Groundwater Sampling and Analysis Report

April 2013 Sampling Event & Summary of 2013 Supplemental Injection 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
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Buffalo, New York 14203

June 2013

G4427I

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT
APRIL 2013 SAMPLING EVENT
&
SUMMARY OF 2013 SUPPLEMENTAL INJECTION EVENT

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted on April 9, 2013 at the former EMCA site located in Mamaroneck, New York (Figure 1) pursuant to the approved Site Management Plan (URS, 2010) and to recommendations made in the *Groundwater Sampling and Analysis Report, September 2012 Sampling Event* & *Summary of 2012 Supplemental Injection Event and 2012 Post-Injection Groundwater Sampling Events* (URS, 2012b). The groundwater monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2013. The report also presents the details of an additional injection event, executed during the week of June 3, 2013.

The pilot program conducted in 2003, the interim remedial measure in 2004, the supplemental injection in 2007, the supplemental injection in 2009, the supplemental injection in 2012, and the supplemental injection in 2013 all involved the injections of food-grade emulsified soybean oil and sodium lactate into groundwater (a.k.a. biostimulation) 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. The latest injection of food-grade substrates was executed at the site from June 4 to June 7, 2013. The supplemental injections in 2012 and 2013 also included the injection of KB-1 Plus® bacteria culture, developed by SiREM Laboratory in Guelph, Ontario, Canada, as a biological amendment to the emulsified soybean oil and sodium lactate injections. In 2013, biological amendment injections (a.k.a. bioaugmentation) were executed on June 7, 2013.

This was the seventeenth site-wide groundwater sampling event since the interim remedial measure in 2004, the twelfth following the supplemental injection event in 2007, the ninth following the 2009 supplemental injection event, and the first following the 2012 supplemental injection event. The April 2013 groundwater sampling event serves as the baseline event to evaluate the results for the 2013 supplemental biostimulation and bioaugmentation injection. Field parameter data was collected and a sample analyzed at an off-site laboratory from one well (MW-02) on January 15 and again on February 19, 2013; this data is also presented in this report.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

On April 9, 2013, groundwater samples were collected from a total of five monitoring wells (i.e., MW-02, MW-03, MW-04, MW-06 and MW-07R) using low-flow purging and

sampling procedures. Static groundwater level measurements were taken prior to purging and sampling. On January 15 and February 19, 2013, additional samples for field parameters, along with groundwater samples for off-site analyses, were collected from MW-02. 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 on samples from all five monitoring wells collected on April 9 for the following parameters:

Parameter	Analytical Method
Freon 113	SW8260B
Freon 123a	SW8260B
Freon 1113	SW8260B
Methane	RSK-175/SW3810
Sulfate	ASTM D516-90

In addition, supplemental analyses were also performed on all five monitoring wells to collect additional natural attenuation groundwater data to provide a baseline of results. These additional analyses are presented below:

Parameter	Analytical Method
Total Iron	200.7
Nitrate	SM4500-NO3 F
Hardness	SM2340C
Alkalinity	SM2320B
Total Organic Carbon	SM5310B
Dehalococcoides	SiREM Laboratories Gene-Trac® Dhc
Dehalobacter	SiREM Laboratories Gene-Trac® Dhb
Ferrous Iron	Field colorimeter

The samples collected from MW-02 on January 15 and February 19 were analyzed for field parameters, Freon 113, Freon 123a, Freon 1113, methane, sulfate, dehalococcoides, and dehalobacter.

3.0 RESULTS

Groundwater level data are presented in Table 1 and a groundwater elevation map is shown on Figure 2. 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 north to northwest towards the Sheldrake River.

Groundwater monitoring results for the current events 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 2013 sampling round and the January and February 2013 samples collected at MW-02 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 April 2013 Freon results are also shown in bar-graph form on Figure 12. Analytical results for MW-02 collected prior to, and following the 2012 injection event are depicted graphically on Figure 13.

4.0 DATA ASSESSMENT

The groundwater analytical data collected in April 2013 is the first site-wide set of data collected following the supplemental injection of food-grade emulsified soybean oil, sodium lactate, and bacterial culture completed on November 1, 2012. The previous round of groundwater sampling occurred on September 24, 2012. Those results and a description of the injection event, were presented in the previous Groundwater Sampling and Analysis Report for September 2012 (URS, 2012b).

Routine Parameters

The groundwater analytical results for the April 2013 sampling event indicate that Freon 113 concentrations were detected above the remedial goal of 5 µg/L at three of the five wells sampled (i.e., MW-02, MW-03 and MW-07R). Freon 113 was detected at 12 µg/L at MW-02, decreasing from 650 µg/L; at 27 µg/L at MW-03, increasing from 1.1 µg/L; and at 5.5 µg/L at MW-07R, decreasing from 5.9 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, while Freon 1113 holds two less chlorines than Freon 113. With the reductive dechlorination of Freon 113, the concentrations of these compounds are expected to increase and then eventually decline over time as reductive dechlorination continues.

Freon 123a concentrations were detected above the remedial goal of 5 µg/L at two of the five wells sampled (i.e., MW-02 and MW-03). Compared to the previous sampling event (September 2012), Freon 123a decreased at MW-02 (26 µg/L to 11 µg/L) and increased at MW-03 (3.2 µg/L to 30 µg/L).

Freon 1113 concentrations were detected above the remedial goal of 5 µg/L at four of the five wells sampled (i.e., MW-02, MW-03, MW-06, and MW-07R). Freon 1113 increased in concentration from the September 2012 event at MW-02 (98 µg/L to 400 J µg/L) and MW-03 (130 µg/L to 160 J µg/L); and decreased in concentration at MW-06 (140 µg/L to 61 J µg/L) and MW-07R (430 µg/L to 310 J µg/L).

Sulfate concentrations increased at MW-04, and decreased at MW-02, MW-03, MW-06, and MW-07R compared to the previous event. Methane concentrations decreased at MW-07R, and increased at MW-02, MW-03, MW-04, and MW-06 compared to the previous event. Dissolved oxygen (DO) concentrations remained the same at 0 mg/L at MW-07R, and increased at MW-02, MW-03, MW-04, and MW-06 (ranging from 0.33 mg/L to 2.23 mg/L).

Oxidation-reduction potential (ORP) increased at MW-04 and MW-07R, and decreased at MW-02, MW-03, and MW-06 compared to the previous event. The range generally remained the same, ranging from between -78 to -118 millivolts in the September 2012 event to between -78 to -116 millivolts in the April 2013 event.

Supplemental Parameters

Supplemental parameters were analyzed for during the April 2013 sampling event. Dehalococcoides was analyzed for in MW-02 with a reported concentration of 60 CEQ/mL (colony equivalent per milliliter). Dehalobacter was also analyzed for in all five wells sampled and the reported results ranged from non-detect at MW-04 and MW-06 to 1,000 GC/mL (gene copies per milliliter) at MW-02. The manufacturer of KB-1 Plus® (SiREM), the biological amendment introduced into groundwater at the site, believes that dehalobacter is the bacterial strain most responsible for the biologically mediated reduction of Freon 113 in groundwater.

Total iron concentrations ranged from 16,100 µg/L to 58,100 µg/L. Ferrous iron, measured in the field using a Hach DR/890 colorimeter and ferrous iron AccuVac ampules, ranged from 14.9 mg/L to 44.3 mg/L.

Results for other supplemental natural attenuation parameters are presented in Table 2, including alkalinity, hardness, nitrate, and total organic carbon.

Additional Post-Injection Sample Results for MW-02

An additional sample from MW-02 was collected on January 15 and February 19, 2013 to assess the ongoing impact of biostimulation and bioaugmentation injections that took place from September 25 to October 4, 2012 and November 1, 2012, respectively. Results are shown on Table 2 and depicted graphically in comparison to the pre-injection results on Figure 13.

5.0 2013 SUPPLEMENTAL INJECTION PROGRAM

The 2003, 2004, 2007, 2009, and 2012 injections of sodium lactate and emulsified oil substrate were successful in establishing favorable conditions for reductive dechlorination of Freon compounds. The goals of the 2013 supplemental injections were to stimulate and maintain anaerobic biological processes as a follow-up to the September 2012 supplemental injections. The 2013 injections were located in the same general area as the September 2012 injections, targeting the vicinity of MW-02. The injection program included the injection of food-grade emulsified soybean oil and sodium lactate into groundwater to stimulate anaerobic biodegradation and the reductive dechlorination of site groundwater. The injection of KB-1 Plus® bacteria culture was a biological amendment to the emulsified soybean oil and sodium lactate injections. Based on previous sampling, there has been a low level of dehalococcoides present at MW-02 relative to other areas of the site where biostimulation relying on indigenous bacteria has been

more successful. The KB-1 Plus® bacteria culture contains a proprietary mixture of dehalobacter and dehalococcoides strains formulated by the laboratory to biologically dechlorinate Freon 113.

The 2013 Supplemental Injection Letter Work Plan (URS, 2013) was approved by the NYSDEC in April 2013. The Work Plan originally specified 11 substrate injection locations. Based on initial results received from the April 2013 groundwater sampling event, which indicated a continuing decrease in dehalococcoides and dehalobacter counts at MW-02, two additional substrate injection locations and a single bioaugmentation location were added to the injection scheme. Only 3 liters of KB-1 Plus® bacterial culture were available from the vendor at the time of injection. All of the available culture was injected into the single location. Injections were performed from June 4, 2013 through June 7, 2013. The target interval for the 13 proposed substrate injection locations was within the saturated zone, extending from the water table to approximately 29 feet below grade. Based on the most recent water level readings, the depths to the water table ranged from 5-7 feet below grade. The target interval for the proposed KB-1 Plus® injection location was within the saturated zone, at approximately 15, 20, and 25 feet below grade.

Field Program

On May 3, 2013, an inventory of the proposed injection points was submitted to the United States Environmental Protection Agency to comply with their Underground Injection Control program. Prior to injection activities, utilities were marked out in the vicinities of the 13 proposed substrate injection points and the proposed KB-1 Plus® injection point. Some of the injection locations were relocated slightly to avoid surface and/or subsurface obstructions.

SiREM suggested injecting anaerobic chase water following the injection of the KB-1 Plus®. On June 3, 2013, Zebra supplied two (2) ~330 gallon water tanks. URS filled each water tank with tap water, ~4 gallons of sodium lactate, ~25 grams of sodium sulfite, and ~15 gallons of groundwater from MW-02, to create conditions favorable to growth of a bacterial colony that would drive the water to an anaerobic state. Tap water may not contain enough seed bacteria to create favorable anaerobic conditions. Therefore, groundwater from monitoring well MW-02, which was previously found to contain dehalococcoides and dehalobacter bacteria, was purged into the water tank to seed a biological reaction to consume oxygen. Sodium sulfite was added to the tanks to act as an oxygen scavenger. Prior to filling the tanks, URS purged and collected groundwater from monitoring well MW-02 to evaluate reducing conditions in the aquifer prior to the injections. After the parameters stabilized, dissolved oxygen was recorded as 0.00 mg/L and

oxidation reduction potential was recorded as -98 millivolts. Anaerobic conditions in the receiving aquifer are necessary to promote survival of the injected bacteria. On June 4, 2013, the chase water in the water tanks was evaluated for reducing conditions. After stabilization, dissolved oxygen in the tanks was recorded as 2.28 mg/L and 3.68 mg/L, and oxidation reduction potential was recorded as 131 millivolts and 120 millivolts, indicating an aerobic environment. It was concluded that 24-48 hours were generally required to drive the chase water to an anaerobic state. Therefore, one water tank was left unused throughout the week in order to have anaerobic chase water available for the bioaugmentation injection of the KB-1 Plus®. The second water tank was used for mix/chase water during the substrate biostimulation injections, which was generally allowed 12-18 hours for dissolved oxygen and oxidation reduction potential to drop prior to injection.

The injections of sodium lactate and emulsified oil substrate began on June 4, 2013. Zebra Environmental supplied the mixing equipment and executed the injections. URS coordinated and oversaw all fieldwork. A Geoprobe rig was used to advance a pressure-activated injection probe and rod assembly. A Sidewinder™, an injection pulsing tool rented from Wavefront Technology Solutions Inc., was placed between the high-pressure hose and rods to enhance the effectiveness of the injections by spreading the injection substrates more evenly throughout the formation. Using this equipment, only a brief stoppage was required every four feet to remove the rod sections and reconnect the Sidewinder™ to the rods.

A commercially-prepared emulsified oil substrate, SRS® 60-B, purchased from Terra Systems, Inc. (Wilmington, DE), was mixed with water prior to being injected at each of the 13 injection locations. WILCLEAR™ sodium lactate, purchased from JRW Technologies, Inc. (Lexana, KS), was also mixed with water prior to being injected at each of the 13 injection locations. The injection locations are shown on Figure 14. The volumes injected in each interval are presented in Appendix C. The injection program was completed over 4 days and a total of approximately 715 gallons of dilute SRS® 60-B and 715 gallons of dilute WILCLEAR™ were injected into the subsurface.

On June 7, 2013, after completing the biostimulation injections, URS purged and sampled groundwater from monitoring well MW-02 to evaluate reducing conditions in the aquifer. After the parameters stabilized, dissolved oxygen was recorded as 0.00 mg/L and oxidation reduction potential was recorded as -123 millivolts. The measurements still indicated acceptable reducing conditions. The chase water in the unused water tank was also reevaluated for reducing conditions. After stabilization, dissolved oxygen was recorded as 0.00 mg/L and

oxidation reduction potential was recorded as -117 millivolts indicating that the chase water was in an acceptable anaerobic state. A nitrogen bubble was set up in the anaerobic chase water storage tank to continue to help drive dissolved oxygen out of the chase water and to displace oxygen from the tank headspace during the injection process. Using quick-connects, tubing was connected from a nitrogen tank to the KB-1® Plus vessel, and another line of tubing was connected to the vessel and purged with nitrogen gas to expel all oxygen in the tubing. The tubing was then inserted through the rods to the appropriate depth and approximately 1 liter of KB-1 Plus® was injected into the aquifer followed by approximately 18 gallons of chase water per lift. A total of 3 liters of KB-1 Plus® and 55 gallons of chase water were injected at the single location. The vessel was placed on a weight scale to measure 1 liter of KB-1 Plus® per lift. The injection location is shown on Figure 14. The volumes injected in each interval are presented in Appendix C.

6.0 CONCLUSIONS

A relative comparison of data from the April 2013 event with the September 2012 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 113 data trends show a continuing impact of the September-November 2012 supplemental injection event, particularly at MW-02. Freon 113 concentrations decreased at MW-02, MW-06, and MW-07R, increased at MW-03, and remained the same at non-detect at MW-04 in the April 2013 event. Freon 113 daughter product Freon 123a decreased at MW-02, increased at MW-03, MW-06, and MW-07R, and remained the same at non-detect at MW-04 in the April 2013 event. Freon 113 daughter product Freon 1113 decreased at MW-06 and MW-07R, and increased at MW-02, MW-03, and MW-04 in the April 2013 event.

Oxidation-reduction potentials fluctuated in all wells. Following the IRM injection in November 2004 (a period of strong Freon reduction), oxidation-reduction potentials in site wells, except GZ-06, were observed to fall to approximately -135 to -155 millivolts. Currently, the oxidation-reduction potentials in site wells have a less reducing range (-78 to -116 millivolts). Sulfate, which is a competing electron acceptor with Freon, increased at MW-04; and decreased at MW-02, MW-03, MW-06, and MW-07R. The April 2013 levels of sulfate (ranging from 15.6 to 39.4 mg/L) are generally higher than levels that would be expected in a robust reductively dechlorinating environment (0 to 25 mg/L).

Methane concentrations decreased at MW-07R and increased at MW-02, MW-03, MW-04, and MW-06. Methane is a byproduct of anaerobic biological activity and the increase in most wells indicates that biological activity increased following the 2012 injections. Dissolved oxygen concentrations remained the same at 0 mg/L at MW-07R, and increased at MW-02, MW-03, MW-04, and MW-06.

Table 4

Comparison of September 2012 to April 2013 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

7.0 CONTINGENCY TRIGGER EVALUATION

Contingency measures were triggered at the site by the April 2011 data collected at MW-02, in accordance with Section 4.0 of the Site Management Plan (URS, 2010). As a result, Dow performed the 2012 supplemental injection event to stimulate and maintain anaerobic biological processes, targeting remaining areas of contamination. In an effort to maintain anaerobic conditions, a follow-up supplemental injection event was executed in June 2013. The details of the injection are presented in Section 5.0. Comparison of data to trigger criteria presented in the Site Management Plan will resume following execution of the contingency measures.

8.0 NEXT STEPS

MW-02 will be sampled post-injection on a monthly basis until the next site-wide sampling event for Freon 113, Freon 123a, Freon 1113, methane, sulfate, dehalococcoides,

dehalobacter, and field parameters, planned for October 2013. In the interim, post-injection sampling events are planned as shown in the table below.

		Sample Parameter or Parameter Group								
		Freon 113	Freon 123a	Freon1113	Methane	Sulfate	Dehalococcoides	Dehalobacter	Field Parameters	Natural Attenuation Parameters
4/9/2013*	MW-02	x	x	x	x	x	x	x	x	x
	MW-03	x	x	x	x	x		x	x	x
	MW-04	x	x	x	x	x		x	x	x
	MW-06	x	x	x	x	x		x	x	x
	MW-07R	x	x	x	x	x		x	x	x
6/3/2013	MW-02								x	
Week of 7/8/2013	MW-02	x	x	x	x	x	x	x	x	
Week of 8/5/2013	MW-02	x	x	x	x	x	x	x	x	
Week of 9/2/2013	MW-02	x	x	x	x	x	x	x	x	
October 2013	MW-02	x	x	x	x	x	x	x	x	x
	MW-03	x	x	x	x	x		x	x	x
	MW-04	x	x	x	x	x		x	x	x
	MW-06	x	x	x	x	x		x	x	x
	MW-07R	x	x	x	x	x		x	x	x

* Event completed

** Field parameters include dissolved oxygen, oxidation-reduction potential, pH, specific conductance, temperature, and turbidity

*** Natural attenuation parameters include iron (total and ferrous), alkalinity (total, bicarbonate, carbonate, and hydroxide), hardness, nitrogen-nitrate, and TOC

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.

URS Inc., 2011. *Groundwater Sampling and Analysis Report, April 2011 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. June.

URS Inc., 2011a. *Groundwater Sampling and Analysis Report, September 2011 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* December.

URS Inc., 2012. *2012 Supplemental Injection Work Plan, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. February.

URS Inc., 2012a. *Groundwater Sampling and Analysis Report, April 2012 Sampling Event, Former EMCA Site, Site No. 360025, Mamaroneck, New York*. June.

URS Inc., 2012b. *Groundwater Sampling and Analysis Report, September 2012 Sampling Event &Summary of 2012 Supplemental Injection Event and 2012 Post-Injection Groundwater Sampling Events, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* December.

URS Inc., 2013. *Proposed Lactate and Emulsified Vegetable Oil Supplemental Injections, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* April.

TABLES

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS (April 8 & 9, 2013)
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	7.52	20.50
MW-01	25.74	5.16	20.58
MW-02	25.63	5.98	19.65
MW-03	25.59	5.98	19.61
MW-04	25.31	5.73	19.58
MW-05	24.63	4.90	19.73
MW-06	25.77	6.08	19.69
MW-07R	25.63	6.08	19.55
Benchmark B (Sheldrake River - South [Rockaway Avenue] Bridge)	32.21	13.63	18.58
Benchmark C[4] (Sheldrake River - between North and South Bridges)	--	--	17.62
Benchmark D (Sheldrake River - North [Fenimore Road] Bridge)	27.41	10.75	16.66

Notes:

1) All of the monitoring well and benchmark locations were resurveyed on 6/25/2010.
2) Water elevations for all wells and benchmarks were collected on 4/8/2013 and 4/9/2013.
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-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	400	330 J	400 J	280 J	160 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	28	18	12	11	27
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	52	30 J	11	11	30
Dissolved Gases							
Methane	UG/L	-	8,000	8,000	9,600	9,000	11,000
Total Metals							
Iron	UG/L	300	NA	NA	56,600	58,100	27,900
Miscellaneous Parameters							
Alkalinity, Total (As CaCO3)	MG/L	-	NA	NA	510	249	367
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	510	249	367
Alkalinity, Carbonate (As CaCO3)	MG/L	-	NA	NA	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	NA	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	2,000	200	NA	60	NA
Dehalobacter	GC/mL	-	30,000	2,000	NA	1,000	40
Hardness (as CaCO3)	MG/L	-	NA	NA	673	653	396
Nitrogen, Nitrate	MG/L	10	NA	NA	0.10 UJ	0.10 UJ	0.21 J
Sulfate	MG/L	250	14.4	13 J	9.2	19.9	39.4
Total Organic Carbon	MG/L	-	NA	NA	31.1	31.1	8.7
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	1 U	NA	29.3 J	NA
Formic Acid	MG/L	-	NA	1 U	NA	1.0 U	NA
Lactic Acid	MG/L	-	NA	1 U	NA	1.0 U	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

U - Non-Detect

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

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units

Detection Limits shown are PQL

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatile Fatty Acids							
n-Butyric Acid	MG/L	-	NA	0.19 J	NA	1.0 U	NA
Propionic Acid	MG/L	-	NA	1 U	NA	1.0 U	NA
Pyruvic Acid	MG/L	-	NA	1 U	NA	4.4	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.36	4.57	NA	0.65	2.23
Ferrous Iron	MG/L	-	NA	NA	NA	44.3	26.0
Oxidation-Reduction Potential	mV	-	-121	-140	NA	-116	-93
pH	S.U.	-	6.58	6.82	NA	6.27	6.39
Specific Conductance	MS/CM	-	2.43	2.61	NA	8.18	3.37
Temperature	DEG C	-	13.05	10.18	NA	13.29	15.42
Turbidity	NTU	-	0.0	0.0	NA	0.0	17.9

*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.

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units

Detection Limits shown are PQL

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

Location ID			MW-04	MW-06	MW-07R
Sample ID			20130409MW-04V09N	20130409MW-06V12N	20130409MW-07RV12N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	4.4 J	61 J	310 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	0.19 J	5.5
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	4.9	2.6
Dissolved Gases					
Methane	UG/L	-	1,700	9,500	2,100
Total Metals					
Iron	UG/L	300	16,100	24,700	29,000
Miscellaneous Parameters					
Alkalinity, Total (As CaCO3)	MG/L	-	5.0 U	244	263
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	5.0 U	244	263
Alkalinity, Carbonate (As CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA
Dehalobacter	GC/mL	-	3 U	3 U	4
Hardness (as CaCO3)	MG/L	-	426	337	515
Nitrogen, Nitrate	MG/L	10	0.10 UJ	0.25 J	0.066 J
Sulfate	MG/L	250	15.6	38.4	19.1
Total Organic Carbon	MG/L	-	7.2	5.9	9.3
Volatile Fatty Acids					
Acetic Acid	MG/L	-	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA
Lactic Acid	MG/L	-	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

U - Non-Detect

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

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units

Detection Limits shown are PQL

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

Location ID			MW-04	MW-06	MW-07R
Sample ID			20130409MW-04V09N	20130409MW-06V12N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			
Volatile Fatty Acids					
n-Butyric Acid	MG/L	-	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA
Field Parameter					
Dissolved Oxygen	MG/L	-	2.13	0.33	0.00
Ferrous Iron	MG/L	-	14.9	23.7	27.5
Oxidation-Reduction Potential	mV	-	-78	-102	-89
pH	S.U.	-	6.43	6.47	6.35
Specific Conductance	MS/CM	-	3.98	2.91	4.84
Temperature	DEG C	-	16.39	16.34	17.93
Turbidity	NTU	-	1.7	0.2	53.9

*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.

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units

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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	559	474	477 J	218
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.52	0.76	0.5	0.48	6.86

*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 estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

Advanced Selection: WG Apr13 Tab:
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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	1,610	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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	20.8	14.2	31.7	23.2	25.1
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.15	0.11	0.03	5.67	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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-210	-107	-59	-49	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	5.25	1.43	1.16	1.28	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	4.17	1.18	4.1	0.91

*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 estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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)				
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

Flags assigned during chemistry validation are shown.

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D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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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			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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	338	338
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.36	0.00	0.99	0.36	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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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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			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)
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	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.

Flags assigned during chemistry validation are shown.

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J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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			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.

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

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

Location ID			MW-02	MW-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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	307	283	839	769	238
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.26	0.53	0 U	0.91

*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

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)				
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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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Only Detected Results Reported.

Detection Limits shown are PQL

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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.

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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***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0 U	4.92	NA	1.56

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

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Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			MW-02	MW-02V06N	MW-02V15N	20061117MW02VISN	20070207MW-02V06N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	11/17/06	02/07/07
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

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

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

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

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20070731MW-02V15N	20080228MW02V15N	20080812MW02V10N	20090218MW-02V10N	20091013MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.31	2.87	0 U	0 U	0.00

*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			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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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 #4/10/13#) 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			20100225MW-02V08N	20100624MW-02V08N	20101006MW-02V08N	20110406MW-02V08N	20110913MW02V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	10/06/10	04/06/11	09/13/11
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92 J	240	180	110 J	180
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	76 J	670	580	920	490
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	6.1	37	26	33 J	26
Dissolved Gases							
Methane	UG/L	-	7,500	8,400	6,200	10,000	5,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	60,400
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 #4/10/13#) 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			20100225MW-02V08N	20100624MW-02V08N	20101006MW-02V08N	20110406MW-02V08N	20110913MW02V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	10/06/10	04/06/11	09/13/11
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	361
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	1.79
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	726
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	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5 U	38.9	36.9 J	26.6	5 U
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	19.1
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.64	6.21	0.00	0.00

*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			20100225MW-02V08N	20100624MW-02V08N	20101006MW-02V08N	20110406MW-02V08N	20110913MW02V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	10/06/10	04/06/11	09/13/11
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	50.6
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	9.8
Oxidation-Reduction Potential	mV	-	-147	-136	-107	-97	-115
pH	S.U.	-	6.57	8.91	6.76	6.36	6.80
Specific Conductance	MS/CM	-	4.48	1.70	1.91	3.34	3.24
Temperature	DEG C	-	9.33	16.71	19.45	10.98	22.1
Turbidity	NTU	-	0	3.0	11.9	3.9	0.1

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

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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			20120411MW-02V08N	20120924MW-02V10N	20121022MW-02V10N	MW-02	20121129MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	10/22/12	10/31/12	11/29/12
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	140 J	98	NA	NA	380
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 J	650	NA	NA	65
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	57	26	NA	NA	29
Dissolved Gases							
Methane	UG/L	-	8,100	4,000	NA	NA	5,600
Total Metals							
Iron	UG/L	300	NA	32,900	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-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20120411MW-02V08N	20120924MW-02V10N	20121022MW-02V10N	MW-02	20121129MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	10/22/12	10/31/12	11/29/12
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	245	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	245	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	100	NA	NA	2,000
Dehalobacter	GC/mL	-	NA	5	NA	NA	40,000
Hardness (as CaCO3)	MG/L	-	NA	388	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	0.10 U	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	51.8	50.8	NA	NA	2.2 U
Total Organic Carbon	MG/L	-	NA	8.4	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	0.00	0.42	0.47	0.78

*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			20120411MW-02V08N	20120924MW-02V10N	20121022MW-02V10N	MW-02	20121129MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	10/22/12	10/31/12	11/29/12
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	9.0	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-44	-78	-119	-82	-116
pH	S.U.	-	6.56	6.62	6.38	6.35	6.40
Specific Conductance	MS/CM	-	1.86	1.69	2.53	2.52	2.39
Temperature	DEG C	-	13.45	24.07	19.21	19.42	14.75
Turbidity	NTU	-	0.0	0.0	0.0	9.3	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	MW03_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	05/21/03
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	400	330 J	400 J	280 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	28	18	12	11	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	52	30 J	11	11	78 J
Dissolved Gases							
Methane	UG/L	-	8,000	8,000	9,600	9,000	86
Total Metals							
Iron	UG/L	300	NA	NA	56,600	58,100	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.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	MW03_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	05/21/03
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	510	249	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	510	249	NA
Chloride	MG/L	250	NA	NA	NA	NA	113
Dehalococcoides ethenogenes	CEQ/mL	-	2,000	200	NA	60	NA
Dehalobacter	GC/mL	-	30,000	2,000	NA	1,000	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	673	653	NA
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	0.10 UJ	0.10 UJ	2
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	14.4	13 J	9.2	19.9	32.7
Total Organic Carbon	MG/L	-	NA	NA	31.1	31.1	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	1 U	NA	29.3 J	NA
n-Butyric Acid	MG/L	-	NA	0.19 J	NA	1.0 U	NA
Pyruvic Acid	MG/L	-	NA	1 U	NA	4.4	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.36	4.57	NA	0.65	0.58

*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 estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	MW03_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	05/21/03
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	44.3	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-121	-140	NA	-116	40
pH	S.U.	-	6.58	6.82	NA	6.27	NA
Specific Conductance	MS/CM	-	2.43	2.61	NA	8.18	0.638
Temperature	DEG C	-	13.05	10.18	NA	13.29	NA
Turbidity	NTU	-	0.0	0.0	NA	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.

Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

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J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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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-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.

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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-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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	143	99.2 J	91.5 J	224	192
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	NA	0.01	NA	0.35

*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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J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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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)	
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

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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-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

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Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	71.7	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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	7.80
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.05	1.24	0 U	5.36	2.44

*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 estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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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D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

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			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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

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			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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.22	2.94	NA	0 U	0 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.

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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)		
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

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Detection Limits shown are PQL

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

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			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.

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-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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.00	0.00	0.85	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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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)				
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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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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			20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	09/13/11	04/11/12	09/24/12
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	110 J	69	82	150 J	130
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	32	4.2	5.4	20 J	1.1
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	99 J	8.3	9.4	36	3.2
Dissolved Gases							
Methane	UG/L	-	18,000	12,000	15,000	15,000	7,600
Total Metals							
Iron	UG/L	300	NA	35,300	35,700	NA	21,800
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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J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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			20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	596	596	NA	292
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	292
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	1,820	3,780	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	700
Hardness (as CaCO3)	MG/L	-	NA	520	510	NA	248
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	0.1 U	0.1 U	NA	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	34.0	19	18.2	63.1	45.4
Total Organic Carbon	MG/L	-	NA	27.1	26.7	NA	7.2
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	NA	0.00	0.0	0.00

*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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J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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Only Detected Results Reported.

Detection Limits shown are PQL

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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			20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Ferrous Iron	MG/L	-	NA	29.8	29.8	NA	3.5
Ferric Iron (calculated)	MG/L	-	NA	5.5	5.9	NA	NA
Oxidation-Reduction Potential	mV	-	-115	NA	-124	-63	-84
pH	S.U.	-	6.38	NA	6.85	6.64	6.64
Specific Conductance	MS/CM	-	1.55	NA	1.99	1.02	0.697
Temperature	DEG C	-	11.90	NA	20.7	13.35	23.57
Turbidity	NTU	-	3.6	NA	21.8	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.

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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-03	MW-04	MW-04	MW-04	MW-04
Sample ID			20130409MW-03V10N	MW04-5-20-03	MW-04_121703	Dup1	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	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	160 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	27	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	30	5.0 U	5.0 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	11,000	380	35	69	99
Total Metals							
Iron	UG/L	300	27,900	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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Concentration Exceeds Criteria

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

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Only Detected Results Reported.

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

Location ID			MW-03	MW-04	MW-04	MW-04	MW-04
Sample ID			20130409MW-03V10N	MW04-5-20-03	MW-04_121703	Dup1	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	05/20/03	12/17/03	07/22/04	07/22/04
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	367	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	367	NA	NA	NA	NA
Chloride	MG/L	250	NA	238	294	158	161
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	40	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	396	NA	NA	NA	NA
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	0.21 J	0.1 U	0.1 U	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	39.4	5.0 U	9.40	10.8	10.8
Total Organic Carbon	MG/L	-	8.7	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.23	0.54	0 U	NA	0.82

*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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Detection Limits shown are PQL

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			20130409MW-03V10N	MW04-5-20-03	MW-04_121703	Dup1	MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	05/20/03	12/17/03	07/22/04	07/22/04
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Field Parameter							
Ferrous Iron	MG/L	-	26.0	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-93	-115	0 U	NA	-136
pH	S.U.	-	6.39	NA	NA	NA	NA
Specific Conductance	MS/CM	-	3.37	1.61	0.99	NA	1.05
Temperature	DEG C	-	15.42	NA	NA	NA	NA
Turbidity	NTU	-	17.9	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 #4/10/13#) 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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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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0 U	4.97	4.73	0.41

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

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

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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.

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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			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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.91	0 U	NA	0 U	0.00

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

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

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			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)		
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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.

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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)
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.

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Advanced Selection: WG Apr13 Tab
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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.00	0.80	0	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 #4/10/13#) 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)
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	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-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08FD	20120924MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	09/24/12
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	4.3 J	1.2	7.2 J	2.1	2.5
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 U	1 U	1 UJ	1.0 U	1.0 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 UJ	1 U	1 U	1.0 U	1.0 U
Dissolved Gases							
Methane	UG/L	-	4,300	1,700	2,700	570	550
Total Metals							
Iron	UG/L	300	NA	NA	NA	7,430	7,280
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

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

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08FD	20120924MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	09/24/12
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	211	210
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	211	210
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	4 U
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	188	185
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	0.10 U	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	22.3	16.7	18.7	12.3	12.0
Total Organic Carbon	MG/L	-	NA	NA	NA	10.2	10
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.00	0.00	0.0	NA	0.00

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

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

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08FD	20120924MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	09/24/12
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Field Parameter							
Ferrous Iron	MG/L	-	NA	14.3	NA	NA	27.7
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-78	-126	-87	NA	-96
pH	S.U.	-	6.40	6.83	6.80	NA	6.91
Specific Conductance	MS/CM	-	2.19	2.29	1.38	NA	0.519
Temperature	DEG C	-	12.86	22.5	14.07	NA	25.40
Turbidity	NTU	-	0.0	0.2	8.9	NA	8.0

*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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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			20130409MW-04V09N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	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	4.4 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	1.0 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	1.0 U	5.0 U	5.0 U	10 U	8.8 J
Dissolved Gases							
Methane	UG/L	-	1,700	27	6.7	47	49
Total Metals							
Iron	UG/L	300	16,100	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			20130409MW-04V09N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	05/21/03	12/18/03	07/23/04	06/10/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	5.0 U	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	5.0 U	NA	NA	NA	NA
Chloride	MG/L	250	NA	49.8	27.5	63.9	184
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	3 U	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	426	NA	NA	NA	NA
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	0.10 UJ	0.22	0.18	NA	0.33
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	15.6	50.1	61.4	42.3	32.0
Total Organic Carbon	MG/L	-	7.2	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.13	0.37	0 U	0.97	0.93

*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			20130409MW-04V09N	MW05_52103	MW-05-121803	MW-05	MW06-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	05/21/03	12/18/03	07/23/04	06/10/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	14.9	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-78	26	121	46	-145
pH	S.U.	-	6.43	NA	NA	NA	NA
Specific Conductance	MS/CM	-	3.98	0.426	0.629	0.463	0.741
Temperature	DEG C	-	16.39	NA	NA	NA	NA
Turbidity	NTU	-	1.7	NA	NA	NA	NA

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

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

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

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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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	82.3	74.6	84.0	60.5	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.07	0 U	0 U	1.04	NA

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

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			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)
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-155	-143	-110	-64	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.866	0.581	0.602	0.513	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

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

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

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

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Concentration Exceeds Criteria

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	NA	0 U	NA	6.83

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

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06	MW-06V15FD	MW-06V15N	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	12/20/05	08/15/06	08/15/06
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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

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

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

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

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	02/07/07	07/31/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	1.05	NA	0.31	NA

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

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	02/07/07	07/31/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	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

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

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

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

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

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	02/19/09	10/13/09	02/26/10
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.61	0 U	0 U	0.00	0.00

*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 (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

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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			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***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
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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D - Diluted analysis

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Advanced Selection: WG Apr13 Tab:
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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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			20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	10/06/10	04/06/11	09/13/11
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	68 J	61	57	96 J	30
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 U	1 U	1 U	33	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	0.57 J	1 U	1 U	38 J	4.4
Dissolved Gases							
Methane	UG/L	-	9,400	8,300	8,800	7,900	1,800
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	9,630
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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Concentration Exceeds Criteria

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([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) 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			20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	10/06/10	04/06/11	09/13/11
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	388
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	353,000 J
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	235
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	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	16.5
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	10.9
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.73	NA	0	0.00	0.00

*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 #4/10/13#) 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			20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	10/06/10	04/06/11	09/13/11
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	7.4
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	2.23
Oxidation-Reduction Potential	mV	-	-124	NA	-129	-68	-123
pH	S.U.	-	8.81	NA	6.97	7.08	7.08
Specific Conductance	MS/CM	-	0.958	NA	0.879	1.61	0.801
Temperature	DEG C	-	17.79	NA	18.25	12.46	22.4
Turbidity	NTU	-	0.45	NA	0	0.0	5.3

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

Location ID			MW-06	MW-06	MW-06	MW-07	MW-07
Sample ID			20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N	MW07-6-10-03	MW07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	06/10/03	07/23/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	250 U	500 U
Benzene	UG/L	1	NA	NA	NA	250 U	500 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	230 J	140	61 J	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	100 U	68 J
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	250 U	500 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	250 U	500 U
Ethylbenzene	UG/L	5	NA	NA	NA	200 U	400 U
2-Hexanone	UG/L	50	NA	NA	NA	250 U	500 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	250 U	500 U
Tetrachloroethene	UG/L	5	NA	NA	NA	50 U	100 U
Trichloroethene	UG/L	5	NA	NA	NA	50 U	100 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	82 J	3.3	0.19 J	5,400	8,500
Vinyl Chloride	UG/L	2	NA	NA	NA	250 U	500 U
Xylene (total)	UG/L	5	NA	NA	NA	250 U	500 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	28	3.6	4.9	68 J	130 J
Dissolved Gases							
Methane	UG/L	-	5,300	1,300	9,500	740	420
Total Metals							
Iron	UG/L	300	NA	12,100	24,700	21,300	21,200
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	20,800	20,800

*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-07	MW-07
Sample ID			20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N	MW07-6-10-03	MW07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	06/10/03	07/23/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	304	244	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	304	244	NA	NA
Chloride	MG/L	250	NA	NA	NA	140	168
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	1 J	3 U	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	308	337	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA	NA	0.39	0.6
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	1.2	1.8
Nitrogen, Nitrate	MG/L	10	NA	0.10 U	0.25 J	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	0.1 UJ
Sulfate	MG/L	250	119	52.2	38.4	32.8	31.0
Total Organic Carbon	MG/L	-	NA	6.9	5.9	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	20.2	19.8
Ferric Iron (lab)	MG/L	-	NA	NA	NA	1	1.4
Fluoride	MG/L	1.5	NA	NA	NA	0.33	0.25
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	0.00	0.33	0.9	0.1

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

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

Location ID			MW-06	MW-06	MW-06	MW-07	MW-07
Sample ID			20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N	MW07-6-10-03	MW07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	06/10/03	07/23/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	9.9	23.7	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-48	-80	-102	-130	-108
pH	S.U.	-	6.81	6.82	6.47	NA	NA
Specific Conductance	MS/CM	-	1.06	0.636	2.91	0.93	1.11
Temperature	DEG C	-	14.04	22.01	16.34	NA	NA
Turbidity	NTU	-	0.0	0.0	0.2	NA	NA

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

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

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07-91703	MW-07_121703	MW-07	MW-07	MW-07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	12/17/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	250 U	50 U	NA	NA	NA
Benzene	UG/L	1	250 U	14	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	210	140	47
1,1-Dichloroethene	UG/L	5	100 U	20 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	250 U	50 U	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	250 U	50 U	NA	NA	NA
Ethylbenzene	UG/L	5	200 U	49	NA	NA	NA
2-Hexanone	UG/L	50	250 U	50 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	250 U	50 U	NA	NA	NA
Tetrachloroethene	UG/L	5	50 U	10 U	NA	NA	NA
Trichloroethene	UG/L	5	50 U	10 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	6,100	370	110 J	10 U	10 U
Vinyl Chloride	UG/L	2	250 U	50 U	NA	NA	NA
Xylene (total)	UG/L	5	250 U	50 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	130 J	940	50	2.0 J	10 U
Dissolved Gases							
Methane	UG/L	-	1,200	1,700	2,500	5,900	9,700
Total Metals							
Iron	UG/L	300	32,700 J	38,900	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	32,500 J	38,900	NA	NA	NA

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

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

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07-91703	MW-07_121703	MW-07	MW-07	MW-07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	12/17/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	300 J	328	303	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	MG/L	2	0.66	0.99	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	2.1	2.8	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1 U	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	23.6	5.0 U	5.0 U	5.0 U	5.0 U
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	33.8	19.5	NA	NA	NA
Ferric Iron (lab)	MG/L	-	14.1	19.4	NA	NA	NA
Fluoride	MG/L	1.5	0.24	0.19	0.190	NA	NA
Oil & Grease	MG/L	-	5.44 U	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	3.33	0.88	0 U	0 U

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

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

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07-91703	MW-07_121703	MW-07	MW-07	MW-07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	12/17/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-118	-115	-153	-152	-169
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.44	1.94	1.69	1.75	1.65
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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D - Diluted analysis

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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	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/14/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***					
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	97	89	82	92	170
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	6.0 J	10 UJ	3.0 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	1.0 J	3.0 J	10	0.9 J	16
Dissolved Gases							
Methane	UG/L	-	6,900	6,200	4,100	7,100	5,600
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

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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	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/14/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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	19.3	5.0 U	6.1	5 U	5.6
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	3.47	2.89	0.48	2.64	0 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

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Only Detected Results Reported.

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	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/14/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***					
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-163	-121	-113.5	-137.0	-167
pH	S.U.	-	NA	NA	6.78	6.32	6.48
Specific Conductance	MS/CM	-	1.44	2.02	2.182	1.62	1.99
Temperature	DEG C	-	NA	NA	NA	9.03	17.3
Turbidity	NTU	-	NA	NA	NA	54	25

*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-07	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	06/24/10	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	150	370 D	150 J	350 J	390
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	46	580 D	18 J	1.1 J	1
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	20	76	8.1	1.7 J	1.8
Dissolved Gases							
Methane	UG/L	-	11,000	5,900	6,500	8,100	8,400
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-07	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	06/24/10	06/24/10
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	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 UJ	6.3	7.9	17	11.2
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0.00	0.00	NA	0.69

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

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

Location ID			MW-07	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	06/24/10	06/24/10
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-154	-139	-146	NA	-129
pH	S.U.	-	6.18	6.45	6.52	NA	8.83
Specific Conductance	MS/CM	-	2.01	2.74	2.79	NA	2.09
Temperature	DEG C	-	12.11	18.36	10.69	NA	16.45
Turbidity	NTU	-	21	1.1	1.1	NA	0.35

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

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	04/11/12
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	350	370 J	26	630 J	540 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	53 J	18	1.6	67 J	59 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	9.5	6.3 J	0.94 J	11	9.7
Dissolved Gases							
Methane	UG/L	-	6,200	8,300	2,000	6,400	6,600
Total Metals							
Iron	UG/L	300	NA	NA	23,600	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-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	04/11/12
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	406	NA	NA
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	248	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	637	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	0.1 U	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	13 J	25.8	12.2	18.9	17.7
Total Organic Carbon	MG/L	-	NA	NA	11.3	NA	NA
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
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	4.05	0.00	0.00	NA	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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TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	04/11/12
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Field Parameter							
Ferrous Iron	MG/L	-	NA	NA	20.1	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	3.5	NA	NA
Oxidation-Reduction Potential	mV	-	-113	-83	-109	NA	-82
pH	S.U.	-	6.82	6.39	6.86	NA	6.72
Specific Conductance	MS/CM	-	2.03	3.40	3.28	NA	2.10
Temperature	DEG C	-	21.42	12.08	22.4	NA	13.63
Turbidity	NTU	-	14.3	0.0	0.1	NA	8.2

*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
Sample ID			20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			09/24/12	04/09/13
Parameter	**Units**	**Criteria***		
Volatiles				
Acetone	UG/L	50	NA	NA
Benzene	UG/L	1	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	430	310 J
1,1-Dichloroethene	UG/L	5	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA
Ethylbenzene	UG/L	5	NA	NA
2-Hexanone	UG/L	50	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA
Tetrachloroethene	UG/L	5	NA	NA
Trichloroethene	UG/L	5	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	5.9 J	5.5
Vinyl Chloride	UG/L	2	NA	NA
Xylene (total)	UG/L	5	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	2.4 J	2.6
Dissolved Gases				
Methane	UG/L	-	3,900	2,100
Total Metals				
Iron	UG/L	300	29,900	29,000
Dissolved Metals				
Iron	UG/L	300	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

U - Non-Detect UJ - Not detected above the estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-07R	MW-07R
Sample ID			20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			09/24/12	04/09/13
Parameter	**Units**	**Criteria***		
Miscellaneous Parameters				
Alkalinity, Total (as CaCO3)	MG/L	-	335	263
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	335	263
Chloride	MG/L	250	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA
Dehalobacter	GC/mL	-	10	4
Hardness (as CaCO3)	MG/L	-	414	515
Nitrogen, Ammonia (As N)	MG/L	2	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA
Nitrogen, Nitrate	MG/L	10	0.10 U	0.066 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA
Sulfate	MG/L	250	32.0	19.1
Total Organic Carbon	MG/L	-	11.8	9.3
Ferrous Iron (field)	MG/L	-	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA
Fluoride	MG/L	1.5	NA	NA
Oil & Grease	MG/L	-	NA	NA
Volatile Fatty Acids				
Acetic Acid	MG/L	-	NA	NA
n-Butyric Acid	MG/L	-	NA	NA
Pyruvic Acid	MG/L	-	NA	NA
Field Parameter				
Dissolved Oxygen	MG/L	-	0.00	0.00

*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 estiamted quantitation limit

D - Diluted analysis

J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

Advanced Selection: WG Apr13 Tab:
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 5/20/2013 1:55:08 PM
([LOGDATE] BETWEEN #05/01/03# AND #4/10/13#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD

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

Location ID			MW-07R	MW-07R
Sample ID			20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			09/24/12	04/09/13
Parameter	**Units**	**Criteria***		
Field Parameter				
Ferrous Iron	MG/L	-	30.4	27.5
Ferric Iron (calculated)	MG/L	-	NA	NA
Oxidation-Reduction Potential	mV	-	-118	-89
pH	S.U.	-	6.69	6.35
Specific Conductance	MS/CM	-	1.78	4.84
Temperature	DEG C	-	22.35	17.93
Turbidity	NTU	-	0.0	53.9

*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 estiamted quantitation limit

D - Diluted analysis

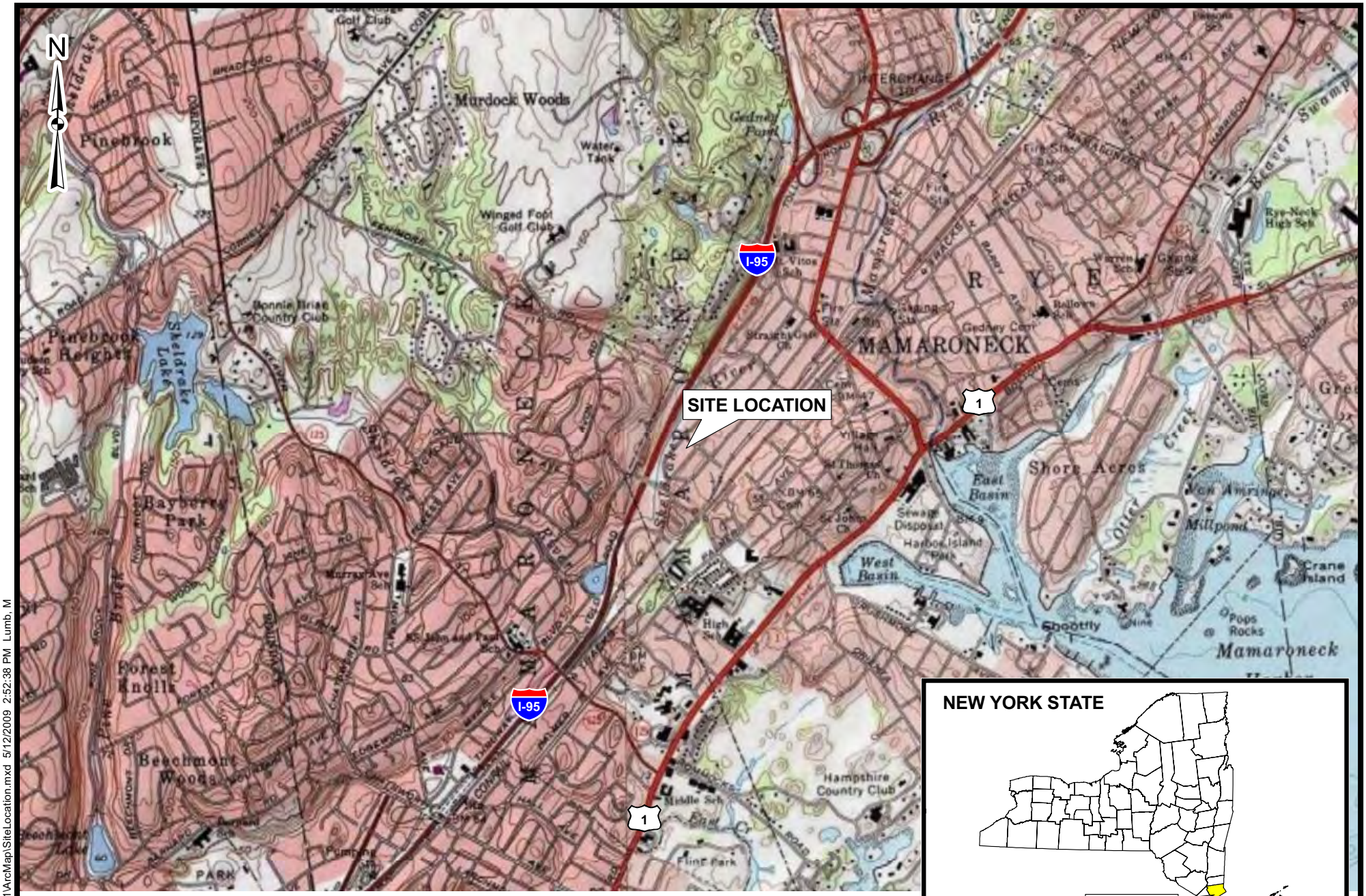
J (or B for Inorganics) - Analyte is reported below the PQL at an estimated concentration. NJ - Presumptive evidence that compound is present.

R - Rejected result NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

FIGURES



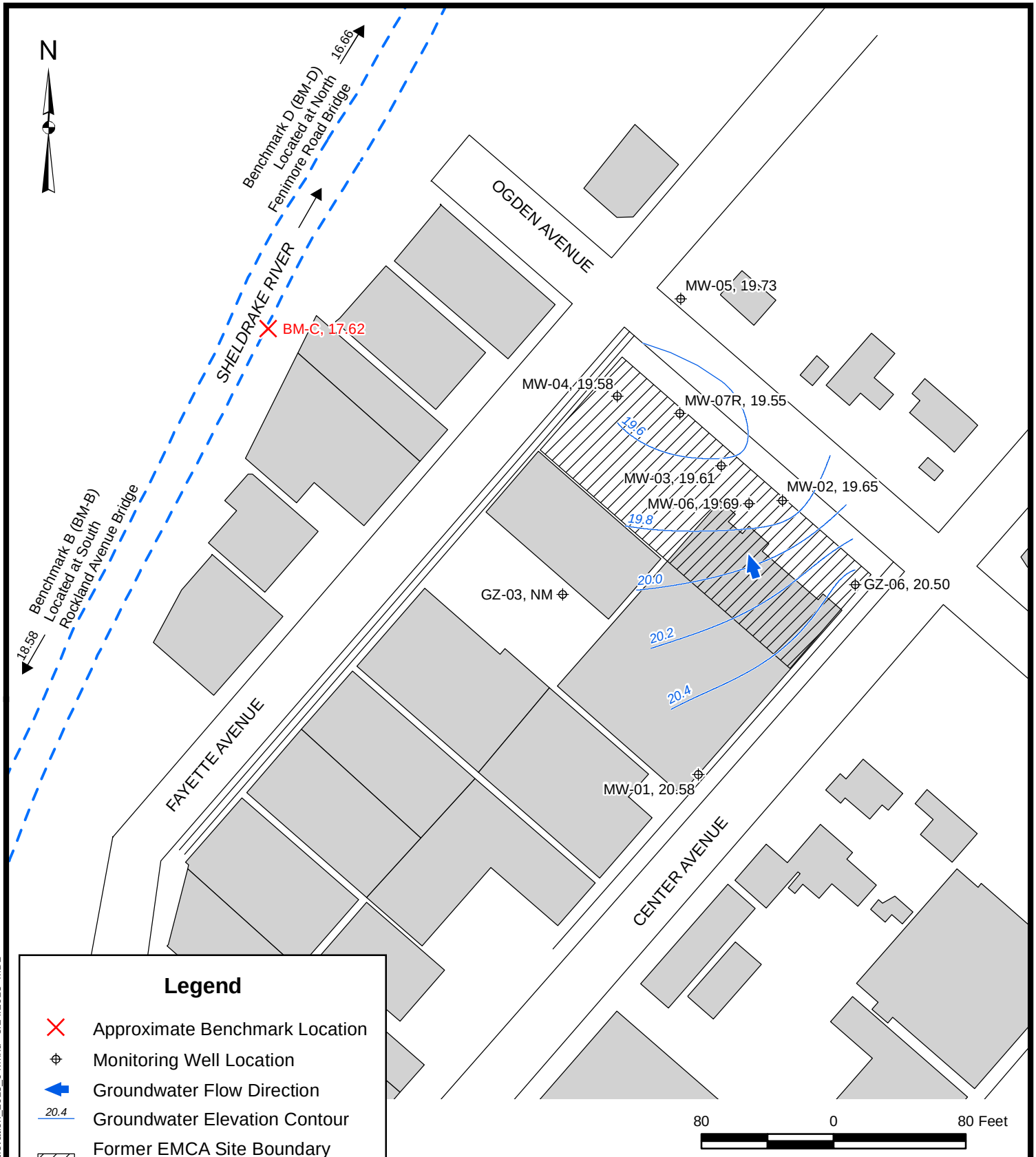
SOURCE: USGS Topographical Quadrangle Mount Vernon, New York, 1979 and Mamaroneck, New York, 1985.

URS

SITE LOCATION MAP

FIGURE 1

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



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 8 & 9, 2013)

FIGURE 2

N:\11172730.00000\DB\GIS\2001\ArcMap\GW_Elevation_2013_04.mxd 5/24/2013 MDL

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	9/11	4/12	9/12	4/13
Freon-113	11	ND	ND	ND	ND	0.7J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon-123A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon-1113	ND	ND	ND	ND	ND	ND	1.0J	ND	0.7J	0.6J	ND	1.0J	ND	1.0J	15	7.7J	12	2.8	5J	1.2	7.2J	2.5	4.4J

MW-05	7/00	7/01	5/03	12/03	7/04
Freon-113	7	ND	ND	ND	0.5J
Freon-123A	ND	ND	ND	ND	ND
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	9/11	4/12	9/12	4/13
Freon-113	17000	11000	13000	5800	68	26	150	4900J	2J	ND	ND	10	2.0J	0.5J	ND	5.0J	0.9J	ND	ND	ND	32	5.4	20J	1.1	27
Freon-123A	ND	ND	ND	78J	43	180	170	3900J	14	1.0J	0.8J	48	7.0J	4.0J	1.0J	40	2.1	ND	0.5J	ND	99J	9.4	36	3.2	30
Freon-1113	ND	ND	ND	ND	7	6.2	ND	68J	83	2.0J	51	39	54	13J	10	38	20	17J	26	4.6	110J	82	150J	130	160J

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	9/11	4/12	9/12	4/13
Freon-113	5400	8500	6100	370	110J	ND	ND	ND	ND	6.0J	ND	3.0J	46	580	18J	1.1J	53J	18	1.6	67J	5.9J	5.5
Freon-123A	68J	130J	130J	940	50	2.0J	ND	1.0J	3.0J	10	0.9J	16	20	76	8.1	1.8	9.5	6.3J	0.9J	11	2.4J	2.6
Freon-1113	ND	ND	ND	ND	210	140	47	97	89	82	92	170	150	370	150J	390	350	370J	26	630J	430	310J

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	9/11	4/12	9/12	11/12	1/13	2/13	4/13
Freon-113	740	1700	2400	880	1000	54	12	21J	1200	110	890	100	800	290	830J	700	1300	1200	76J	670	580	920	490	1200J	650	65	28	18	12
Freon-123A	ND	ND	ND	40	41J	7.8	3.3J	4J	86J	15	110	10	95	40	72	38J	34J	51	6.1	37	26	33J	26	57	26	29	52	30J	11
Freon-1113	ND	ND	ND	ND	ND	ND	ND	14	120	18	200	21	84	61	120J	160	81J	300	92J	240	180	110J	180	140J	98	380	400	330J	400J

GZ-03	8/07
Freon-113	ND
Freon-123A	ND
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
Freon-113	1274	200	49	900	250	100	230	74	ND	100J	9J	ND	74	2.0J	14	13	ND	ND	ND
Freon-123A	ND	ND	ND	ND	ND	20	41	26	0.7J	36	4.0J	2.0J	23	2.0J	4.0J	10	ND	ND	ND
Freon-1113	ND	ND	ND	ND	ND	ND	ND	5.4	ND	24	15	ND	13	2.0J	1.0J	2.0J	ND	ND	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	9/11	4/12	9/12	4/13
Freon-113	220	180	97	250	140J	1.0J	ND	ND	3J	ND	ND	ND	2.0J	ND	ND	ND	ND	33	ND	82J	3.3	0.19J
Freon-123A	8.8J	9.5	8.6	14	23	16	ND	ND	8J	0.6J	ND	ND	35	ND	3.6	0.57J	ND	38J	4.4	28	3.6	4.9
Freon-1113	ND	5.7	ND	ND	5J	6.0J	6.0J	ND	100	21	8.0J	4.0J	34	6.4	35J	68J	61	96J	30	230J	140	61J

MW-01	8/07
Freon-113	ND
Freon-123A	ND
Freon-1113	ND

Legend

- Existing Monitoring Well Location
- Generalized Groundwater Flow Direction
- Concentration Exceeds NYSDEC TOGS (1.1.1) Class GA Standards
- 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
- 4/13 - Post-2012 Supplemental Injection Sampling Dates

NOTES:
All analytical results are reported in µg/L.
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.
Freon-113 = 1,1,2-Trichloro-1,2,2-trifluoroethane
Freon-123A = 1,2-Dichloro-1,1,2-trifluoroethane
Freon-1113 = Chlorotrifluoroethene

100 0 100 Feet

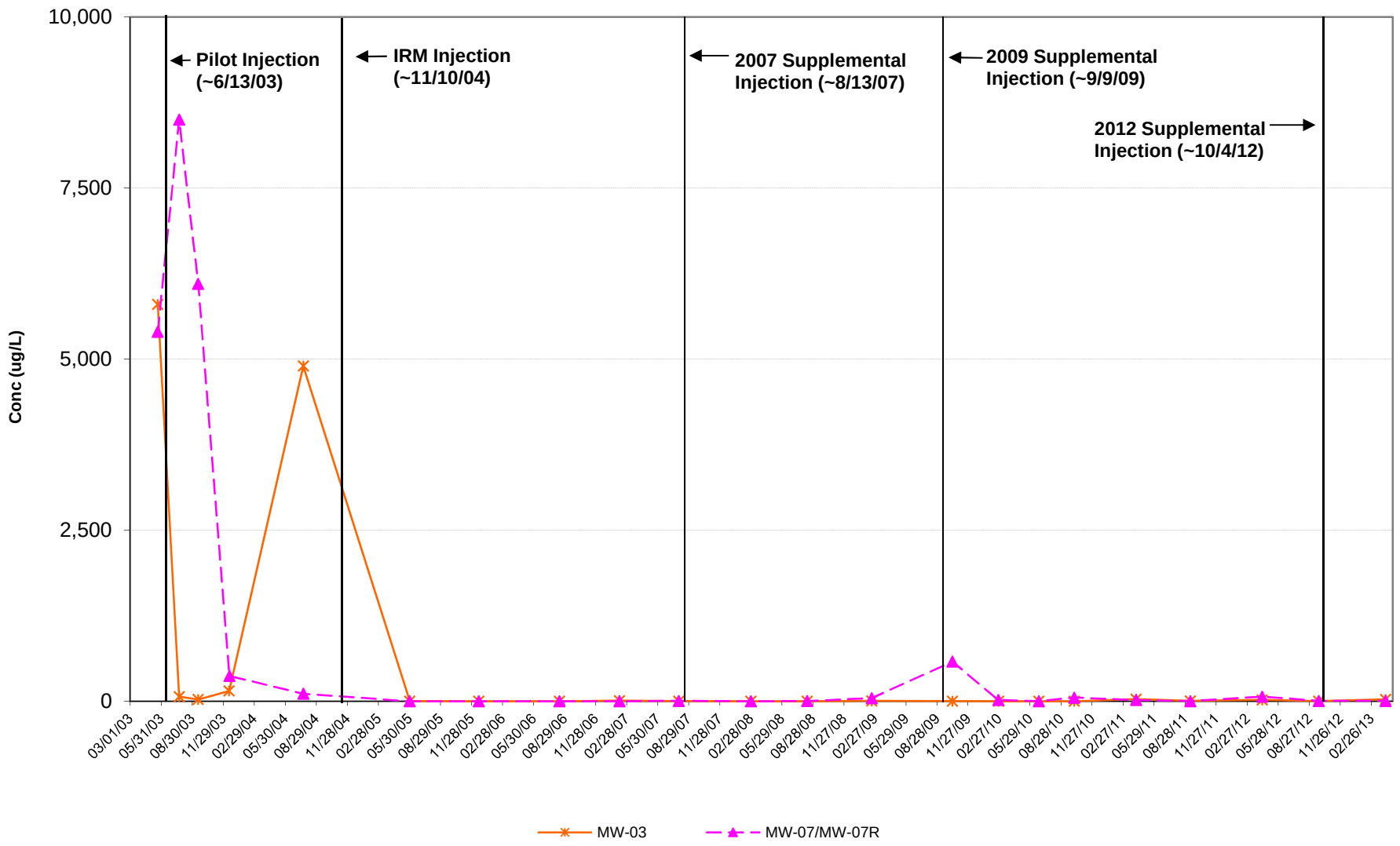
FORMER EMCA SITE
SUMMARY OF FREON DETECTIONS IN GROUNDWATER

URS

FIGURE 3

N:\11172730.00000\DB\GIS\2001\ArcMap\Chemical_Update_2013_04.mxd 6/19/2013 MDL

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



N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2013 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr 2013 - Figure 4

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

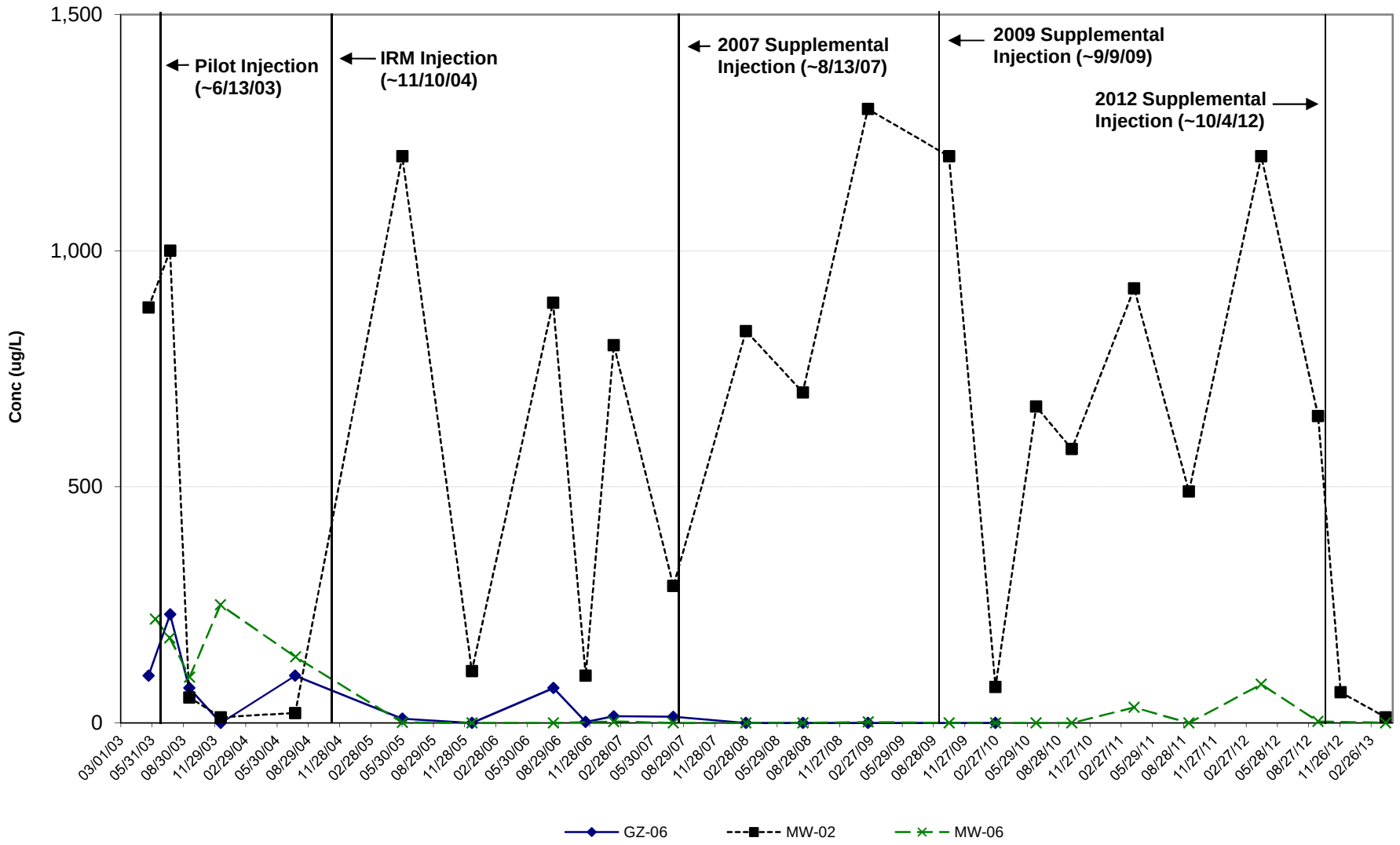


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FIGURE 6
FORMER EMCA SITE
Freon 123a Concentrations

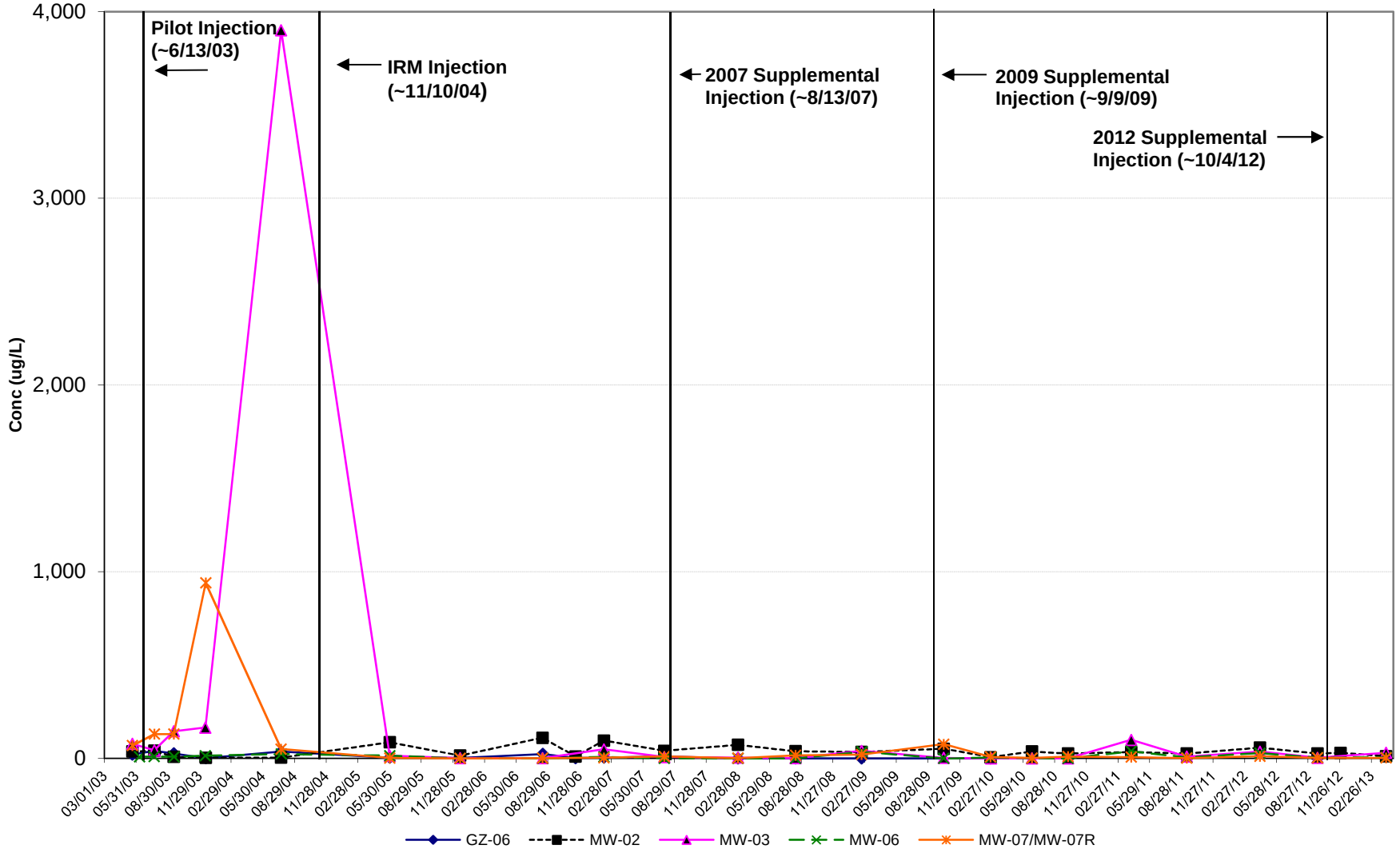

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FIGURE 7
FORMER EMCA SITE
Freon 1113 Concentrations

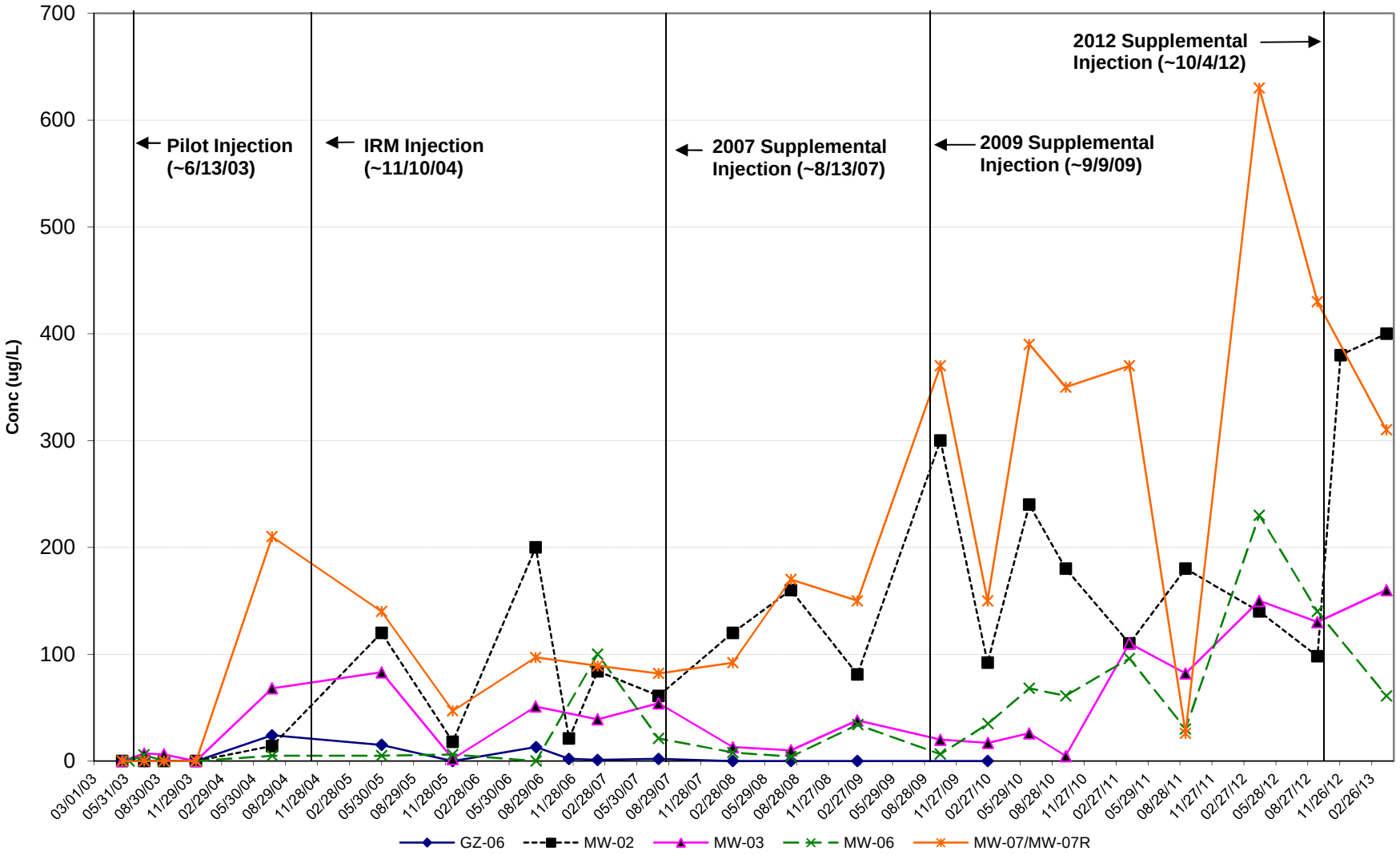

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FIGURE 8
FORMER EMCA SITE
Sulfate Concentrations

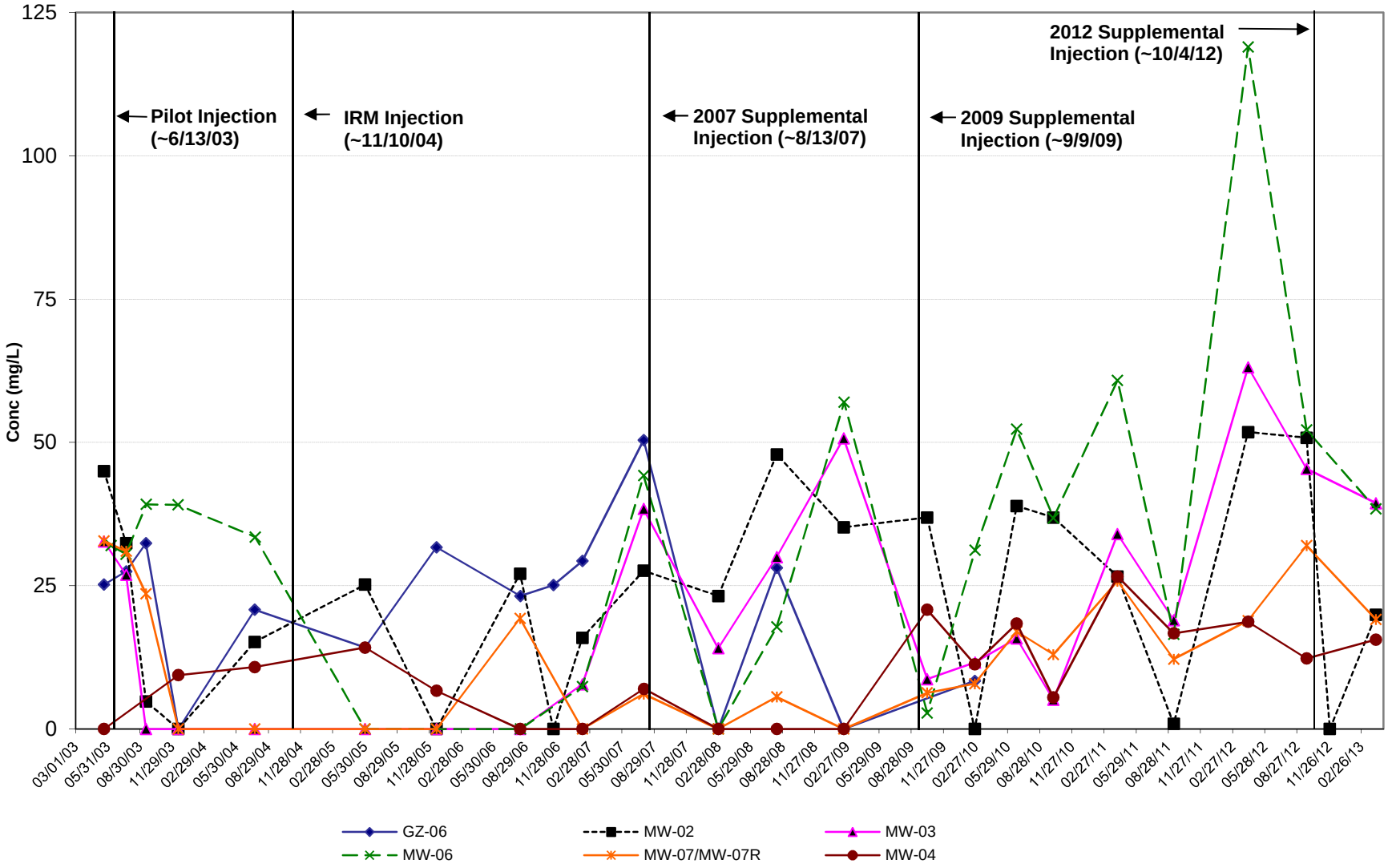

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FIGURE 9
FORMER EMCA SITE
Methane Concentrations

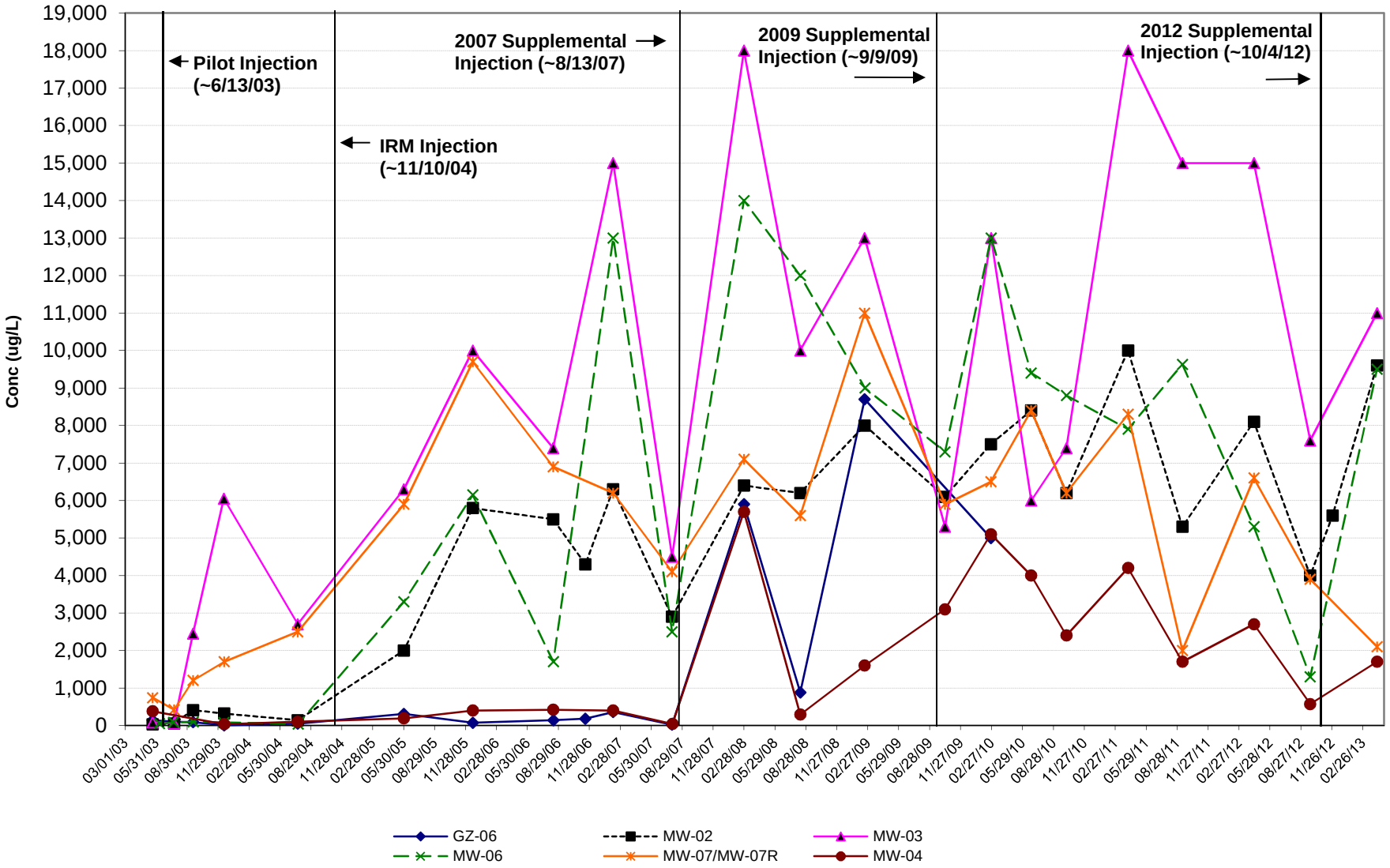

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FIGURE 10
FORMER EMCA SITE
Dissolved Oxygen Concentrations

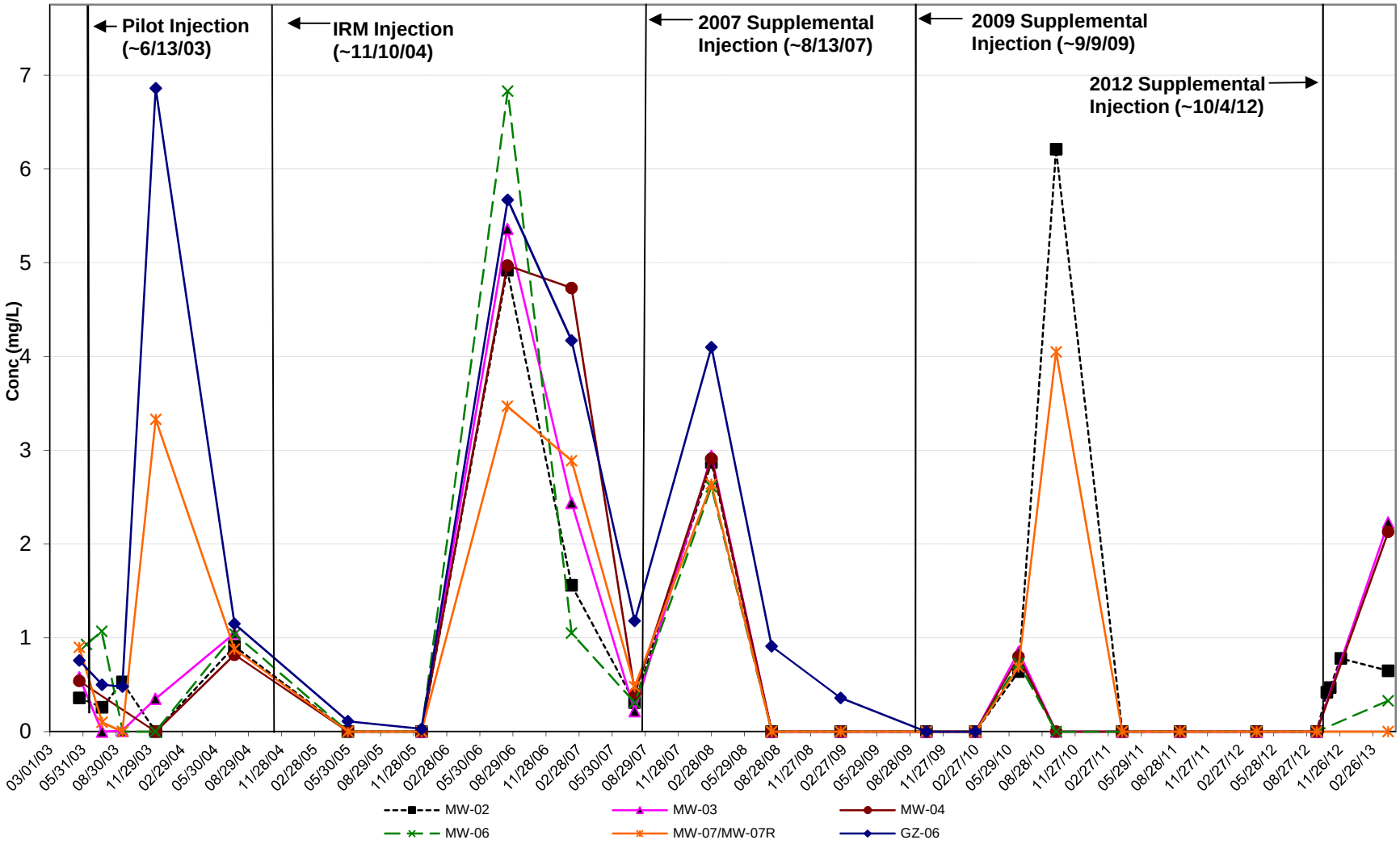

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FIGURE 11
FORMER EMCA SITE
Oxidation-Reduction Potential

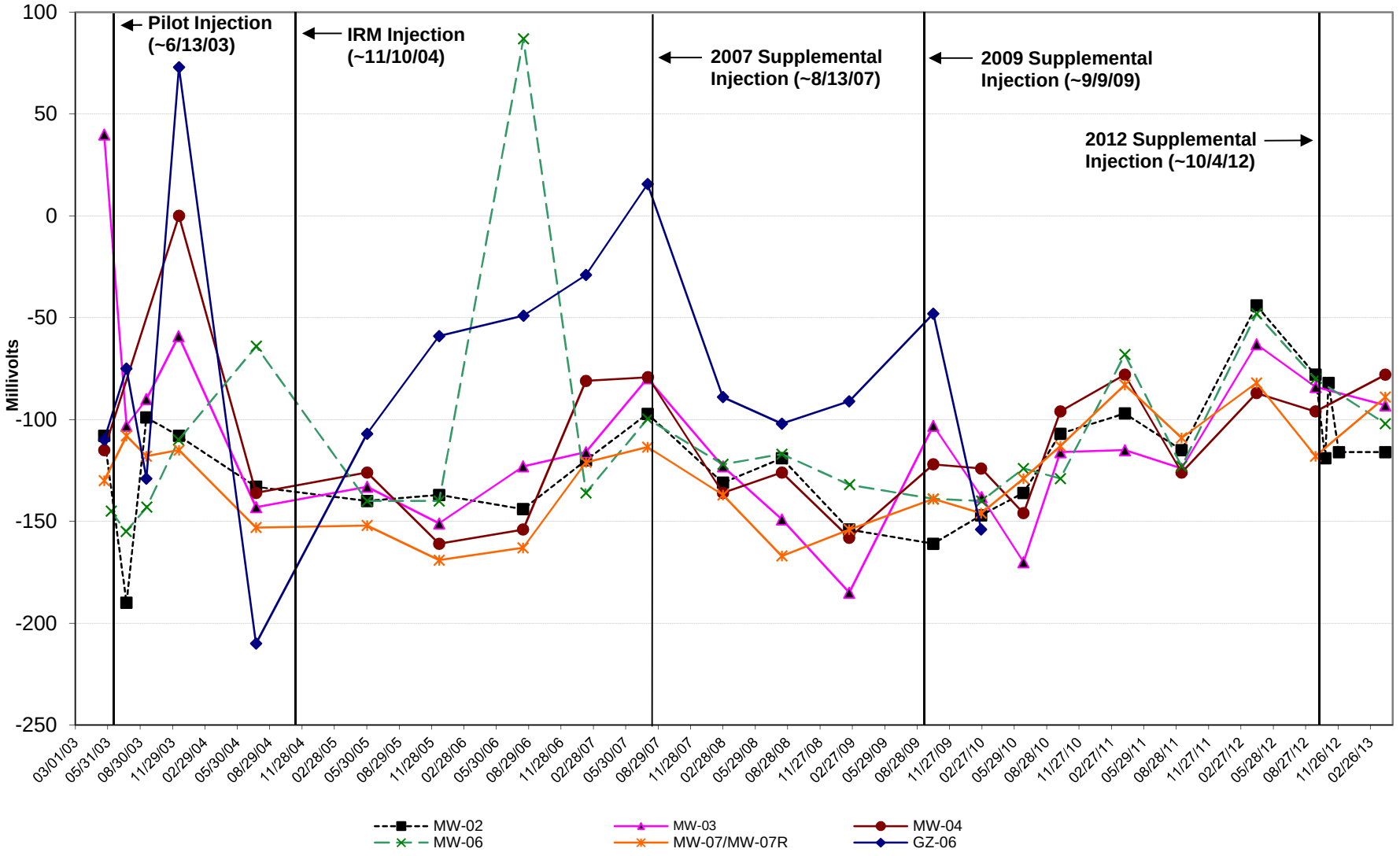

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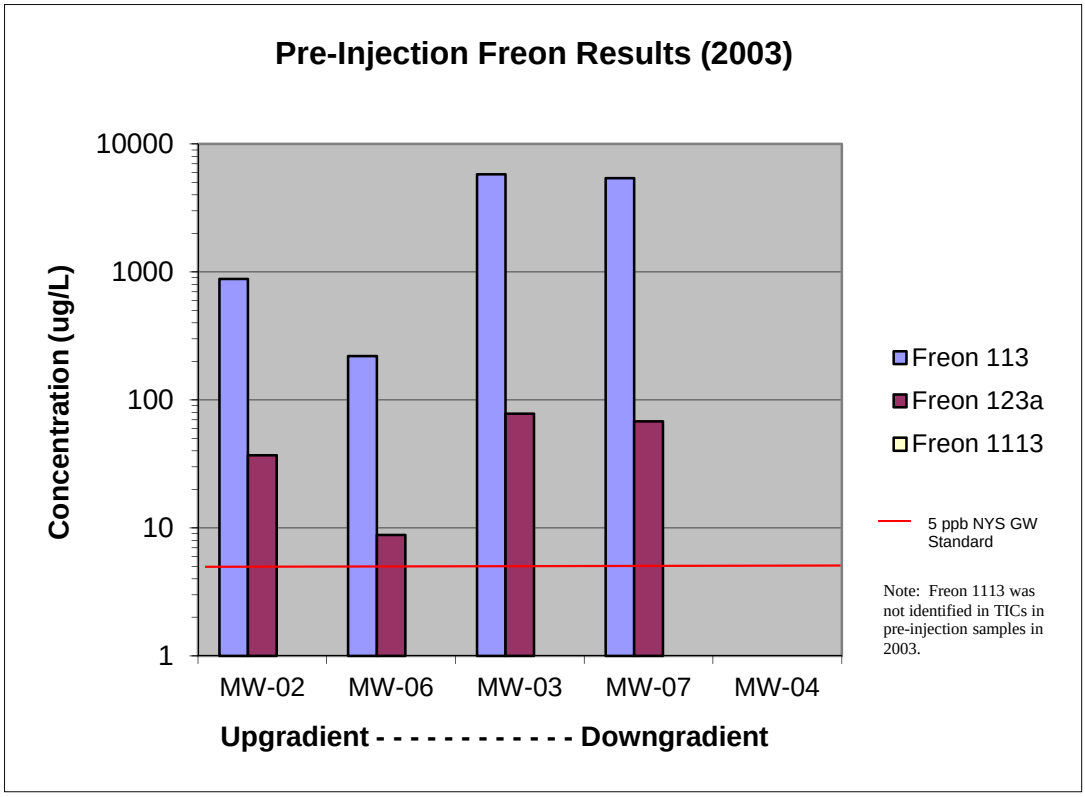
FIGURE 12
FORMER EMCA SITE - FREON CONCENTRATIONS
PRE-INJECTION AND CURRENT RESULTS



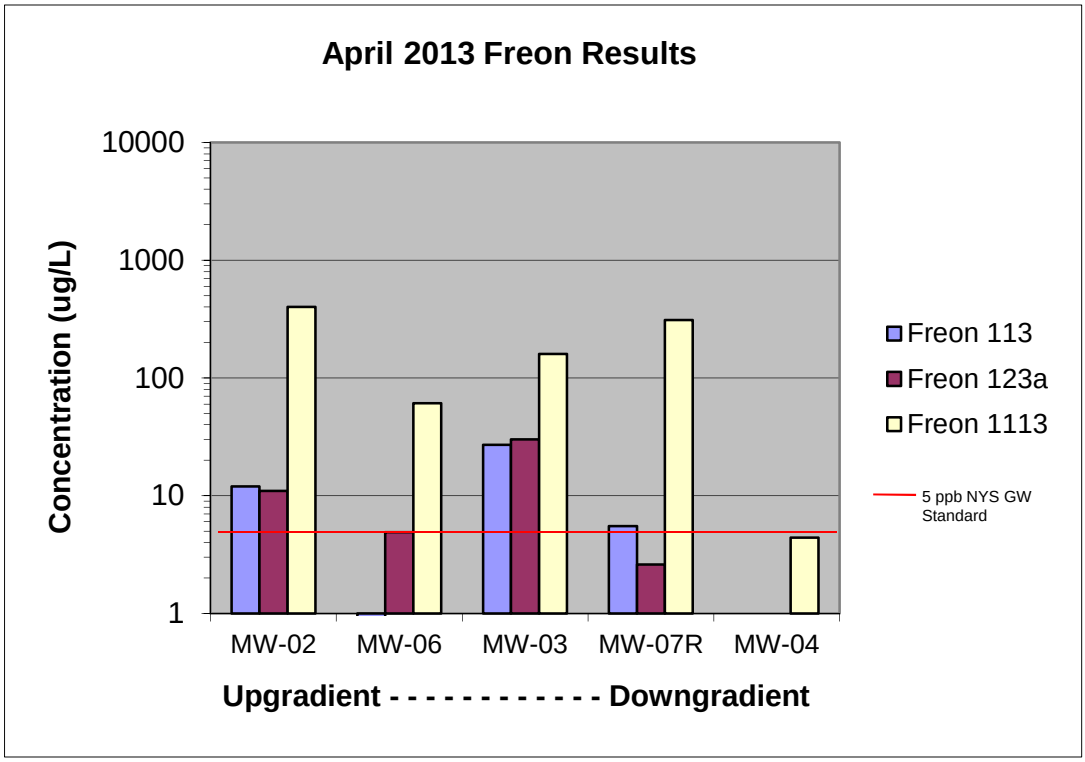
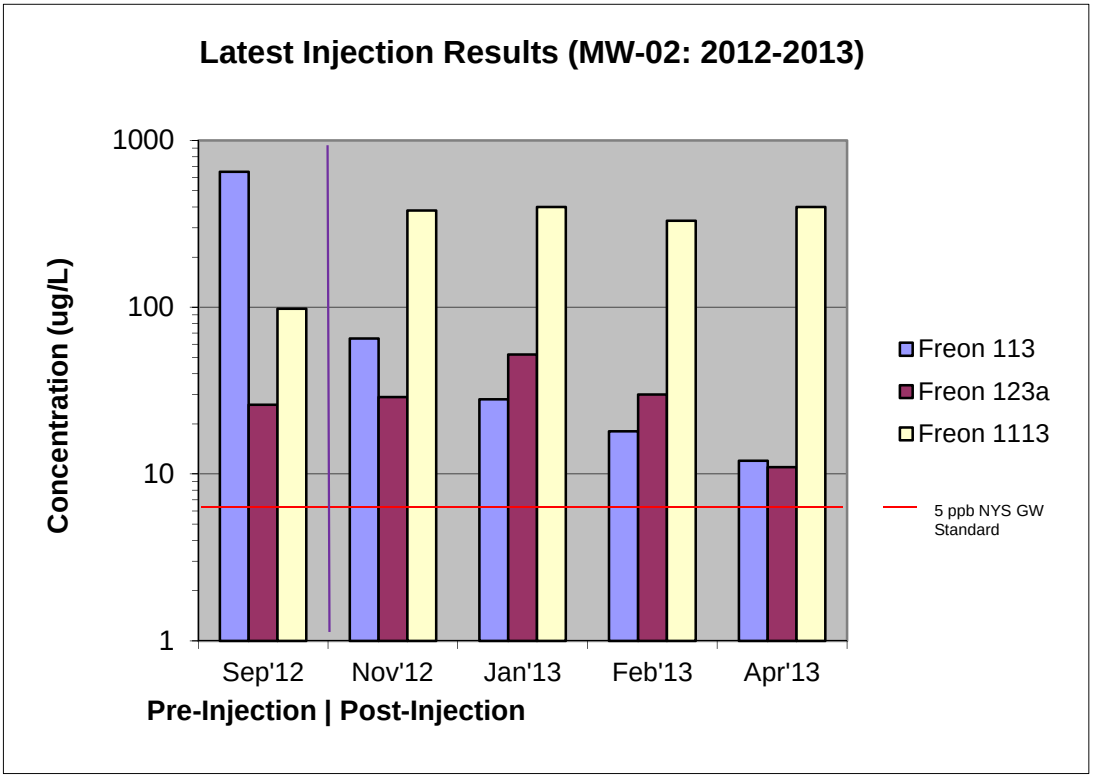
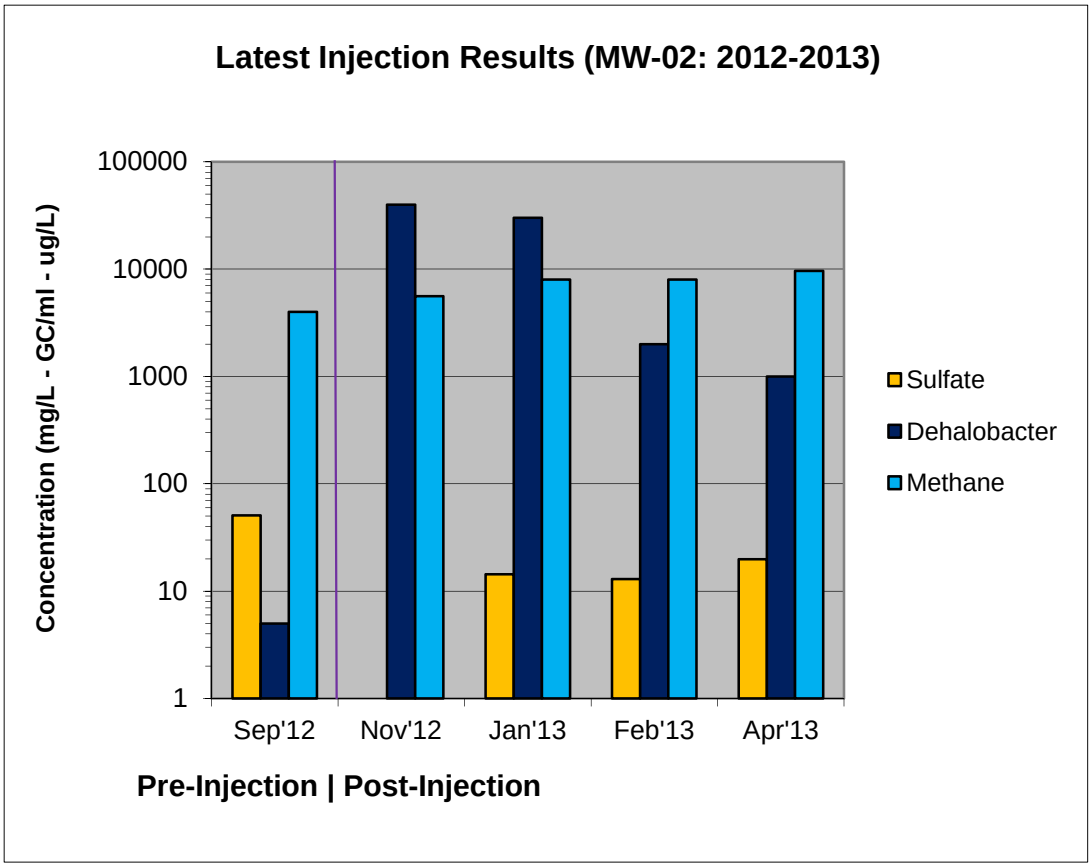
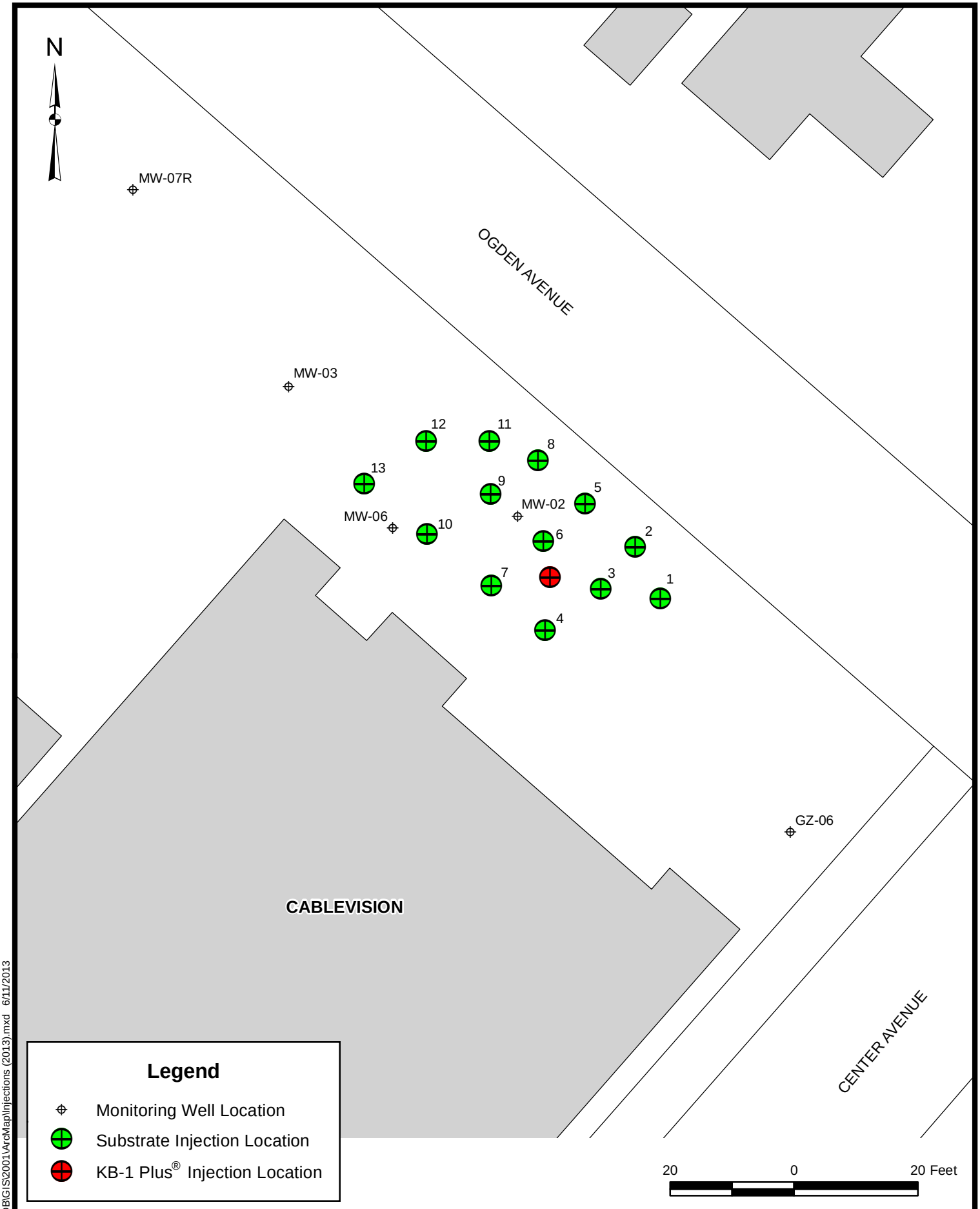


FIGURE 13
RESULTS TRACKING LATEST INJECTION
MW-02 2012-2013







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URS

2013 SUPPLEMENTAL INJECTION LOCATIONS

FIGURE 14

APPENDIX A

LOW FLOW GROUNDWATER PURGING/SAMPLING LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site Site: Mamaroneck, NY Well I.D.: MW-02

Date: 1/15/2013 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 8' bgs

Measuring Point: Below Top of Riser Initial Depth to Water: 5.93 Depth to Well Bottom: 11.76 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.9 Estimated Purge Volume (liters): 9.5

Sample ID: MW-02 Sample Time: 10:10 QA/QC: TB20130115

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate- sent to TestAmerica, Edison, NJ
Dehalobactor and Dehalococcoides - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:32	6.68	13.17	2.89	2.58	20.0	-112	300	6.02
9:37	6.70	13.13	2.80	1.99	11.7	-122	300	6.02
9:42	6.70	13.21	2.68	1.70	4.0	-124	300	6.01
9:47	6.68	13.02	2.60	1.55	0.0	-125	250	5.98
9:52	6.66	13.00	2.57	1.67	0.0	-123	250	5.98
9:57	6.63	13.04	2.50	1.41	0.0	-122	250	5.98
10:02	6.61	13.01	2.47	1.40	0.0	-121	250	5.98
10:07	6.58	13.05	2.43	1.36	0.0	-121	250	5.98
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 ($vol_{cyl} = \pi r^2 h$)

Remarks: faint H2S odor on water

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site Site: Mamaroneck, NY Well I.D.: MW-02

Date: 2/19/2013 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 8' bgs

Measuring Point: Below Top of Riser Initial Depth to Water: 5.57 Depth to Well Bottom: 11.76 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 1.0 Estimated Purge Volume (liters): 10.9

Sample ID: 20130219 MW-02 V10N Sample Time: 9:50 QA/QC: TB20130219

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate; Volatile Fatty Acids- sent to TestAmerica, Edison, NJ
Dehalobactor and Dehalococcoides - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:00	7.01	10.43	2.82	6.35	8.6	-136	250	5.59
9:05	6.80	10.31	2.89	5.93	6.8	-152	250	5.60
9:10	6.80	10.33	2.86	5.97	0.0	-151	250	5.62
9:15	6.81	10.25	2.83	5.97	0.0	-149	225	5.63
9:20	6.82	10.20	2.78	6.22	0.0	-147	225	5.62
9:25	6.81	10.19	2.74	5.91	0.0	-145	225	5.62
9:30	6.82	10.18	2.71	5.55	0.0	-144	250	5.62
9:35	6.82	10.21	2.66	5.25	0.0	-142	250	5.62
9:40	6.81	10.19	2.65	4.84	0.0	-141	250	5.62
9:45	6.82	10.18	2.61	4.57	0.00	-140	250	5.62
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 ($vol_{yl} = \pi r^2 h$)

Remarks: faint H2S odor on water

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow Chemical - Former EMCA Site | Site: Former EMCA Site | Well I.D.: MW-02

Date: 4/9/2013 | Sampling Personnel: Steven Moeller | 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:	5.98	Depth to Well Bottom:	11.50	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	0.9		Estimated Purge Volume (liters):	22.3	

Sample ID: 20130409MW-02V09N / 20130409MW-02V09FD | Sample Time: 0927 | QA/QC: Field Duplicate

Sample Parameters: Freon 113, 1113, 123a; Methane; Sulfate; Nitrate; Total Iron; Hardness; Total Organic Carbon (TOC); Alkalinity; Dehalococcoides: Dehalobacter

Notes: Slight sheen on purge water in bucket, clear
Ferrous Iron = 2.11 mg/L (Dilution - 100 ml distilled water:5 ml groundwater)

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)
0834	5.58	15.35	9.22	1.88	13.7	-105	490	5.91
0840	5.95	14.22	9.16	1.39	13.3	-116	425	6.13
0845	5.93	13.95	8.96	0.82	14.7	-115	400	6.10
0850	5.97	13.71	8.80	0.58	11.3	-115	350	6.09
0855	6.03	13.59	8.64	0.40	6.2	-114	350	6.09
0900	6.06	13.52	8.52	0.26	3.7	-113	350	6.08
0905	6.09	13.46	8.51	0.15	1.9	-112	350	6.08
0910	6.10	13.53	8.42	0.06	0.5	-111	350	6.09
0915	6.18	13.45	8.22	0.02	0.3	-113	350	6.08
0918	6.23	13.38	8.27	0.46	0.1	-115	350	6.08
0921	6.23	13.47	8.25	0.73	0.2	-114	350	6.09
0924	6.23	13.39	8.21	0.69	0.0	-114	350	6.09
0927	6.27	13.29	8.18	0.65	0.0	-116	350	6.08
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: Dow Chemical - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-03

Date: 4/9/2013 Sampling Personnel: Steven Moeller 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:	5.98	Depth to Well Bottom:	14.08	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	1.2		Estimated Purge Volume (liters):	19.0	

Sample ID: 20130409MW-03V10N Sample Time: 1346 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a; Methane; Sulfate; Nitrate; Total Iron; Hardness; Total Organic Carbon (TOC); Alkalinity; Dehalococcoides: Dehalobacter

Notes: Clear, no sheen
Ferrous Iron = 2.36 mg/L (Dilution - 100 ml distilled water:10 ml groundwater)
Duplicate Ferrous Iron = 2.29 mg/L

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)
1250	6.39	26.43	2.90	5.10	19.8	-65	375	6.13
1305	6.38	23.14	2.80	2.83	16.7	-71	355	6.12
1310	6.29	18.25	2.83	1.23	12.3	-74	365	6.13
1315	6.23	16.76	3.02	1.19	14.1	-74	360	6.13
1320	6.27	16.47	3.13	1.27	15.9	-79	390	6.13
1325	6.28	16.38	3.18	1.54	14.9	-82	380	6.16
1330	6.28	16.06	3.20	2.23	15.4	-84	375	6.15
1335	6.28	15.70	3.24	2.53	15.8	-84	395	6.15
1340	6.30	15.48	3.29	2.15	16.5	-87	395	6.15
1343	6.35	15.28	3.33	2.15	17.0	-90	400	6.14
1346	6.39	15.42	3.37	2.23	17.9	-93	380	6.14
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 ($vol_{cyl} = \pi r^2 h$)

Note: Geopump not working properly.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow Chemical - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-04

Date: 4/9/2013 Sampling Personnel: Steven Moeller 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:	5.73	Depth to Well Bottom:	11.65	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	0.9		Estimated Purge Volume (liters):	24.1	

Sample ID: 20130409MW-04V09N / 20130409MW-04V09MS / 20130409MW-04V09MSD Sample Time: 1657 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a; Methane; Sulfate; Nitrate; Total Iron; Hardness; Total Organic Carbon (TOC); Alkalinity; Dehalococcoides: Dehalobacter

Notes: Clear, no sheen, sulfur odor
Ferrous Iron = 1.35 mg/L (Dilution - 100 ml distilled water:10 ml groundwater)

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1555	6.51	23.16	3.98	9.28	10.9	-73	360	5.74
1600	6.51	20.83	3.94	7.61	9.8	-70	450	6.10
1605	6.48	18.62	3.96	6.22	7.6	-67	340	6.10
1610	6.46	18.05	4.06	5.36	7.1	-68	330	6.09
1615	6.43	17.77	4.03	4.86	8.9	-68	330	6.18
1620	6.38	17.41	3.99	4.49	11.3	-67	325	6.19
1625	6.48	17.19	4.00	3.62	9.3	-75	325	6.17
1630	6.44	17.07	3.97	3.40	7.9	-73	325	6.10
1635	6.43	16.81	3.98	3.16	6.3	-74	330	6.10
1640	6.45	16.60	3.99	2.96	5.8	-76	380	6.10
1645	6.45	16.52	3.97	2.74	5.0	-78	340	6.18
1648	6.49	16.59	4.00	2.44	3.1	-80	330	6.18
1651	6.45	16.45	3.98	2.29	2.1	-79	325	6.19
1654	6.44	16.37	3.97	2.20	1.6	-79	325	6.18
1657	6.43	16.39	3.98	2.13	1.7	-78	325	6.19
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 ($vol_{cyl} = \pi r^2 h$)

Note: Geopump not working properly.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow Chemical - Former EMCA Site Site: Former EMCA Site Well I.D.: MW-06

Date: 4/9/2013 Sampling Personnel: Steven Moeller Company: URS Corporation

Purging/ Sampling Device:	Low Flow Peristaltic Pump (GeoPump 2)			Tubing Type:	HDPE and Silicone		Pump/Tubing Inlet Location:	Midpoint of Saturated Screen	
Measuring Point:	Below Top of Riser	Initial Depth to Water:	6.08	Depth to Well Bottom:	18.50	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	1.9		Estimated Purge Volume (liters):	18.1	

Sample ID: 20130409MW-06V12N Sample Time: 1149 QA/QC: --

Sample Parameters: Freon 113, 1113, 123a; Methane; Sulfate; Nitrate; Total Iron; Hardness; Total Organic Carbon (TOC); Alkalinity; Dehalococcoides: Dehalobacter

Notes: Clear, no sheen
Ferrous Iron = 2.15 mg/L (Dilution - 100 ml distilled water:10 ml groundwater)

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)
1100	6.29	18.21	3.58	2.18	36.6	-98	360	6.40
1105	6.23	16.35	3.23	1.98	23.0	-82	380	6.41
1110	6.33	16.37	3.16	1.70	20.9	-89	330	6.38
1115	6.39	16.28	3.04	0.93	13.4	-94	330	6.38
1120	6.34	16.22	3.01	0.35	7.4	-92	320	6.37
1125	6.37	16.25	2.99	0.46	2.2	-95	320	6.37
1130	6.39	16.32	2.98	0.57	0.4	-97	300	6.33
1135	6.43	16.62	2.94	0.44	0.1	-99	300	6.34
1140	6.47	16.72	2.91	0.40	0.5	-102	310	6.33
1143	6.46	16.60	2.90	0.36	0.2	-102	340	6.36
1146	6.47	16.43	2.90	0.32	0.2	-102	330	6.35
1149	6.47	16.34	2.91	0.33	0.2	-102	330	6.35
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

Note: Geopump not working properly.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow Chemical - Former EMCA Site | Site: Former EMCA Site | Well I.D.: MW-07R

Date: 4/9/2013 | Sampling Personnel: Steven Moeller | Company: URS Corporation

Purging/ Sampling Device:	Low Flow Peristaltic Pump (GeoPump 2)			Tubing Type:	HDPE and Silicone		Pump/Tubing Inlet Location:	Midpoint of Saturated Screen	
Measuring Point:	Below Top of Riser	Initial Depth to Water:	6.08	Depth to Well Bottom:	19.80	Well Diameter:	1"	Screen Length:	10'
Casing Type:	PVC			Volume in 1 Well Casing (liters):	2.1		Estimated Purge Volume (liters):	15.4	

Sample ID: 20130409MW-07RV13N | Sample Time: 1510 | QA/QC: --

Sample Parameters: Freon 113, 1113, 123a; Methane; Sulfate; Nitrate; Total Iron; Hardness; Total Organic Carbon (TOC); Alkalinity; Dehalococcoides: Dehalobacter

Notes: Clear, slight sheen on purge water in bucket
Ferrous Iron = 2.50 mg/L (Dilution - 100 ml distilled water:10 ml groundwater)

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)
1435	6.48	23.64	4.64	3.71	76.7	-57	420	6.06
1440	6.45	22.38	4.66	2.73	81.3	-70	355	6.22
1445	6.39	19.88	4.63	1.21	76.2	-83	410	6.25
1450	6.38	18.36	4.72	0.52	66.4	-86	390	6.24
1455	6.38	18.13	4.82	0.28	61.9	-88	400	6.24
1500	6.36	18.05	4.85	0.00	55.3	-88	370	6.22
1505	6.35	17.98	4.85	0.00	57.7	-88	365	6.23
1510	6.35	17.93	4.84	0.00	53.9	-89	360	6.22
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

JANUARY - APRIL 2013 SAMPLING EVENTS

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:

ROHM & HAAS Company
(A Wholly-Owned Subsidiary of The Dow Chemical Company)
3100 State Road
Croydon, PA 19021

Prepared by:

URS CORPORATION
77 Goodell Street
Buffalo, New York 14203

MAY 2013

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ATTACHMENTS
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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 one (1) groundwater sample plus trip blank collected on January 15, 2013; one (1) groundwater sample plus trip blank collected on February 19, 2013; and five (5) groundwater samples, one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank collected on April 9, 2013, and, as summarized on Table B-1. The January-February samples were collected by URS personnel at the Former EMCA Site located in Mamaroneck, New York, as part of the post in situ bioaugmentation monitoring program, while the April samples were collected as part of the semi-annual groundwater monitoring event.

II. ANALYTICAL METHODOLOGIES

The groundwater samples were analyzed for the following parameters by TestAmerica Laboratories, Inc., (TA) located in Edison, New Jersey and Amherst, New York; and SiREM Laboratory located in Guelph, Ontario, Canada. Note, not all groundwater samples were analyzed for all parameters.

Parameter	**Method No.**	**References**
Volatile Organic Compounds (VOCs)*	SW8260B	1
Methane	RSK-175/SW3810	2
Sulfate	ASTM D516-90	3
Alkalinity (total, bicarbonate, carbonate, hydroxide)	SM 2320 B	4
Hardness (calculated)	SM 2340 B	4
Total Iron	200.7	5
Ferrous Iron (Fe^{+2})	Field colorimeter	6
Nitrate	SM 4500-NO3 F	4
Total Organic Carbon (TOC)	SM 5310 B	4
Volatile Fatty Acids (VFA)	Ion Chromatography	TA Standard Operating Procedures (SOP)
Bacteria (*Dehalococcoides ethenogenes and Dehalobacter*)	QPCR**	SiREM SOP

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).
** - Quantitative Polymerase Chain Reaction.

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.
4 Standard Methods of Examination of Water and Wastewater, 20th Edition, 1998.
5 40 CFR Part 136, most recent version.
6 Hach Colorimeter using 1,10-Phenanthroline.

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 initial calibrations (ICAL) and continuing calibrations (CCAL) associated with sample 20130219MW-02V10N plus trip blank and all groundwater samples plus trip blanks collected on 04/09/13 exhibited low relative response factors (RRF) (<0.050) for chlorotrifluoroethene (Freon-1113). The detected Freon-1113 results for the affected groundwater samples were qualified 'J', while the non-detect trip blank results were

qualified ‘R’ (rejected).

The VOC CCALs associated with sample 20130219MW-02V10N and trip blank and all groundwater samples plus field QC collected on 04/09/13 exhibited percent differences for 1,2-dichloro-1,2,2-trifluoroethane (Freon-123a) greater than 20.0%. The detected results for Freon-123a for the affected groundwater samples were qualified ‘J’, while the non-detect trip blank results were qualified ‘UJ’.

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

Blank Contamination

The methane method blanks and/or trip blanks exhibited contamination. Since the methane concentrations for the associated samples were several orders of magnitude greater than the method and trip blank concentrations, no qualification of the data was necessary.

Matrix Spike/Matrix Spike Duplicate Recoveries

The sulfate MS/MSD percent recoveries (%Rs) for sample 20130219MW-02V10N were below QC limits (<85%). The sulfate result for this sample was qualified ‘J’.

The VFA MS %R for sample 20130409MW-02V09N was above QC limits (>120%) for acetic acid. The acetic acid result for this sample was qualified ‘J’.

The nitrate MS/MSD %Rs for sample 20130409MW-02V09N were below QC limits (>80%). The nitrate results for all groundwater samples collected on 04/09/13 were qualified ‘J’ or ‘UJ’.

Documentation supporting data qualification (i.e., Form 5) are 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’ (estimated quantitation limit) during the data validation are considered conditionally usable, while results qualified ‘R’ are unusable.

TABLE B-1
SAMPLE AND ANALYSIS SUMMARY - JANUARY TO APRIL 2013
FORMER EMCA SITE, MAMARONECK, NEW YORK

SDG Nos.	Sample ID	Matrix	Date of Collection	VOCs*	Methane	Sulfate	Alkalinity	Hardness	Total Iron	Nitrate	TOC	VFA	Dhc	Dhb	Comments
460-49581-1	20130115MW-02V10N	GW	01/15/13	X	X	X	---	---	---	---	---	---	---	---	---
	TB20130115	Water		X	X	---	---	---	---	---	---	---	---	---	Trip Blank
460-51010-1	20130219MW-02V10N	GW	02/19/13	X	X	X	---	---	---	---	---	X	---	---	---
	TB20130219	Water		X	X	---	---	---	---	---	---	---	---	---	Trip Blank
460-53915-1/ S-2800	20130409MW-02V09N	GW	04/09/13	X	X	X	X	X	X	X	X	X	X	X	---
	20130409MW-02V09FD	GW		X	X	X	X	X	X	X	X	---	---	---	Field Duplicate of MW-02
	20130409MW-03V10N	GW		X	X	X	X	X	X	X	X	---	---	X	---
	20130409MW-04V09N	GW		X	X	X	X	X	X	X	X	---	---	X	MS/MSD
	20130409MW-06V12N	GW		X	X	X	X	X	X	X	X	---	---	X	---
	20130409MW-07RV13N	GW		X	X	X	X	X	X	X	X	---	---	X	---
	TB20130409	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.
Dhc - Dehalococcoides ethenogenes
Dhb - Dehalobacter
GW - Groundwater
MS/MSD - Matrix Spike/Matrix Spike Duplicate
TOC - Total Organic Carbon
VFA - Volatile Fatty Acids

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09ED	20130409MW-02V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	400	330 J	400 J	280 J	160 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	28	18	12	11	27
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	52	30 J	11	11	30
Dissolved Gases							
Methane	UG/L	-	8,000	8,000	9,600	9,000	11,000
Total Metals							
Iron	UG/L	300	NA	NA	56,600	58,100	27,900
Miscellaneous Parameters							
Alkalinity, Total (As CaCO3)	MG/L	-	NA	NA	510	249	367
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	NA	NA	510	249	367
Alkalinity, Carbonate (As CaCO3)	MG/L	-	NA	NA	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	NA	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	2,000	200	NA	60	NA
Dehalobacter	GC/mL	-	30,000	2,000	NA	1,000	40
Hardness (as CaCO3)	MG/L	-	NA	NA	673	653	396
Nitrogen, Nitrate	MG/L	10	NA	NA	0.10 UJ	0.10 UJ	0.21 J
Sulfate	MG/L	250	14.4	13 J	9.2	19.9	39.4
Total Organic Carbon	MG/L	-	NA	NA	31.1	31.1	8.7
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	1 U	NA	29.3 J	NA
Formic Acid	MG/L	-	NA	1 U	NA	1.0 U	NA
Lactic Acid	MG/L	-	NA	1 U	NA	1.0 U	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

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

J - Estimated result UJ - Estimated quantitation limit

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

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[LOGDATE] >= #1/15/2013# AND [MATRIX] = 'WG

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

Location ID			MW-02	MW-02	MW-02	MW-02	MW-03
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatile Fatty Acids							
n-Butyric Acid	MG/L	-	NA	0.19 J	NA	1.0 U	NA
Propionic Acid	MG/L	-	NA	1 U	NA	1.0 U	NA
Pyruvic Acid	MG/L	-	NA	1 U	NA	4.4	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.36	4.57	NA	0.65	2.23
Ferrous Iron	MG/L	-	NA	NA	NA	44.3	26.0
Oxidation-Reduction Potential	mV	-	-121	-140	NA	-116	-93
pH	S.U.	-	6.58	6.82	NA	6.27	6.39
Specific Conductance	MS/CM	-	2.43	2.61	NA	8.18	3.37
Temperature	DEG C	-	13.05	10.18	NA	13.29	15.42
Turbidity	NTU	-	0.0	0.0	NA	0.0	17.9

*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 NA - Not Analyzed R - Rejected

J - Estimated result UJ - Estimated quantitation limit

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

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

Location ID			MW-04	MW-06	MW-07R
Sample ID			20130409MW-04V09N	20130409MW-06V12N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	4.4 J	61 J	310 J
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	0.19 J	5.5
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	4.9	2.6
Dissolved Gases					
Methane	UG/L	-	1,700	9,500	2,100
Total Metals					
Iron	UG/L	300	16,100	24,700	29,000
Miscellaneous Parameters					
Alkalinity, Total (As CaCO3)	MG/L	-	5.0 U	244	263
Alkalinity, Bicarbonate (As CaCO3)	MG/L	-	5.0 U	244	263
Alkalinity, Carbonate (As CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA
Dehalobacter	GC/mL	-	3 U	3 U	4
Hardness (as CaCO3)	MG/L	-	426	337	515
Nitrogen, Nitrate	MG/L	10	0.10 UJ	0.25 J	0.066 J
Sulfate	MG/L	250	15.6	38.4	19.1
Total Organic Carbon	MG/L	-	7.2	5.9	9.3
Volatile Fatty Acids					
Acetic Acid	MG/L	-	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA
Lactic Acid	MG/L	-	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

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

J - Estimated result UJ - Estimated quantitation limit

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

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

Location ID			MW-04	MW-06	MW-07R
Sample ID			20130409MW-04V09N	20130409MW-06V12N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/09/13	04/09/13	04/09/13
Parameter	**Units**	**Criteria***			
Volatile Fatty Acids					
n-Butyric Acid	MG/L	-	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA
Field Parameter					
Dissolved Oxygen	MG/L	-	2.13	0.33	0.00
Ferrous Iron	MG/L	-	14.9	23.7	27.5
Oxidation-Reduction Potential	mV	-	-78	-102	-89
pH	S.U.	-	6.43	6.47	6.35
Specific Conductance	MS/CM	-	3.98	2.91	4.84
Temperature	DEG C	-	16.39	16.34	17.93
Turbidity	NTU	-	1.7	0.2	53.9

*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 NA - Not Analyzed R - Rejected

J - Estimated result UJ - Estimated quantitation limit

UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

S.U. - Standard Units; MS/CM - microsemens per centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

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

Location ID			FIELDQC	FIELDQC	FIELDQC
Sample ID			TB 20130115	TB20130219	20130409TB1
Matrix			Water	Water	Water
Depth Interval (ft)			-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13
Parameter	**Units**	**Criteria***	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1 U	R	R
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 U	1 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	1 UJ	1.0 U
Dissolved Gases					
Methane	UG/L	-	1.7 JB	2.2 JB	2.0 JB

*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
R - Rejected result
J - Estimated result
UJ - Estimated quantitation limit
B - Analyte detected in the associated method blank.
UG/L - Micrograms per Liter

Detection Limits shown are PQL

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ATTACHMENT A

VALIDATED ANALYTICAL RESULTS (FORM 1's)

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

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

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

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

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

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

Client: URS Corporation

Job Number: 460-49581-1

Client Sample ID: **20130116MW-02V10N**

Lab Sample ID: 460-49581-1
Client Matrix: Water

Date Sampled: 01/15/2013 1010
Date Received: 01/17/2013 1045

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

Analysis Method:	3810M	Analysis Batch:	460-144771	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4538.d
Dilution:	20			Initial Weight/Volume:	10 mL
Analysis Date:	01/26/2013 1621			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	8000		34	54

Client: URS Corporation

Job Number: 460-49581-1

Client Sample ID: **TB 20130115**

Lab Sample ID: 460-49581-2TB

Client Matrix: Water

Date Sampled: 01/15/2013 1010

Date Received: 01/17/2013 1045

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

Analysis Method:	3810M	Analysis Batch:	460-144771	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4537.d
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	01/26/2013 1612			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	1.7	J B	1.7	2.7

Client: URS Corporation

Job Number: 460-49581-1

Client Sample ID: **20130115MW-02V10N**

Lab Sample ID: 460-49581-1
Client Matrix: Water

Date Sampled: 01/15/2013 1010
Date Received: 01/17/2013 1045

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-144896	Instrument ID:	VOAMS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	k08920.d
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	01/26/2013 0444			Final Weight/Volume:	5 mL
Prep Date:	01/26/2013 0444				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	28		0.16	2.0
Chlorotrifluoroethene	400		0.36	2.0
1,2-Dichloro-1,1,2-trifluoroethane	52		1.7	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
Toluene-d8 (Surr)	101		70 - 130
Bromofluorobenzene	101		70 - 130

Client: URS Corporation

Job Number: 460-49581-1

Client Sample ID: **TB 20130115**

Lab Sample ID: 460-49581-2TB
Client Matrix: Water

Date Sampled: 01/15/2013 1010
Date Received: 01/17/2013 1045

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-144896	Instrument ID:	VOAMS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	k08912.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	01/26/2013 0136			Final Weight/Volume:	5 mL
Prep Date:	01/26/2013 0136				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.080	U	0.080	1.0
Chlorotrifluoroethene	0.18	U	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.84	U	0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
Toluene-d8 (Surr)	100		70 - 130
Bromofluorobenzene	101		70 - 130

General Chemistry

Client Sample ID: **20130116MW-02V10N**

Lab Sample ID: 460-49581-1
Client Matrix: Water

Date Sampled: 01/15/2013 1010
Date Received: 01/17/2013 1045

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	14.4		mg/L	2.2	5.0	1.0	D516-90, 02

Analysis Batch: 460-143799 Analysis Date: 01/18/2013 1203

Client: URS Corporation

Job Number: 460-51010-1

Client Sample ID: **20130219MW-02V10N**

Lab Sample ID: 460-51010-1
Client Matrix: Water

Date Sampled: 02/19/2013 0950
Date Received: 02/19/2013 1505

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

Analysis Method:	3810M	Analysis Batch:	460-148364	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4606.d
Dilution:	20			Initial Weight/Volume:	10 mL
Analysis Date:	02/22/2013 1347			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	8000		34	54

Client: URS Corporation

Job Number: 460-51010-1

Client Sample ID: **TB20130219**

Lab Sample ID: 460-51010-2TB
Client Matrix: Water

Date Sampled: 02/19/2013 0950
Date Received: 02/19/2013 1505

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

Analysis Method:	3810M	Analysis Batch:	460-148364	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4603.d
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	02/22/2013 1316			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2.2	J B	1.7	2.7

Client: URS Corporation

Job Number: 460-51010-1

Client Sample ID: **20130218MW-02V10N**

Lab Sample ID: 460-51010-1
Client Matrix: Water

Date Sampled: 02/19/2013 0950
Date Received: 02/19/2013 1505

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-148698	Instrument ID:	VOAMS2
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	b52457.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	02/26/2013 0949			Final Weight/Volume:	5 mL
Prep Date:	02/26/2013 0949				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	18		0.080	1.0
Chlorotrifluoroethene	330	J	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	30	J	0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
Toluene-d8 (Surr)	96		70 - 130
Bromofluorobenzene	95		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-51010-1

Client Sample ID: **TB20130219**

Lab Sample ID: 460-51010-2TB
Client Matrix: Water

Date Sampled: 02/19/2013 0950
Date Received: 02/19/2013 1505

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-148698	Instrument ID:	VOAMS2
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	b52455.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	02/26/2013 0905			Final Weight/Volume:	5 mL
Prep Date:	02/26/2013 0905				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.080	U	0.080	1.0
Chlorotrifluoroethene	0.18	U R	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.84	U J	0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
Toluene-d8 (Surr)	97		70 - 130
Bromofluorobenzene	96		70 - 130

5/6/13

General Chemistry

Client Sample ID: **20130219MW-02V10N**

Lab Sample ID: 460-51010-1
Client Matrix: Water

Date Sampled: 02/19/2013 0950
Date Received: 02/19/2013 1505

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	13.0	J	mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-148202	Analysis Date: 02/21/2013 1012						
Acetic acid	0.15	U	mg/L	0.15	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						
Formic-acid	0.11	U	mg/L	0.11	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						
Lactic acid	0.14	U	mg/L	0.14	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						
n-Butyric Acid	0.19	J	mg/L	0.16	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						
Propionic acid	0.17	U	mg/L	0.17	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						
Pyruvic Acid	0.080	U	mg/L	0.080	1.0	1.0	VFA-IC
Analysis Batch: 480-104920	Analysis Date: 02/26/2013 2232						

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09N**

Lab Sample ID: 460-53915-1
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4856.d
Dilution:	50			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1453			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	9000		85	130

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09FD**

Lab Sample ID: 460-53915-2
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4857.d
Dilution:	50			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1502			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	9600		85	130

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-03V10N**

Lab Sample ID: 460-53915-3
Client Matrix: Water

Date Sampled: 04/09/2013 1346
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4858.d
Dilution:	50			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1511			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	11000		85	130

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-04V09N**

Lab Sample ID: 460-53915-4
Client Matrix: Water

Date Sampled: 04/09/2013 1657
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4861.d
Dilution:	10			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1538			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	1700		17	27

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-06V12N**

Lab Sample ID: 460-53915-5
Client Matrix: Water

Date Sampled: 04/09/2013 1149
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4859.d
Dilution:	50			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1520			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	9500		85	130

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-07RV13N**

Lab Sample ID: 460-53915-6
Client Matrix: Water

Date Sampled: 04/09/2013 1510
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4855.d
Dilution:	10			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1444			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2100		17	27

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409TB1**

Lab Sample ID: 460-53915-7
Client Matrix: Water

Date Sampled: 04/09/2013 0000
Date Received: 04/10/2013 0910

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

Analysis Method:	3810M	Analysis Batch:	460-155118	Instrument ID:	VOAGC2
	N/A	Prep Batch:	N/A	Lab File ID:	scrf4850.d
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	04/11/2013 1346			Final Weight/Volume:	10 mL
Prep Date:	N/A				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2.0	J B	1.7	2.7

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09N**

Lab Sample ID: 460-53915-1
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69190.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0102			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0102				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	11		0.080	1.0
Chlorotrifluoroethene	280	J	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	11		0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 130
Toluene-d8 (Surr)	104		70 - 130
Bromofluorobenzene	111		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09FD**

Lab Sample ID: 460-53915-2
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69191.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0127			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0127				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	12		0.080	1.0
Chlorotrifluoroethene	400 J		0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	11		0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 130
Toluene-d8 (Surr)	106		70 - 130
Bromofluorobenzene	111		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-03V10N**

Lab Sample ID: 460-53915-3
Client Matrix: Water

Date Sampled: 04/09/2013 1346
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69192.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0153			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0153				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	27		0.080	1.0
Chlorotrifluoroethene	160	J	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	30		0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 130
Toluene-d8 (Surr)	100		70 - 130
Bromofluorobenzene	106		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-04V09N**

Lab Sample ID: 460-53915-4
Client Matrix: Water

Date Sampled: 04/09/2013 1657
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69202.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0606			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0606				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.080	U	0.080	1.0
Chlorotrifluoroethene	4.4 J		0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.84	U	0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
Toluene-d8 (Surr)	106		70 - 130
Bromofluorobenzene	111		70 - 130

4/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-06V12N**

Lab Sample ID: 460-53915-5
Client Matrix: Water

Date Sampled: 04/09/2013 1149
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-156052	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69242.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/18/2013 0147			Final Weight/Volume:	5 mL
Prep Date:	04/18/2013 0147				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.19	J	0.080	1.0
Chlorotrifluoroethene	61 J		0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	4.9		0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 130
Toluene-d8 (Surr)	105		70 - 130
Bromofluorobenzene	112		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-07RV13N**

Lab Sample ID: 460-53915-6
Client Matrix: Water

Date Sampled: 04/09/2013 1510
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69194.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0243			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0243				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	5.5		0.080	1.0
Chlorotrifluoroethene	310	J	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	2.6		0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 130
Toluene-d8 (Surr)	100		70 - 130
Bromofluorobenzene	107		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409TB1**

Lab Sample ID: 460-53915-7
Client Matrix: Water

Date Sampled: 04/09/2013 0000
Date Received: 04/10/2013 0910

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	460-155816	Instrument ID:	VOAMS13
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	p69189.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/17/2013 0037			Final Weight/Volume:	5 mL
Prep Date:	04/17/2013 0037				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.080	U	0.080	1.0
Chlorotrifluoroethene	0.18	U R	0.18	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.84	U	0.84	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 130
Toluene-d8 (Surr)	100		70 - 130
Bromofluorobenzene	105		70 - 130

5/6/13

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09N**

Lab Sample ID: 460-53915-1
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155415	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04142013.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/14/2013 1245			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	58100		80.9	150

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-02V09FD**

Lab Sample ID: 460-53915-2
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155415	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04142013.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/14/2013 1249			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	56600		80.9	150

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-03V10N**

Lab Sample ID: 460-53915-3
Client Matrix: Water

Date Sampled: 04/09/2013 1346
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155415	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04142013.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/14/2013 1253			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	27900		80.9	150

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-04V09N**

Lab Sample ID: 460-53915-4
Client Matrix: Water

Date Sampled: 04/09/2013 1657
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155349	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04122013A.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/12/2013 2009			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	16100		80.9	150

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-06V12N**

Lab Sample ID: 460-53915-5
Client Matrix: Water

Date Sampled: 04/09/2013 1149
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155415	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04142013.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/14/2013 1256			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	24700		80.9	150

Client: URS Corporation

Job Number: 460-53915-1

Client Sample ID: **20130409MW-07RV13N**

Lab Sample ID: 460-53915-6
Client Matrix: Water

Date Sampled: 04/09/2013 1510
Date Received: 04/10/2013 0910

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-155415	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-155103	Lab File ID:	04142013.asc
Dilution:	1.0			Initial Weight/Volume:	100 mL
Analysis Date:	04/14/2013 1300			Final Weight/Volume:	100 mL
Prep Date:	04/11/2013 1333				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	29000		80.9	150

General Chemistry

Client Sample ID: **20130409MW-02V09N**

Lab Sample ID: 460-53915-1
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	19.9		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1648						
Hardness as calcium carbonate	653		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.047	U J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1221						
Total Organic Carbon	31.1		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2120						
Acetic acid	29.3	J	mg/L	0.15	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						
Formic-acid	0.11	U	mg/L	0.11	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						
Lactic acid	0.14	U	mg/L	0.14	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						
n-Butyric Acid	0.16	U	mg/L	0.16	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						
Propionic acid	0.17	U	mg/L	0.17	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						
Pyruvic Acid	4.4		mg/L	0.080	1.0	1.0	VFA-IC
Analysis Batch: 480-112290	Analysis Date: 04/11/2013 2030						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	249		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1831						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1831						
Alkalinity	249		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1831						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1831						

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F

General Chemistry

Client Sample ID: **20130409MW-02V09FD**

Lab Sample ID: 460-53915-2
Client Matrix: Water

Date Sampled: 04/09/2013 0927
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	9.2		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1648						
Hardness as calcium carbonate	673		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.047	U J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1222						
Total Organic Carbon	31.1		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2140						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	510		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1838						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1838						
Alkalinity	510		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1838						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1838						

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General Chemistry

Client Sample ID: **20130409MW-03V10N**

Lab Sample ID: 460-53915-3
Client Matrix: Water

Date Sampled: 04/09/2013 1346
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	39.4		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1650						
Hardness as calcium carbonate	396		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.21	J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1224						
Total Organic Carbon	8.7		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2239						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	367		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1844						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1844						
Alkalinity	367		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1844						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1844						

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General Chemistry

Client Sample ID: **20130409MW-04V09N**

Lab Sample ID: 460-53915-4
Client Matrix: Water

Date Sampled: 04/09/2013 1657
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	15.6		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1707						
Hardness as calcium carbonate	426		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.047	U J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1203						
Total Organic Carbon	7.2		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2259						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1850						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1850						
Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1850						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1850						

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General Chemistry

Client Sample ID: **20130409MW-06V12N**

Lab Sample ID: 460-53915-5
Client Matrix: Water

Date Sampled: 04/09/2013 1149
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	38.4		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1650						
Hardness as calcium carbonate	337		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.25	J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1225						
Total Organic Carbon	5.9		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2318						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	244		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1856						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1856						
Alkalinity	244		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1856						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1856						

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General Chemistry

Client Sample ID: **20130409MW-07RV13N**

Lab Sample ID: 460-53915-6
Client Matrix: Water

Date Sampled: 04/09/2013 1510
Date Received: 04/10/2013 0910

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	19.1		mg/L	2.2	5.0	1.0	D516-90, 02
Analysis Batch: 460-155617	Analysis Date: 04/15/2013 1650						
Hardness as calcium carbonate	515		mg/L	8.1	25.0	1.0	SM 2340C
Analysis Batch: 460-155133	Analysis Date: 04/11/2013 1440						
Nitrate as N	0.066	J	mg/L	0.047	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-154897	Analysis Date: 04/10/2013 1227						
Total Organic Carbon	9.3		mg/L	0.30	1.0	1.0	SM 5310B
Analysis Batch: 460-155054	Analysis Date: 04/10/2013 2338						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Bicarbonate Alkalinity as CaCO3	263		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1902						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1902						
Alkalinity	263		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1902						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-155489	Analysis Date: 04/12/2013 1902						

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Customer Reference: 415

SiREM Reference: S-2800
Report Date: 24-Apr-13
Data Files: MyiQ-DHC-QPCR-1002
MyiQ-DB-DHC-QPCR-0369

Table 1a: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	*Dehalococcoides* Enumeration/Liter **
20130409MW-02V09N	DHC-9230	9-Apr-13	Groundwater	0.008 - 0.03 %	6×10^4

(CEQ/L)

60 CEQ/mL

Notes:

* Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

** Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantification limit.
B Analyte was also detected in the method blank.
NA Not applicable as *Dehalococcoides* not detected and/or quantifiable DNA not extracted from the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
E Extracted genomic DNA was not detected in sample.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Coordinator

SiREM
Leading Science · Lasting Solutions

130 Research Lane, Ste 2
Guelph ON N1G 5G3
(519) 822-2265

Certificate of Analysis: Gene-Trac® *Dehalobacter* Assay

Customer: Peter Fairbanks, URS Corporation
Project: Former EMCA Site
Customer Reference: 415

SiREM Reference: S-2800
Report Date: 24-Apr-13
Data Files: iQ5-DHB-QPCR-0239
iQ5-DB-DHB-QPCR-0059
DHC-UP-0739

Table 1b: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhb*	*Dehalobacter* 16S rRNA Gene Copies/Liter
20130409MW-02V09N	DHB-0754	9-Apr-13	Groundwater	0.2 - 0.5 %	1×10^6
20130409MW-03V10N	DHB-0755	9-Apr-13	Groundwater	0.004 - 0.01 %	4×10^4
20130409MW-04V09N	DHB-0756	9-Apr-13	Groundwater	NA	3×10^3U
20130409MW-06V12N	DHB-0757	9-Apr-13	Groundwater	NA	3×10^3U
20130409MW-07RV13N	DHB-0758	9-Apr-13	Groundwater	0.0009 - 0.003 %	4×10^3

GC/mL
1000
40
3 U
3 U
4

Notes:

* Percent Dehalobacter (Dhb) in microbial population. This value is calculated by dividing the number of Dhb 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhb enumeration.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantification limit.
B Analyte was also detected in the method blank.
NA Not applicable as *Dehalobacter* not detected and/or quantifiable DNA not extracted from the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
E Extracted genomic DNA was not detected in sample.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Coordinator

ATTACHMENT B

SUPPORT DOCUMENTATION

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

01/30/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Tim Ifkovich	Megan Dascoli	Rohm & Haas/Former EMCA/Dow Site
Company: URS Corp	P. O. # 41569290.00005	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program:
Address: 77 Goodell St	Analysis Turnaround Time: Standard ☐	
City: Buffalo, State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 716 856-5636 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	Freon 113, 123a, 113	Methane	Sulfate								LAB USE ONLY Project No: / Job No: 49581 / Sample Numbers
20130115MW-02VION	1/15/13	1010	GW	7	X	X	X								1
TB 20130115	1/15/13	1010	W	6	X	X									2
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other ____, 7 = Other ____				Soil:											
				Water:	1,2	1,2	1								

Special Instructions Water Metals Filtered (Yes/No)? ____

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	URS	1/15/13 1138	1)	TA NYC
2)	TANYC	1/15/13 13:55	2) 1/16/13 0900	TA NYC
3)	TA Buffalo	1/16/13 1500	3) FED EX 10:45	TA EDI
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0408)

Massachusetts (M-NJ312), North Carolina (No. 578) CS 487858 25#3

3.0 / 3.4 IR#

CASE NARRATIVE

Client: URS Corporation

Project: Rohm and Haas - Former EMCA Site

Report Number: 460-49581-1

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 01/17/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.4 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 460-49581-1 and 460-49581-2 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 01/26/2013.

Methane was detected in method blank MB 460-144771/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

The following sample was diluted to bring the concentration of the target analyte within the calibration range: 20130115MW-02V10N (460-49581-1). Elevated reporting limits (RLs) are provided.

Sample 460-49581-1(20X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the dissolved gases analyses.

All other quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples 460-49581-1 and 460-49581-2 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/26/2013.

The following sample was diluted to bring the concentration of target analytes within the calibration range: 20130115MW-02V10N (460-49581-1). Elevated reporting limits (RLs) are provided.

Sample 460-49581-1(2X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analyses.

All quality control parameters were within the acceptance limits.

SULFATE
Sample 460-49581-1 was analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 01/18/2013.

Sulfate failed the recovery criteria low for the MS of sample 450-8828-1 in batch 460-143799.

Sulfate failed the recovery criteria low for the MSD of sample 450-8828-1 in batch 460-143799.

Refer to the QC report for details.

No other difficulties were encountered during the sulfate analysis.

All other quality control parameters were within the acceptance limits.

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

03/03/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Peter Fairbanks
Samplers Name (Printed): Megan Dascoli
Site/Project Identification: Dow/Rohm&Haas/Former EMCA
Company: URS
P. O. #: 41569290,0005
State (Location of site): NJ: ☐ NY: ☒ Other:
Regulatory Program:
Address: 77 Goodell St
City: Buffalo State: NY
Phone: 716 856 5636 ~~Fax~~

Analysis Turnaround Time: Standard ☒
Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐

LAB USE ONLY
Project No:
Job No: 51010

ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	Freon 113, 123a, 1113	Methane	Sulfate	Volatile Fatty Acids	Sample Numbers
20130219MW-02VION	2/19/13	950	GW	10	X	X	X	X	-1
TB20130219	2/19/13	950	W	4	X	X			-2

Sub Work

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other ____, 7 = Other ____

Soil:
Water: 2,1 | 2,1 | 1 | 1

Special Instructions: For Edison, NJ

Water Metals Filtered (Yes/No)? ____

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	URS	2/19/13 11:35	1) [signature]	TA NYC
2) Rahul Master	TA NYC.	2/19/13 15:05	2) [signature]	TA Ed
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578) 1.0/2.1 IR# 4 Wet, 1

TAL - 0016 (0406)

TestAmerica Edison
777 New Durham Road
Edison, NJ 08817
Phone (732) 549-3900 Fax (732) 549-3679

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Tanico, Thomas	Carrier Tracking No(s):	COC No: 460-20221.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: thomas.tanico@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 460-53915-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 4/22/2013			Preservation Codes:
City: Amherst	TAT Requested (days):			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Rohm and Haas - Former EMCA Site	Project #: 46004368			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	VFA_IC/ Standard VFA Compounds	Special Instructions/Note:
20100409MW-02V09N (460-53915-1)	4/9/13	09:27 Eastern		Water	X	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	4/10/13 1300	Test		04/11/13 0815	TABuffalo
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:	1.9°C #3

04/23/2013

CASE NARRATIVE

Client: URS Corporation

Project: DOW/Rohm and Haas - Former EMCA Site

Report Number: 460-51010-1

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 02/19/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.1 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 460-51010-1 and 460-51010-2 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 02/22/2013.

Methane was detected in method blank MB 460-148364/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

The following sample was diluted to bring the concentration of the target analyte within the calibration range: 20130219MW-02V10N (460-51010-1). Elevated reporting limits (RLs) are provided.

Sample 460-51010-1(20X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the dissolved gases analyses.

All other quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples 460-51010-1 and 460-51010-2 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2013.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 148698 were outside control limits for Chlorotrifluoroethene. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Refer to the QC report for details.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

SULFATE
Sample 460-51010-1 was analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 02/21/2013.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 148202 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Sulfate failed the recovery criteria low for the MSD of sample 460-51010-1 in batch 460-148698.

Refer to the QC report for details.

No other difficulties were encountered during the sulfate analysis.

All other quality control parameters were within the acceptance limits.

VOLATILE FATTY ACIDS

Sample 460-51010-1 was analyzed for Volatile Fatty Acids in accordance with VFA_IC. The samples were analyzed on 02/26/2013.

No difficulties were encountered during the VFA analysis.

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.: 460-51010-1

SDG No.:

Lab File ID: b52449.d BFB Injection Date: 02/26/2013

Instrument ID: VOAMS2 BFB Injection Time: 06:28

Analysis Batch No.: 148698

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.2	
75	30.0 - 60.0 % of mass 95	46.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.6	(0.6)1
174	50.0 - 120.00 % of mass 95	90.0	
175	5.0 - 9.0 % of mass 174	6.3	(7.0)1
176	95.0 - 101.0 % of mass 174	88.3	(98.2)1
177	5.0 - 9.0 % of mass 176	6.1	(6.9)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 460-148698/2	b52450.d	02/26/2013	06:49
	LCS 460-148698/3	b52451.d	02/26/2013	07:12
	MB 460-148698/4	b52454.d	02/26/2013	08:43
TB20130219	460-51010-2	b52455.d	02/26/2013	09:05
20130219MW-02V10N	460-51010-1	b52457.d	02/26/2013	09:49
20130219MW-02V10N MS	460-51010-1 MS	b52458.d	02/26/2013	10:11
20130219MW-02V10N MSD	460-51010-1 MSD	b52459.d	02/26/2013	10:33

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-51010-1

SDG No.:

Lab Sample ID: CCVIS 460-148698/2 Calibration Date: 02/26/2013 06:49

Instrument ID: VOAMS2 Calib Start Date: 02/26/2013 03:11

GC Column: Rtx-624 ID: 0.25(mm) Calib End Date: 02/26/2013 05:02

Lab File ID: b52450.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	LinF	0.0349	0.0376		18.4	20.0	-8.1	50.0
Dichlorodifluoromethane	LinF	0.2141	0.2213		18.0	20.0	-10.2	50.0
Chloromethane	Ave	0.3142	0.2897	0.1000	18.4	20.0	-7.8	50.0
Vinyl chloride	Ave	0.3113	0.2875		18.5	20.0	-7.7	20.0
Bromomethane	Ave	0.1572	0.1601		20.4	20.0	1.8	50.0
Chloroethane	Ave	0.1507	0.1055		14.0	20.0	-30.0	50.0
Trichlorofluoromethane	Ave	0.3450	0.3043		17.6	20.0	-11.8	50.0
Dichlorofluoromethane	Ave	0.5068	0.4609		18.2	20.0	-9.1	50.0
Isopropene	Ave	0.4242	0.4840		22.8	20.0	14.1	50.0
n-Pentane	LinF	0.0186	0.0241		46.3	40.0	15.9	50.0
Ethyl ether	Ave	0.2363	0.2235		18.9	20.0	-5.4	50.0
Ethanol	Ave	0.0022	0.0018		2400	3000	-19.9	50.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.2983	0.2316		15.5	20.0	-22.4	50.0
Freon TF	LinF	0.1310	0.1569		21.1	20.0	5.7	50.0
Acrolein	LinF	0.0782	0.0736		35.6	40.0	-11.1	50.0
1,1-Dichloroethene	LinF	0.2151	0.2149		18.5	20.0	-7.4	20.0
Acetone	Ave	0.1981	0.2083		21.0	20.0	5.1	50.0
Iodomethane	Ave	0.5340	0.5278		19.8	20.0	-1.2	50.0
Carbon disulfide	Ave	0.7164	0.7297		20.4	20.0	1.9	50.0
Cyclopentene	Ave	0.4470	0.4180		18.7	20.0	-6.5	50.0
Methyl acetate	Ave	0.3710	0.3324		17.9	20.0	-10.4	50.0
Acetonitrile	Ave	0.0493	0.0445		361	400	-9.7	50.0
Methylene Chloride	Ave	0.2701	0.2619		19.4	20.0	-3.0	50.0
TBA	Ave	0.0463	0.0359		310	400	-22.4	50.0
MTBE	Ave	0.8334	0.7497		18.0	20.0	-10.0	50.0
trans-1,2-Dichloroethene	Ave	0.2145	0.1974		18.4	20.0	-7.9	50.0
Acrylonitrile	Ave	0.1337	0.1147		17.2	20.0	-14.2	50.0
Hexane	Ave	0.1451	0.1515		20.9	20.0	4.4	50.0
1,1-Dichloroethane	Ave	0.4114	0.3898	0.1000	18.9	20.0	-5.3	50.0
DIPE	Ave	0.7246	0.6634		18.3	20.0	-8.4	50.0
Vinyl acetate	LinF	0.5922	0.6459		36.2	40.0	-9.5	50.0
Tert-butyl ethyl ether	Ave	0.8350	0.8040		19.3	20.0	-3.7	50.0
2,2-Dichloropropane	Ave	0.2653	0.2704		20.4	20.0	1.9	50.0
cis-1,2-Dichloroethene	Ave	0.3112	0.3120		20.0	20.0	0.2	50.0
2-Butanone	Ave	0.0492	0.0440		17.9	20.0	-10.5	50.0
Ethyl acetate	Ave	0.0412	0.0359		34.9	40.0	-12.9	50.0
Tetrahydrofuran	LinF	0.1495	0.1156		20.7	20.0	3.6	50.0
Bromochloromethane	Ave	0.1868	0.1775		19.0	20.0	-4.9	50.0
Chloroform	Ave	0.5155	0.5197		20.2	20.0	0.8	20.0
Cyclohexane	Ave	0.2280	0.2535		22.2	20.0	11.2	50.0

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-51010-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 148202 Date: 02/21/2013 10:30											
D516-90, 02	460-51010-1	Sulfate	13.0		mg/L						
D516-90, 02	460-51010-1 MS	Sulfate	24.16		mg/L	20.0	56	85-115			F

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-51010-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 148202		Date: 02/21/2013 10:30									
D516-90, 02	460-51010-1 MSD	Sulfate	23.28		mg/L	20.0	51	85-115	4	16	F

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

FORM V-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-51010-1

SDG No.:

Batch Number: 148202 Batch Start Date: 02/21/13 09:50 Batch Analyst: Cabanganan, Maria

Batch Method: D516-90, 02 Batch End Date: 02/21/13 11:03

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WTs-fateSP 00014	WTs-fateSS 00015	WTsfateLCS 00025		
ICV 460-148202/1		D516-90, 02		50 mL		1 mL			
CCV 460-148202/3		D516-90, 02		50 mL		1 mL			
LCSSRM 460-148202/6		D516-90, 02		50 mL			50 mL		
CCV 460-148202/13		D516-90, 02		50 mL		1 mL			
CCV 460-148202/24		D516-90, 02		50 mL		1 mL			
460-51010-J-1 MS	20130219MW-02V10 N	D516-90, 02	T	50 mL	1 mL				
460-51010-J-1 MSD	20130219MW-02V10 N	D516-90, 02	T	50 mL	1 mL				
CCV 460-148202/28		D516-90, 02		50 mL		1 mL			

Batch Notes	
Barium Chloride Reagent ID	CCV: A(57551)13 exp. 03/01/13
Batch Comment	Cal. curve: A(57544-57550)13 exp. 03/01/13
Conditioning Reagent ID	Precipitate Solution: C-9178-13 exp. 07/22/13

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

2/3.1°, 4/5.1° IR4 CS# 766251, 766252, client CS# 53915

CHAIN OF CUSTODY RECORD

URS

LAB Test America-Edison, N.J.

COOLER 1 of 2

PAGE 1 of 1

PROJECT NO. 415

SITE NAME former EMCA Site

SAMPLERS (PRINT/SIGNATURE) Steven Moeller

DELIVERY SERVICE: FED EX AIRBILL NO.: 877139165598

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: 8260B Freon(Mod)	3810M Methane	NO3/ Sulfate	200.7- Fe	VFA	Hardness 2340C	TOC SM5310B	2320B Alkalinity	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
							BOTTLE TYPE AND PRESERVATIVE: 40ml. glass Vial-HCl	40ml. glass Vial-HCl	250ml. plastic-unpres.	500ml. plastic-HNO3	40ml. amber glass-unpres.	500ml. plastic-HNO3	250ml. amber glass-H2SO4	500ml. plastic-unpres.	53915				
MW-02	4-9-13	0927	grab	20130409MW-02V09N	WG	14	3	3	1	1	3	1	1	1	-1	N1			
MW-02	4-9-13	0927	grab	20130409MW-02V09FD	WG	11	3	3	1	1		1	1	1	-2 Duplicate	FD1			
MW-03	4-9-13	1346	grab	20130409MW-03V10N	WG	11	3	3	1	1		1	1	1	-3	N1			
MW-04	4-9-13	1657	grab	20130409MW-04V09N	WG	11	3	3	1	1		1	1	1	-4	N1			
MW-04	4-9-13	1657	grab	20130409MW-04V09MS	WG	8	3	3	1	1					-4 Matrix Spike	MS1			
MW-04	4-9-13	1657	grab	20130409MW-04V09SD	WG	8	3	3	1	1					-4 Matrix Spike Dup.	SD1			
MW-06	4-9-13	1149	grab	20130409MW-06V12N	WG	11	3	3	1	1		1	1	1	-5	N1			
MW-07R	4-9-13	1510	grab	20130409MW-07RV13N	WG	11	3	3	1	1		1	1	1	-6	N1			
TRIP BLANK	4-9-13	—	grab	20130409TB1	WQ	6	3	3							TRIP BLANK -7	TB1			

SHORT HOLD

SAMPLE TYPE 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

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
	4-9-13	1900	FedEx		
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
FedEx				4/10/13	9:10

SPECIAL INSTRUCTIONS: If any questions, contact Peter Fairbanks at 716-923-1121

Distribution: Original accompanies shipment, copy to coordinator field files

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

4/23/2013

CASE NARRATIVE

Client: URS Corporation

Project: Former EMCA Site

Report Number: 460-53915-1

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 04/10/2013; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.1° C and 5.1° 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.

TOTAL RECOVERABLE METALS
Samples 460-53915-1 through 460-53915-6 were analyzed for total recoverable metals in accordance with EPA Method 200.7. The samples were prepared on 04/11/2013 and analyzed on 04/12/2013 and 04/14/2013.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

ALKALINITY
Samples 460-53915-1 through 460-53915-6 were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/12/2013.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits.

HARDNESS
Samples 460-53915-1 through 460-53915-6 were analyzed for hardness in accordance with SM 2340C. The samples were analyzed on 04/11/2013.

No difficulties were encountered during the hardness analyses.

All quality control parameters were within the acceptance limits.

DISSOLVED HYDROCARBON GASES
Samples 460-53915-1 through 460-53915-7 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 04/11/2013.

Methane was detected in method blank MB 460-155118/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 155118 were outside control limits for Methane. The associated

laboratory control sample (LCS) recovery met acceptance criteria.

Refer to the QC report for details.

Samples 460-53915-1 through 460-53915-3(50X), 460-53915-4(10X), 460-53915-5(50X) and 460-53915-6(10X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the dissolved gases analyses.

All other quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples 460-53915-1 through 460-53915-7 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/17/2013 and 04/18/2013.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 156052 were outside control limits for Chlorotrifluoroethene. The associated laboratory control sample (LCS) recovery met acceptance criteria.

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

Refer to the QC report for details.

No other difficulties were encountered during the volatiles analyses.

All other quality control parameters were within the acceptance limits.

SULFATE
Samples 460-53915-1 through 460-53915-6 were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 04/15/2013.

No difficulties were encountered during the sulfate analyses.

All quality control parameters were within the acceptance limits.

NITROGEN-NITRATE
Samples 460-53915-1 through 460-53915-6 were analyzed for Nitrogen-Nitrate in accordance with SM 4500 NO3 F. The samples were analyzed on 04/10/2013.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 154897 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Refer to the QC report for details.

No other difficulties were encountered during the Niitrate analyses.

All other quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON
Samples 460-53915-1 through 460-53915-6 were analyzed for total organic carbon in accordance with SM 5310B. The samples were analyzed on 04/10/2013.

No difficulties were encountered during the TOC analyses.

All quality control parameters were within the acceptance limits.

VOLATILE FATTY ACIDS
Sample 460-53915-1 was analyzed for Volatile Fatty Acids in accordance with VFA_IC. The samples were analyzed on 04/11/2013.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries associated with batch 112290 were outside control limits: (460-53915-1 MS), (460-53915-1 MSD). Matrix interference is suspected. The associated laboratory control sample (LCS) recovery met acceptance criteria.

The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 112290 was outside control limits. The associated laboratory control sample (LCS) met acceptance criteria.

Refer to the QC report for details.

No other difficulties were encountered during the VFA analysis.

All other quality control parameters were within the acceptance limits.

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

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Lab File ID: p69181.d BFB Injection Date: 04/16/2013

Instrument ID: VOAMS13 BFB Injection Time: 21:04

Analysis Batch No.: 155816

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.8	
75	30.0 - 60.0 % of mass 95	44.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.9	(1.1)1
174	50.0 - 120.00 % of mass 95	82.4	
175	5.0 - 9.0 % of mass 174	5.9	(7.2)1
176	95.0 - 101.0 % of mass 174	79.0	(95.9)1
177	5.0 - 9.0 % of mass 176	5.9	(7.5)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 460-155816/2	p69182.d	04/16/2013	21:23
	LCS 460-155816/3	p69183.d	04/16/2013	21:49
	MB 460-155816/11	p69186.d	04/16/2013	23:21
20130409TB1	460-53915-7	p69189.d	04/17/2013	00:37
20130409MW-02V09N	460-53915-1	p69190.d	04/17/2013	01:02
20130409MW-02V09FD	460-53915-2	p69191.d	04/17/2013	01:27
20130409MW-03V10N	460-53915-3	p69192.d	04/17/2013	01:53
20130409MW-07RV13N	460-53915-6	p69194.d	04/17/2013	02:43
20130409MW-04V09N	460-53915-4	p69202.d	04/17/2013	06:06
20130409MW-04V09MS MS	460-53915-4MS MS	p69203.d	04/17/2013	06:31
20130409MW-04V09SD MSD	460-53915-4MSD MSD	p69204.d	04/17/2013	06:56

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

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Lab File ID: p69235.d BFB Injection Date: 04/17/2013

Instrument ID: VOAMS13 BFB Injection Time: 22:35

Analysis Batch No.: 156052

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.7	
75	30.0 - 60.0 % of mass 95	45.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.4	
173	Less than 2.0 % of mass 174	1.0	(1.3)1
174	50.0 - 120.00 % of mass 95	83.2	
175	5.0 - 9.0 % of mass 174	5.8	(7.0)1
176	95.0 - 101.0 % of mass 174	80.2	(96.4)1
177	5.0 - 9.0 % of mass 176	5.4	(6.8)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 460-156052/2	p69237.d	04/17/2013	23:18
	LCS 460-156052/3	p69238.d	04/17/2013	23:43
	MB 460-156052/4	p69241.d	04/18/2013	01:22
20130409MW-06V12N	460-53915-5	p69242.d	04/18/2013	01:47
20130409MW-06V12N MS	460-53915-5 MS	p69252.d	04/18/2013	06:00
20130409MW-06V12N MSD	460-53915-5 MSD	p69253.d	04/18/2013	06:26

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Lab Sample ID: CCVIS 460-155816/2 Calibration Date: 04/16/2013 21:23

Instrument ID: VOAMS13 Calib Start Date: 04/09/2013 23:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 04/10/2013 04:58

Lab File ID: p69182.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	LinF	0.0243	0.0210		13.0	20.0	-35.0	50.0
Dichlorodifluoromethane	Ave	0.2469	0.2337		18.9	20.0	-5.4	50.0
Chloromethane	Ave	0.3171	0.3163	0.1000	19.9	20.0	-0.3	50.0
Vinyl chloride	Ave	0.2820	0.2905		20.6	20.0	3.0	20.0
Bromomethane	QuaF	0.1253	0.0378		5.47	20.0	-72.6*	50.0
Chloroethane	Ave	0.1524	0.2115		27.8	20.0	38.8	50.0
n-Pentane	LinF	0.0517	0.0422		32.2	40.0	-19.5	50.0
Trichlorofluoromethane	Ave	0.4250	0.3512		16.5	20.0	-17.4	50.0
Dichlorofluoromethane	Ave	0.5051	0.4331		17.2	20.0	-14.2	50.0
Isopropene	Ave	0.3260	0.3030		18.6	20.0	-7.1	50.0
Ethyl ether	Ave	0.2372	0.2292		19.3	20.0	-3.4	50.0
Ethanol	Ave	0.0018	0.0019		3160	3000	5.4	50.0
1,1-Dichloroethene	Ave	0.2250	0.1996		17.7	20.0	-11.3	20.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.3141	0.3031		19.3	20.0	-3.5	50.0
Carbon disulfide	LinF	0.7072	0.7074		16.6	20.0	-17.0	50.0
Freon TF	Ave	0.2211	0.2046		18.5	20.0	-7.5	50.0
Cyclopentene	Ave	0.6513	0.6110		18.8	20.0	-6.2	50.0
Acrolein	Ave	0.0380	0.0382		40.2	40.0	0.6	50.0
Methylene Chloride	Ave	0.3029	0.2919		19.3	20.0	-3.7	50.0
Acetone	LinF	0.0318	0.0382		25.1	20.0	25.3	50.0
trans-1,2-Dichloroethene	Ave	0.2900	0.2685		18.5	20.0	-7.4	50.0
Methyl acetate	Ave	0.0651	0.0625		19.2	20.0	-4.0	50.0
Hexane	LinF	0.0593	0.0540		16.9	20.0	-15.5	50.0
MTBE	Ave	0.8643	0.8446		19.5	20.0	-2.3	50.0
TBA	LinF	0.0420	0.0416		461	400	15.2	50.0
Acetonitrile	Ave	0.0076	0.0078		408	400	2.0	50.0
DIPE	Ave	0.9091	0.8623		19.0	20.0	-5.1	50.0
1,1-Dichloroethane	Ave	0.5065	0.4629	0.1000	18.3	20.0	-8.6	50.0
Acrylonitrile	Ave	0.1167	0.1185		20.3	20.0	1.6	50.0
Tert-butyl ethyl ether	Ave	0.9129	0.8387		18.4	20.0	-8.1	50.0
Vinyl acetate	Ave	0.6037	0.5887		39.0	40.0	-2.5	50.0
cis-1,2-Dichloroethene	Ave	0.3118	0.2931		18.8	20.0	-6.0	50.0
2,2-Dichloropropane	Ave	0.3593	0.3396		18.9	20.0	-5.5	50.0
Bromochloromethane	Ave	0.1498	0.1423		19.0	20.0	-5.0	50.0
Cyclohexane	Ave	0.3843	0.3781		19.7	20.0	-1.6	50.0
Chloroform	Ave	0.4858	0.4552		18.7	20.0	-6.3	20.0
Carbon tetrachloride	Ave	0.2942	0.2593		17.6	20.0	-11.9	50.0
Ethyl acetate	Ave	0.0344	0.0356		41.4	40.0	3.5	50.0
Tetrahydrofuran	Ave	0.1543	0.1542		20.0	20.0	-0.1	50.0
1,1,1-Trichloroethane	Ave	0.3888	0.3448		17.7	20.0	-11.3	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Lab Sample ID: CCVIS 460-156052/2 Calibration Date: 04/17/2013 23:18

Instrument ID: VOAMS13 Calib Start Date: 04/09/2013 23:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 04/10/2013 04:58

Lab File ID: p69237.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	LinF	0.0243	0.0360		22.3	20.0	11.4	50.0
Dichlorodifluoromethane	Ave	0.2469	0.2533		20.5	20.0	2.6	50.0
Chloromethane	Ave	0.3171	0.3365	0.1000	21.2	20.0	6.1	50.0
Vinyl chloride	Ave	0.2820	0.3048		21.6	20.0	8.1	20.0
Bromomethane	QuaF	0.1253	0.0860		12.4	20.0	-37.9	50.0
Chloroethane	Ave	0.1524	0.2125		27.9	20.0	39.4	50.0
n-Pentane	LinF	0.0517	0.0392		30.0	40.0	-25.1	50.0
Trichlorofluoromethane	Ave	0.4250	0.3494		16.4	20.0	-17.8	50.0
Dichlorofluoromethane	Ave	0.5051	0.4342		17.2	20.0	-14.0	50.0
Isopropene	Ave	0.3260	0.3011		18.5	20.0	-7.7	50.0
Ethyl ether	Ave	0.2372	0.2344		19.8	20.0	-1.2	50.0
Ethanol	Ave	0.0018	0.0020		3280	3000	9.4	50.0
1,1-Dichloroethene	Ave	0.2250	0.2043		18.2	20.0	-9.2	20.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.3141	0.2883		36.7	40.0	-8.2	50.0
Carbon disulfide	LinF	0.7072	0.6949		16.3	20.0	-18.4	50.0
Freon TF	Ave	0.2211	0.1967		17.8	20.0	-11.0	50.0
Cyclopentene	Ave	0.6513	0.6219		19.1	20.0	-4.5	50.0
Acrolein	Ave	0.0380	0.0388		40.8	40.0	2.1	50.0
Methylene Chloride	Ave	0.3029	0.3003		19.8	20.0	-0.9	50.0
Acetone	LinF	0.0318	0.0364		23.9	20.0	19.6	50.0
trans-1,2-Dichloroethene	Ave	0.2900	0.2676		18.5	20.0	-7.7	50.0
Methyl acetate	Ave	0.0651	0.0663		20.4	20.0	1.9	50.0
Hexane	LinF	0.0593	0.0528		16.5	20.0	-17.3	50.0
MTBE	Ave	0.8643	0.8738		20.2	20.0	1.1	50.0
TBA	LinF	0.0420	0.0383		424	400	6.0	50.0
Acetonitrile	Ave	0.0076	0.0077		406	400	1.5	50.0
DIPE	Ave	0.9091	0.9311		20.5	20.0	2.4	50.0
1,1-Dichloroethane	Ave	0.5065	0.4838	0.1000	19.1	20.0	-4.5	50.0
Acrylonitrile	Ave	0.1167	0.1208		20.7	20.0	3.6	50.0
Tert-butyl ethyl ether	Ave	0.9129	0.8441		18.5	20.0	-7.5	50.0
Vinyl acetate	Ave	0.6037	0.6132		40.6	40.0	1.6	50.0
cis-1,2-Dichloroethene	Ave	0.3118	0.3043		19.5	20.0	-2.4	50.0
2,2-Dichloropropane	Ave	0.3593	0.3407		19.0	20.0	-5.2	50.0
Cyclohexane	Ave	0.3843	0.3637		18.9	20.0	-5.4	50.0
Bromochloromethane	Ave	0.1498	0.1456		19.4	20.0	-2.8	50.0
Chloroform	Ave	0.4858	0.4680		19.3	20.0	-3.7	20.0
Carbon tetrachloride	Ave	0.2942	0.2590		17.6	20.0	-12.0	50.0
Ethyl acetate	Ave	0.0344	0.0363		42.2	40.0	5.5	50.0
Tetrahydrofuran	Ave	0.1543	0.1603		20.8	20.0	3.8	50.0
1,1,1-Trichloroethane	Ave	0.3888	0.3541		18.2	20.0	-8.9	50.0

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 155617	Date: 04/15/2013 17:21										
D516-90, 02	460-53915-4	Sulfate	15.6		mg/L						
D516-90, 02	460-53915-4 MS	Sulfate	211.7		mg/L	200	98	85-115			
Batch ID: 154897	Date: 04/10/2013 12:28										
SM 4500 NO3 F	460-53915-4	Nitrate as N	0.047	U	mg/L						
SM 4500 NO3 F	460-53915-4 MS	Nitrate as N	0.337		mg/L	0.500	67	80-120			F
Batch ID: 155054	Date: 04/10/2013 15:44										
SM 5310B	460-53926-F-2	Total Organic Carbon	1.0		mg/L						B
SM 5310B	460-53926-F-2 MS	Total Organic Carbon	52.18		mg/L	50.0	102	88-112			

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-53915-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 155617	Date: 04/15/2013 17:21										
D516-90, 02	460-53915-4 MSD	Sulfate	211.0		mg/L	200	98	85-115	0	16	
Batch ID: 154897	Date: 04/10/2013 12:30										
SM 4500 NO3 F	460-53915-4 MSD	Nitrate as N	0.342		mg/L	0.500	68	80-120	1	10	F
Batch ID: 155054	Date: 04/10/2013 16:04										
SM 5310B	460-53926-F-2 MSD	Total Organic Carbon	52.40		mg/L	50.0	103	88-112	0	10	

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

FORM V-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Buffalo Job No.: 460-53915-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 112290		Date: 04/11/2013 20:59									
VFA-IC	460-53915-1	Acetic acid	29.3		mg/L						
VFA-IC	460-53915-1 MS	Acetic acid	41.52		mg/L	10.0	122	80-120			F
VFA-IC	460-53915-1	Formic-acid	0.11	U	mg/L						
VFA-IC	460-53915-1 MS	Formic-acid	11.27		mg/L	10.0	113	80-120			
VFA-IC	460-53915-1	Lactic acid	0.14	U	mg/L						
VFA-IC	460-53915-1 MS	Lactic acid	10.45		mg/L	10.0	105	80-120			
VFA-IC	460-53915-1	n-Butyric Acid	0.16	U	mg/L						
VFA-IC	460-53915-1 MS	n-Butyric Acid	10.48		mg/L	10.0	105	80-120			
VFA-IC	460-53915-1	Propionic acid	0.17	U	mg/L						
VFA-IC	460-53915-1 MS	Propionic acid	11.39		mg/L	10.0	114	80-120			
VFA-IC	460-53915-1	Pyruvic Acid	4.4		mg/L						
VFA-IC	460-53915-1 MS	Pyruvic Acid	15.62		mg/L	10.0	112	80-120			

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

FORM V-IN

Lab # S-2800

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 415

SITE NAME Former EMCA Site

SAMPLERS (PRINT/SIGNATURE) Steven Moeller

LAB SiREM

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: FED EX AIRBILL NO.: 0023/0050/002934 8672/5

TESTS: Dehalococcoides; Dehalobacter

BOTTLE TYPE AND PRESERVATIVE: 1L plastic -unpres.; 1L plastic -unpres.

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO. OF CONTAINERS	1L plastic -unpres.	1L plastic -unpres.	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
MW-02	4-9-13	0927	grab	20130409MW-02V09N	WG	1	1			N1			
MW-03	4-9-13	1346	grab	20130409MW-03V10N	WG	1		1		N1			
MW-04	4-9-13	1657	grab	20130409MW-04V09N	WG	1		1		N1			
MW-06	4-9-13	1149	grab	20130409MW-06V12N	WG	1		1		N1			
MW-07R	4-9-13	1510	grab	20130409MW-07RV13N	WG	1		1		N1			

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
[signature]	4-9-13	1900	[signature]	10/4/13	2:00 pm
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS: Samples shipped on ice

If any questions, contact Peter Fairbanks at 716-923-1121

cooler condition good; temperature ≤ 6°C

Distribution: Original accompanies shipment, copy to coordinator field files

APPENDIX C

2013 SUPPLEMENTAL INJECTION SUMMARY

2013 Supplemental Injection Summary
Former EMCA Site, Mamaroneck, New York
June 4 - June 7, 2013

Injection Point using SRS® 60-B and WILCLEAR™ Sodium Lactate	Depth (ft bgs)	Approximate Volume (gal.) *	Notes
1	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
2	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
3	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
4	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
5	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
6	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
7	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
8	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
9	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
10	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
11	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
12	6 - 29	SRS® 60-B - ~2.4 gal/ft	
		WILCLEAR™ - ~2.4 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
13	6 - 28	SRS® 60-B - ~2.5 gal/ft	Refusal at 28 ft bgs.
		WILCLEAR™ - ~2.5 gal/ft	
	Subtotal	**SRS® 60-B - 55**	
		WILCLEAR™ - 55	
Injection Point using KB-1 Plus®	**Depth (ft bgs)**	**Approximate Volume (liters)**	**Notes**
1	~15, ~20, ~25	KB-1 Plus® - 1 liter/interval	18 gallons of chase water per interval
	Subtotal	KB-1 Plus® - 3 liters	55 gallons of chase water at the single location

* Substrate/water mix consisting of 1 part substrate to 3 parts water.