Groundwater Sampling and Analysis Report

April 2016 Sampling Event

Former EMCA Site
Site No. 360025
Mamaroneck, New York

Prepared for:

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

Prepared by:

URS
257 West Genesee Street, Suite 400
Buffalo, New York 14202

June 2016

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FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

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JUNE 2016

TABLE OF CONTENTS

TABLES

FIGURES

FIGURES (cont'd)

APPENDICES

1.0 INTRODUCTION

This report presents the results of semi-annual groundwater monitoring conducted in April 2016 at the former EMCA site located in Mamaroneck, New York (Figure 1) pursuant to the approved Site Management Plan ([SMP], URS, 2010). The groundwater monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2016.

The site was formerly owned and operated by a subsidiary of the Rohm and Haas Company who used it for the manufacture of high conductivity precious metal paste used in circuits. Manufacturing was discontinued in 1988 and the current site owner is Cablevision of Westchester. Figure 2 illustrates the site conditions on the north side of the Cablevision building in the area of the remediation work.

Remedial actions were conducted at the site on the following occasions:

- Pilot program conducted in June 2003
- Interim remedial measure in November 2004
- Supplemental injection in August 2007
- Supplemental injection in September 2009
- Supplemental injection in October 2012
- Supplemental injection in June 2013
- Supplemental injection in October 2014

All involved the injections of food-grade emulsified soybean oil and sodium lactate into groundwater to stimulate anaerobic biodegradation and reductive dechlorination of 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113; CAS No. 76-13-1) in site groundwater. The 2012, 2013, and 2014 supplemental injections included the 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. The KB-1 Plus® bacteria culture contains a proprietary mixture of dehalobacter and dehalococcoides strains formulated by the laboratory to stimulate biological dechlorination of Freon. The most recent injection of emulsified soybean oil, sodium lactate and KB-1 Plus® bacteria was performed during the period of October 7 through 17, 2014.

The April 2016 groundwater sampling event was the twenty-third site-wide sampling event since the interim remedial measure (IRM) began in November 2004 and the fourth site-wide sampling event following the last injection that occurred in October 2014.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

The groundwater samples collected on April 27, 2016 were from monitoring wells MW-02, MW-03, MW-04, MW-06 and MW-07R. The samples were collected using the low-flow sampling procedure. The well locations are shown in Figure 3.

Groundwater level and field water quality parameter measurements of ferrous iron, dissolved oxygen, oxidation-reduction potential, pH, specific conductance, temperature, and turbidity were recorded prior to and during purging/sampling. The field purging/sampling logs are presented in Appendix A.

The sample chain-of-custody (COC) was initiated immediately after the groundwater samples were collected and was maintained through shipment to the laboratory. Laboratory analyses were performed for the following parameters:

Parameter	Analytical Method
Freon 113, Freon 123a, Freon 1113	SW8260B
Methane	RSK-175
Sulfate	ASTM D516-90, 02

In addition, the following analyses were performed on samples collected from all five monitoring wells in order to generate additional natural attenuation groundwater data and to evaluate bacteria concentrations:

Parameter	Analytical Method
Total Iron	200.7
Ferrous Iron	Field Parameter
Nitrate	SM 4500-NO_3 F
Nitrite	SM 4500-NO_2 F
Hardness	SM 2340 C
Alkalinity (Total, HCO_3^-, CO_3^-, OH^-)	SM 2320 B
Total Organic Carbon	SM 5310 B
Dehalococcoides (MW-02 only)	SiREM - Gene-Trac® Dhc
Dehalobacter	SiREM - Gene-Trac® Dhb

A round of groundwater levels were recorded on April 27, 2016. The data are presented in Table 1 and Figure 3. The Sheldrake River water surface level was unable to be calculated. The Sheldrake River flows to the northeast. Typically, an upstream measurement is recorded at the Rockland Avenue bridge (Benchmark B) to the south of the site and a downstream measurement is recorded at the Fenimore Road bridge (Benchmark D) to the north of the site. The water surface level in the Sheldrake River in the area west of the site, referred to as Benchmark C (Figure 3), is calculated by taking the average surface elevation of Benchmark B and Benchmark D. However, an upstream measurement at Benchmark B was unable to be recorded during April 2016 due to a safety concern, thus an average Sheldrake River water surface level was unable to be determined.

Typically, general groundwater flow is to the north and northeast. The resulting groundwater contours for the April 27, 2016 data show that groundwater flow was to the north, which is typical for the site.

3.0 RESULTS

The analytical results for the April 2016 sampling event, along with the previous April and October 2015 sampling data, are provided in Table 2. Historical groundwater analytical results are presented in Appendix B. Laboratory data sheets and a data usability summary report (DUSR) for the April 2016 samples are provided in Appendix C.

The analytical results presented in Table 2 are compared to groundwater standards and guidance values presented in New York State Department of Environmental Conservation's (NYSDEC's) Technical and Operational Guidance Series Memo 1.1.1 (TOGS 1.1.1). It is noted that there are no TOGS 1.1.1 groundwater standards or guidance values for Freon 1113 or Freon 123a. However, consistent with TOGS 1.1.1, the Freon 1113 and Freon 123a results are compared to the "principal organic contaminant" standard for groundwater of 5 micrograms per liter (µg/L).

The April 2016 results presented in Table 2 and Figure 4 show that only the samples from wells MW-02 and MW-03 contained Freon 113 at a concentration above the 5 µg/L guidance value for this compound. The Freon 113 concentration in these samples was 960 µg/L in well MW-02 and 42 µg/L in well MW-03.

The April 2016 results show that only the samples from wells MW-02 and MW-03 contained Freon 123a at a concentration above the 5 µg/L guidance value for this compound. The Freon 123a concentration in these samples was 220 µg/L in well MW-02 and 30 µg/L in well MW-03.

The results show that Freon 1113 was detected at concentrations above the 5 µg/L groundwater standard in the samples from wells MW-02, MW-03, MW-06 and MW-07R. The detections are as follows: MW-02 - 940 µg/L, MW-03 - 180 µg/L, MW-06 - 51 µg/L, and MW-07R - 22 µg/L. The Freon 1113 concentration in well MW-04 did not exceed the groundwater standard.

The groundwater samples collected in April 2016 were analyzed for dehalobacter and the sample from MW-02 was analyzed for dehalobacter and dehalococcoides. The analytical results, presented in Table 2, indicate that the April 2016 dehalobacter concentration was highest in MW-02 [80 gene copies per milliliter (GC/mL)] and low in MW-03, MW-06, and MW-07R (4 GC/mL, 3 GC/mL, and 7 GC/mL, respectively). Dehalobacter was not detected in well MW-04.

The dehalococcoides concentration in MW-02 was relatively high [40 colony equivalents per milliliter (CEQ/mL)] in April 2016, which is an increase from October 2015 (1 CEQ/mL).

In general, the results of the semi-annual groundwater sampling event completed in April 2016 showed that Freon concentrations (113, 123a, and 1113) have increased in wells MW-02 and MW-03.

4.0 DATA ASSESSMENT

The groundwater analytical data for April 2016 is the fourth site-wide set of data collected following the October 2014 supplemental injection. The previous round of site-wide groundwater sampling occurred in October 2015. In March 2015, wells MW-02, MW-03, MW-07R were also sampled prior to the scheduled April 2015 semi-annual event to further gauge the effectiveness of the October 2014 supplemental injection.

Appendix B presents the historical groundwater analytical data dating back to the pilot program in 2003. Using this data, Freon 113, 123a, and 1113 concentrations are shown in plan view in Figure 4 for the period between 2006 and 2016. The historical data were also used to create trend plots for the following parameters:

- Freon 113 - Figures 5 and 6
- Freon 123a - Figure 7
- Freon 1113 - Figure 8
- Sulfate - Figure 9
- Methane - Figure 10
- Dissolved Oxygen - Figure 11
- Dissolved Oxygen vs. Temperature in MW-02 – Figure 12
- Oxidation-Reduction Potential - Figure 13

The text below presents a discussion of the October 2015 data compared to the April 2016 data followed by an assessment of the historical results over time. Table 3 presents a summary comparison of October 2015 and April 2016 parameter concentrations.

Freon 113

In comparison with the October 2015 results, the analytical results for the April 2016 sampling events (Figures 5 and 6) indicate that Freon 113:

- Increased in MW-02 from 21 µg/L in October 2015 to 960 µg/L in April 2016;
- Increased in MW-03 from 0.52 µg/L in October 2015 to 42 µg/L in April 2016;
- Remained non-detect in MW-04 in October 2015 and April 2016;
- Remained non-detect in MW-06 in October 2015 and April 2016; and
- Remained non-detect in MW-07R in October 2015 and April 2016.

In well MW-02, the Freon 113 concentration has generally decreased over the course of the treatment program. The highest concentration of 2,400 µg/L occurred in July 2001 prior to the treatment program. Since November 2012, Freon 113 concentrations have steadily decreased and have not been detected above the groundwater criteria in eight of the past thirteen sampling events (Freon 113 was above the criteria in July 2014, March 2015, April 2015, October 2015, and April 2016).

Wells MW-03 and MW-07R had the highest Freon 113 concentrations prior to the treatment program and showed the greatest reduction as a result of the treatment. The Freon 113 concentration of 0.81 µg/L (October 2014) in MW-03 was below TOGS 1.1.1 criteria and was non-detect in November and December 2014. A slight rebound of Freon 113 at MW-03 in March and April 2015 and again in April 2016 coincides with an increase in the concentration of the Freon 123a and Freon 1113 daughter products, indicating ongoing reduction of Freon 113. The relatively low-level Freon 113 concentration from October 2014 in MW-07R (i.e., 15 µg/L) decreased to non-detect in March, April, October 2015, and in April 2016, which confirms that Freon 113 is not migrating downgradient.

Freon 113 was not detected in well MW-04 in April 2016, further confirming that Freon 113 is not migrating downgradient. Freon 113 was not detected in MW-06 in the October 2014 sampling event, increased slightly to 1.6 µg/L in April 2015, and decreased to non-detect in October 2015 and April 2016.

Freon 123a

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 daughter compounds are expected to increase and then eventually decline over time as reductive dechlorination continues and the residual source diminishes. The following text presents a discussion of the April 2016 Freon 123a results in comparison with the October 2015 results.

Compared to the October 2015 data, the analytical results for the April 2016 sampling event (Figure 7) indicate that Freon 123a:

- Increased in MW-02 from 7.7 µg/L in October 2015 to 220 µg/L in April 2016;
- Increased in MW-03 from 1.7 µg/L in October 2015 to 30 µg/L in April 2016;
- Remained non-detect in MW-04 in October 2015 and April 2016;
- Increased in MW-06 from non-detect in October 2015 to 1.1 µg/L in April 2016; and
- Remained non-detect in MW-07R in October 2015 and April 2016.

Freon 1113

Compared to the October 2015 data, the analytical results for the April 2016 sampling event (Figure 8) indicate that Freon 1113:

- Increased in MW-02 from a concentration of 260 µg/L in October 2015 to 940 µg/L in April 2016;
- Increased in MW-03 from a concentration of 140 µg/L in October 2015 to 180 µg/L in April 2016;
- Decreased in MW-04 from 4.4 µg/L in October 2015 to 0.52 µg/L in April 2016;
- Remained at 51 µg/L in MW-06 in October 2015 and April 2016; and
- Decreased in MW-07R from a concentration of 46 µg/L in October 2015 to 22 µg/L in April 2016.

Prior to and at the beginning of the treatment program, Freon 1113 was either not detected or was present at very low concentrations. As the treatment program progressed, Freon 1113 concentrations increased, indicating the successful reduction of Freon 113.

Sulfate

In comparison with the October 2015 data, the April 2016 sulfate concentrations increased in MW-02, MW-03, and MW-06, and decreased in MW-04 and MW-07R (Figure 9).

Studies have shown that the presence of sulfate in anaerobic environments above 200 mg/L slows the rates of dehalogenation reactions because sulfate competes with the halogenated compounds as electron acceptors (USGS, 2009). The recent sulfate concentrations in groundwater at the site are well below 200 mg/L.

Methane

In comparison with the October 2015 data, the April 2016 methane concentrations (Figure 10) decreased in all five wells sampled.

Degradation of Freon is likely due to sulfate-reducing or methane-forming microbes (Horneman 2007). Historical site data shows increased methane concentrations during the treatment programs, suggesting that reduction of Freon concentrations may be due to contaminant degradation through methanogenesis, a process that was successfully stimulated as a result of the treatment injection program. The recent decrease in methane concentrations at all of the wells indicates that conditions are becoming less favorable for anaerobic conditions.

Dissolved Oxygen

In comparison with the October 2015 data, the April 2016 dissolved oxygen concentrations (Figure 11) generally increased in all five wells, but remain at low levels (e.g. less than 0.67 mg/L). Historically, dissolved oxygen concentrations have fluctuated significantly, from highs as much as 9 mg/L down to below detection limits. Overall, levels are generally low, reflecting anaerobic conditions.

Temperature

Comparison of the April 2016 data with historical measurements shows an apparent correlation of groundwater temperature with seasonal weather conditions; groundwater is cooler in the winter/spring and warmer in the summer/fall. As an example, Figure 12 presents a graphical presentation of temperature data for well MW-02 dating back to February 2008. The April 2016 temperature measurements were as much as 8 degrees Celsius lower than measurements recorded in October 2015. The temperature data suggests that groundwater at the site area is influenced by changes in seasonal weather conditions/precipitation infiltration. The graph also shows dissolved oxygen concentrations in MW-02.

Oxidation-Reduction Potential

In comparison with the October 2015 data, the April 2016 oxidation-reduction potential values (Figure 13) remained relatively similar. The April 2016 values were all negative, ranging from -79 millivolts (mV) to -102 mV. Historically, oxidation-reduction potential values have remained at negative values throughout most of the treatment program.

Dehalococcoides

Since December 2014, only well MW-02 has been analyzed for dehalococcoides (see Table 2). The dehalococcoides concentration detected in October 2015 was very low at 1 CEQ/mL, and increased in April 2016 at 40 CEQ/mL. Since the October 2014 injection event, the dehalococcoides concentration in MW-02 has not increased to a significant level, unlike after previous injection events. Dehalococcoides concentration can be as high as 2,000 CEQ/mL following injection.

Dehalococcoides has not been analyzed for in MW-03 since December 2014. The dehalococcoides concentration significantly decreased from 500 CEQ/mL in November 2014 following the injection event to 20 CEQ/mL in December 2014.

Dehalobacter

Dehalobacter concentrations can be as high as 40,000 GC/mL following injection. The October 2015 data showed a dehalobactor concentration in MW-02 at 300 GC/mL and a concentration in MW-03 at 2 GC/mL. The April 2016 results showed a decrease in dehalobactor concentration in MW-02 (80 GC/mL) and a slight increase in MW-03 (4 GC/mL). Well MW-07R showed an increase from 3 GC/mL in October 2014 to 300 GC/mL in March 2015, and reduction to 90 GC/mL in April 2015. MW-07R showed further reduction in dehalobactor concentrations in October 2015 (20 GC/mL) and April 2016 (7 GC/mL). MW-04 showed a reduction of dehalobacter concentration from 3 GC/mL in October 2014 to non-detect since April 2015. MW-06 showed a reduction of dehalobactor concentrations from 80 GC/mL in October 2014 to non-detect in April 2015, followed by a slight increase to 1 GC/mL in October 2015 and to 3 GC/mL in April 2016.

5.0 CONCLUSIONS

The majority of the original Freon 113 release has been remediated over the past 13 years through anaerobic bioremediation and only residual concentrations remain. With the exception of MW-02, the Freon 113 concentrations detected during the April 2016 sampling event remain orders of magnitude below initial contaminant concentrations documented prior to initiating remedial activities. In addition, the elevated concentrations of Freon 123A and Freon 1113 at well MW-02 and other wells is evidence that significant reductive dechlorination of Freon 113 is continuing.

The residual groundwater impacts remain localized to the original release area (i.e. MW-02) and are not migrating as evidenced by the low concentrations in MW-03 and absence of impacts in MW-04, MW-06, and MW-07R. The absence of downgradient impacts demonstrates that there are no unacceptable impacts to surface water or other potential receptors.

It appears that increases in Freon 113 concentrations in groundwater can be caused by precipitation. According to National Oceanic & Atmospheric Administration (NOAA) records, 0.41 inches of rain were recorded at the Westchester County Airport station on April 26, 2016, the day before the groundwater samples were taken. This precipitation event may have caused a flushing of an apparent residual shallow source in the area of well MW-02, and possibly MW-03.

6.0 CONTINGENCY TRIGGER EVALUATION AND NEXT STEPS

Section 4.0 of the Site Management Plan (SMP) states that once a Freon 113 concentration of 40 µg/L is achieved after 2014, Criteria #1 becomes the relevant trigger contingency criteria. Criteria #1 states, "A successive increase of 100-percent or greater in Freon 113 concentrations for two consecutive events at any monitored well, assuming that the remediation goal (5 µg/L) is exceeded in at least one of the monitoring events. For example, a well concentration that increased from 4 µg/L to 8 µg/L and from 8 µg/L to 16 µg/L over two consecutive events would trigger contingency measures."

The data show that the less than 40 µg/L criteria was met in 2014 in all wells. Since 2014, Criteria #1 has not been exceeded, including the April 2016 data. Therefore, contingency measures are not warranted at this time.

In accordance with the SMP, the semi-annual groundwater sampling program will continue on the five long-term monitoring wells (i.e., MW-02, MW-03, MW-04, MW-06 and MW-07R). The next sampling event will be in October 2016. Each well will be sampled for Freon-113, Freon-123a, and Freon-1113, as well as other water quality, biological and natural attenuation parameters as listed in Table 4. If the results of that event show an increase of greater than 100 percent in wells MW-02 or MW-03, conditions will be met requiring implementation of contingency measures.

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TABLES

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS (April 27, 2016)
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	5.42	20.74
GZ-06	28.02	7.34	20.68
MW-01	25.74	4.01	21.73
MW-02	25.63	5.58	20.05
MW-03	25.59	5.81	19.78
MW-04	25.31	5.47	19.84
MW-05	24.63	4.71	19.92
MW-06	25.77	5.98	19.79
MW-07R	25.63	5.91	19.72
Benchmark B (Sheldrake River - South [Rockaway Avenue] Bridge)	NM	NM	NM
Benchmark C[4] (Sheldrake River - between North and South Bridges)	--	--	NM
Benchmark D[5] (Sheldrake River - North [Fenimore Road] Bridge)	27.41	10.41	17.00

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 10/08/2015.
3) Monitoring well GZ-03 was modified from a stick-up well to a flush-mount well on 6/24/2010.
4) Benchmark C could not be calculated because of a safety issue at Benchmark B.
5) Benchmark D water surface elevation was taken from culvert approximately 10 feet from concrete support of North bridge.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-03	MW-03
Sample ID			20150422MW-02	20151008MW-02	20160427MW-02	20150422MW-03	20151008MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/22/15	10/08/15	04/27/16	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	310	260	940	120	140
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	24	21	960 J	25	0.52 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	22	7.7	220	25	1.7
Dissolved Gases							
Methane	UG/L	-	6,200	12,000	2,600	4,000	10,000
Total Metals							
Iron	UG/L	300	60,500	61,800	63,100	19,600	29,500
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	432	292	261	196	279
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	432	292	261	196	279
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	20 J	1 J	40	NA	NA
Dehalobacter	GC/mL	-	200	300	80 J	7	2 J
Hardness (as CaCO3)	MG/L	-	525	424	400	242	368
Nitrogen, Nitrate	MG/L	10	0.10 U	2.0 U	0.10 U	0.10 U	2.0 U
Nitrogen, Nitrite	MG/L	1	0.10 U	0.034 J	0.085 J	0.10 U	0.021 J
Nitrogen, Nitrate-Nitrite	MG/L	10	0.050 U	NA	NA	0.050 U	NA
Sulfate	MG/L	250	17.3	25.6	41.3	32.5	48.2
Total Organic Carbon	MG/L	-	13.8	6.2	6.0	5.1	7.1
Ferrous Iron (lab)	MG/L	-	12.5 J	2.5 J	NA	0.10 UJ	1.7 J

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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

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

Detection Limits shown are PQL

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-03	MW-03
Sample ID			20150422MW-02	20151008MW-02	20160427MW-02	20150422MW-03	20151008MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/22/15	10/08/15	04/27/16	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.93	0.38	0.66	0.65	0.39
Ferrous Iron	MG/L	-	5.5	7.0	4.5	6.0	6.5
Oxidation-Reduction Potential	mV	-	-135	-131	-102	-100	-84
pH	S.U.	-	6.60	5.36	6.14	6.69	5.27
Specific Conductance	MS/CM	-	2.86	2.52	2.71	1.06	1.69
Temperature	DEG C	-	9.86	19.70	12.03	11.87	19.94
Turbidity	NTU	-	8.0	0.0	7.2	1.7	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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

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Detection Limits shown are PQL

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-04	MW-04	MW-04	MW-06
Sample ID			20160427MW-03	20150422MW-04	20151008MW-04	20160427MW-04	20150422MW-06
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/27/16	04/22/15	10/08/15	04/27/16	04/22/15
Parameter	**Units**	**Criteria***					
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	180	2.1	4.4	0.52 J	110
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	42	0.38 J	1.0 U	1.0 U	1.6
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	30	1.0 U	1.0 U	1.0 U	8.1
Dissolved Gases							
Methane	UG/L	-	2,100	1,000	2,100	610	5,200
Total Metals							
Iron	UG/L	300	23,700	28,000	15,800	16,700	26,400
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	313	338	303	255	311
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	313	338	303	255	311
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	4 J	3.0 U	3.0 U	3.0 U	3.0 U
Hardness (as CaCO3)	MG/L	-	400	882	523	450	515
Nitrogen, Nitrate	MG/L	10	0.10 U	0.10 U	2.0 U	0.10 U	0.10 U
Nitrogen, Nitrite	MG/L	1	0.076 J	0.10 U	0.016 J	0.052 J	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.050 U	NA	NA	0.050 U
Sulfate	MG/L	250	78.2	29.8	7.4	5.0 U	29.9
Total Organic Carbon	MG/L	-	7.6	12.3	11.8	9.2	5.1
Ferrous Iron (lab)	MG/L	-	NA	0.10 J	0.33 J	NA	0.90 J

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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

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

Detection Limits shown are PQL

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-04	MW-04	MW-04	MW-06
Sample ID			20160427MW-03	20150422MW-04	20151008MW-04	20160427MW-04	20150422MW-06
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/27/16	04/22/15	10/08/15	04/27/16	04/22/15
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.54	1.05	0.32	0.54	0.72
Ferrous Iron	MG/L	-	6.5	5.5	6.0	5.5	4.5
Oxidation-Reduction Potential	mV	-	-88	-92	-95	-79	-104
pH	S.U.	-	6.31	6.73	5.42	6.33	6.83
Specific Conductance	MS/CM	-	2.08	4.47	3.05	2.90	2.67
Temperature	DEG C	-	13.90	11.71	21.26	14.79	12.18
Turbidity	NTU	-	4.5	1.1	0.0	0.0	4.1

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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 - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-07R	MW-07R	MW-07R
Sample ID			20151008MW-06	20160427MW-06	20150422MW-07R	20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	51	51	10	46	22
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.1	0.39 J	1.0 U	1.0 U
Dissolved Gases							
Methane	UG/L	-	7,200	890	1,700	9,800	2,400
Total Metals							
Iron	UG/L	300	20,200	20,600	25,300	39,000	39,300
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	312	277	240	450	357
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	312	277	240	450	357
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	1 J	3 J	90	20	7 J
Hardness (as CaCO3)	MG/L	-	337	380	641	475	630
Nitrogen, Nitrate	MG/L	10	2.0 U	0.10 U	0.16	2.0 U	0.10 U
Nitrogen, Nitrite	MG/L	1	0.020 J	0.098 J	0.018 J	0.028 J	0.072 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.18	NA	NA
Sulfate	MG/L	250	16.7	36.3	11.8	9.1	5.0 U
Total Organic Carbon	MG/L	-	5.5	4.9	6.0	11.8	9.7
Ferrous Iron (lab)	MG/L	-	0.44 J	NA	2.2 J	0.49 J	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 - Estimated Result NA - Not Analyzed

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

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

Detection Limits shown are PQL

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
APRIL 2015 TO APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-07R	MW-07R	MW-07R
Sample ID			20151008MW-06	20160427MW-06	20150422MW-07R	20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.34	0.59	0.91	0.37	0.53
Ferrous Iron	MG/L	-	7.0	7.0	4.0	7.0	7.0
Oxidation-Reduction Potential	mV	-	-110	-97	-75	-100	-95
pH	S.U.	-	5.50	6.35	6.69	5.35	6.25
Specific Conductance	MS/CM	-	1.60	1.97	4.17	2.40	3.44
Temperature	DEG C	-	18.70	13.61	12.41	19.15	14.10
Turbidity	NTU	-	0.0	0.0	0.9	0.0	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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 - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts

Detection Limits shown are PQL

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[LOGDATE] >= #4/22/2015# AND [MATRIX] = 'WG

Table 3

Comparison of October 2015 to April 2016 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

TABLE 4
SUMMARY OF GROUNDWATER MONITORING PARAMETERS

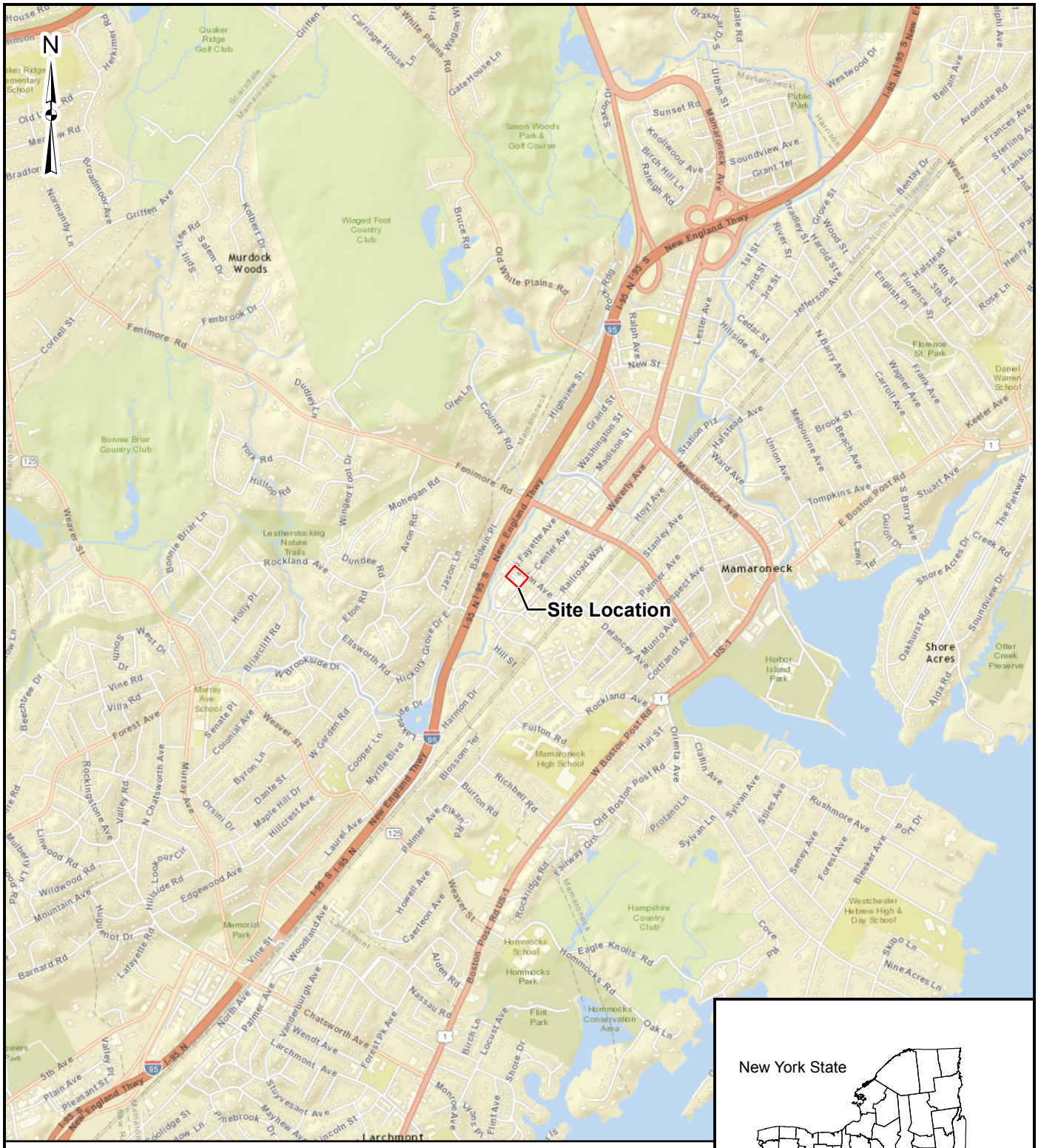
Date	Well	Sample Parameter or Parameter Group								
		Freon 113	Freon 123a	Freon1113	Methane	Sulfate	Dehalococcoides	Dehalobacter	Field Parameters	Natural Attenuation Parameters
October 2016	MW-02	x	x	x	x	x	x	x	x	x
	MW-03	x	x	x	x	x		x	x	x
	MW-04	x	x	x	x	x		x	x	x
	MW-06	x	x	x	x	x		x	x	x
	MW-07R	x	x	x	x	x		x	x	x

Notes:

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

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

FIGURES



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URS

SITE LOCATION MAP

FIGURE 1

N

MW-05

FAYETTE AVENUE

OGDEN AVENUE

MW-04

MW-07R

GATE

GATE

UTILITY POLE

ASPHALT PARKING LOT

MW-03

GATE

MW-06

MW-02

HVAC UNIT

EMERGENCY GENERATOR

DUMPSTER

COMMUNICATION TOWER

ASPHALT PARKING LOT

FORMER EMCA SITE BOUNDARY (APPROXIMATE)

GZ-06

CABLEVISION BUILDING

CENTER AVENUE

GZ-03

Legend

- Monitoring Well
- Overhead Utility
- Underground Utility

20 0 20 Feet

FORMER EMCA SITE PLAN

URS

FIGURE 2

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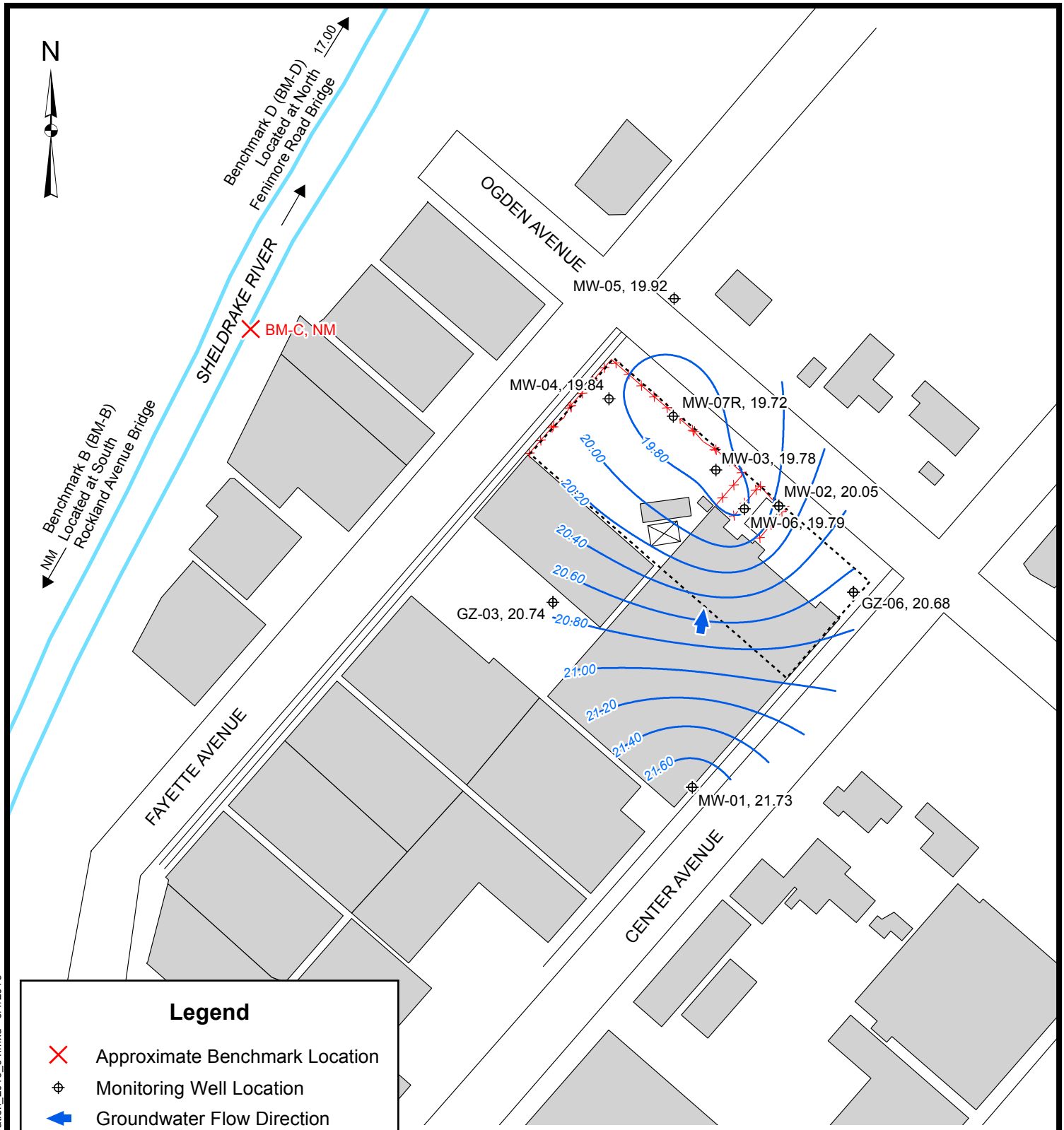

Legend

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

MW-02, 20.05
Location ID
Groundwater Elevation (based upon URS survey datum)

NOTES:
(1) Well MW-07 was replaced by well MW-07R on September 3, 2009.
(2) Benchmark C was originally established as a temporary benchmark off a tree branch overhanging the Sheldrake River between the north and south bridges. The approximate water surface elevation for this benchmark was calculated by taking the average water surface elevation of Benchmark B and Benchmark D until 2015 when measurements at Benchmark B were no longer taken due to safety concerns.
(3) NM - Not Measured

80 0 80 Feet

URS

GROUNDWATER ELEVATION MAP (APRIL 27, 2016)

FIGURE 3

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N

SHELDRAKE RIVER

FAYETTE AVENUE

OGDEN AVENUE

CENTER AVENUE

MW-05

MW-04	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	10/13	4/14	7/14	10/14	4/15	10/15	04/16
Freon-113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38J	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
Freon-1113	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	12	ND	ND	1.2	2.1	4.4	0.5J

MW-03	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	10/13	4/14	7/14	10/14	11/14	12/14	3/15	4/15	10/15	04/16
Freon-113	ND	10	2.0J	0.5J	ND	5.0J	0.9J	ND	ND	ND	32	5.4	20J	1.1	27	ND	100	120	0.81J	ND	ND	18	25	0.52J	42
Freon-123A	0.8J	48	7.0J	4.0J	1.0J	40	2.1	ND	0.5J	ND	99J	9.4	36	3.2	30	ND	62	100	1.3	ND	1.7	17	25	1.7	30
Freon-1113	51	39	54	13J	10	38	20	17J	26	4.6	110J	82	150J	130	160J	58	96	170	96	86	150	110	120	140	180

MW-07/07R	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	10/13	4/14	7/14	10/14	3/15	4/15	10/15	04/16
Freon-113	ND	ND	6.0J	ND	3.0J	46	580	18J	1.1J	53J	18	1.6	67J	5.9J	5.5	12	ND	ND	15	ND	ND	ND	ND
Freon-123A	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	1.1	ND	1.2	2.2	0.78J	0.39J	ND	ND
Freon-1113	97	89	82	92	170	150	370	150J	390	350	370J	26	630J	430	310J	390	2.1	69	130	130	10	46	22

MW-02	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	7/13	8/13	9/13	10/13	4/14	7/14	10/14	11/14	12/14	3/15	4/15	10/15	04/16
Freon-113	890	100	800	290	830J	700	1300	1200	76J	670	580	920	490	1200J	650	65	28	18	12	ND	ND	ND	ND	3.1	83	0.19J	0.14J	ND	45	24	21	960
Freon-123A	110	10	95	40	72	38J	34J	51	6.1	37	26	33J	26	57	26	29	52	30J	11	ND	ND	ND	ND	10	62	3.3	1.5	1.7	67	22	7.7	220
Freon-1113	200	21	84	61	120J	160	81J	300	92J	240	180	110J	180	140J	98	380	400	330J	400J	120	66	42	61	210	480	270J	66	56	300	310	260	940

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	ND	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	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	10/13	4/14	7/14	10/14	4/15	10/15	04/16
Freon-113	ND	3J	ND	ND	ND	2.0J	ND	ND	ND	ND	33	ND	82J	3.3	0.19J	ND	26	ND	ND	1.6	ND	ND
Freon-123A	ND	8J	0.6J	ND	ND	35	ND	3.6	0.57J	ND	38J	4.4	28	3.6	4.9	ND	33	2.7	ND	8.1	ND	1.1
Freon-1113	ND	100	21	8.0J	4.0J	34	6.4	35J	68J	61	96J	30	230J	140	61J	27	75	84	51	110	51	51

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
- 11/12 - Post-2012 Supplemental Injection Sampling Dates
- 7/13 - Post-2013 Supplemental Injection Sampling Dates
- 10/14 - Post-2014 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
J = Estimated Value
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
(2006 - 2016)

URS

FIGURE 4

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FIGURE 5
FORMER EMCA SITE
Freon 113 Concentrations, MW-03 , MW-04, and MW-07/07R

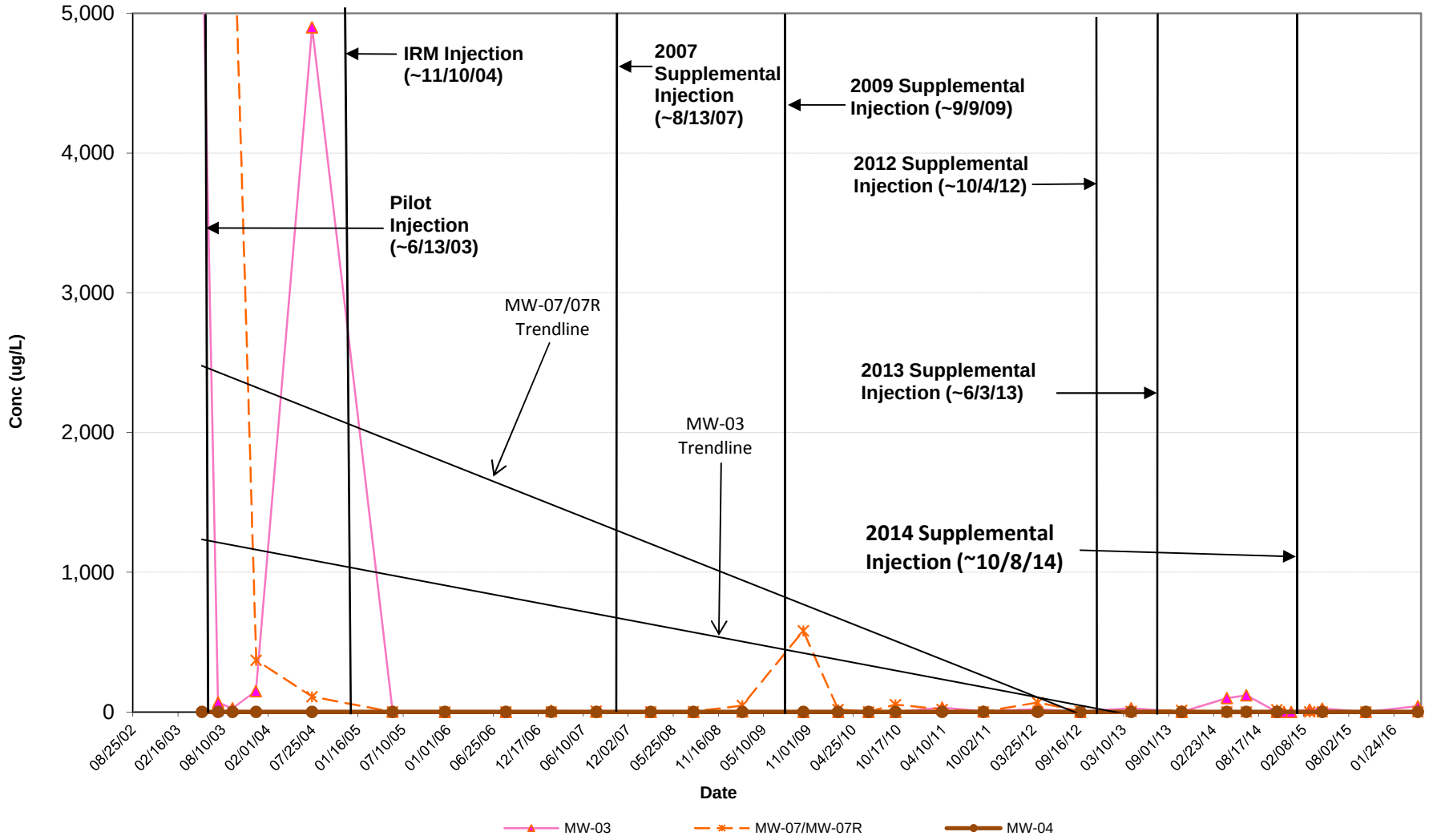

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FIGURE 6
FORMER EMCA SITE
Freon 113 Concentrations, GZ-06, MW-02, and MW-06

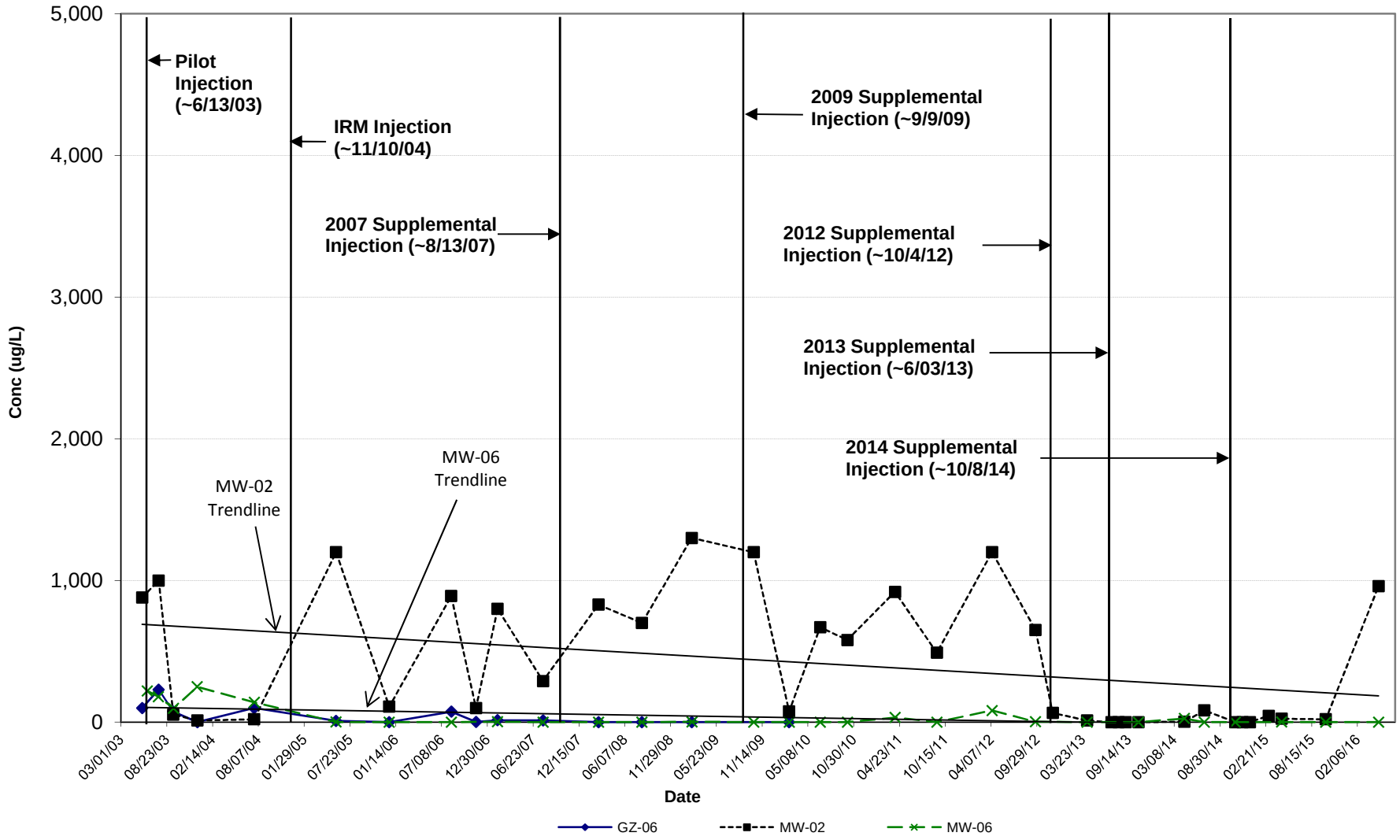

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FIGURE 7
FORMER EMCA SITE
Freon 123a Concentrations

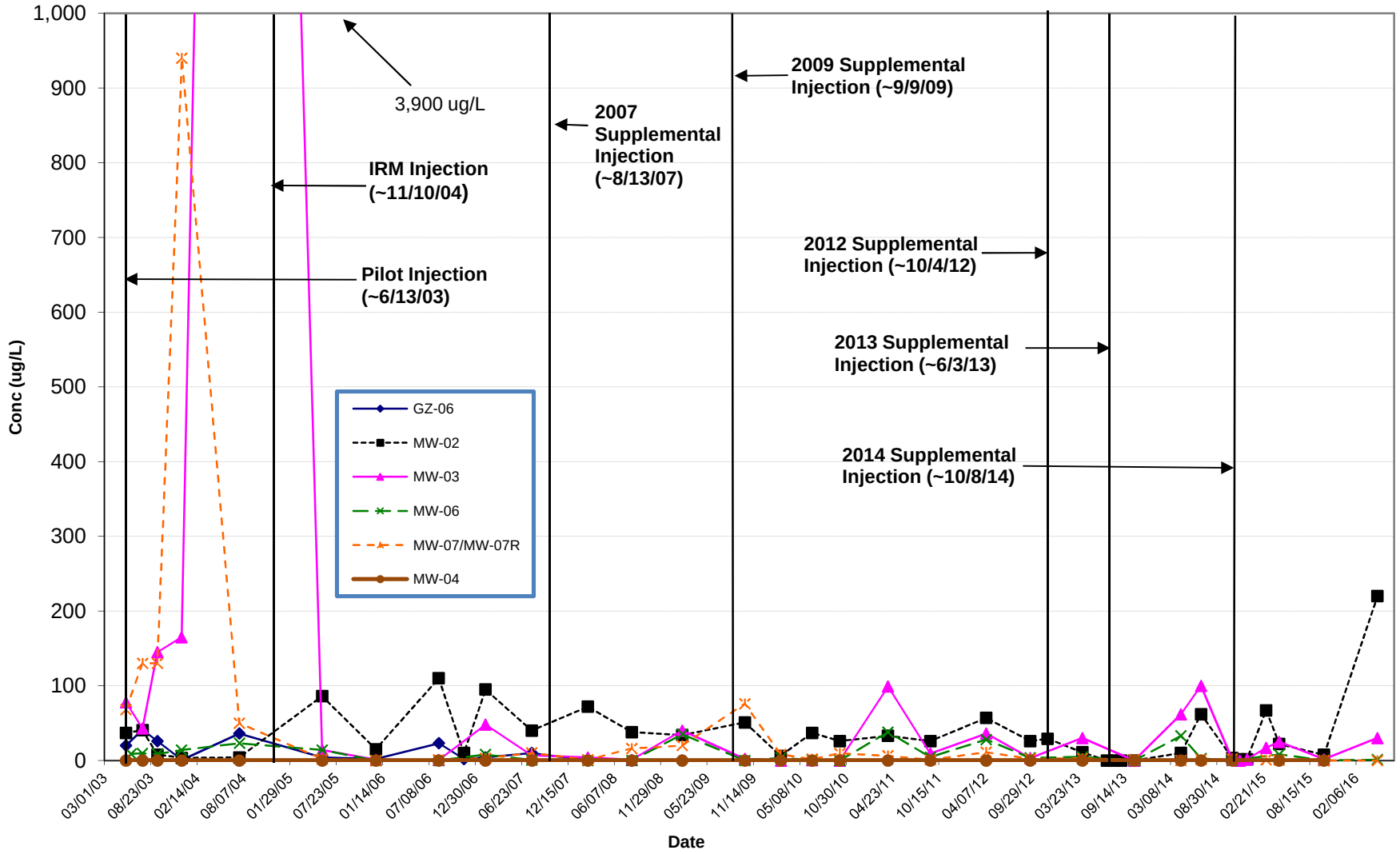

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FIGURE 8
FORMER EMCA SITE
Freon 1113 Concentrations

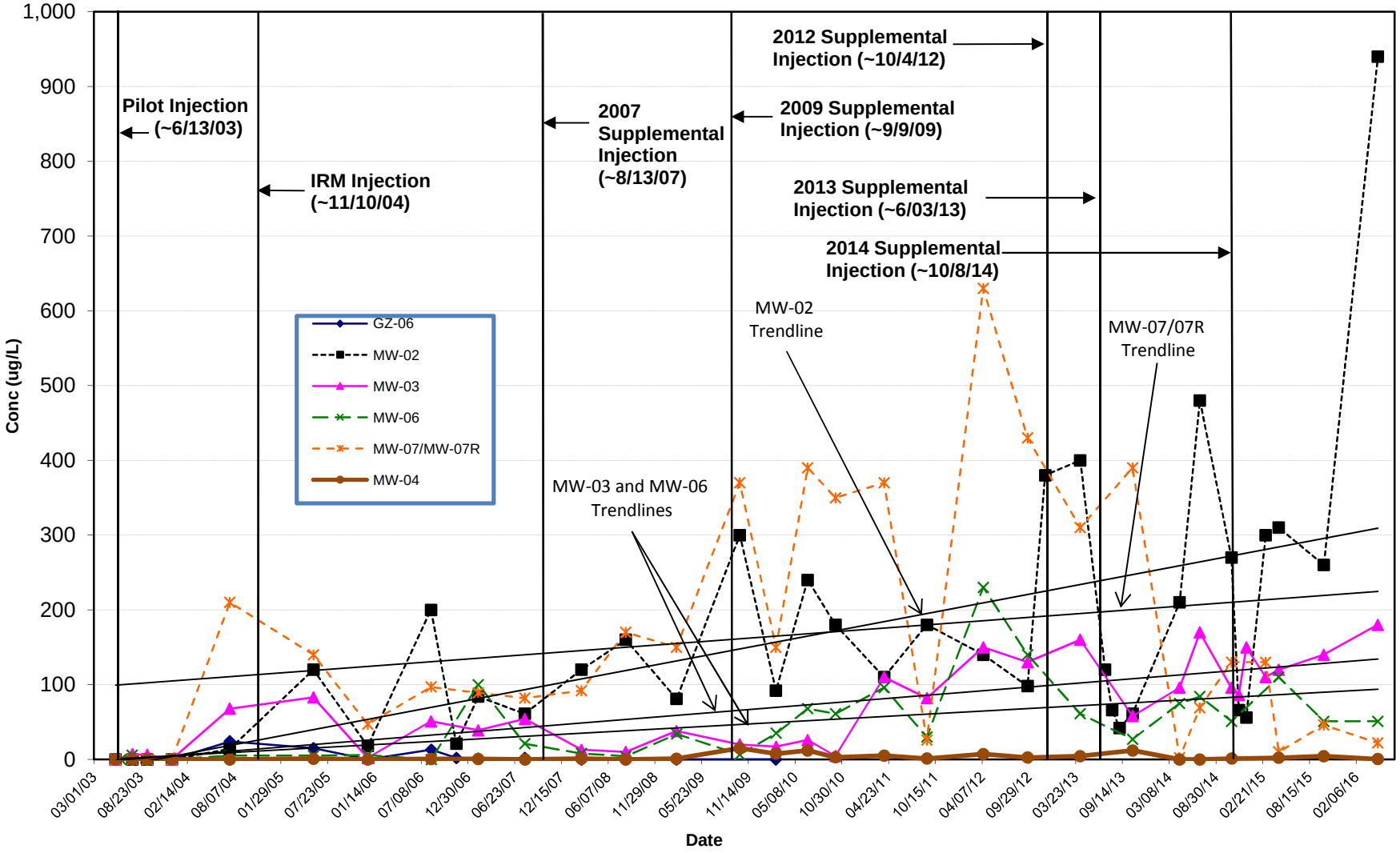

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FIGURE 9
FORMER EMCA SITE
Sulfate Concentrations

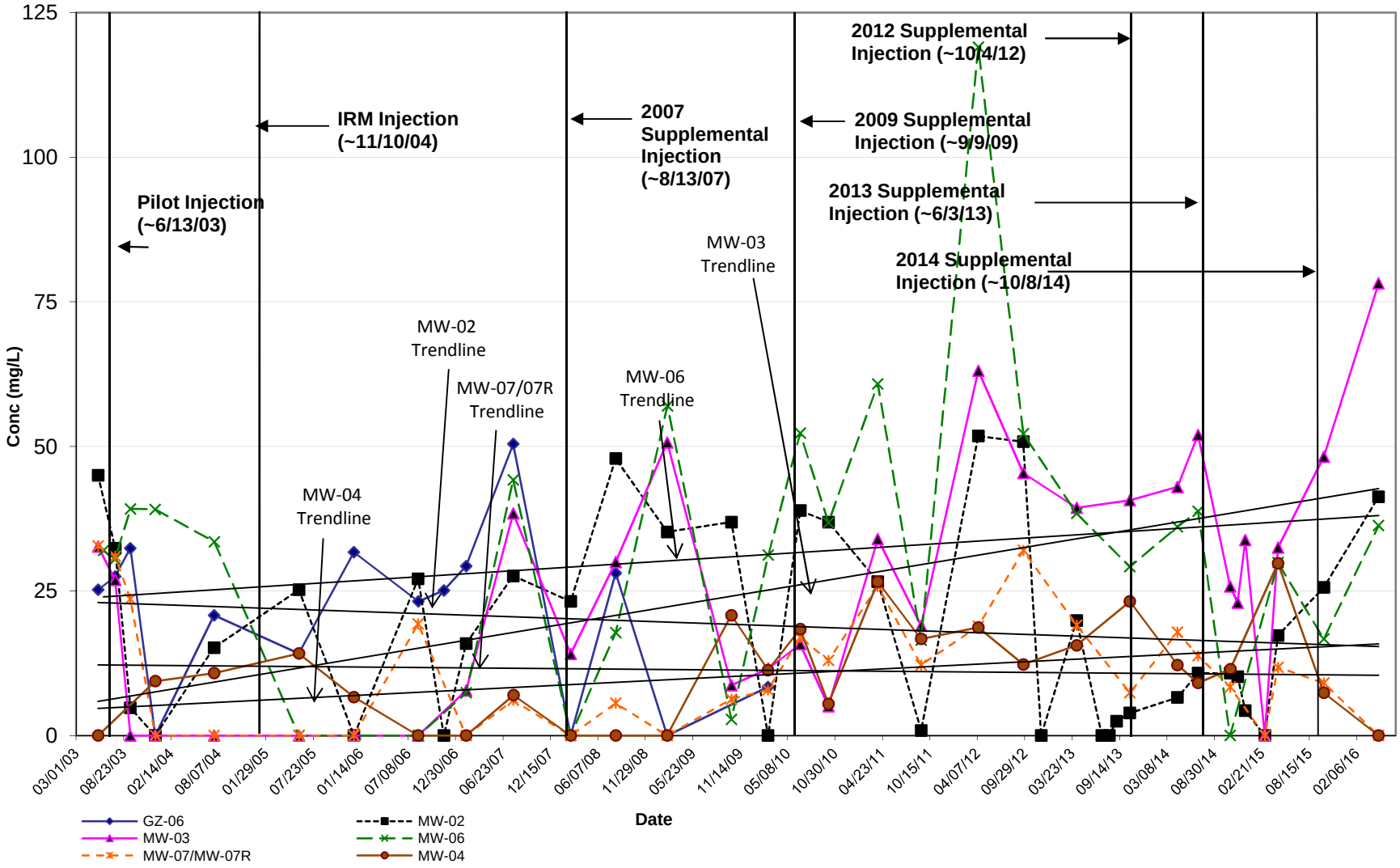

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FIGURE 10
FORMER EMCA SITE
Methane Concentrations

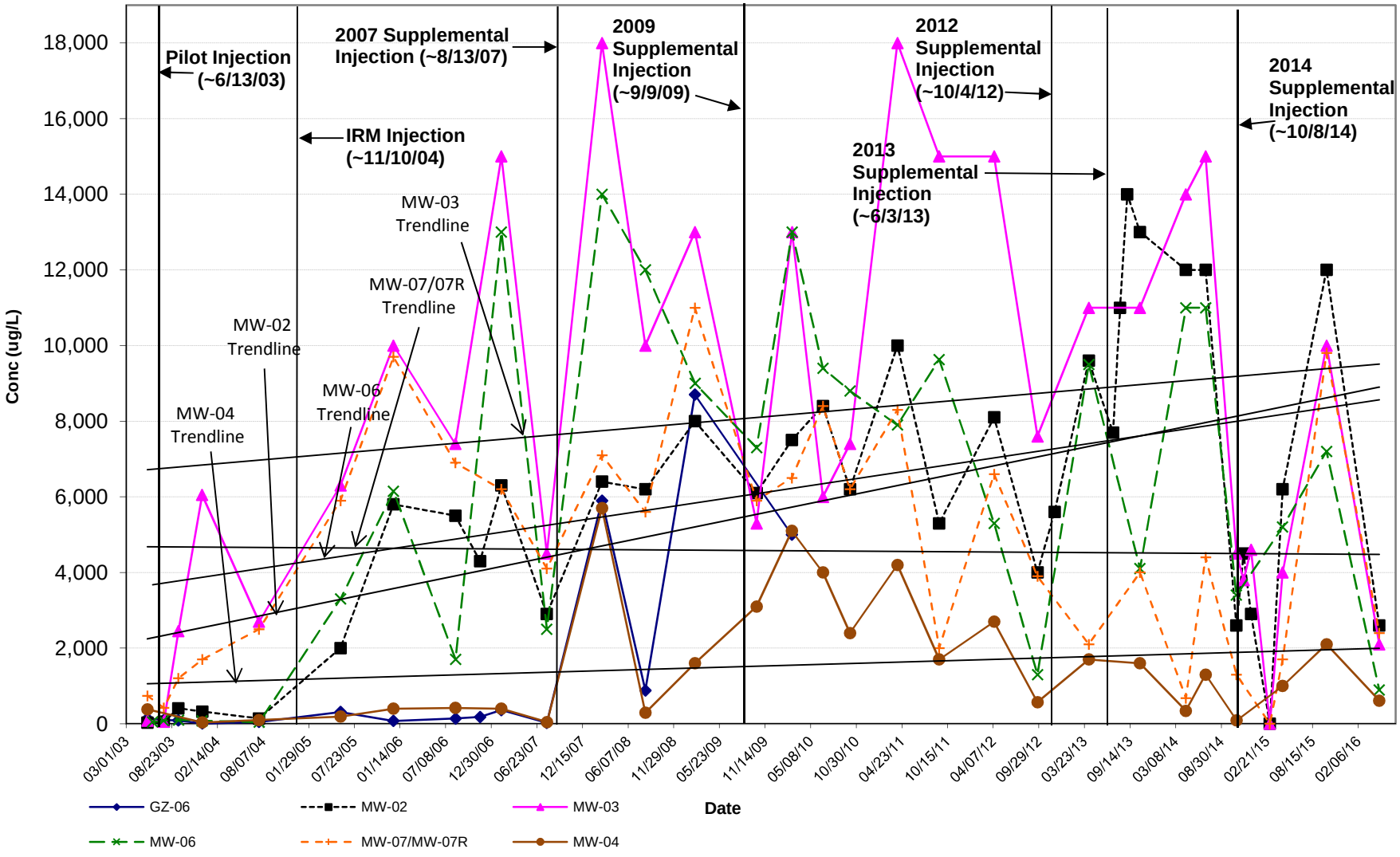

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FIGURE 11
FORMER EMCA SITE
Dissolved Oxygen Concentrations

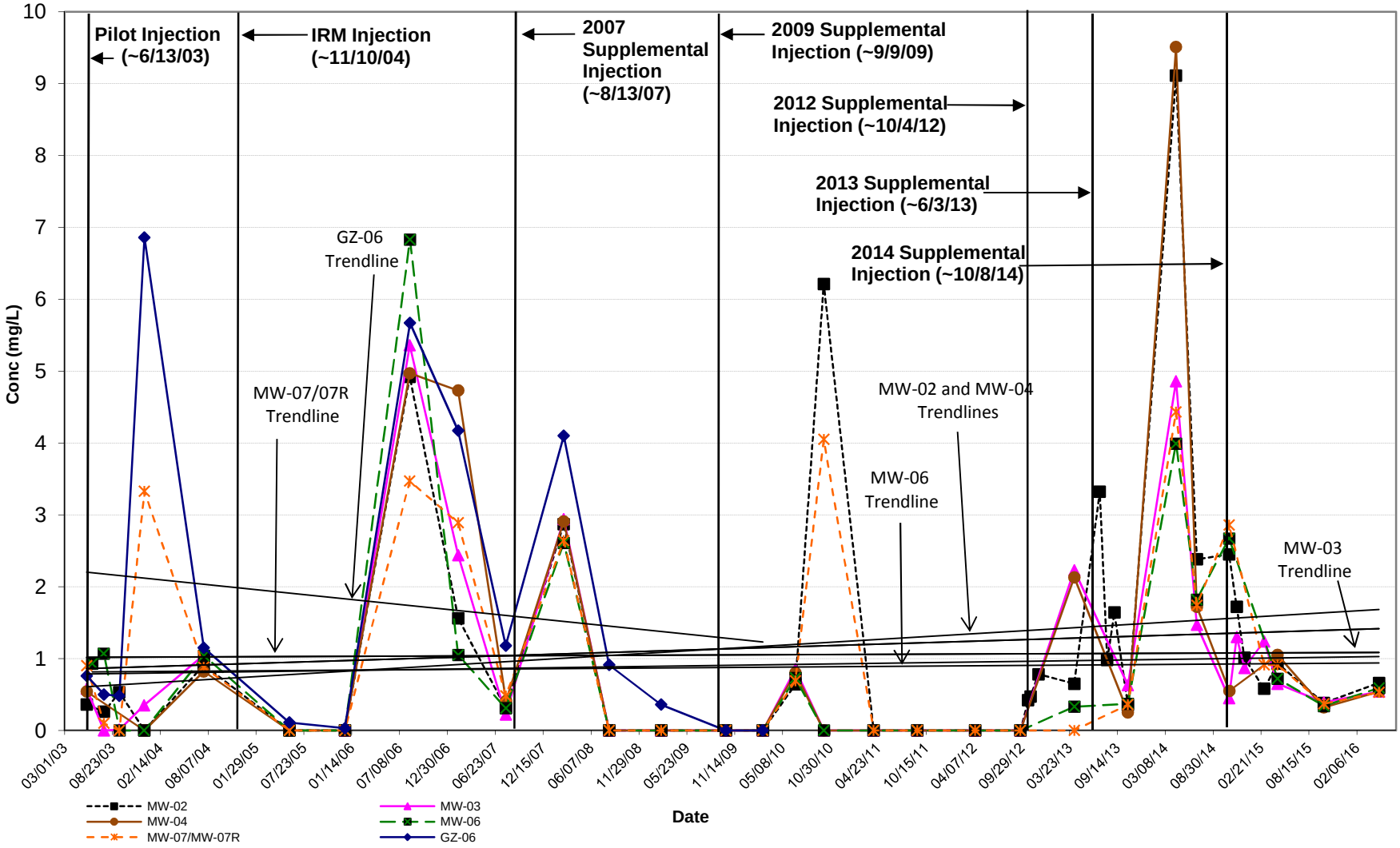

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FIGURE 12
FORMER EMCA SITE
MW-02
Dissolved Oxygen vs Temperature

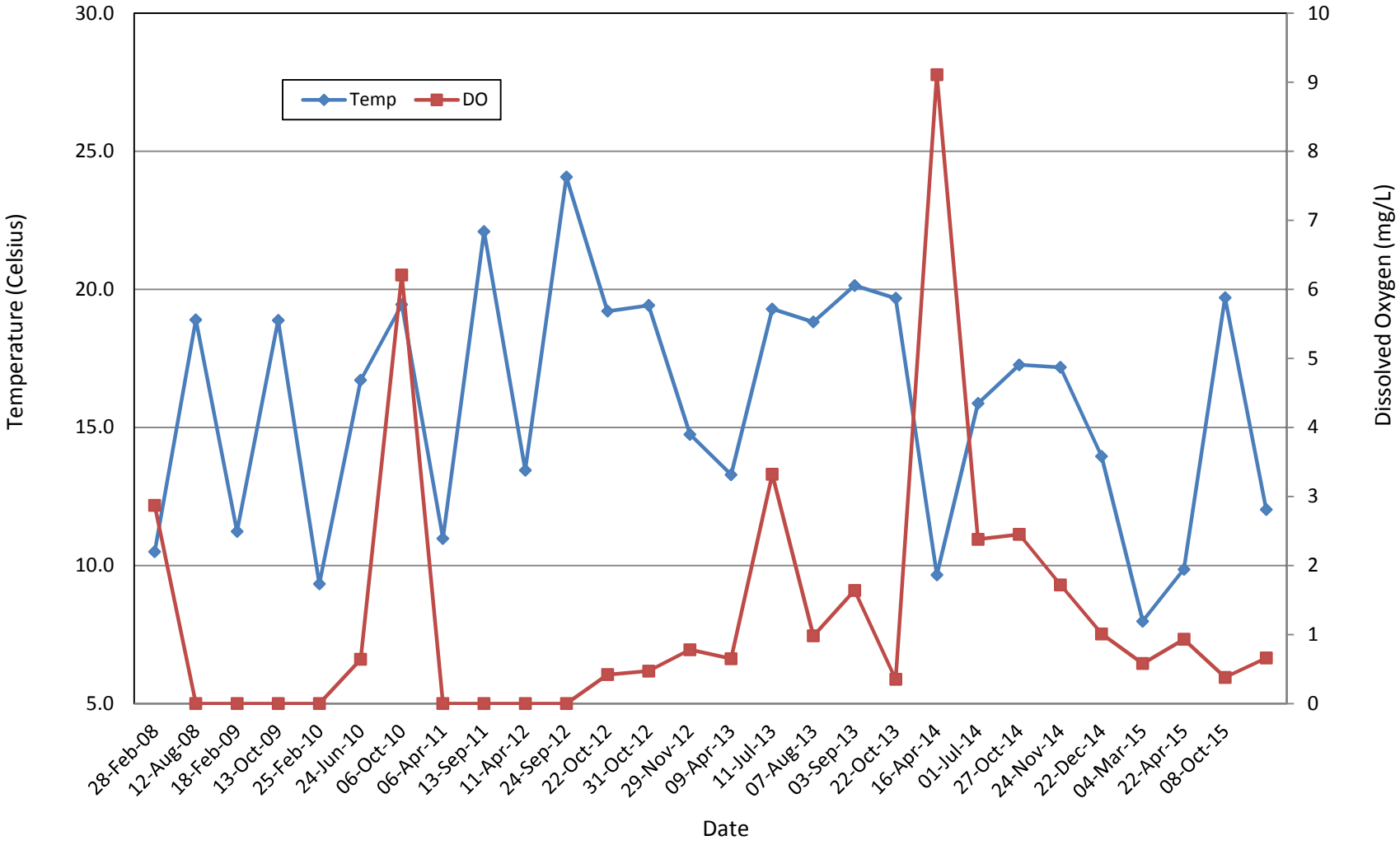

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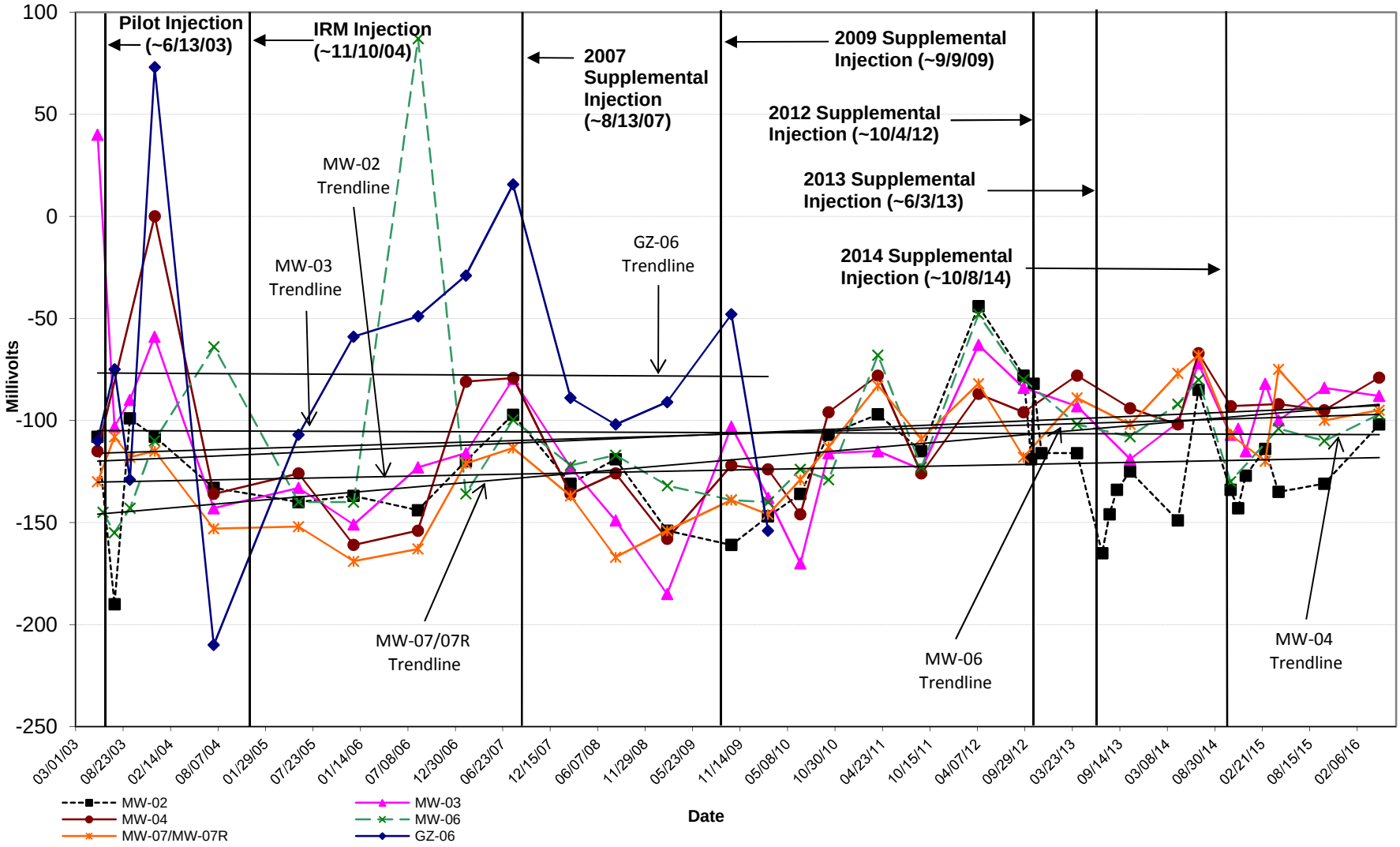
FIGURE 13
FORMER EMCA SITE
Oxidation-Reduction Potential



J:\Projects\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2016 GW SAR\Figures\GW Data Plots_Time Scaled Long_Apr2016.xls - Figure 13

APPENDIX A

LOW FLOW GROUNDWATER PURGING/SAMPLING LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/27/16 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 10' bgs

Measuring Point: Below Top of Riser Initial Depth to Water: 5.58 Depth to Well Bottom: 12.09 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20160427MW-02 Sample Time: 955 QA/QC: FB

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, ~~alkalinity, hardness, nitrogen-nitrate, TOC, total iron.~~ TestAmerica, Edis
Dehalobactor (and Dehalococcoides for MW-02 only) - sent to SIREM in Ontario, Canada

Total 12 bottles

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	Ferrous Iron (mg/l)
912	6.08	12.04	3.62	9.15	123	-57	280	5.99	—
917	6.00	12.02	2.93	1.35	47.6	-75	350	6.03	—
922	6.00	12.00	2.80	1.00	19.4	-83	250	5.96	—
927	6.02	11.97	2.78	0.89	25.7	-88	250	5.98	—
932	6.05	12.01	2.74	0.78	10.8	-93	255	6.01	—
937	6.08	12.03	2.73	0.74	9.8	-96			—
942	6.10	11.99	2.72	0.71	8.3	-98	260	6.01	3.0 ←
947	6.12	12.00	2.72	0.69	8.0	-100	260	6.01	—
952	6.14	12.03	2.71	0.66	7.2	-102	260	6.01	—
955	Sample								4.5 ←
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:

Note: spill a little of Ferrous Iron Reagent @ 942.
Use final value.
— flow thru cell in shade during purge

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site: Mamaroneck, NY Well I.D.: MW-03

Date: 4/27/16 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 12'

Measuring Point: Below Top of Riser Initial Depth to Water: 5.81 Depth to Well Bottom: 13.99 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20160427 MW-03 Sample Time: 1255 QA/QC: TB

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, alkalinity, hardness, nitrogen-nitrate, TOC, total iron- TestAmerica, Edis
Dehalobactor (and Dehalococcoides for MW-02 only) - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	Ferrous Iron (mg/l)
1215	6.44	14.81	2.17	1.49	48.1	-4	280	6.03	—
1220	6.36	14.08	2.13	0.91	15.9	-46	305	6.02	—
1225	6.32	13.88	2.10	0.71	19.0	-67			—
1230	6.31	13.99	2.09	0.63	18.7	-76	275	6.03	—
1235	6.31	13.98	2.11	0.58	4.9	-82			—
1240	6.31	13.96	2.08	0.55	5.0	-86			—
1245	6.31	13.90	2.08	0.54	4.5	-88	295	6.16	—
1250									
1255	Sample								6.5
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:

O_2

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site: Mamaroneck, NY Well I.D.: MW-04

Date: 4/27/16 Sampling Personnel: Megan Dascoli Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.47 Depth to Well Bottom: 11.55 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20160427 MW-04 Sample Time: 1500 QA/QC: TB

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, alkalinity, hardness, nitrogen-nitrate, TOC, total iron- TestAmerica, Edis
Dehalobactor ~~(and Dehalococcoides for MW-02 only)~~ - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	Ferrous Iron (mg/l)
1425	6.66	16.13	2.71	1.27	28.7	-59	190	5.69	—
1430	6.51	15.65	2.75	0.93	9.7	-68			—
1435	6.44	15.39	2.70	0.74	0.3	-72			—
1440	6.39	15.09	2.69	~~0.64~~	0.0	-75	225	5.89	—
1445	6.35	15.10	2.75	~~0.58~~	0.0	-76		5.78	
1450	6.33	15.04	2.85	0.55	~~0.0~~ 0.0	-78	250	5.81	
1455	6.33	14.79	2.90	0.54	0.0	-79			
1500	sample								5.5
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:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site: Mamaroneck, NY Well I.D.: MW-06

Date: 4/27/16 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 17'

Measuring Point: Below Top of Riser Initial Depth to Water: 5.98 Depth to Well Bottom: 18.47 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20160427 MW-06 Sample Time: 1120 QA/QC: TB

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, alkalinity, hardness, nitrogen-nitrate, TOC, total iron- TestAmerica, Edis
Dehalobactor ~~(and Dehalococcoides for MW-02 only)~~ sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	Ferrous Iron (mg/l)
1040	6.47	13.26	1.57	1.74	18.7	-51	290		—
1045	6.37	13.45	1.77	0.96	7.7	-67	295		—
1050	6.34	13.50	1.87	0.71	3.4	-81	305	6.16	—
1055	6.34	13.53	1.90	0.69	1.8	-89	305	6.16	~~7.0~~
1100	6.34	13.56	1.92	0.64	1.2	-89	305	6.16	~~7.0~~
1105	6.34	13.59	1.95	0.61	0.3	-93			
1110	6.34	13.59	1.96	0.60	0.0	-95	305	6.16	
1115	6.35	13.61	1.97	0.59	0.0	-97			—
1120	Sample								7.0
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: flow-thru cell in sub during purge

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Dow/ Rohm& Haas, former EMCA Site: Mamaroneck, NY Well I.D.: MW-07R

Date: 4/27/16 Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 18'

Measuring Point: Below Top of Riser Initial Depth to Water: 5.91 Depth to Well Bottom: 19.75 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20160427 MW-07R Sample Time: 1355 QA/QC:

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, alkalinity, hardness, nitrogen-nitrate, TOC, total iron- TestAmerica, Edison, NJ
Dehalobactor (~~and Dehalococcoides for MW-02 only~~) - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	Ferrous Iron (mg/l)
1317	6.37	14.36	3.58	1.64	23.1	-47	175	5.96	—
1322	6.30	14.56	3.58	1.00	7.5	-77			—
1327	6.28	14.48	3.56	0.80	0.0	-84	210	5.97	—
1332	6.27	14.30	3.50	0.64	0.0	-89			—
1337	6.26	14.31	3.48	0.56	0.0	-91	250	5.97	—
1342	6.25	14.24	3.46	0.54	0.0	-93			
1347	6.25	14.10	3.44	0.53	0.0	-95			
1355	Sample								7.0
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:

APPENDIX B

HISTORICAL ANALYTICAL DATA SUMMARY

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	1.0 U	2 U	1.0 U	1.0 U
Bromoform	UG/L	50	NA	4.0 U	8 U	4.0 U	4.0 U
Bromomethane	UG/L	5	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
Carbon Disulfide	UG/L	60	NA	5.0 U	10 U	5.0 U	5.0 U
Carbon Tetrachloride	UG/L	5	NA	2.0 U	4 U	2.0 U	2.0 U
Chlorobenzene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
Chloroethane	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
Chloroform	UG/L	7	NA	5.0 U	10 U	5.0 U	5.0 U
Chloromethane	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	0 U	0 U	5.4 NJ	0 U
Dibromochloromethane	UG/L	50	NA	5.0 U	10 U	5.0 U	5.0 U
1,1-Dichloroethane	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloroethane	UG/L	0.6	NA	2.0 U	4 U	2.0 U	2.0 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
1,2-Dichloropropane	UG/L	1	NA	1.0 U	2 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	UG/L	0.4	NA	5.0 U	10 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	UG/L	0.4	NA	5.0 U	10 U	5.0 U	5.0 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

U - Non-Detect UJ - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	3.0 U	6 U	3.0 U	3.0 U
Styrene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	UG/L	5	NA	1.0 U	2 U	1.0 U	1.0 U
Tetrachloroethene	UG/L	5	NA	0.6 J	2 U	0.5 J	1.0 U
1,1,1-Trichloroethane	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
1,1,2-Trichloroethane	UG/L	1	NA	3.0 U	6 U	3.0 U	3.0 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
Toluene	UG/L	5	NA	5.0 U	10 U	5.0 U	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							
Ethane	UG/L	-	NA	10 U	5 U	10 U	5.0 U
Ethene	UG/L	-	NA	10 U	5 U	10 U	5.0 U
Methane	UG/L	-	5.0 U	140	98	89	5.9
Total Metals							
Iron	UG/L	300	NA	2,390	866	517 J	173

*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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	2,290	778	583 J	85.3 B
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	0.1 U	NA	0.1 U	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	NA	5 U	5 U	NA	5 U
Oil & Grease	MG/L	-	NA	NA	NA	R	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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
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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	24	15	10 U	13	2.0 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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

U - Non-Detect UJ - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalvents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	50 U	NA	NA	NA
Ethene	UG/L	-	NA	50 U	NA	NA	NA
Methane	UG/L	-	48	310	74	140	180
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	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
Sulfide	MG/L	0.05	1.0 U	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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
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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	2.0 J	1.0 J	2.0 J	10 U	10 U
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	210	360	23	5,900	880
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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)				
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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
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.

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	10 U	5.0 U
Bromoform	UG/L	50	NA	NA	NA	40 U	20 U
Bromomethane	UG/L	5	NA	NA	NA	50 U	25 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Carbon Disulfide	UG/L	60	NA	NA	NA	50 U	25 U
Carbon Tetrachloride	UG/L	5	NA	NA	NA	20 U	10 U
Chlorobenzene	UG/L	5	NA	NA	NA	50 U	25 U
Chloroethane	UG/L	5	NA	NA	NA	50 U	25 U
Chloroform	UG/L	7	NA	NA	NA	50 U	25 U
Chloromethane	UG/L	5	NA	NA	NA	50 U	25 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1 UJ	20 U	0 U	0 U
Dibromochloromethane	UG/L	50	NA	NA	NA	50 U	25 U
1,1-Dichloroethane	UG/L	5	NA	NA	20 U	50 U	25 U
1,2-Dichloroethane	UG/L	0.6	NA	NA	20 U	20 U	10 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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	10 U	5.0 U
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	50 U	25 U
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	50 U	25 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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	30 U	15 U
Styrene	UG/L	5	NA	NA	NA	50 U	25 U
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	10 U	5.0 U
Tetrachloroethene	UG/L	5	NA	NA	8.0 J	10 U	5.0 U
1,1,1-Trichloroethane	UG/L	5	NA	NA	20 U	50 U	25 U
1,1,2-Trichloroethane	UG/L	1	NA	NA	20 U	30 U	15 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
Toluene	UG/L	5	NA	NA	NA	50 U	25 U
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							
Ethane	UG/L	-	NA	NA	NA	5.0 U	5.0 U
Ethene	UG/L	-	NA	NA	NA	5.0 U	5.0 U
Methane	UG/L	-	8,700	5,000	98	26	32
Total Metals							
Iron	UG/L	300	NA	NA	NA	27,800	28,300

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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)
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	27,900	28,200
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	0.1 U	0.1 U
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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	NA	NA	NA	5 U	5 U
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.99	0.36	NA
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.

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	10 U	10 U	1.0 U	1.0 U	NA
Bromoform	UG/L	50	40 U	40 U	4.0 U	4.0 U	NA
Bromomethane	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	R	NA
Carbon Disulfide	UG/L	60	50 U	50 U	5.0 U	5.0 U	NA
Carbon Tetrachloride	UG/L	5	20 U	20 U	2.0 U	2.0 U	NA
Chlorobenzene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Chloroethane	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Chloroform	UG/L	7	50 U	50 U	5.0 U	5.0 U	NA
Chloromethane	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	0 U	14
Dibromochloromethane	UG/L	50	50 U	50 U	5.0 U	5.0 U	NA
1,1-Dichloroethane	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
1,2-Dichloroethane	UG/L	0.6	20 U	20 U	2.0 U	2.0 U	NA
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
1,2-Dichloropropane	UG/L	1	10 U	10 U	1.0 U	1.0 U	NA
cis-1,3-Dichloropropene	UG/L	0.4	50 U	50 U	5.0 U	5.0 U	NA
trans-1,3-Dichloropropene	UG/L	0.4	50 U	50 U	5.0 U	5.0 U	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	30 U	30 U	3.0 U	3.0 U	NA
Styrene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
1,1,2,2-Tetrachloroethane	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
Tetrachloroethene	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
1,1,1-Trichloroethane	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
1,1,2-Trichloroethane	UG/L	1	30 U	30 U	3.0 U	3.0 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
Toluene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
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							
Ethane	UG/L	-	5 U	5 U	50 U	25 U	NA
Ethene	UG/L	-	5 U	5 U	50 U	25 U	NA
Methane	UG/L	-	54	52	410	320	140
Total Metals							
Iron	UG/L	300	30,100	30,900	63,800 J	69,000	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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)				
Dissolved Metals							
Iron	UG/L	300	30,500	30,500	60,900 J	69,300	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	0.1 U	0.1 U	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	1.0 U
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	5 U	5 U	NA	5 U	NA
Oil & Grease	MG/L	-	NA	NA	5 U	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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
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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	120	18	200	21	84
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	100 U	NA	NA	NA	NA
Ethene	UG/L	-	100 U	NA	NA	NA	NA
Methane	UG/L	-	2,000	5,800	5,500	4,300	6,300
Total 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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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
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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	61	120 J	160	81 J	300
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	2,900	6,400	6,200	8,000	6,100
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0
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	-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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92 J	240	180	110 J	180
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
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

*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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	361
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	19.1
Ferrous Iron (lab)	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

*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

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.64	6.21	0.0	0.0
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	-	0.0	3.0	11.9	3.9	0.1

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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	140 J	98	NA	NA	380
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	8,100	4,000	NA	NA	5,600
Total Metals							
Iron	UG/L	300	NA	32,900	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	245	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	245	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	5.0 U	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	5.0 U	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, Nitrite	MG/L	1	NA	NA	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
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	8.4	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
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							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.42	0.47	0.78
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.

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130711MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	07/11/13
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	400	330 J	400 J	280 J	120
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130711MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	07/11/13
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	28	18	12	11	1.0 UJ
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	52	30 J	11	11	1.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	8,000	8,000	9,600	9,000	7,700
Total Metals							
Iron	UG/L	300	NA	NA	56,600	58,100	NA

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130711MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	07/11/13
Parameter	Units	Criteria*			Field Duplicate (1-1)		
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	510	249	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	510	249	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	5.0 U	5.0 U	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	5.0 U	5.0 U	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	2,000	200	NA	60	1,000
Dehalobacter	GC/mL	-	30,000	2,000	NA	1,000	6,000 J
Hardness (as CaCO3)	MG/L	-	NA	NA	673	653	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	0.10 UJ	0.10 UJ	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	14.4	13 J	9.2	19.9	5.0 U
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	31.1	31.1	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130115MW-02V10N	20130219MW-02V10N	20130409MW-02V09FD	20130409MW-02V09N	20130711MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/15/13	02/19/13	04/09/13	04/09/13	07/11/13
Parameter	Units	Criteria*			Field Duplicate (1-1)		
Miscellaneous Parameters							
TPH	MG/L	-	NA	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
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
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	3.32
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	-165
pH	S.U.	-	6.58	6.82	NA	6.27	6.61
Specific Conductance	MS/CM	-	2.43	2.61	NA	8.18	2.60
Temperature	DEG C	-	13.05	10.18	NA	13.29	19.29
Turbidity	NTU	-	0.0	0.0	NA	0.0	0.0

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130807MW-02V09N	20130903MW-02V09N	20131022MW-02V09FD	20131022MW-02V09N	20140416MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/07/13	09/03/13	10/22/13	10/22/13	04/16/14
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	66 J	42	64	61	210
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130807MW-02V09N	20130903MW-02V09N	20131022MW-02V09FD	20131022MW-02V09N	20140416MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/07/13	09/03/13	10/22/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 U	1.0 U	1.0 U	1.0 U	3.1
Toluene	UG/L	5	NA	NA	NA	NA	NA
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 U	1.0 U	1.0 U	1.0 U	10
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	11,000	14,000	9,600	13,000	12,000
Total Metals							
Iron	UG/L	300	NA	NA	77,200	78,400	69,900

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130807MW-02V09N	20130903MW-02V09N	20131022MW-02V09FD	20131022MW-02V09N	20140416MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/07/13	09/03/13	10/22/13	10/22/13	04/16/14
Parameter	Units	Criteria*			Field Duplicate (1-1)		
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	230	233	456
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	456
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	800 J	50 J	NA	30	NA
Dehalobacter	GC/mL	-	10,000	3,000	NA	500	70
Hardness (as CaCO3)	MG/L	-	NA	NA	69.3	131	455
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	0.10 UJ	0.28 J	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	0.078 J	0.036 J	0.049 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	2.5 J	3.9 J	3.9 J	6.6
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	9.5	9.5	12.8
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20130807MW-02V09N	20130903MW-02V09N	20131022MW-02V09FD	20131022MW-02V09N	20140416MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/07/13	09/03/13	10/22/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.98	1.64	NA	0.35	9.11
Ferrous Iron	MG/L	-	NA	NA	NA	46.5	3.5
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-146	-134	NA	-125	-149
pH	S.U.	-	6.42	6.10	NA	6.41	7.04
Specific Conductance	MS/CM	-	2.22	2.06	NA	1.76	2.49
Temperature	DEG C	-	18.82	20.14	NA	19.68	9.66
Turbidity	NTU	-	0.0	1.0	NA	1.2	0

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP04162014	20140701MW-02V09N	Dup20140701	20141027MW-02V09N	20141124MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/16/14	07/01/14	07/01/14	10/27/14	11/24/14
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	190	480	380	270 J	66
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP04162014	20140701MW-02V09N	Dup20140701	20141027MW-02V09N	20141124MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/16/14	07/01/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	2.9	83	78	0.19 J	0.14 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	11	62	50	3.3	1.5
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	13,000	12,000	8,000	2,600	4,500
Total Metals							
Iron	UG/L	300	70,500	73,100	74,300	94,800	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 inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP04162014	20140701MW-02V09N	Dup20140701	20141027MW-02V09N	20141124MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/16/14	07/01/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	456	254	292	367	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	456	254	292	367	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	5	2 J
Dehalobacter	GC/mL	-	NA	100	NA	9,000	2,000
Hardness (as CaCO3)	MG/L	-	455	436	356	455	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	0.10 U	0.10 U	0.11	1.0 U	NA
Nitrogen, Nitrite	MG/L	1	0.043 J	0.038 J	0.049 J	0.10 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	6.5	10.8	10.5	10.8	10.2
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	12.7	9.2	10	81.0	NA
Ferrous Iron (lab)	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

*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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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			DUP04162014	20140701MW-02V09N	Dup20140701	20141027MW-02V09N	20141124MW-02V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/16/14	07/01/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	2.38	NA	2.45	1.72
Ferrous Iron	MG/L	-	NA	3.0	NA	7.8	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-85	NA	-134	-143
pH	S.U.	-	NA	6.49	NA	6.50	6.85
Specific Conductance	MS/CM	-	NA	2.13	NA	2.48	2.59
Temperature	DEG C	-	NA	15.87	NA	17.27	17.18
Turbidity	NTU	-	NA	2.7	NA	0.7	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	20151008MW-02	20160427MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	56	300	310	260	940
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	20151008MW-02	20160427MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 U	45	24	21	960 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	1.7	67	22	7.7	220
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	2,900	NA	6,200	12,000	2,600
Total Metals							
Iron	UG/L	300	NA	NA	60,500	61,800	63,100

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	20151008MW-02	20160427MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	432	292	261
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	432	292	261
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
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	1 J	NA	20 J	1 J	40
Dehalobacter	GC/mL	-	NA	90	200	300	80 J
Hardness (as CaCO3)	MG/L	-	NA	NA	525	424	400
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	0.10 U	2.0 U	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	0.10 U	0.034 J	0.085 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.050 U	NA	NA
Sulfate	MG/L	250	4.3 J	NA	17.3	25.6	41.3
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	13.8	6.2	6.0
Ferrous Iron (lab)	MG/L	-	NA	NA	12.5 J	2.5 J	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	20151008MW-02	20160427MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	10/08/15	04/27/16
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.01	0.58	0.93	0.38	0.66
Ferrous Iron	MG/L	-	NA	NA	5.5	7.0	4.5
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-127	-114	-135	-131	-102
pH	S.U.	-	6.78	6.80	6.60	5.36	6.14
Specific Conductance	MS/CM	-	2.60	2.53	2.86	2.52	2.71
Temperature	DEG C	-	13.95	7.98	9.86	19.70	12.03
Turbidity	NTU	-	0.0	0.0	8.0	0.0	7.2

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW03_52103	MW03	DUP-91703	MW03-091703	DUP1_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/21/03	07/23/03	09/17/03	09/17/03	12/17/03
Parameter	Units	Criteria*			Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	250 U	78	110	110	130 J
Benzene	UG/L	1	250 U	2.3	2.2	1.8	10 U
Bromodichloromethane	UG/L	50	50 U	1.0 U	1.0 U	1.0 U	2.0 U
Bromoform	UG/L	50	200 U	4.0 U	4.0 U	4.0 U	8.0 U
Bromomethane	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	130 J	69 J	65 J	39 J
Carbon Disulfide	UG/L	60	250 U	5.0 U	5.0 U	5.0 U	10 U
Carbon Tetrachloride	UG/L	5	100 U	2.0 U	2.0 U	2.0 U	4.0 U
Chlorobenzene	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
Chloroethane	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
Chloroform	UG/L	7	250 U	5.0 U	5.0 U	5.0 U	10 U
Chloromethane	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	7.0 NJ	6.2 NJ	0 U	0 U
Dibromochloromethane	UG/L	50	250 U	5.0 U	5.0 U	5.0 U	10 U
1,1-Dichloroethane	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
1,2-Dichloroethane	UG/L	0.6	100 U	2.0 U	2.0 U	2.0 U	4.0 U
1,1-Dichloroethene	UG/L	5	33 J	2.0 U	2.0 U	2.0 U	4.0 U
cis-1,2-Dichloroethene	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
trans-1,2-Dichloroethene	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
1,2-Dichloropropane	UG/L	1	50 U	1.0 U	1.0 U	1.0 U	2.0 U
cis-1,3-Dichloropropene	UG/L	0.4	250 U	5.0 U	5.0 U	5.0 U	10 U
trans-1,3-Dichloropropene	UG/L	0.4	250 U	5.0 U	5.0 U	5.0 U	10 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW03_52103	MW03	DUP-91703	MW03-091703	DUP1_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/21/03	07/23/03	09/17/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Ethylbenzene	UG/L	5	200 U	0.3 J	4.0 U	4.0 U	8.0 U
2-Hexanone	UG/L	50	250 U	5.0 U	19	16	10 U
4-Methyl-2-Pentanone	UG/L	-	250 U	5.0 U	11	11	10 U
Methylene Chloride	UG/L	5	150 U	3.0 U	3.0 U	3.0 U	6.0 U
Styrene	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	50 U	1.0 U	1.0 U	1.0 U	2.0 U
Tetrachloroethene	UG/L	5	50 U	1.0 U	1.0 U	1.0 U	4.9
1,1,1-Trichloroethane	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
1,1,2-Trichloroethane	UG/L	1	150 U	3.0 U	3.0 U	3.0 U	6.0 U
Trichloroethene	UG/L	5	50 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	5,800	68	26	16	150
Toluene	UG/L	5	250 U	5.0 U	5.0 U	5.0 U	10 U
Vinyl Chloride	UG/L	2	250 U	5.0 U	5.0 U	5.0 U	10 U
Xylene (total)	UG/L	5	250 U	1.1 J	5.0 U	5.0 U	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	78 J	43	180	110	170
Dissolved Gases							
Ethane	UG/L	-	5.0 U	5 U	250 U	250 U	500 U
Ethene	UG/L	-	5.0 U	5 U	250 U	250 U	500 U
Methane	UG/L	-	86	56	2,400	2,500	7,200
Total Metals							
Iron	UG/L	300	1,170	150,000	174,000 J	178,000 J	156,000

*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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Concentration Exceeds Criteria

U - Non-Detect UJ - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW03_52103	MW03	DUP-91703	MW03-091703	DUP1_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/21/03	07/23/03	09/17/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	267	152,000	187,000 J	186,000 J	167,000
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	113	143	99.2 J	91.5 J	224
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	0.36	2.7	0.86	0.95	1.4
Nitrogen, Kjeldahl, Total	MG/L	-	1.3	10.8	4.5	4.4	4.0
Nitrogen, Nitrate	MG/L	10	2	NA	0.1 U	0.1 U	0.1 U
Nitrogen, Nitrite	MG/L	1	0.1 U	NA	0.1 U	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.1 UJ	NA	NA	NA
Sulfate	MG/L	250	32.7	26.9	5.0 U	5.0 U	5.0 U
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	0.5	3.7	25.5	27.9	23.5
Ferric Iron (lab)	MG/L	-	0.67	146	67.0	93.0	132
Fluoride	MG/L	1.5	0.28	0.44	0.27	0.2	0.22

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW03_52103	MW03	DUP-91703	MW03-091703	DUP1_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/21/03	07/23/03	09/17/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	5 U	5 U	NA	NA	5.38 U
Oil & Grease	MG/L	-	NA	NA	R	R	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.58	0 U	NA	0.01	NA
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	40	-103	NA	-90	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.638	4.35	NA	1.64	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03_121703	MW-03	MW-03	MW-03VION	MW-03V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	120 J	NA	NA	NA	NA
Benzene	UG/L	1	10 U	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	2 U	NA	NA	NA	NA
Bromoform	UG/L	50	8 U	NA	NA	NA	NA
Bromomethane	UG/L	5	10 U	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	38 J	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	10 U	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	4 U	NA	NA	NA	NA
Chlorobenzene	UG/L	5	10 U	NA	NA	NA	NA
Chloroethane	UG/L	5	10 U	NA	NA	NA	NA
Chloroform	UG/L	7	10 U	NA	NA	NA	NA
Chloromethane	UG/L	5	10 U	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	68 J	83	2.0 J	51
Dibromochloromethane	UG/L	50	10 U	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	4 U	NA	NA	NA	NA
1,1-Dichloroethene	UG/L	5	4 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	10 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloropropane	UG/L	1	2 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	10 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	10 U	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03_121703	MW-03	MW-03	MW-03VION	MW-03V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***					
Volatiles							
Ethylbenzene	UG/L	5	8 U	NA	NA	NA	NA
2-Hexanone	UG/L	50	10 U	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	10 U	NA	NA	NA	NA
Methylene Chloride	UG/L	5	6 U	NA	NA	NA	NA
Styrene	UG/L	5	10 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	2 U	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	4.6	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	10 U	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	6 U	NA	NA	NA	NA
Trichloroethene	UG/L	5	2 U	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	150	4,900 J	2.0 J	10 U	10 U
Toluene	UG/L	5	10 U	NA	NA	NA	NA
Vinyl Chloride	UG/L	2	10 U	NA	NA	NA	NA
Xylene (total)	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	160	3,900	14	1.0 J	0.8 J
Dissolved Gases							
Ethane	UG/L	-	250 U	NA	500 U	NA	NA
Ethene	UG/L	-	250 U	NA	500 U	NA	NA
Methane	UG/L	-	4,900	2,700	6,300	10,000	7,400
Total Metals							
Iron	UG/L	300	164,000	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03_121703	MW-03	MW-03	MW-03VION	MW-03V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	176,000	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	192	71.7	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	1.2	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	4.0	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	0.1 U	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
Sulfide	MG/L	0.05	NA	1.0 U	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	30.0	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	134	NA	NA	NA	NA
Fluoride	MG/L	1.5	0.25	0.397	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			MW-03_121703	MW-03	MW-03	MW-03VION	MW-03V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	5.21 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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.35	1.05	1.24	0 U	5.36
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-59	-143	-133	-151	-123
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.99	2.40	3.19	1.20	0.946
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	07/31/07	02/28/08	08/12/08	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	39	54	13 J	10	10
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	07/31/07	02/28/08	08/12/08	08/12/08
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	2.0 J	0.5 J	10 U	10 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	48	7.0 J	4.0 J	1.0 J	1.0 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	15,000	4,500	18,000	10,000	8,400
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	07/31/07	02/28/08	08/12/08	08/12/08
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	7.80	38.4	14.1	30.0	28.1
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20070207MW-03V10N	20070731MW-03V10N	20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	07/31/07	02/28/08	08/12/08	08/12/08
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	2.44	0.22	2.94	NA	0 U
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-116	-79.7	-123	NA	-149
pH	S.U.	-	NA	6.15	6.15	NA	6.36
Specific Conductance	MS/CM	-	0.91	1.309	1.36	NA	1.69
Temperature	DEG C	-	NA	NA	11.6	NA	17.8
Turbidity	NTU	-	NA	NA	41	NA	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	10/13/09	02/26/10	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	38	20	19	17 J	26
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	10/13/09	02/26/10	06/24/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	5.0 J	0.92 J	0.82 J	1 UJ	1 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	2.1	1.9	1 U	0.5 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	13,000	5,300	4,800	13,000	6,000
Total 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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	10/13/09	02/26/10	06/24/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	50.7 J	4.6 J	8.7	11.6	15.8
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20090218MW-03V10N	20091013MW-03V10FD	20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	10/13/09	02/26/10	06/24/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.0	0.85
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-185	NA	-103	-138	-170
pH	S.U.	-	6.06	NA	5.87	6.32	9.28
Specific Conductance	MS/CM	-	2.08	NA	1.85	3.39	1.50
Temperature	DEG C	-	12.87	NA	18.68	8.95	16.51
Turbidity	NTU	-	5	NA	8.7	94	5.1

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20101006MW-03V09N	20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	09/13/11	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	4.6	110 J	69	82	150 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20101006MW-03V09N	20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	32	4.2	5.4	20 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	99 J	8.3	9.4	36
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	7,400	18,000	12,000	15,000	15,000
Total Metals							
Iron	UG/L	300	NA	NA	35,300	35,700	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20101006MW-03V09N	20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	596	596	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	1,820	3,780	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	520	510	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	0.1 U	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.1 J	34.0	19	18.2	63.1
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	27.1	26.7	NA
Ferrous Iron (lab)	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

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20101006MW-03V09N	20110406MW-03V09N	20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	NA	0.0	0.0
Ferrous Iron	MG/L	-	NA	NA	29.8	29.8	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	5.5	5.9	NA
Oxidation-Reduction Potential	mV	-	-116	-115	NA	-124	-63
pH	S.U.	-	6.73	6.38	NA	6.85	6.64
Specific Conductance	MS/CM	-	1.68	1.55	NA	1.99	1.02
Temperature	DEG C	-	20.19	11.90	NA	20.7	13.35
Turbidity	NTU	-	6.3	3.6	NA	21.8	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20120924MW-03V09N	20130409MW-03V10N	20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/16/14	07/01/14
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	130	160 J	58	96	170
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20120924MW-03V09N	20130409MW-03V10N	20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/16/14	07/01/14
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	1.1	27	1.0 U	100	120
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	3.2	30	1.0 U	62	100
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	7,600	11,000	11,000	14,000	15,000
Total Metals							
Iron	UG/L	300	21,800	27,900	29,400	19,700	26,800

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20120924MW-03V09N	20130409MW-03V10N	20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/16/14	07/01/14
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	292	367	237	220	253
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	292	367	NA	220	253
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	NA	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	NA	5.0 U	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	500
Dehalobacter	GC/mL	-	700	40	100	10	20
Hardness (as CaCO3)	MG/L	-	248	396	65.3	249	337
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	0.10 U	0.21 J	0.23 J	0.40	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	0.025 J	0.038 J	0.017 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	45.4	39.4	40.7	43.0	52.0
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	7.2	8.7	5.6	6.3	7.0
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20120924MW-03V09N	20130409MW-03V10N	20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/16/14	07/01/14
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	2.23	0.63	4.86	1.47
Ferrous Iron	MG/L	-	3.5	26.0	16.9	5.5	4.5
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-84	-93	-119	-101	-72
pH	S.U.	-	6.64	6.39	6.21	6.85	6.69
Specific Conductance	MS/CM	-	0.697	3.37	1.35	1.12	1.26
Temperature	DEG C	-	23.57	15.42	19.3	10.69	19.59
Turbidity	NTU	-	0.0	17.9	0.4	0	5.4

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20141027MW-03V12N	20141124MW-03V12N	20141222MW-03V12N	20150304MW-03	20150422MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	11/24/14	12/22/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	96	86	150	110	120
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20141027MW-03V12N	20141124MW-03V12N	20141222MW-03V12N	20150304MW-03	20150422MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	11/24/14	12/22/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	0.81 J	1.0 U	1.0 U	18	25
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	1.3	1.0 U	1.7	17	25
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	4,500	3,800	4,600	NA	4,000
Total Metals							
Iron	UG/L	300	26,600	NA	NA	NA	19,600

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20141027MW-03V12N	20141124MW-03V12N	20141222MW-03V12N	20150304MW-03	20150422MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	11/24/14	12/22/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	329	NA	NA	NA	196
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	329	NA	NA	NA	196
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	NA	NA	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	NA	NA	NA	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	500	20	NA	NA
Dehalobacter	GC/mL	-	50	10	NA	3	7
Hardness (as CaCO3)	MG/L	-	386	NA	NA	NA	242
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	1.0 U	NA	NA	NA	0.10 U
Nitrogen, Nitrite	MG/L	1	0.10 U	NA	NA	NA	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	0.050 U
Sulfate	MG/L	250	25.8	23.0	33.8	NA	32.5
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	27.1	NA	NA	NA	5.1
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	0.10 UJ
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

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID			20141027MW-03V12N	20141124MW-03V12N	20141222MW-03V12N	20150304MW-03	20150422MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	11/24/14	12/22/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.45	1.30	0.87	1.24	0.65
Ferrous Iron	MG/L	-	8.3	NA	NA	NA	6.0
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-107	-104	-115	-82	-100
pH	S.U.	-	6.54	6.68	6.58	6.84	6.69
Specific Conductance	MS/CM	-	1.72	1.28	1.38	1.82	1.06
Temperature	DEG C	-	17.99	17.52	14.88	8.58	11.87
Turbidity	NTU	-	0.2	0.0	0.0	0.0	1.7

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-04	MW-04	MW-04
Sample ID			20151008MW-03	20160427MW-03	MW04-5-20-03	MW-04_121703	Dup1
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	05/20/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	5.0 U	5.0 U	NA
Benzene	UG/L	1	NA	NA	5.0 U	5.0 U	NA
Bromodichloromethane	UG/L	50	NA	NA	1.0 U	1.0 U	NA
Bromoform	UG/L	50	NA	NA	4.0 U	4.0 U	NA
Bromomethane	UG/L	5	NA	NA	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	R	R	NA
Carbon Disulfide	UG/L	60	NA	NA	5.0 U	5.0 U	NA
Carbon Tetrachloride	UG/L	5	NA	NA	2.0 U	2.0 U	NA
Chlorobenzene	UG/L	5	NA	NA	5.0 U	5.0 U	NA
Chloroethane	UG/L	5	NA	NA	5.0 U	5.0 U	NA
Chloroform	UG/L	7	NA	NA	5.0 U	5.0 U	NA
Chloromethane	UG/L	5	NA	NA	5.0 U	5.0 U	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	140	180	0 U	0 U	10 U
Dibromochloromethane	UG/L	50	NA	NA	5.0 U	5.0 U	NA
1,1-Dichloroethane	UG/L	5	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	2.0 U	2.0 U	NA
1,1-Dichloroethene	UG/L	5	NA	NA	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	5.0 U	5.0 U	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloropropane	UG/L	1	NA	NA	1.0 U	1.0 U	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	5.0 U	5.0 U	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	5.0 U	5.0 U	NA

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

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Concentration Exceeds Criteria

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-04	MW-04	MW-04
Sample ID			20151008MW-03	20160427MW-03	MW04-5-20-03	MW-04_121703	Dup1
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	05/20/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Ethylbenzene	UG/L	5	NA	NA	4.0 U	4.0 U	NA
2-Hexanone	UG/L	50	NA	NA	5.0 U	5.0 U	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	5.0 U	5.0 U	NA
Methylene Chloride	UG/L	5	NA	NA	3.0 U	3.0 U	NA
Styrene	UG/L	5	NA	NA	5.0 U	5.0 U	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	1.0 U	1.0 U	NA
Tetrachloroethene	UG/L	5	NA	NA	1.0 U	1.0 U	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	5.0 U	5.0 U	NA
1,1,2-Trichloroethane	UG/L	1	NA	NA	3.0 U	3.0 U	NA
Trichloroethene	UG/L	5	NA	NA	1.0 U	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.52 J	42	5.0 U	5.0 U	10 UJ
Toluene	UG/L	5	NA	NA	5.0 U	5.0 U	NA
Vinyl Chloride	UG/L	2	NA	NA	5.0 U	5.0 U	NA
Xylene (total)	UG/L	5	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.7	30	5.0 U	5.0 U	10 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	25 U	5.0 U	NA
Ethene	UG/L	-	NA	NA	25 U	5.0 U	NA
Methane	UG/L	-	10,000	2,100	380	35	69
Total Metals							
Iron	UG/L	300	29,500	23,700	18,400	3,640	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-04	MW-04	MW-04
Sample ID			20151008MW-03	20160427MW-03	MW04-5-20-03	MW-04_121703	Dup1
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	05/20/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	NA	NA	18,500	3,760	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	279	313	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	279	313	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	NA	NA	NA
Chloride	MG/L	250	NA	NA	238	294	158
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	2 J	4 J	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	368	400	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	1.6	1.2	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	6.2	1.9	NA
Nitrogen, Nitrate	MG/L	10	2.0 U	0.10 U	0.1 U	0.1 U	NA
Nitrogen, Nitrite	MG/L	1	0.021 J	0.076 J	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	48.2	78.2	5.0 U	9.40	10.8
Sulfide	MG/L	0.05	NA	NA	NA	NA	1.0 U
Total Organic Carbon	MG/L	-	7.1	7.6	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	1.7 J	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	17.6	2.2	NA
Ferric Iron (lab)	MG/L	-	NA	NA	0.76	1.3	NA
Fluoride	MG/L	1.5	NA	NA	0.27	0.19	0.304

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-03	MW-03	MW-04	MW-04	MW-04
Sample ID			20151008MW-03	20160427MW-03	MW04-5-20-03	MW-04_121703	Dup1
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/08/15	04/27/16	05/20/03	12/17/03	07/22/04
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	NA	NA	5 U	5.38 U	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.39	0.54	0.54	0 U	NA
Ferrous Iron	MG/L	-	6.5	6.5	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-84	-88	-115	0 U	NA
pH	S.U.	-	5.27	6.31	NA	NA	NA
Specific Conductance	MS/CM	-	1.69	2.08	1.61	0.99	NA
Temperature	DEG C	-	19.94	13.90	NA	NA	NA
Turbidity	NTU	-	0.0	4.5	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04	MW-04	MW-04VION	MW-04V15N	20070207MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1.0 J	10 U	0.7 J	0.6 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04	MW-04	MW-04VION	MW-04V15N	20070207MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	05/31/05	12/20/05	08/14/06	02/07/07
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	0.7 J	10 U	10 U	10 U	10 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	10 U	NA	NA	NA
Ethene	UG/L	-	NA	10 U	NA	NA	NA
Methane	UG/L	-	99	190	400	420	400
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04	MW-04	MW-04VION	MW-04V15N	20070207MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	05/31/05	12/20/05	08/14/06	02/07/07
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	161	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	10.8	14.2	6.66	5.0 U	5.0 U
Sulfide	MG/L	0.05	1.0 U	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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	0.302	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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			MW-04	MW-04	MW-04VION	MW-04V15N	20070207MW-04V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	05/31/05	12/20/05	08/14/06	02/07/07
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.82	0 U	0 U	4.97	4.73
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-136	-126	-161	-154	-81
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.05	1.85	1.47	1.14	0.804
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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Concentration Exceeds Criteria

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J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	02/28/08	08/12/08	02/18/09	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1.0 J	10 U	1.0 J	1.0 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	02/28/08	08/12/08	02/18/09	02/18/09
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 UJ	10 U	10 U	10 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	43	5,700	290	1,600	1,600
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	02/28/08	08/12/08	02/18/09	02/18/09
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	7.0	5 U	5 U	5 UJ	5 UJ
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD	20090218MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/01/07	02/28/08	08/12/08	02/18/09	02/18/09
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.41	2.91	0 U	NA	0 U
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-79.2	-136	-126	NA	-158
pH	S.U.	-	6.59	6.45	6.65	NA	6.33
Specific Conductance	MS/CM	-	1.241	1.16	0.531	NA	1.75
Temperature	DEG C	-	NA	9.19	21.3	NA	9.36
Turbidity	NTU	-	NA	9	2	NA	4

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/25/10	02/25/10	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	15	6.6 J	7.7 J	12	2.8
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/25/10	02/25/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 UJ	1 UJ	1 U	1 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	3,100	5,200	5,100	4,000	2,400
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/25/10	02/25/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	20.8	13	11.3	18.4	5.5 J
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N	20101006MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/25/10	02/25/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	NA	0.0	0.80	0.0
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-122	NA	-124	-146	-96
pH	S.U.	-	6.43	NA	6.50	8.99	6.86
Specific Conductance	MS/CM	-	1.83	NA	2.14	1.84	1.48
Temperature	DEG C	-	19.37	NA	8.34	18.45	21.38
Turbidity	NTU	-	4.6	NA	1.5	1.9	3.7

*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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J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08ED	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08ED
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	04/06/11	09/13/11	04/11/12	09/24/12
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	5 J	4.3 J	1.2	7.2 J	2.1
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08ED	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08ED
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				Field Duplicate (1-1)
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	1 UJ	1.0 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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 UJ	1 U	1 U	1.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	4,200	4,300	1,700	2,700	570
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	7,430

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20110406MW-04V08FD	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N	20120924MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	211
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	211
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	5.0 U
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	188
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	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	26.6	22.3	16.7	18.7	12.3
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	10.2
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

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

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N	20140701MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/28/14	07/01/14
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	2.5	4.4 J	12	1.0 U	1.0 U
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N	20140701MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/28/14	07/01/14
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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 U	1.0 U	1.0 U	1.0 U	1.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	550	1,700	1,600	340	1,300
Total Metals							
Iron	UG/L	300	7,280	16,100	17,700	18,900	17,900

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N	20140701MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/28/14	07/01/14
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	210	5.0 U	243	239	295
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	210	5.0 U	NA	239	295
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	NA	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	NA	5.0 U	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	4 U	3 U	3 U	3 U	3 U
Hardness (as CaCO3)	MG/L	-	185	426	73.3	525	614
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	0.10 U	0.10 UJ	0.10 UJ	0.10 U	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	0.014 J	0.10 U	0.013 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	12.0	15.6	23.2	12.2	9.1
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	10	7.2	7.0	8.4	11.4
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID			20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N	20140701MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	04/09/13	10/22/13	04/28/14	07/01/14
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	2.13	0.25	9.51	1.72
Ferrous Iron	MG/L	-	27.7	14.9	13.9	7.0	6.5
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-96	-78	-94	-102	-67
pH	S.U.	-	6.91	6.43	6.44	6.76	6.62
Specific Conductance	MS/CM	-	0.519	3.98	1.27	2.65	2.47
Temperature	DEG C	-	25.40	16.39	19.44	12.11	21.90
Turbidity	NTU	-	8.0	1.7	5.7	0	52.9

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-05
Sample ID			20141028MW-04V09N	20150422MW-04	20151008MW-04	20160427MW-04	MW05_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/08/15	04/27/16	05/21/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	5.0 U
Benzene	UG/L	1	NA	NA	NA	NA	5.0 U
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	1.0 U
Bromoform	UG/L	50	NA	NA	NA	NA	4.0 U
Bromomethane	UG/L	5	NA	NA	NA	NA	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	R
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	5.0 U
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	2.0 U
Chlorobenzene	UG/L	5	NA	NA	NA	NA	5.0 U
Chloroethane	UG/L	5	NA	NA	NA	NA	5.0 U
Chloroform	UG/L	7	NA	NA	NA	NA	5.0 U
Chloromethane	UG/L	5	NA	NA	NA	NA	5.0 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.2	2.1	4.4	0.52 J	0 U
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	5.0 U
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	5.0 U
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	2.0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	5.0 U
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	1.0 U
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	5.0 U
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	5.0 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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Concentration Exceeds Criteria

U - Non-Detect UJ - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-05
Sample ID			20141028MW-04V09N	20150422MW-04	20151008MW-04	20160427MW-04	MW05_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/08/15	04/27/16	05/21/03
Parameter	**Units**	**Criteria***					
Volatiles							
Ethylbenzene	UG/L	5	NA	NA	NA	NA	4.0 U
2-Hexanone	UG/L	50	NA	NA	NA	NA	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	5.0 U
Methylene Chloride	UG/L	5	NA	NA	NA	NA	3.0 U
Styrene	UG/L	5	NA	NA	NA	NA	5.0 U
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	1.0 U
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	0.4 J
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	5.0 U
1,1,2-Trichloroethane	UG/L	1	NA	NA	NA	NA	3.0 U
Trichloroethene	UG/L	5	NA	NA	NA	NA	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	0.38 J	1.0 U	1.0 U	5.0 U
Toluene	UG/L	5	NA	NA	NA	NA	5.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	5.0 U
Xylene (total)	UG/L	5	NA	NA	NA	NA	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	5.0 U
Ethene	UG/L	-	NA	NA	NA	NA	5.0 U
Methane	UG/L	-	87	1,000	2,100	610	27
Total Metals							
Iron	UG/L	300	8,820	28,000	15,800	16,700	2,110

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-05
Sample ID			20141028MW-04V09N	20150422MW-04	20151008MW-04	20160427MW-04	MW05_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/08/15	04/27/16	05/21/03
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	1,670
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	208	338	303	255	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	208	338	303	255	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chloride	MG/L	250	NA	NA	NA	NA	49.8
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	3	3.0 U	3.0 U	3.0 U	NA
Hardness (as CaCO3)	MG/L	-	267	882	523	450	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	0.25
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	3.6
Nitrogen, Nitrate	MG/L	10	0.10 U	0.10 U	2.0 U	0.10 U	0.22
Nitrogen, Nitrite	MG/L	1	0.10 U	0.10 U	0.016 J	0.052 J	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.050 U	NA	NA	NA
Sulfate	MG/L	250	11.5	29.8	7.4	5.0 U	50.1
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	8.4	12.3	11.8	9.2	NA
Ferrous Iron (lab)	MG/L	-	NA	0.10 J	0.33 J	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	1.7
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	0.43
Fluoride	MG/L	1.5	NA	NA	NA	NA	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-04	MW-04	MW-05
Sample ID			20141028MW-04V09N	20150422MW-04	20151008MW-04	20160427MW-04	MW05_52103
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/08/15	04/27/16	05/21/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	NA	NA	NA	NA	5 U
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.55	1.05	0.32	0.54	0.37
Ferrous Iron	MG/L	-	5.2	5.5	6.0	5.5	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-93	-92	-95	-79	26
pH	S.U.	-	6.57	6.73	5.42	6.33	NA
Specific Conductance	MS/CM	-	1.62	4.47	3.05	2.90	0.426
Temperature	DEG C	-	17.78	11.71	21.26	14.79	NA
Turbidity	NTU	-	2.1	1.1	0.0	0.0	NA

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

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Detection Limits shown are PQL

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[LOGDATE] >= #5/01/2003# AND [MATRIX] = 'WG' AND [PRCCODE] <> 'TIC

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-05	MW-05	MW-06	MW-06	MW-06
Sample ID			MW-05-121803	MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/18/03	07/23/04	06/10/03	07/22/03	09/18/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	5.0 U	NA	10 U	5.0 U	5.0 U
Benzene	UG/L	1	5.0 U	NA	10 U	5.0 U	5.0 U
Bromodichloromethane	UG/L	50	1.0 U	NA	2 U	1.0 U	1.0 U
Bromoform	UG/L	50	4.0 U	NA	8 U	4.0 U	4.0 U
Bromomethane	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	NA	R	R	R
Carbon Disulfide	UG/L	60	5.0 U	NA	10 U	5.0 U	5.0 U
Carbon Tetrachloride	UG/L	5	2.0 U	NA	4 U	2.0 U	2.0 U
Chlorobenzene	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
Chloroethane	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
Chloroform	UG/L	7	5.0 U	NA	10 U	5.0 U	5.0 U
Chloromethane	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	10 U	0 U	5.7 NJ	0 U
Dibromochloromethane	UG/L	50	5.0 U	NA	10 U	5.0 U	5.0 U
1,1-Dichloroethane	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
1,2-Dichloroethane	UG/L	0.6	2.0 U	NA	4 U	2.0 U	2.0 U
1,1-Dichloroethene	UG/L	5	2.0 U	NA	4 U	1.2 J	2.0 U
cis-1,2-Dichloroethene	UG/L	5	5.0 U	NA	10 U	1.7 J	1.4 J
trans-1,2-Dichloroethene	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
1,2-Dichloropropane	UG/L	1	1.0 U	NA	2 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	UG/L	0.4	5.0 U	NA	10 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	UG/L	0.4	5.0 U	NA	10 U	5.0 U	5.0 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-05	MW-05	MW-06	MW-06	MW-06
Sample ID			MW-05-121803	MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/18/03	07/23/04	06/10/03	07/22/03	09/18/03
Parameter	**Units**	**Criteria***					
Volatiles							
Ethylbenzene	UG/L	5	4.0 U	NA	8 U	4.0 U	4.0 U
2-Hexanone	UG/L	50	5.0 U	NA	10 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	5.0 U	NA	10 U	5.0 U	5.0 U
Methylene Chloride	UG/L	5	3.0 U	NA	6 U	3.0 U	3.0 U
Styrene	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	UG/L	5	1.0 U	NA	2 U	1.0 U	1.0 U
Tetrachloroethene	UG/L	5	1.0 U	NA	2 U	1.0 U	1.0 U
1,1,1-Trichloroethane	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
1,1,2-Trichloroethane	UG/L	1	3.0 U	NA	6 U	3.0 U	3.0 U
Trichloroethene	UG/L	5	1.0 U	NA	2 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	5.0 U	0.5 J	220	180	97
Toluene	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
Vinyl Chloride	UG/L	2	5.0 U	NA	10 U	1.2 J	5.0 U
Xylene (total)	UG/L	5	5.0 U	NA	10 U	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	5.0 U	10 U	8.8 J	9.5	8.6
Dissolved Gases							
Ethane	UG/L	-	5.0 U	NA	5.0 U	5 U	5.0 U
Ethene	UG/L	-	5.0 U	NA	5.0 U	5 U	5.0 U
Methane	UG/L	-	6.7	47	49	81	99
Total Metals							
Iron	UG/L	300	15,500	NA	14,400	10,500	8,370 J

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-05	MW-05	MW-06	MW-06	MW-06
Sample ID			MW-05-121803	MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/18/03	07/23/04	06/10/03	07/22/03	09/18/03
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	39.7 U	NA	14,300	10,300	8,470 J
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	27.5	63.9	184	82.3	74.6
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	0.1 U	NA	0.19	0.33	0.31
Nitrogen, Kjeldahl, Total	MG/L	-	0.61	NA	0.72	1.1	0.88
Nitrogen, Nitrate	MG/L	10	0.18	NA	0.33	0.1 U	0.1 U
Nitrogen, Nitrite	MG/L	1	0.1 U	NA	0.1 U	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	61.4	42.3	32.0	30.5	39.2
Sulfide	MG/L	0.05	NA	1.0 U	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	0.07	NA	14.3	8.6	6.0
Ferric Iron (lab)	MG/L	-	15.4	NA	0.12	1.9	8.4
Fluoride	MG/L	1.5	0.12	0.103	0.46	0.56	0.37

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-05	MW-05	MW-06	MW-06	MW-06
Sample ID			MW-05-121803	MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/18/03	07/23/04	06/10/03	07/22/03	09/18/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	5 U	NA	5 U	5 U	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	5 U
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.97	0.93	1.07	0 U
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	121	46	-145	-155	-143
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.629	0.463	0.741	0.866	0.581
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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Concentration Exceeds Criteria

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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06_121703	MW-06	Field-Dup	MW-06	MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	05/31/05	12/20/05
Parameter	Units	Criteria*			Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	10 U	NA	NA	NA	NA
Benzene	UG/L	1	10 U	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	2 U	NA	NA	NA	NA
Bromoform	UG/L	50	8 U	NA	NA	NA	NA
Bromomethane	UG/L	5	10 U	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	10 U	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	4 U	NA	NA	NA	NA
Chlorobenzene	UG/L	5	10 U	NA	NA	NA	NA
Chloroethane	UG/L	5	10 U	NA	NA	NA	NA
Chloroform	UG/L	7	10 U	NA	NA	NA	NA
Chloromethane	UG/L	5	10 U	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	5 J	6.0 J	5.0 J	6.0 J
Dibromochloromethane	UG/L	50	10 U	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	4 U	NA	NA	NA	NA
1,1-Dichloroethene	UG/L	5	4 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	1.3 J	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloropropane	UG/L	1	2 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	10 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	10 U	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06_121703	MW-06	Field-Dup	MW-06	MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	05/31/05	12/20/05
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Ethylbenzene	UG/L	5	8 U	NA	NA	NA	NA
2-Hexanone	UG/L	50	10 U	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	10 U	NA	NA	NA	NA
Methylene Chloride	UG/L	5	6 U	NA	NA	NA	NA
Styrene	UG/L	5	10 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	2 U	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	2 U	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	10 U	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	6 U	NA	NA	NA	NA
Trichloroethene	UG/L	5	2 U	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	250	140 J	1.0 J	1.0 J	10 U
Toluene	UG/L	5	10 U	NA	NA	NA	NA
Vinyl Chloride	UG/L	2	10 U	NA	NA	NA	NA
Xylene (total)	UG/L	5	10 U	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	14	23	16	14	10 UJ
Dissolved Gases							
Ethane	UG/L	-	5.0 U	NA	250 U	250 U	NA
Ethene	UG/L	-	5.0 U	NA	250 U	250 U	NA
Methane	UG/L	-	78	40	3,600	3,300	6,700
Total Metals							
Iron	UG/L	300	7,690	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06_121703	MW-06	Field-Dup	MW-06	MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	05/31/05	12/20/05
Parameter	Units	Criteria*			Field Duplicate (1-1)		Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	7,670	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	84.0	60.5	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	0.36	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	0.79	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	0.1 UJ	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	0.1 UJ	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	39.1	33.5	5.0 U	5.0 U	5.0 U
Sulfide	MG/L	0.05	NA	1.0 U	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	8.7	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	1.0 U	NA	NA	NA	NA
Fluoride	MG/L	1.5	0.42	0.467	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06_121703	MW-06	Field-Dup	MW-06	MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/17/03	07/23/04	05/31/05	05/31/05	12/20/05
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	5.26 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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	1.04	NA	0 U	NA
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-110	-64	NA	-140	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.602	0.513	NA	1.13	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06V15N	MW-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/15/06	08/15/06	02/07/07	02/07/07
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	6.0 J	10 U	10 U	100	100
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06V15N	MW-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/15/06	08/15/06	02/07/07	02/07/07
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	3.0 J	3.0 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
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 UJ	10 U	10 U	8.0 J	8.0 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	5,600	1,600	1,700	12,000	13,000
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06V15N	MW-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/15/06	08/15/06	02/07/07	02/07/07
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	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	7.40	7.00
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-06V15N	MW-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/15/06	08/15/06	02/07/07	02/07/07
Parameter	Units	Criteria*		Field Duplicate (1-1)		Field Duplicate (1-1)	
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	6.83	NA	1.05
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	87	NA	-136
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.29	NA	0.033	NA	0.79
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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	07/31/07	02/28/08	02/28/08	08/12/08
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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	18	21	8.0 J	8.0 J	4.0 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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

U - Non-Detect UJ - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	07/31/07	02/28/08	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 UJ	10 U	10 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	0.5 J	0.6 J	10 U	10 U	10 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	3,800	2,500	12,000	14,000	12,000
Total 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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	07/31/07	02/28/08	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	41.8	44.2	5 U	5 U	17.8
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20070731MW-06V15FD	20070731MW-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	07/31/07	02/28/08	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.31	NA	2.61	0 U
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-99.7	NA	-122	-117
pH	S.U.	-	NA	6.38	NA	6.24	6.37
Specific Conductance	MS/CM	-	NA	1.050	NA	1.21	1.47
Temperature	DEG C	-	NA	NA	NA	12.2	17.0
Turbidity	NTU	-	NA	NA	NA	9	5

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/19/09	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	34	6.4	35 J	68 J	61
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/19/09	10/13/09	02/26/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	1 U	1 UJ	1 U	1 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	35	1 U	3.6	0.57 J	1 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	9,000	7,300	13,000	9,400	8,300
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/19/09	10/13/09	02/26/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	57.0 J	2.8 J	31.2	52.3	36.8 J
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20090219MW-06V13N	20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/19/09	10/13/09	02/26/10	06/24/10	10/06/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.0	0.73	NA
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-132	-139	-140	-124	NA
pH	S.U.	-	6.30	6.57	6.46	8.81	NA
Specific Conductance	MS/CM	-	0.84	1.79	2.48	0.958	NA
Temperature	DEG C	-	13.23	17.80	11.80	17.79	NA
Turbidity	NTU	-	8	2.2	39	0.45	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	57	96 J	30	230 J	140
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	33	1 U	82 J	3.3
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	38 J	4.4	28	3.6
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	8,800	7,900	1,800	5,300	1,300
Total Metals							
Iron	UG/L	300	NA	NA	9,630	NA	12,100

*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

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	388	NA	304
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	304
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	353,000 J	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	1 J
Hardness (as CaCO3)	MG/L	-	NA	NA	235	NA	308
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	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	34.5 J	60.8	16.5	119	52.2
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	10.9	NA	6.9
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20101006MW-06V13N	20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	09/13/11	04/11/12	09/24/12
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.0	0.0	0.0
Ferrous Iron	MG/L	-	NA	NA	7.4	NA	9.9
Ferric Iron (calculated)	MG/L	-	NA	NA	2.23	NA	NA
Oxidation-Reduction Potential	mV	-	-129	-68	-123	-48	-80
pH	S.U.	-	6.97	7.08	7.08	6.81	6.82
Specific Conductance	MS/CM	-	0.879	1.61	0.801	1.06	0.636
Temperature	DEG C	-	18.25	12.46	22.4	14.04	22.01
Turbidity	NTU	-	0.0	0.0	5.3	0.0	0.0

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20130409MW-06V12N	20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	10/22/13	04/16/14	07/01/14	10/27/14
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	61 J	27	75	84	51
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20130409MW-06V12N	20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	10/22/13	04/16/14	07/01/14	10/27/14
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	0.19 J	1.0 U	26	1.0 U	1.0 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	4.9	1.0 U	33	2.7	1.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	9,500	4,100	11,000	11,000	3,400
Total Metals							
Iron	UG/L	300	24,700	20,500	20,900	17,100	31,000

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20130409MW-06V12N	20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	10/22/13	04/16/14	07/01/14	10/27/14
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	244	245	240	259	740
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	244	NA	240	259	740
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	NA	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	NA	5.0 U	5.0 U	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	3 U	2 J	3 U	3 U	80
Hardness (as CaCO3)	MG/L	-	337	99.0	370	317	297
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	0.25 J	0.10 UJ	0.10 UJ	0.10 U	1.0 U
Nitrogen, Nitrite	MG/L	1	NA	0.017 J	0.051 J	0.0092 J	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	38.4	29.2	36.1	38.8	5.0 U
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	5.9	5.6	5.8	6.0	314
Ferrous Iron (lab)	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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID			20130409MW-06V12N	20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/09/13	10/22/13	04/16/14	07/01/14	10/27/14
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.33	0.37	3.99	1.82	2.67
Ferrous Iron	MG/L	-	23.7	3.6	6.0	5.0	6.7
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-102	-108	-92	-80	-130
pH	S.U.	-	6.47	6.45	7.02	6.78	6.66
Specific Conductance	MS/CM	-	2.91	1.4	1.73	1.33	2.34
Temperature	DEG C	-	16.34	18.41	12.71	19.20	17.32
Turbidity	NTU	-	0.2	1.4	0	7.3	5.6

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-07
Sample ID			DUP20141027	20150422MW-06	20151008MW-06	20160427MW-06	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	04/22/15	10/08/15	04/27/16	06/10/03
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	250 U
Benzene	UG/L	1	NA	NA	NA	NA	250 U
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	50 U
Bromoform	UG/L	50	NA	NA	NA	NA	200 U
Bromomethane	UG/L	5	NA	NA	NA	NA	250 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	R
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	250 U
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	100 U
Chlorobenzene	UG/L	5	NA	NA	NA	NA	250 U
Chloroethane	UG/L	5	NA	NA	NA	NA	250 U
Chloroform	UG/L	7	NA	NA	NA	NA	250 U
Chloromethane	UG/L	5	NA	NA	NA	NA	250 U
Chlorotrifluoroethene (Freon-1113)	UG/L	5	44	110	51	51	0 U
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	250 U
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	250 U
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	100 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	100 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	250 U
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	50 U
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	250 U
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	250 U

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-07
Sample ID			DUP20141027	20150422MW-06	20151008MW-06	20160427MW-06	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	04/22/15	10/08/15	04/27/16	06/10/03
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	150 U
Styrene	UG/L	5	NA	NA	NA	NA	250 U
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	50 U
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	50 U
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	250 U
1,1,2-Trichloroethane	UG/L	1	NA	NA	NA	NA	150 U
Trichloroethene	UG/L	5	NA	NA	NA	NA	50 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.6	1.0 U	1.0 U	5,400
Toluene	UG/L	5	NA	NA	NA	NA	250 U
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	1.0 U	8.1	1.0 U	1.1	68 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	50 U
Ethene	UG/L	-	NA	NA	NA	NA	50 U
Methane	UG/L	-	2,700	5,200	7,200	890	740
Total Metals							
Iron	UG/L	300	33,200	26,400	20,200	20,600	21,300

*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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Concentration Exceeds Criteria

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-07
Sample ID			DUP20141027	20150422MW-06	20151008MW-06	20160427MW-06	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	04/22/15	10/08/15	04/27/16	06/10/03
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	20,800
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	726	311	312	277	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	726	311	312	277	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chloride	MG/L	250	NA	NA	NA	NA	140
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	3.0 U	1 J	3 J	NA
Hardness (as CaCO3)	MG/L	-	564	515	337	380	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	0.39
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	1.2
Nitrogen, Nitrate	MG/L	10	0.58 J	0.10 U	2.0 U	0.10 U	0.1 U
Nitrogen, Nitrite	MG/L	1	0.10 U	0.10 U	0.020 J	0.098 J	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.050 U	NA	NA	NA
Sulfate	MG/L	250	5.0 U	29.9	16.7	36.3	32.8
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	298	5.1	5.5	4.9	NA
Ferrous Iron (lab)	MG/L	-	NA	0.90 J	0.44 J	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	NA	20.2
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	1
Fluoride	MG/L	1.5	NA	NA	NA	NA	0.33

*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

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-06	MW-06	MW-06	MW-06	MW-07
Sample ID			DUP20141027	20150422MW-06	20151008MW-06	20160427MW-06	MW07-6-10-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/27/14	04/22/15	10/08/15	04/27/16	06/10/03
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
TPH	MG/L	-	NA	NA	NA	NA	5 U
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.72	0.34	0.59	0.9
Ferrous Iron	MG/L	-	NA	4.5	7.0	7.0	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-104	-110	-97	-130
pH	S.U.	-	NA	6.83	5.50	6.35	NA
Specific Conductance	MS/CM	-	NA	2.67	1.60	1.97	0.93
Temperature	DEG C	-	NA	12.18	18.70	13.61	NA
Turbidity	NTU	-	NA	4.1	0.0	0.0	NA

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

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	500 U	250 U	50 U	NA	NA
Benzene	UG/L	1	500 U	250 U	14	NA	NA
Bromodichloromethane	UG/L	50	100 U	50 U	10 U	NA	NA
Bromoform	UG/L	50	400 U	200 U	40 U	NA	NA
Bromomethane	UG/L	5	500 U	250 U	50 U	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	NA	NA
Carbon Disulfide	UG/L	60	500 U	250 U	50 U	NA	NA
Carbon Tetrachloride	UG/L	5	200 U	100 U	20 U	NA	NA
Chlorobenzene	UG/L	5	500 U	250 U	50 U	NA	NA
Chloroethane	UG/L	5	500 U	250 U	50 U	NA	NA
Chloroform	UG/L	7	500 U	250 U	50 U	NA	NA
Chloromethane	UG/L	5	500 U	250 U	50 U	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	210	140
Dibromochloromethane	UG/L	50	500 U	250 U	50 U	NA	NA
1,1-Dichloroethane	UG/L	5	500 U	250 U	50 U	NA	NA
1,2-Dichloroethane	UG/L	0.6	200 U	100 U	20 U	NA	NA
1,1-Dichloroethene	UG/L	5	68 J	100 U	20 U	NA	NA
cis-1,2-Dichloroethene	UG/L	5	500 U	250 U	50 U	NA	NA
trans-1,2-Dichloroethene	UG/L	5	500 U	250 U	50 U	NA	NA
1,2-Dichloropropane	UG/L	1	100 U	50 U	10 U	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	500 U	250 U	50 U	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	500 U	250 U	50 U	NA	NA

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Concentration Exceeds Criteria

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Volatiles							
Ethylbenzene	UG/L	5	400 U	200 U	49	NA	NA
2-Hexanone	UG/L	50	500 U	250 U	50 U	NA	NA
4-Methyl-2-Pentanone	UG/L	-	500 U	250 U	50 U	NA	NA
Methylene Chloride	UG/L	5	300 U	150 U	30 U	NA	NA
Styrene	UG/L	5	500 U	250 U	50 U	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	100 U	50 U	10 U	NA	NA
Tetrachloroethene	UG/L	5	100 U	50 U	10 U	NA	NA
1,1,1-Trichloroethane	UG/L	5	500 U	250 U	50 U	NA	NA
1,1,2-Trichloroethane	UG/L	1	300 U	150 U	30 U	NA	NA
Trichloroethene	UG/L	5	100 U	50 U	10 U	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	8,500	6,100	370	110 J	10 U
Toluene	UG/L	5	500 U	250 U	50 U	NA	NA
Vinyl Chloride	UG/L	2	500 U	250 U	50 U	NA	NA
Xylene (total)	UG/L	5	500 U	250 U	50 U	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	130 J	130 J	940	50	2.0 J
Dissolved Gases							
Ethane	UG/L	-	50 U	50 U	120 U	NA	250 U
Ethene	UG/L	-	50 U	50 U	120 U	NA	250 U
Methane	UG/L	-	420	1,200	1,700	2,500	5,900
Total Metals							
Iron	UG/L	300	21,200	32,700 J	38,900	NA	NA

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	20,800	32,500 J	38,900	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	168	300 J	328	303	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	0.6	0.66	0.99	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	1.8	2.1	2.8	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	0.1 U	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	0.1 U	0.1 U	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	0.1 UJ	NA	NA	NA	NA
Sulfate	MG/L	250	31.0	23.6	5.0 U	5.0 U	5.0 U
Sulfide	MG/L	0.05	NA	NA	NA	1.0 U	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	19.8	33.8	19.5	NA	NA
Ferric Iron (lab)	MG/L	-	1.4	14.1	19.4	NA	NA
Fluoride	MG/L	1.5	0.25	0.24	0.19	0.190	NA

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW07	MW07-91703	MW-07_121703	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/03	09/17/03	12/17/03	07/22/04	05/31/05
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	5 U	NA	5.26 U	NA	NA
Oil & Grease	MG/L	-	NA	5.44 U	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.1	0 U	3.33	0.88	0 U
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-108	-118	-115	-153	-152
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.11	1.44	1.94	1.69	1.75
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	47	97	89	82	92
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	10 U	6.0 J	10 UJ
Toluene	UG/L	5	NA	NA	NA	NA	NA
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	1.0 J	3.0 J	10	0.9 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	9,700	6,900	6,200	4,100	7,100
Total 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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.0 U	19.3	5.0 U	6.1	5 U
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID			MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N	20080228MW07V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/20/05	08/14/06	02/07/07	07/31/07	02/28/08
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	3.47	2.89	0.48	2.64
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-169	-163	-121	-113.5	-137
pH	S.U.	-	NA	NA	NA	6.78	6.32
Specific Conductance	MS/CM	-	1.65	1.44	2.02	2.182	1.62
Temperature	DEG C	-	NA	NA	NA	NA	9.03
Turbidity	NTU	-	NA	NA	NA	NA	54

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

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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	170	150	370 D	150 J	350 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	3.0 J	46	580 D	18 J	1.1 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	16	20	76	8.1	1.7 J
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	5,600	11,000	5,900	6,500	8,100
Total 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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	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, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.6	5 UJ	6.3	7.9	17
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	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

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07	MW-07	MW-07R	MW-07R	MW-07R
Sample ID			20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N	20100225MW-07RV15N	20100624MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/12/08	02/18/09	10/13/09	02/25/10	06/24/10
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.0	NA
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-167	-154	-139	-146	NA
pH	S.U.	-	6.48	6.18	6.45	6.52	NA
Specific Conductance	MS/CM	-	1.99	2.01	2.74	2.79	NA
Temperature	DEG C	-	17.3	12.11	18.36	10.69	NA
Turbidity	NTU	-	25	21	1.1	1.1	NA

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

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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11	09/13/11	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
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	390	350	370 J	26	630 J
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	53 J	18	1.6	67 J
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	1.8	9.5	6.3 J	0.94 J	11
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	8,400	6,200	8,300	2,000	6,400
Total Metals							
Iron	UG/L	300	NA	NA	NA	23,600	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 inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	406	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Hydroxide	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	248	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	637	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	0.1 U	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	11.2	13 J	25.8	12.2	18.9
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	NA	NA	11.3	NA
Ferrous Iron (lab)	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

*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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S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N	20110913MW07RV15N	20120411MW-07RV15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/24/10	10/06/10	04/06/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	0.69	4.05	0.0	0.0	NA
Ferrous Iron	MG/L	-	NA	NA	NA	20.1	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	3.5	NA
Oxidation-Reduction Potential	mV	-	-129	-113	-83	-109	NA
pH	S.U.	-	8.83	6.82	6.39	6.86	NA
Specific Conductance	MS/CM	-	2.09	2.03	3.40	3.28	NA
Temperature	DEG C	-	16.45	21.42	12.08	22.4	NA
Turbidity	NTU	-	0.35	14.3	0.0	0.1	NA

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

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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N	20131022MW-07RV17N	20140416MW-07RV17N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	540 J	430	310 J	390	2.4
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N	20131022MW-07RV17N	20140416MW-07RV17N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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	59 J	5.9 J	5.5	12	1.0 U
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	9.7	2.4 J	2.6	1.1	1.0 U
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	6,600	3,900	2,100	4,000	680
Total Metals							
Iron	UG/L	300	NA	29,900	29,000	30,900	24,500

*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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APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N	20131022MW-07RV17N	20140416MW-07RV17N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	335	263	291	305
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	335	263	NA	305
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	5.0 U	5.0 U	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	5.0 U	5.0 U	NA	5.0 U
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	70
Dehalobacter	GC/mL	-	NA	10	4	5	3 U
Hardness (as CaCO3)	MG/L	-	NA	414	515	208	594
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	0.066 J	0.36 J	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	0.015 J	0.038 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	17.7	32.0	19.1	7.4	17.9
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	NA	11.8	9.3	12.3	7.8
Ferrous Iron (lab)	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

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N	20131022MW-07RV17N	20140416MW-07RV17N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/11/12	09/24/12	04/09/13	10/22/13	04/16/14
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic 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	0.0	0.0	0.36	4.43
Ferrous Iron	MG/L	-	NA	30.4	27.5	15.3	6.0
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-82	-118	-89	-102	-77
pH	S.U.	-	6.72	6.69	6.35	6.31	6.89
Specific Conductance	MS/CM	-	2.10	1.78	4.84	1.84	3.31
Temperature	DEG C	-	13.63	22.35	17.93	19.42	11.39
Turbidity	NTU	-	8.2	0.0	53.9	0.2	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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Detection Limits shown are PQL

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[LOGDATE] >= #5/01/2003# AND [MATRIX] = 'WG' AND [PRCCODE] <> 'TIC

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R	20150422MW-07R	20151008MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/27/14	03/04/15	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Bromodichloromethane	UG/L	50	NA	NA	NA	NA	NA
Bromoform	UG/L	50	NA	NA	NA	NA	NA
Bromomethane	UG/L	5	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Carbon Disulfide	UG/L	60	NA	NA	NA	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	5	NA	NA	NA	NA	NA
Chloroethane	UG/L	5	NA	NA	NA	NA	NA
Chloroform	UG/L	7	NA	NA	NA	NA	NA
Chloromethane	UG/L	5	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	69	130	130	10	NA
Dibromochloromethane	UG/L	50	NA	NA	NA	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA	NA	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	NA	NA	NA	NA	NA

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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R	20150422MW-07R	20151008MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/27/14	03/04/15	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Volatiles							
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
Methylene Chloride	UG/L	5	NA	NA	NA	NA	NA
Styrene	UG/L	5	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	1	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 U	15	1.0 U	1.0 U	NA
Toluene	UG/L	5	NA	NA	NA	NA	NA
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	1.2	2.2	0.78 J	0.39 J	NA
Dissolved Gases							
Ethane	UG/L	-	NA	NA	NA	NA	NA
Ethene	UG/L	-	NA	NA	NA	NA	NA
Methane	UG/L	-	4,400	1,300	NA	1,700	NA
Total Metals							
Iron	UG/L	300	28,700	31,600	NA	25,300	NA

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

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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R	20150422MW-07R	20151008MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/27/14	03/04/15	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	399	394	NA	240	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	399	394	NA	240	NA
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	NA	5.0 U	NA
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	NA	5.0 U	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	4 U	3	300	90	20
Hardness (as CaCO3)	MG/L	-	545	574	NA	641	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	0.076 J	1.0 U	NA	0.16	NA
Nitrogen, Nitrite	MG/L	1	0.014 J	0.10 U	NA	0.018 J	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	0.18	NA
Sulfate	MG/L	250	13.8	8.4	NA	11.8	NA
Sulfide	MG/L	0.05	NA	NA	NA	NA	NA
Total Organic Carbon	MG/L	-	11.4	15.2	NA	6.0	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	2.2 J	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

*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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R	MW-07R	MW-07R
Sample ID			20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R	20150422MW-07R	20151008MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/27/14	03/04/15	04/22/15	10/08/15
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
TPH	MG/L	-	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
Formic Acid	MG/L	-	NA	NA	NA	NA	NA
Lactic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Propionic Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA
Field Parameter							
Dissolved Oxygen	MG/L	-	1.74	2.86	0.91	0.91	NA
Ferrous Iron	MG/L	-	6.0	4.65	NA	4.0	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-68	-107	-120	-75	NA
pH	S.U.	-	6.64	6.56	6.81	6.69	NA
Specific Conductance	MS/CM	-	2.58	2.69	2.56	4.17	NA
Temperature	DEG C	-	19.41	18.94	8.90	12.41	NA
Turbidity	NTU	-	20.7	8.7	0.0	0.9	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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

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[LOGDATE] >= #5/01/2003# AND [MATRIX] = 'WG' AND [PRCCODE] <> 'TIC

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R
Sample ID			20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/15	04/27/16
Parameter	**Units**	**Criteria***		
Volatiles				
Acetone	UG/L	50	NA	NA
Benzene	UG/L	1	NA	NA
Bromodichloromethane	UG/L	50	NA	NA
Bromoform	UG/L	50	NA	NA
Bromomethane	UG/L	5	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA
Carbon Disulfide	UG/L	60	NA	NA
Carbon Tetrachloride	UG/L	5	NA	NA
Chlorobenzene	UG/L	5	NA	NA
Chloroethane	UG/L	5	NA	NA
Chloroform	UG/L	7	NA	NA
Chloromethane	UG/L	5	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	46	22
Dibromochloromethane	UG/L	50	NA	NA
1,1-Dichloroethane	UG/L	5	NA	NA
1,2-Dichloroethane	UG/L	0.6	NA	NA
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
1,2-Dichloropropane	UG/L	1	NA	NA
cis-1,3-Dichloropropene	UG/L	0.4	NA	NA
trans-1,3-Dichloropropene	UG/L	0.4	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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
J (or B inorganics) - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed. R - Data rejected.
S.U. - Standard Units; MS/CM - Microsiemens per Centimeter; DEG C - Degrees Celsius; NTU - Nephelometric Turbidity Units; mV - Millivolts
UG/L - Micrograms per Liter; MG/L - Milligrams per Liter; CEQ/mL - Count Equivalents per milliliter; GC/mL - Gene Copies per milliliter

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R
Sample ID			20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/15	04/27/16
Parameter	**Units**	**Criteria***		
Volatiles				
Ethylbenzene	UG/L	5	NA	NA
2-Hexanone	UG/L	50	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA
Methylene Chloride	UG/L	5	NA	NA
Styrene	UG/L	5	NA	NA
1,1,2,2-Tetrachloroethane	UG/L	5	NA	NA
Tetrachloroethene	UG/L	5	NA	NA
1,1,1-Trichloroethane	UG/L	5	NA	NA
1,1,2-Trichloroethane	UG/L	1	NA	NA
Trichloroethene	UG/L	5	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U
Toluene	UG/L	5	NA	NA
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	1.0 U	1.0 U
Dissolved Gases				
Ethane	UG/L	-	NA	NA
Ethene	UG/L	-	NA	NA
Methane	UG/L	-	9,800	2,400
Total Metals				
Iron	UG/L	300	39,000	39,300

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

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

Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R
Sample ID			20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/15	04/27/16
Parameter	**Units**	**Criteria***		
Dissolved Metals				
Iron	UG/L	300	NA	NA
Miscellaneous Parameters				
Alkalinity, Total (as CaCO3)	MG/L	-	450	357
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	450	357
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U
Chloride	MG/L	250	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA
Dehalobacter	GC/mL	-	NA	7 J
Hardness (as CaCO3)	MG/L	-	475	630
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA
Nitrogen, Nitrate	MG/L	10	2.0 U	0.10 U
Nitrogen, Nitrite	MG/L	1	0.028 J	0.072 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA
Sulfate	MG/L	250	9.1	5.0 U
Sulfide	MG/L	0.05	NA	NA
Total Organic Carbon	MG/L	-	11.8	9.7
Ferrous Iron (lab)	MG/L	-	0.49 J	NA
Ferrous Iron (field)	MG/L	-	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA
Fluoride	MG/L	1.5	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 - Estimated quantitation limit. NJ - Analyte is reported as tentatively identified compound at an estimated concentration.
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Detection Limits shown are PQL

APPENDIX B
HISTORICAL ANALYTICAL DATA SUMMARY
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R
Sample ID			20151008MW-07R	20160427MW-07R
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/15	04/27/16
Parameter	**Units**	**Criteria***		
Miscellaneous Parameters				
TPH	MG/L	-	NA	NA
Oil & Grease	MG/L	-	NA	NA
Volatile Fatty Acids				
Acetic Acid	MG/L	-	NA	NA
Formic Acid	MG/L	-	NA	NA
Lactic Acid	MG/L	-	NA	NA
n-Butyric Acid	MG/L	-	NA	NA
Propionic Acid	MG/L	-	NA	NA
Pyruvic Acid	MG/L	-	NA	NA
Field Parameter				
Dissolved Oxygen	MG/L	-	0.37	0.53
Ferrous Iron	MG/L	-	7.0	7.0
Ferric Iron (calculated)	MG/L	-	NA	NA
Oxidation-Reduction Potential	mV	-	-100	-95
pH	S.U.	-	5.35	6.25
Specific Conductance	MS/CM	-	2.40	3.44
Temperature	DEG C	-	19.15	14.10
Turbidity	NTU	-	0.0	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Detection Limits shown are PQL

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[LOGDATE] >= #5/01/2003# AND [MATRIX] = 'WG' AND [PRCCODE] <> 'TIC

APPENDIX C

DATA USABILITY SUMMARY REPORT

APPENDIX C

DATA USABILITY SUMMARY REPORT

APRIL 2016 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

TESTAMERICA LABORATORIES, INC.
Edison, NJ/Amherst, NY
and
SiREM
Guelph, Ontario

Prepared for:

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

Prepared by:

URS CORPORATION
257 West Genesee Street, Suite 400
Buffalo, New York 14202-2657

MAY 2016

TABLE OF CONTENTS

TABLES
(Following Text)

ATTACHMENTS
(Following Tables)

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, May 2010. This DUSR discusses the analytical data for five (5) groundwater samples, and one trip blank collected on April 27, 2016, as summarized on Table C-1. The April 2015 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, as shown on Table C-1.

Parameter	**Method No.**	**References**
Volatile Organic Compounds (VOCs)*	SW8260C	1
Methane	RSK-175	2
Sulfate	ASTM D516-90, 02	3
Alkalinity (total, bicarbonate, carbonate, hydroxide)	SM 2320 B	4
Hardness	SM 2340 C	4
Total Iron	200.7	5
Ferrous Iron (Fe^{+2})	Field Parameter	6
Nitrate	SM 4500-NO_3	4
Nitrite	SM 4500-NO_2	4
Total Organic Carbon (TOC)	SM 5310 B	4
Bacteria [*Dehalococcoides ethenogenes (Dhc) and Dehalobacter (Dhb*)]	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, Rev. 0, August 11, 1994.
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 Color Disc Test Kit, Model IR-18C using 1,10-Phenanthroline.

III. DATA VALIDATION PROCEDURES

A limited data validation was performed in accordance with the following USEPA Region II guidelines:

- *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B & 8260C, SOP No. HW-24, Rev. #4*, September 2014;
- *ICP-AES Data* Validation, SOP No. HW-2a, Revision 15, December 2012; and
- *Mercury and Cyanide Data Validation*, SOP No. HW-2c, Revision 15, December 2012.

The validated groundwater and field quality control (QC) analytical results are presented in Tables C-2 and C-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. SAMPLE RECEIPT/PRESERVATION/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 Calibrations

The percent difference (%D) between the initial calibration mean relative response factor (RRF) and the RRF from the daily continuing calibration standard was above QC limits (i.e., >20%D) for 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113). The detected result for MW-02 for this compound was qualified 'J'. Documentation supporting the qualification of the data is presented in Attachment B.

Blank Contamination

The sulfate calibration and method blanks associated with all groundwater samples exhibited contamination below the reporting limit (RL). The detected sulfate results for groundwater samples MW-04 and MW-07R were qualified 'U' at the RL. Documentation supporting the qualification of the data is presented in Attachment B.

Laboratory Control Samples

The *Dehalobacter (Dhb*) low-level laboratory control sample (LCS) associated with groundwater samples was slightly above QC limits. The detected *Dhb* results for samples MW-02, MW-03, MW-06, and MW-07R were qualified 'J'.

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 'U' (non-detect) during the data validation are considered conditonally usable.

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.

TABLE C-1
SAMPLE AND ANALYSIS SUMMARY - APRIL 2016
FORMER EMCA SITE, MAMARONECK, NEW YORK

SDG Nos.	Sample ID	Matrix	Date of Collection	VOCs*	Methane	Sulfate	Alkalinity (Total, HCO_3^-, CO_3^-, OH^-)	Hardness	Ferrous Iron	Total Iron	Nitrate	Nitrite	TOC	Dhc	Dhb	Comments
460-112942-1/ S-3921	20160427MW-02	GW	04/27/16	X	X	X	X	X	X	X	X	X	X	X	X	---
	20160427MW-03	GW		X	X	X	X	X	X	X	X	X	X	---	X	---
	20160427MW-04	GW		X	X	X	X	X	X	X	X	X	X	---	X	---
	20160427MW-06	GW		X	X	X	X	X	X	X	X	X	X	---	X	---
	20160427MW-07R	GW		X	X	X	X	X	X	X	X	X	X	---	X	---
	TB20160427	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
TOC - Total Organic Carbon

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

Location ID			MW-02	MW-03	MW-04	MW-06	MW-07R
Sample ID			20160427MW-02	20160427MW-03	20160427MW-04	20160427MW-06	20160427MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/27/16	04/27/16	04/27/16	04/27/16	04/27/16
Parameter	**Units**	**Criteria***					
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	940	180	0.52 J	51	22
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	960 J	42	1.0 U	1.0 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	220	30	1.0 U	1.1	1.0 U
Dissolved Gases							
Methane	UG/L	-	2,600	2,100	610	890	2,400
Total Metals							
Iron	UG/L	300	63,100	23,700	16,700	20,600	39,300
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	261	313	255	277	357
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	261	313	255	277	357
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	40	NA	NA	NA	NA
Dehalobacter	GC/mL	-	80 J	4 J	3.0 U	3 J	7 J
Hardness (as CaCO3)	MG/L	-	400	400	450	380	630
Nitrogen, Nitrate	MG/L	10	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nitrogen, Nitrite	MG/L	1	0.085 J	0.076 J	0.052 J	0.098 J	0.072 J
Sulfate	MG/L	250	41.3	78.2	5.0 U	36.3	5.0 U
Total Organic Carbon	MG/L	-	6.0	7.6	9.2	4.9	9.7
Field Parameter							
Dissolved Oxygen	MG/L	-	0.66	0.54	0.54	0.59	0.53
Ferrous Iron	MG/L	-	4.5	6.5	5.5	7.0	7.0

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

Flags assigned during chemistry validation are shown

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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

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

MADE BY: __PRF_05/24/16___ CHKD BY: __AMK__5/24/16

Detection Limits shown are PQL

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

Location ID			MW-02	MW-03	MW-04	MW-06	MW-07R
Sample ID			20160427MW-02	20160427MW-03	20160427MW-04	20160427MW-06	20160427MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/27/16	04/27/16	04/27/16	04/27/16	04/27/16
Parameter	Units	Criteria*					
Field Parameter							
Oxidation-Reduction Potential	mV	-	-102	-88	-79	-97	-95
pH	S.U.	-	6.14	6.31	6.33	6.35	6.25
Specific Conductance	MS/CM	-	2.71	2.08	2.90	1.97	3.44
Temperature	DEG C	-	12.03	13.90	14.79	13.61	14.10
Turbidity	NTU	-	7.2	4.5	0.0	0.0	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result NA - Not Analyzed

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

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

MADE BY: __PRF_05/24/16___ CHKD BY: __AMK__5/24/16

Detection Limits shown are PQL

J:\Projects\11172730 00000\DB\PROGRAM\EDMS.mde
Printed: 5/24/2016 11:05:21 AM
[LOGDATE] = #4/27/2016# AND [MATRIX] = 'WG'

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

Location ID			FIELDQC
Sample ID			TB20160427
Matrix			Water
Depth Interval (ft)			-
Date Sampled			04/27/16
Parameter	Units	Criteria*	Trip Blank (1-1)
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U
Dissolved Gases			
Methane	UG/L	-	3.5 J

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

Flags assigned during chemistry validation are shown

Concentration Exceeds Criteria

U - Non-Detect J - Estimated Result

UG/L - Micrograms per Liter

MADE BY: __PRF_05/24/16___ CHKD BY: __AMK__5/24/16

Detection Limits shown are PQL

J:\Projects\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 5/24/2016 10:43:11 AM
[LOGDATE] = #4/27/2016# AND [MATRIX] = 'WQ'

ATTACHMENT A

VALIDATED ANALYTICAL RESULTS (FORM 1's)

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-02**

Lab Sample ID: 460-112942-1
Client Matrix: Water

Date Sampled: 04/27/2016 0955
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367170	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54736.D
Dilution:	5.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/10/2016 1122			Final Weight/Volume:	5 mL
Prep Date:	05/10/2016 1122				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	960	J	1.7	5.0
Chlorotrifluoroethene	940		1.5	5.0
1,2-Dichloro-1,1,2-trifluoroethane	220		0.85	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 137
Toluene-d8 (Surr)	107		74 - 120
Bromofluorobenzene	112		70 - 131
Dibromofluoromethane (Surr)	111		72 - 136

5/23/16

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-06**

Lab Sample ID: 460-112942-2
Client Matrix: Water

Date Sampled: 04/27/2016 1120
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367081	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54715.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/10/2016 0145			Final Weight/Volume:	5 mL
Prep Date:	05/10/2016 0145				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	51		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	1.1		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		70 - 137
Toluene-d8 (Surr)	108		74 - 120
Bromofluorobenzene	111		70 - 131
Dibromofluoromethane (Surr)	111		72 - 136

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-03**

Lab Sample ID: 460-112942-3
Client Matrix: Water

Date Sampled: 04/27/2016 1255
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367081	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54714.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/10/2016 0118			Final Weight/Volume:	5 mL
Prep Date:	05/10/2016 0118				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	42		0.34	1.0
Chlorotrifluoroethene	180		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	30		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 137
Toluene-d8 (Surr)	105		74 - 120
Bromofluorobenzene	108		70 - 131
Dibromofluoromethane (Surr)	108		72 - 136

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-07R**

Lab Sample ID: 460-112942-4
Client Matrix: Water

Date Sampled: 04/27/2016 1355
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367081	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54713.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/10/2016 0051			Final Weight/Volume:	5 mL
Prep Date:	05/10/2016 0051				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	22		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.17	U	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 137
Toluene-d8 (Surr)	104		74 - 120
Bromofluorobenzene	110		70 - 131
Dibromofluoromethane (Surr)	108		72 - 136

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-04**

Lab Sample ID: 460-112942-5
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367081	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54712.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/10/2016 0024			Final Weight/Volume:	5 mL
Prep Date:	05/10/2016 0024				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	0.52	J	0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.17	U	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 137
Toluene-d8 (Surr)	106		74 - 120
Bromofluorobenzene	111		70 - 131
Dibromofluoromethane (Surr)	109		72 - 136

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **TB20160427**

Lab Sample ID: 460-112942-6TB
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-367081	Instrument ID:	CVOAMS5
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	E54711.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	05/09/2016 2357			Final Weight/Volume:	5 mL
Prep Date:	05/09/2016 2357				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	0.30	U	0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.17	U	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106		70 - 137
Toluene-d8 (Surr)	104		74 - 120
Bromofluorobenzene	108		70 - 131
Dibromofluoromethane (Surr)	108		72 - 136

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-02**

Lab Sample ID: 460-112942-1
Client Matrix: Water

Date Sampled: 04/27/2016 0955
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	50			Final Weight/Volume:	
Analysis Date:	05/03/2016 1626			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2600		50	200

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-06**

Lab Sample ID: 460-112942-2
Client Matrix: Water

Date Sampled: 04/27/2016 1120
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	50			Final Weight/Volume:	
Analysis Date:	05/03/2016 1643			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	890		50	200

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-03**

Lab Sample ID: 460-112942-3
Client Matrix: Water

Date Sampled: 04/27/2016 1255
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	50			Final Weight/Volume:	
Analysis Date:	05/03/2016 1701			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2100		50	200

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-07R**

Lab Sample ID: 460-112942-4
Client Matrix: Water

Date Sampled: 04/27/2016 1355
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	50			Final Weight/Volume:	
Analysis Date:	05/03/2016 1718			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	2400		50	200

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-04**

Lab Sample ID: 460-112942-5
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	50			Final Weight/Volume:	
Analysis Date:	05/03/2016 1736			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	610		50	200

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **TB20160427**

Lab Sample ID: 460-112942-6TB
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-299679	Instrument ID:	HP5890-21
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	05/03/2016 1608			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	3.5	J	1.0	4.0

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-02**

Lab Sample ID: 460-112942-1
Client Matrix: Water

Date Sampled: 04/27/2016 0955
Date Received: 04/28/2016 1740

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-365520	Instrument ID:	ICP4
Prep Method:	200.7	Prep Batch:	460-365410	Lab File ID:	365183.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/29/2016 1348			Final Weight/Volume:	50 mL
Prep Date:	04/29/2016 0728				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	63100		78.3	150

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-06**

Lab Sample ID: 460-112942-2
Client Matrix: Water

Date Sampled: 04/27/2016 1120
Date Received: 04/28/2016 1740

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-365520	Instrument ID:	ICP4
Prep Method:	200.7	Prep Batch:	460-365410	Lab File ID:	365183.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/29/2016 1352			Final Weight/Volume:	50 mL
Prep Date:	04/29/2016 0728				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	20600		78.3	150

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-03**

Lab Sample ID: 460-112942-3
Client Matrix: Water

Date Sampled: 04/27/2016 1255
Date Received: 04/28/2016 1740

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-365520	Instrument ID:	ICP4
Prep Method:	200.7	Prep Batch:	460-365410	Lab File ID:	365183.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/29/2016 1356			Final Weight/Volume:	50 mL
Prep Date:	04/29/2016 0728				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	23700		78.3	150

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-07R**

Lab Sample ID: 460-112942-4
Client Matrix: Water

Date Sampled: 04/27/2016 1355
Date Received: 04/28/2016 1740

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-365520	Instrument ID:	ICP4
Prep Method:	200.7	Prep Batch:	460-365410	Lab File ID:	365183.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/29/2016 1400			Final Weight/Volume:	50 mL
Prep Date:	04/29/2016 0728				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	39300		78.3	150

Client: URS Corporation

Job Number: 460-112942-1

Client Sample ID: **20160427MW-04**

Lab Sample ID: 460-112942-5
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-365520	Instrument ID:	ICP4
Prep Method:	200.7	Prep Batch:	460-365410	Lab File ID:	365183.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/29/2016 1404			Final Weight/Volume:	50 mL
Prep Date:	04/29/2016 0728				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	16700		78.3	150

General Chemistry

Client Sample ID: **20160427MW-02**

Lab Sample ID: 460-112942-1
Client Matrix: Water

Date Sampled: 04/27/2016 0955
Date Received: 04/28/2016 1740

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	41.3	B	mg/L	3.0	10.0	2.0	D516-90, 02
Analysis Batch: 480-300805	Analysis Date: 05/09/2016 1556						
Bicarbonate Alkalinity as CaCO3	261		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Alkalinity	261		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hardness as calcium carbonate	400		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-366292	Analysis Date: 05/04/2016 1541						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0940						
Nitrite as N	0.085	J	mg/L	0.0081	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0940						
Total Organic Carbon	6.0		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-366666	Analysis Date: 05/04/2016 1905						

5/24/16

General Chemistry

Client Sample ID: **20160427MW-06**

Lab Sample ID: 460-112942-2
Client Matrix: Water

Date Sampled: 04/27/2016 1120
Date Received: 04/28/2016 1740

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	36.3	B	mg/L	3.0	10.0	2.0	D516-90, 02
Analysis Batch: 480-300805	Analysis Date: 05/09/2016 1556						
Bicarbonate Alkalinity as CaCO3	277		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Alkalinity	277		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hardness as calcium carbonate	380		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-366292	Analysis Date: 05/04/2016 1541						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0942						
Nitrite as N	0.098	J	mg/L	0.0081	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0942						
Total Organic Carbon	4.9		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-366666	Analysis Date: 05/04/2016 1925						

5/24/16

General Chemistry

Client Sample ID: **20160427MW-03**

Lab Sample ID: 460-112942-3
Client Matrix: Water

Date Sampled: 04/27/2016 1255
Date Received: 04/28/2016 1740

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	78.2	B	mg/L	4.5	15.0	3.0	D516-90, 02
Analysis Batch: 480-300805	Analysis Date: 05/09/2016 1606						
Bicarbonate Alkalinity as CaCO3	313		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Alkalinity	313		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hardness as calcium carbonate	400		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-366292	Analysis Date: 05/04/2016 1541						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0943						
Nitrite as N	0.076	J	mg/L	0.0081	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0943						
Total Organic Carbon	7.6		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-366666	Analysis Date: 05/04/2016 1944						

5/24/16

General Chemistry

Client Sample ID: **20160427MW-07R**

Lab Sample ID: 460-112942-4 Date Sampled: 04/27/2016 1355
Client Matrix: Water Date Received: 04/28/2016 1740

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	1.8	U JB	mg/L	1.5	5.0	1.0	D516-90, 02
Analysis Batch: 480-300805	Analysis Date: 05/09/2016 1534						
Bicarbonate Alkalinity as CaCO3	357		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Alkalinity	357		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hardness as calcium carbonate	630		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-366292	Analysis Date: 05/04/2016 1541						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0945						
Nitrite as N	0.072	J	mg/L	0.0081	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0945						
Total Organic Carbon	9.7		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-366666	Analysis Date: 05/04/2016 2004						

General Chemistry

Client Sample ID: **20160427MW-04**

Lab Sample ID: 460-112942-5
Client Matrix: Water

Date Sampled: 04/27/2016 1500
Date Received: 04/28/2016 1740

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfate	1.6	~~J B~~ U	mg/L	1.5	5.0	1.0	D516-90, 02
Analysis Batch: 480-300805	Analysis Date: 05/09/2016 1552						
Bicarbonate Alkalinity as CaCO3	255		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Alkalinity	255		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-366238	Analysis Date: 05/04/2016 0930						
Hardness as calcium carbonate	450		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-366292	Analysis Date: 05/04/2016 1541						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0946						
Nitrite as N	0.052	J	mg/L	0.0081	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-365463	Analysis Date: 04/29/2016 0946						
Total Organic Carbon	9.2		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-366666	Analysis Date: 05/04/2016 2104						

5/24/16

SiREM
Leading Science · Lasting Solutions

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

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

Customer: Kevin Shanahan, AECOM
Project: Dow, Former EMCA
Customer Reference: 60483432.20000

SiREM Reference: S-3921
Report Date: 5-May-16
Data Files: iQ5-DHC-QPCR-1351
iQ5-DB-DHC-QPCR-0702

Table 1a: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	*Dehalococcoides* Enumeration/Liter **
20160427MW-02	DHC-13050	27-Apr-16	Groundwater	0.001 - 0.004 %	4×10^4

40 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.

5/12/16 AC

** 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 detected in the method blank within an order of magnitude of the test sample
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: Kela Bartle
Kela Bartle, B.Sc.
Laboratory Technician

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

SiREM
Leading Science · Lasting Solutions

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

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

Customer: Kevin Shanahan, AECOM
Project: Dow, Former EMCA
Customer Reference: 60483432.20000

SiREM Reference: S-3921
Report Date: 5-May-16
Data Files: MyiQ-DHB-QPCR-0386
MyiQ-DB-DHB-QPCR-0200
iQ5-TBA-QPCR-0194

Table 1b: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhb *	*Dehalobacter* 16S rRNA Gene Copies/Liter
20160427MW-02	DHB-1459	27-Apr-16	Groundwater	0.003 - 0.01 %	8×10^4
20160427MW-06	DHB-1460	27-Apr-16	Groundwater	0.0002 - 0.0005 %	3×10^3
20160427MW-03	DHB-1461	27-Apr-16	Groundwater	0.0002 - 0.0004 %	4×10^3
20160427MW-07R	DHB-1462	27-Apr-16	Groundwater	0.0004 - 0.001 %	7×10^3
20160427MW-04	DHB-1463	27-Apr-16	Groundwater	NA	3×10^3 U

GC/mL
80 J
3 J
4 J
7 J
3 U

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.

5/12/16 AP

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantitation 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 the sample.

Analyst: Kela Bartle
Kela Bartle, B.Sc.
Laboratory Technician

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

ATTACHMENT B

SUPPORT DOCUMENTATION

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTOI

460-112942 Chain of Custody

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

Page 1 of 1

Name (for report and invoice) Kevin Shanahan	Samplers Name (Printed) Megan Dascoli	Site/Project Identification Dow, Former EMCA Mamaroneck
Company AECOM	P. O. # 4502386358	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program: DKQP: ☐
Address	Analysis Turnaround Time: Standard ☒	LAB USE ONLY Project No:
City State	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: 112942
Phone 716-856-5636 Fax		

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

Sample Identification	Date	Time	Matrix	No. of Cont.	Freon 113, 123a, 1113	Methane	Sulfate	total+ferrous Iron	Alkalinity	Hardness	Nitrogen-Nitrate	TOC	Sample Numbers
20160427 MW-02	4/27/16	955	GW	10	X	X	X	X	X	X	X	X	-1
20160427 MW-06		1120	GW	10	X	X	X	X	X	X	X	X	-2
20160427 MW-03		1255	GW	10	X	X	X	X	X	X	X	X	-3
20160427 MW-07R		1355	GW	10	X	X	X	X	X	X	X	X	-4
20160427 MW-04		1500	GW	10	X	X	X	X	X	X	X	X	-5
TB 20160427	4/27/16	1500	W	4	X	X							-6

SHORT HOLD

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	4/1	1	4,1	1	3,1					

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

Relinquished by 1) Megan Dascoli	Company AECOM	Date / Time 4/28/16 1040	Received by 1)	Company
Relinquished by 2)	Company T. A	Date / Time 4/28/16 17:10	Received by 2)	Company TA 6d 4/28/16 1740
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0715)

Massachusetts (M-NJ312), North Carolina (No. 578) 1.2/2.2 IR# 6 NO C.J

TestAmerica SiREM

THE LEADER IN ENVIRONMENTAL TESTING

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

S-3991

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page 1 of 1

Name (for report and invoice) Kevin Shanahan	Samplers Name (Printed) Megan Dascoli	Site/Project Identification Dow, former EMCA, Mamaroneck	
Company AECOM	P.O.# 60483432.20000	State (Location of site): NJ: ☐ NY: ☒	Other:
Address	Analysis Turnaround Time: Standard ☒	Regulatory Program:	DKQP: ☐
City State	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)	LAB USE ONLY Project No:
Phone 716-856-5636 Fax			Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	Dehalobacter	Dehalococcoides	Sample Numbers
20160427MW-02	4/27/16	955	GW	2	X	X	
20160427MW-06		1120	GW	1	X		
20160427MW-03		1255	GW	1	X		
20160427MW-07R		1355	GW	1	X		
20160427MW-04	↓	1500	GW	1	X		

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

Soil: | Water: 1 | 1

Special Instructions

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	AECOM	4/27/16 2000	1)	SiREM APR 28 '16 1:30pm 3°C
Relinquished by 2)	Company	Date / Time	Received by 2)	Company
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0018 (0715)

Massachusetts (M-NJ312), North Carolina (No. 578)

Note: shipped via FedEx

CASE NARRATIVE

Client: URS Corporation

Project: DOW, Former EMCA Mamaroneck

Report Number: 460-112942-1

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 04/28/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2 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.

VOLATILE ORGANICS
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4), 20160427MW-04 (460-112942-5) and TB20160427 (460-112942-6) were analyzed for Volatile organics in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 05/09/2016 and 05/10/2016.

Sample 20160427MW-02 (460-112942-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Volatile organics analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4), 20160427MW-04 (460-112942-5) and TB20160427 (460-112942-6) were analyzed for dissolved gases in accordance with RSK_175. The samples were analyzed on 05/03/2016.

Samples 20160427MW-02 (460-112942-1)[50X], 20160427MW-06 (460-112942-2)[50X], 20160427MW-03 (460-112942-3)[50X], 20160427MW-07R (460-112942-4)[50X] and 20160427MW-04 (460-112942-5)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following samples were diluted to bring the concentration of target analytes within the calibration range: 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5). Elevated reporting limits (RLs) are provided.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

TOTAL RECOVERABLE METALS
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for total recoverable metals in accordance with EPA Method 200.7 (ICP). The samples were prepared and analyzed on 04/29/2016.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 05/04/2016.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

HARDNESS
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for hardness in accordance with SM 2340C. The samples were analyzed on 05/04/2016.

No difficulties were encountered during the hardness analysis.

All quality control parameters were within the acceptance limits.

SULFATE
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 05/09/2016.

Sulfate was detected in method blank MB 480-300805/12 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. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Refer to the QC report for details.

Samples 20160427MW-02 (460-112942-1)[2X], 20160427MW-06 (460-112942-2)[2X] and 20160427MW-03 (460-112942-3)[3X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the sulfate analysis.

All other quality control parameters were within the acceptance limits.

NITROGEN-NITRATE
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for Nitrogen-Nitrate in accordance with SM 4500 NO3 F. The samples were analyzed on 04/29/2016.

Nitrate as N and Nitrite as N failed the recovery criteria low for the MS of sample 460-112930-2 in batch 460-365463.

Nitrate as N and Nitrite as N failed the recovery criteria low for the MSD of sample 460-112930-2 in batch 460-365463.

Refer to the QC report for details.

No other difficulties were encountered during the Niitrate analysis.

All other quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON
Samples 20160427MW-02 (460-112942-1), 20160427MW-06 (460-112942-2), 20160427MW-03 (460-112942-3), 20160427MW-07R (460-112942-4) and 20160427MW-04 (460-112942-5) were analyzed for total organic carbon in accordance with SM 5310B. The samples were analyzed on 05/04/2016.

No difficulties were encountered during the TOC 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.: 460-112942-1

SDG No.:

Lab File ID: E54729.D BFB Injection Date: 05/10/2016

Instrument ID: CVOAMS5 BFB Injection Time: 08:01

Analysis Batch No.: 367170

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	20.2	
75	30.0 - 60.0 % of mass 95	50.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.0	
173	Less than 2.0 % of mass 174	0.7	(0.7) 1
174	50.0 - 120.00 % of mass 95	102.9	
175	5.0 - 9.0 % of mass 174	8.2	(8.0) 1
176	95.0 - 101.0 % of mass 174	99.1	(96.3) 1
177	5.0 - 9.0 % of mass 176	7.4	(7.4) 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 460-367170/2	E54730.D	05/10/2016	08:25
	LCS 460-367170/3	E54731.D	05/10/2016	09:06
	MB 460-367170/6	E54734.D	05/10/2016	10:28
20160427MW-02	460-112942-1	E54736.D	05/10/2016	11:22
	460-113286-A-8 MS	E54737.D	05/10/2016	11:49
	460-113286-A-8 MSD	E54738.D	05/10/2016	12:16

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-112942-1

SDG No.:

Lab Sample ID: CCVIS 460-367170/2 Calibration Date: 05/10/2016 08:25

Instrument ID: CVOAMS5 Calib Start Date: 05/06/2016 18:33

GC Column: Rtx-VMS ID: 0.18(mm) Calib End Date: 05/06/2016 23:31

Lab File ID: E54730.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlorotrifluoroethene	Ave	0.0363	0.0404		22.2	20.0	11.2	20.0
Dichlorodifluoromethane	Ave	0.3589	0.3218	0.1000	17.9	20.0	-10.3	20.0
Vinyl chloride	Ave	0.2968	0.2623	0.1000	17.7	20.0	-11.6	20.0
Butadiene	Ave	0.2574	0.2249		17.5	20.0	-12.6	20.0
Chloromethane	Ave	0.4124	0.3671	0.1000	17.8	20.0	-11.0	20.0
Bromomethane	Ave	0.1408	0.1086	0.1000	15.4	20.0	-22.9	50.0
Chloroethane	Ave	0.1356	0.1177	0.1000	17.4	20.0	-13.2	50.0
Pentane	Ave	0.0391	0.0418		42.8	40.0	7.1	20.0
Trichlorofluoromethane	Ave	0.4042	0.4213	0.1000	20.8	20.0	4.2	20.0
Dichlorofluoromethane	Ave	0.4220	0.4290		20.3	20.0	1.7	20.0
2-Methyl-1,3-butadiene	Ave	0.3565	0.3725		20.9	20.0	4.5	20.0
Ethyl ether	Ave	0.2059	0.1963		19.1	20.0	-4.7	20.0
1,1-Dichloroethene	Ave	0.2220	0.2216	0.1000	20.0	20.0	-0.2	20.0
1,2-Dichloro-1,1,2-trifluoro ethane	Ave	0.2616	0.2796		21.4	20.0	6.9	20.0
Carbon disulfide	Ave	0.7751	0.7239	0.1000	18.7	20.0	-6.6	50.0
Ethanol	Ave	0.0552	0.0474		687	800	-14.2	50.0
Freon TF	Ave	0.2039	0.2502	0.1000	24.5	20.0	22.7*	20.0
Iodomethane	Ave	0.2254	0.1764		15.6	20.0	-21.8*	20.0
Cyclopentene	Ave	0.5780	0.6011		20.8	20.0	4.0	20.0
Acrolein	Ave	1.232	0.8924		29.0	40.0	-27.5	50.0
Allyl chloride	Ave	0.1321	0.1305		19.8	20.0	-1.2	20.0
Isopropyl alcohol	Ave	0.6656	0.5579		168	200	-16.2	50.0
Methylene Chloride	Ave	0.2622	0.2411	0.1000	18.4	20.0	-8.0	20.0
Acetone	Qua2		0.1672	0.0500	79.9	100	-20.1	50.0
trans-1,2-Dichloroethene	Ave	0.2504	0.2398	0.1000	19.2	20.0	-4.2	20.0
Methyl acetate	Ave	1.762	1.490	0.1000	84.6	100	-15.4	20.0
Hexane	Ave	0.4412	0.4833		21.9	20.0	9.5	20.0
Methyl tert-butyl ether	Ave	0.7702	0.7873	0.1000	20.4	20.0	2.2	20.0
2-Methyl-2-propanol	Ave	1.162	1.025		177	200	-11.7	50.0
Acetonitrile	Ave	1.396	1.175		168	200	-15.9	20.0
Isopropyl ether	Ave	0.8453	0.7782		18.4	20.0	-7.9	20.0
2-Chloro-1,3-butadiene	Ave	0.2225	0.2260		20.3	20.0	1.6	20.0
1,1-Dichloroethane	Ave	0.4721	0.4569	0.2000	19.4	20.0	-3.2	20.0
Acrylonitrile	Ave	0.0882	0.0910		206	200	3.1	20.0
Tert-butyl ethyl ether	Ave	0.8479	0.8111		19.1	20.0	-4.3	20.0
Vinyl acetate	Ave	0.0391	0.0561		57.3	40.0	43.4*	20.0
cis-1,2-Dichloroethene	Ave	0.2750	0.2611	0.1000	19.0	20.0	-5.1	20.0
2,2-Dichloropropane	Ave	0.3733	0.4102		22.0	20.0	9.9	20.0
Cyclohexane	Ave	0.3564	0.4039	0.1000	22.7	20.0	13.3	50.0
Chlorobromomethane	Ave	0.1434	0.1419		19.8	20.0	-1.1	20.0

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 460-112942-1

SDG No.:

Batch Number: 300805 Batch Start Date: 05/09/16 15:05 Batch Analyst: Andriaccio, Carly E

Batch Method: D516-90, 02 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Minerals 00016	Sulf 1000 ppm 00020	Sulf 30ppm 00070	
ICB 480-300805/9		D516-90, 02		2 mL	2 mL				
ICV 480-300805/10		D516-90, 02		2 mL	2 mL	2 mL			
LCS 480-300805/11		D516-90, 02		2 mL	2 mL			2 mL	
MB 480-300805/12		D516-90, 02		2 mL	2 mL				
480-99728-D-1 DU		D516-90, 02	T	2 mL	2 mL				
480-99728-D-1 MS		D516-90, 02	T	2 mL	2 mL		0.04 mL		
460-112942-I-4	20160427MW-07R	D516-90, 02	T	2 mL	2 mL				
CCV 480-300805/17		D516-90, 02		2 mL	2 mL			2 mL	
CCB 480-300805/18		D516-90, 02		2 mL	2 mL				
CCV 480-300805/31		D516-90, 02		2 mL	2 mL			2 mL	
CCB 480-300805/32		D516-90, 02		2 mL	2 mL				
460-112942-J-5	20160427MW-04	D516-90, 02	T	2 mL	2 mL				
460-112942-J-1	20160427MW-02	D516-90, 02	T	2 mL	2 mL				
CCV 480-300805/37		D516-90, 02		2 mL	2 mL			2 mL	
CCB 480-300805/38		D516-90, 02		2 mL	2 mL				
460-112942-J-2	20160427MW-06	D516-90, 02	T	2 mL	2 mL				
CCV 480-300805/41		D516-90, 02		2 mL	2 mL			2 mL	
CCB 480-300805/42		D516-90, 02		2 mL	2 mL				
460-112942-J-3	20160427MW-03	D516-90, 02	T	2 mL	2 mL				
CCV 480-300805/44		D516-90, 02		2 mL	2 mL			2 mL	
CCB 480-300805/45		D516-90, 02		2 mL	2 mL				

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.

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Buffalo Job No.: 460-112942-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 300805 Date: 05/09/2016 15:34							
D516-90, 02	MB 480-300805/12	Sulfate	1.79	J	mg/L	5.0	1

Table 4: Gene-Trac Dhb Control Results, Test Reference S-3921

Laboratory Control	Analysis Date	Control Description	Spiked Dhb 16S rRNA Gene Copies per Liter	Recovered Dhb 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	4-May-16	qPCR with SC05 genomic DNA (CSLDB-0345)	3.3×10^6	5.0×10^6	See Note 1
Positive Control High Concentration	4-May-16	qPCR with SC05 genomic DNA (CSHDB-0345)	4.2×10^8	2.5×10^8	Passed
DNA Extraction Blank	4-May-16	DNA Extraction Sterile Water (FB-2670)	0	2.6×10^3 U	Passed
Negative Control	4-May-16	Test Reagent Blank (TBDB-0345)	0	2.6×10^3 U	Passed

152%

Notes:

qPCR = quantitative PCR

Dhb = *Dehalobacter*

DNA = Deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantitation limit.

[1] Control results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines (+/- 50%).

5/24/16