG C	-	17.8	12.87	NA	18.68	8.95
Turbidity	NTU	-	2	5	NA	8.7	94

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
UJ - Not detected above the estimated quantitation limit
U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW04-5-20-03	MW-04_121703	Dup1	MW-04	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/20/03	12/17/03	07/22/04	07/22/04	05/31/05
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Acetone	UG/L	50	5.0 U	5.0 U	NA	NA	NA
Benzene	UG/L	1	5.0 U	5.0 U	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	10 U	10 U	1.0 J
1,1-Dichloroethene	UG/L	5	2.0 U	2.0 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	NA	NA	NA
Ethylbenzene	UG/L	5	4.0 U	4.0 U	NA	NA	NA
2-Hexanone	UG/L	50	5.0 U	5.0 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	5.0 U	5.0 U	NA	NA	NA
Tetrachloroethene	UG/L	5	1.0 U	1.0 U	NA	NA	NA
Trichloroethene	UG/L	5	1.0 U	1.0 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	5.0 U	5.0 U	10 UJ	0.7 J	10 U
Vinyl Chloride	UG/L	2	5.0 U	5.0 U	NA	NA	NA
Xylene (total)	UG/L	5	5.0 U	5.0 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	5.0 U	5.0 U	10 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	380	35	69	99	190
Total Metals							
Iron	UG/L	300	18,400	3,640	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	18,500	3,760	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW04-5-20-03	MW-04_121703	Dup1	MW-04	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/20/03	12/17/03	07/22/04	07/22/04	05/31/05
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
Chloride	MG/L	250	238	294	158	161	NA
Nitrogen, Ammonia (As N)	MG/L	2	1.6	1.2	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	6.2	1.9	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1 U	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	9.40	10.8	10.8	14.2
Ferrous Iron (field)	MG/L	-	17.6	2.2	NA	NA	NA
Ferric Iron (lab)	MG/L	-	0.76	1.3	NA	NA	NA
Fluoride	MG/L	1.5	0.27	0.19	0.304	0.302	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.54	0 U	NA	0.82	0 U
Oxidation Reduction Potential	mV	-	-115	0 U	NA	-136	-126
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.61	0.99	NA	1.05	1.85
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04VION	MW-04V15N	20070207MW-04V10N	20070801MW-04V10N	20080228MW04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	08/01/07	02/28/08
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	0.7 J	0.6 J	10 U	1.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	10 U	10 U	10 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	10 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	400	420	400	43	5,700
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04VION	MW-04V15N	20070207MW-04V10N	20070801MW-04V10N	20080228MW04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	08/01/07	02/28/08
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	6.66	5.0 U	5.0 U	7.0	5 U
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	4.97	4.73	0.41	2.91
Oxidation Reduction Potential	mV	-	-161	-154	-81	-79.2	-136.0
pH	S.U.	-	NA	NA	NA	6.59	6.45
Specific Conductance	MS/CM	-	1.47	1.14	0.804	1.241	1.16
Temperature	DEG C	-	NA	NA	NA	NA	9.19
Turbidity	NTU	-	NA	NA	NA	NA	9

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N	20091013MW-04V08N	20100225MW04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	02/18/09	10/13/09	02/25/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1.0 J	1.0 J	15	6.6 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	10 U	1 U	1 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	10 U	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	290	1,600	1,600	3,100	5,200
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N	20091013MW-04V08N	20100225MW04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	02/18/09	10/13/09	02/25/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			Field Duplicate (1-1)
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 U	5 UJ	5 UJ	20.8	13
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	NA	0 U	0.00	NA
Oxidation Reduction Potential	mV	-	-126	NA	-158	-122	NA
pH	S.U.	-	6.65	NA	6.33	6.43	NA
Specific Conductance	MS/CM	-	0.531	NA	1.75	1.83	NA
Temperature	DEG C	-	21.3	NA	9.36	19.37	NA
Turbidity	NTU	-	2	NA	4	4.6	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-05	MW-05	MW-05	MW-06
Sample ID			20100225MW-04V08N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	05/21/03	12/18/03	07/23/04	06/10/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	5.0 U	5.0 U	NA	10 U
Benzene	UG/L	1	NA	5.0 U	5.0 U	NA	10 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	NA	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	7.7 J	0 U	0 U	10 U	0 U
1,1-Dichloroethene	UG/L	5	NA	2.0 U	2.0 U	NA	4 U
cis-1,2-Dichloroethene	UG/L	5	NA	5.0 U	5.0 U	NA	10 U
trans-1,2-Dichloroethene	UG/L	5	NA	5.0 U	5.0 U	NA	10 U
Ethylbenzene	UG/L	5	NA	4.0 U	4.0 U	NA	8 U
2-Hexanone	UG/L	50	NA	5.0 U	5.0 U	NA	10 U
4-Methyl-2-Pentanone	UG/L	-	NA	5.0 U	5.0 U	NA	10 U
Tetrachloroethene	UG/L	5	NA	0.4 J	1.0 U	NA	2 U
Trichloroethene	UG/L	5	NA	1.0 U	1.0 U	NA	2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ	5.0 U	5.0 U	0.5 J	220
Vinyl Chloride	UG/L	2	NA	5.0 U	5.0 U	NA	10 U
Xylene (total)	UG/L	5	NA	5.0 U	5.0 U	NA	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	5.0 U	5.0 U	10 U	8.8 J
Dissolved Gases							
Methane	UG/L	-	5,100	27	6.7	47	49
Total Metals							
Iron	UG/L	300	NA	2,110	15,500	NA	14,400
Dissolved Metals							
Iron	UG/L	300	NA	1,670	39.7 U	NA	14,300

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-05	MW-05	MW-05	MW-06
Sample ID			20100225MW-04V08N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	05/21/03	12/18/03	07/23/04	06/10/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	49.8	27.5	63.9	184
Nitrogen, Ammonia (As N)	MG/L	2	NA	0.25	0.1 U	NA	0.19
Nitrogen, Kjeldahl, Total	MG/L	-	NA	3.6	0.61	NA	0.72
Nitrogen, Nitrate	MG/L	10	NA	0.22	0.18	NA	0.33
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	11.3	50.1	61.4	42.3	32.0
Ferrous Iron (field)	MG/L	-	NA	1.7	0.07	NA	14.3
Ferric Iron (lab)	MG/L	-	NA	0.43	15.4	NA	0.12
Fluoride	MG/L	1.5	NA	0 U	0.12	0.103	0.46
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.37	0 U	0.97	0.93
Oxidation Reduction Potential	mV	-	-124	26	121	46	-145
pH	S.U.	-	6.50	NA	NA	NA	NA
Specific Conductance	MS/CM	-	2.14	0.426	0.629	0.463	0.741
Temperature	DEG C	-	8.34	NA	NA	NA	NA
Turbidity	NTU	-	1.5	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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Concentration Exceeds Criteria

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW06-7_22_03	MW06-091803	MW-06_121703	MW-06	Field-Dup
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/03	09/18/03	12/17/03	07/23/04	05/31/05
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	5.0 U	5.0 U	10 U	NA	NA
Benzene	UG/L	1	5.0 U	5.0 U	10 U	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	5.7 NJ	0 U	0 U	5 J	6.0 J
1,1-Dichloroethene	UG/L	5	1.2 J	2.0 U	4 U	NA	NA
cis-1,2-Dichloroethene	UG/L	5	1.7 J	1.4 J	1.3 J	NA	NA
trans-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	10 U	NA	NA
Ethylbenzene	UG/L	5	4.0 U	4.0 U	8 U	NA	NA
2-Hexanone	UG/L	50	5.0 U	5.0 U	10 U	NA	NA
4-Methyl-2-Pentanone	UG/L	-	5.0 U	5.0 U	10 U	NA	NA
Tetrachloroethene	UG/L	5	1.0 U	1.0 U	2 U	NA	NA
Trichloroethene	UG/L	5	1.0 U	1.0 U	2 U	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	180	97	250	140 J	1.0 J
Vinyl Chloride	UG/L	2	1.2 J	5.0 U	10 U	NA	NA
Xylene (total)	UG/L	5	5.0 U	5.0 U	10 U	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	9.5	8.6	14	23	16
Dissolved Gases							
Methane	UG/L	-	81	99	78	40	3,600
Total Metals							
Iron	UG/L	300	10,500	8,370 J	7,690	NA	NA
Dissolved Metals							
Iron	UG/L	300	10,300	8,470 J	7,670	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW06-7_22_03	MW06-091803	MW-06_121703	MW-06	Field-Dup
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/03	09/18/03	12/17/03	07/23/04	05/31/05
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
Chloride	MG/L	250	82.3	74.6	84.0	60.5	NA
Nitrogen, Ammonia (As N)	MG/L	2	0.33	0.31	0.36	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	1.1	0.88	0.79	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1 U	0.1 UJ	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	30.5	39.2	39.1	33.5	5.0 U
Ferrous Iron (field)	MG/L	-	8.6	6.0	8.7	NA	NA
Ferric Iron (lab)	MG/L	-	1.9	8.4	1.0 U	NA	NA
Fluoride	MG/L	1.5	0.56	0.37	0.42	0.467	NA
Oil & Grease	MG/L	-	NA	5 U	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.07	0 U	0 U	1.04	NA
Oxidation Reduction Potential	mV	-	-155	-143	-110	-64	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.866	0.581	0.602	0.513	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06	MW-06V15FD	MW-06V15N	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	12/20/05	08/15/06	08/15/06
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	5.0 J	6.0 J	6.0 J	10 U	10 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 J	10 U	10 U	10 U	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	14	10 UJ	10 UJ	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	3,300	6,700	5,600	1,600	1,700
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06	MW-06V15FD	MW-06V15N	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	12/20/05	08/15/06	08/15/06
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	NA	0 U	NA	6.83
Oxidation Reduction Potential	mV	-	-140	NA	-140	NA	87
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.13	NA	1.29	NA	0.033
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	02/07/07	07/31/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	100	100	18	21	8.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	3.0 J	3.0 J	10 U	10 U	10 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	8.0 J	8.0 J	0.5 J	0.6 J	10 U
Dissolved Gases							
Methane	UG/L	-	12,000	13,000	3,800	2,500	12,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	02/07/07	07/31/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	7.40	7.00	41.8	44.2	5 U
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	1.05	NA	0.31	NA
Oxidation Reduction Potential	mV	-	NA	-136	NA	-99.7	NA
pH	S.U.	-	NA	NA	NA	6.38	NA
Specific Conductance	MS/CM	-	NA	0.79	NA	1.050	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/19/09	10/13/09	02/26/10
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	8.0 J	4.0 J	34	6.4	35 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	2.0 J	1 U	1 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	35	1 U	3.6
Dissolved Gases							
Methane	UG/L	-	14,000	12,000	9,000	7,300	13,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/19/09	10/13/09	02/26/10
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 U	17.8	57.0 J	2.8 J	31.2
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.61	0 U	0 U	0.00	0.00
Oxidation Reduction Potential	mV	-	-122.0	-117	-132	-139	-140
pH	S.U.	-	6.24	6.37	6.30	6.57	6.46
Specific Conductance	MS/CM	-	1.21	1.47	0.84	1.79	2.48
Temperature	DEG C	-	12.2	17.0	13.23	17.80	11.80
Turbidity	NTU	-	9	5	8	2.2	39

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07-6-10-03	MW07	MW07-91703	MW-07_121703	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/10/03	07/23/03	09/17/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	250 U	500 U	250 U	50 U	NA
Benzene	UG/L	1	250 U	500 U	250 U	14	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	R	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	0 U	210
1,1-Dichloroethene	UG/L	5	100 U	68 J	100 U	20 U	NA
cis-1,2-Dichloroethene	UG/L	5	250 U	500 U	250 U	50 U	NA
trans-1,2-Dichloroethene	UG/L	5	250 U	500 U	250 U	50 U	NA
Ethylbenzene	UG/L	5	200 U	400 U	200 U	49	NA
2-Hexanone	UG/L	50	250 U	500 U	250 U	50 U	NA
4-Methyl-2-Pentanone	UG/L	-	250 U	500 U	250 U	50 U	NA
Tetrachloroethene	UG/L	5	50 U	100 U	50 U	10 U	NA
Trichloroethene	UG/L	5	50 U	100 U	50 U	10 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	5,400	8,500	6,100	370	110 J
Vinyl Chloride	UG/L	2	250 U	500 U	250 U	50 U	NA
Xylene (total)	UG/L	5	250 U	500 U	250 U	50 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	68 J	130 J	130 J	940	50
Dissolved Gases							
Methane	UG/L	-	740	420	1,200	1,700	2,500
Total Metals							
Iron	UG/L	300	21,300	21,200	32,700 J	38,900	NA
Dissolved Metals							
Iron	UG/L	300	20,800	20,800	32,500 J	38,900	NA

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07-6-10-03	MW07	MW07-91703	MW-07_121703	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/10/03	07/23/03	09/17/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	140	168	300 J	328	303
Nitrogen, Ammonia (As N)	MG/L	2	0.39	0.6	0.66	0.99	NA
Nitrogen, Kjeldahl, Total	MG/L	-	1.2	1.8	2.1	2.8	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	NA	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.1 UJ	NA	NA	NA
Sulfate	MG/L	250	32.8	31.0	23.6	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	20.2	19.8	33.8	19.5	NA
Ferric Iron (lab)	MG/L	-	1	1.4	14.1	19.4	NA
Fluoride	MG/L	1.5	0.33	0.25	0.24	0.19	0.190
Oil & Grease	MG/L	-	NA	NA	5.44 U	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.9	0.1	0 U	3.33	0.88
Oxidation Reduction Potential	mV	-	-130	-108	-118	-115	-153
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.93	1.11	1.44	1.94	1.69
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	140	47	97	89	82
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	10 U	10 U	6.0 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	2.0 J	10 U	1.0 J	3.0 J	10
Dissolved Gases							
Methane	UG/L	-	5,900	9,700	6,900	6,200	4,100
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	5.0 U	19.3	5.0 U	6.1
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0 U	3.47	2.89	0.48
Oxidation Reduction Potential	mV	-	-152	-169	-163	-121	-113.5
pH	S.U.	-	NA	NA	NA	NA	6.78
Specific Conductance	MS/CM	-	1.75	1.65	1.44	2.02	2.182
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
UJ - Not detected above the estimated quantitation limit
U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07R	MW-07R
Sample ID			20080228MW07V15N	20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/18/09	10/13/09	02/25/10
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92	170	150	370 D	150 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 UJ	3.0 J	46	580 D	18 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	0.9 J	16	20	76	8.1
Dissolved Gases							
Methane	UG/L	-	7,100	5,600	11,000	5,900	6,500
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
UJ - Not detected above the estimated quantitation limit
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Only Detected Results Reported.

Detection Limits shown are PQL

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07R	MW-07R
Sample ID			20080228MW07V15N	20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/18/09	10/13/09	02/25/10
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 U	5.6	5 UJ	6.3	7.9
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.64	0 U	0 U	0.00	0.00
Oxidation Reduction Potential	mV	-	-137.0	-167	-154	-139	-146
pH	S.U.	-	6.32	6.48	6.18	6.45	6.52
Specific Conductance	MS/CM	-	1.62	1.99	2.01	2.74	2.79
Temperature	DEG C	-	9.03	17.3	12.11	18.36	10.69
Turbidity	NTU	-	54	25	21	1.1	1.1

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
UJ - Not detected above the estimated quantitation limit
U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

Detection Limits shown are PQL

Table 4

Comparison of October 2009 to February 2010 Data

Location	Freon 113	Freon 123a	Freon 1113	Methane	Sulfate	ORP	DO
MW-02	↓	↓	↓	↑	↓	↑	↔
MW-03	↓	↓	↓	↑	↑	↓	↔
MW-04	↔	↔	↓	↑	↓	↔	↔
MW-06	↔	↑	↑	↑	↑	↔	↔
MW-07/07R	↓	↓	↓	↑	↑	↓	↔

Legend

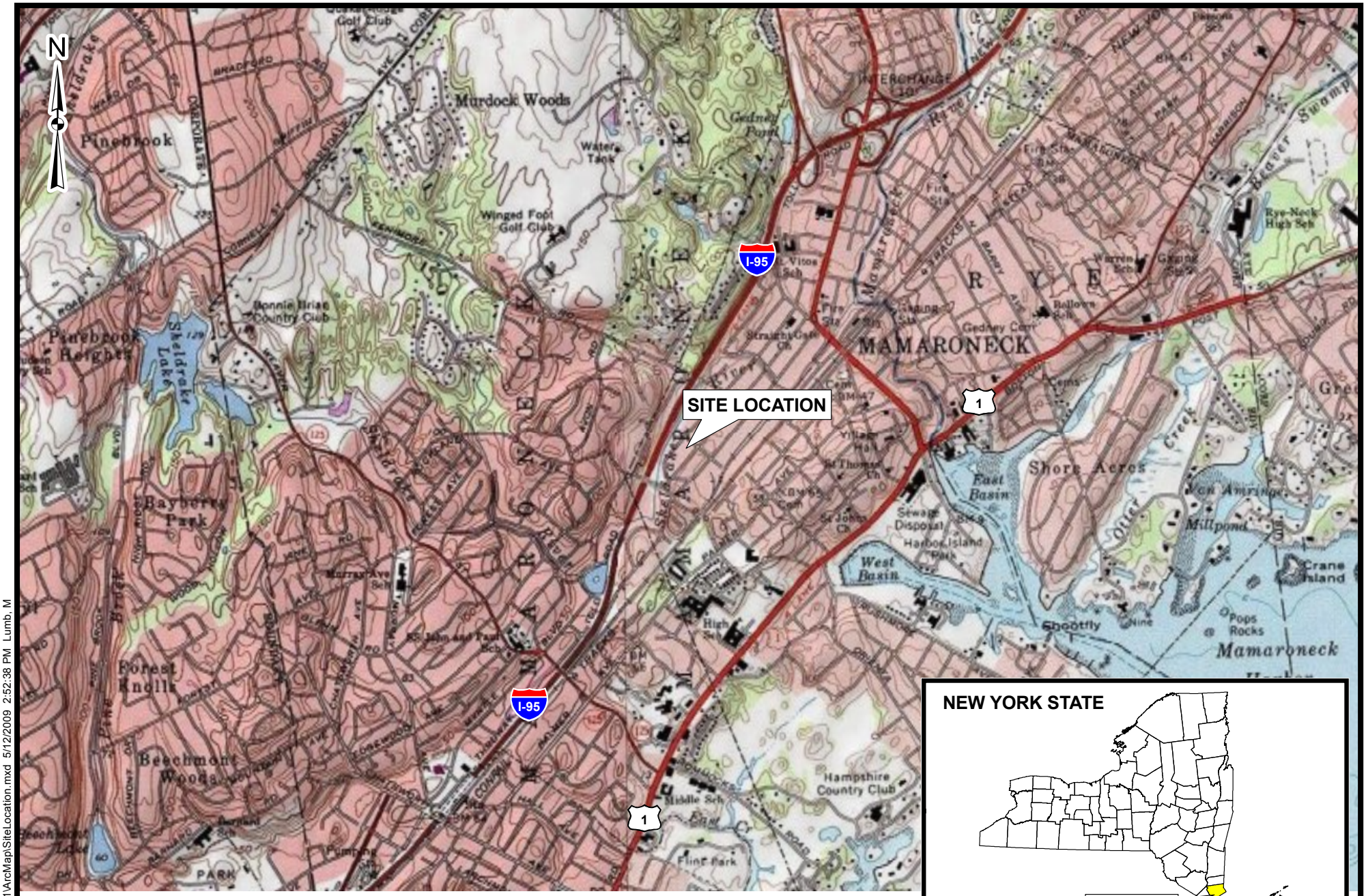
↓ Decrease from previous event

↑ Increase from previous event

↔ No significant change from previous event

Note: Monitoring well GZ-06 was not sampled in October 2009 because an excessive amount of residual injected substrate was found in the well.

FIGURES



SOURCE: USGS Topographical Quadrangle Mount Vernon, New York, 1979 and Mamaroneck, New York, 1985.

URS

SITE LOCATION MAP

FIGURE 1

N:\11172730.00000\DB\GIS\2001\ArcMap\SiteLocation.mxd 5/12/2009 2:52:38 PM Lumb, M

N

MW-04	10/99	7/00	7/01	5/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	11	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	1.0 J	ND	0.7 J	0.6 J	ND	1.0 J	ND	1.0J	15	7.7 J

MW-05	7/00	7/01	5/03	12/03	7/04
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	7	ND	ND	ND	0.5 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND	ND	ND	ND	ND
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND

MW-03	10/99	7/00	7/01	5/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	17000	11000	13000	5800	68	26	150	4900 J	2 J	ND	ND	10	2.0 J	0.5 J	ND	5.0J	0.9J	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND	ND	ND	78 J	43	180	170	3900	14	1.0 J	0.8 J	48	7.0 J	4.0 J	1.0 J	40	2.1	ND
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	7	6.2	ND	68 J	83	2.0 J	51	39	54	13 J	10	38	20	17 J

MW-07/07R	6/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	5400	8500	6100	370	110 J	ND	ND	ND	ND	6.0 J	ND	3.0 J	46	580	18 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	68 J	130 J	130 J	940	50	2.0 J	ND	1.0 J	3.0 J	10	0.9 J	16	20	76	8
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	210	140	47	97	89	82	92	170	150	370	150 J

MW-02	10/99	7/00	7/01	5/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	11/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	740	1700	2400	880	1000	54	12	21 J	1200	110	890	100	800	290	830 J	700	1300	1200	76 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND	ND	ND	40	41 J	7.8	3.3 J	4 J	86 J	15	110	10	95	40	72	38 J	34J	51	6.1
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	ND	14	120	18	200	21	84	61	120 J	160	81J	300	92 J

MW-06	6/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	220	180	97	250	140 J	1.0 J	ND	ND	3 J	ND	ND	ND	2.0J	ND	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	8.8 J	9.5	8.6	14	23	16	ND	ND	8 J	0.6 J	ND	ND	35	ND	3.6
Chlorotrifluoroethene (Freon-1113)	ND	5.7	ND	ND	5 J	6.0 J	6.0 J	ND	100	21	8.0 J	4.0 J	34	6.4	35 J

GZ-03	8/07
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND
Chlorotrifluoroethene (Freon-1113)	ND

GZ-06	5/88	3/89	10/99	7/00	7/01	5/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	11/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1274	200	49	900	250	100	230	74	ND	100 J	9 J	ND	74	2.0 J	14	13	ND	ND	ND	NS	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND	ND	ND	ND	ND	20	41	26	0.7 J	36	4.0 J	2.0 J	23	2.0 J	4.0 J	10	ND	ND	ND	NS	ND
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	ND	5.4	ND	24	15	ND	13	2.0 J	1.0 J	2.0 J	ND	ND	ND	NS	ND

MW-01	8/07
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	ND
Chlorotrifluoroethene (Freon-1113)	ND

SHELDRAKE RIVER

FAYETTE AVENUE

OGDEN AVENUE

CENTER AVENUE

Legend

- Existing Monitoring Well Location
- Generalized Groundwater Flow Direction
- Concentration Exceeds NYSDEC TOGS (1.1.1) Class GA Standards

All Analytical Results are Reported in UG/L

NOTES:

Well, MW-07, was replaced by well, MW-07R, on September 3, 2009.
ND - Not Detected
NS - Not Sampled because injected substrate was present in the well.

- 7/00 - Pre-Pilot Injection Sampling Dates
- 12/03 - Post-Pilot Injection/Pre-IRM Injection Sampling Dates
- 12/05 - Post-IRM Injection Sampling Dates
- 2/08 - Post-2007 Supplemental Injection Sampling Dates
- 10/09 - Post-2009 Supplemental Injection Sampling Dates

80 0 80 Feet

FORMER EMCA SITE
SUMMARY OF FREON DETECTIONS IN GROUNDWATER

URS

FIGURE 2

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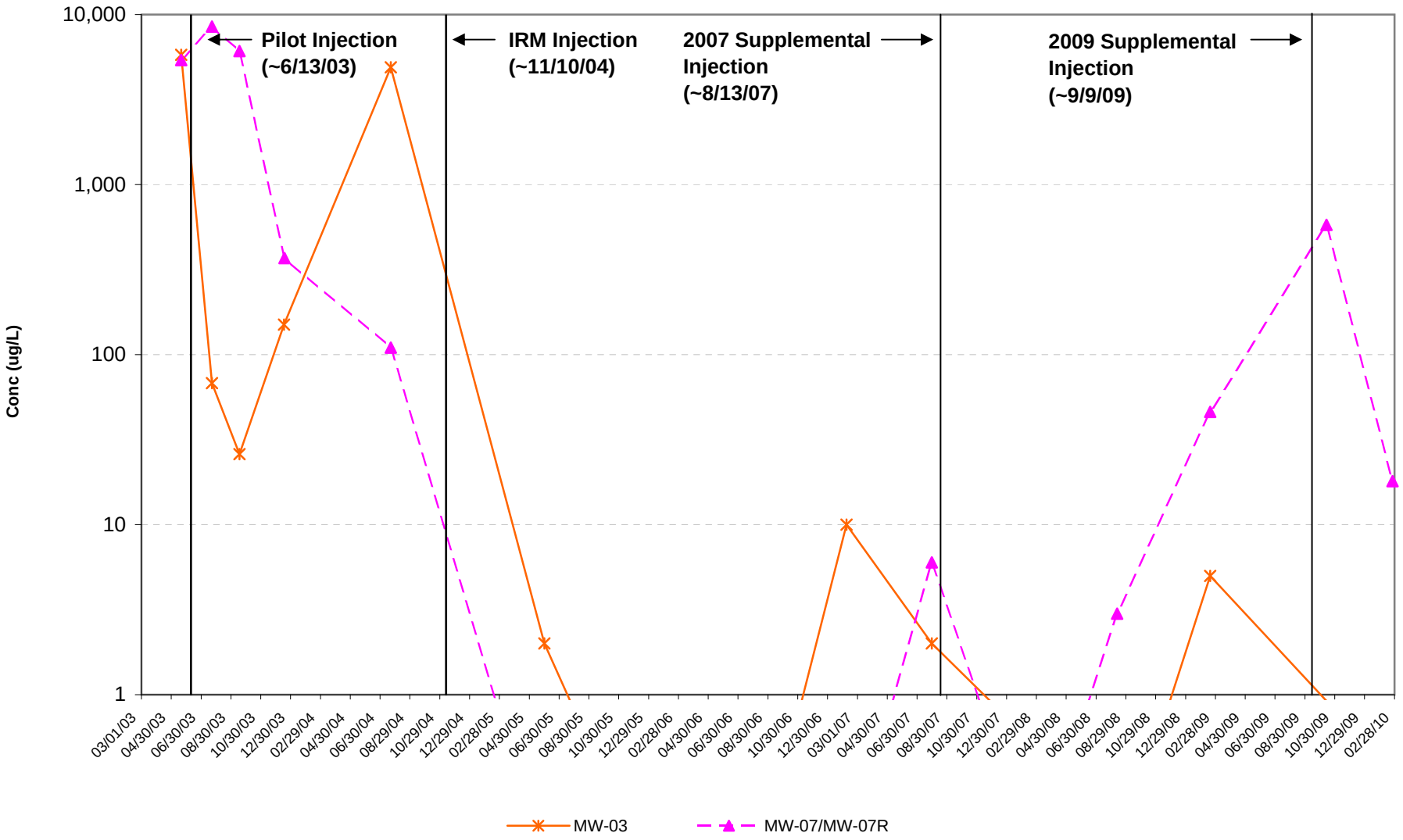
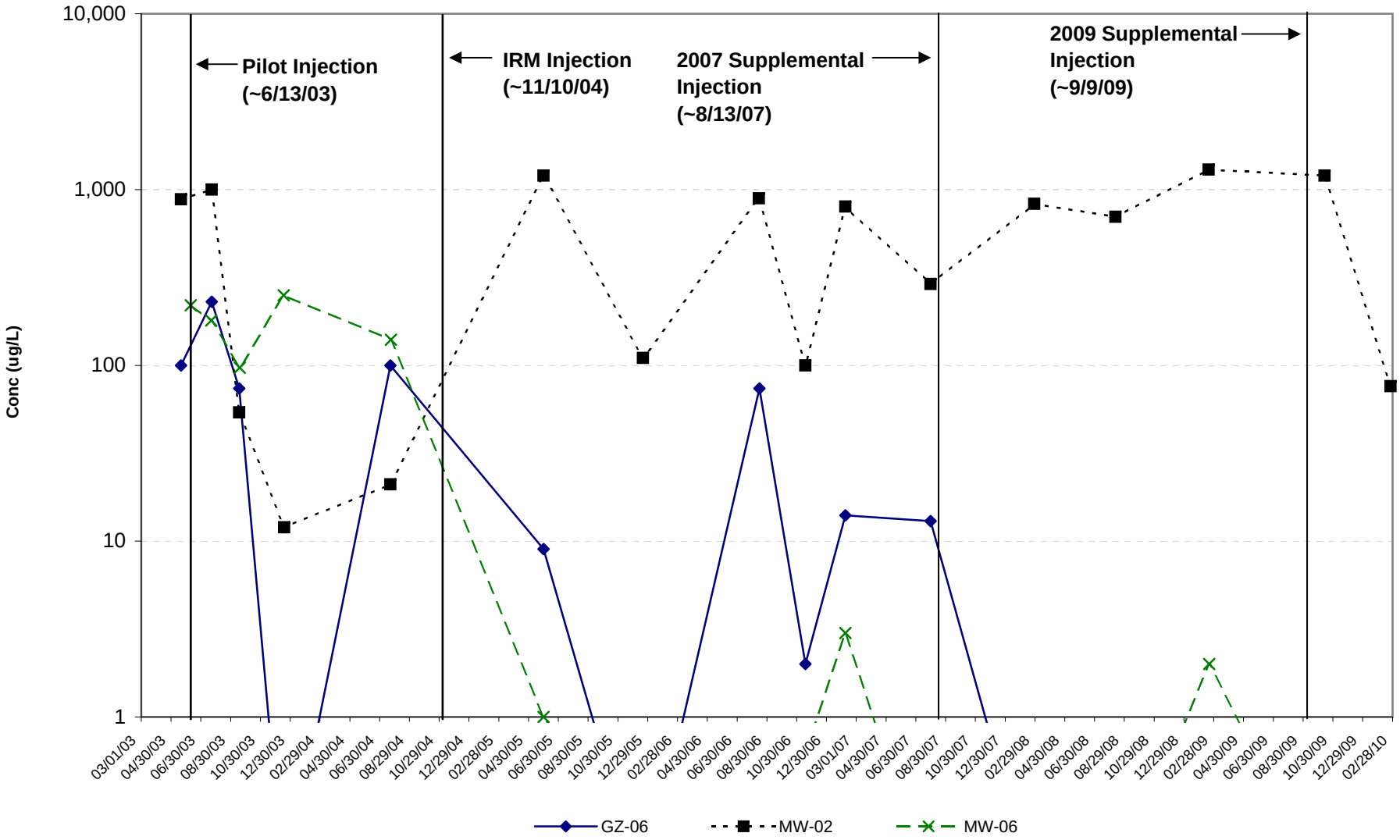
FIGURE 3
FORMER EMCA SITE
Freon 113 Concentrations, MW-03 and MW-07/07R



N:\11172730.00000\WORD\DRAFT\Feb 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_February 2010 - Figure 3 (Log)

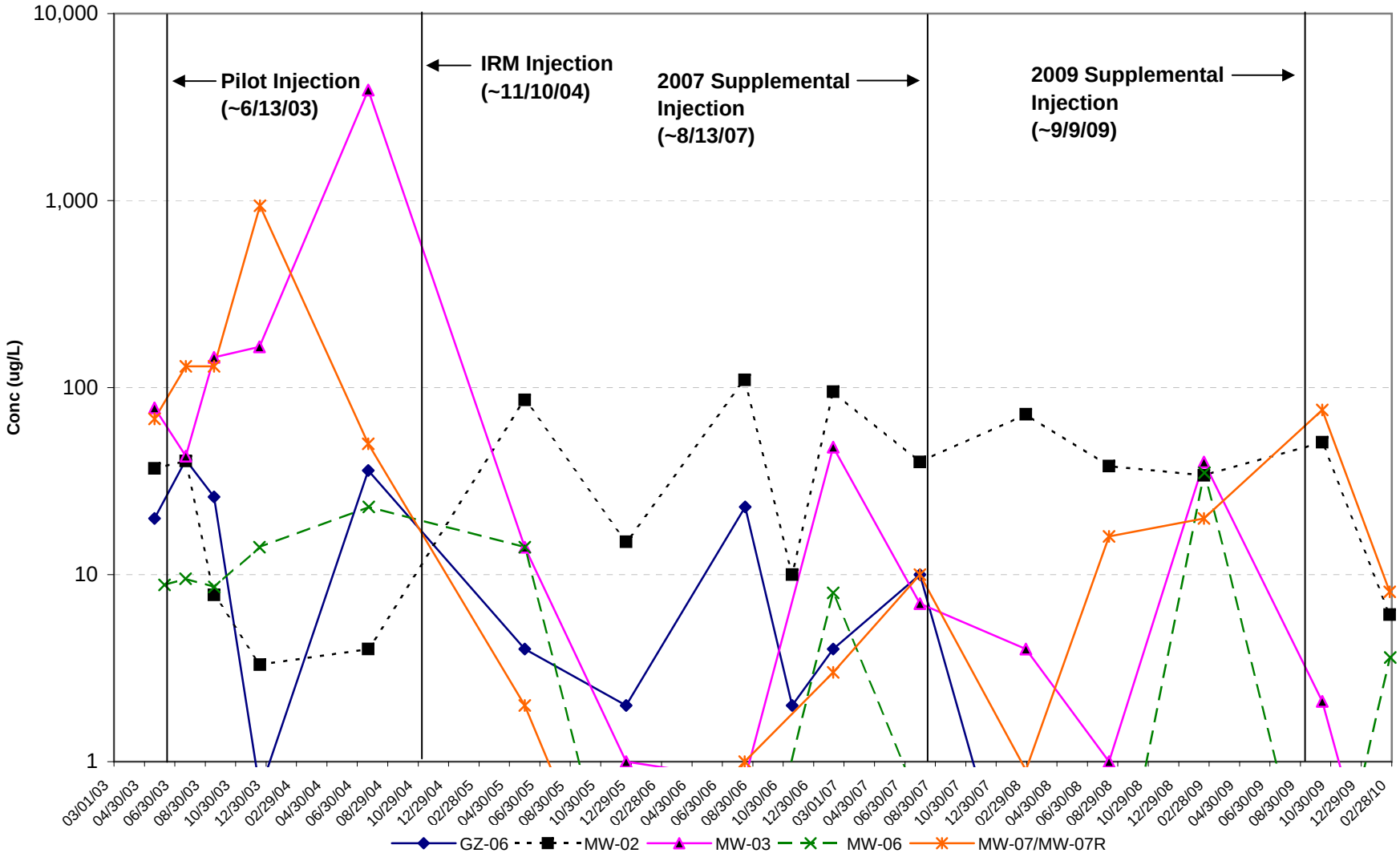
FIGURE 4
FORMER EMCA SITE
Freon 113 Concentrations, GZ-06, MW-02, and MW-06



N:\11172730.00000\WORD\DRAFT\Feb 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_February 2010 - Figure 4 (Log)

FIGURE 5
FORMER EMCA SITE

Freon 123a Concentrations



N:\11172730.00000\WORD\DRAFT\Feb 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_February 2010 - Figure 5 (Log)

FIGURE 6
FORMER EMCA SITE

Freon 1113 Concentrations

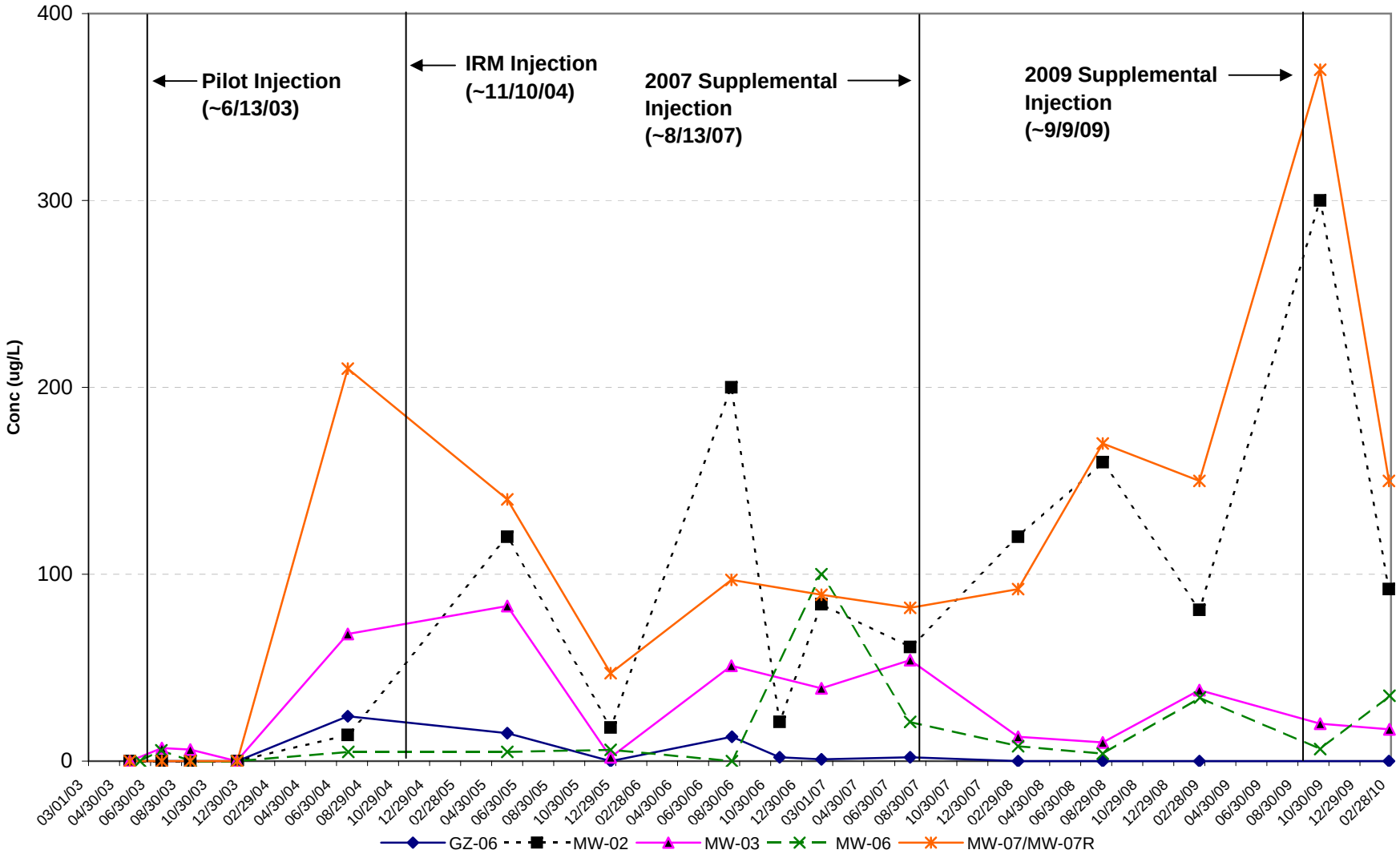


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FIGURE 7
FORMER EMCA SITE
Sulfate Concentrations

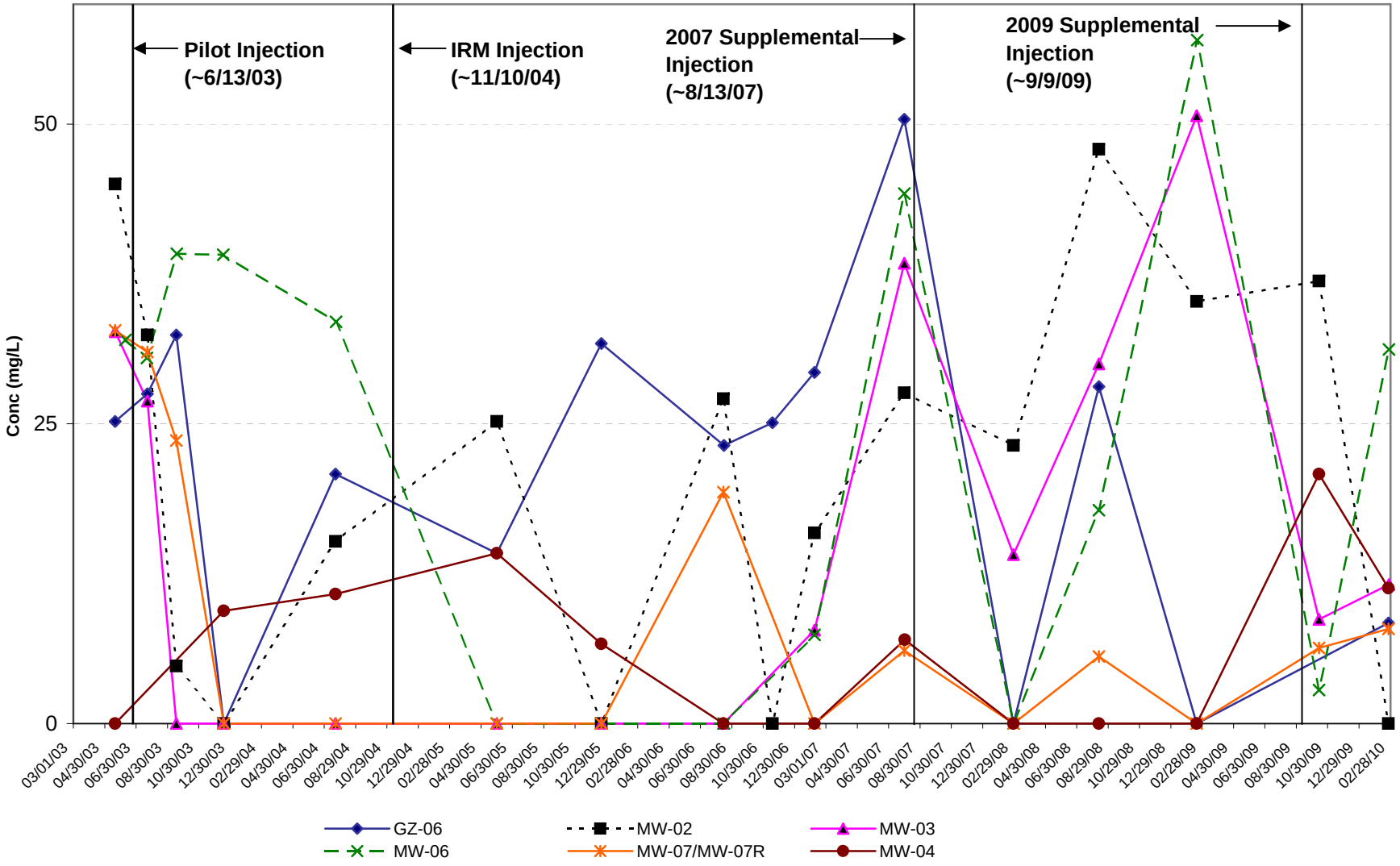

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FIGURE 8
FORMER EMCA SITE
Methane Concentrations

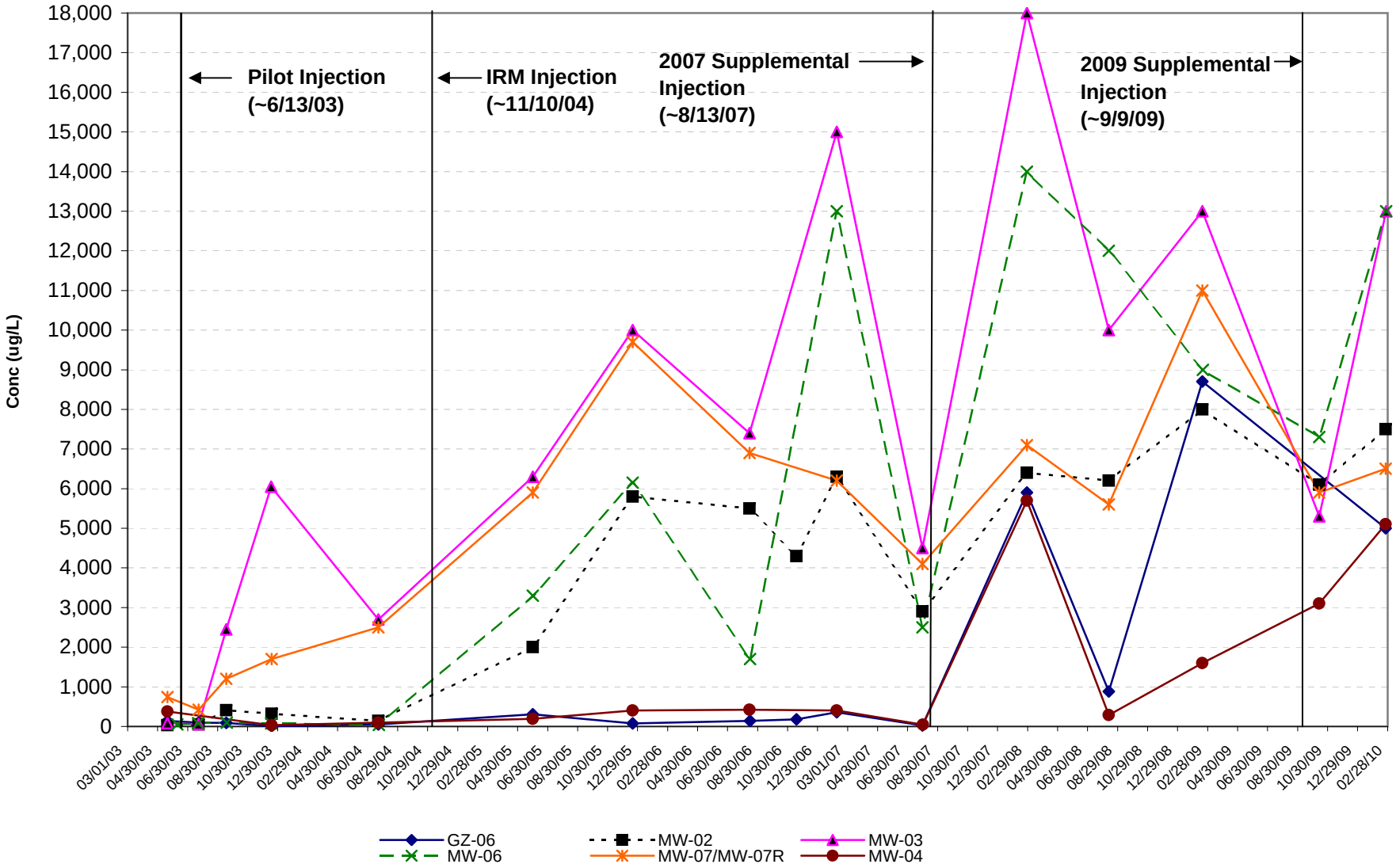

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FIGURE 9
FORMER EMCA SITE
Dissolved Oxygen Concentrations

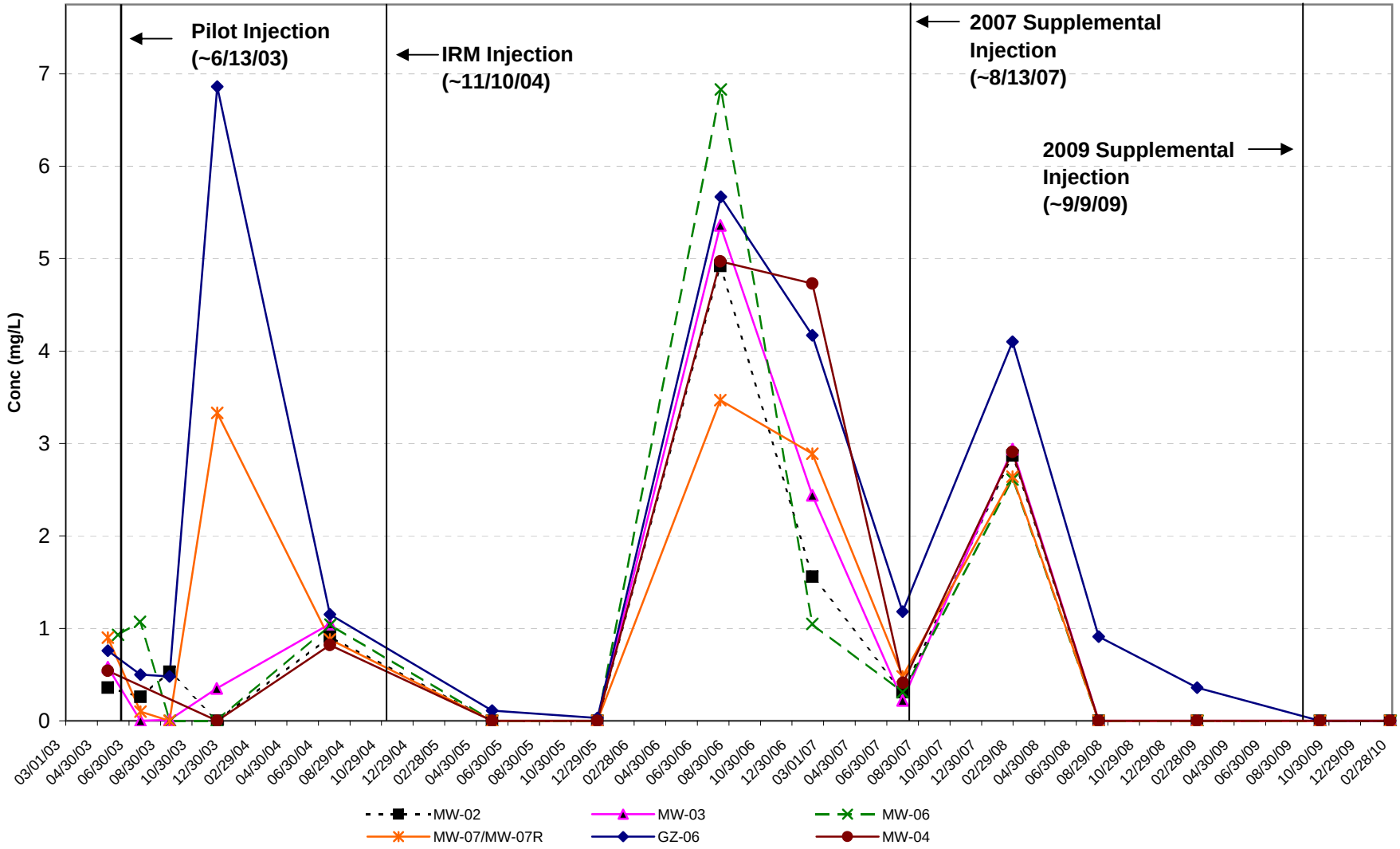

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FIGURE 10
FORMER EMCA SITE
Oxidation Reduction Potential

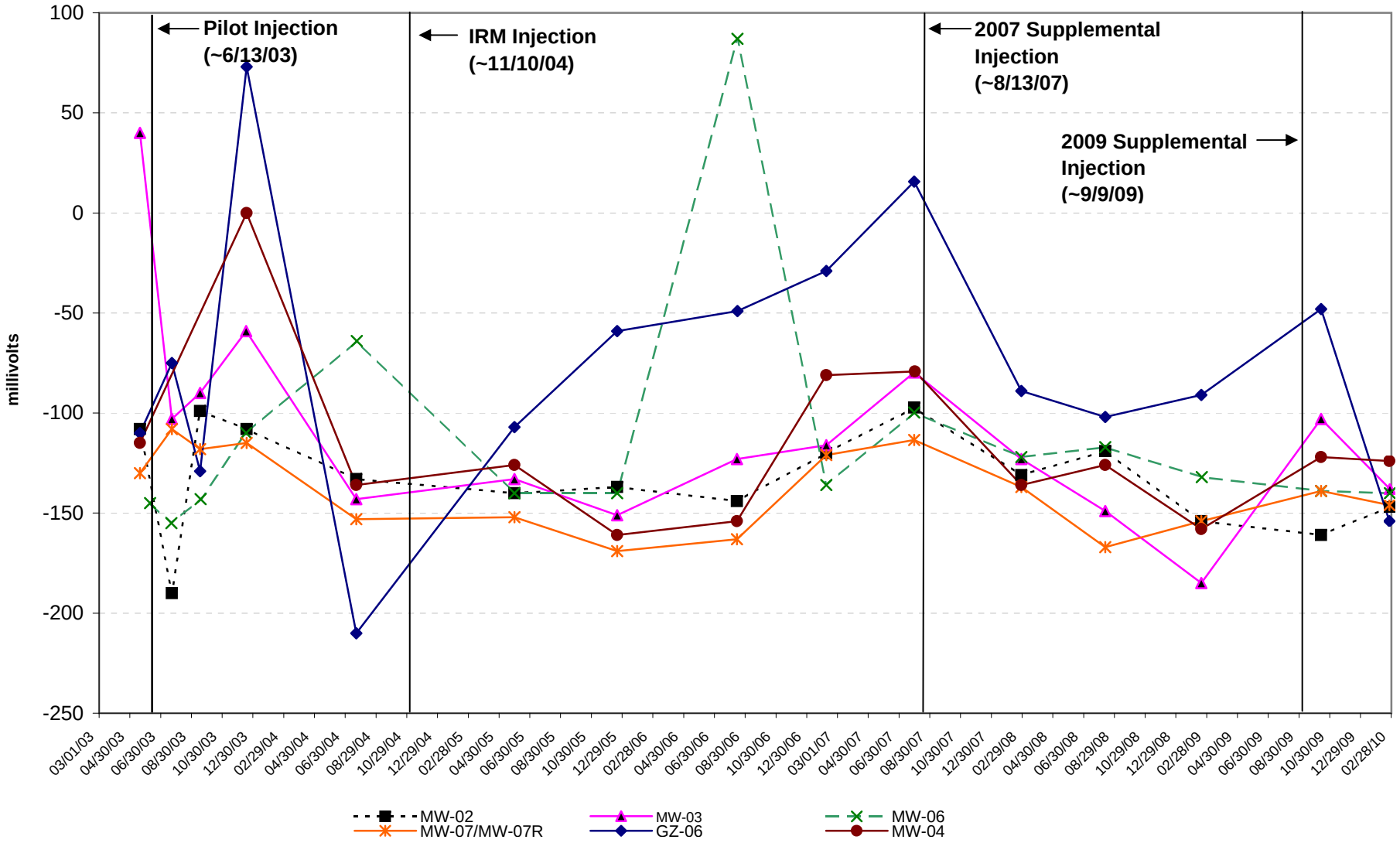

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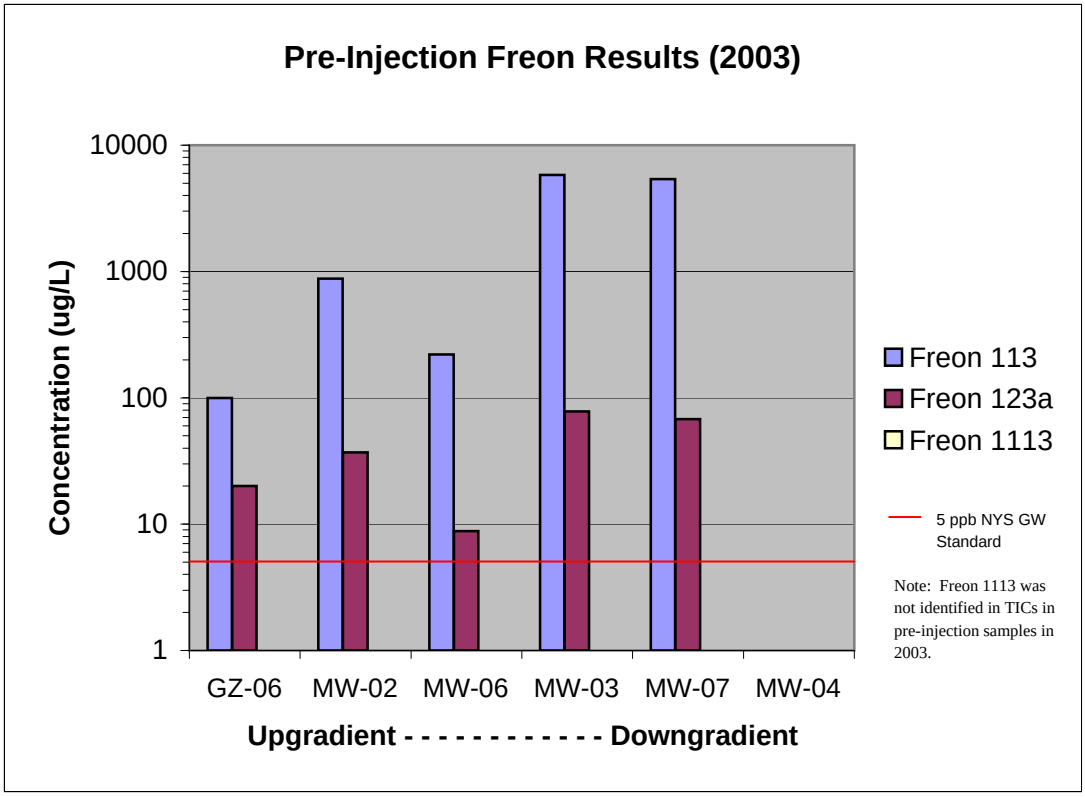
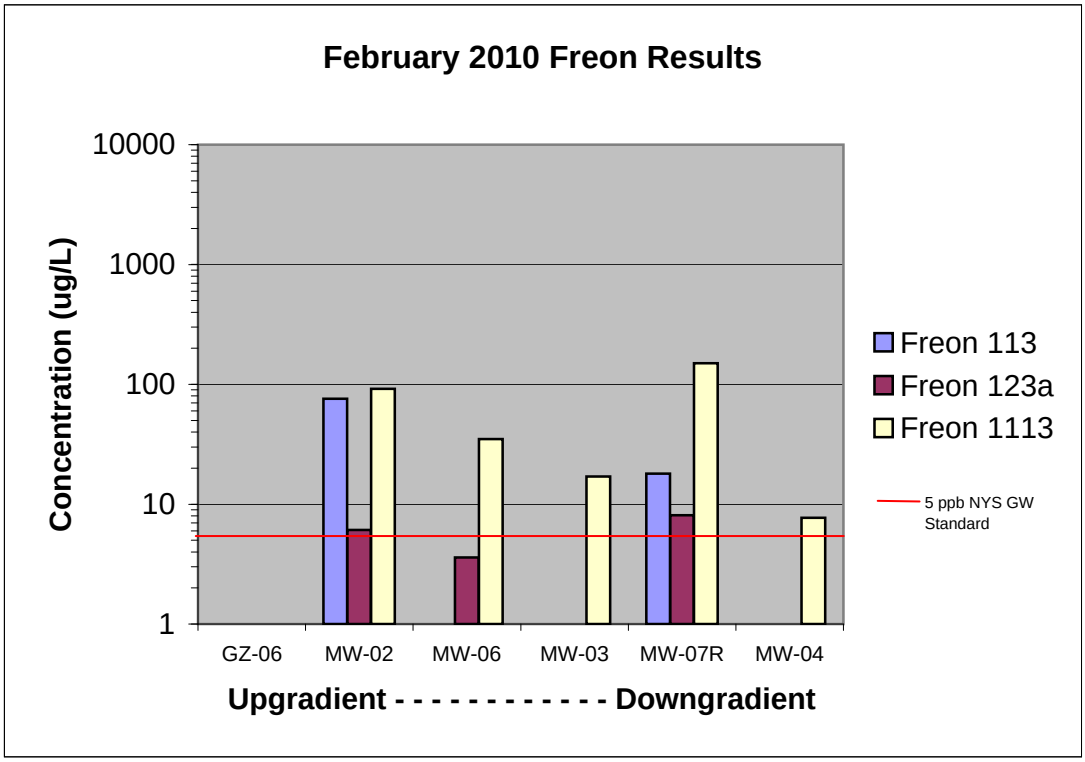
FIGURE 11
FORMER EMCA SITE - FREON CONCENTRATIONS
PRE-INJECTION AND CURRENT RESULTS





APPENDIX A

LOW FLOW GROUNDWATER PURGING/SAMPLING LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-02

Date: 2/25/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Pump/Tubing Inlet Location: Midpoint of Saturated Screen

Measuring Point: Below Top of Riser Initial Depth to Water: 4.58 Depth to Well Bottom: 11.86 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 1.12 Estimated Purge Volume (liters): 8.35

Sample ID: 20100225MW-02V08N Sample Time: 0911 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Slightly cloudy to clear

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0836	6.55	9.02	4.56	0.55	30	-147	330	4.58
0841	6.57	9.08	4.60	0.00	13	-153	190	4.58
0846	6.56	9.15	4.58	0.00	8	-152	230	4.60
0851	6.56	9.26	4.57	0.00	6.1	-151	230	4.60
0856	6.56	9.30	4.55	0.00	5	-152	230	4.60
0901	6.57	9.31	4.51	0.00	0	-150	230	4.60
0906	6.57	9.31	4.48	0.00	0	-148	230	4.60
0911	6.57	9.33	4.48	0.00	0	-147	230	4.60
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-03

Date: 2/26/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/ Sampling Device:	Low Flow Peristaltic Pump (GeoPump 2)			Tubing Type:	HDPE and Silicone		Pump/Tubing Inlet Location:	Midpoint of Saturated Screen	
Measuring Point:	Below Top of Riser	Initial Depth to Water:	4.55	Depth to Well Bottom:	14.35	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	1.51		Estimated Purge Volume (liters):	7.45	

Sample ID: 20100226MW-03V09N Sample Time: 1000 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Clear

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0930	6.31	7.45	3.42	0.29	120	-104	290	4.55
0935	6.30	8.38	3.41	0.00	128	-119	240	4.57
0940	6.32	8.56	3.41	0.00	117	-127	240	4.59
0945	6.30	8.77	3.41	0.00	111	-131	240	4.61
0950	6.31	8.97	3.42	0.00	100	-134	240	4.63
0955	6.32	8.92	3.41	0.00	95	-136	240	4.64
1000	6.32	8.95	3.39	0.00	94	-138	240	4.65
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-04

Date: 2/25/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Pump/Tubing Inlet Location: Midpoint of Saturated Screen

Measuring Point: Below Top of Riser Initial Depth to Water: 4.31 Depth to Well Bottom: 11.84 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 1.16 Estimated Purge Volume (liters): 6.75

Sample ID: 20100225MW-04V08N Sample Time: 1018 QA/QC: Field Duplicate

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Clear

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0943	6.51	8.08	2.13	2.00	13.7	-102	210	4.31
0948	6.51	8.70	2.13	0.31	14.1	-107	190	4.32
0953	6.49	8.72	2.14	0.00	15.7	-113	190	4.32
0958	6.53	8.53	2.13	0.00	14.1	-118	190	4.32
1003	6.50	8.49	2.12	0.00	2.3	-118	190	4.32
1008	6.50	8.43	2.12	0.00	2.0	-121	190	4.32
1013	6.50	8.27	2.13	0.00	1.9	-123	190	4.32
1018	6.50	8.34	2.14	0.00	1.5	-124	190	4.32
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-06

Date: 2/26/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Pump/Tubing Inlet Location: Midpoint of Saturated Screen

Measuring Point: Below Top of Riser Initial Depth to Water: 4.19 Depth to Well Bottom: 18.69 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 2.23 Estimated Purge Volume (liters): 9.40

Sample ID: 20100226MW-06V13N Sample Time: 0807 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Clear, tiny black flecks in water

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0737	6.90	9.75	2.19	4.04	55	-134	430	4.19
0742	6.53	11.12	2.29	0.00	50	-129	290	4.27
0747	6.45	10.66	2.38	0.00	45	-129	290	4.31
0752	6.44	11.33	2.45	0.00	55	-133	290	4.35
0757	6.44	11.52	2.44	0.00	46	-136	290	4.35
0802	6.45	11.68	2.43	0.00	45	-138	290	4.35
0807	6.46	11.80	2.48	0.00	39	-140	290	4.35
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-07R

Date: 2/25/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Pump/Tubing Inlet Location: Midpoint of Saturated Screen

Measuring Point: Below Top of Riser Initial Depth to Water: 4.50 Depth to Well Bottom: 20.02 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 2.39 Estimated Purge Volume (liters): 9.28

Sample ID: 20100225MW-07RV15N Sample Time: 1145 QA/QC: MS/MSD

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Clear

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1110	6.46	8.84	2.82	0.00	12.1	-124	265	4.50
1115	6.49	10.25	2.82	0.00	9.3	-133	265	4.55
1120	6.50	10.48	2.82	0.00	7.7	-138	265	4.55
1125	6.50	10.55	2.81	0.00	4.3	-140	265	4.55
1130	6.51	10.62	2.80	0.00	2.1	-142	265	4.55
1135	6.52	10.66	2.80	0.00	1.7	-144	265	4.55
1140	6.52	10.68	2.80	0.00	1.5	-145	265	4.54
1145	6.52	10.69	2.79	0.00	1.1	-146	265	4.54
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Rohm and Haas - Former EMCA Site Site: Former EMCA Site Well I.D.: GZ-06

Date: 2/25/2010 Sampling Personnel: Tim Ifkovich Company: URS Corporation

Purging/ Sampling Device:	Low Flow Peristaltic Pump (GeoPump 2)			Tubing Type:	HDPE and Silicone		Pump/Tubing Inlet Location:	Midpoint of Saturated Screen	
Measuring Point:	Below Top of Riser	Initial Depth to Water:	6.26	Depth to Well Bottom:	15.40	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	1.41		Estimated Purge Volume (liters):	4.65	

Sample ID: 20100225GZ-06V14N Sample Time: 1335 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a, Methane and Sulfate

Notes: Few EOS particles still present in the well, turbidity would not stabilize.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1235	6.78	7.56	5.54	0.08	150	-140	150	6.26
1240	6.68	7.26	5.75	0.00	205	-147	90	7.80
1245	6.70	6.72	5.78	0.00	170	-151	90	9.20
Cleaned out Horiba and replaced tubing.								
1305	6.70	7.53	5.62	0.78	220	-140	90	9.63
1310	6.71	7.34	5.76	0.00	90	-147	90	10.65
1315	6.72	7.21	5.77	0.00	134	-149	90	11.05
1320	6.72	6.93	5.77	0.00	284	-151	90	11.70
1325	6.73	6.72	5.72	0.00	321	-152	80	12.31
1330	6.73	6.91	5.64	0.00	140	-153	80	12.79
1335	6.73	7.23	5.49	0.00	300	-154	80	13.25
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

APPENDIX B

DATA USABILITY SUMMARY REPORT

APPENDIX B

DATA USABILITY SUMMARY REPORT

FEBRUARY 2010 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

TESTAMERICA ANALYTICAL TESTING CORPORATION
777 New Durham Road
Edison, New Jersey 08817

Prepared for:

The Dow Chemical Company
(Formerly ROHM & HAAS Company)
3100 State Road
Croydon, PA 19021

Prepared by:

URS CORPORATION
77 Goodell Street
Buffalo, New York 14203

APRIL 2010

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TABLES
(Following Text)

ATTACHMENTS
(Following Tables)

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *Draft DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for the Development of Data Usability Summary Reports,* December 2002. This DUSR discusses the analytical data for six (6) groundwater samples, one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank collected by URS personnel on February 25-26, 2010, as summarized on Table B-1. The samples were collected as part of the semi-annual groundwater monitoring event at the Former EMCA Site located in Mamaroneck, New York.

II. ANALYTICAL METHODOLOGIES

The groundwater samples were analyzed by TestAmerica Laboratories, Inc., located in Edison, New Jersey, for the following parameters:

Parameter	Method No.	References
Volatile Organic Compounds (VOCs)*	SW8260B	1
Methane	RSK-175/SW3810	2
Sulfate	EPA 375.4	1

Notes:

* - VOCs include 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113), 1,2-dichloro-1,1,2-trifluoroethane (Freon-123A), and chlorotrifluoroethene (Freon-1113).

References:

1 NYSDEC Analytical Services Protocol, June 2000.

2 USEPA, R.S. Kerr Environmental Research Laboratory, March 15, 1989.

III. DATA VALIDATION

A limited data validation was performed following the guidelines in USEPA Region II *Contract Laboratory Program Organics Data Review and Preliminary Review for Statement of Work OLM04.3*, SOP No. HW-6, Revision 14, September 2006 and the intent of USEPA Region II *Evaluation of Metals Data for the Contract Laboratory Program, based on SOW – ILM05.3*, SOP No. HW-2, Revision 13, September 2006. The validated analytical results are presented in Tables B-2 and B-3. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Copies of the case narratives, chain-of-custodies, and documentation supporting the qualification of data are presented in Attachment B. Only problems affecting data usability are discussed in this report.

IV. DATA DELIVERABLE COMPLETENESS

The laboratory deliverable data packages were in accordance with NYSDEC Analytical Services Protocol (ASP) Category B requirements.

V. PRESERVATION/ SAMPLE RECEIPT/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody.

VI. NONCONFORMANCES

Instrument Calibration

The percent difference (%D) between the initial calibration (ICAL) average relative response factor (RRF) and the RRF in the continuing calibration (CCAL) standard associated with all groundwater and trip blank samples were greater than 20% for 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113) and/or chlorotrifluoroethene (Freon-1113). The Freon-113 and/or Freon-1113 results for all groundwater and trip blank samples were qualified 'J' or 'UJ', as summarized on Table B-2.

Documentation supporting the qualification of data (i.e., Forms 5 and 7) is presented in Attachment B.

Blank Contamination

The sulfate continuing calibration blanks (CCBs) associated with groundwater sample 20100225MW-02V08N exhibited contamination. The sulfate result for this sample was qualified 'U' at the reporting limit, because the sample result was less than five times the CCB concentrations, as summarized on Table B-2. Documentation supporting the qualification of data (i.e., Forms 2 and 13) is presented in Attachment B.

VII. SUMMARY

All sample analyses were found to be compliant with the method and validation criteria, except where previously noted. Those results qualified 'J' (estimated), 'UJ' (estimated quantitation limit), or 'U' (non-detect) during the data validation are considered conditionally usable. URS does not recommend the re-collection of any samples at this time.

TABLE B-1
SAMPLE AND ANALYSIS SUMMARY - FEBRUARY 2010
FORMER EMCA SITE, MAMARONECK, NEW YORK

SDG Nos.	Sample ID	Matrix	Date of Collection	VOCs*	Methane	Sulfate	Comments
460-10763-1	20100225MW-02V08N	GW	02/25/10	X	X	X	---
	20100225MW-04V08N	GW		X	X	X	---
	20100225MW-04V08FD	GW		X	X	X	Field Duplicate of MW-04
	20100225MW-07RV15N	GW		X	X	X	MS/MSD
	20100225GZ-06V14N	GW		X	X	X	---
	20100226MW-06V13N	GW	02/26/10	X	X	X	---
	20100226MW-03V09N	GW		X	X	X	---
	20100226TB	Water		X	X	---	Trip Blank

Notes:
* - Volatile Organic Compounds (VOCs) include 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113); 1,2-dichloro-1,1,2-trifluoroethane (Freon-123a); and chlorotrifluoroethene (Freon-1113).

X - Parameter requested.
--- - Parameter not requested/analyzed or no comment.
GW - Groundwater
MS/MSD - Matrix Spike/Matrix Spike Duplicate

TABLE B-2
GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			FIELDQC	GZ-06	MW-02	MW-03	MW-04
Sample ID			20100226TB	20100225GZ-06V14N	20100225MW-02V08N	20100226MW-03V09N	20100225MW04V08FD
Matrix			Water	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/26/10	02/25/10	02/25/10	02/26/10	02/25/10
Parameter	Units	Criteria*	Trip Blank (1-1)				Field Duplicate (1-1)
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1 UJ	1 UJ	92 J	17 J	6.6 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ	1 UJ	76 J	1 UJ	1 UJ
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	1 U	6.1	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	5 U	5,000	7,500	13,000	5,200
Miscellaneous Parameters							
Sulfate	MG/L	250	NA	8.4	5 U	11.6	13
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.00	0.00	0.00	NA
pH	S.U.	-	NA	6.73	6.57	6.32	NA
Oxidation Reduction Potential	mV	-	NA	-154	-147	-138	NA
Specific Conductance	MS/CM	-	NA	5.49	4.48	3.39	NA
Temperature	DEG C	-	NA	7.23	9.33	8.95	NA
Turbidity	NTU	-	NA	300	0	94	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result

UJ - Not detected above the estimated quantitation limit

NA - Not Analyzed

MADE BY: __PRF_03/25/10___ CHKD BY: __AMK_03/26/10___

Detection Limits shown are PQL

TABLE B-2
GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-06	MW-07R
Sample ID			20100225MW-04V08N	20100226MW-06V13N	20100225MW-07DV4 5N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			02/25/10	02/26/10	02/25/10
Parameter	**Units**	**Criteria***			
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	7.7 J	35 J	150 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ	1 UJ	18 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	3.6	8.1
Dissolved Gases					
Methane	UG/L	-	5,100	13,000	6,500
Miscellaneous Parameters					
Sulfate	MG/L	250	11.3	31.2	7.9
Field Parameter					
Dissolved Oxygen	MG/L	-	0.00	0.00	0.00
pH	S.U.	-	6.50	6.46	6.52
Oxidation Reduction Potential	mV	-	-124	-140	-146
Specific Conductance	MS/CM	-	2.14	2.48	2.79
Temperature	DEG C	-	8.34	11.80	10.69
Turbidity	NTU	-	1.5	39	1.1

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result

UJ - Not detected above the estimated quantitation limit

NA - Not Analyzed

MADE BY: __PRF_03/25/10___ CHKD BY: __AMK_03/26/10___

Detection Limits shown are PQL

TABLE B-3
FIELD QC ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			FIELDQC
Sample ID			20100226TB
Matrix			Water
Depth Interval (ft)			-
Date Sampled			02/26/10
Parameter	Units	Criteria*	Trip Blank (1-1)
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 UJ
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U
Dissolved Gases			
Methane	UG/L	-	5 U

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Class GA, Revised April 2000.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Non-Detect

UJ - Not detected above the estimated quantitation limit

MADE BY: __PRF_03/25/10___ CHKD BY: __AMK_03/26/10___

N:\11172730 00000\DB\PROGRAM\EDMS.mdb
Printed: 3/26/2010 11:07:18 AM
[LOGDATE] >= #2/25/2010# AND [MATRIX] = 'WQ'

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED ANALYTICAL RESULTS (FORM 1's)

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

D – The sample results are reported from a separate secondary dilution analysis.

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-02V08N**

Lab Sample ID: 460-10763-1
Client Matrix: Water

Date Sampled: 02/25/2010 0911
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9445.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 1941		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	7500		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-04V08N**

Lab Sample ID: 460-10763-2
Client Matrix: Water

Date Sampled: 02/25/2010 1018
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9446.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 1951		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	5100		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-04V08FD**

Lab Sample ID: 460-10763-3
Client Matrix: Water

Date Sampled: 02/25/2010 1018
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9447.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 2002		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	5200		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-07RV15N**

Lab Sample ID: 460-10763-4
Client Matrix: Water

Date Sampled: 02/25/2010 1145
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9442.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 1905		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	6500		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 GZ-06V14N**

Lab Sample ID: 460-10763-5
Client Matrix: Water

Date Sampled: 02/25/2010 1335
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803		Instrument ID:	VOAGC2
Preparation:	N/A			Lab File ID:	scrf9441.d
Dilution:	50			Initial Weight/Volume:	10 mL
Date Analyzed:	03/02/2010 1842			Final Weight/Volume:	10 mL
Date Prepared:					

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	5000		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: 20100226 MW-06V13N

Lab Sample ID: 460-10763-6
Client Matrix: Water

Date Sampled: 02/26/2010 0807
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9448.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 2012		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	13000		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100226 MW-03V09N**

Lab Sample ID: 460-10763-7
Client Matrix: Water

Date Sampled: 02/26/2010 1000
Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803	Instrument ID: VOAGC2
Preparation:	N/A		Lab File ID: scrf9450.d
Dilution:	50		Initial Weight/Volume: 10 mL
Date Analyzed:	03/02/2010 2036		Final Weight/Volume: 10 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	13000		22	250

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100226 TB**

Lab Sample ID: 460-10763-8TB

Client Matrix: Water

Date Sampled: 02/26/2010 0000

Date Received: 03/01/2010 1030

3810M Methane, Ethene, Ethane, and Propane using Static Headspace

Method:	3810M	Analysis Batch: 460-31803		Instrument ID:	VOAGC2
Preparation:	N/A			Lab File ID:	scrf9439.d
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	03/02/2010 1822			Final Weight/Volume:	10 mL
Date Prepared:					

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	5.0	U	0.43	5.0

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-02V08N**

Lab Sample ID: 460-10763-1
Client Matrix: Water

Date Sampled: 02/25/2010 0911
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34508.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1114		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1114		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	76	J	0.28	1.0
Chlorotrifluoroethene	92	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	6.1		0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 122
Toluene-d8 (Surr)	98		69 - 125
Bromofluorobenzene	95		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: 20100225 MW-04V08N

Lab Sample ID: 460-10763-2
Client Matrix: Water

Date Sampled: 02/25/2010 1018
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34518.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1528		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1528		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	7.7	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 122
Toluene-d8 (Surr)	100		69 - 125
Bromofluorobenzene	97		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-04V08FD**

Lab Sample ID: 460-10763-3
Client Matrix: Water

Date Sampled: 02/25/2010 1018
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34519.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1554		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1554		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	6.6	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 122
Toluene-d8 (Surr)	101		69 - 125
Bromofluorobenzene	99		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 MW-07RV15N**

Lab Sample ID: 460-10763-4
Client Matrix: Water

Date Sampled: 02/25/2010 1145
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34517.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1503		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1503		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	18	J	0.28	1.0
Chlorotrifluoroethene	150	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	8.1		0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 122
Toluene-d8 (Surr)	100		69 - 125
Bromofluorobenzene	99		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100225 GZ-06V14N**

Lab Sample ID: 460-10763-5
Client Matrix: Water

Date Sampled: 02/25/2010 1335
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34520.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1619		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1619		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	1.0	U J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 122
Toluene-d8 (Surr)	99		69 - 125
Bromofluorobenzene	98		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100226 MW-06V13N**

Lab Sample ID: 460-10763-6
Client Matrix: Water

Date Sampled: 02/26/2010 0807
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34521.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1645		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1645		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	35	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	3.6		0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 122
Toluene-d8 (Surr)	101		69 - 125
Bromofluorobenzene	98		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100226 MW-03V09N**

Lab Sample ID: 460-10763-7
Client Matrix: Water

Date Sampled: 02/26/2010 1000
Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34522.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1710		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1710		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	17	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 122
Toluene-d8 (Surr)	101		69 - 125
Bromofluorobenzene	99		69 - 135

3/25/10

Client: URS Corporation

Job Number: 460-10763-1

Client Sample ID: **20100226 TB**

Lab Sample ID: 460-10763-8TB

Client Matrix: Water

Date Sampled: 02/26/2010 0000

Date Received: 03/01/2010 1030

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 460-31564	Instrument ID: VOAMS13
Preparation:	5030B		Lab File ID: p34507.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	03/09/2010 1048		Final Weight/Volume: 5 mL
Date Prepared:	03/09/2010 1048		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U J	0.28	1.0
Chlorotrifluoroethene	1.0	U J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 122
Toluene-d8 (Surr)	98		69 - 125
Bromofluorobenzene	96		69 - 135

3/25/10

General Chemistry

Client Sample ID: **20100225 MW-02V08N**

Lab Sample ID: 460-10763-1
Client Matrix: Water

Date Sampled: 02/25/2010 0911
Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	~~3.0~~	~~J~~ UL	mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1449

3/25/10

General Chemistry

Client Sample ID: 20100225 MW-04V08N

Lab Sample ID: 460-10763-2

Client Matrix: Water

Date Sampled: 02/25/2010 1018

Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	11.3		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1154

General Chemistry

Client Sample ID: **20100225 MW-04V08FD**

Lab Sample ID: 460-10763-3
Client Matrix: Water

Date Sampled: 02/25/2010 1018
Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	13.0		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1156

General Chemistry

Client Sample ID: 20100225 MW-07RV15N

Lab Sample ID: 460-10763-4

Client Matrix: Water

Date Sampled: 02/25/2010 1145

Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	7.9		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1156

General Chemistry

Client Sample ID: **20100225 GZ-06V14N**

Lab Sample ID: 460-10763-5 Date Sampled: 02/25/2010 1335

Client Matrix: Water Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	8.4		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1157

General Chemistry

Client Sample ID: 20100226 MW-06V13N

Lab Sample ID: 460-10763-6 Date Sampled: 02/26/2010 0807

Client Matrix: Water Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	31.2		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1158

General Chemistry

Client Sample ID: **20100226 MW-03V09N**

Lab Sample ID: 460-10763-7

Client Matrix: Water

Date Sampled: 02/26/2010 1000

Date Received: 03/01/2010 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	11.6		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-31060 Date Analyzed: 03/02/2010 1158

ATTACHMENT B

SUPPORT DOCUMENTATION

CASE NARRATIVE

Client: URS Corporation

Project: Rohm and Haas - Former EMCA Site

Report Number: 460-10763-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 03/01/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.5 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DISSOLVED HYDROCARBON GASES
Samples 460-10763-1 through 460-10763-8 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 03/02/2010.

Samples 460-10763-1 through 460-10763-7(50X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the dissolved hydrocarbon gases analyses.

All quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples 460-10763-1 through 460-10763-8 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/09/2010.

The matrix spike (MS) recoveries for batch 31564 were outside control limits for 1,2-Dichloro-1,1,2-trifluoroethane and Chlorotrifluoroethene and matrix spike duplicate (MSD) recoveries were outside control limits for Chlorotrifluoroethene due to the high concentration in the sample relative to the spike concentration. The associated laboratory control sample (LCS) recovery met acceptance criteria.

The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

SULFATE
Samples 460-10763-1 through 460-10763-7 were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 03/02/2010.

No difficulties were encountered during the sulfate analyses.

All quality control parameters were within the acceptance limits.

460044368 Job# 460-10763

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 11176110.00001 | SITE NAME Former EMCA Site

SAMPLERS (PRINT/SIGNATURE) Tim Ifkovich Tim Ifkovich

DELIVERY SERVICE: Fedex AIRBILL NO.: 8645 1193 8540

LAB Test America - Edison

COOLER 1 of 1

PAGE 1 of 1

03/15/2010

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: From 113, 1113, 1230 (8260 (B))	TESTS: Methane (RSK-175)	TESTS: Sulfate (375.4)	BOTTLE TYPE AND PRESERVATIVE: 40 mL Vial (HCl)	BOTTLE TYPE AND PRESERVATIVE: 40 mL Vial (HCl)	BOTTLE TYPE AND PRESERVATIVE: 500 mL Poly	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
MW-02	2/25/10	0911	G	20100225MW-02V08N	WG	7	3	3	1					N,			
MW-04	2/25/10	1018	G	20100225MW-04V03N	WG	7	3	3	1					N,			
MW-04	2/25/10	1018	G	20100225MW-04V08FD	WG	7	3	3	1					FD			
MW-07R	2/25/10	1145	G	20100225MW-07RV15N	WG	7	3	3	1					N,			
MW-07R	2/25/10	1145	G	20100225MW-07RV15MS	WG	7	3	3	1					MS,			
MW-07R	2/25/10	1145	G	20100225MW-07RV15SD	WG	7	3	3	1					SD,			
GZ-06	2/25/10	1335	G	20100225GZ-06V14N	WG	7	3	3	1					N,			
MW-06	2/26/10	0807	G	20100226MW-06V13N	WG	7	3	3	1					N,			
MW-05	2/26/10	1000	G	20100226MW-05V01N	WG	7	3	3	1					N,			
Trip Blank	—	—	—	20100226TB	WQ	4	2	2						TB			

MATRIX CODES: AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES: TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
			Fedex →		
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Tim Ifkovich	2/26/10	0900		3/1/10	10:30

SPECIAL INSTRUCTIONS: For questions contact Peter Fairbanks @ 716-856-5636

Distribution: Original accompanies shipment, copy to coordinator field files

2.5 Hyo

URSF-075C/1 OF 1/ColCR/GCM

Login Sample Receipt Check List

Client: URS Corporation

Job Number: 460-10763-1

Login Number: 10763

List Source: TestAmerica Edison

Creator: Meyers, Gary

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	99934
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C IR#70
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-10763-1

SDG No.:

Lab File ID: p34501.d BFB Injection Date: 03/09/2010

Instrument ID: VOAMS13 BFB Injection Time: 08:01

Analysis Batch No.: 31564

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.7	
75	30.0 - 60.0 % of mass 95	46.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.5	(0.6)1
174	50.0 - 120.00 % of mass 95	92.0	
175	5.0 - 9.0 % of mass 174	7.6	(8.3)1
176	95.0 - 101.0 % of mass 174	89.6	(97.4)1
177	5.0 - 9.0 % of mass 176	5.4	(6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 460-31564/2	p34503.d	03/09/2010	08:53
	LCS 460-31564/3	p34504.d	03/09/2010	09:25
	MB 460-31564/4	p34506.d	03/09/2010	10:15
20100226 TB	460-10763-8	p34507.d	03/09/2010	10:48
20100225 MW-02V08N	460-10763-1	p34508.d	03/09/2010	11:14
20100225 MW-07RV15N MS	460-10763-4 MS	p34514.d	03/09/2010	13:46
20100225 MW-07RV15N MSD	460-10763-4 MSD	p34515.d	03/09/2010	14:12
20100225 MW-07RV15N	460-10763-4	p34517.d	03/09/2010	15:03
20100225 MW-04V08N	460-10763-2	p34518.d	03/09/2010	15:28
20100225 MW-04V08FD	460-10763-3	p34519.d	03/09/2010	15:54
20100225 GZ-06V14N	460-10763-5	p34520.d	03/09/2010	16:19
20100226 MW-06V13N	460-10763-6	p34521.d	03/09/2010	16:45
20100226 MW-03V09N	460-10763-7	p34522.d	03/09/2010	17:10

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-10763-1

SDG No.:

Lab Sample ID: CCVIS 460-31564/2 Calibration Date: 03/09/2010 08:53

Instrument ID: VOAMS13 Calib Start Date: 03/08/2010 22:04

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 03/09/2010 00:36

Lab File ID: p34503.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlorotrifluoroethene	QuaF	0.0957	0.1212		26.1	20.0	30.3	50.0
Dichlorodifluoromethane	Ave	0.1987	0.1769		17.8	20.0	-11.0	50.0
Vinyl chloride	Ave	0.2398	0.1937		16.2	20.0	-19.2	20.0
Chloromethane	Ave	0.2511	0.2009	0.1000	16.0	20.0	-20.0	50.0
Bromomethane	Ave	0.1545	0.1250		16.2	20.0	-19.1	50.0
Chloroethane	Ave	0.1308	0.1019		15.6	20.0	-22.1	50.0
n-Pentane	LinF	0.0301	0.0314		23.8	20.0	19.0	50.0
Trichlorofluoromethane	Ave	0.2645	0.2128		16.1	20.0	-19.6	50.0
Isopropene	Ave	0.3118	0.3745		24.0	20.0	20.1	50.0
Ethyl ether	Ave	0.2006	0.2353		23.5	20.0	17.3	50.0
1,1-Dichloroethene	Ave	0.1658	0.1545		18.6	20.0	-6.8	20.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.2340	0.2645		22.6	20.0	13.1	50.0
Carbon disulfide	Ave	0.6825	0.8139		23.9	20.0	19.3	50.0
Ethanol	Ave	0.0015	0.0013		2600	3000	-13.2	50.0
Freon TF	Ave	0.1968	0.2425		24.6	20.0	23.2	50.0
Acrolein	Ave	0.0419	0.0391		37.3	40.0	-6.7	99.0
Isopropanol	Ave	0.0185	0.0168		2720	3000	-9.2	50.0
Methylene Chloride	Ave	0.2311	0.2114		18.3	20.0	-8.5	50.0
Acetone	Lin	0.0373	0.0376		18.8	20.0	-6.2	50.0
trans-1,2-Dichloroethene	Ave	0.2200	0.2056		18.7	20.0	-6.6	50.0
Methyl acetate	Ave	0.0744	0.0821		22.0	20.0	10.2	50.0
Hexane	Ave	0.1788	0.2429		27.2	20.0	35.9	50.0
MTBE	Ave	0.7031	0.8169		23.2	20.0	16.2	50.0
TBA	Ave	0.0270	0.0280		414	400	3.6	50.0
Acetonitrile	Ave	0.0079	0.0086		435	400	8.8	50.0
DIPE	Ave	0.8492	0.9846		23.2	20.0	15.9	50.0
1,1-Dichloroethane	Ave	0.4160	0.3800	0.1000	18.3	20.0	-8.7	50.0
Acrylonitrile	Ave	0.1134	0.1070		18.9	20.0	-5.6	50.0
Tert-butyl ethyl ether	Ave	0.7549	0.9014	0.0100	23.9	20.0	19.4	50.0
Vinyl acetate	Ave	0.3600	0.4682		26.0	20.0	30.1	50.0
cis-1,2-Dichloroethene	Ave	0.2453	0.2288		18.7	20.0	-6.7	50.0
2,2-Dichloropropane	Ave	0.3028	0.2968		19.6	20.0	-2.0	50.0
Cyclohexane	Ave	0.3993	0.4994		25.0	20.0	25.1	50.0
Bromochloromethane	Ave	0.1213	0.1068		17.6	20.0	-12.0	50.0
Chloroform	Ave	0.3990	0.3591		18.0	20.0	-10.0	20.0
Carbon tetrachloride	Ave	0.2780	0.2557		18.4	20.0	-8.0	50.0
Ethyl acetate	Ave	0.0299	0.0349		46.7	40.0	16.8	50.0
Tetrahydrofuran	LinF	0.1428	0.1440		20.2	20.0	0.8	50.0
1,1,1-Trichloroethane	Ave	0.3355	0.3015		18.0	20.0	-10.1	50.0
1,1-Dichloropropene	Ave	0.3093	0.2875		18.6	20.0	-7.1	50.0

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-10763-1

SDG No.:

Analyst: MB Batch Start Date: 03/02/2010

Reporting Units: mg/L Analytical Batch No.: 31060

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	11:21	Sulfate	21.71	20.0	109	90-110		WTs-fateSS_00004
2	ICB	11:21	Sulfate	5.0				U	
3	CCV	11:53	Sulfate	22.02	20.0	110	90-110		WTs-fateSS_00004
4	CCB	11:54	Sulfate	5.0				U	
8	CCV	11:56	Sulfate	22.02	20.0	110	90-110		WTs-fateSS_00004
9	CCB	11:56	Sulfate	5.0				U	
14	CCV	11:57	Sulfate	21.82	20.0	109	90-110		WTs-fateSS_00004
15	CCB	11:57	Sulfate	5.0				U	
19	CCV	11:59	Sulfate	21.82	20.0	109	90-110		WTs-fateSS_00004
20	CCB	11:59	Sulfate	5.0				U	
37	CCV	14:49	Sulfate	22.06	20.0	110	90-110		WTs-fateSS_00004
38	CCB	14:49	Sulfate	1.65				J	
40	CCV	14:50	Sulfate	21.66	20.0	108	90-110		WTs-fateSS_00004
41	CCB	14:50	Sulfate	1.69				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-10763-1

SDG No.:

Instrument ID: Konelab1 Method: D516-90, 02

Start Date: 03/02/2010 11:21 End Date: 03/02/2010 14:50

Lab Sample ID	D/F	Type	Time	Analytes: SO4
ICV 460-31060/1	1		11:21	X
ICB 460-31060/2	1		11:21	X
CCV 460-31060/3	1		11:53	X
CCB 460-31060/4	1		11:54	X
MB 460-31060/5	1	T	11:54	X
LCS 460-31060/6	1	T	11:54	X
460-10763-2	1	T	11:54	X
CCV 460-31060/8	1		11:56	X
CCB 460-31060/9	1		11:56	X
460-10763-3	1	T	11:56	X
460-10763-4	1	T	11:56	X
460-10763-4 MS	1	T	11:56	X
460-10763-4 MSD	1	T	11:56	X
CCV 460-31060/14	1		11:57	X
CCB 460-31060/15	1		11:57	X
460-10763-5	1	T	11:57	X
460-10763-6	1	T	11:58	X
460-10763-7	1	T	11:58	X
CCV 460-31060/19	1		11:59	X
CCB 460-31060/20	1		11:59	X
CCV 460-31060/21			13:48	
CCB 460-31060/22			13:48	
CCV 460-31060/23			13:49	
CCB 460-31060/24			13:50	
CCV 460-31060/25			14:15	
CCB 460-31060/26			14:15	
CCV 460-31060/27			14:16	
CCB 460-31060/28			14:16	
CCV 460-31060/29			14:27	
CCB 460-31060/30			14:27	
CCV 460-31060/31			14:28	
CCB 460-31060/32			14:28	
CCV 460-31060/33			14:37	
CCB 460-31060/34			14:37	
CCV 460-31060/35			14:39	
CCB 460-31060/36			14:39	
CCV 460-31060/37	1		14:49	X
CCB 460-31060/38	1		14:49	X
460-10763-1 (MW-02)	1	T	14:49	X
CCV 460-31060/40	1		14:50	X
CCB 460-31060/41	1		14:50	X