URS

June 1, 2011

Mr. Ronnie Lee, P.E.
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7016

Re: Former EMCA Site, Mamaroneck, New York
Site Number 360025
Groundwater Sampling and Analysis Report
April 2011 Sampling Event

Dear Mr. Lee:

Enclosed is one CD containing the Groundwater Sampling and Analysis Report for the April 2011 Sampling Event. This transmittal is being made on behalf of Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company.

If you have any questions or comments regarding the enclosed, please give me a call at (716) 923-1102. Thank you.

Sincerely,

URS Corporation

Bruce J. Przybyl
Project Manager

Enc.

cc: Mr. Nathan Walz, NYSDOH (1 – CD)
Mr. Ed Tokarski, Dow (1 – Hard Copy, 1 - CD)
Mr. Louis Vetere, Cablevision (1 – Hard Copy)
Mr. Doug Gray, URS (1 – Hard Copy)
Ms. Sally Dewes, NYSDEC (e-mail of LOT)
File: 11172730/C-1

URS Corporation
77 Goodell Street
Buffalo, NY 14203
Tel: 716.856.5636
Fax: 716.856.2545

Groundwater Sampling and Analysis Report April 2011 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

June 2011

G4427N

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT
APRIL 2011 SAMPLING EVENT

Prepared for:

ROHM AND HAAS COMPANY

A WHOLLY-OWNED SUBSIDIARY OF THE DOW CHEMICAL COMPANY

Submitted by:

URS CORPORATION

77 Goodell Street

Buffalo, New York 14203

JUNE 2011

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted on April 6, 2011 at the former EMCA site located in Mamaroneck, New York (Figure 1) pursuant to the Site Management Plan approved for the site (URS, 2010). The monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2011.

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 thirteenth groundwater sampling event since the interim remedial measure in 2004, the eighth following the supplemental injection event in 2007, and the fifth following the 2009 supplemental injection event.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from a total of five 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
Methane	RSK-175/Method 3810
Sulfate	375.4

3.0 RESULTS

Groundwater level data are presented in Table 1 and a groundwater elevation map is shown on Figure 2. A truck was parked over the top of monitoring well GZ-03 during the sampling event making it inaccessible. Benchmark C was originally established as a temporary benchmark off a tree branch overhanging the Sheldrake River between the north and south bridges. The approximate water surface elevation for this benchmark is now calculated by taking the average surface elevation of Benchmark B and Benchmark D. As found during previous sampling events, groundwater flow was generally northwestward towards the Sheldrake River.

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 April 2011 results are provided in Appendix B. Freon 113, 123a and 1113 concentrations over time are shown in plan view on Figure 3 and trend plots are presented for Freon 113 (Figures 4 and 5), Freon 123a (Figure 6), Freon 1113 (Figure 7), sulfate (Figure 8), methane (Figure 9), dissolved oxygen (Figure 10), and oxidation-reduction potential (Figure 11). Dissolved oxygen and oxidation-reduction potential were measured in the field by real-time instrumentation. Pre-injection Freon results (2003) compared to current Freon results are also shown in bar-graph form on Figure 12.

4.0 DATA ASSESSMENT

The groundwater analytical data collected in April 2011 is the fifth 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 on October 6, 2010. These results were presented in the previous Groundwater Sampling and Analysis Report for October 2010 (URS, 2010c). The groundwater analytical results for the April 2011 sampling event indicate that Freon 113 concentrations were detected above the remedial goal of 5 µg/L at four of the five wells sampled. Freon 113 was detected at 920 µg/L at MW-02, increasing from 580 µg/L; detected at 32 µg/L at MW-03, increasing from non-detect; detected at 33 µg/L at MW-06, increasing from non-detect; and detected at 18 µg/L at MW-07R, decreasing from 53 J µg/L.

Freon 123a and Freon 1113 are the expected reductive dechlorination daughter products of Freon 113. Freon 123a holds one less chlorine than Freon 113. Therefore, the concentrations of these compounds are expected to increase over time as Freon 113 declines in response to the treatments, and then eventually decline as reductive dechlorination continues. Compared to the previous sampling event (October 2010), Freon 123a increased at MW-02 (26 µg/L to 33 J µg/L), MW-03 (non-detect to 99 J µg/L), and MW-06 (non-detect to 38 J µg/L) and decreased at MW-07R (9.5 µg/L to 6.3 J µg/L). Freon 123a has never been detected at MW-04.

Freon 1113, which holds two less chlorines than Freon 113, increased in concentration from the October 2010 event at MW-03 (4.6 µg/L to 110 J µg/L), MW-04 (2.8 µg/L to 5 J µg/L), MW-06 (61 µg/L to 96 J µg/L), MW-07R (350 µg/L to 370 J µg/L), and decreased at MW-02 (180 µg/L to 110 J µg/L).

The April 2011 sulfate concentrations increased at all locations compared to the previous event, except for MW-02. This trend indicates generally less favorable reducing (less anaerobic) conditions for biological degradation of the Freon compounds.

Methane concentrations increased at MW-02, MW-03, MW-04, and MW-07R, and decreased at MW-06 compared to the previous event. Dissolved oxygen concentrations decreased substantially at MW-02 (6.21 mg/L to 0.00 mg/L) and MW-07R (4.05 mg/L to 0.00 mg/L), and remained the same at 0 mg/L at MW-03, MW-04 and MW-06.

Oxidation-reduction potentials fluctuated slightly in all wells from the previous event. The range generally became less reducing, ranging from between -96 to -129 millivolts in the October 2010 event to between -68 to -115 millivolts in the April 2011 event.

5.0 CONCLUSIONS

A relative comparison of data from the April 2011 event with the October 2010 event, including Freon 113 and its degradation products and various indicator parameters, is presented in Table 4 (see below). Comparative data from these events is also discussed in Section 4.

The Freon data trends show a diminished impact of the August-September 2009 supplemental injection event, particularly at MW-02, MW-03 and MW-06. Freon 113 concentrations increased at MW-02, MW-03, and MW-06, decreased at MW-07R, and remained the same at non-detect at MW-04 in April 2011. Freon 113 daughter product Freon 123a increased at MW-02, MW-03, and MW-06, decreased at MW-07R, and was non-detect at MW-04 in the April 2011 event. Freon 113 daughter product Freon 1113 increased at MW-03, MW-04, and MW-07R, and decreased at MW-02 in the April 2011 event.

Oxidation-reduction potentials increased 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 have a less reducing range (-68 to -115 millivolts). Sulfate, which is a competing electron acceptor with Freon, increased at MW-03, MW-04, MW-06, and MW-07R, and decreased at MW-02.

Methane concentrations increased at MW-02, MW-03, MW-04, and MW-07R, and decreased at MW-06. Dissolved oxygen concentrations decreased at MW-02 and MW-07R, and remained the same at non-detect at MW-03, MW-04 and MW-06.

Overall, it appears that the substrates injected in August-September 2009 are no longer causing conditions favorable to the reductive dechlorination of Freon at the site.

Table 4

Comparison of October 2010 to April 2011 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

6.0 CONTINGENCY TRIGGER EVALUATION

A comparison of the current round of data to the contingency measure trigger criteria is presented below. These criteria are presented in the Site Management Plan (URS, 2010).

<table>
<tr><th>TRIGGER CRITERIA</th><th>ANALYSIS</th></tr>
<tr><td>1. A successive increase of 100-percent or greater in Freon 113 concentrations for two consecutive events at any monitored well, assuming that the remediation goal (5 μg/L) is exceeded in at least one of the monitoring events. For example, a well concentration that increased from 4 μg/L to 8 μg/L to 16 μg/L over two consecutive events would trigger contingency measures.</td><td>No contingency criteria triggered.

• Freon 113 was detected at 32 μg/L and 33 μg/L at MW-03 and MW-06, respectively, in April 2011, increasing from non-detect in both wells in October 2010.

• Although contingency measures are not triggered, measures will be triggered by a detection of 64 μg/L or greater at MW-03 or a detection of 66 μg/L or greater at MW-06 in the next sampling event.</td></tr>
<tr><td>2. Freon 113 is confirmed at MW-04 at a concentration greater than the remediation goal (5 μg/L).</td><td>No contingency criteria triggered.</td></tr>
<tr><td>3. The maximum detected Freon 113 concentration at any well is greater than a maximum target level, as shown below.
<table><tr><th>YEAR</th><th>TARGET MAXIMUM</th></tr><tr><td>2011</td><td>320 μg/L</td></tr><tr><td>2012</td><td>160 μg/L</td></tr><tr><td>2013</td><td>80 μg/L</td></tr><tr><td>2014</td><td>40 μg/L</td></tr></table>Once 40 μg/L is achieved after 2014, Criteria #1 becomes the relevant criteria.</td><td>Contingency criteria triggered.

• Freon 113 was detected at 920 μg/L at MW-02, a level greater than the maximum target level of 320 μg/L.</td></tr>
</table>

Based on this analysis, contingency measures are triggered by the April 2011 sampling event.

7.0 NEXT STEPS

The data collected in the April 2011 groundwater monitoring event trigger contingency measures described in Section 4.0 of the Site Management Plan (URS, 2010). The following steps are prescribed by the Plan:

1. The NYSDEC reviews the Groundwater Sampling and Analysis Report that presents the data triggering the contingency measures;

2. The parties discuss the data and agree that contingency measures are warranted;

3. Dow prepares a Contingency Measures Work Plan for NYSDEC review; and

4. The contingency measures are executed and described in the subsequent monitoring report.

In order to design an effective injection event, Dow proposes to collect additional groundwater data from MW-02, MW-03, MW-06, and MW-07R prior to development of a Contingency Measures Work Plan. Samples would be analyzed for the following parameters:

Parameter	***Analytical Method***
Ferric Iron	6010B
Ferrous Iron	Field-probe
Nitrate	353.2, 353.3
Hardness	130.2, SM2340C
Alkalinity	310.1,SM2320B
Total Organic Carbon	415.1, 9060
Sulfate	375.4, SM4500E
Oxidation-Reduction Potential	Field-probe
pH	Field-probe
Temperature	Field-probe
Dissolved Oxygen	Field-probe
Dehalococcoides	Microbac Laboratories SOP 60105

The following approximate schedule is proposed:

ACTION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.
April Monitoring Report Submittal	X						
NYSDEC-Dow Agree to Execute Contingency Measures		X					
Additional Groundwater Data Collected			X				
Dow Submits Contingency Measure Work Plan					X		
October Groundwater Sampling Event Executed						X	
NYSDEC Comments on Contingency Measure Work Plan						X	
Contingency Measure Work Plan Finalized							X

Additional sampling events may be proposed or planned events shifted to provide adequate monitoring of the injection event.

REFERENCES

URS Inc., 2005. *Groundwater Sampling and Analysis Report, May 2005 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* August.

URS Inc., 2006a. *Groundwater Sampling and Analysis Report, December 2005 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* March.

URS Inc., 2006b. *Groundwater Sampling and Analysis Report, August 2006 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* October.

URS Inc., 2007a. *Groundwater Sampling and Analysis Report, February 2007 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* April.

URS Inc., 2007b. *Groundwater Sampling and Analysis Report, August 2007 Sampling Event & Summary of Supplemental Injection Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* October.

URS Inc., 2008. *Groundwater Sampling and Analysis Report, February 2008 Sampling Event, Former EMCA Site, Site No 360025, Mamaroneck, New York.* May.

URS Inc., 2008a. *Groundwater Sampling and Analysis Report, August 2008 Sampling Event, Former EMCA Site, Site No 360025, Mamaroneck, New York.* October.

URS Inc., 2009. *Groundwater Sampling and Analysis Report, February 2009 Sampling Event, Former EMCA Site, Site No 360025, Mamaroneck, New York.* April.

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.

URS Inc., 2010. *Site Management Plan, NYSDEC Site Number 360025, Former EMCA Site, Mamaroneck, New York*. October.

URS Inc., 2010a. *Groundwater Sampling and Analysis Report, February 2010 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. April.

URS Inc., 2010b. *Groundwater Sampling and Analysis Report, June 2010 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. August.

URS Inc., 2010c. *Groundwater Sampling and Analysis Report, October 2010 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. December.

TABLES

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS (April 2011)
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location	Measuring Point Elevation[1] (ft.)	Depth to Water[2] (ft.)	Water Surface Elevation (ft.)
GZ-03[3]	26.16	NA	NA
GZ-06	28.02	6.99	21.03
MW-01	25.74	4.28	21.46
MW-02	25.63	5.41	20.22
MW-03	25.59	5.42	20.17
MW-04	25.31	5.33	19.98
MW-05	24.63	4.41	20.22
MW-06	25.77	5.58	20.19
MW-07R	25.63	5.52	20.11
Benchmark B (Sheldrake River - South Bridge)	32.21	13.10	19.11
Benchmark C[4] (Sheldrake River - between North and South Bridge)	--	--	18.30
Benchmark D (Sheldrake River - North Bridge)	27.41	9.93	17.48

Notes:

1) All of the monitoring well and benchmark locations were resurveyed on 6/25/2010.
2) Water elevation for all wells and benchmarks was collected on 4/6/2011.
3) Monitoring well GZ-03 was modified from a stick-up well to a flush-mount well on 6/24/2010.
4) Benchmark C was originally established as a temporary benchmark off a tree branch overhanging the Sheldrake River between the north and south bridges. The approximate water surface elevation for this benchmark is now calculated by taking the average water surface elevation of Benchmark B and Benchmark D.

NA - Not Accessible (Truck parked over the well)

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

Location ID			MW-02	MW-03	MW-04	MW-04	MW-06
Sample ID			20110406MW-02V08N	20110406MW-03V09N	20110406MW-04V08FD	20110406MW-04V08N	20110406MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	04/06/11	04/06/11	04/06/11	04/06/11
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	110 J	110 J	5 J	4.3 J	96 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	920	32	1 U	1 U	33
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	33 J	99 J	1 UJ	1 UJ	38 J
Dissolved Gases							
Methane	UG/L	-	10,000	18,000	4,200	4,300	7,900
Miscellaneous Parameters							
Sulfate	MG/L	250	26.6	34.0	26.6	22.3	60.8
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.00	NA	0.00	0.00
Oxidation Reduction Potential	mV	-	-97	-115	NA	-78	-68
pH	S.U.	-	6.36	6.38	NA	6.40	6.53
Specific Conductance	MS/CM	-	3.34	1.55	NA	2.19	1.61
Temperature	DEG C	-	10.98	11.90	NA	12.86	12.46
Turbidity	NTU	-	3.9	3.6	NA	0.0	0.0

*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.

Detection Limits shown are PQL

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

Location ID			MW-07R
Sample ID			20110406MW-07RV15N
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			04/06/11
Parameter	**Units**	**Criteria***	
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	5	370 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	18
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	6.3 J
Dissolved Gases			
Methane	UG/L	-	8,300
Miscellaneous Parameters			
Sulfate	MG/L	250	25.8
Field Parameter			
Dissolved Oxygen	MG/L	-	0.00
Oxidation Reduction Potential	mV	-	-83
pH	S.U.	-	6.39
Specific Conductance	MS/CM	-	3.40
Temperature	DEG C	-	12.08
Turbidity	NTU	-	0.0

*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.

Detection Limits shown are PQL

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.
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			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.

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

Advanced Selection: WG Apr11 Tab3
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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) 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***					
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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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			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.

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) 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			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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) 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	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.

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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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

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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.

Concentration Exceeds Criteria

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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.

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20100225MW-02V08N	20100624MW-02V08N	20101006MW-02V08N	20110406MW-02V08N	MW03_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	10/06/10	04/06/11	05/21/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	250 U
Benzene	UG/L	1	NA	NA	NA	NA	250 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92 J	240	180	110 J	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	33 J
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
Ethylbenzene	UG/L	5	NA	NA	NA	NA	200 U
2-Hexanone	UG/L	50	NA	NA	NA	NA	250 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	250 U
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	50 U
Trichloroethene	UG/L	5	NA	NA	NA	NA	50 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	76 J	670	580	920	5,800
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	250 U
Xylene (total)	UG/L	5	NA	NA	NA	NA	250 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	6.1	37	26	33 J	78 J
Dissolved Gases							
Methane	UG/L	-	7,500	8,400	6,200	10,000	86
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	1,170
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	267

*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-03
Sample ID			20100225MW-02V08N	20100624MW-02V08N	20101006MW-02V08N	20110406MW-02V08N	MW03_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	10/06/10	04/06/11	05/21/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	113
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	0.36
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	1.3
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	2
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 U	38.9	36.9 J	26.6	32.7
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	0.5
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	0.67
Fluoride	MG/L	1.5	NA	NA	NA	NA	0.28
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.64	6.21	0.00	0.58
Oxidation Reduction Potential	mV	-	-147	-136	-107	-97	40
pH	S.U.	-	6.57	8.91	6.76	6.36	NA
Specific Conductance	MS/CM	-	4.48	1.70	1.91	3.34	0.638
Temperature	DEG C	-	9.33	16.71	19.45	10.98	NA
Turbidity	NTU	-	0	3.0	11.9	3.9	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 #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			MW03	DUP-91703	MW03-091703	DUP1_121703	MW-03_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	09/17/03	12/17/03	12/17/03
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	78	110	110	130 J	120 J
Benzene	UG/L	1	2.3	2.2	1.8	10 U	10 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	130 J	69 J	65 J	39 J	38 J
Chlorotrifluoroethene (Freon-1113)	UG/L	5	7.0 NJ	6.2 NJ	0 U	0 U	0 U
1,1-Dichloroethene	UG/L	5	2.0 U	2.0 U	2.0 U	4.0 U	4 U
cis-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	5.0 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	5.0 U	10 U	10 U
Ethylbenzene	UG/L	5	0.3 J	4.0 U	4.0 U	8.0 U	8 U
2-Hexanone	UG/L	50	5.0 U	19	16	10 U	10 U
4-Methyl-2-Pentanone	UG/L	-	5.0 U	11	11	10 U	10 U
Tetrachloroethene	UG/L	5	1.0 U	1.0 U	1.0 U	4.9	4.6
Trichloroethene	UG/L	5	1.0 U	1.0 U	1.0 U	2.0 U	2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	68	26	16	150	150
Vinyl Chloride	UG/L	2	5.0 U	5.0 U	5.0 U	10 U	10 U
Xylene (total)	UG/L	5	1.1 J	5.0 U	5.0 U	10 U	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	43	180	110	170	160
Dissolved Gases							
Methane	UG/L	-	56	2,400	2,500	7,200	4,900
Total Metals							
Iron	UG/L	300	150,000	174,000 J	178,000 J	156,000	164,000
Dissolved Metals							
Iron	UG/L	300	152,000	187,000 J	186,000 J	167,000	176,000

*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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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-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW03	DUP-91703	MW03-091703	DUP1_121703	MW-03_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	09/17/03	12/17/03	12/17/03
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Miscellaneous Parameters							
Chloride	MG/L	250	143	99.2 J	91.5 J	224	192
Nitrogen, Ammonia (As N)	MG/L	2	2.7	0.86	0.95	1.4	1.2
Nitrogen, Kjeldahl, Total	MG/L	-	10.8	4.5	4.4	4.0	4.0
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	0.1 UJ	NA	NA	NA	NA
Sulfate	MG/L	250	26.9	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	3.7	25.5	27.9	23.5	30.0
Ferric Iron (lab)	MG/L	-	146	67.0	93.0	132	134
Fluoride	MG/L	1.5	0.44	0.27	0.2	0.22	0.25
Oil & Grease	MG/L	-	NA	R	R	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	NA	0.01	NA	0.35
Oxidation Reduction Potential	mV	-	-103	NA	-90	NA	-59
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	4.35	NA	1.64	NA	1.99
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.
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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-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03	MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	05/31/05	12/20/05	08/14/06	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	68 J	83	2.0 J	51	39
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	4,900 J	2.0 J	10 U	10 U	10
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	3,900	14	1.0 J	0.8 J	48
Dissolved Gases							
Methane	UG/L	-	2,700	6,300	10,000	7,400	15,000
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.

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

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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-03	MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	05/31/05	12/20/05	08/14/06	02/07/07
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	71.7	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	7.80
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	0.397	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.05	1.24	0 U	5.36	2.44
Oxidation Reduction Potential	mV	-	-143	-133	-151	-123	-116
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	2.40	3.19	1.20	0.946	0.91
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.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N	20090218MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	08/12/08	02/18/09
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	54	13 J	10	10	38
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	0.5 J	10 U	10 U	5.0 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	7.0 J	4.0 J	1.0 J	1.0 J	40
Dissolved Gases							
Methane	UG/L	-	4,500	18,000	10,000	8,400	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.

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

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N	20090218MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	08/12/08	02/18/09
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	38.4	14.1	30.0	28.1	50.7 J
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	-	0.22	2.94	NA	0 U	0 U
Oxidation Reduction Potential	mV	-	-79.7	-123.0	NA	-149	-185
pH	S.U.	-	6.15	6.15	NA	6.36	6.06
Specific Conductance	MS/CM	-	1.309	1.36	NA	1.69	2.08
Temperature	DEG C	-	NA	11.6	NA	17.8	12.87
Turbidity	NTU	-	NA	41	NA	2	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

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N	20101006MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	10/13/09	02/26/10	06/24/10	10/06/10
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	20	19	17 J	26	4.6
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	0.92 J	0.82 J	1 UJ	1 U	1 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	2.1	1.9	1 U	0.5 J	1 U
Dissolved Gases							
Methane	UG/L	-	5,300	4,800	13,000	6,000	7,400
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			20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N	20101006MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	10/13/09	02/26/10	06/24/10	10/06/10
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	4.6 J	8.7	11.6	15.8	5.1 J
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	0.00	0.00	0.85	0
Oxidation Reduction Potential	mV	-	NA	-103	-138	-170	-116
pH	S.U.	-	NA	5.87	6.32	9.28	6.73
Specific Conductance	MS/CM	-	NA	1.85	3.39	1.50	1.68
Temperature	DEG C	-	NA	18.68	8.95	16.51	20.19
Turbidity	NTU	-	NA	8.7	94	5.1	6.3

*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 #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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

Location ID			MW-03	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-03V09N	MW04-5-20-03	MW-04_121703	Dup1	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	05/20/03	12/17/03	07/22/04	07/22/04
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	NA	5.0 U	5.0 U	NA	NA
Benzene	UG/L	1	NA	5.0 U	5.0 U	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	110 J	0 U	0 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	NA	2.0 U	2.0 U	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	5.0 U	5.0 U	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	5.0 U	5.0 U	NA	NA
Ethylbenzene	UG/L	5	NA	4.0 U	4.0 U	NA	NA
2-Hexanone	UG/L	50	NA	5.0 U	5.0 U	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	5.0 U	5.0 U	NA	NA
Tetrachloroethene	UG/L	5	NA	1.0 U	1.0 U	NA	NA
Trichloroethene	UG/L	5	NA	1.0 U	1.0 U	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	32	5.0 U	5.0 U	10 UJ	0.7 J
Vinyl Chloride	UG/L	2	NA	5.0 U	5.0 U	NA	NA
Xylene (total)	UG/L	5	NA	5.0 U	5.0 U	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	99 J	5.0 U	5.0 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	18,000	380	35	69	99
Total Metals							
Iron	UG/L	300	NA	18,400	3,640	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	18,500	3,760	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-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-03V09N	MW04-5-20-03	MW-04_121703	Dup1	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	05/20/03	12/17/03	07/22/04	07/22/04
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Chloride	MG/L	250	NA	238	294	158	161
Nitrogen, Ammonia (As N)	MG/L	2	NA	1.6	1.2	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	6.2	1.9	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	0.1 U	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	34.0	5.0 U	9.40	10.8	10.8
Ferrous Iron (field)	MG/L	-	NA	17.6	2.2	NA	NA
Ferric Iron (lab)	MG/L	-	NA	0.76	1.3	NA	NA
Fluoride	MG/L	1.5	NA	0.27	0.19	0.304	0.302
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.54	0 U	NA	0.82
Oxidation Reduction Potential	mV	-	-115	-115	0 U	NA	-136
pH	S.U.	-	6.38	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.55	1.61	0.99	NA	1.05
Temperature	DEG C	-	11.90	NA	NA	NA	NA
Turbidity	NTU	-	3.6	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 #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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-04	MW-04VION	MW-04V15N	20070207MW-04V10N	20070801MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	08/01/07
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	1.0 J	10 U	0.7 J	0.6 J	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	10 U	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	10 U	10 U	10 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	190	400	420	400	43
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

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Only Detected Results Reported.

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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-04	MW-04VION	MW-04V15N	20070207MW-04V10N	20070801MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	08/01/07
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	14.2	6.66	5.0 U	5.0 U	7.0
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	-	0 U	0 U	4.97	4.73	0.41
Oxidation Reduction Potential	mV	-	-126	-161	-154	-81	-79.2
pH	S.U.	-	NA	NA	NA	NA	6.59
Specific Conductance	MS/CM	-	1.85	1.47	1.14	0.804	1.241
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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N	20091013MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/18/09	02/18/09	10/13/09
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	1.0 J	10 U	1.0 J	1.0 J	15
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	10 U	10 U	10 U	1 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	10 U	10 U	10 U	10 U	1 U
Dissolved Gases							
Methane	UG/L	-	5,700	290	1,600	1,600	3,100
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.

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N	20091013MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/18/09	02/18/09	10/13/09
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 U	5 U	5 UJ	5 UJ	20.8
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	-	2.91	0 U	NA	0 U	0.00
Oxidation Reduction Potential	mV	-	-136.0	-126	NA	-158	-122
pH	S.U.	-	6.45	6.65	NA	6.33	6.43
Specific Conductance	MS/CM	-	1.16	0.531	NA	1.75	1.83
Temperature	DEG C	-	9.19	21.3	NA	9.36	19.37
Turbidity	NTU	-	9	2	NA	4	4.6

*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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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			20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N	20110406MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	02/25/10	06/24/10	10/06/10	04/06/11
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	6.6 J	7.7 J	12	2.8	5 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	1 UJ	1 UJ	1 U	1 U	1 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	1 U	1 U	1 U	1 U	1 UJ
Dissolved Gases							
Methane	UG/L	-	5,200	5,100	4,000	2,400	4,200
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.

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-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N	20110406MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	02/25/10	06/24/10	10/06/10	04/06/11
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	13	11.3	18.4	5.5 J	26.6
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	-	NA	0.00	0.80	0	NA
Oxidation Reduction Potential	mV	-	NA	-124	-146	-96	NA
pH	S.U.	-	NA	6.50	8.99	6.86	NA
Specific Conductance	MS/CM	-	NA	2.14	1.84	1.48	NA
Temperature	DEG C	-	NA	8.34	18.45	21.38	NA
Turbidity	NTU	-	NA	1.5	1.9	3.7	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			20110406MW-04V08N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	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	4.3 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 U	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 UJ	5.0 U	5.0 U	10 U	8.8 J
Dissolved Gases							
Methane	UG/L	-	4,300	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			20110406MW-04V08N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	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	22.3	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	-	-78	26	121	46	-145
pH	S.U.	-	6.40	NA	NA	NA	NA
Specific Conductance	MS/CM	-	2.19	0.426	0.629	0.463	0.741
Temperature	DEG C	-	12.86	NA	NA	NA	NA
Turbidity	NTU	-	0.0	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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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.

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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)
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.

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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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.

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-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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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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			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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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

*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-07
Sample ID			20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N	20110406MW-06V13N	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	10/06/10	04/06/11	06/10/03
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	250 U
Benzene	UG/L	1	NA	NA	NA	NA	250 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	68 J	61	57	96 J	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	100 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
Ethylbenzene	UG/L	5	NA	NA	NA	NA	200 U
2-Hexanone	UG/L	50	NA	NA	NA	NA	250 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	250 U
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	50 U
Trichloroethene	UG/L	5	NA	NA	NA	NA	50 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 U	1 U	1 U	33	5,400
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	250 U
Xylene (total)	UG/L	5	NA	NA	NA	NA	250 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	0.57 J	1 U	1 U	38 J	68 J
Dissolved Gases							
Methane	UG/L	-	9,400	8,300	8,800	7,900	740
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	21,300
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	20,800

*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-06	MW-06	MW-06	MW-06	MW-07
Sample ID			20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N	20110406MW-06V13N	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	10/06/10	04/06/11	06/10/03
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Chloride	MG/L	250	NA	NA	NA	NA	140
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	NA	0.39
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	1.2
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	52.3	36.8 J	34.5 J	60.8	32.8
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	20.2
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	1
Fluoride	MG/L	1.5	NA	NA	NA	NA	0.33
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.73	NA	0	0.00	0.9
Oxidation Reduction Potential	mV	-	-124	NA	-129	-68	-130
pH	S.U.	-	8.81	NA	6.97	6.53	NA
Specific Conductance	MS/CM	-	0.958	NA	0.879	1.61	0.93
Temperature	DEG C	-	17.79	NA	18.25	12.46	NA
Turbidity	NTU	-	0.45	NA	0	0.0	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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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	500 U	250 U	50 U	NA	NA
Benzene	UG/L	1	500 U	250 U	14	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	210	140
1,1-Dichloroethene	UG/L	5	68 J	100 U	20 U	NA	NA
cis-1,2-Dichloroethene	UG/L	5	500 U	250 U	50 U	NA	NA
trans-1,2-Dichloroethene	UG/L	5	500 U	250 U	50 U	NA	NA
Ethylbenzene	UG/L	5	400 U	200 U	49	NA	NA
2-Hexanone	UG/L	50	500 U	250 U	50 U	NA	NA
4-Methyl-2-Pentanone	UG/L	-	500 U	250 U	50 U	NA	NA
Tetrachloroethene	UG/L	5	100 U	50 U	10 U	NA	NA
Trichloroethene	UG/L	5	100 U	50 U	10 U	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	8,500	6,100	370	110 J	10 U
Vinyl Chloride	UG/L	2	500 U	250 U	50 U	NA	NA
Xylene (total)	UG/L	5	500 U	250 U	50 U	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	130 J	130 J	940	50	2.0 J
Dissolved Gases							
Methane	UG/L	-	420	1,200	1,700	2,500	5,900
Total Metals							
Iron	UG/L	300	21,200	32,700 J	38,900	NA	NA
Dissolved Metals							
Iron	UG/L	300	20,800	32,500 J	38,900	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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J - Analyte is reported below the PQL at an estimated concentration.
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U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Chloride	MG/L	250	168	300 J	328	303	NA
Nitrogen, Ammonia (As N)	MG/L	2	0.6	0.66	0.99	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	1.8	2.1	2.8	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	0.1 U	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	0.1 UJ	NA	NA	NA	NA
Sulfate	MG/L	250	31.0	23.6	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	-	19.8	33.8	19.5	NA	NA
Ferric Iron (lab)	MG/L	-	1.4	14.1	19.4	NA	NA
Fluoride	MG/L	1.5	0.25	0.24	0.19	0.190	NA
Oil & Grease	MG/L	-	NA	5.44 U	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.1	0 U	3.33	0.88	0 U
Oxidation Reduction Potential	mV	-	-108	-118	-115	-153	-152
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.11	1.44	1.94	1.69	1.75
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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	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	47	97	89	82	92
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	6.0 J	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	1.0 J	3.0 J	10	0.9 J
Dissolved Gases							
Methane	UG/L	-	9,700	6,900	6,200	4,100	7,100
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.
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Detection Limits shown are PQL

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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-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	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	5.0 U	19.3	5.0 U	6.1	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	3.47	2.89	0.48	2.64
Oxidation Reduction Potential	mV	-	-169	-163	-121	-113.5	-137.0
pH	S.U.	-	NA	NA	NA	6.78	6.32
Specific Conductance	MS/CM	-	1.65	1.44	2.02	2.182	1.62
Temperature	DEG C	-	NA	NA	NA	NA	9.03
Turbidity	NTU	-	NA	NA	NA	NA	54

*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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([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

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

Location ID			MW-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
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	170	150	370 D	150 J	350 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	46	580 D	18 J	1.1 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	16	20	76	8.1	1.7 J
Dissolved Gases							
Methane	UG/L	-	5,600	11,000	5,900	6,500	8,100
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-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
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	5.6	5 UJ	6.3	7.9	17
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	0.00	0.00	NA
Oxidation Reduction Potential	mV	-	-167	-154	-139	-146	NA
pH	S.U.	-	6.48	6.18	6.45	6.52	NA
Specific Conductance	MS/CM	-	1.99	2.01	2.74	2.79	NA
Temperature	DEG C	-	17.3	12.11	18.36	10.69	NA
Turbidity	NTU	-	25	21	1.1	1.1	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-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***			
Volatiles					
Acetone	UG/L	50	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	390	350	370 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1	53 J	18
Vinyl Chloride	UG/L	2	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.8	9.5	6.3 J
Dissolved Gases					
Methane	UG/L	-	8,400	6,200	8,300
Total Metals					
Iron	UG/L	300	NA	NA	NA
Dissolved Metals					
Iron	UG/L	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-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***			
Miscellaneous Parameters					
Chloride	MG/L	250	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA
Sulfate	MG/L	250	11.2	13 J	25.8
Ferrous Iron (field)	MG/L	-	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA
Fluoride	MG/L	1.5	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA
Field Parameter					
Dissolved Oxygen	MG/L	-	0.69	4.05	0.00
Oxidation Reduction Potential	mV	-	-129	-113	-83
pH	S.U.	-	8.83	6.82	6.39
Specific Conductance	MS/CM	-	2.09	2.03	3.40
Temperature	DEG C	-	16.45	21.42	12.08
Turbidity	NTU	-	0.35	14.3	0.0

*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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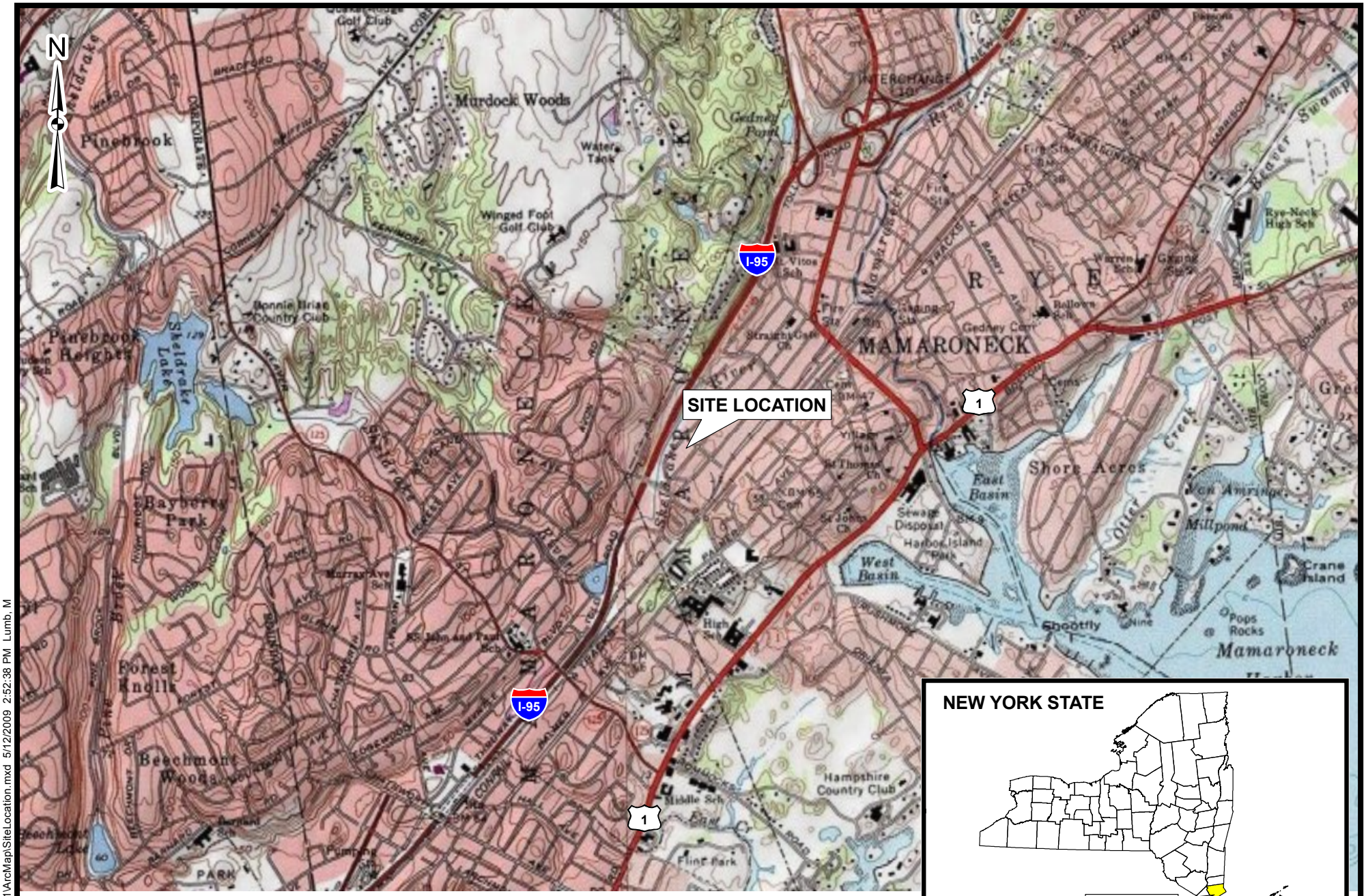
([LOGDATE] BETWEEN #05/01/03# AND #4/6/11#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD')

FIGURES



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

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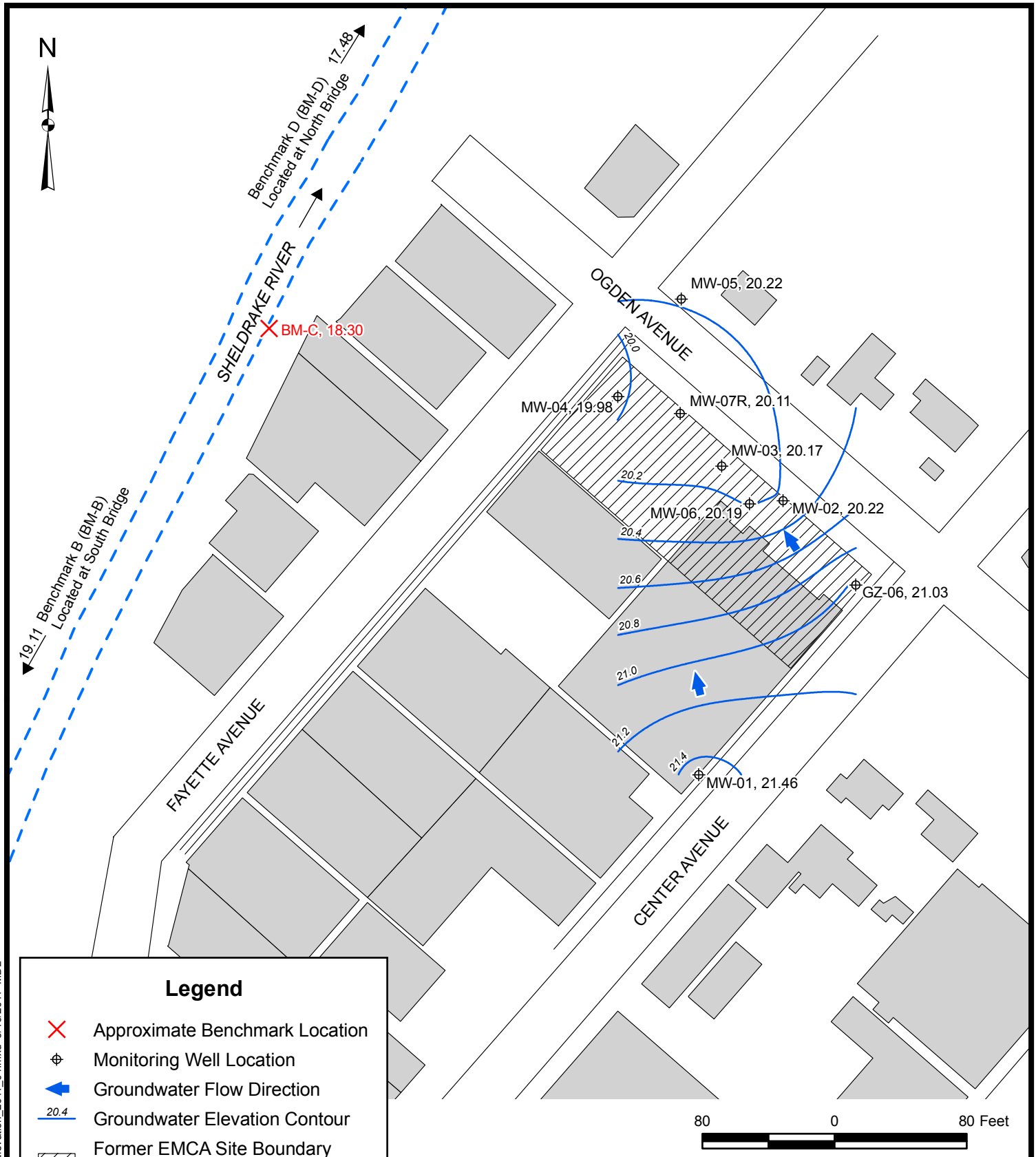
URS

SITE LOCATION MAP

FIGURE 1



Legend

- Approximate Benchmark Location
- Monitoring Well Location
- Groundwater Flow Direction
- 20.4 Groundwater Elevation Contour
- Former EMCA Site Boundary (Approximate)

MW-05, 20.22
Location ID
Groundwater Elevation
(based upon URS survey datum)

NOTES:
(1) Well MW-07 was replaced by well MW-07R on September 3, 2009.
(2) Benchmark C was originally established as a temporary benchmark off a tree branch overhanging the Sheldrake River between the north and south bridges. The approximate water surface elevation for this benchmark is now calculated by taking the average water surface elevation of Benchmark B and Benchmark D.
(3) A truck was parked over monitoring well GZ-03 making it inaccessible.

URS

GROUNDWATER ELEVATION MAP
(APRIL 2011)

FIGURE 2

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N

SHELDRAKE RIVER

FAYETTE AVENUE

OGDEN AVENUE

CENTER AVENUE

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	6/10	10/10	4/11
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	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	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	12	2.8	5J

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	6/10	10/10	4/11
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	ND	ND	32
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	0.5J	ND	99J
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	26	4.6	110J

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	6/10	10/10	4/11
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	1.1J	53J	18
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	8.1	1.8	9.5	6.3J
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	210	140	47	97	89	82	92	170	150	370	150 J	390	350	370J

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	6/10	10/10	4/11
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	670	580	920
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	37	26	33J
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	ND	14	120	18	200	21	84	61	120 J	160	81J	300	92 J	240	180	110J

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-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	6/10	10/10	4/11
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	ND	ND	33
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	0.57 J	ND	38J
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	68 J	61	96J

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

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

100 0 100 Feet

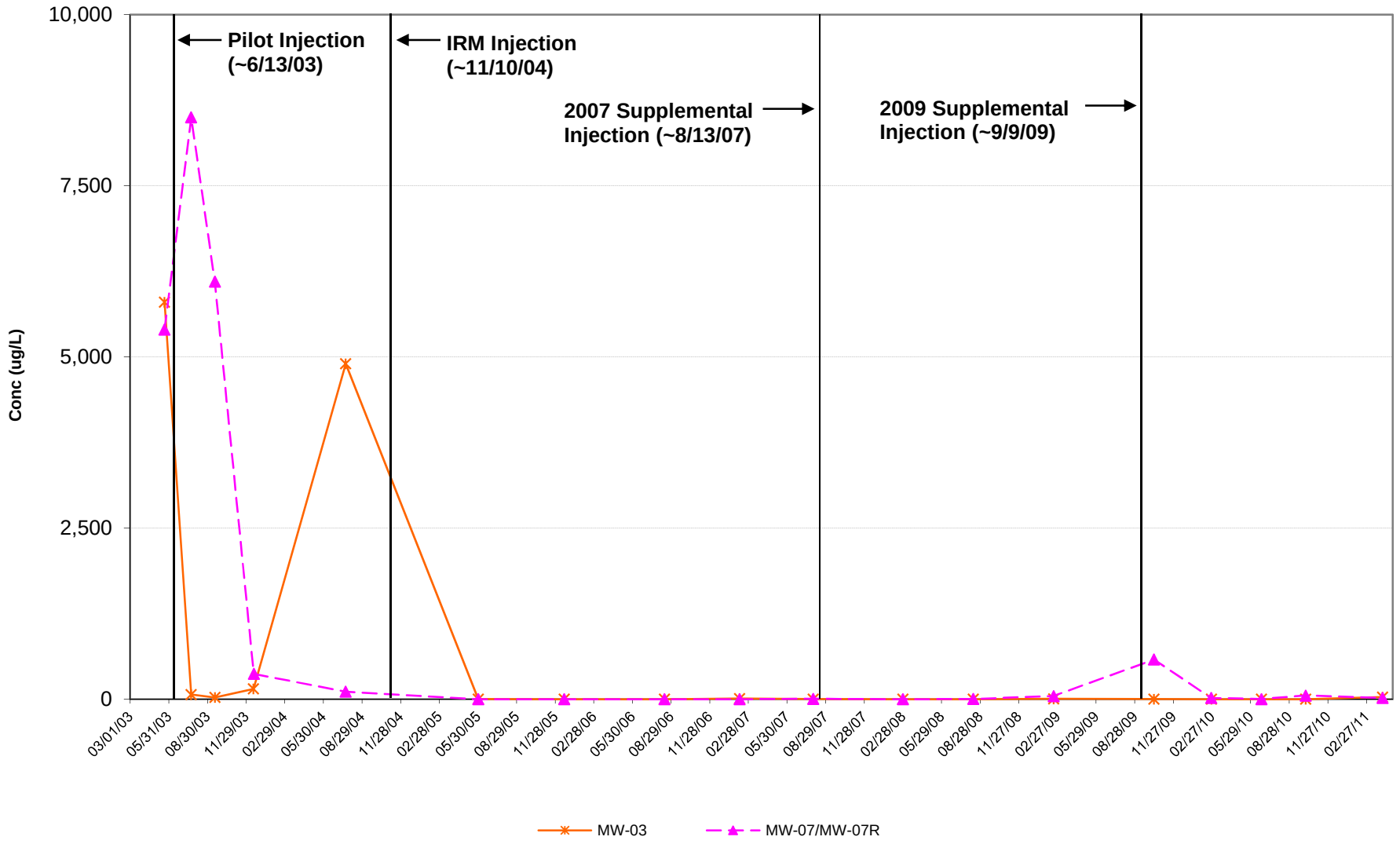
FORMER EMCA SITE
SUMMARY OF FREON DETECTIONS IN GROUNDWATER

URS

FIGURE 3

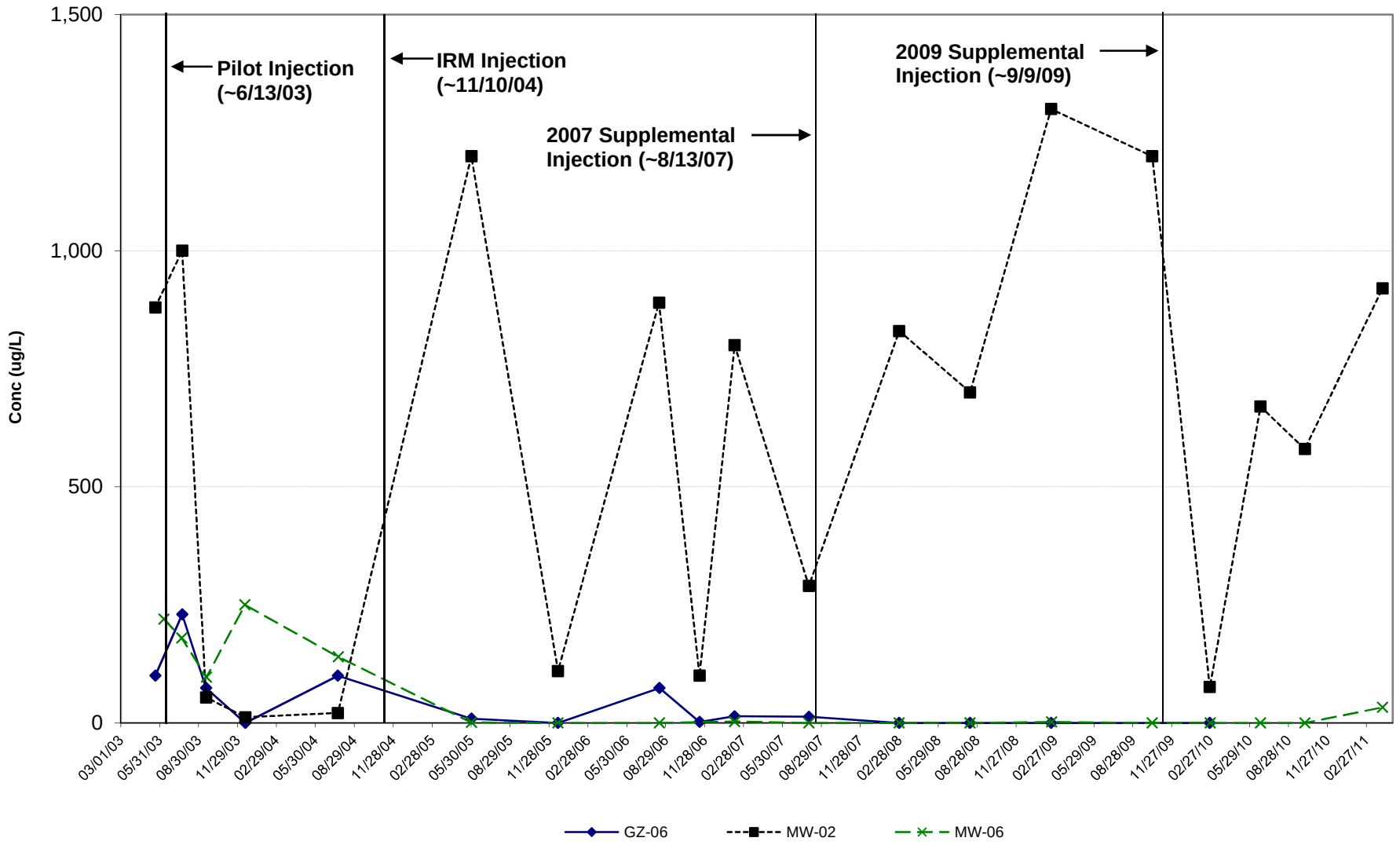
N:\11172730.00000\DB\GIS\2001\ArcMap\Chemical_Update_2011_04.mxd 5/11/2011 MDL

FIGURE 4
FORMER EMCA SITE
Freon 113 Concentrations, MW-03 and MW-07/07R



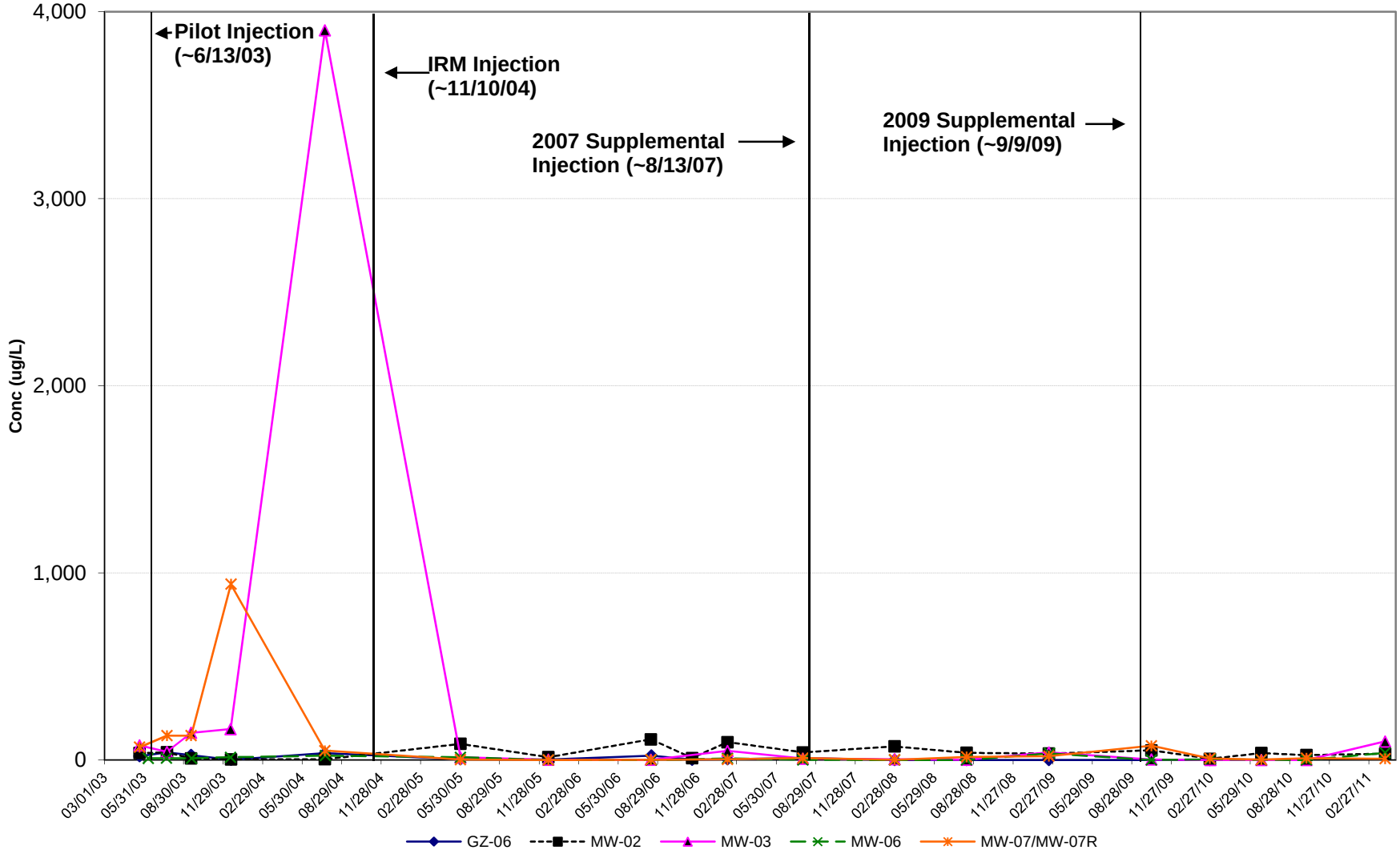
N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 4

FIGURE 5
FORMER EMCA SITE
Freon 113 Concentrations, GZ-06, MW-02, and MW-06



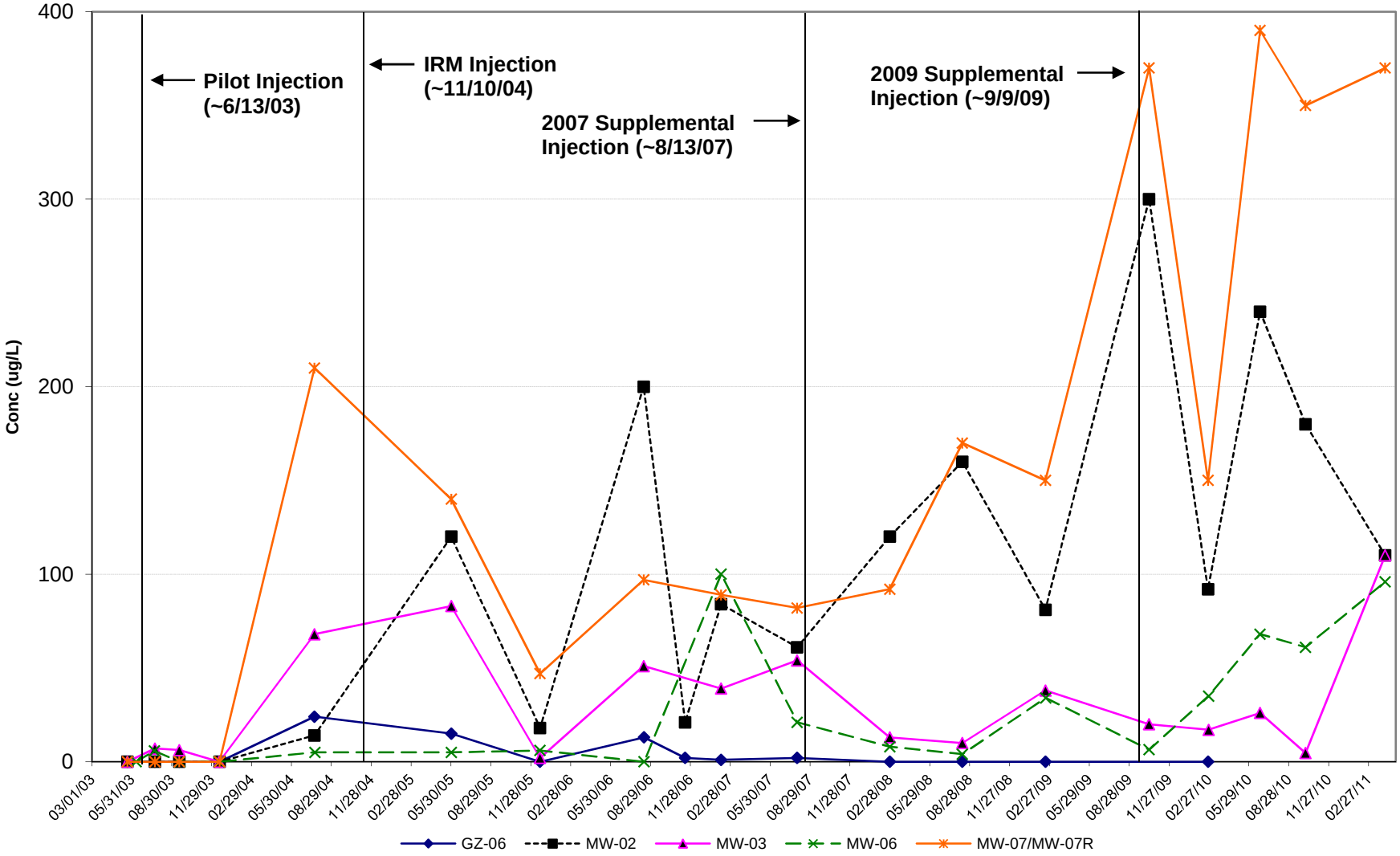
N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 5

FIGURE 6
FORMER EMCA SITE
Freon 123a Concentrations



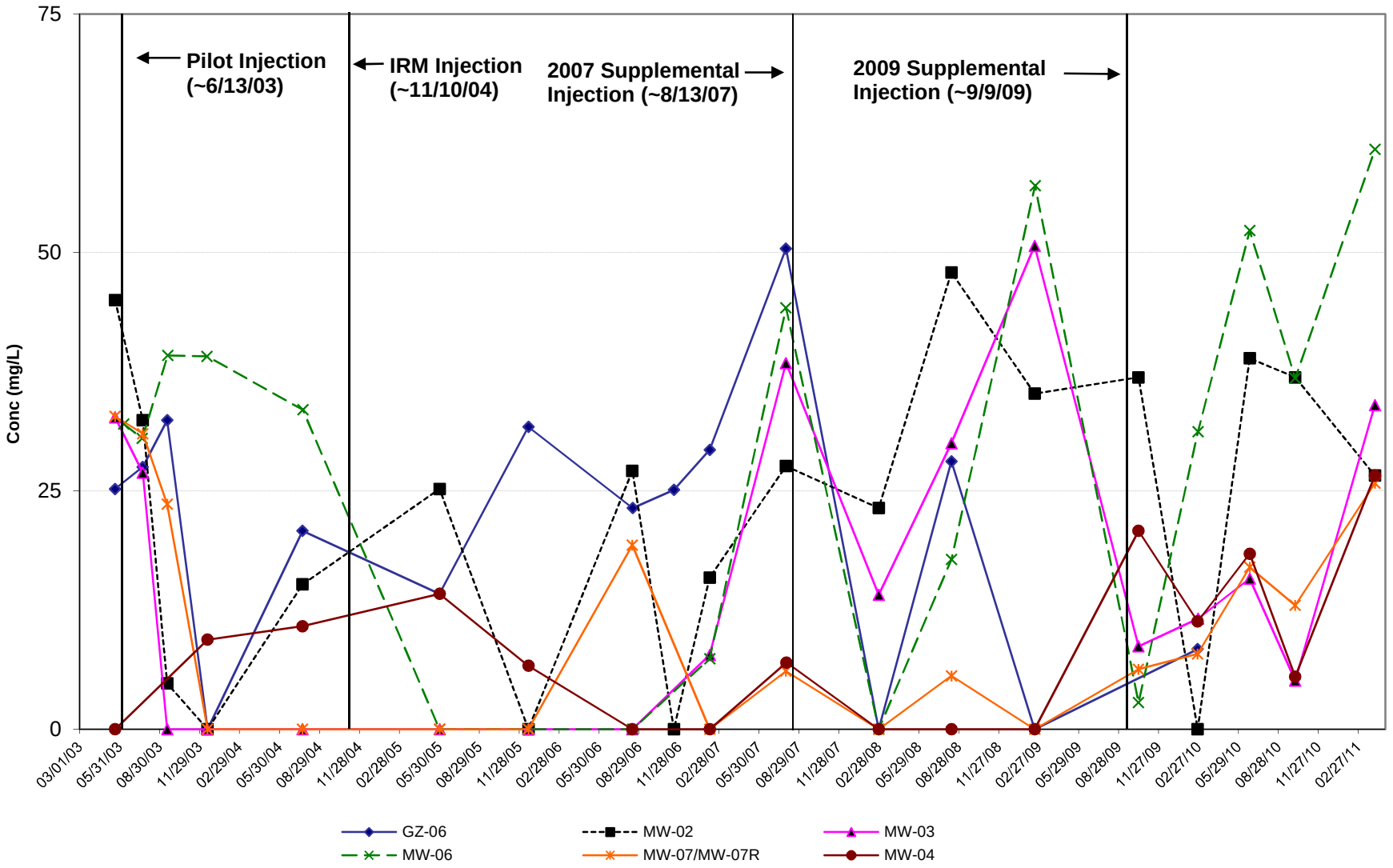
N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 6

FIGURE 7
FORMER EMCA SITE
Freon 1113 Concentrations



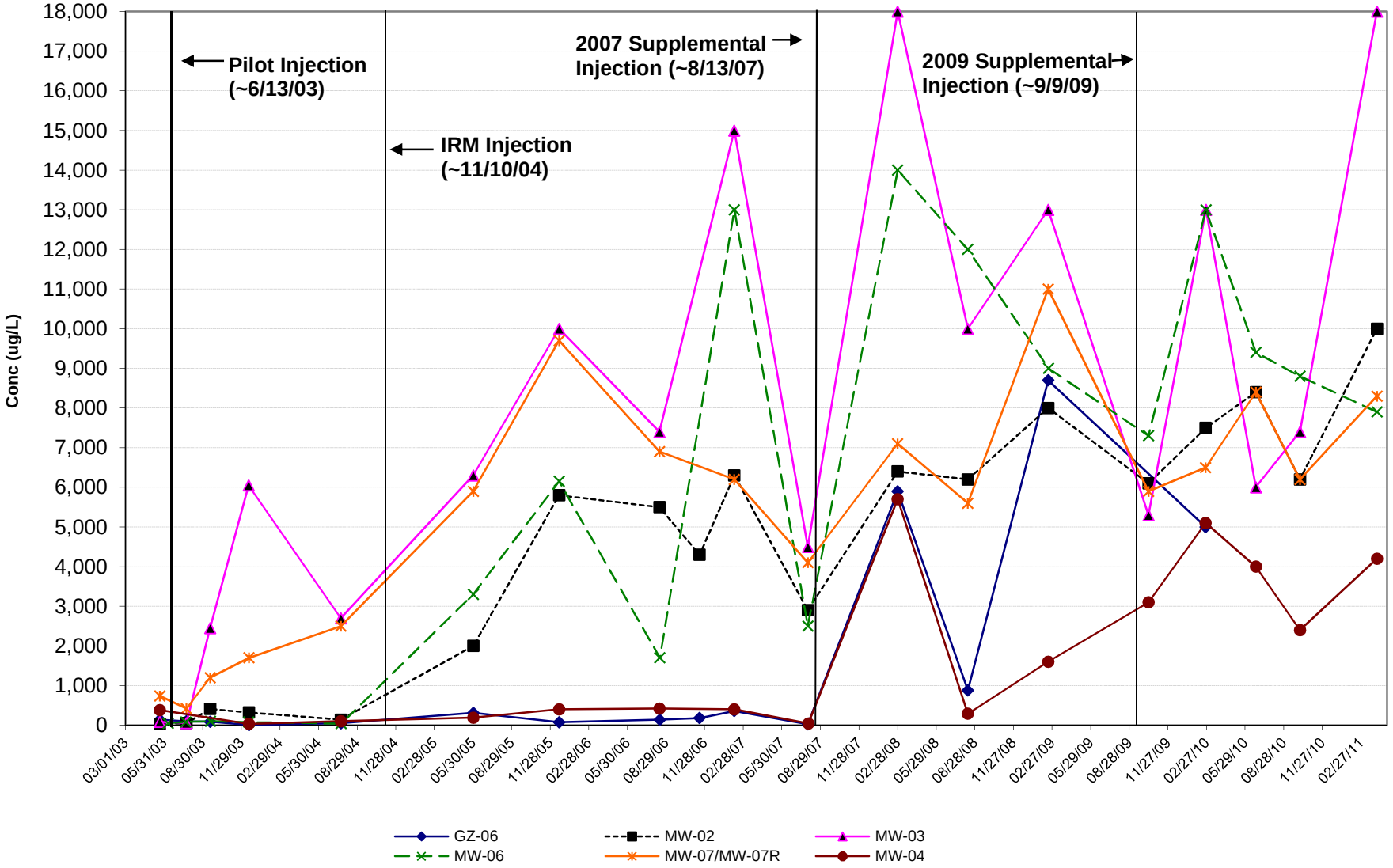
N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 7

FIGURE 8
FORMER EMCA SITE
Sulfate Concentrations



N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 8

FIGURE 9
FORMER EMCA SITE
Methane Concentrations



N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 9

FIGURE 10
FORMER EMCA SITE
Dissolved Oxygen Concentrations

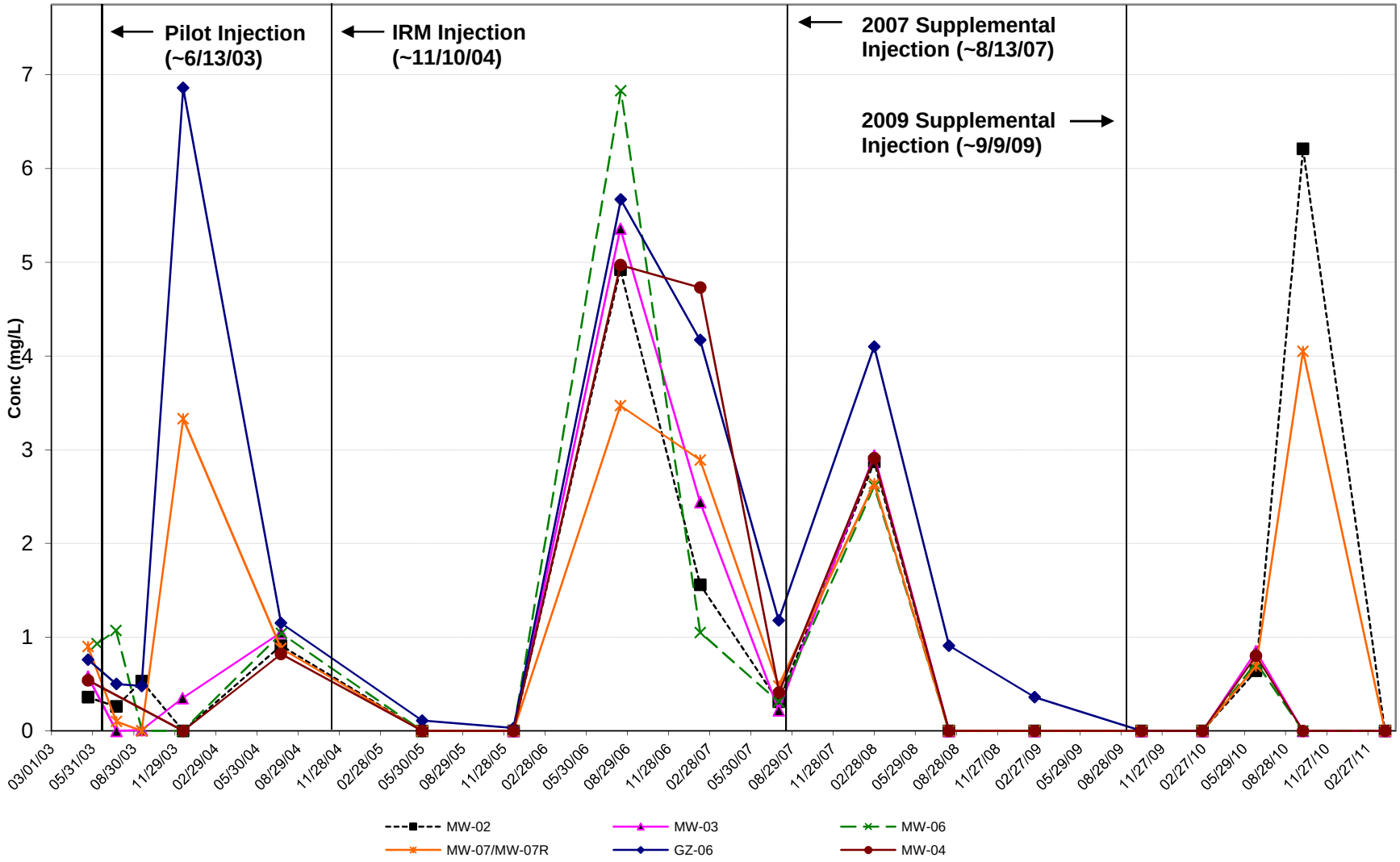


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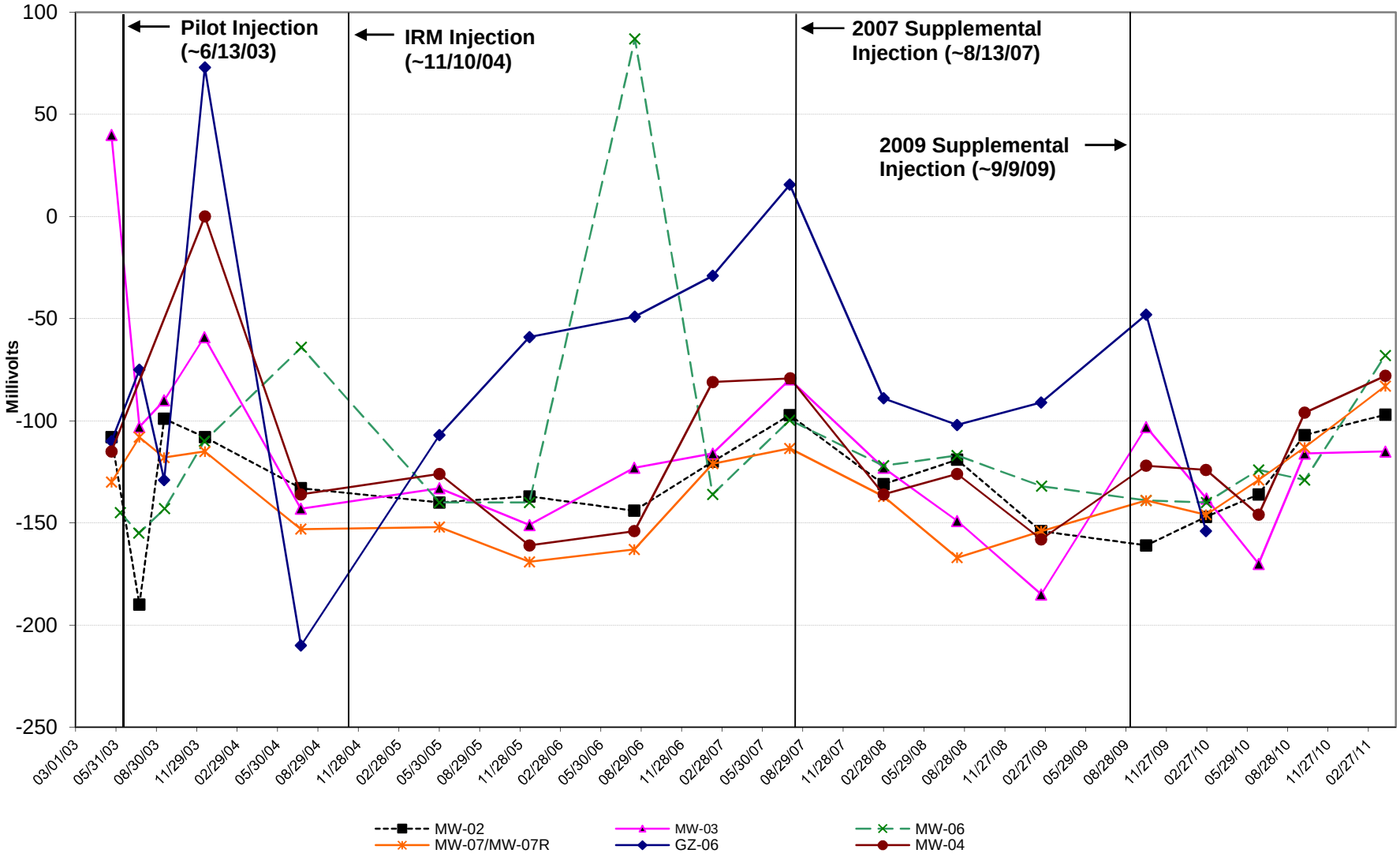
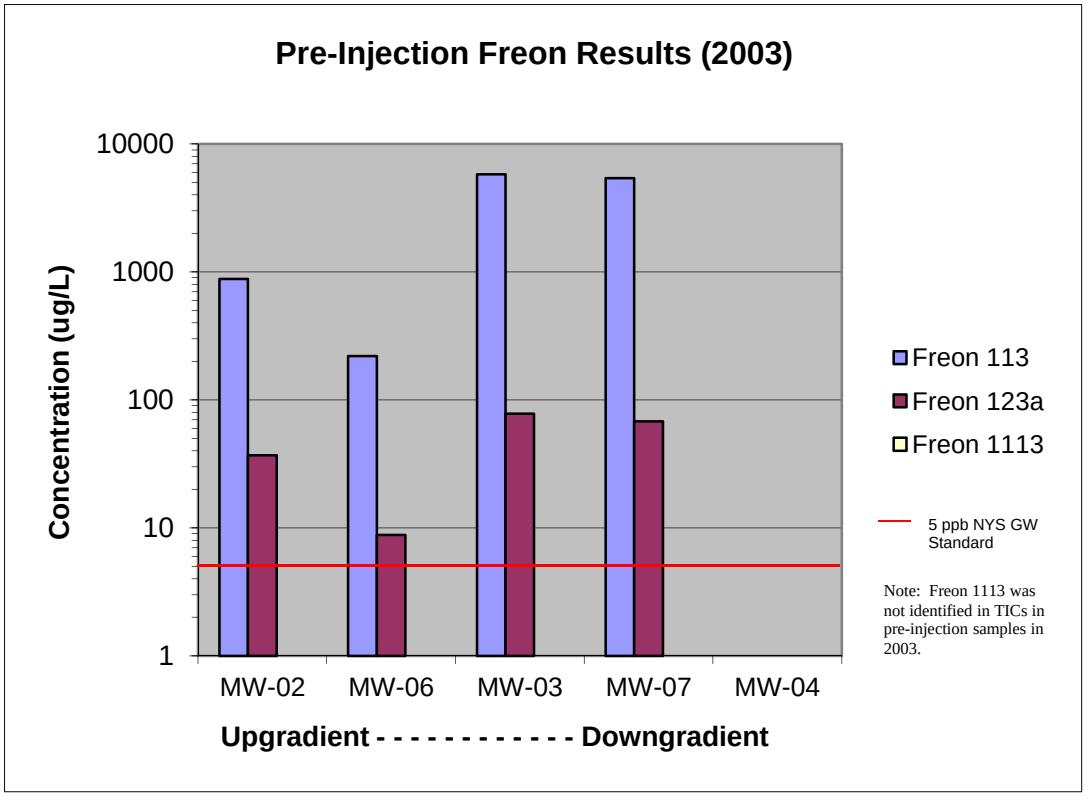
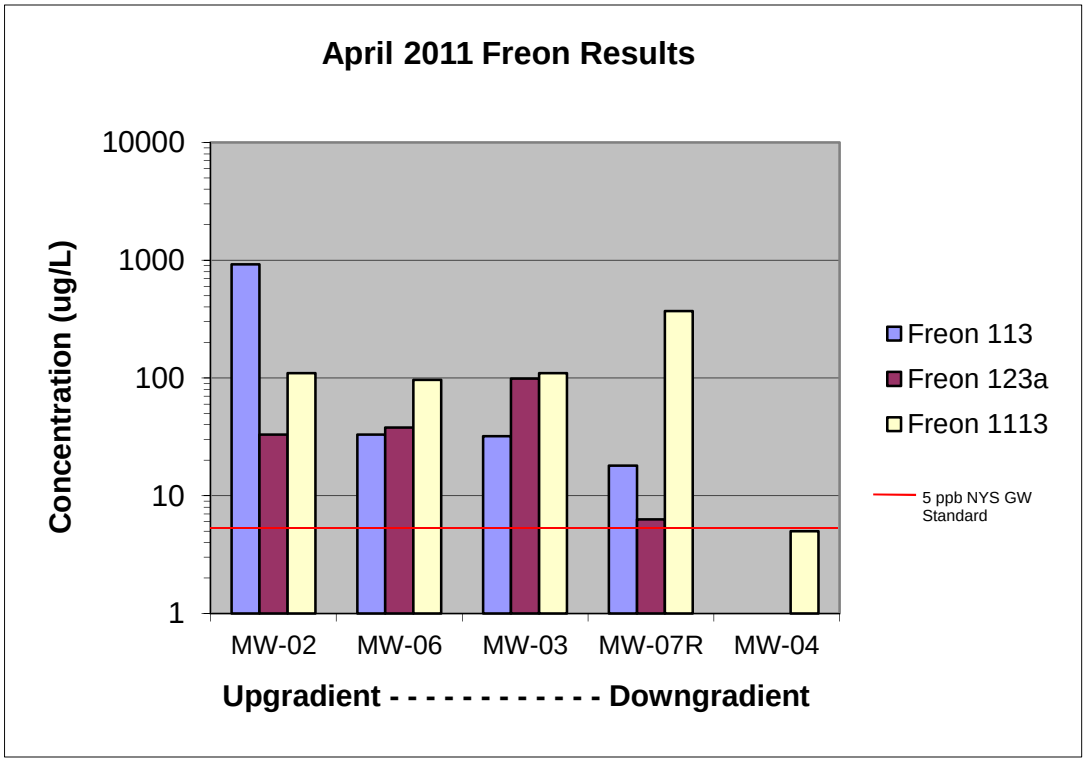
FIGURE 11
FORMER EMCA SITE
Oxidation Reduction Potential



N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2011 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2011.xls - Figure 11

FIGURE 12
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: 4/6/2011 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: 5.41' Depth to Well Bottom: 11.80' Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.98 Estimated Purge Volume (liters): 15.5

Sample ID: 20110406MW-02V08N Sample Time: 1508 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)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1418	6.68	12.52	3.62	2.79	50.5	-72	310	5.41
1423	6.43	11.10	4.02	0.10	16.4	-103	310	5.50
1428	6.40	11.14	4.09	0.00	21.5	-105	310	5.50
1433	6.39	11.11	4.01	0.00	17.0	-105	310	5.50
1438	6.38	11.10	3.83	0.00	7.8	-105	310	5.50
1443	6.38	11.07	3.72	0.00	4.7	-104	310	5.50
1448	6.37	11.05	3.59	0.00	4.6	-103	310	5.50
1453	6.36	11.00	3.50	0.00	4.5	-99	310	5.50
1458	6.37	11.02	3.44	0.00	6.9	-99	310	5.50
1503	6.36	11.03	3.38	0.00	5.7	-99	310	5.50
1508	6.36	10.98	3.34	0.00	3.9	-97	310	5.50
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: 4/6/2011 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: 5.42' Depth to Well Bottom: 14.23' Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 1.36 Estimated Purge Volume (liters): 16.65

Sample ID: 20110406MW-03V09N Sample Time: 1025 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)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0920	6.05	10.43	2.10	1.34	37.5	-89	--	5.42
Horiba was leaking through the top, readjusted Horiba								
0935	6.39	11.13	1.84	1.17	12.9	-88	450	5.78
0940	6.36	11.41	1.77	0.30	10.3	-100	450	5.65
0945	6.37	11.54	1.70	0.10	6.9	-102	270	5.65
0950	6.37	11.53	1.68	0.09	4.9	-107	270	5.66
0955	6.38	11.57	1.67	0.16	4.6	-109	270	5.66
1000	6.38	11.61	1.65	0.02	4.1	-111	270	5.66
1005	6.38	11.65	1.63	0.18	4.4	-113	270	5.66
1010	6.38	11.76	1.60	0.04	4.2	-113	270	5.66
1015	6.38	11.77	1.59	0.00	4.2	-114	270	5.66
1020	6.38	11.82	1.56	0.00	4.0	-115	270	5.66
1025	6.38	11.90	1.55	0.00	3.6	-115	270	5.66
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 ($vol_{yl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/6/2011 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: 5.33' Depth to Well Bottom: 11.76' Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.99 Estimated Purge Volume (liters): 9.0

Sample ID: 20110406MW-04V08N Sample Time: 1240 QA/QC: FD

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)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1210	6.58	12.22	2.28	1.22	13.1	-52	300	5.33
1215	6.46	12.23	2.23	0.28	7.3	-62	300	5.48
1220	6.42	12.48	2.22	0.03	5.2	-69	300	5.46
1225	6.41	12.64	2.22	0.00	4.6	-73	300	5.46
1230	6.41	12.71	2.22	0.00	3.7	-74	300	5.46
1235	6.40	12.80	2.21	0.00	0.0	-77	300	5.46
1240	6.40	12.86	2.19	0.00	0.0	-78	300	5.46
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: 4/6/2011 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: 5.58' Depth to Well Bottom: 18.62' Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 2.01 Estimated Purge Volume (liters): 10.95

Sample ID: 20110406MW-06V13N Sample Time: 1350 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)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1320	6.92	13.64	1.73	4.02	6.9	-35	365	5.58
1325	6.56	12.69	1.73	0.79	0.0	-48	365	5.68
1330	6.54	12.75	1.70	0.18	0.0	-55	365	5.68
1335	6.53	12.70	1.69	0.13	0.0	-59	365	5.68
1340	6.53	12.64	1.65	0.00	0.0	-63	365	5.68
1345	6.53	12.53	1.63	0.00	0.0	-66	365	5.68
1350	6.53	12.46	1.61	0.00	0.0	-68	365	5.68
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: 4/6/2011 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: 5.52' Depth to Well Bottom: 19.92' Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 2.22 Estimated Purge Volume (liters): 10.8

Sample ID: 20110406MW-07RV15N Sample Time: 1143 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)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1108	6.62	16.02	2.81	3.71	13.4	-51	280	5.52
1113	6.41	12.40	3.22	0.47	8.8	-68	280	5.70
1118	6.40	12.32	3.32	0.04	7.6	-75	280	5.68
1123	6.40	12.27	3.36	0.00	6.2	-78	280	5.68
1128	6.40	12.09	3.39	0.05	0.0	-79	330	5.69
1133	6.39	12.11	3.39	0.00	0.0	-81	330	5.69
1138	6.40	12.12	3.39	0.00	0.0	-82	330	5.69
1143	6.39	12.08	3.40	0.00	0.0	-83	330	5.69
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

APRIL 2011 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

TESTAMERICA LABORATORIES, INC.
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

MAY 2011

TABLE OF CONTENTS

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 *DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, May 2010. This DUSR discusses the analytical data for five (5) groundwater samples, one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank collected by URS personnel on April 6, 2011, 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	ASTM D516-90	3

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, July 2005.

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

3 ASTM International, most recent version.

III. DATA VALIDATION

A limited data validation was performed following the guidelines in USEPA Region II *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B, SOP No. HW-24, Rev. #2,* August 2008 and the intent of USEPA Region II *Validating Metals for the Contract Laboratory Program, based on SOW – ILM05.3*, SOP No. HW-2, Revision 13, September 2006. The validated groundwater and field quality control (QC) analytical results are presented in Tables B-2 and B-3, respectively. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Copies of the case narrative, chain-of-custody, 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 (COC). All sample analyses were performed within method holding times.

VI. NONCONFORMANCES

Instrument Calibration

The VOC continuing calibration (CCAL) exhibited percent differences (%Ds) above QC limits (i.e., >20.0 %D) for Freon-123A and Freon-1113. The Freon-123A and Freon-1113 results for all samples were qualified 'J' or 'UJ', as shown on Tables B-2 and B-3 and Attachment A. Documentation supporting the qualification of data (i.e., Form V and VII) 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) or 'UJ' (non-detect, quantitation limit is an estimated quantity) 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 - APRIL 2011
FORMER EMCA SITE, MAMARONECK, NEW YORK

SDG Nos.	Sample ID	Matrix	Date of Collection	VOCs*	Methane	Sulfate	Comments
460-25041-1	20110406MW-03V09N	GW	04/06/11	X	X	X	MS/MSD
	20110406MW-07RV15N	GW		X	X	X	---
	20110406MW-04V08N	GW		X	X	X	---
	20110406MW-04V08FD	GW		X	X	X	Field Duplicate of MW-04
	20110406MW-06V13N	GW		X	X	X	---
	20110406MW-02V08N	GW		X	X	X	---
	20110406TB	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			MW-02	MW-03	MW-04	MW-04	MW-06
Sample ID			20110406MW-02V08N	20110406MW-03V09N	20110406MW-04V08FD	20110406MW-04V08N	20110406MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	04/06/11	04/06/11	04/06/11	04/06/11
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	110 J	110 J	5 J	4.3 J	96 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	920	32	1 U	1 U	33
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	33 J	99 J	1 UJ	1 UJ	38 J
Dissolved Gases							
Methane	UG/L	-	10,000	18,000	4,200	4,300	7,900
Miscellaneous Parameters							
Sulfate	MG/L	250	26.6	34.0	26.6	22.3	60.8
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.00	NA	0.00	0.00
Oxidation Reduction Potential	mV	-	-97	-115	NA	-78	-68
pH	S.U.	-	6.36	6.38	NA	6.40	6.53
Specific Conductance	MS/CM	-	3.34	1.55	NA	2.19	1.61
Temperature	DEG C	-	10.98	11.90	NA	12.86	12.46
Turbidity	NTU	-	3.9	3.6	NA	0.0	0.0

*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_05/05/11___ CHKD BY: __GEK_05/13/11___

Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 5/13/2011 10:57:13 AM
[LOGDATE] = #4/6/2011# AND [MATRIX] = 'WG

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

Location ID			MW-07R
Sample ID			20110406MW-07RV15N
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			04/06/11
Parameter	**Units**	**Criteria***	
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	5	370 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	18
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	6.3 J
Dissolved Gases			
Methane	UG/L	-	8,300
Miscellaneous Parameters			
Sulfate	MG/L	250	25.8
Field Parameter			
Dissolved Oxygen	MG/L	-	0.00
Oxidation Reduction Potential	mV	-	-83
pH	S.U.	-	6.39
Specific Conductance	MS/CM	-	3.40
Temperature	DEG C	-	12.08
Turbidity	NTU	-	0.0

*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_05/05/11___ CHKD BY: __GEK_05/13/11___

Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 5/13/2011 10:57:13 AM
[LOGDATE] = #4/6/2011# AND [MATRIX] = 'WG

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

Location ID			FIELDQC
Sample ID			20110406TB
Matrix			Water
Depth Interval (ft)			-
Date Sampled			04/06/11
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 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 UJ
Dissolved Gases			
Methane	UG/L	-	2.7 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.

Concentration Exceeds Criteria

U - Non-Detect

UJ - Not detected above the estimated quantitation limit

MADE BY: __PRF_05/05/11___ CHKD BY: __GEK_05/13/11___

Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 5/13/2011 10:58:35 AM
[LOGDATE] = #4/6/2011# AND [MATRIX] = 'WQ

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.

ATTACHMENT A

VALIDATED ANALYTICAL RESULTS (FORM 1's)

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-03V09N**

Lab Sample ID: 460-25041-1
Client Matrix: Water

Date Sampled: 04/06/2011 1025
Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7773.d
Dilution:	50			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1248			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	18000		22	130

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: 20110406MW-07RV15N

Lab Sample ID: 460-25041-2

Client Matrix: Water

Date Sampled: 04/06/2011 1143

Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7776.d
Dilution:	20			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1318			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	8300		8.6	54

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: 20110406MW-04V08N

Lab Sample ID: 460-25041-3

Client Matrix: Water

Date Sampled: 04/06/2011 1240

Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scri7777.d
Dilution:	10			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1329			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	4300		4.3	27

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-04V08FD**

Lab Sample ID: 460-25041-4

Client Matrix: Water

Date Sampled: 04/06/2011 1240

Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7778.d
Dilution:	10			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1339			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	4200		4.3	27

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-06V13N**

Lab Sample ID: 460-25041-5
Client Matrix: Water

Date Sampled: 04/06/2011 1350
Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7779.d
Dilution:	25			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1349			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	7900		11	67

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-02V08N**

Lab Sample ID: 460-25041-6
Client Matrix: Water

Date Sampled: 04/06/2011 1508
Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70501	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7780.d
Dilution:	25			Initial Weight/Volume:	10 mL
Analysis Date:	04/13/2011 1359			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	10000		11	67

Client: URS Corporation

Job Number: 460-25041-1

5/5/11

4/6/11

Client Sample ID: **20110406TB**

Lab Sample ID: 460-25041-8TB

Client Matrix: Water

Date Sampled: ~~03/29/2011~~ 0000

Date Received: 04/07/2011 0945

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

Analysis Method:	3810M	Analysis Batch:	460-70412	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf7718.d
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	04/12/2011 1513			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2.7	U	0.43	2.7

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-03V09N**

Lab Sample ID: 460-25041-1
Client Matrix: Water

Date Sampled: 04/06/2011 1025
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46015.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1139			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1139				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	32		0.28	1.0
Chlorotrifluoroethene	110	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	99	J	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106		70 - 122
Toluene-d8 (Surr)	108		69 - 125
Bromofluorobenzene	112		69 - 135

5/5/11

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-07RV15N**

Lab Sample ID: 460-25041-2
Client Matrix: Water

Date Sampled: 04/06/2011 1143
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46016.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1204			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1204				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	18		0.28	1.0
Chlorotrifluoroethene	370	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	6.3	J	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 122
Toluene-d8 (Surr)	96		69 - 125
Bromofluorobenzene	99		69 - 135

5/5/11

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-04V08N**

Lab Sample ID: 460-25041-3
Client Matrix: Water

Date Sampled: 04/06/2011 1240
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46017.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1230			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1230				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U	0.28	1.0
Chlorotrifluoroethene	4.3	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U J	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 122
Toluene-d8 (Surr)	97		69 - 125
Bromofluorobenzene	98		69 - 135

5/5/11

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-04V08FD**

Lab Sample ID: 460-25041-4
Client Matrix: Water

Date Sampled: 04/06/2011 1240
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46018.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1255			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1255				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.0	U	0.28	1.0
Chlorotrifluoroethene	5.0	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.0	U J	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 122
Toluene-d8 (Surr)	104		69 - 125
Bromofluorobenzene	107		69 - 135

5/5/11

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-06V13N**

Lab Sample ID: 460-25041-5
Client Matrix: Water

Date Sampled: 04/06/2011 1350
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46019.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1320			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1320				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	33		0.28	1.0
Chlorotrifluoroethene	96	J	0.55	1.0
1,2-Dichloro-1,1,2-trifluoroethane	38	J	0.32	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 122
Toluene-d8 (Surr)	96		69 - 125
Bromofluorobenzene	97		69 - 135

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406MW-02V08N**

Lab Sample ID: 460-25041-6
Client Matrix: Water

Date Sampled: 04/06/2011 1508
Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46020.d
Dilution:	5.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1345			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1345				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	920		1.4	5.0
Chlorotrifluoroethene	110	J	2.8	5.0
1,2-Dichloro-1,1,2-trifluoroethane	33	J	1.6	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 122
Toluene-d8 (Surr)	96		69 - 135
Bromofluorobenzene	99		69 - 135

5/5/11

Client: URS Corporation

Job Number: 460-25041-1

Client Sample ID: **20110406TB**

Lab Sample ID: 460-25041-7TB

Client Matrix: Water

5/5/11 AP

Date Sampled: ~~03/28/2011~~ 4/6/11 0000

Date Received: 04/07/2011 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-70260	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p46014.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/12/2011 1114			Final Weight/Volume:	5 mL
Prep Date:	04/12/2011 1114				

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

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 122
Toluene-d8 (Surr)	96		69 - 125
Bromofluorobenzene	100		69 - 135

5/5/11

General Chemistry

Client Sample ID: 20110406MW-03V09N

Lab Sample ID: 460-25041-1

Client Matrix: Water

Date Sampled: 04/06/2011 1025

Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	34.0		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 0955

General Chemistry

Client Sample ID: **20110406MW-07RV15N**

Lab Sample ID: 460-25041-2

Client Matrix: Water

Date Sampled: 04/06/2011 1143

Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	25.8		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 0955

General Chemistry

Client Sample ID: **20110406MW-04V08N**

Lab Sample ID: 460-25041-3
Client Matrix: Water

Date Sampled: 04/06/2011 1240
Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	22.3		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 0956

General Chemistry

Client Sample ID: **20110406MW-04V08FD**

Lab Sample ID: 460-25041-4

Client Matrix: Water

Date Sampled: 04/06/2011 1240

Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	26.6		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 0956

General Chemistry

Client Sample ID: **20110406MW-06V13N**

Lab Sample ID: 460-25041-5

Client Matrix: Water

Date Sampled: 04/06/2011 1350

Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	60.8		mg/L	1.6	25.0	5.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 1053

General Chemistry

Client Sample ID: **20110406MW-02V08N**

Lab Sample ID: 460-25041-6

Client Matrix: Water

Date Sampled: 04/06/2011 1508

Date Received: 04/07/2011 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	26.6		mg/L	0.32	5.0	1.0	D516-90, 02

Analysis Batch: 460-70699 Analysis Date: 04/15/2011 0956

ATTACHMENT B

SUPPORT DOCUMENTATION

Job# 460-25041 4600436

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 41568877.00001

SITE NAME Former EMCA Site

SAMPLERS (PRINT/SIGNATURE) Tim Ifkovich Tim Ifkovich

LAB Test America - Edison

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: Fedex AIRBILL NO.: 8612 9179 9008

TESTS: Freon 11, 12, 114 (8260B); Methane RSK-175; Sulfate (375.4)

BOTTLE TYPE AND PRESERVATIVE: 40ml Vial (HCl); 40 ml Vial (HCl); 500ml Poly

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO. OF CONTAINERS	40ml Vial (HCl)	40 ml Vial (HCl)	500ml Poly	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
MW-03	4/6/11	1025	G	20110406MW-03V09N	WG	7	3	3	1	#1	N1			
MW-03	4/6/11	1025	G	20110406MW-03V09MS	WG	7	3	3	1	#1MS	MS1			
MW-03	4/6/11	1025	G	20110406MW-03V09SD	WG	7	3	3	1	#1MSD	SD1			
MW-07R	4/6/11	1143	G	20110406MW-07RV15N	WG	7	3	3	1	#2	N1			
MW-04	4/6/11	1240	G	20110406MW-04V08N	WG	7	3	3	1	#3	N1			
MW-04	4/6/11	1240	G	20110406MW-04V08FD	WG	7	3	3	1	#4	FD1			
MW-06	4/6/11	1350	G	20110406MW-06V13N	WG	7	3	3	1	#5	N1			
MW-02	4/6/11	1508	G	20110406MW-02V08N	WG	7	3	3	1	#6	N1			
Trip Blank	~~3/28/11~~	—	—	20110406TB	WQ	~~2~~ 2	2	2		#7	TB1			
Trip Blank	~~3/29/11~~	—	—	20110406TB	WQ	2				#8				
	4/6/11													
	5/5/11 AF													

CW 4/7/14

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
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Tim Ifkovich	4/6/11	1600	Jacey	4/7/11	9:45

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

Distribution: Original accompanies shipment, copy to coordinator field files

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

0.4°C IC #50

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CASE NARRATIVE

Client: URS Corporation

Project: Former EMCA Site

Report Number: 460-25041-1

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 04/07/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.4 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 460-25041-1 through 460-25041-6 and 460-25041-8 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 04/13/2011.

Samples 460-25041-1(50X), 460-25041-2(20X), 460-25041-3(10X), 460-25041-4(10X), 460-25041-5 and 460-25041-6(25X) 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 460-25041-1 through 460-25041-7 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/12/2011.

~~The following sample was analyzed outside of analytical holding time due to it being received with greater than 50% of holding time expired : 20110406TB (460-25041-7).~~ 5/5/11 AC

1,2-Dichloro-1,1,2-trifluoroethane and Chlorotrifluoroethene failed the recovery criteria low for the MS of sample 460-25041-1 in batch 460-70260.

1,2-Dichloro-1,1,2-trifluoroethane and Chlorotrifluoroethene failed the recovery criteria low for the MSD of sample 460-25041-1 in batch 460-70260. 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.

Sample 460-25041-6(5X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

SULFATE

Samples 460-25041-1 through 460-25041-6 were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were

analyzed on 04/15/2011.

Sample 460-25041-5(5X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analyses.

All quality control parameters were within the acceptance limits.

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

Lab Name: TestAmerica Edison Job No.: 460-25041-1

SDG No.:

Lab File ID: p46008.d BFB Injection Date: 04/12/2011

Instrument ID: VOAMS13 BFB Injection Time: 07:57

Analysis Batch No.: 70260

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.1	
75	30.0 - 60.0 % of mass 95	47.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.0	
173	Less than 2.0 % of mass 174	0.5	(0.5)1
174	50.0 - 120.00 % of mass 95	99.7	
175	5.0 - 9.0 % of mass 174	7.9	(7.9)1
176	95.0 - 101.0 % of mass 174	98.4	(98.6)1
177	5.0 - 9.0 % of mass 176	6.6	(6.7)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 460-70260/2	p46009.d	04/12/2011	08:46
	LCS 460-70260/3	p46011.d	04/12/2011	09:45
	MB 460-70260/4	p46013.d	04/12/2011	10:39
20110406TB	460-25041-7	p46014.d	04/12/2011	11:14
20110406MW-03V09N	460-25041-1	p46015.d	04/12/2011	11:39
20110406MW-07RV15N	460-25041-2	p46016.d	04/12/2011	12:04
20110406MW-04V08N	460-25041-3	p46017.d	04/12/2011	12:30
20110406MW-04V08FD	460-25041-4	p46018.d	04/12/2011	12:55
20110406MW-06V13N	460-25041-5	p46019.d	04/12/2011	13:20
20110406MW-02V08N	460-25041-6	p46020.d	04/12/2011	13:45
20110406MW-03V09N MS	460-25041-1 MS	p46021.d	04/12/2011	14:10
20110406MW-03V09N MSD	460-25041-1 MSD	p46022.d	04/12/2011	14:35

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-25041-1

SDG No.:

Lab Sample ID: CCVIS 460-70260/2 Calibration Date: 04/12/2011 08:46

Instrument ID: VOAMS13 Calib Start Date: 04/12/2011 02:02

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 04/12/2011 04:08

Lab File ID: p46009.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	Ave	0.2499	0.3343		26.8	20.0	33.8	50.0
Dichlorodifluoromethane	Ave	0.5181	0.5671		21.9	20.0	9.5	50.0
Chloromethane	Ave	0.3602	0.4077	0.1000	22.6	20.0	13.2	50.0
Vinyl chloride	Ave	0.3832	0.4012		20.9	20.0	4.7	20.0
Bromomethane	Ave	0.2921	0.3163		21.7	20.0	8.3	50.0
Chloroethane	Ave	0.1793	0.1465		16.3	20.0	-18.3	50.0
n-Pentane	QuaF	0.0388	0.0376		20.2	20.0	1.0	50.0
Trichlorofluoromethane	Ave	0.3996	0.4268		21.4	20.0	6.8	50.0
Isopropene	Ave	0.5382	0.5241		19.5	20.0	-2.6	50.0
Ethyl ether	Ave	0.3266	0.3447		21.1	20.0	5.5	50.0
1,1-Dichloroethene	Ave	0.3373	0.3704		22.0	20.0	9.8	20.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.4747	0.5742		24.2	20.0	21.0	50.0
Carbon disulfide	Ave	1.117	1.175		21.1	20.0	5.3	50.0
Ethanol	Ave	0.0017	0.0019		3360	3000	12.1	50.0
Freon TF	Ave	0.3702	0.3652		19.7	20.0	-1.3	50.0
Acrolein	LinF	0.0597	0.0571		48.8	40.0	22.1	99.0
Methylene Chloride	Ave	0.3779	0.4983		26.4	20.0	31.9	50.0
Acetone	QuaF	0.0318	0.0345		25.5	20.0	27.5	50.0
trans-1,2-Dichloroethene	Ave	0.3933	0.4625		23.5	20.0	17.6	50.0
Methyl acetate	Ave	0.0825	0.0834		20.2	20.0	1.1	50.0
Hexane	Ave	0.2519	0.2675		21.2	20.0	6.2	50.0
MTBE	Ave	1.086	1.184		21.6	20.0	9.0	50.0
TBA	Ave	0.0344	0.0364		423	400	5.8	50.0
Acetonitrile	Ave	0.0058	0.0064		436	400	8.9	50.0
DIPE	Ave	1.069	1.139		21.3	20.0	6.6	50.0
1,1-Dichloroethane	Ave	0.6415	0.7822	0.1000	24.4	20.0	21.9	50.0
Acrylonitrile	LinF	0.1293	0.1219		23.1	20.0	15.6	50.0
Tert-butyl ethyl ether	Ave	1.112	1.193	0.0100	21.5	20.0	7.3	50.0
Vinyl acetate	Ave	0.4887	0.5839		23.9	20.0	19.5	50.0
cis-1,2-Dichloroethene	Ave	0.4358	0.5298		24.3	20.0	21.6	50.0
2,2-Dichloropropane	Ave	0.5859	0.6802		23.2	20.0	16.1	50.0
Cyclohexane	Ave	0.5392	0.5299		19.7	20.0	-1.7	50.0
Bromochloromethane	Ave	0.2251	0.2789		24.8	20.0	23.9	50.0
Chloroform	Ave	0.6166	0.6872		22.3	20.0	11.5	20.0
Carbon tetrachloride	Ave	0.4248	0.4092		19.3	20.0	-3.7	50.0
Ethyl acetate	Ave	0.0291	0.0294		40.5	40.0	1.3	50.0
Tetrahydrofuran	Ave	0.1069	0.1061		19.8	20.0	-0.8	50.0
1,1,1-Trichloroethane	Ave	0.5147	0.5472		21.3	20.0	6.3	50.0
1,1-Dichloropropene	Ave	0.4208	0.4355		20.7	20.0	3.5	50.0
2-Butanone	Ave	0.0998	0.1132		22.7	20.0	13.4	50.0