Groundwater Sampling and Analysis Report

March and April 2015 Sampling Events

Former EMCA Site
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

May 2015

G4427CC

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT
MARCH AND APRIL 2015 SAMPLING EVENTS

Prepared for:

ROHM AND HAAS COMPANY

A WHOLLY-OWNED SUBSIDIARY OF THE DOW CHEMICAL COMPANY

Submitted by:

URS CORPORATION

257 WEST GENESEE STREET, SUITE 400

BUFFALO, NEW YORK 14202

MAY 2015

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 2015 at the former EMCA site located in Mamaroneck, New York (Figure 1) pursuant to the approved Site Management Plan ([SMP], URS, 2010) and to recommendations made in the *Groundwater Sampling and Analysis Report, October, November, and December 2014 Sampling Events & Summary of 2014 Supplemental Injection Event* (URS, 2015). The groundwater monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2015.

Prior to conducting the April 2015 semi-annual event, groundwater monitoring was also conducted in March 2015 at select well locations in order to further gauge the effectiveness of the supplemental injection conducted in October 2014. The March 2015 event was conducted beyond the scope of the SMP (URS, 2010), the *Supplemental Remedial Injection Work Plan* (URS, 2014c), and recommendations made in the *Groundwater Sampling and Analysis Report, October, November, and December 2014 Sampling Events & Summary of 2014 Supplemental Injection Event* (URS, 2015).

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 2015 groundwater sampling event was the twenty-first site-wide sampling event since the interim remedial measure (IRM) began in November 2004 and the second site-wide sampling event following the October 7 through 17, 2014 injection. On March 4, 2015, groundwater samples were collected from wells MW-02, MW-03, and MW-07R to further monitor the effectiveness of the October 2014 supplemental injection; this data is also presented in this report.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

The groundwater samples collected on April 22, 2015 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 2.

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. A copy of the field purging/sampling logs is 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 also performed on all five monitoring wells in order to collect additional natural attenuation groundwater data and to evaluate bacteria concentrations:

Parameter	Analytical Method
Total Iron	200.7
Ferrous Iron	SM 3500-Fe D
Nitrate-Nitrite	353.2
Nitrate	By Calculation
Nitrite	SM 4500-NO_2 B
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

Note, ferrous iron analyses were performed both in the field and laboratory. Both sets of results are presented in this report; the field results should be considered the most accurate.

The samples collected from MW-02, MW-03, and MW-07R on March 4, 2015 were analyzed for field parameters, Freon 113, Freon 123a, Freon 1113, and dehalobacter.

A round of groundwater levels were recorded on April 22, 2015. The data are presented in Table 1 and Figure 2. 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 2), 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 2015 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 to northeast. The resulting groundwater contours for the April 22, 2015 data show that groundwater flow was to the northeast, which is typical for the site.

3.0 RESULTS

The analytical results for the March and April 2015 sampling events, along with the previous October, November, and December 2014 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 March and April 2015 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 results presented in Table 2 and Figure 3 show that only the samples from MW-02 and MW-03 contained Freon 113 at concentrations above the 5 µg/L guidance value for this compound. The maximum detections and sample events are as follows: MW-02 - 45 µg/L in March and MW-03 - 25 µg/L in April.

The results show that Freon 123a was detected at concentrations above the 5 µg/L groundwater standard in the samples from wells MW-02, MW-03, and MW-06. The maximum detections and sample events are as follows: MW-02 - 67 µg/L in March, MW-03 - 25 µg/L in April, and MW-06 - 8.1 µg/L in April.

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 maximum detections and sample events are as follows: MW-02 - 310 µg/L in April, MW-03 - 120 µg/L in April, MW-06 - 110 µg/L in April, and MW-07R - 130 µg/L in March.

The groundwater samples collected in March 2015 were analyzed for dehalobacter, while the groundwater samples collected in April 2015 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 March 2015 dehalobacter concentration was relatively low in MW-02 [90 gene copies per milliliter (GC/mL)], very low in MW-03 (3 GC/mL), and

relatively higher in MW-07R (300 GC/mL). The dehalobacter concentrations for the April 2015 sample event increased in MW-02 (200 GC/mL) and MW-03 (7 GC/mL), but decreased in MW-07R (90 GC/mL). Dehalobacter was not detected in MW-04 and MW-06.

The dehalococcoides concentration in MW-02 was relatively low [20 colony equivalents per milliliter (CEQ/mL)] in April 2015, which is an increase from October 2014 (5 CEQ/mL), November 2014 (2 CEQ/mL) and December 2014 (1 CEQ/mL).

In general, the results of the semi-annual groundwater sampling event completed in April 2015 showed that the remedial injections conducted in October 2014 continue to be effective, with Freon 113 concentrations below the 40 µg/L trigger value and with continued favorable results for Freon 123a and Freon 1113.

4.0 DATA ASSESSMENT

The groundwater analytical data for April 2015 is the second site-wide set of data collected following the October 7 through 17, 2014 supplemental injection. The previous round of site-wide groundwater sampling occurred on October 27-28, 2014. 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 over time are shown in plan view in Figure 3. The historical data was also used to create trend plots for the following parameters:

- Freon 113 - Figures 4 and 5
- Freon 123a - Figure 6
- Freon 1113 - Figure 7
- Sulfate - Figure 8
- Methane - Figure 9
- Dissolved Oxygen - Figure 10
- Dissolved Oxygen vs. Temperature – Figure 11
- Oxidation-Reduction Potential - Figure 12

The figures also show trend lines of parameter concentrations over time. The text below presents a discussion of the October, November and December 2014 data compared to the March and April 2015 data followed by an assessment of the historical results over time. Table 3 presents a summary comparison of October 2014 and April 2015 parameter concentrations.

Freon 113

In comparison with the October, November and December 2014 results, the analytical results for the March and April 2015 sampling events (Figures 4 and 5) indicate that Freon 113:

- Decreased in MW-02 from 0.19 µg/L in October to 0.14 µg/L in November to non-detect in December, increased to 45 µg/L in March 2015, and decreased to 24 µg/L in April 2015;
- Decreased in MW-03 from 0.81 µg/L in October to non-detected in November and December; and increased to 18 µg/L in March 2015 to 25 µg/L in April 2015;
- Increased in MW-04 from non-detect in October 2014 to 0.38 µg/L in April 2015;

- Increased in MW-06 from non-detect in October 2014 to 1.6 µg/L in April 2015; and
- Decreased in MW-07R from 15 µg/L in October 2014 to non-detect in April 2015.

In well MW-02, the Freon 113 concentration 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 eleven sampling events (Freon 113 was above the criteria in July 2014, March 2015, and April 2015).

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 the March and April 2015 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 and April 2015 confirms that Freon 113 is not significantly migrating downgradient.

For well MW-04, a low-level of Freon 113 (i.e., 0.38 µg/L) was detected in April 2015, further confirming that Freon 113 is not migrating downgradient. Freon 113 was not detected in MW-06 in the October 2014 sampling event, and increased slightly to 1.6 µg/L in April 2015. This coincides with an increase in the concentration of the Freon 123a and Freon 1113 daughter products, indicating ongoing reduction of Freon 113.

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 March and April 2015 Freon 123a results in comparison with results October, November and December 2014 results.

Compared to the October, November and December 2014 data, the analytical results for the March and April 2015 sampling events (Figure 6) indicate that Freon 123a:

- Decreased in MW-02 from 3.3 µg/L in October to 1.5 µg/L in November, 1.7 µg/L in December, increased to 67 µg/L in March 2015, and decreased to 22 µg/L in April 2015;
- Decreased in MW-03 from 1.3 µg/L in October to non-detect in November, 1.7 µg/L in December, increased to 17 µg/L in March 2015 to 25 µg/L in April 2015;
- Non-detect in MW-04 for the April 2015 sample, similar to October 2014;
- Increased in MW-06 from non-detect in October 2014 to 8.1 µg/L in April 2015; and
- Decreased in MW-07R from 2.2 µg/L in October 2014 to 0.78 µg/L in March 2015 to 0.39 µg/L in April 2015.

None of the Freon 123a concentrations for samples MW-04 and MW-07R collected in March and April 2015 exceeded TOGS 1,1,1 criteria. The Freon 123a concentrations for samples MW-02, MW-03, and MW-06 were below TOGS 1,1,1 criteria in October, November, and/or December 2014, then increased above criteria in March and/or April 2015 which coincides with an increase in the concentration of the Freon 1113 daughter product, indicating ongoing reduction of Freon 113.

Freon 1113

Compared to the October, November and December 2014 data, the analytical results for the March and April 2015 sampling events (Figure 7) indicate that Freon 1113:

- Decreased in MW-02 from a concentration of 270 µg/L in October, to 66 µg/L in November, to 56 µg/L in December, and increased to 300 µg/L in March 2015 to 310 µg/L in April 2015;
- Decreased in MW-03 from a concentration of 96 µg/L in October, to 86 µg/L in November, increased to 150 µg/L in December, decreased to 110 µg/L in March 2015, and 120 µg/L in April 2015;
- Slightly increased in MW-04 from 1.2 µg/L in October to 2.1 µg/L in April 2015;
- Increased in MW-06 from a concentration of 51 µg/L in October 2014 to 110 µg/L in April 2015; and
- Remained stable in MW-07R from a concentration of 130 µg/L in October 2014 to March 2015, then decreased to 10 µg/L in April 2015.

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 2014 data, the April 2015 sulfate concentrations increased in MW-02, MW-03, MW-04, MW-06, and MW-07R (Figure 8).

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 below 50 mg/L.

Methane

In comparison with the October 2014 data, the April 2015 methane concentrations (Figure 9) increased in MW-02, MW-03, and MW-06, and remained relatively stable in MW-04 and MW-07R.

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 increase in methane concentrations at MW-02, MW-03 and MW-06 indicate conditions returning to more favorable anaerobic conditions near the source area.

Dissolved Oxygen

In comparison with the October, November and December 2014 data, the March and April 2015 dissolved oxygen concentrations (Figure 10) generally decreased in MW-02, MW-06, and MW-07R; slightly increased in MW-04 and MW-07R, and remain relatively stable in MW-03. The dissolved oxygen concentrations measured in October to December 2014 ranged from 0.45 to 2.86 mg/L, compared to a range of 0.585 to 1.24 mg/L in March and April 2015. Historically, dissolved oxygen concentrations have fluctuated significantly, from highs around 7 mg/L down to non-detect levels. Review of the graphical presentation of the data in Figure 10 indicates that dissolved oxygen concentrations decreased following most of the injection events and rebounded afterwards.

Temperature

Comparison of the March and April 2015 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. The March and April 2015 temperature measurements were as much as 10 degrees Celsius lower than measurements recorded in October, November, and December 2014. Review of historical groundwater temperature data suggests that groundwater in the site area is influenced by changes in seasonal weather conditions/precipitation infiltration. As an example, Figure 11 presents a graphical presentation of temperature data for well MW-02 dating back to February 2008. The graph shows seasonal fluctuations in groundwater temperatures. The graph also shows dissolved oxygen concentrations in MW-02.

Oxidation-Reduction Potential

In comparison with the October, November and December 2014 data, the March and April 2015 oxidation-reduction potential values (Figure 12) remained relatively stable in MW-02, MW-03, and MW-04, and slightly increased in MW-06 and MW-07R. The March and April 2015 values were all negative, ranging from -75 millivolts (mV) to -135 mV. Historically, oxidation-reduction potential values have remained at negative values throughout most of the treatment program.

Dehalococcoides

In October 2014, only the groundwater sample from MW-02 was analyzed for dehalococcoides (see Table 2). The dehalococcoides concentration detected in October 2014 was very low at 5 CEQ/mL. In November and December 2014, only the groundwater samples from MW-02 and MW-03 were analyzed for dehalococcoides. The dehalococcoides concentration in MW-02 showed a slight decrease in November 2014 (2 CEQ/mL) and in December 2014 (1 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.

The dehalococcoides concentration of 500 CEQ/mL in MW-03 in November 2014 following the injection event significantly decreased to 20 CEQ/mL in December 2014. Dehalococcoides was not analyzed for in this well in March and April 2015.

Dehalobacter

The following samples were analyzed for dehalobacter: all five wells sampled in October 2014 and April 2015; MW-02 and MW-03 sampled in November 2014 and March 2015; and MW-07R sampled in March 2015 (see Table 2). In October 2014, shortly following the injection events, concentrations ranged from 3 GC/mL at MW-04 to 9,000 GC/mL at MW-02, and 50 GC/mL at MW-03. The November 2014 results for MW-02 and MW-03 show a reduction in dehalobactor concentrations (i.e., 2,000 GC/mL and 10 GC/mL, respectively). The March 2015 results for MW-02 and MW-03 show further reduction in dehalobactor concentrations (i.e., 90 GC/mL and 3 GC/mL, respectively), while MW-07R showed an increase from 3 GC/mL in October 2014 to 300 GC/mL in March, and reduction to 90 GC/mL in April 2015. MW-04 and MW-06 showed a reduction of dehalobacter concentrations (i.e., 3 GC/mL and 80 GC/mL, respectively) from October 2014 to non-detect in April 2015.

Iron

In April 2015, total iron concentration ranged from 19,600 μg/L to 60,500 μg/L. Similar to previous results, the highest iron concentration was at MW-02. The lowest total iron concentration was at MW-03, typically it is lowest at MW-04.

5.0 CONCLUSIONS

The majority of the original Freon 113 release has been remediated over the past 11 years through anaerobic bioremediation and only residual concentrations remain. The Freon 113 concentrations detected during the March and April 2015 sampling events remain orders of magnitude below initial contaminant concentrations documented prior to initiating remedial activities. The residual groundwater impacts remain localized to the original release area and are not migrating.

The presence and/or increase of Freon 123A and Freon 1113 in four of the five wells sampled confirms that reductive dechlorination of the residual Freon 113 continues. The data also show that concentrations of Freon 113 and the daughter products have remained relatively low with only slight rebound in the source area as residual Freon 113 contamination diminishes.

6.0 CONTINGENCY TRIGGER EVALUATION

Contingency measures, in accordance with Section 4.0 of the SMP, were not triggered at the site by the April 2015 data where Freon 113 was present in groundwater samples remained below 40 µg/L. Note that the March 2015 samples were collected beyond the scope of the SMP and the results are not intended to be used for making contingency measure related decisions. The monitoring data presented in this report indicates the successful treatment of Freon 113.

7.0 NEXT STEPS

In accordance with the SMP, the semi-annual groundwater sampling program continued 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 2015. Each well will be sampled for Freon-113, Freon-123a, and Freon-1113 and other water quality and natural attenuation parameters as listed in Table 4.

REFERENCES

Horneman, A, et al, 2007. *Degradation rates of CFC-11, CFC-12 and CFC-113 in Anoxic Shallow Aquifers of Araihazar, Bangladesh,* Journal of Contaminant Hydrology 97 (2008).

TOGS 1.1.1, 1998. New York State Department of Environmental Conservation *Technical and Operational Guidance Series Memo 1.1.1*. June.

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

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

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

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

URS, 2014. *Groundwater Sampling and Analysis Report, October 2013 Sampling Event, Former EMCA Site, Mamaroneck, New York.* January.

URS, 2014a. *Groundwater Sampling and Analysis Report, April 2014 Sampling Event, Former EMCA Site, Mamaroneck, New York.* June.

URS, 2014b. *Letter Report for July 2014 Sampling Event, Former EMCA Site, Mamaroneck, New York.* July.

URS, 2014c. *Supplemental Remedial Injection Work Plan, Revision 1, Former EMCA Site, Mamaroneck, New York.* August.

URS, 2015. *Groundwater Sampling and Analysis Report, October, November, and December 2014 Sampling Events & Summary of 2014 Supplemental Injection Event, Former EMCA Site, Mamaroneck, New York.* February.

U.S. Geological Survey (USGS), 2009. *Chlorofluorocarbons Background*, L. N. Plummer and E. Busenberg, *water.usgs.gov/lab/chlorofluorocarbons/background.* November.

TABLES

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS (April 22, 2015)
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	3.05	23.11
GZ-06	28.02	6.51	21.51
MW-01	25.74	3.23	22.51
MW-02	25.63	4.62	21.01
MW-03	25.59	4.67	20.92
MW-04	25.31	4.16	21.15
MW-05	24.63	2.96	21.67
MW-06	25.77	4.75	21.02
MW-07R	25.63	4.76	20.87
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	9.89	17.52

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 04/22/2015.
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 safetly 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
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141027MW-02V09N	20141124MW-02V09N	20141222MW-02V09N	20150304MW-02	20150422MW-02
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							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	270 J	66	56	300	310
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.19 J	0.14 J	1.0 U	45	24
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	3.3	1.5	1.7	67	22
Dissolved Gases							
Methane	UG/L	-	2,600	4,500	2,900	NA	6,200
Total Metals							
Iron	UG/L	300	94,800	NA	NA	NA	60,500
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	367	NA	NA	NA	432
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	367	NA	NA	NA	432
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
Dehalococcoides ethenogenes	CEQ/mL	-	5	2 J	1 J	NA	20 J
Dehalobacter	GC/mL	-	9,000	2,000	NA	90	200
Hardness (as CaCO3)	MG/L	-	455	NA	NA	NA	525
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	10.8	10.2	4.3 J	NA	17.3
Total Organic Carbon	MG/L	-	81.0	NA	NA	NA	13.8
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	12.5 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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-02	MW-02	MW-02	MW-02	MW-02
Sample ID			20141027MW-02V09N	20141124MW-02V09N	20141222MW-02V09N	20150304MW-02	20150422MW-02
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***					
Field Parameter							
Dissolved Oxygen	MG/L	-	2.45	1.72	1.01	0.58	0.93
Ferrous Iron	MG/L	-	7.8	NA	NA	NA	5.5
Oxidation-Reduction Potential	mV	-	-134	-143	-127	-114	-135
pH	S.U.	-	6.50	6.85	6.78	6.80	6.60
Specific Conductance	MS/CM	-	2.48	2.59	2.60	2.53	2.86
Temperature	DEG C	-	17.27	17.18	13.95	7.98	9.86
Turbidity	NTU	-	0.7	0.0	0.0	0.0	8.0

*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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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
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							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	96	86	150	110	120
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.81 J	1.0 U	1.0 U	18	25
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.3	1.0 U	1.7	17	25
Dissolved Gases							
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
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
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, 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
Total Organic Carbon	MG/L	-	27.1	NA	NA	NA	5.1
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	0.10 UJ

*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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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
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***					
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
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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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

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

Detection Limits shown are PQL

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

Location ID			MW-04	MW-04	MW-06	MW-06	MW-06
Sample ID			20141028MW-04V09N	20150422MW-04	20141027MW-06V15N	DUP20141027	20150422MW-06
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/27/14	10/27/14	04/22/15
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.2	2.1	51	44	110
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	1.6
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	8.1
Dissolved Gases							
Methane	UG/L	-	87	1,000	3,400	2,700	5,200
Total Metals							
Iron	UG/L	300	8,820	28,000	31,000	33,200	26,400
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	208	338	740	726	311
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	208	338	740	726	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	-	3	3.0 U	80	NA	3.0 U
Hardness (as CaCO3)	MG/L	-	267	882	297	564	515
Nitrogen, Nitrate	MG/L	10	0.10 U	0.10 U	1.0 U	0.58 J	0.10 U
Nitrogen, Nitrite	MG/L	1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.050 U	NA	NA	0.050 U
Sulfate	MG/L	250	11.5	29.8	5.0 U	5.0 U	29.9
Total Organic Carbon	MG/L	-	8.4	12.3	314	298	5.1
Ferrous Iron (lab)	MG/L	-	NA	0.10 J	NA	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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-04	MW-04	MW-06	MW-06	MW-06
Sample ID			20141028MW-04V09N	20150422MW-04	20141027MW-06V15N	DUP20141027	20150422MW-06
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/28/14	04/22/15	10/27/14	10/27/14	04/22/15
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Field Parameter							
Dissolved Oxygen	MG/L	-	0.55	1.05	2.67	NA	0.72
Ferrous Iron	MG/L	-	5.2	5.5	6.7	NA	4.5
Oxidation-Reduction Potential	mV	-	-93	-92	-130	NA	-104
pH	S.U.	-	6.57	6.73	6.66	NA	6.83
Specific Conductance	MS/CM	-	1.62	4.47	2.34	NA	2.67
Temperature	DEG C	-	17.78	11.71	17.32	NA	12.18
Turbidity	NTU	-	2.1	1.1	5.6	NA	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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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
FORMER EMCA SITE, MAMARONECK, NEW YORK

Location ID			MW-07R	MW-07R	MW-07R
Sample ID			20141027MW-07RV17N	20150304MW-07R	20150422MW-07R
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			10/27/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***			
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	130	130	10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	15	1.0 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	2.2	0.78 J	0.39 J
Dissolved Gases					
Methane	UG/L	-	1,300	NA	1,700
Total Metals					
Iron	UG/L	300	31,600	NA	25,300
Miscellaneous Parameters					
Alkalinity, Total (as CaCO3)	MG/L	-	394	NA	240
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	394	NA	240
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	NA	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA
Dehalobacter	GC/mL	-	3	300	90
Hardness (as CaCO3)	MG/L	-	574	NA	641
Nitrogen, Nitrate	MG/L	10	1.0 U	NA	0.16
Nitrogen, Nitrite	MG/L	1	0.10 U	NA	0.018 J
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.18
Sulfate	MG/L	250	8.4	NA	11.8
Total Organic Carbon	MG/L	-	15.2	NA	6.0
Ferrous Iron (lab)	MG/L	-	NA	NA	2.2 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

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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

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

Detection Limits shown are PQL

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

Location ID			MW-07R	MW-07R	MW-07R
Sample ID			20141027MW-07RV17N	20150304MW-07R	20150422MW-07R
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			10/27/14	03/04/15	04/22/15
Parameter	**Units**	**Criteria***			
Field Parameter					
Dissolved Oxygen	MG/L	-	2.86	0.91	0.91
Ferrous Iron	MG/L	-	4.65	NA	4.0
Oxidation-Reduction Potential	mV	-	-107	-120	-75
pH	S.U.	-	6.56	6.81	6.69
Specific Conductance	MS/CM	-	2.69	2.56	4.17
Temperature	DEG C	-	18.94	8.90	12.41
Turbidity	NTU	-	8.7	0.0	0.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - Analyte is reported below the PQL at an estimated concentration. NA - Not Analyzed.

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

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 3

Comparison of October 2014 to April 2015 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

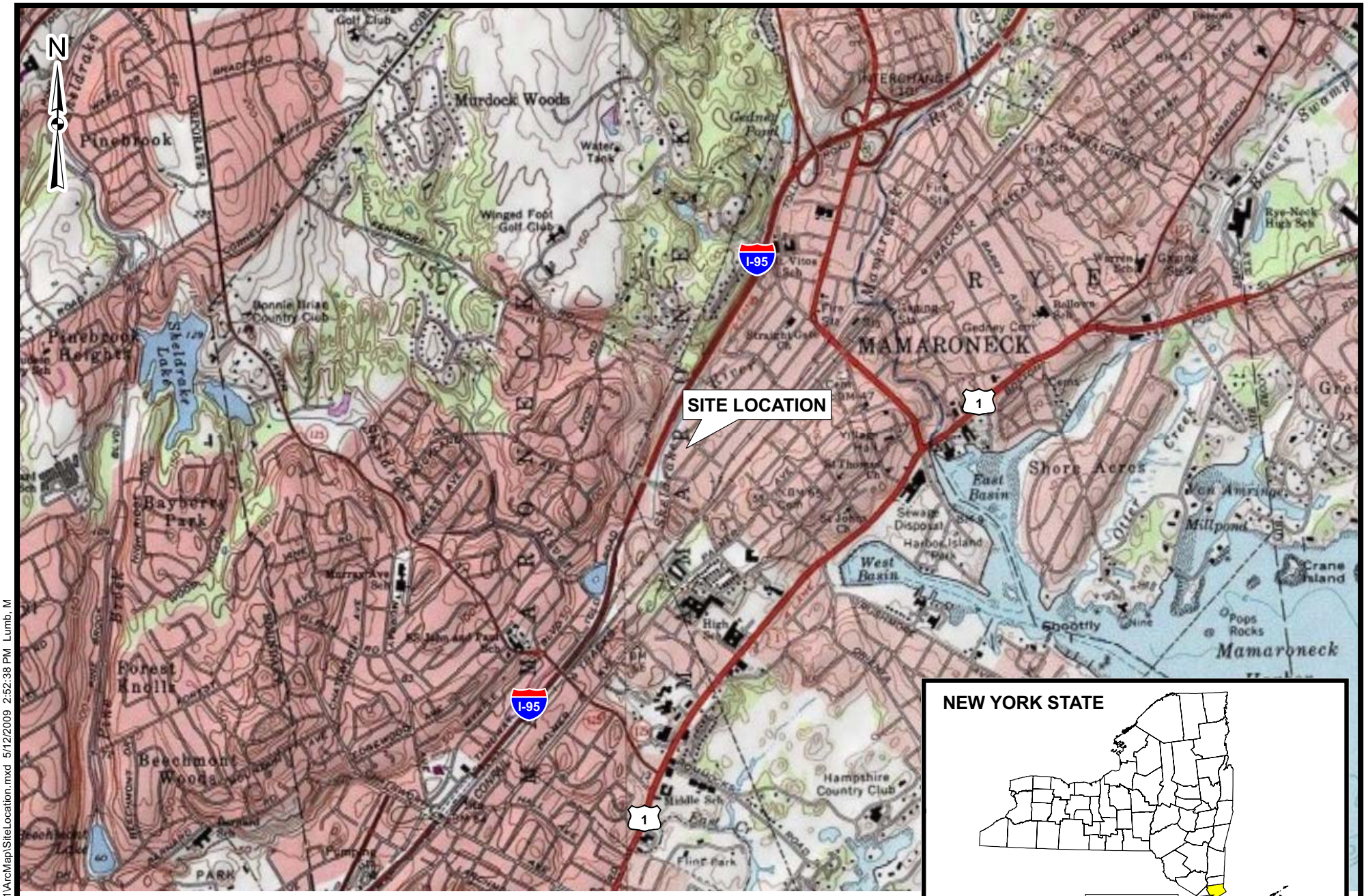
Date	Well	Sample Parameter or Parameter Group								
		Freon 113	Freon 123a	Freon1113	Methane	Sulfate	Dehalococcoides	Dehalobacter	Field Parameters	Natural Attenuation Parameters
October 2015	MW-02	x	x	x	x	x	x	x	x	x
	MW-03	x	x	x	x	x		x	x	x
	MW-04	x	x	x	x	x		x	x	x
	MW-06	x	x	x	x	x		x	x	x
	MW-07R	x	x	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



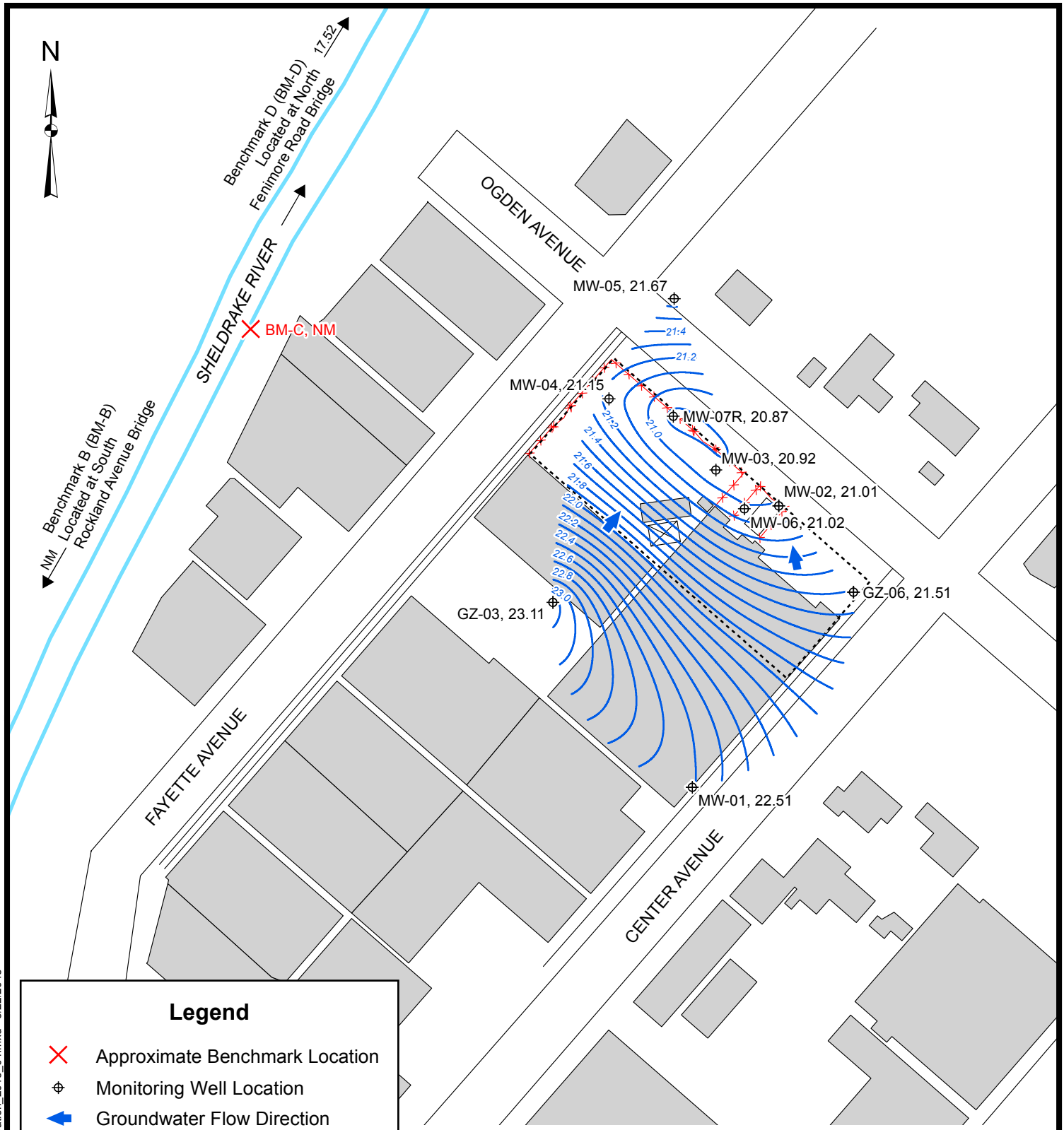
SOURCE: USGS Topographical Quadrangle Mount Vernon, New York, 1979 and Mamaroneck, New York, 1985.

URS

SITE LOCATION MAP

FIGURE 1

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



Legend

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

MW-02, 21.01

Location ID

Groundwater Elevation (based upon URS survey datum)

NOTES:

(1) Well MW-07 was replaced by well MW-07R on September 3, 2009.

(2) Benchmark C was originally established as a temporary benchmark off a tree branch overhanging the Sheldrake River between the north and south bridges. The approximate water surface elevation for this benchmark is now calculated by taking the average water surface elevation of Benchmark B and Benchmark D.

(3) NM - Not Measured

80 0 80 Feet

URS

GROUNDWATER ELEVATION MAP (APRIL 22, 2015)

FIGURE 2

J:\Projects\11172730.00000\DB\GIS\2001\ArcMap\GW_Elevation_2015_04.mxd 5/22/2015

N

SHELDRAKE RIVER

FAYETTE AVENUE

OGDEN AVENUE

CENTER AVENUE

MW-04	10/99	7/00	7/01	5/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10	6/10	10/10	4/11	9/11	4/12	9/12	4/13	10/13	4/14	7/14	10/14	4/15
Freon-113	11	ND	ND	ND	ND	0.7J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38J
Freon-123A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon-1113	ND	ND	ND	ND	ND	ND	1.0J	ND	0.7J	0.6J	ND	1.0J	ND	1.0J	15	7.7J	12	2.8	5J	1.2	7.2J	2.5	4.4J	12	ND	ND	1.2	2.1

MW-05	7/00	7/01	5/03	12/03	7/04
Freon-113	7	ND	ND	ND	0.5J
Freon-123A	ND	ND	ND	ND	ND
Freon-1113	ND	ND	ND	ND	ND

MW-03	10/99	7/00	7/01	5/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10	6/10	10/10	4/11	9/11	4/12	9/12	4/13	10/13	4/14	7/14	10/14	11/14	12/14	3/15	4/15
Freon-113	17000	11000	13000	5800	68	26	150	4900J	2J	ND	ND	10	2.0J	0.5J	ND	5.0J	0.9J	ND	ND	ND	32	5.4	20J	1.1	27	ND	100	120	0.81J	ND	ND	18	25
Freon-123A	ND	ND	ND	78J	43	180	170	3900	14	1.0J	0.8J	48	7.0J	4.0J	1.0J	40	2.1	ND	0.5J	ND	99J	9.4	36	3.2	30	ND	62	100	1.3	ND	1.7	17	25
Freon-1113	ND	ND	ND	ND	7	6.2	ND	68J	83	2.0J	51	39	54	13J	10	38	20	17J	26	4.6	110J	82	150J	130	160J	58	96	170	96	86	150	110	120

MW-07/07R	6/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10	6/10	10/10	4/11	9/11	4/12	9/12	4/13	10/13	4/14	7/14	10/14	3/15	4/15
Freon-113	5400	8500	6100	370	110J	ND	ND	ND	ND	6.0J	ND	3.0J	46	580	18J	1.1J	53J	18	1.6	67J	5.9J	5.5	12	ND	ND	15	ND	ND
Freon-123A	68J	130J	130J	940	50	2.0J	ND	1.0J	3.0J	10	0.9J	16	20	76	8.1	1.8	9.5	6.3J	0.9J	11	2.4J	2.6	1.1	ND	1.2	2.2	0.78J	0.39J
Freon-1113	ND	ND	ND	ND	210	140	47	97	89	82	92	170	150	370	150J	390	350	370J	26	630J	430	310J	390	2.1	69	130	130	10

MW-02	10/99	7/00	7/01	5/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	11/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10	6/10	10/10	4/11	9/11	4/12	9/12	11/12	1/13	2/13	4/13	7/13	8/13	9/13	10/13	4/14	7/14	10/14	11/14	12/14	3/15	4/15
Freon-113	740	1700	2400	880	1000	54	12	21J	1200	110	890	100	800	290	830J	700	1300	1200	76J	670	580	920	490	1200J	650	65	28	18	12	ND	ND	ND	ND	3.1	83	0.19J	0.14J	ND	45	24
Freon-123A	ND	ND	ND	40	41J	7.8	3.3J	4J	86J	15	110	10	95	40	72	38J	34J	51	6.1	37	26	33J	26	57	26	29	52	30J	11	ND	ND	ND	ND	10	62	3.3	1.5	1.7	67	22
Freon-1113	ND	ND	ND	ND	ND	ND	ND	14	120	18	200	21	84	61	120J	160	81J	300	92J	240	180	110J	180	140J	98	380	400	330J	400J	120	66	42	61	210	480	270J	66	56	300	310

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	20	41	26	0.7J	36	4.0J	2.0J	23	2.0J	4.0J	10	ND	ND
Freon-1113	ND	ND	ND	ND	ND	ND	ND	5.4	ND	24	15	ND	13	2.0J	1.0J	2.0J	ND	ND	ND

MW-06	6/03	7/03	9/03	12/03	7/04	5/05	12/05	8/06	2/07	8/07	2/08	8/08	2/09	10/09	2/10	6/10	10/10	4/11	9/11	4/12	9/12	4/13	10/13	4/14	7/14	10/14	4/15
Freon-113	220	180	97	250	140J	1.0J	ND	ND	3J	ND	ND	ND	2.0J	ND	ND	ND	ND	33	ND	82J	3.3	0.19J	ND	26	ND	ND	1.6
Freon-123A	8.8J	9.5	8.6	14	23	16	ND	ND	8J	0.6J	ND	ND	35	ND	3.6	0.57J	ND	38J	4.4	28	3.6	4.9	ND	33	2.7	ND	8.1
Freon-1113	ND	5.7	ND	ND	5J	6.0J	6.0J	ND	100	21	8.0J	4.0J	34	6.4	35J	68J	61	96J	30	230J	140	61J	27	75	84	51	110

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

URS

FIGURE 3

J:\Projects\11172730.00000\DB\GIS\2001\ArcMap\Chemical_Update_2015_04.mxd 5/6/2015

FIGURE 4
FORMER EMCA SITE
Freon 113 Concentrations, MW-03 , MW-04, and MW-07/07R

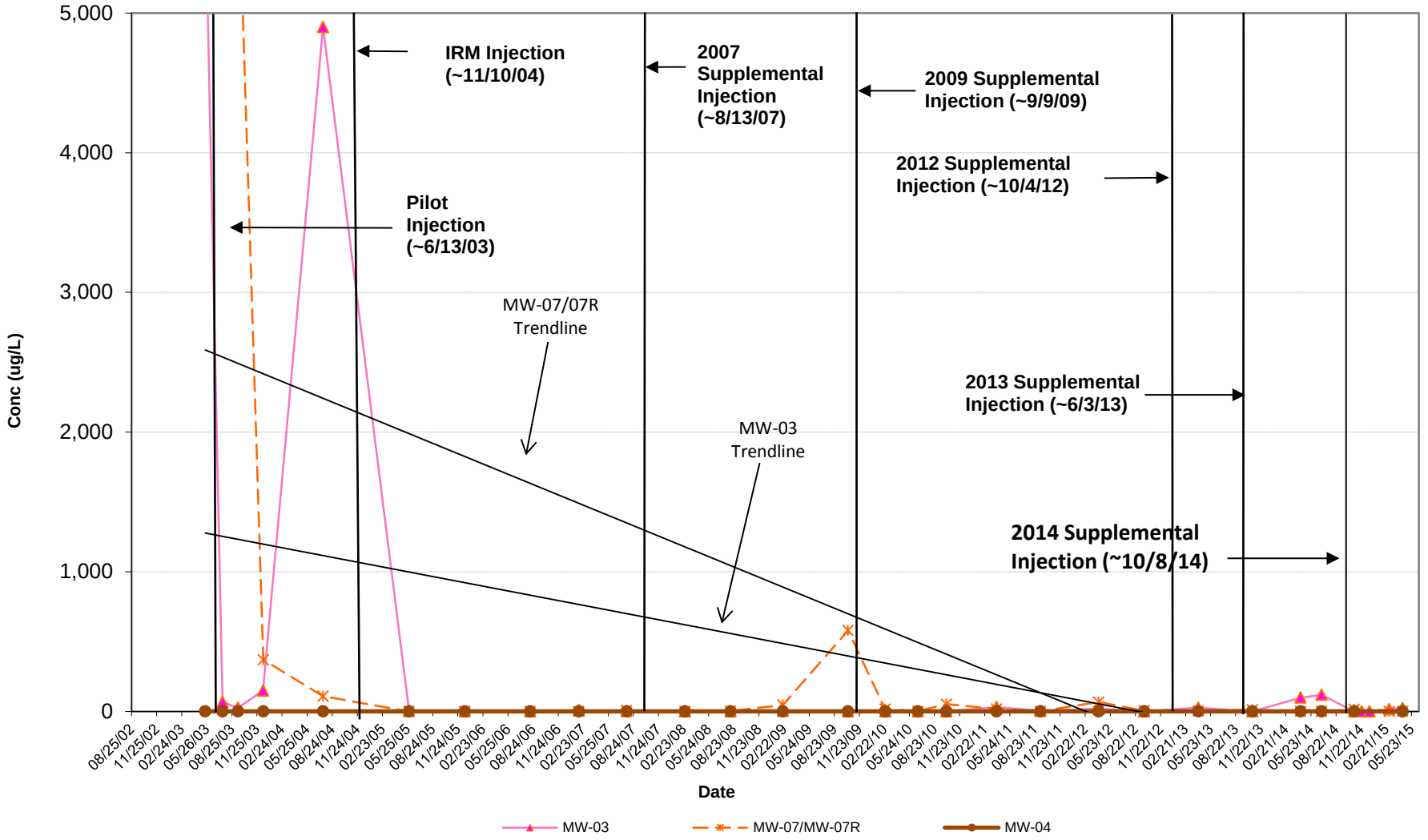
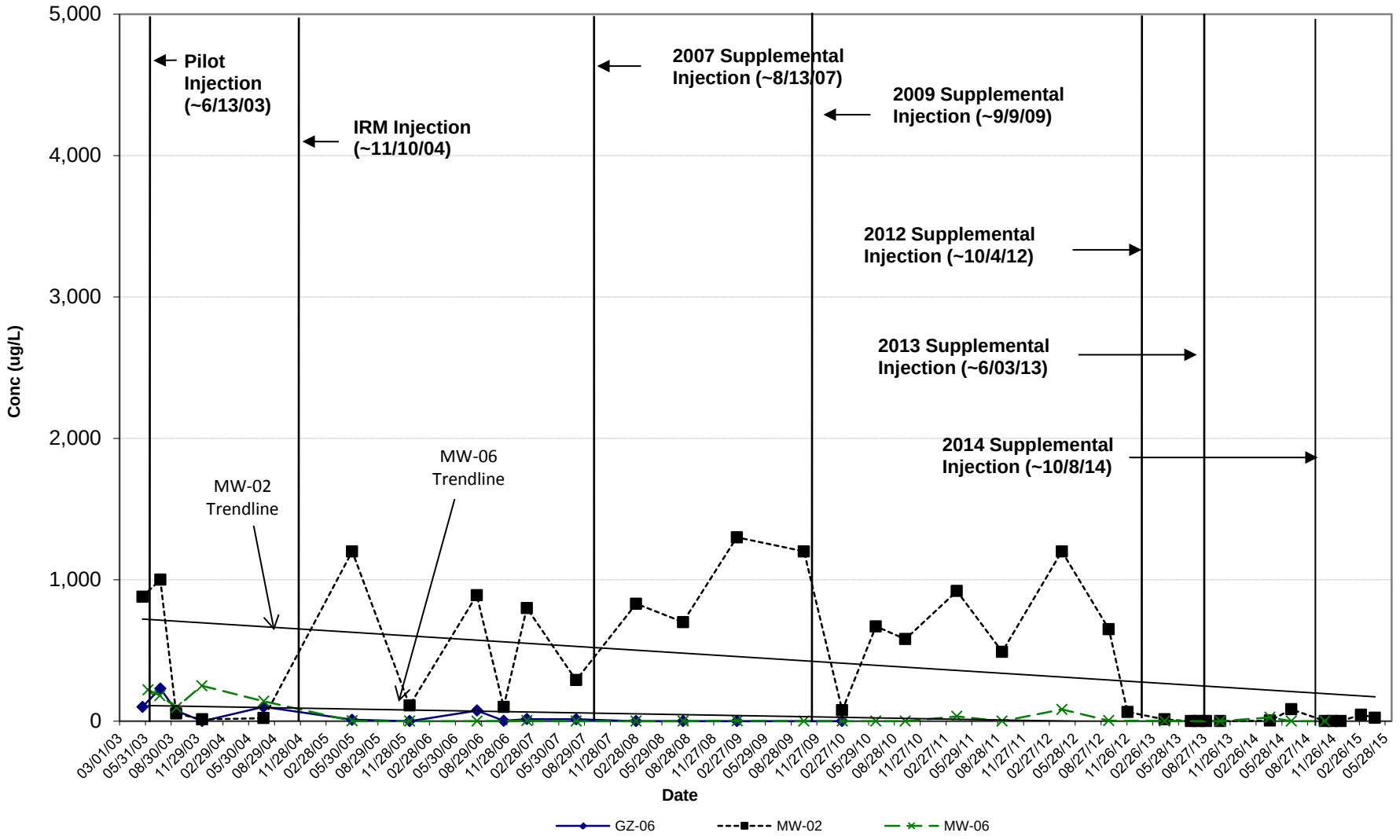
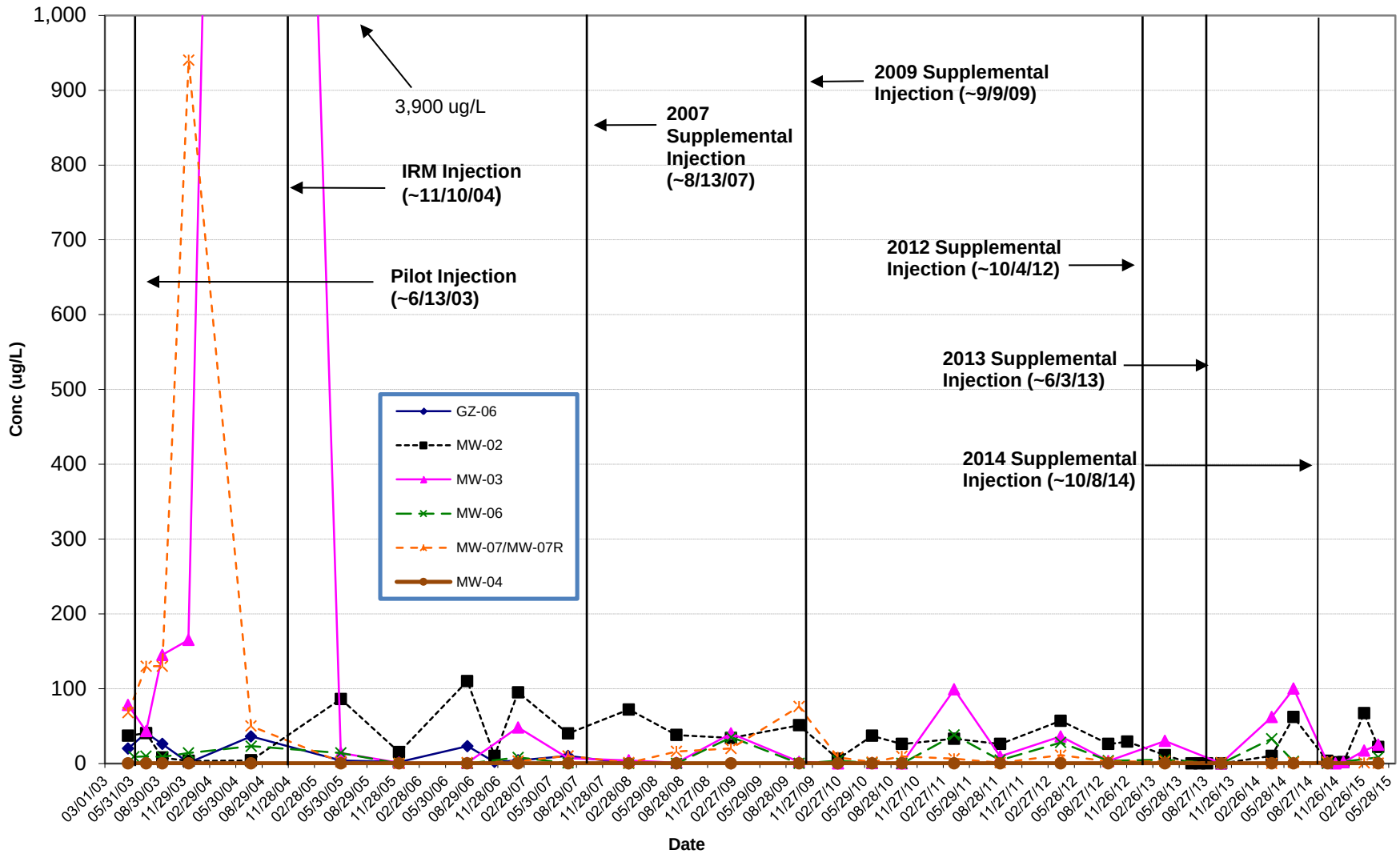


FIGURE 5
FORMER EMCA SITE
Freon 113 Concentrations, GZ-06, MW-02, and MW-06



J:\Projects\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2015 GW SAR\GW Data Plots_Time Scaled Long_April 2015.xls - Fig 5

FIGURE 6
FORMER EMCA SITE
Freon 123a Concentrations



J:\Projects\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2015 GW SAR\GW Data Plots_Time Scaled Long_April 2015.xls - Fig 6

FIGURE 7
FORMER EMCA SITE
Freon 1113 Concentrations

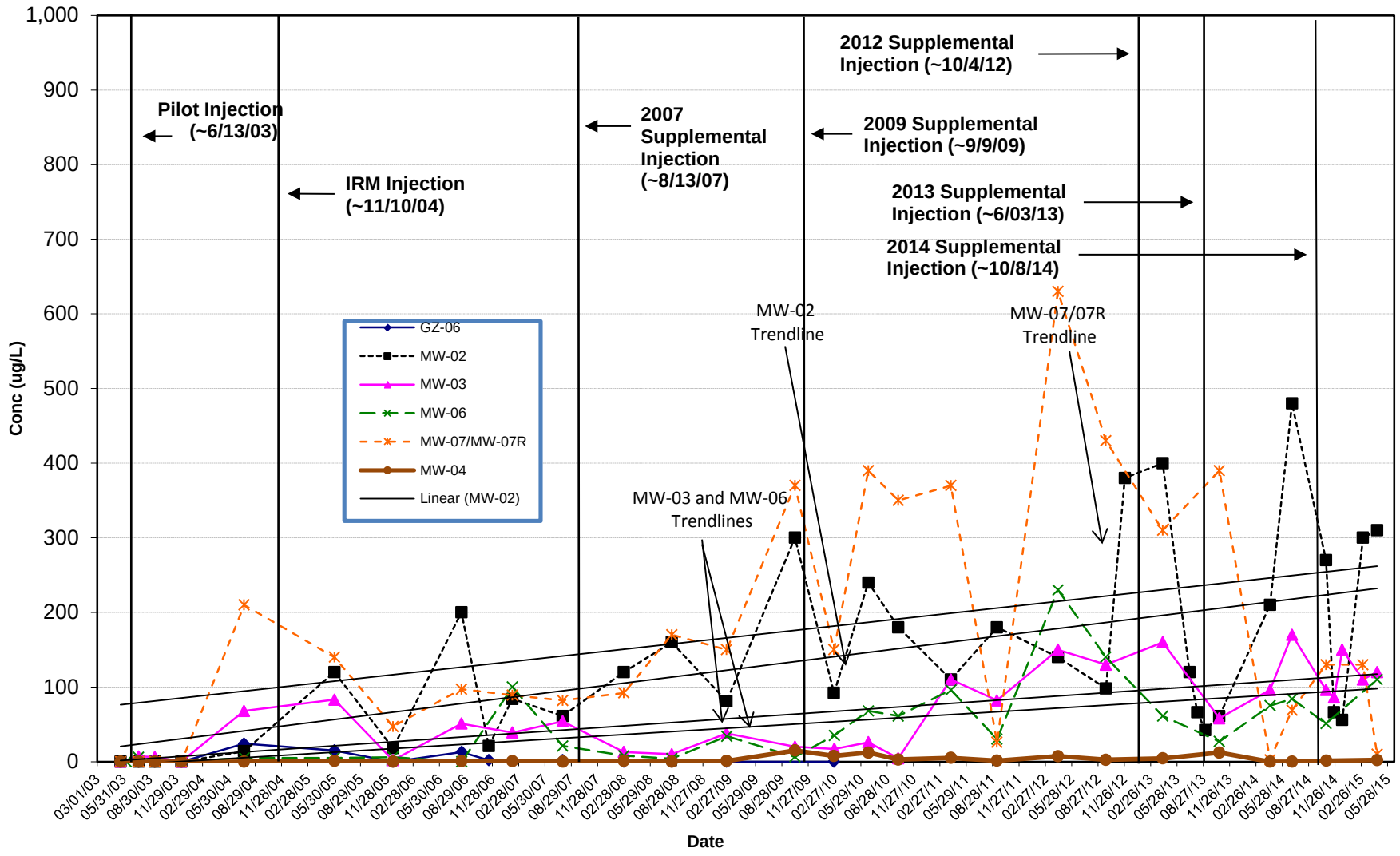


FIGURE 8
FORMER EMCA SITE
Sulfate Concentrations

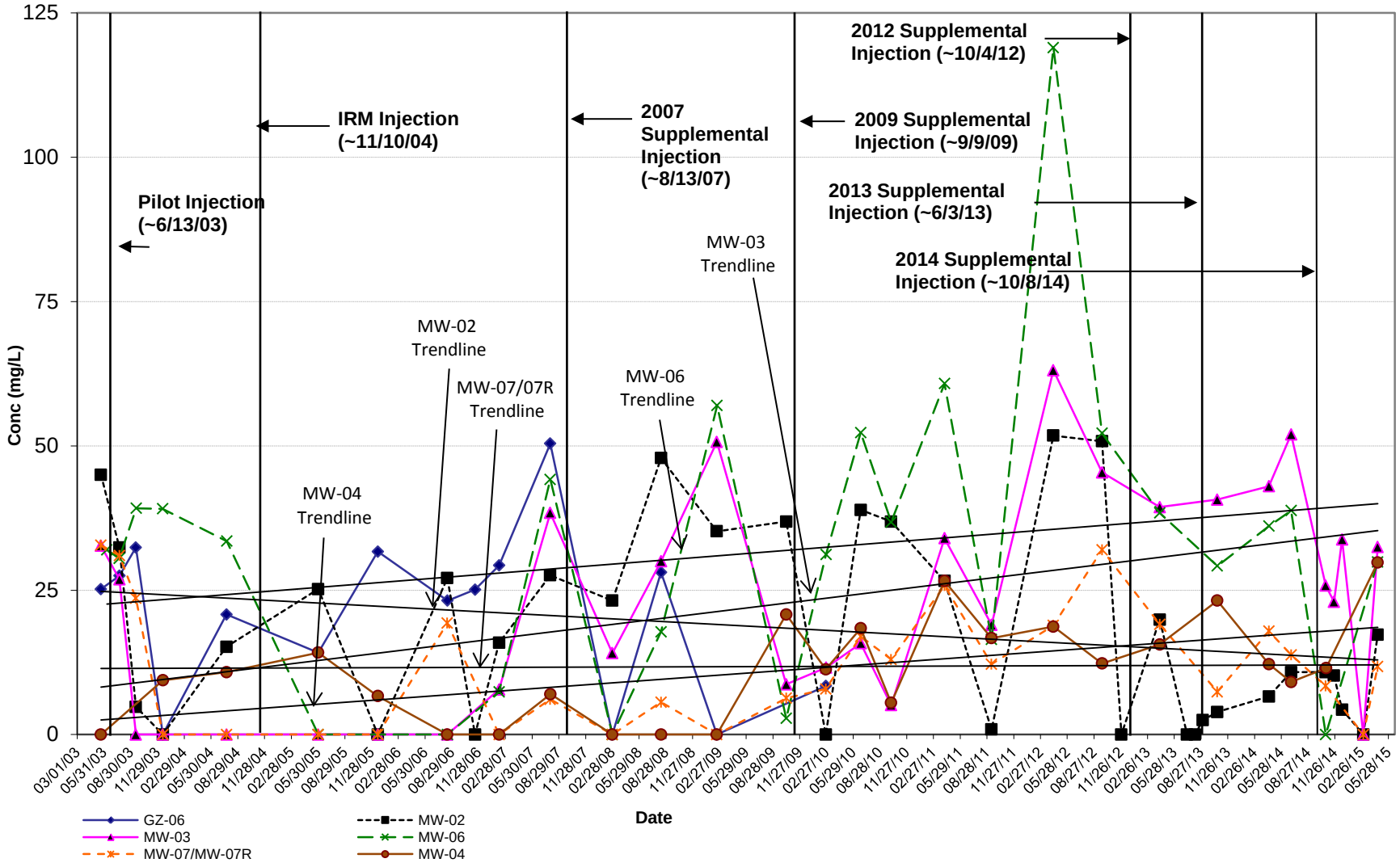


FIGURE 9
FORMER EMCA SITE
Methane Concentrations

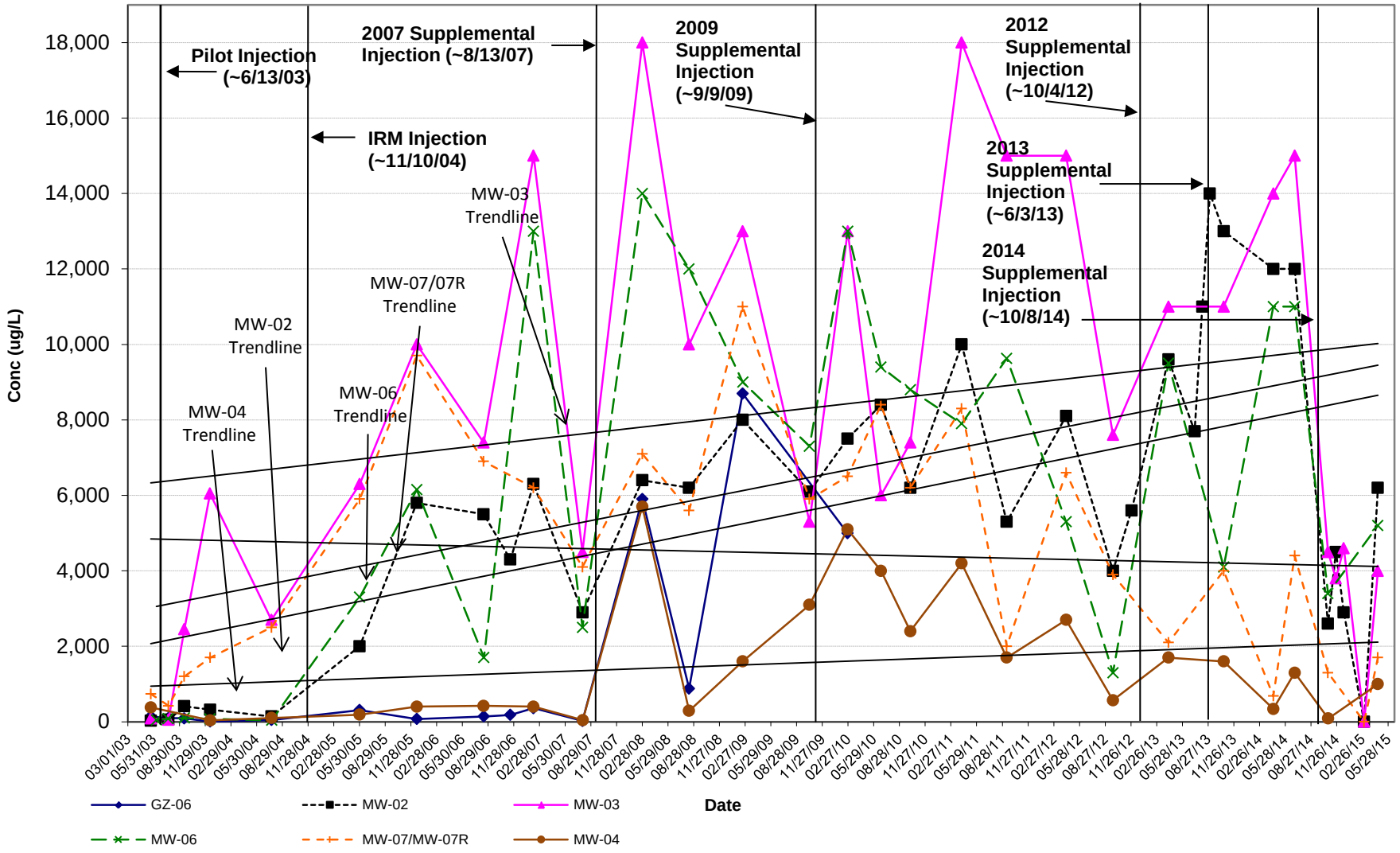


FIGURE 10
FORMER EMCA SITE
Dissolved Oxygen Concentrations

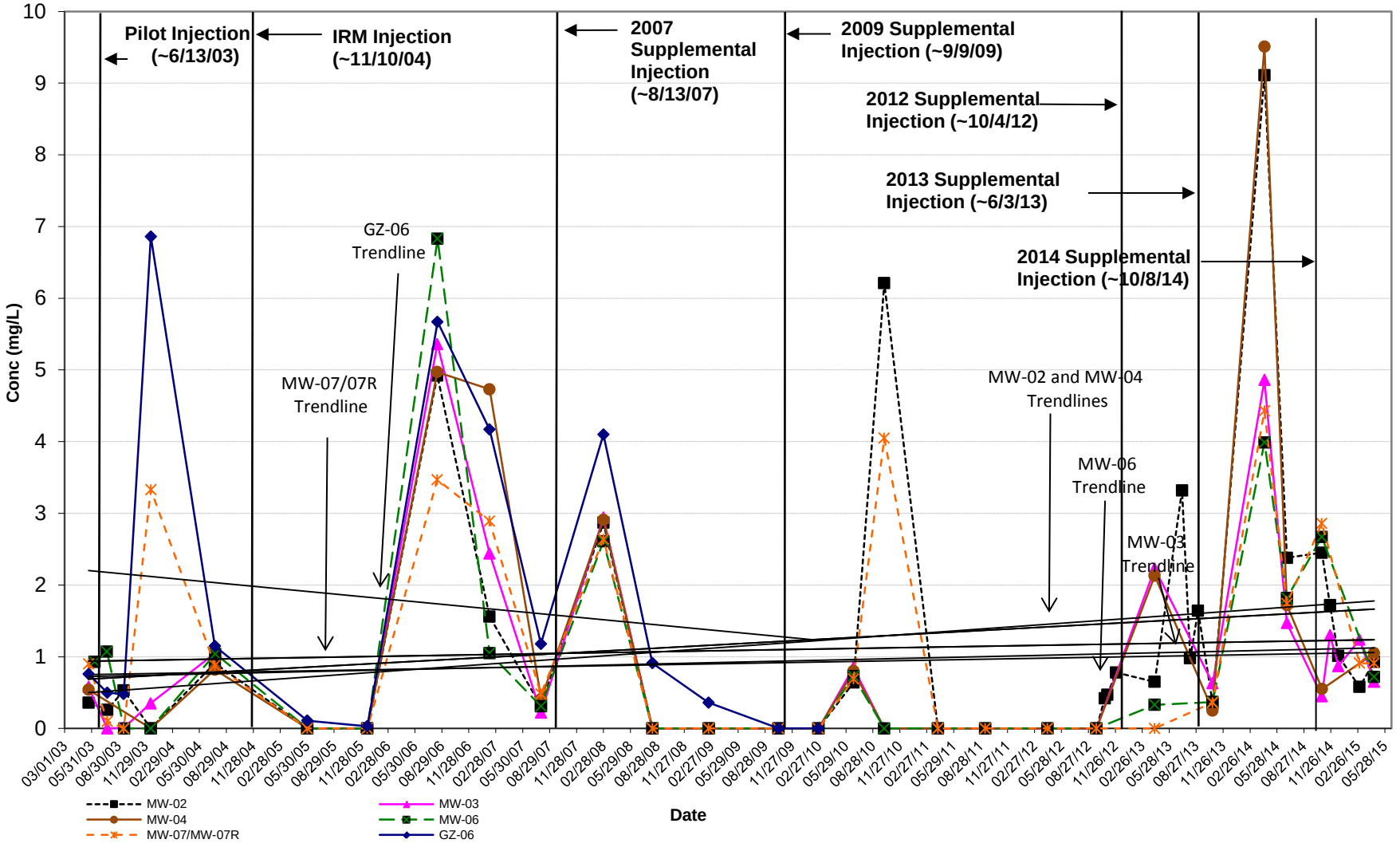
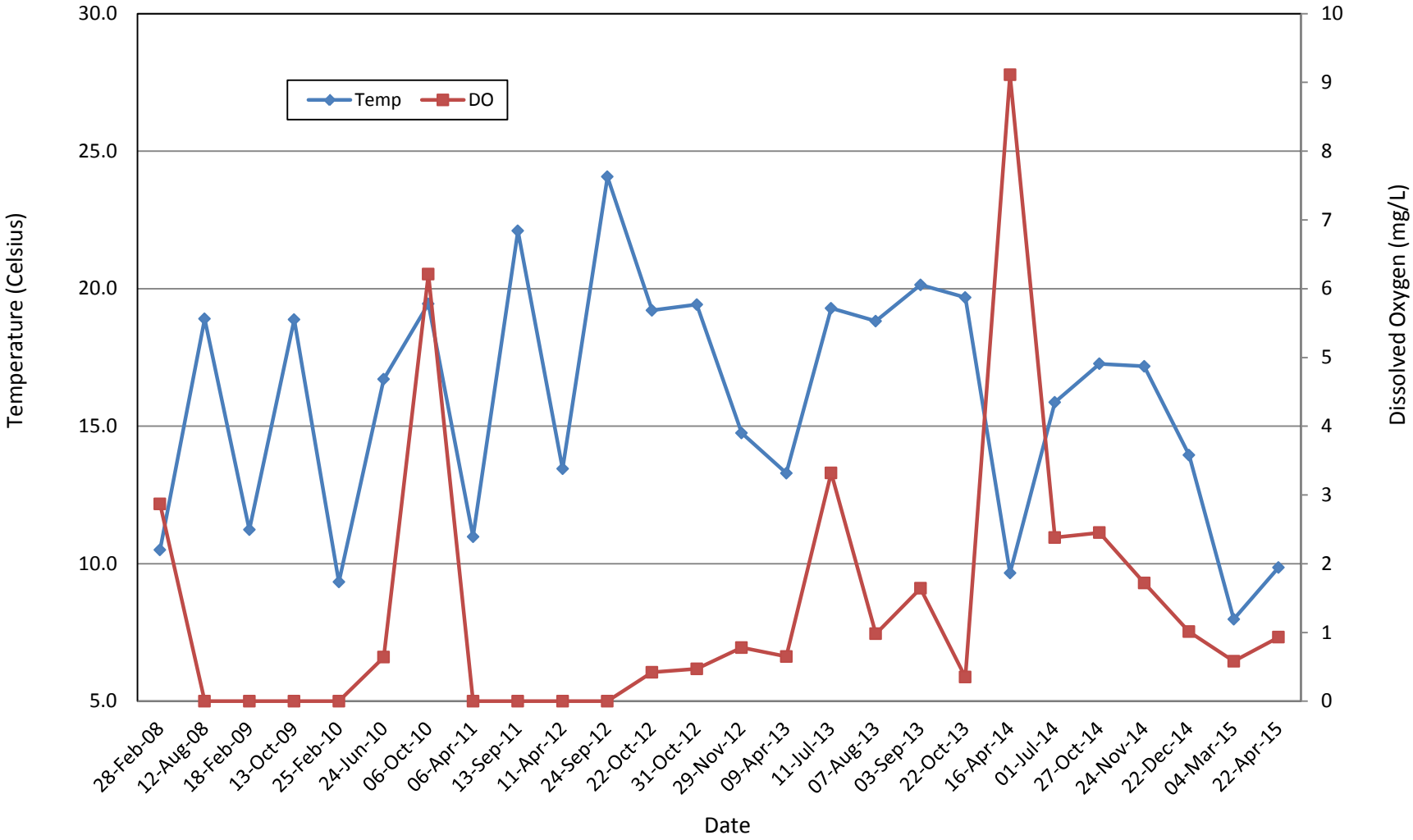
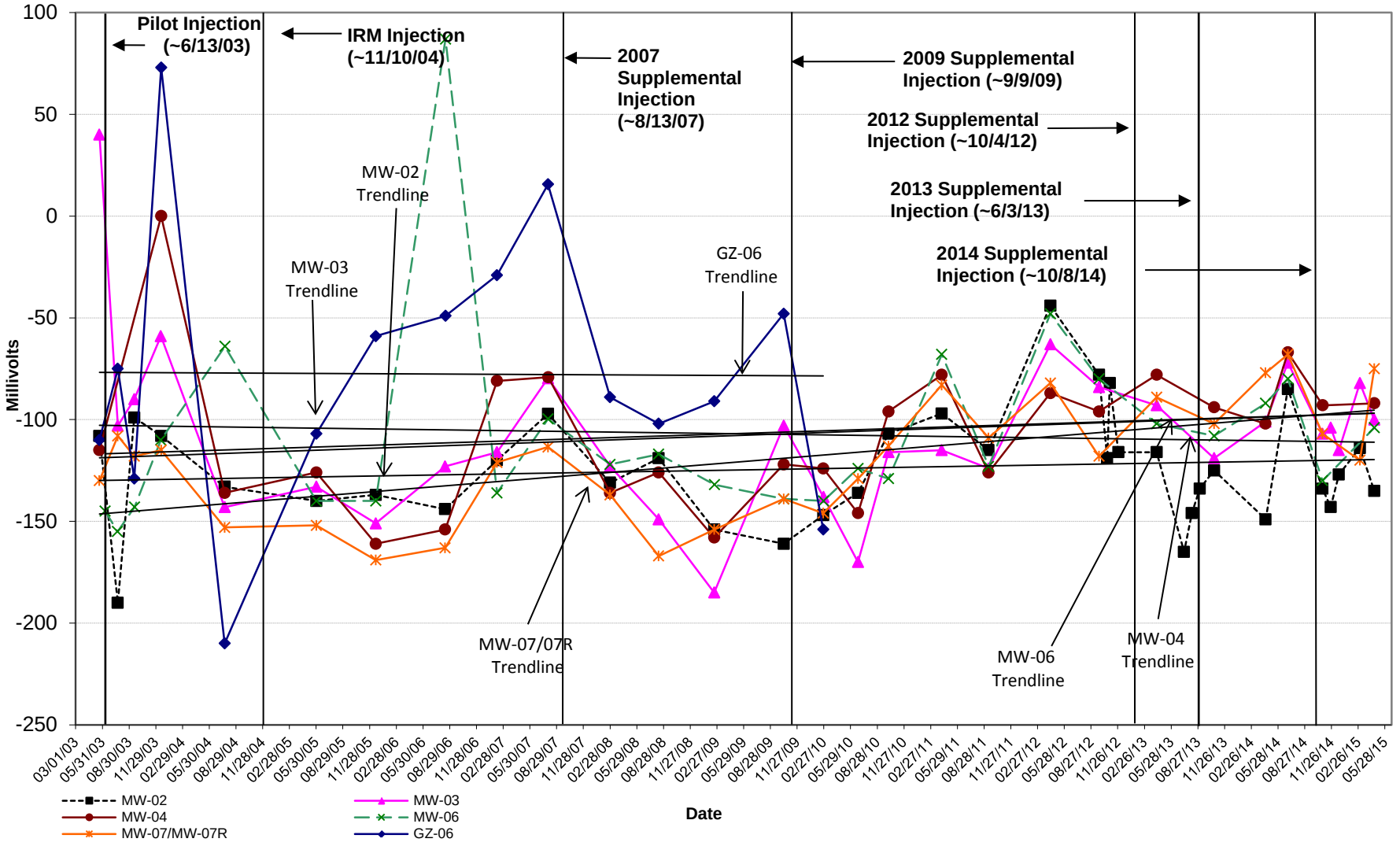


FIGURE 11
FORMER EMCA SITE
MW-02
Dissolved Oxygen vs Temperature



J:\Projects\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2015 GW SAR\GW Data Plots_Time Scaled Long_April 2015.xls

FIGURE 12
FORMER EMCA SITE
Oxidation-Reduction Potential



J:\Projects\11172730.00000\WORD\DRAFT\GW SAR Reports\Apr 2015 GW SAR\GW Data Plots_Time Scaled Long_April 2015.xls - Figure 12

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: 3/4/15 ~~12/22/2014~~ Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 11.1

Measuring Point: Below Top of Riser Initial Depth to Water: 5.58 Depth to Well Bottom: 12.19 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150304 MW-02 0 Sample Time: 1259 QA/QC: TB 20150304

12/14 Sample Parameters: Freon 113, 123a, 1113; ~~Methane; Sulfate~~ sent to TestAmerica, Edison, NJ
~~Dehalobactor and Dehalococcoides~~ - sent to SIREM in Ontario, Canada

started purging @ ~1205

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)
1212	6.83	8.66	2.65	2.24	69.1	-105	260	4.52
1217	6.81	8.26	2.61	1.03	20.0	-109		4.51
1222	6.81	8.25	2.59	1.03	8.1	-111	260	4.51
1227	6.81	8.23	2.55	1.09	0.0	-113	260	5.87
1232	6.80	8.09	2.53	1.03	0.0	-113		5.68
1237	6.80	8.01	2.54	0.64	0.0	-114		5.68
1242	6.80	8.00	2.53	0.61	0.0	-115	260	5.68
1247	6.80	7.98	2.53	0.58	0.0	-114	260	5.68
1252								
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: small amt of water flowing into well box. I soak it up + make sure it doesn't get in well.
Replaced tubing @ Start

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 3/4/15 ~~12/22/2014~~ Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 2' from bottom

Measuring Point: Below Top of Riser Initial Depth to Water: 5.41 Depth to Well Bottom: 13.98 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150304MW-03 0 Sample Time: 1138 QA/QC: TB20150304

12/14 Sample Parameters: Freon 113, 123a, 1113; ~~Methane; Sulfate~~- sent to TestAmerica, Edison, NJ
Dehalobactor ~~and Dehalococcoides~~ - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1030	6.67	7.06	2.38	7.76	89.7	-32	200	5.81
1035	4.99	6.73	2.63	13.27	156	-11	200	5.53
1040	6.89	3.92	2.62	14.82	124	+10	150	5.58
1045	7.05	3.63	2.54	15.01	95.4	11		4.82
1050	7.14	3.34	2.52	15.16	82.5	12		
1055	7.09	4.50	2.46	13.81	80.6	11	200	
1100	6.91	6.53	2.47	5.83	37.0	-4	200	
1105	6.83	7.07	2.41	3.48	22.4	-19	200	
1110	6.82	7.64	2.22	2.43	9.9	-38	200	
1115	6.82	7.96	2.06	1.93	7.6	-51	200	
1120	6.83	8.19	1.95	1.71	3.5	-61	200	
1125	6.84	8.36	1.88	1.34	0.0	-71		
1130	6.84	8.50	1.84	1.27	0.0	-78		
1135	6.84	8.58	1.82	1.24	0.0	-82		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

1054 not accurate, surface H_2O

1054 use a glove to stop water flow into well, no DTW collection possible by 1056, well box is full of water

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: ~~small amount of~~ water from beneath asphalt continually flowing into well, can't stem flow. Purged & Sample anyway. Need an extension piece for this Riser.

1054 use a glove to stop water flow in.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 3/4/15 ~~12/22/2014~~ Sampling Personnel: Megan Dascoli Company: URS Corporation

Purging/ Sampling Device: Low Flow/ Peristaltic Pump- Geopump Tubing Type: HDPE & Silicone Pump/Tubing Inlet Location: 18.8'

Measuring Point: Below Top of Riser Initial Depth to Water: 5.91 Depth to Well Bottom: 19.79 Well Diameter: 1" Screen Length: 10'

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

Sample ID: ~~MW-30~~ 20150304 MW-07R Sample Time: 9:00 QA/QC: TB20150304

12/14 Sample Parameters: Freon 113, 123a, 1113; ~~Methane; Sulfate~~ sent to TestAmerica, Edison, NJ

Dehalobactor ~~and Dehalococcoides~~ - sent to SIREM in Ontario, Canada

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~823~~	6.80	9.09	2.54	2.79	7.8	-116	160	5.98
~~828~~	6.81	8.91	2.54	1.80	6.1	-118		5.98
833	6.81	8.45	2.53	1.55	4.2	-118	200	5.98
838 ~~838~~	6.80	9.06	2.54	1.28	0.6	-119	190	5.99
843	6.81	8.76	2.57	1.16	0.0	-119		5.98
848	6.81	8.75	2.56	1.05	0.0	-120	160	5.98
853	6.81	8.81	2.57	0.98	0.0	-120	160	5.98
→ 858	6.81	8.90	2.56	0.91	0.0	-120	160	5.98
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/22/15 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: 4.62 Depth to Well Bottom: 12.11 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150422 MW-02 Sample Time: 935 QA/QC: TB20150422

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)
850	6.60	9.64	4.93	3.94	19.2	-139	200	4.91	
855	6.65	9.68	4.56	1.99	18.3	-146	225	4.91	
900	6.64	9.66	4.21	1.59	16.5	-144			
905	6.63	9.69	3.83	1.39	13.8	-142	245	4.91	
910	6.62	9.76	3.45	1.22	11.8	-140	210	4.91	
915	6.62	9.80	3.28	1.14	10.8	-138			
920	6.61	9.82	3.11	1.07	9.7	-137	225	4.99	
925	6.61	9.84	2.95	0.96	8.8	-136			
930	6.60	9.86	2.86	0.93	~~9~~8.0	-135	225	4.99	5.5 mg/L
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: ~~Initial~~ Slight swampy odor, clear
after - bacteria odor, clear
Sampling done @ 930

SIREM
1 - Dehalc
1 - Dehalb
2

Edison
6-40ml VOAs - HCl
1-250 ml amber - Sulf
1-250ml plastic
2-250 ml plastic Nitric unpres
10

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/22/15 Sampling Personnel: Megan Dascoli Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.67 Depth to Well Bottom: 13.47 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150422MW03 Sample Time: 1410 QA/QC: TB20150422

Sample Parameters: Freon 113, 123a, 1113; Methane; Sulfate, alkalinity, hardness, nitrogen-nitrate, TOC, total iron- TestAmerica, Edis
Dehalobactor ~~(and Dehalococcoidoc 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)
1255	6.87	12.74	1.10	1.59	14.5	-63	160	4.86	
1300	6.72	12.62	~~1.140~~ 0.864	1.14	10.8	-66	170	4.86	
1305	6.68	12.40	0.808	0.95	7.4	-69	175	4.87	
1310	6.66	12.45	0.791	0.86	5.1	-74	190	4.89	
1315	6.66	12.22	0.802	0.80	3.9	-79	190	4.89	
1320	6.66	12.18	0.815	0.78	3.3	-81	190	4.89	
1325	6.66	12.21	0.833	0.76	2.7	-84	190	4.89	
1330	6.67	12.05	0.869	0.75	2.3	-87	190	4.89	
1335	6.67	12.26	0.887	0.77	2.1	-90	190	4.89	
1340	6.67	12.23	0.915	0.74	1.9	-91	190	4.89	
1345	6.68	12.11	0.957	0.70	1.8	-93	190	4.89	
1350	6.68	12.09	0.988	0.68	1.7	-95	190	4.89	
1355	6.69	12.06	1.01	0.66	1.7	-97	190	4.89	
1400	6.69	11.93	1.084	0.66	1.6	-99	190	4.89	
1405	6.69	11.87	1.06	0.65	1.7	-100	19	4.89	
1410	Sample								
1425									6.0 mg/L
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:

Initial- Swampy smell, clear w/ Brownish particles

after - Lactose odor, clear

SIREM
1 bottle
Dehalobactor

Edson bottles
10
(see MW-02)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/22/15 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: 4.16 Depth to Well Bottom: 11.53 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150422MW-04 Sample Time: 1100 QA/QC: TB20150422

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)
1020	6.82	11.39	4.12	2.18	6.9	-73	170	4.35	
1025	6.74	11.62	4.32	1.34	2.9	-78	175	4.38	
1030	6.73	11.63	4.86	1.14	0.9	-82			
1035	6.73	11.79	4.86	1.34	0.8	-85	180	4.39	
1040	6.73	11.66	4.47	1.09	0.6	-86	180		
1045	6.73	11.57	4.46	1.03	0.9	-89			
1050	6.73	11.56	4.46	1.00	1.0	-90	175	4.42	
1055	6.73	11.71	4.47	1.05	1.1	-92		4.43	
1100	sample								5.5 mg/L
1120									
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:

initial- no odor, clear

Sampling over @ 1117

- well box is loose in asphalt

SIREM
1 Dehalobactor

Edison
2 - plastic 250 ml unpres
1 plastic 250 ml Nitric
1 amber 250 ml Sulfuric
6 - 40 ml VOAs HCl
10

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/22/15 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: 4.77 Depth to Well Bottom: 18.41 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150422MW-06 Sample Time: 1520 QA/QC: TB ~~04~~ 20150422

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)
1440	6.82	13.43	3.54	1.49	12.0	-83	150	4.89	
1445	6.84	13.49	3.20	1.04	3.8	-95	150		
1450	6.84	13.47	3.10	0.98	3.0	-98	150	4.95	
1455	6.84	12.65	3.10	0.87	2.6	-101	220	4.96	
1500	6.83	12.57	3.04	0.82	2.0	-103		4.96	
1505	6.83	12.46	2.98	0.80	4.7	-105	210	4.95	
1510	6.84	12.23	2.94	0.79	4.5	-104			
1515	6.83	12.18	2.67	0.72	4.1	-104	210	4.94	
1528									4.5 mg/L
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: initial: clear w/ dk brown silt particles, no odor

SIREM: 1 bottle

Edison: 10 bottles (see MW-04)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 4/22/15 Sampling Personnel: Megan Dascoli Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.76 Depth to Well Bottom: 19.70 Well Diameter: 1" Screen Length: 10'

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

Sample ID: 20150422-MW-07R Sample Time: 1220 QA/QC: TB04 TB20150422

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)
1139	6.82	12.68	4.52	2.41	8.9	-72	190	4.83	
1144	6.70	12.51	4.48	1.42	3.8	-68	200	4.83	
1149	6.68	12.52	4.44	1.33	2.0	-67	200	4.83	
1154	6.67	12.38	4.34	1.20	1.4	-68	200	4.83	
1159	6.68	12.36	4.28	1.05	1.4	-70	200	4.83	
1204	6.69	12.43	4.22	1.06	1.0	-72	200	4.83	
1209	6.69	12.47	4.20	1.00	1.0	-74	200	4.83	
1214	6.69	12.41	4.17	0.91	0.9	-75	200	4.83	
1225									4.0 mg/L
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: Initial - clear, no odor

after - clear, no odor

SIREM
1-Dehalobacter

Edison
10 bottles
(see MW-02)

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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	0 U	0 U	5.4 NJ	0 U
1,1-Dichloroethene	UG/L	5	NA	0.8 J	1.5 J	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
Ethylbenzene	UG/L	5	NA	4.0 U	8 U	4.0 U	4.0 U
2-Hexanone	UG/L	50	NA	5.0 U	10 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	5.0 U	10 U	5.0 U	5.0 U
Tetrachloroethene	UG/L	5	NA	0.6 J	2 U	0.5 J	1.0 U
Trichloroethene	UG/L	5	NA	1.0 U	2 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	100	230	74	5.0 U
Vinyl Chloride	UG/L	2	NA	5.0 U	10 U	5.0 U	5.0 U
Xylene (total)	UG/L	5	NA	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	20	41	26	0.7 J
Dissolved Gases							
Methane	UG/L	-	5.0 U	140	98	89	5.9
Total Metals							
Iron	UG/L	300	NA	2,390	866	517 J	173
Dissolved Metals							
Iron	UG/L	300	NA	2,290	778	583 J	85.3 B

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	559	474	477 J	218
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen, Kjeldahl, Total	MG/L	-	NA	0.5 U	0.7	1.3	0.57
Nitrogen, Nitrate	MG/L	10	NA	0.1 U	NA	0.58	0.1 U
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	R	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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***					
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.
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

Only Detected Results Reported.

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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	24	15	10 U	13	2.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	100 J	9.0 J	10 U	74	2.0 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	36	4.0 J	2.0 J	23	2.0 J
Dissolved Gases							
Methane	UG/L	-	48	310	74	140	180
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	1,610	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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***					
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

*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.
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

Only Detected Results Reported.

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	20080228GZ06V08	20080812GZ06V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/17/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	20080228GZ06V08	20080812GZ06V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/17/06	02/07/07	07/31/07	02/28/08	08/12/08
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Field Parameter							
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.

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.
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

Only Detected Results Reported.

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							
Acetone	UG/L	50	NA	NA	NA	140 J	130 J
Benzene	UG/L	1	NA	NA	NA	50 U	25 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	1 UJ	20 U	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	20 U	4.4 J	5.1 J
cis-1,2-Dichloroethene	UG/L	5	NA	NA	250	50 U	25 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	4.0 J	50 U	25 U
Ethylbenzene	UG/L	5	NA	NA	NA	40 U	20 U
2-Hexanone	UG/L	50	NA	NA	NA	50 U	25 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	50 U	25 U
Tetrachloroethene	UG/L	5	NA	NA	8.0 J	10 U	5.0 U
Trichloroethene	UG/L	5	NA	NA	5.0 J	10 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	1 UJ	20 U	710	880
Vinyl Chloride	UG/L	2	NA	NA	5.0 J	50 U	25 U
Xylene (total)	UG/L	5	NA	NA	NA	50 U	25 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	1 U	20 U	34 J	40
Dissolved Gases							
Methane	UG/L	-	8,700	5,000	98	26	32
Total Metals							
Iron	UG/L	300	NA	NA	NA	27,800	28,300
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	27,900	28,200

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	338	338
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	3.3	3.4
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	6.6	6.2
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	0.15	0.16
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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)
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.

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.
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

Only Detected Results Reported.

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
Methyl ethyl ketone (2-Butanone)	UG/L	50	R	R	R	R	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0 U	0 U	0 U	0 U	14
1,1-Dichloroethene	UG/L	5	8.2 J	7.5 J	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
trans-1,2-Dichloroethene	UG/L	5	50 U	50 U	5.0 U	5.0 U	NA
Ethylbenzene	UG/L	5	40 U	3.4 J	4.0 U	4.0 U	NA
2-Hexanone	UG/L	50	50 U	50 U	5.0 U	5.0 U	NA
4-Methyl-2-Pentanone	UG/L	-	50 U	50 U	5.0 U	5.0 U	NA
Tetrachloroethene	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
Trichloroethene	UG/L	5	10 U	10 U	1.0 U	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1,000	1,000	54	12	21 J
Vinyl Chloride	UG/L	2	50 U	50 U	5.0 U	5.0 U	NA
Xylene (total)	UG/L	5	7.1 J	11 J	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	40 J	41 J	7.8	3.3 J	4 J
Dissolved Gases							
Methane	UG/L	-	54	52	410	320	140
Total Metals							
Iron	UG/L	300	30,100	30,900	63,800 J	69,000	NA
Dissolved Metals							
Iron	UG/L	300	30,500	30,500	60,900 J	69,300	NA

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

Flags assigned during chemistry validation are shown.

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.
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

Only Detected Results Reported.

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)				
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	307	283	839	769	238
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	4.1	3.8	11.5	11.9	NA
Nitrogen, Kjeldahl, Total	MG/L	-	6.6	6.1	17.1	16.9	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1	0.1 U	0.1 U	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	5 U	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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)				
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.

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.
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

Only Detected Results Reported.

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							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	120	18	200	21	84
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1,200	110	890	100	800
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	86 J	15	110	10	95
Dissolved Gases							
Methane	UG/L	-	2,000	5,800	5,500	4,300	6,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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***					
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

*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.
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

Only Detected Results Reported.

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			20070731MW-02V15N	20080228MW02V15N	20080812MW02V10N	20090218MW-02V10N	20091013MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20070731MW-02V15N	20080228MW02V15N	20080812MW02V10N	20090218MW-02V10N	20091013MW-02V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Field Parameter							
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

*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.
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

Only Detected Results Reported.

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***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	92 J	240	180	110 J	180
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	76 J	670	580	920	490
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	6.1	37	26	33 J	26
Dissolved Gases							
Methane	UG/L	-	7,500	8,400	6,200	10,000	5,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	60,400
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

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.
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

Only Detected Results Reported.

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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	361
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	1.79
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	726
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	0.1 U
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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***					
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

*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.
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

Only Detected Results Reported.

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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	140 J	98	NA	NA	380
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1,200 J	650	NA	NA	65
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	57	26	NA	NA	29
Dissolved Gases							
Methane	UG/L	-	8,100	4,000	NA	NA	5,600
Total Metals							
Iron	UG/L	300	NA	32,900	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

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.
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

Only Detected Results Reported.

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***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	245	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	245	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	100	NA	NA	2,000
Dehalobacter	GC/mL	-	NA	5	NA	NA	40,000
Hardness (as CaCO3)	MG/L	-	NA	388	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	0.10 U	NA	NA	NA
Nitrogen, 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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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***					
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.

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.
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

Only Detected Results Reported.

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-02V09ED	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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	400	330 J	400 J	280 J	120
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	28	18	12	11	1.0 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	52	30 J	11	11	1.0 U
Dissolved Gases							
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
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-02V09ED	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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	510	249	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	510	249	NA
Chloride	MG/L	250	NA	NA	NA	NA	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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	1 U	NA	29.3 J	NA
n-Butyric Acid	MG/L	-	NA	0.19 J	NA	1.0 U	NA
Pyruvic Acid	MG/L	-	NA	1 U	NA	4.4	NA

*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.
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

Only Detected Results Reported.

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)		
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.

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.
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

Only Detected Results Reported.

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							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	66 J	42	64	61	210
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	3.1
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	10
Dissolved Gases							
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
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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)		
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	230	233	456
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	456
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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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)		
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

*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.
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

Only Detected Results Reported.

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)		
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	190	480	380	270 J	66
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	2.9	83	78	0.19 J	0.14 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	11	62	50	3.3	1.5
Dissolved Gases							
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
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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							
Alkalinity, Total (as CaCO3)	MG/L	-	456	254	292	367	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	456	254	292	367	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
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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)		
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.

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.
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

Only Detected Results Reported.

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-03	MW-03
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	MW03_52103	MW03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/21/03	07/23/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	250 U	78
Benzene	UG/L	1	NA	NA	NA	250 U	2.3
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	130 J
Chlorotrifluoroethene (Freon-1113)	UG/L	5	56	300	310	0 U	7.0 NJ
1,1-Dichloroethene	UG/L	5	NA	NA	NA	33 J	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	250 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	250 U	5.0 U
Ethylbenzene	UG/L	5	NA	NA	NA	200 U	0.3 J
2-Hexanone	UG/L	50	NA	NA	NA	250 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	250 U	5.0 U
Tetrachloroethene	UG/L	5	NA	NA	NA	50 U	1.0 U
Trichloroethene	UG/L	5	NA	NA	NA	50 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	45	24	5,800	68
Vinyl Chloride	UG/L	2	NA	NA	NA	250 U	5.0 U
Xylene (total)	UG/L	5	NA	NA	NA	250 U	1.1 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.7	67	22	78 J	43
Dissolved Gases							
Methane	UG/L	-	2,900	NA	6,200	86	56
Total Metals							
Iron	UG/L	300	NA	NA	60,500	1,170	150,000
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	267	152,000

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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-03	MW-03
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	MW03_52103	MW03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/21/03	07/23/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	432	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	432	NA	NA
Chloride	MG/L	250	NA	NA	NA	113	143
Dehalococcoides ethenogenes	CEQ/mL	-	1 J	NA	20 J	NA	NA
Dehalobacter	GC/mL	-	NA	90	200	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	525	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	0.36	2.7
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	1.3	10.8
Nitrogen, Nitrate	MG/L	10	NA	NA	0.10 U	2	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	0.10 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.050 U	NA	0.1 UJ
Sulfate	MG/L	250	4.3 J	NA	17.3	32.7	26.9
Total Organic Carbon	MG/L	-	NA	NA	13.8	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	12.5 J	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	0.5	3.7
Ferric Iron (lab)	MG/L	-	NA	NA	NA	0.67	146
Fluoride	MG/L	1.5	NA	NA	NA	0.28	0.44
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-03	MW-03
Sample ID			20141222MW-02V09N	20150304MW-02	20150422MW-02	MW03_52103	MW03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/21/03	07/23/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	1.01	0.58	0.93	0.58	0 U
Ferrous Iron	MG/L	-	NA	NA	5.5	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-127	-114	-135	40	-103
pH	S.U.	-	6.78	6.80	6.60	NA	NA
Specific Conductance	MS/CM	-	2.60	2.53	2.86	0.638	4.35
Temperature	DEG C	-	13.95	7.98	9.86	NA	NA
Turbidity	NTU	-	0.0	0.0	8.0	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.
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

Only Detected Results Reported.

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			DUP-91703	MW03-091703	DUP1_121703	MW-03_121703	MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	09/17/03	12/17/03	12/17/03	07/23/04
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Volatiles							
Acetone	UG/L	50	110	110	130 J	120 J	NA
Benzene	UG/L	1	2.2	1.8	10 U	10 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	69 J	65 J	39 J	38 J	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	6.2 NJ	0 U	0 U	0 U	68 J
1,1-Dichloroethene	UG/L	5	2.0 U	2.0 U	4.0 U	4 U	NA
cis-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	10 U	10 U	NA
trans-1,2-Dichloroethene	UG/L	5	5.0 U	5.0 U	10 U	10 U	NA
Ethylbenzene	UG/L	5	4.0 U	4.0 U	8.0 U	8 U	NA
2-Hexanone	UG/L	50	19	16	10 U	10 U	NA
4-Methyl-2-Pentanone	UG/L	-	11	11	10 U	10 U	NA
Tetrachloroethene	UG/L	5	1.0 U	1.0 U	4.9	4.6	NA
Trichloroethene	UG/L	5	1.0 U	1.0 U	2.0 U	2 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	26	16	150	150	4,900 J
Vinyl Chloride	UG/L	2	5.0 U	5.0 U	10 U	10 U	NA
Xylene (total)	UG/L	5	5.0 U	5.0 U	10 U	10 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	180	110	170	160	3,900
Dissolved Gases							
Methane	UG/L	-	2,400	2,500	7,200	4,900	2,700
Total Metals							
Iron	UG/L	300	174,000 J	178,000 J	156,000	164,000	NA
Dissolved Metals							
Iron	UG/L	300	187,000 J	186,000 J	167,000	176,000	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.
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

Only Detected Results Reported.

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			DUP-91703	MW03-091703	DUP1_121703	MW-03_121703	MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	09/17/03	12/17/03	12/17/03	07/23/04
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	99.2 J	91.5 J	224	192	71.7
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	0.86	0.95	1.4	1.2	NA
Nitrogen, Kjeldahl, Total	MG/L	-	4.5	4.4	4.0	4.0	NA
Nitrogen, Nitrate	MG/L	10	0.1 U	0.1 U	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Organic Carbon	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	25.5	27.9	23.5	30.0	NA
Ferric Iron (lab)	MG/L	-	67.0	93.0	132	134	NA
Fluoride	MG/L	1.5	0.27	0.2	0.22	0.25	0.397
Oil & Grease	MG/L	-	R	R	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			DUP-91703	MW03-091703	DUP1_121703	MW-03_121703	MW-03
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/03	09/17/03	12/17/03	12/17/03	07/23/04
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.01	NA	0.35	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	-	NA	-90	NA	-59	-143
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	NA	1.64	NA	1.99	2.40
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N	20070731MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	83	2.0 J	51	39	54
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	2.0 J	10 U	10 U	10	2.0 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	14	1.0 J	0.8 J	48	7.0 J
Dissolved Gases							
Methane	UG/L	-	6,300	10,000	7,400	15,000	4,500
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N	20070731MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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	7.80	38.4
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N	20070731MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	1.24	0 U	5.36	2.44	0.22
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-133	-151	-123	-116	-79.7
pH	S.U.	-	NA	NA	NA	NA	6.15
Specific Conductance	MS/CM	-	3.19	1.20	0.946	0.91	1.309
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N	20090218MW-03V10N	20091013MW-03V10FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	13 J	10	10	38	20
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.5 J	10 U	10 U	5.0 J	0.92 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	4.0 J	1.0 J	1.0 J	40	2.1
Dissolved Gases							
Methane	UG/L	-	18,000	10,000	8,400	13,000	5,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N	20090218MW-03V10N	20091013MW-03V10FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	14.1	30.0	28.1	50.7 J	4.6 J
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20080228MW03V10N	20080812MW03V10FD	20080812MW03V10N	20090218MW-03V10N	20091013MW-03V10FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/28/08	08/12/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			Field Duplicate (1-1)
Field Parameter							
Dissolved Oxygen	MG/L	-	2.94	NA	0 U	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	-	-123	NA	-149	-185	NA
pH	S.U.	-	6.15	NA	6.36	6.06	NA
Specific Conductance	MS/CM	-	1.36	NA	1.69	2.08	NA
Temperature	DEG C	-	11.6	NA	17.8	12.87	NA
Turbidity	NTU	-	41	NA	2	5	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.
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

Only Detected Results Reported.

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			20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N	20101006MW-03V09N	20110406MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	19	17 J	26	4.6	110 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.82 J	1 UJ	1 U	1 U	32
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	1.9	1 U	0.5 J	1 U	99 J
Dissolved Gases							
Methane	UG/L	-	4,800	13,000	6,000	7,400	18,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N	20101006MW-03V09N	20110406MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	8.7	11.6	15.8	5.1 J	34.0
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20091013MW-03V10N	20100226MW-03V09N	20100624MW-03V09N	20101006MW-03V09N	20110406MW-03V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	0.0	0.85	0.0	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	-	-103	-138	-170	-116	-115
pH	S.U.	-	5.87	6.32	9.28	6.73	6.38
Specific Conductance	MS/CM	-	1.85	3.39	1.50	1.68	1.55
Temperature	DEG C	-	18.68	8.95	16.51	20.19	11.90
Turbidity	NTU	-	8.7	94	5.1	6.3	3.6

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	09/13/11	04/11/12	09/24/12	04/09/13
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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	69	82	150 J	130	160 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	4.2	5.4	20 J	1.1	27
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	8.3	9.4	36	3.2	30
Dissolved Gases							
Methane	UG/L	-	12,000	15,000	15,000	7,600	11,000
Total Metals							
Iron	UG/L	300	35,300	35,700	NA	21,800	27,900
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	09/13/11	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	596	596	NA	292	367
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	292	367
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	1,820	3,780	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	700	40
Hardness (as CaCO3)	MG/L	-	520	510	NA	248	396
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	0.1 U	0.1 U	NA	0.10 U	0.21 J
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	19	18.2	63.1	45.4	39.4
Total Organic Carbon	MG/L	-	27.1	26.7	NA	7.2	8.7
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20110913MW03V09FD	20110913MW03V09N	20120411MW-03V09N	20120924MW-03V09N	20130409MW-03V10N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	09/13/11	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.0	0.0	0.0	2.23
Ferrous Iron	MG/L	-	29.8	29.8	NA	3.5	26.0
Ferric Iron (calculated)	MG/L	-	5.5	5.9	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-124	-63	-84	-93
pH	S.U.	-	NA	6.85	6.64	6.64	6.39
Specific Conductance	MS/CM	-	NA	1.99	1.02	0.697	3.37
Temperature	DEG C	-	NA	20.7	13.35	23.57	15.42
Turbidity	NTU	-	NA	21.8	0.0	0.0	17.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect 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.
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

Only Detected Results Reported.

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			20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V12N	20141027MW-03V12N	20141124MW-03V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	58	96	170	96	86
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	100	120	0.81 J	1.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	62	100	1.3	1.0 U
Dissolved Gases							
Methane	UG/L	-	11,000	14,000	15,000	4,500	3,800
Total Metals							
Iron	UG/L	300	29,400	19,700	26,800	26,600	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N	20141027MW-03V12N	20141124MW-03V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	237	220	253	329	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	220	253	329	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	500	NA	500
Dehalobacter	GC/mL	-	100	10	20	50	10
Hardness (as CaCO3)	MG/L	-	65.3	249	337	386	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	0.23 J	0.40	0.10 U	1.0 U	NA
Nitrogen, Nitrite	MG/L	1	0.025 J	0.038 J	0.017 J	0.10 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	40.7	43.0	52.0	25.8	23.0
Total Organic Carbon	MG/L	-	5.6	6.3	7.0	27.1	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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20131022MW-03V12N	20140416MW-03V12N	20140701MW-03V012N	20141027MW-03V12N	20141124MW-03V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	11/24/14
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.63	4.86	1.47	0.45	1.30
Ferrous Iron	MG/L	-	16.9	5.5	4.5	8.3	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-119	-101	-72	-107	-104
pH	S.U.	-	6.21	6.85	6.69	6.54	6.68
Specific Conductance	MS/CM	-	1.35	1.12	1.26	1.72	1.28
Temperature	DEG C	-	19.3	10.69	19.59	17.99	17.52
Turbidity	NTU	-	0.4	0	5.4	0.2	0.0

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-04	MW-04
Sample ID			20141222MW-03V12N	20150304MW-03	20150422MW-03	MW04-5-20-03	MW-04_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/20/03	12/17/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	5.0 U	5.0 U
Benzene	UG/L	1	NA	NA	NA	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	150	110	120	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	5.0 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	5.0 U	5.0 U
Ethylbenzene	UG/L	5	NA	NA	NA	4.0 U	4.0 U
2-Hexanone	UG/L	50	NA	NA	NA	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	5.0 U	5.0 U
Tetrachloroethene	UG/L	5	NA	NA	NA	1.0 U	1.0 U
Trichloroethene	UG/L	5	NA	NA	NA	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	18	25	5.0 U	5.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	5.0 U	5.0 U
Xylene (total)	UG/L	5	NA	NA	NA	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.7	17	25	5.0 U	5.0 U
Dissolved Gases							
Methane	UG/L	-	4,600	NA	4,000	380	35
Total Metals							
Iron	UG/L	300	NA	NA	19,600	18,400	3,640
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	18,500	3,760

*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.
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

Only Detected Results Reported.

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-04	MW-04
Sample ID			20141222MW-03V12N	20150304MW-03	20150422MW-03	MW04-5-20-03	MW-04_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/20/03	12/17/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	196	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	196	NA	NA
Chloride	MG/L	250	NA	NA	NA	238	294
Dehalococcoides ethenogenes	CEQ/mL	-	20	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	3	7	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	242	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	1.6	1.2
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	6.2	1.9
Nitrogen, Nitrate	MG/L	10	NA	NA	0.10 U	0.1 U	0.1 U
Nitrogen, Nitrite	MG/L	1	NA	NA	0.10 U	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.050 U	NA	NA
Sulfate	MG/L	250	33.8	NA	32.5	5.0 U	9.40
Total Organic Carbon	MG/L	-	NA	NA	5.1	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	0.10 UJ	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	17.6	2.2
Ferric Iron (lab)	MG/L	-	NA	NA	NA	0.76	1.3
Fluoride	MG/L	1.5	NA	NA	NA	0.27	0.19
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-04	MW-04
Sample ID			20141222MW-03V12N	20150304MW-03	20150422MW-03	MW04-5-20-03	MW-04_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/22/14	03/04/15	04/22/15	05/20/03	12/17/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.87	1.24	0.65	0.54	0 U
Ferrous Iron	MG/L	-	NA	NA	6.0	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-115	-82	-100	-115	0 U
pH	S.U.	-	6.58	6.84	6.69	NA	NA
Specific Conductance	MS/CM	-	1.38	1.82	1.06	1.61	0.99
Temperature	DEG C	-	14.88	8.58	11.87	NA	NA
Turbidity	NTU	-	0.0	0.0	1.7	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.
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

Only Detected Results Reported.

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			Dup1	MW-04	MW-04	MW-04VION	MW-04V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	07/22/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	10 U	1.0 J	10 U	0.7 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 UJ	0.7 J	10 U	10 U	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	10 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	69	99	190	400	420
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			Dup1	MW-04	MW-04	MW-04VION	MW-04V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	07/22/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	158	161	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	10.8	14.2	6.66	5.0 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	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	0.304	0.302	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			Dup1	MW-04	MW-04	MW-04VION	MW-04V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/22/04	07/22/04	05/31/05	12/20/05	08/14/06
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.82	0 U	0 U	4.97
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-136	-126	-161	-154
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	NA	1.05	1.85	1.47	1.14
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20070207MW-04V10N	20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	08/01/07	02/28/08	08/12/08	02/18/09
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	0.6 J	10 U	1.0 J	10 U	1.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	10 UJ	10 U	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	10 U	10 U	10 U
Dissolved Gases							
Methane	UG/L	-	400	43	5,700	290	1,600
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

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.
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

Only Detected Results Reported.

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			20070207MW-04V10N	20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	08/01/07	02/28/08	08/12/08	02/18/09
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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	7.0	5 U	5 U	5 UJ
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20070207MW-04V10N	20070801MW-04V10N	20080228MW04V10N	20080812MW04V08N	20090218MW-04V08FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/07/07	08/01/07	02/28/08	08/12/08	02/18/09
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Field Parameter							
Dissolved Oxygen	MG/L	-	4.73	0.41	2.91	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	-	-81	-79.2	-136	-126	NA
pH	S.U.	-	NA	6.59	6.45	6.65	NA
Specific Conductance	MS/CM	-	0.804	1.241	1.16	0.531	NA
Temperature	DEG C	-	NA	NA	9.19	21.3	NA
Turbidity	NTU	-	NA	NA	9	2	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.
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

Only Detected Results Reported.

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			20090218MW-04V08N	20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	02/25/10	06/24/10
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.0 J	15	6.6 J	7.7 J	12
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	1 U	1 UJ	1 UJ	1 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	1 U	1 U	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	1,600	3,100	5,200	5,100	4,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20090218MW-04V08N	20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	02/25/10	06/24/10
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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 UJ	20.8	13	11.3	18.4
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20090218MW-04V08N	20091013MW-04V08N	20100225MW04V08FD	20100225MW-04V08N	20100624MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/18/09	10/13/09	02/25/10	02/25/10	06/24/10
Parameter	**Units**	**Criteria***			Field Duplicate (1-1)		
Field Parameter							
Dissolved Oxygen	MG/L	-	0 U	0.0	NA	0.0	0.80
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-158	-122	NA	-124	-146
pH	S.U.	-	6.33	6.43	NA	6.50	8.99
Specific Conductance	MS/CM	-	1.75	1.83	NA	2.14	1.84
Temperature	DEG C	-	9.36	19.37	NA	8.34	18.45
Turbidity	NTU	-	4	4.6	NA	1.5	1.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20101006MW-04V08N	20110406MW-04V08FD	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	2.8	5 J	4.3 J	1.2	7.2 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 U	1 U	1 U	1 U	1 UJ
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	1 UJ	1 UJ	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	2,400	4,200	4,300	1,700	2,700
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			20101006MW-04V08N	20110406MW-04V08FD	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	04/06/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	5.5 J	26.6	22.3	16.7	18.7
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20101006MW-04V08N	20110406MW-04V08FD	20110406MW-04V08N	20110913MW04V08N	20120411MW-04V08N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/10	04/06/11	04/06/11	09/13/11	04/11/12
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	NA	0.0	0.0	0.0
Ferrous Iron	MG/L	-	NA	NA	NA	14.3	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-96	NA	-78	-126	-87
pH	S.U.	-	6.86	NA	6.40	6.83	6.80
Specific Conductance	MS/CM	-	1.48	NA	2.19	2.29	1.38
Temperature	DEG C	-	21.38	NA	12.86	22.5	14.07
Turbidity	NTU	-	3.7	NA	0.0	0.2	8.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20120924MW-04V08FD	20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	09/24/12	04/09/13	10/22/13	04/28/14
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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	2.1	2.5	4.4 J	12	1.0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dissolved Gases							
Methane	UG/L	-	570	550	1,700	1,600	340
Total Metals							
Iron	UG/L	300	7,430	7,280	16,100	17,700	18,900
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20120924MW-04V08ED	20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	09/24/12	04/09/13	10/22/13	04/28/14
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	211	210	5.0 U	243	239
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	211	210	5.0 U	NA	239
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	4 U	3 U	3 U	3 U
Hardness (as CaCO3)	MG/L	-	188	185	426	73.3	525
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	0.10 UJ	0.10 UJ	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	0.014 J	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	12.3	12.0	15.6	23.2	12.2
Total Organic Carbon	MG/L	-	10.2	10	7.2	7.0	8.4
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20120924MW-04V08FD	20120924MW-04V08N	20130409MW-04V09N	20131022MW-04V09N	20140428MW-04V09N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/24/12	09/24/12	04/09/13	10/22/13	04/28/14
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)				
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	0.0	2.13	0.25	9.51
Ferrous Iron	MG/L	-	NA	27.7	14.9	13.9	7.0
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	-96	-78	-94	-102
pH	S.U.	-	NA	6.91	6.43	6.44	6.76
Specific Conductance	MS/CM	-	NA	0.519	3.98	1.27	2.65
Temperature	DEG C	-	NA	25.40	16.39	19.44	12.11
Turbidity	NTU	-	NA	8.0	1.7	5.7	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 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.
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

Only Detected Results Reported.

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-05	MW-05
Sample ID			20140701MW-04V09N	20141028MW-04V09N	20150422MW-04	MW05_52103	MW-05-121803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/28/14	04/22/15	05/21/03	12/18/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	5.0 U	5.0 U
Benzene	UG/L	1	NA	NA	NA	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.0 U	1.2	2.1	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	NA	NA	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	5.0 U	5.0 U
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	5.0 U	5.0 U
Ethylbenzene	UG/L	5	NA	NA	NA	4.0 U	4.0 U
2-Hexanone	UG/L	50	NA	NA	NA	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	5.0 U	5.0 U
Tetrachloroethene	UG/L	5	NA	NA	NA	0.4 J	1.0 U
Trichloroethene	UG/L	5	NA	NA	NA	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U	0.38 J	5.0 U	5.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	5.0 U	5.0 U
Xylene (total)	UG/L	5	NA	NA	NA	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dissolved Gases							
Methane	UG/L	-	1,300	87	1,000	27	6.7
Total Metals							
Iron	UG/L	300	17,900	8,820	28,000	2,110	15,500
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	1,670	39.7 U

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-05	MW-05
Sample ID			20140701MW-04V09N	20141028MW-04V09N	20150422MW-04	MW05_52103	MW-05-121803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/28/14	04/22/15	05/21/03	12/18/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	295	208	338	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	295	208	338	NA	NA
Chloride	MG/L	250	NA	NA	NA	49.8	27.5
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	3 U	3	3.0 U	NA	NA
Hardness (as CaCO3)	MG/L	-	614	267	882	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	0.25	0.1 U
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	3.6	0.61
Nitrogen, Nitrate	MG/L	10	0.10 U	0.10 U	0.10 U	0.22	0.18
Nitrogen, Nitrite	MG/L	1	0.013 J	0.10 U	0.10 U	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	0.050 U	NA	NA
Sulfate	MG/L	250	9.1	11.5	29.8	50.1	61.4
Total Organic Carbon	MG/L	-	11.4	8.4	12.3	NA	NA
Ferrous Iron (lab)	MG/L	-	NA	NA	0.10 J	NA	NA
Ferrous Iron (field)	MG/L	-	NA	NA	NA	1.7	0.07
Ferric Iron (lab)	MG/L	-	NA	NA	NA	0.43	15.4
Fluoride	MG/L	1.5	NA	NA	NA	0 U	0.12
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-05	MW-05
Sample ID			20140701MW-04V09N	20141028MW-04V09N	20150422MW-04	MW05_52103	MW-05-121803
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/01/14	10/28/14	04/22/15	05/21/03	12/18/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	1.72	0.55	1.05	0.37	0 U
Ferrous Iron	MG/L	-	6.5	5.2	5.5	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-67	-93	-92	26	121
pH	S.U.	-	6.62	6.57	6.73	NA	NA
Specific Conductance	MS/CM	-	2.47	1.62	4.47	0.426	0.629
Temperature	DEG C	-	21.90	17.78	11.71	NA	NA
Turbidity	NTU	-	52.9	2.1	1.1	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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-05	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803	MW-06_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	06/10/03	07/22/03	09/18/03	12/17/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	10 U	5.0 U	5.0 U	10 U
Benzene	UG/L	1	NA	10 U	5.0 U	5.0 U	10 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	0 U	5.7 NJ	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	4 U	1.2 J	2.0 U	4 U
cis-1,2-Dichloroethene	UG/L	5	NA	10 U	1.7 J	1.4 J	1.3 J
trans-1,2-Dichloroethene	UG/L	5	NA	10 U	5.0 U	5.0 U	10 U
Ethylbenzene	UG/L	5	NA	8 U	4.0 U	4.0 U	8 U
2-Hexanone	UG/L	50	NA	10 U	5.0 U	5.0 U	10 U
4-Methyl-2-Pentanone	UG/L	-	NA	10 U	5.0 U	5.0 U	10 U
Tetrachloroethene	UG/L	5	NA	2 U	1.0 U	1.0 U	2 U
Trichloroethene	UG/L	5	NA	2 U	1.0 U	1.0 U	2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	0.5 J	220	180	97	250
Vinyl Chloride	UG/L	2	NA	10 U	1.2 J	5.0 U	10 U
Xylene (total)	UG/L	5	NA	10 U	5.0 U	5.0 U	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	8.8 J	9.5	8.6	14
Dissolved Gases							
Methane	UG/L	-	47	49	81	99	78
Total Metals							
Iron	UG/L	300	NA	14,400	10,500	8,370 J	7,690
Dissolved Metals							
Iron	UG/L	300	NA	14,300	10,300	8,470 J	7,670

*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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-05	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803	MW-06_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	06/10/03	07/22/03	09/18/03	12/17/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	63.9	184	82.3	74.6	84.0
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	0.19	0.33	0.31	0.36
Nitrogen, Kjeldahl, Total	MG/L	-	NA	0.72	1.1	0.88	0.79
Nitrogen, Nitrate	MG/L	10	NA	0.33	0.1 U	0.1 U	0.1 UJ
Nitrogen, Nitrite	MG/L	1	NA	0.1 U	0.1 U	0.1 U	0.1 UJ
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	42.3	32.0	30.5	39.2	39.1
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	14.3	8.6	6.0	8.7
Ferric Iron (lab)	MG/L	-	NA	0.12	1.9	8.4	1.0 U
Fluoride	MG/L	1.5	0.103	0.46	0.56	0.37	0.42
Oil & Grease	MG/L	-	NA	NA	NA	5 U	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-05	MW-06	MW-06	MW-06	MW-06
Sample ID			MW-05	MW06-6-10-03	MW06-7_22_03	MW06-091803	MW-06_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	06/10/03	07/22/03	09/18/03	12/17/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.97	0.93	1.07	0 U	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	-	46	-145	-155	-143	-110
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.463	0.741	0.866	0.581	0.602
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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	Field-Dup	MW-06	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	05/31/05	05/31/05	12/20/05	12/20/05
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	5 J	6.0 J	5.0 J	6.0 J	6.0 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	140 J	1.0 J	1.0 J	10 U	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	23	16	14	10 UJ	10 UJ
Dissolved Gases							
Methane	UG/L	-	40	3,600	3,300	6,700	5,600
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

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.
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

Only Detected Results Reported.

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	Field-Dup	MW-06	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	05/31/05	05/31/05	12/20/05	12/20/05
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	60.5	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	33.5	5.0 U	5.0 U	5.0 U	5.0 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	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	0.467	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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	Field-Dup	MW-06	MW-06V15FD	MW-06V15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/23/04	05/31/05	05/31/05	12/20/05	12/20/05
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)		Field Duplicate (1-1)	
Field Parameter							
Dissolved Oxygen	MG/L	-	1.04	NA	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	-	-64	NA	-140	NA	-140
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	0.513	NA	1.13	NA	1.29
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/15/06	08/15/06	02/07/07	02/07/07	07/31/07
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10 U	10 U	100	100	18
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 U	3.0 J	3.0 J	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10 U	10 U	8.0 J	8.0 J	0.5 J
Dissolved Gases							
Methane	UG/L	-	1,600	1,700	12,000	13,000	3,800
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/15/06	08/15/06	02/07/07	02/07/07	07/31/07
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, 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	7.40	7.00	41.8
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-06V15FD	MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			08/15/06	08/15/06	02/07/07	02/07/07	07/31/07
Parameter	**Units**	**Criteria***	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Field Parameter							
Dissolved Oxygen	MG/L	-	NA	6.83	NA	1.05	NA
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	NA	87	NA	-136	NA
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	NA	0.033	NA	0.79	NA
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	02/28/08	08/12/08	02/19/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	21	8.0 J	8.0 J	4.0 J	34
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	10 U	10 UJ	10 U	10 U	2.0 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	0.6 J	10 U	10 U	10 U	35
Dissolved Gases							
Methane	UG/L	-	2,500	12,000	14,000	12,000	9,000
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	02/28/08	08/12/08	02/19/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	44.2	5 U	5 U	17.8	57.0 J
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-06V15N	20080228MW06V15FD	20080228MW06V15N	20080812MW06V13N	20090219MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	02/28/08	08/12/08	02/19/09
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Dissolved Oxygen	MG/L	-	0.31	NA	2.61	0 U	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	-	-99.7	NA	-122	-117	-132
pH	S.U.	-	6.38	NA	6.24	6.37	6.30
Specific Conductance	MS/CM	-	1.050	NA	1.21	1.47	0.84
Temperature	DEG C	-	NA	NA	12.2	17.0	13.23
Turbidity	NTU	-	NA	NA	9	5	8

*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.
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

Only Detected Results Reported.

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			20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	10/06/10
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	6.4	35 J	68 J	61	57
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1 U	1 UJ	1 U	1 U	1 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1 U	3.6	0.57 J	1 U	1 U
Dissolved Gases							
Methane	UG/L	-	7,300	13,000	9,400	8,300	8,800
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	10/06/10
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	2.8 J	31.2	52.3	36.8 J	34.5 J
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20091013MW-06V13N	20100226MW-06V13N	20100624MW-06V13N	20101006MW-06V13FD	20101006MW-06V13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/13/09	02/26/10	06/24/10	10/06/10	10/06/10
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	0.0	0.73	NA	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	-	-139	-140	-124	NA	-129
pH	S.U.	-	6.57	6.46	8.81	NA	6.97
Specific Conductance	MS/CM	-	1.79	2.48	0.958	NA	0.879
Temperature	DEG C	-	17.80	11.80	17.79	NA	18.25
Turbidity	NTU	-	2.2	39	0.45	NA	0.0

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

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.
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

Only Detected Results Reported.

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			20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	96 J	30	230 J	140	61 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	33	1 U	82 J	3.3	0.19 J
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	38 J	4.4	28	3.6	4.9
Dissolved Gases							
Methane	UG/L	-	7,900	1,800	5,300	1,300	9,500
Total Metals							
Iron	UG/L	300	NA	9,630	NA	12,100	24,700
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	388	NA	304	244
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	304	244
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	353,000 J	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	1 J	3 U
Hardness (as CaCO3)	MG/L	-	NA	235	NA	308	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	NA	0.1 U	NA	0.10 U	0.25 J
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	60.8	16.5	119	52.2	38.4
Total Organic Carbon	MG/L	-	NA	10.9	NA	6.9	5.9
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20110406MW-06V13N	20110913MW06V13N	20120411MW-06V13N	20120924MW-06V13N	20130409MW-06V12N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/06/11	09/13/11	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	0.0	0.0	0.0	0.33
Ferrous Iron	MG/L	-	NA	7.4	NA	9.9	23.7
Ferric Iron (calculated)	MG/L	-	NA	2.23	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-68	-123	-48	-80	-102
pH	S.U.	-	7.08	7.08	6.81	6.82	6.47
Specific Conductance	MS/CM	-	1.61	0.801	1.06	0.636	2.91
Temperature	DEG C	-	12.46	22.4	14.04	22.01	16.34
Turbidity	NTU	-	0.0	5.3	0.0	0.0	0.2

*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.
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

Only Detected Results Reported.

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			20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N	DUP20141027
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	10/27/14
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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	27	75	84	51	44
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	26	1.0 U	1.0 U	1.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	33	2.7	1.0 U	1.0 U
Dissolved Gases							
Methane	UG/L	-	4,100	11,000	11,000	3,400	2,700
Total Metals							
Iron	UG/L	300	20,500	20,900	17,100	31,000	33,200
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N	DUP20141027
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	10/27/14
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	245	240	259	740	726
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	240	259	740	726
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	2 J	3 U	3 U	80	NA
Hardness (as CaCO3)	MG/L	-	99.0	370	317	297	564
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 UJ	0.10 UJ	0.10 U	1.0 U	0.58 J
Nitrogen, Nitrite	MG/L	1	0.017 J	0.051 J	0.0092 J	0.10 U	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	29.2	36.1	38.8	5.0 U	5.0 U
Total Organic Carbon	MG/L	-	5.6	5.8	6.0	314	298
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20131022MW-06V15N	20140416MW-06V15N	20140701MW-06V15N	20141027MW-06V15N	DUP20141027
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	10/27/14
Parameter	**Units**	**Criteria***					Field Duplicate (1-1)
Field Parameter							
Dissolved Oxygen	MG/L	-	0.37	3.99	1.82	2.67	NA
Ferrous Iron	MG/L	-	3.6	6.0	5.0	6.7	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-108	-92	-80	-130	NA
pH	S.U.	-	6.45	7.02	6.78	6.66	NA
Specific Conductance	MS/CM	-	1.4	1.73	1.33	2.34	NA
Temperature	DEG C	-	18.41	12.71	19.20	17.32	NA
Turbidity	NTU	-	1.4	0	7.3	5.6	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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-06	MW-07	MW-07	MW-07	MW-07
Sample ID			20150422MW-06	MW07-6-10-03	MW07	MW07-91703	MW-07_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/22/15	06/10/03	07/23/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	250 U	500 U	250 U	50 U
Benzene	UG/L	1	NA	250 U	500 U	250 U	14
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	R	R	R	R
Chlorotrifluoroethene (Freon-1113)	UG/L	5	110	0 U	0 U	0 U	0 U
1,1-Dichloroethene	UG/L	5	NA	100 U	68 J	100 U	20 U
cis-1,2-Dichloroethene	UG/L	5	NA	250 U	500 U	250 U	50 U
trans-1,2-Dichloroethene	UG/L	5	NA	250 U	500 U	250 U	50 U
Ethylbenzene	UG/L	5	NA	200 U	400 U	200 U	49
2-Hexanone	UG/L	50	NA	250 U	500 U	250 U	50 U
4-Methyl-2-Pentanone	UG/L	-	NA	250 U	500 U	250 U	50 U
Tetrachloroethene	UG/L	5	NA	50 U	100 U	50 U	10 U
Trichloroethene	UG/L	5	NA	50 U	100 U	50 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.6	5,400	8,500	6,100	370
Vinyl Chloride	UG/L	2	NA	250 U	500 U	250 U	50 U
Xylene (total)	UG/L	5	NA	250 U	500 U	250 U	50 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	8.1	68 J	130 J	130 J	940
Dissolved Gases							
Methane	UG/L	-	5,200	740	420	1,200	1,700
Total Metals							
Iron	UG/L	300	26,400	21,300	21,200	32,700 J	38,900
Dissolved Metals							
Iron	UG/L	300	NA	20,800	20,800	32,500 J	38,900

*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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-06	MW-07	MW-07	MW-07	MW-07
Sample ID			20150422MW-06	MW07-6-10-03	MW07	MW07-91703	MW-07_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/22/15	06/10/03	07/23/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	311	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	311	NA	NA	NA	NA
Chloride	MG/L	250	NA	140	168	300 J	328
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	3.0 U	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	515	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	0.39	0.6	0.66	0.99
Nitrogen, Kjeldahl, Total	MG/L	-	NA	1.2	1.8	2.1	2.8
Nitrogen, Nitrate	MG/L	10	0.10 U	0.1 U	NA	0.1 U	0.1 U
Nitrogen, Nitrite	MG/L	1	0.10 U	0.1 U	NA	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	10	0.050 U	NA	0.1 UJ	NA	NA
Sulfate	MG/L	250	29.9	32.8	31.0	23.6	5.0 U
Total Organic Carbon	MG/L	-	5.1	NA	NA	NA	NA
Ferrous Iron (lab)	MG/L	-	0.90 J	NA	NA	NA	NA
Ferrous Iron (field)	MG/L	-	NA	20.2	19.8	33.8	19.5
Ferric Iron (lab)	MG/L	-	NA	1	1.4	14.1	19.4
Fluoride	MG/L	1.5	NA	0.33	0.25	0.24	0.19
Oil & Grease	MG/L	-	NA	NA	NA	5.44 U	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-06	MW-07	MW-07	MW-07	MW-07
Sample ID			20150422MW-06	MW07-6-10-03	MW07	MW07-91703	MW-07_121703
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/22/15	06/10/03	07/23/03	09/17/03	12/17/03
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.72	0.9	0.1	0 U	3.33
Ferrous Iron	MG/L	-	4.5	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-104	-130	-108	-118	-115
pH	S.U.	-	6.83	NA	NA	NA	NA
Specific Conductance	MS/CM	-	2.67	0.93	1.11	1.44	1.94
Temperature	DEG C	-	12.18	NA	NA	NA	NA
Turbidity	NTU	-	4.1	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.
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

Only Detected Results Reported.

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-07	MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N
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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	210	140	47	97	89
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	110 J	10 U	10 U	10 U	10 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	50	2.0 J	10 U	1.0 J	3.0 J
Dissolved Gases							
Methane	UG/L	-	2,500	5,900	9,700	6,900	6,200
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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-07	MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N
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							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	303	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	19.3	5.0 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	-	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	-	NA	NA	NA	NA	NA
Fluoride	MG/L	1.5	0.190	NA	NA	NA	NA
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-07	MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N
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***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.88	0 U	0 U	3.47	2.89
Ferrous Iron	MG/L	-	NA	NA	NA	NA	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-153	-152	-169	-163	-121
pH	S.U.	-	NA	NA	NA	NA	NA
Specific Conductance	MS/CM	-	1.69	1.75	1.65	1.44	2.02
Temperature	DEG C	-	NA	NA	NA	NA	NA
Turbidity	NTU	-	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-07R
Sample ID			20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	82	92	170	150	370 D
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	6.0 J	10 UJ	3.0 J	46	580 D
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	10	0.9 J	16	20	76
Dissolved Gases							
Methane	UG/L	-	4,100	7,100	5,600	11,000	5,900
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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-07R
Sample ID			20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	6.1	5 U	5.6	5 UJ	6.3
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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-07R
Sample ID			20070731MW-07V15N	20080228MW07V15N	20080812MW07V09N	20090218MW-07V09N	20091013MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			07/31/07	02/28/08	08/12/08	02/18/09	10/13/09
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.48	2.64	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	-	-113.5	-137	-167	-154	-139
pH	S.U.	-	6.78	6.32	6.48	6.18	6.45
Specific Conductance	MS/CM	-	2.182	1.62	1.99	2.01	2.74
Temperature	DEG C	-	NA	9.03	17.3	12.11	18.36
Turbidity	NTU	-	NA	54	25	21	1.1

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect 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.
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

Only Detected Results Reported.

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			20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	150 J	350 J	390	350	370 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	18 J	1.1 J	1	53 J	18
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	8.1	1.7 J	1.8	9.5	6.3 J
Dissolved Gases							
Methane	UG/L	-	6,500	8,100	8,400	6,200	8,300
Total Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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.
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

Only Detected Results Reported.

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			20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	NA	NA
Hardness (as CaCO3)	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Ammonia (as N)	MG/L	2	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	10	NA	NA	NA	NA	NA
Nitrogen, Nitrite	MG/L	1	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	7.9	17	11.2	13 J	25.8
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20100225MW-07RV15N	20100624MW-07RV15FD	20100624MW-07RV15N	20101006MW-07RV15N	20110406MW-07RV15N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/25/10	06/24/10	06/24/10	10/06/10	04/06/11
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	NA	0.69	4.05	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	-	-146	NA	-129	-113	-83
pH	S.U.	-	6.52	NA	8.83	6.82	6.39
Specific Conductance	MS/CM	-	2.79	NA	2.09	2.03	3.40
Temperature	DEG C	-	10.69	NA	16.45	21.42	12.08
Turbidity	NTU	-	1.1	NA	0.35	14.3	0.0

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

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.
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

Only Detected Results Reported.

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			20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	04/11/12	04/11/12	09/24/12	04/09/13
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
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	26	630 J	540 J	430	310 J
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.6	67 J	59 J	5.9 J	5.5
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	0.94 J	11	9.7	2.4 J	2.6
Dissolved Gases							
Methane	UG/L	-	2,000	6,400	6,600	3,900	2,100
Total Metals							
Iron	UG/L	300	23,600	NA	NA	29,900	29,000
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	04/11/12	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	406	NA	NA	335	263
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	NA	NA	335	263
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	248	NA	NA	NA	NA
Dehalobacter	GC/mL	-	NA	NA	NA	10	4
Hardness (as CaCO3)	MG/L	-	637	NA	NA	414	515
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	0.1 U	NA	NA	0.10 U	0.066 J
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	12.2	18.9	17.7	32.0	19.1
Total Organic Carbon	MG/L	-	11.3	NA	NA	11.8	9.3
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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20110913MW07RV15N	20120411MW-07RV15FD	20120411MW-07RV15N	20120924MW-07RV15N	20130409MW-07RV13N
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/13/11	04/11/12	04/11/12	09/24/12	04/09/13
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)			
Field Parameter							
Dissolved Oxygen	MG/L	-	0.0	NA	0.0	0.0	0.0
Ferrous Iron	MG/L	-	20.1	NA	NA	30.4	27.5
Ferric Iron (calculated)	MG/L	-	3.5	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-109	NA	-82	-118	-89
pH	S.U.	-	6.86	NA	6.72	6.69	6.35
Specific Conductance	MS/CM	-	3.28	NA	2.10	1.78	4.84
Temperature	DEG C	-	22.4	NA	13.63	22.35	17.93
Turbidity	NTU	-	0.1	NA	8.2	0.0	53.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20131022MW-07RV17N	20140416MW-07RV17N	20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	03/04/15
Parameter	**Units**	**Criteria***					
Volatiles							
Acetone	UG/L	50	NA	NA	NA	NA	NA
Benzene	UG/L	1	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	390	2.4	69	130	130
1,1-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	5	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	5	NA	NA	NA	NA	NA
2-Hexanone	UG/L	50	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	NA	NA	NA	NA	NA
Trichloroethene	UG/L	5	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	12	1.0 U	1.0 U	15	1.0 U
Vinyl Chloride	UG/L	2	NA	NA	NA	NA	NA
Xylene (total)	UG/L	5	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.1	1.0 U	1.2	2.2	0.78 J
Dissolved Gases							
Methane	UG/L	-	4,000	680	4,400	1,300	NA
Total Metals							
Iron	UG/L	300	30,900	24,500	28,700	31,600	NA
Dissolved Metals							
Iron	UG/L	300	NA	NA	NA	NA	NA

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

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			20131022MW-07RV17N	20140416MW-07RV17N	20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	03/04/15
Parameter	**Units**	**Criteria***					
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	291	305	399	394	NA
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	305	399	394	NA
Chloride	MG/L	250	NA	NA	NA	NA	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA	70	NA	NA	NA
Dehalobacter	GC/mL	-	5	3 U	4 U	3	300
Hardness (as CaCO3)	MG/L	-	208	594	545	574	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	0.36 J	0.10 U	0.076 J	1.0 U	NA
Nitrogen, Nitrite	MG/L	1	0.015 J	0.038 J	0.014 J	0.10 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	NA	NA	NA	NA
Sulfate	MG/L	250	7.4	17.9	13.8	8.4	NA
Total Organic Carbon	MG/L	-	12.3	7.8	11.4	15.2	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
Oil & Grease	MG/L	-	NA	NA	NA	NA	NA
Volatile Fatty Acids							
Acetic Acid	MG/L	-	NA	NA	NA	NA	NA
n-Butyric Acid	MG/L	-	NA	NA	NA	NA	NA
Pyruvic Acid	MG/L	-	NA	NA	NA	NA	NA

*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.
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

Only Detected Results Reported.

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			20131022MW-07RV17N	20140416MW-07RV17N	20140701MW-07RV17N	20141027MW-07RV17N	20150304MW-07R
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/22/13	04/16/14	07/01/14	10/27/14	03/04/15
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.36	4.43	1.74	2.86	0.91
Ferrous Iron	MG/L	-	15.3	6.0	6.0	4.65	NA
Ferric Iron (calculated)	MG/L	-	NA	NA	NA	NA	NA
Oxidation-Reduction Potential	mV	-	-102	-77	-68	-107	-120
pH	S.U.	-	6.31	6.89	6.64	6.56	6.81
Specific Conductance	MS/CM	-	1.84	3.31	2.58	2.69	2.56
Temperature	DEG C	-	19.42	11.39	19.41	18.94	8.90
Turbidity	NTU	-	0.2	0	20.7	8.7	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 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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-07R
Sample ID			20150422MW-07R
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			04/22/15
Parameter	**Units**	**Criteria***	
Volatiles			
Acetone	UG/L	50	NA
Benzene	UG/L	1	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	5	10
1,1-Dichloroethene	UG/L	5	NA
cis-1,2-Dichloroethene	UG/L	5	NA
trans-1,2-Dichloroethene	UG/L	5	NA
Ethylbenzene	UG/L	5	NA
2-Hexanone	UG/L	50	NA
4-Methyl-2-Pentanone	UG/L	-	NA
Tetrachloroethene	UG/L	5	NA
Trichloroethene	UG/L	5	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U
Vinyl Chloride	UG/L	2	NA
Xylene (total)	UG/L	5	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	0.39 J
Dissolved Gases			
Methane	UG/L	-	1,700
Total Metals			
Iron	UG/L	300	25,300
Dissolved Metals			
Iron	UG/L	300	NA

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

Flags assigned during chemistry validation are shown.

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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-07R
Sample ID			20150422MW-07R
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			04/22/15
Parameter	**Units**	**Criteria***	
Miscellaneous Parameters			
Alkalinity, Total (as CaCO3)	MG/L	-	240
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	240
Chloride	MG/L	250	NA
Dehalococcoides ethenogenes	CEQ/mL	-	NA
Dehalobacter	GC/mL	-	90
Hardness (as CaCO3)	MG/L	-	641
Nitrogen, Ammonia (as N)	MG/L	2	NA
Nitrogen, Kjeldahl, Total	MG/L	-	NA
Nitrogen, Nitrate	MG/L	10	0.16
Nitrogen, Nitrite	MG/L	1	0.018 J
Nitrogen, Nitrate-Nitrite	MG/L	10	0.18
Sulfate	MG/L	250	11.8
Total Organic Carbon	MG/L	-	6.0
Ferrous Iron (lab)	MG/L	-	2.2 J
Ferrous Iron (field)	MG/L	-	NA
Ferric Iron (lab)	MG/L	-	NA
Fluoride	MG/L	1.5	NA
Oil & Grease	MG/L	-	NA
Volatile Fatty Acids			
Acetic Acid	MG/L	-	NA
n-Butyric Acid	MG/L	-	NA
Pyruvic Acid	MG/L	-	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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID			MW-07R
Sample ID			20150422MW-07R
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			04/22/15
Parameter	**Units**	**Criteria***	
Field Parameter			
Dissolved Oxygen	MG/L	-	0.91
Ferrous Iron	MG/L	-	4.0
Ferric Iron (calculated)	MG/L	-	NA
Oxidation-Reduction Potential	mV	-	-75
pH	S.U.	-	6.69
Specific Conductance	MS/CM	-	4.17
Temperature	DEG C	-	12.41
Turbidity	NTU	-	0.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect UJ - 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.
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

Only Detected Results Reported.

Detection Limits shown are PQL

APPENDIX C

DATA USABILITY SUMMARY REPORT

APPENDIX C

DATA USABILITY SUMMARY REPORT

MARCH - APRIL 2015 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

TESTAMERICA LABORATORIES, INC.
Edison, NJ/Amherst, NY/North Canton, OH
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 2015

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 three (3) groundwater samples plus trip blank collected on March 4, 2015; and five (5) groundwater samples, and one trip blank collected on April 22, 2015, as summarized on Table C-1. The March samples were collected by URS personnel at the Former EMCA Site located in Mamaroneck, New York as part of the post in-situ bioaugmentation monitoring program conducted in October 2014, while 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; Amherst, New York; and North Canton, Ohio; 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})	SM 3500-Fe D/Field colorimeter	4,6
Nitrate-Nitrite	353.2	5
Nitrate (by calculation)	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 Colorimeter 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, except for ferrous iron (Fe^{+2}) performed in the laboratory. Therefore, the laboratory Fe^{+2} results were qualified 'J' or "UJ". Note, because Fe^{+2} quickly oxidizes to ferric iron (Fe^{+3}) upon exposure to air, Fe^{+2} was measured in the field immediately during sample collection. Both field and laboratory results for Fe^{+2} are reported on Table C-2.

VI. NONCONFORMANCES

Laboratory Control Samples

The *Dehalococcoides ethenogenes (Dhc*) low-level laboratory control sample (LCS) associated with groundwater sample MW-02 collected in April 2015 was below QC limits. The *Dhc* result for this sample was 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 'UJ' (non-detect, estimated quantitation limit) 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 - MARCH-APRIL 2015
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	Nitrate	Nitrite	TOC	Dhc	Dhb	Comments
460-91311-1/ S-3498	20150304MW-02	GW	03/04/15	X	---	---	---	---	---	---	---	---	---	---	---	X	---
	20150304MW-03	GW		X	---	---	---	---	---	---	---	---	---	---	---	X	---
	20150304MW-07R	GW		X	---	---	---	---	---	---	---	---	---	---	---	X	---
	TB20150304	Water		X	---	---	---	---	---	---	---	---	---	---	---	---	Trip Blank
460-93721-1/ S-3552	20150422MW-02	GW	04/22/15	X	X	X	X	X	X	X	X	X	X	X	X	X	---
	20150422MW-03	GW		X	X	X	X	X	X	X	X	X	X	X	---	X	---
	20150422MW-04	GW		X	X	X	X	X	X	X	X	X	X	X	---	X	---
	20150422MW-06	GW		X	X	X	X	X	X	X	X	X	X	X	---	X	---
	20150422MW-07R	GW		X	X	X	X	X	X	X	X	X	X	X	---	X	---
	TB20150422	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-02	MW-03	MW-03	MW-04
Sample ID			20150304MW-02	20150422MW-02	20150304MW-03	20150422MW-03	20150422MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/04/15	04/22/15	03/04/15	04/22/15	04/22/15
Parameter	**Units**	**Criteria***					
Volatiles							
Chlorotrifluoroethene (Freon-1113)	UG/L	5	300	310	110	120	2.1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	45	24	18	25	0.38 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	67	22	17	25	1.0 U
Dissolved Gases							
Methane	UG/L	-	NA	6,200	NA	4,000	1,000
Total Metals							
Iron	UG/L	300	NA	60,500	NA	19,600	28,000
Miscellaneous Parameters							
Alkalinity, Total (as CaCO3)	MG/L	-	NA	432	NA	196	338
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	NA	432	NA	196	338
Alkalinity, Carbonate (as CaCO3)	MG/L	-	NA	5.0 U	NA	5.0 U	5.0 U
Alkalinity, Hydroxide	MG/L	-	NA	5.0 U	NA	5.0 U	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	20 J	NA	NA	NA
Dehalobacter	GC/mL	-	90	200	3	7	3.0 U
Hardness (as CaCO3)	MG/L	-	NA	525	NA	242	882
Nitrogen, Nitrate	MG/L	10	NA	0.10 U	NA	0.10 U	0.10 U
Nitrogen, Nitrite	MG/L	1	NA	0.10 U	NA	0.10 U	0.10 U
Nitrogen, Nitrate-Nitrite	MG/L	10	NA	0.050 U	NA	0.050 U	0.050 U
Sulfate	MG/L	250	NA	17.3	NA	32.5	29.8
Total Organic Carbon	MG/L	-	NA	13.8	NA	5.1	12.3
Ferrous Iron (lab)	MG/L	-	NA	12.5 J	NA	0.10 UJ	0.10 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

J - Estimated result UJ - Estimated quantitation limit

U - Non-Detect

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

J:\Projects\11172730.00000\DB\PROGRAM\EDMS.mdb
Printed: 5/12/2015 4:59:44 PM
[LOGDATE] >= #3/4/2015# AND [MATRIX] = 'WG

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

Location ID			MW-02	MW-02	MW-03	MW-03	MW-04
Sample ID			20150304MW-02	20150422MW-02	20150304MW-03	20150422MW-03	20150422MW-04
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/04/15	04/22/15	03/04/15	04/22/15	04/22/15
Parameter	**Units**	**Criteria***					
Field Parameter							
Dissolved Oxygen	MG/L	-	0.58	0.93	1.24	0.65	1.05
Ferrous Iron	MG/L	-	NA	5.5	NA	6.0	5.5
Oxidation-Reduction Potential	mV	-	-114	-135	-82	-100	-92
pH	S.U.	-	6.80	6.60	6.84	6.69	6.73
Specific Conductance	MS/CM	-	2.53	2.86	1.82	1.06	4.47
Temperature	DEG C	-	7.98	9.86	8.58	11.87	11.71
Turbidity	NTU	-	0.0	8.0	0.0	1.7	1.1

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - Estimated result UJ - Estimated quantitation limit

U - Non-Detect

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

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

Location ID			MW-06	MW-07R	MW-07R
Sample ID			20150422MW-06	20150304MW-07R	20150422MW-07R
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/22/15	03/04/15	04/22/15
Parameter	**Units**	**Criteria***			
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	5	110	130	10
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.6	1.0 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	8.1	0.78 J	0.39 J
Dissolved Gases					
Methane	UG/L	-	5,200	NA	1,700
Total Metals					
Iron	UG/L	300	26,400	NA	25,300
Miscellaneous Parameters					
Alkalinity, Total (as CaCO3)	MG/L	-	311	NA	240
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	311	NA	240
Alkalinity, Carbonate (as CaCO3)	MG/L	-	5.0 U	NA	5.0 U
Alkalinity, Hydroxide	MG/L	-	5.0 U	NA	5.0 U
Dehalococcoides ethenogenes	CEQ/mL	-	NA	NA	NA
Dehalobacter	GC/mL	-	3.0 U	300	90
Hardness (as CaCO3)	MG/L	-	515	NA	641
Nitrogen, Nitrate	MG/L	10	0.10 U	NA	0.16
Nitrogen, Nitrite	MG/L	1	0.10 U	NA	0.018 J
Nitrogen, Nitrate-Nitrite	MG/L	10	0.050 U	NA	0.18
Sulfate	MG/L	250	29.9	NA	11.8
Total Organic Carbon	MG/L	-	5.1	NA	6.0
Ferrous Iron (lab)	MG/L	-	0.90 J	NA	2.2 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

J - Estimated result UJ - Estimated quantitation limit

U - Non-Detect

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

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

Location ID			MW-06	MW-07R	MW-07R
Sample ID			20150422MW-06	20150304MW-07R	20150422MW-07R
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			04/22/15	03/04/15	04/22/15
Parameter	**Units**	**Criteria***			
Field Parameter					
Dissolved Oxygen	MG/L	-	0.72	0.91	0.91
Ferrous Iron	MG/L	-	4.5	NA	4.0
Oxidation-Reduction Potential	mV	-	-104	-120	-75
pH	S.U.	-	6.83	6.81	6.69
Specific Conductance	MS/CM	-	2.67	2.56	4.17
Temperature	DEG C	-	12.18	8.90	12.41
Turbidity	NTU	-	4.1	0.0	0.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - Estimated result UJ - Estimated quantitation limit

U - Non-Detect

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

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

Location ID			FIELDQC	FIELDQC
Sample ID			TB20150304	TB20150422
Matrix			Water	Water
Depth Interval (ft)			-	-
Date Sampled			03/04/15	04/22/15
Parameter	**Units**	**Criteria***	Trip Blank (1-1)	Trip Blank (1-1)
Volatiles				
Chlorotrifluoroethene (Freon-1113)	UG/L	5	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5	1.0 U	1.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5	1.0 U	1.0 U
Dissolved Gases				
Methane	UG/L	-	NA	4.0 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

NA - Not Analyzed

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED ANALYTICAL RESULTS (FORM 1's)

Client: URS Corporation

Job Number: 460-91311-1

Client Sample ID: **20150304MW-07R**

Lab Sample ID: 460-91311-1
Client Matrix: Water

Date Sampled: 03/04/2015 0900
Date Received: 03/06/2015 1630

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-285741	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P96610.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/12/2015 1651			Final Weight/Volume:	5 mL
Prep Date:	03/12/2015 1651				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	130		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.78	J	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
Toluene-d8 (Surr)	96		70 - 130
Bromofluorobenzene	101		64 - 135
Dibromofluoromethane (Surr)	104		72 - 137

Client: URS Corporation

Job Number: 460-91311-1

Client Sample ID: **20150304MW-03**

Lab Sample ID: 460-91311-2
Client Matrix: Water

Date Sampled: 03/04/2015 1138
Date Received: 03/06/2015 1630

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-285741	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P96611.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/12/2015 1716			Final Weight/Volume:	5 mL
Prep Date:	03/12/2015 1716				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	18		0.34	1.0
Chlorotrifluoroethene	110		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	17		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
Toluene-d8 (Surr)	97		70 - 130
Bromofluorobenzene	102		64 - 135
Dibromofluoromethane (Surr)	104		72 - 137

Client: URS Corporation

Job Number: 460-91311-1

Client Sample ID: **20150304MW-02**

Lab Sample ID: 460-91311-3
Client Matrix: Water

Date Sampled: 03/04/2015 1250
Date Received: 03/06/2015 1630

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-285741	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P96609.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/12/2015 1626			Final Weight/Volume:	5 mL
Prep Date:	03/12/2015 1626				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	45		0.34	1.0
Chlorotrifluoroethene	300		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	67		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 130
Toluene-d8 (Surr)	93		70 - 130
Bromofluorobenzene	98		64 - 135
Dibromofluoromethane (Surr)	99		72 - 137

Client: URS Corporation

Job Number: 460-91311-1

Client Sample ID: **TB20150304**

Lab Sample ID: 460-91311-4TB
Client Matrix: Water

Date Sampled: 03/04/2015 1250
Date Received: 03/06/2015 1630

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-285741	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P96595.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/12/2015 1035			Final Weight/Volume:	5 mL
Prep Date:	03/12/2015 1035				

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)	99		70 - 130
Toluene-d8 (Surr)	100		70 - 130
Bromofluorobenzene	100		64 - 135
Dibromofluoromethane (Surr)	99		72 - 137

SiREM
Leading Science · Lasting Solutions

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

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

Customer: Peter Fairbanks, URS/AECOM
Project: DOW Former EMCA, Mamaroneck, NY
Customer Reference: 41569901

SiREM Reference: S-3498
Report Date: 17-Mar-15
Data Files: MyiQ-DHB-QPCR-0338
MyiQ-DB-DHB-QPCR-0152

Table 1: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhb *	*Dehalobacter* 16S rRNA Gene Copies/Liter
20150304MW-02	DHB-1412	4-Mar-15	Groundwater	0.004 - 0.01 %	9×10^4
20150304MW-07R	DHB-1413	4-Mar-15	Groundwater	0.01 - 0.03 %	3×10^5
20150304MW-03	DHB-1414	4-Mar-15	Groundwater	0.0001 - 0.0004 %	3×10^3

90 GC/mL
300 GC/mL
3 GC/mL

Notes:

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

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the 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: _____
Ben Reside
Laboratory Technician

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

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-02**

Lab Sample ID: 460-93721-1
Client Matrix: Water

Date Sampled: 04/22/2015 0935
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98515.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1551			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1551				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	24		0.34	1.0
Chlorotrifluoroethene	310		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	22		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
Toluene-d8 (Surr)	96		70 - 130
Bromofluorobenzene	116		64 - 135
Dibromofluoromethane (Surr)	111		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-04**

Lab Sample ID: 460-93721-2
Client Matrix: Water

Date Sampled: 04/22/2015 1100
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98516.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1616			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1616				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.38	J	0.34	1.0
Chlorotrifluoroethene	2.1		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)	78		70 - 130
Toluene-d8 (Surr)	76		70 - 130
Bromofluorobenzene	91		64 - 135
Dibromofluoromethane (Surr)	86		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-07R**

Lab Sample ID: 460-93721-3
Client Matrix: Water

Date Sampled: 04/22/2015 1220
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98517.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1641			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1641				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	0.34	U	0.34	1.0
Chlorotrifluoroethene	10		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	0.39	J	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
Toluene-d8 (Surr)	94		70 - 130
Bromofluorobenzene	111		64 - 135
Dibromofluoromethane (Surr)	106		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-03**

Lab Sample ID: 460-93721-4
Client Matrix: Water

Date Sampled: 04/22/2015 1410
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98518.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1706			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1706				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	25		0.34	1.0
Chlorotrifluoroethene	120		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	25		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
Toluene-d8 (Surr)	93		70 - 130
Bromofluorobenzene	113		64 - 135
Dibromofluoromethane (Surr)	104		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-06**

Lab Sample ID: 460-93721-5
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98519.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1731			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1731				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Freon TF	1.6		0.34	1.0
Chlorotrifluoroethene	110		0.30	1.0
1,2-Dichloro-1,1,2-trifluoroethane	8.1		0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
Toluene-d8 (Surr)	93		70 - 130
Bromofluorobenzene	112		64 - 135
Dibromofluoromethane (Surr)	106		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **TB20150422**

Lab Sample ID: 460-93721-6TB
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-295352	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P98522.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/29/2015 1845			Final Weight/Volume:	5 mL
Prep Date:	04/29/2015 1845				

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)	98		70 - 130
Toluene-d8 (Surr)	97		70 - 130
Bromofluorobenzene	117		64 - 135
Dibromofluoromethane (Surr)	111		72 - 137

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-02**

Lab Sample ID: 460-93721-1
Client Matrix: Water

Date Sampled: 04/22/2015 0935
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	200			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1419			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	6200		200	800

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-04**

Lab Sample ID: 460-93721-2
Client Matrix: Water

Date Sampled: 04/22/2015 1100
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	10			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1252			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	1000		10	40

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-07R**

Lab Sample ID: 460-93721-3
Client Matrix: Water

Date Sampled: 04/22/2015 1220
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	20			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1437			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	1700		20	80

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-03**

Lab Sample ID: 460-93721-4
Client Matrix: Water

Date Sampled: 04/22/2015 1410
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	200			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1454			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	4000		200	800

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-06**

Lab Sample ID: 460-93721-5
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	100			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1512			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methane	5200		100	400

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **TB20150422**

Lab Sample ID: 460-93721-6TB
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

RSK-175 Dissolved Gases (GC)

Analysis Method:	RSK-175	Analysis Batch:	480-238656	Instrument ID:	PE-03
	N/A		N/A	Initial Weight/Volume:	17 mL
Dilution:	1.0			Final Weight/Volume:	17 mL
Analysis Date:	04/25/2015 1402			Injection Volume:	5 mL
Prep Date:	N/A			Result Type:	PRIMARY

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

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-02**

Lab Sample ID: 460-93721-1
Client Matrix: Water

Date Sampled: 04/22/2015 0935
Date Received: 04/23/2015 1450

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-296084	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-295064	Lab File ID:	05022015.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	05/02/2015 1141			Final Weight/Volume:	50 mL
Prep Date:	04/28/2015 0611				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	60500		77.9	150

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-04**

Lab Sample ID: 460-93721-2
Client Matrix: Water

Date Sampled: 04/22/2015 1100
Date Received: 04/23/2015 1450

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-296084	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-295064	Lab File ID:	05022015.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	05/02/2015 1145			Final Weight/Volume:	50 mL
Prep Date:	04/28/2015 0611				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	28000		77.9	150

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-07R**

Lab Sample ID: 460-93721-3
Client Matrix: Water

Date Sampled: 04/22/2015 1220
Date Received: 04/23/2015 1450

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-296084	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-295064	Lab File ID:	05022015.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	05/02/2015 1149			Final Weight/Volume:	50 mL
Prep Date:	04/28/2015 0611				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	25300		77.9	150

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-03**

Lab Sample ID: 460-93721-4
Client Matrix: Water

Date Sampled: 04/22/2015 1410
Date Received: 04/23/2015 1450

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-296084	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-295064	Lab File ID:	05022015.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	05/02/2015 1153			Final Weight/Volume:	50 mL
Prep Date:	04/28/2015 0611				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	19600		77.9	150

Client: URS Corporation

Job Number: 460-93721-1

Client Sample ID: **20150422MW-06**

Lab Sample ID: 460-93721-5
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	460-296084	Instrument ID:	ICP5
Prep Method:	200.7	Prep Batch:	460-295064	Lab File ID:	05022015.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	05/02/2015 1157			Final Weight/Volume:	50 mL
Prep Date:	04/28/2015 0611				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Iron	26400		77.9	150

General Chemistry

Client Sample ID: **20150422MW-02**

Lab Sample ID: 460-93721-1
Client Matrix: Water

Date Sampled: 04/22/2015 0935
Date Received: 04/23/2015 1450

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N	0.010	U	mg/L	0.010	0.050	1.0	353.2
Analysis Batch: 240-180120	Analysis Date: 05/11/2015 0657						
Sulfate	17.3		mg/L	2.0	5.0	1.0	D516-90, 02
Analysis Batch: 460-296842	Analysis Date: 05/06/2015 1658						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	Nitrate by calc
Analysis Batch: 460-297791	Analysis Date: 05/11/2015 1527						
Bicarbonate Alkalinity as CaCO3	432		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1539						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1539						
Alkalinity	432		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1539						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1539						
Hardness as calcium carbonate	525		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-296273	Analysis Date: 05/04/2015 1030						
Ferrous Iron	12.5	J	mg/L	0.48	1.0	10	SM 3500 FE D
Analysis Batch: 460-297114	Analysis Date: 05/07/2015 1411						
Nitrite as N	0.0061	U	mg/L	0.0061	0.10	1.0	SM 4500 NO2 B
Analysis Batch: 460-294354	Analysis Date: 04/23/2015 1840						
Total Organic Carbon	13.8		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-294916	Analysis Date: 04/24/2015 0538						

5/12/15

General Chemistry

Client Sample ID: 20150422MW-04

Lab Sample ID: 460-93721-2
Client Matrix: Water

Date Sampled: 04/22/2015 1100
Date Received: 04/23/2015 1450

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N	0.010	U	mg/L	0.010	0.050	1.0	353.2
Analysis Batch: 240-180120	Analysis Date: 05/11/2015 0658						
Sulfate	29.8		mg/L	2.0	5.0	1.0	D516-90, 02
Analysis Batch: 460-296842	Analysis Date: 05/06/2015 1658						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	Nitrate by calc
Analysis Batch: 460-297791	Analysis Date: 05/11/2015 1527						
Bicarbonate Alkalinity as CaCO3	338		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1548						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1548						
Alkalinity	338		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1548						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1548						
Hardness as calcium carbonate	882		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-296273	Analysis Date: 05/04/2015 1030						
Ferrous Iron	0.10	J ~~HF~~	mg/L	0.048	0.10	1.0	SM 3500 FE D
Analysis Batch: 460-297114	Analysis Date: 05/07/2015 1350						
Nitrite as N	0.0061	U	mg/L	0.0061	0.10	1.0	SM 4500 NO2 B
Analysis Batch: 460-294354	Analysis Date: 04/23/2015 1840						
Total Organic Carbon	12.3		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-294916	Analysis Date: 04/24/2015 0558						

5/12/15

General Chemistry

Client Sample ID: 20150422MW-07R

Lab Sample ID: 460-93721-3
Client Matrix: Water

Date Sampled: 04/22/2015 1220
Date Received: 04/23/2015 1450

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N	0.18		mg/L	0.010	0.050	1.0	353.2
Analysis Batch: 240-180137	Analysis Date: 05/11/2015 0811						
Sulfate	11.8		mg/L	2.0	5.0	1.0	D516-90, 02
Analysis Batch: 460-296842	Analysis Date: 05/06/2015 1658						
Nitrate as N	0.16		mg/L	0.026	0.10	1.0	Nitrate by calc
Analysis Batch: 460-297791	Analysis Date: 05/11/2015 1527						
Bicarbonate Alkalinity as CaCO3	240		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1556						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1556						
Alkalinity	240		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1556						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1556						
Hardness as calcium carbonate	641		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-296273	Analysis Date: 05/04/2015 1030						
Ferrous Iron	2.2	J ~~HF~~	mg/L	0.048	0.10	1.0	SM 3500 FE D
Analysis Batch: 460-297114	Analysis Date: 05/07/2015 1408						
Nitrite as N	0.018	J	mg/L	0.0061	0.10	1.0	SM 4500 NO2 B
Analysis Batch: 460-294354	Analysis Date: 04/23/2015 1840						
Total Organic Carbon	6.0		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-294916	Analysis Date: 04/24/2015 0618						

5/12/15

Client: URS Corporation

Job Number: 460-93721-1

General Chemistry

Client Sample ID: **20150422MW-03**

Lab Sample ID: 460-93721-4
Client Matrix: Water

Date Sampled: 04/22/2015 1410
Date Received: 04/23/2015 1450

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N	0.010	U	mg/L	0.010	0.050	1.0	353.2
Analysis Batch: 240-180120	Analysis Date: 05/11/2015 0702						
Sulfate	32.5		mg/L	2.0	5.0	1.0	D516-90, 02
Analysis Batch: 460-297116	Analysis Date: 05/07/2015 1518						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	Nitrate by calc
Analysis Batch: 460-297791	Analysis Date: 05/11/2015 1527						
Bicarbonate Alkalinity as CaCO3	196		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1603						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1603						
Alkalinity	196		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1603						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1603						
Hardness as calcium carbonate	242		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-296273	Analysis Date: 05/04/2015 1030						
Ferrous Iron	0.048	U HF J	mg/L	0.048	0.10	1.0	SM 3500 FE D
Analysis Batch: 460-297114	Analysis Date: 05/07/2015 1408						
Nitrite as N	0.0061	U	mg/L	0.0061	0.10	1.0	SM 4500 NO2 B
Analysis Batch: 460-294354	Analysis Date: 04/23/2015 1840						
Total Organic Carbon	5.1		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-294916	Analysis Date: 04/24/2015 0637						

5/12/15

General Chemistry

Client Sample ID: 20150422MW-06

Lab Sample ID: 460-93721-5
Client Matrix: Water

Date Sampled: 04/22/2015 1520
Date Received: 04/23/2015 1450

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N	0.010	U	mg/L	0.010	0.050	1.0	353.2
Analysis Batch: 240-180120	Analysis Date: 05/11/2015 0703						
Sulfate	29.9		mg/L	2.0	5.0	1.0	D516-90, 02
Analysis Batch: 460-297116	Analysis Date: 05/07/2015 1518						
Nitrate as N	0.026	U	mg/L	0.026	0.10	1.0	Nitrate by calc
Analysis Batch: 460-297791	Analysis Date: 05/11/2015 1527						
Bicarbonate Alkalinity as CaCO3	311		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1611						
Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1611						
Alkalinity	311		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1611						
Hydroxide Alkalinity	5.0	U	mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 460-295373	Analysis Date: 04/28/2015 1611						
Hardness as calcium carbonate	515		mg/L	25.0	25.0	1.0	SM 2340C
Analysis Batch: 460-296273	Analysis Date: 05/04/2015 1030						
Ferrous Iron	0.90	J HF	mg/L	0.048	0.10	1.0	SM 3500 FE D
Analysis Batch: 460-297114	Analysis Date: 05/07/2015 1408						
Nitrite as N	0.0061	U	mg/L	0.0061	0.10	1.0	SM 4500 NO2 B
Analysis Batch: 460-294354	Analysis Date: 04/23/2015 1921						
Total Organic Carbon	5.1		mg/L	0.11	1.0	1.0	SM 5310B
Analysis Batch: 460-294916	Analysis Date: 04/24/2015 0657						

5/12/15

SiREM
Leading Science · Lasting Solutions

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

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

Customer: Kevin Shanahan, URS/AECOM
Project: Rohm & Haas - Former EMCA, Mamaroneck
Customer Reference: Not provided

SiREM Reference: S-3552
Report Date: 5-May-15
Data Files: iQ5-DHC-QPCR-1221
iQ5-DB-DHC-QPCR-0575
iQ5-TBA-QPCR-0107

Table 1a: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	*Dehalococcoides* Enumeration/Liter **
20150422MW-02	DHC-11631	22-Apr-15	Groundwater	0.0006 - 0.002 %	2×10^4

20JCEQ/mL

Notes:

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

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

5/11/15

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

Approved:
Phil Dennis, M.A.Sc.
Senior Manager

SiREM
Leading Science · Lasting Solutions

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

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

Customer: Kevin Shanahan, URS/AECOM
Project: Rohm & Haas - Former EMCA, Mamaroneck
Customer Reference: Not provided

SiREM Reference: S-3552
Report Date: 5-May-15
Data Files: MyiQ-DHB-QPCR-0345
MyiQ-DB-DHB-QPCR-0159

Table 1b: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhb *	*Dehalobacter* 16S rRNA Gene Copies/Liter
20150422MW-02	DHB-1442	22-Apr-15	Groundwater	0.004 - 0.01 %	2×10^5
20150422MW-04	DHB-1443	22-Apr-15	Groundwater	NA	3×10^3 U
20150422MW-07R	DHB-1444	22-Apr-15	Groundwater	0.004 - 0.01 %	9×10^4
20150422MW-03	DHB-1445	22-Apr-15	Groundwater	0.0002 - 0.0006 %	7×10^3
20150422MW-06	DHB-1446	22-Apr-15	Groundwater	NA	3×10^3 U

200 GC/mL
3U
90
7
3U

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.

5/12/15

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

Approved:
Phil Dennis, M.A.Sc.
Senior Manager

ATTACHMENT B

SUPPORT DOCUMENTATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

v Durham Road
New Jersey 08817
(732) 549-3900 Fax: (732) 549-3679

460-91311 Chain of Custody

CHAIN OF CUSTODY / AI

Page 1 of 1

Name (for report and invoice) Kevin Shanahan	Samplers Name (Printed) Megan DeSioli	Site/Project Identification DOW, Former EMCA, Mamaroneck, NY
Company AECom/URS	P. O. # 41562901	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program:
Address 257 W Genesee St	Analysis Turnaround Time: Standard ☒	
City Buffalo, State NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone 716-856-5636 Fax		

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

Sample Identification	Date	Time	Matrix	No. of Cont.	Perform 8260B										LAB USE ONLY Project No: / Job No: 91311 / Sample Numbers
20150304MW-07R	3/4/15	0900	GW	3	X										-1
20150304MW-03	↓	1138	↓	3	X										-2
20150304MW-02	↓	1230		3	X										-3
TB20150304															-4
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other _____, 7 = Other _____				Soil:											
				Water:	1,2										

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

Relinquished by	Company	Date / Time	Received by	Company
1) Megan DeSioli	AECOM/URS	3/4/15 1330	1)	T.17
Relinquished by 2)	Company T.A	Date / Time 3/6/15 16:30	Received by 2)	Company TAS
Relinquished by 3)	Company	Date / Time	Received by 3)	Company 3/6/15
Relinquished by 4)	Company	Date / Time	Received by 4)	Company 16:30

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0018 (0408)

Massachusetts (M-NJ312), North Carolina (No. 578) 1.1/3.4 IR # 5 N°C.J.

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

S-3498
Page 1 of 1

Name (for report and invoice) Peter Fairbanks	Samplers Name (Printed) Megan Dascoli	Site/Project Identification DOW, Former EMCA, Mamaroneck, NY
Company ORS/AECOM	P. O. # 4156991	State (Location of site): NJ: ☐ NY: ☒ Other:
Address 257 W Genesee St	Analysis Turnaround Time: Standard ☒	Regulatory Program:
City Buffalo, NY State	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone 716-856-5636 Fax		

Sample Identification	Date	Time	Matrix	No. of Cont.	Dehalococcoides	LAB USE ONLY Project No: / Job No: / Sample Numbers
~~MW-07R~~			GW	1	X	
~~MW-03~~			GW	1	X	
20150304MW-02	3/4/15	1250	GW	1	X	4°C
20150304MW-07R	3/4/15	~~1138~~	GW	1	X	4°C
20150304MW-03	3/4/15	~~900~~ 1134	GW	1	X	4°C

Deleted lines

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

5 pcl FedEx

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	AECOM/ORS	3/4/15 1500	1)	SIREM 5 Mar 2015, 12:05pm
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

N

CASE NARRATIVE

Client: URS Corporation

Project: DOW, Former EMCA, Mamaraneck, NY

Report Number: 460-91311-1

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 3/6/2015 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

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

VOLATILE ORGANICS
Samples 20150304MW-07R (460-91311-1), 20150304MW-03 (460-91311-2), 20150304MW-02 (460-91311-3) and TB20150304 (460-91311-4) were analyzed for Volatile organics in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 03/12/2015.

No difficulties were encountered during the Volatile organics analysis.

All quality control parameters were within the acceptance limits.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQU

460-93721 Chain of Custody

2) 549-3679

of 1

Name (for report and invoice): Kevin Shanahan
Company: URS /AECOM
Address: 257 W Genesee St
City: Buffalo State: NY
Phone: 716-923-1215 Fax:

Samplers Name (Printed): Megan Dascoli
P. O. #: 4569901.40000

Analysis Turnaround Time: Standard [X]
Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]

Site/Project Identification: Rohm & Haas - Former EMCA Site, Mamaroneck
State (Location of site): NJ: [ ] NY: [X] Other:
Regulatory Program:

LAB USE ONLY
Project No:
Job No: 93721

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

Sample Identification	Date	Time	Matrix	No. of. Cont.	D516 Sulfate	2320B Alkalinity	SM4500_NO3	3500_Fe_D Iron, Ferrous	200.7 Iron	2340C-Hardness	SM 5310B-TOC	RSK-175 Methane	8260C Freon			Sample Numbers
20150422MW-02	4/22/15	935	GW	10	X	X	X	X	X	X	X	X	X			1
20150422MW-04	↓	1100	GW	10	X	X	X	X	X	X	X	X	X			2
20150422MW-07R	↓	1220	GW	10	X	X	X	X	X	X	X	X	X			3
20150422MW-03	↓	1410	GW	10	X	X	X	X	X	X	X	X	X			4
20150422MW-06	↓	1520	GW	10	X	X	X	X	X	X	X	X	X			5
TB20150422	4/22/15	1520	W	~~2~~4								X	X			6
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH; 6 = Other ____, 7 = Other ____				Soil:												
				Water:	1	1	1	1	1,4	1,4	1,3	1,2	1,2			

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	URS/AECOM	4/23/15 1230	1) [signature]	T.A
2) [signature]	T.A	4/23/15 1450	2) [signature]	TA
3)			3)	
4)			4)	

SHORT HOLD

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

1.2 / 3.2 IR#? [illegible]

TAL-0016 (0814)

CASE NARRATIVE

Client: URS Corporation

Project: Rohm and Haas - Former EMCA Site

Report Number: 460-93721-1

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 4/23/2015 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° 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 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4), 20150422MW-06 (460-93721-5) and TB20150422 (460-93721-6) were analyzed for Volatile organics in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 04/29/2015.

Freon TF failed the recovery criteria low for the MS/MSD of sample 460-93578-1 in batch 460-295352.

Refer to the QC report for details.

No other difficulties were encountered during the Volatile organics analysis.

All other quality control parameters were within the acceptance limits.

DISSOLVED GASES
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4), 20150422MW-06 (460-93721-5) and TB20150422 (460-93721-6) were analyzed for dissolved gases in accordance with RSK_175. The samples were analyzed on 04/25/2015.

Samples 20150422MW-02 (460-93721-1)[200X], 20150422MW-04 (460-93721-2)[10X], 20150422MW-07R (460-93721-3)[20X], 20150422MW-03 (460-93721-4)[200X] and 20150422MW-06 (460-93721-5)[100X] 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: 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5). Elevated reporting limits (RLs) are provided.

No other difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

TOTAL RECOVERABLE METALS
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for total recoverable metals in accordance with EPA Method 200.7 (ICP). The samples were prepared on 04/28/2015 and analyzed on 05/02/2015.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/28/2015.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

HARDNESS
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for hardness in accordance with SM 2340C. The samples were analyzed on 05/04/2015.

No difficulties were encountered during the hardness analysis.

All quality control parameters were within the acceptance limits.

FERROUS IRON
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for ferrous iron in accordance with SM 3500 FE D. The samples were analyzed on 05/07/2015.

Sample 20150422MW-02 (460-93721-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the ferrous iron analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 05/11/2015.

Nitrate Nitrite as N failed the recovery criteria high for LCS 240-180120/5.

Nitrate Nitrite as N failed the recovery criteria low for the MS/MSD of sample 240-49942-1 in batch 240-180137.

Refer to the QC report for details.

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

SULFATE
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 05/06/2015 and 05/07/2015.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

NITRATE BY CALCULATION
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for nitrate by calculation in accordance with Nitrate (a calculated method). The samples were analyzed on 05/11/2015.

No difficulties were encountered during the nitrate analysis.

All quality control parameters were within the acceptance limits.

NITROGEN-NITRITE
Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for Nitrogen-Nitrite in accordance with SM 4500 NO2 B. The samples

were analyzed on 04/23/2015.

No difficulties were encountered during the nitrite analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples 20150422MW-02 (460-93721-1), 20150422MW-04 (460-93721-2), 20150422MW-07R (460-93721-3), 20150422MW-03 (460-93721-4) and 20150422MW-06 (460-93721-5) were analyzed for total organic carbon in accordance with SM 5310B. The samples were analyzed on 04/24/2015.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Edison Job No.: 460-93721-1

SDG No.:

Instrument ID: Konelab1 Method: SM 3500 FE D

Start Date: 05/07/2015 11:09 End Date: 05/07/2015 14:33

Lab Sample ID	D/F	Type	Time	Analytes: Ferron
ICB 460-297114/1	1		11:09	X
ICV 460-297114/2	1		11:09	X
CCV 460-297114/3	1		13:46	X
CCB 460-297114/4	1		13:46	X
MB 460-297114/5	1	T	13:46	X
LCS 460-297114/6	1	T	13:46	X
ZZZZZZ			13:46	
ZZZZZZ			13:46	
ZZZZZZ			13:46	
ZZZZZZ			13:46	
ZZZZZZ			13:46	
ZZZZZZ			13:47	
ZZZZZZ			13:47	
ZZZZZZ			13:47	
CCV 460-297114/15	1		13:50	X
CCB 460-297114/16	1		13:50	X
ZZZZZZ			13:50	
460-93721-2	1	T	13:50	X
CCV 460-297114/19	1		13:52	X
CCB 460-297114/20	1		13:53	X
CCV 460-297114/21	1		14:08	X
CCB 460-297114/22	1		14:08	X
MB 460-297114/23	1	T	14:08	X
LCS 460-297114/24	1	T	14:08	X
ZZZZZZ			14:08	
ZZZZZZ			14:08	
460-93721-3	1	T	14:08	X
460-93721-4	1	T	14:08	X
460-93721-5	1	T	14:08	X
460-93721-1	10	T	14:11	X
CCV 460-297114/31	1		14:13	X
CCB 460-297114/32	1		14:13	X
CCV 460-297114/33	1		14:30	X
CCB 460-297114/34	1		14:30	X
460-93721-3 MS	10	T	14:30	X
460-93721-3 MSD	10	T	14:30	X
CCV 460-297114/37	1		14:33	X
CCB 460-297114/38	1		14:33	X

Prep Types
T = Total/NA

~~TestAmerica~~ SiREM

THE LEADER IN ENVIRONMENTAL TESTING

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

S-3552

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Kevin Shanahan	Samplers Name (Printed): Megan Dascoli	Site/Project Identification: Rohm & Haas - Former EMCA, Mamaroneck
Company: URS/AECOM	P.O. #: 41569901.40000	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 257 W Genesee St		Regulatory Program:
City: Buffalo, NY State:	Analysis Turnaround Time: Standard ☒; Rush Charges Authorized For: 2 Week ☐, 1 Week ☐, Other ☐	LAB USE ONLY — Project No: / Job No:
Phone: 716-923-1215 Fax:		

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

Sample Identification	Date	Time	Matrix	No. of Cont.	Dehalobacter	Dehalococcoides	Sample Numbers
20150422 MW-02	4/22/15	935	GW	2	X	X	
20150422 MW-04	↓	1100	GW	1	X		Cooler condition:
20150422 MW-07R	↓	1220	GW	1	X		Good
20150422 MW-03	↓	1410	GW	1	X		7°C
20150422 MW-06	↓	1520	GW	1	X		No custody seal

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

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

Relinquished by	Company	Date / Time	Received by	Company
1) Megan Dascoli	URS/AECOM	4/22/15 1930	1) Alicia Gurantailla [signature]	SiREM 12:45 pm 23 Apr 2015
2)			2)	
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

TAL-0016 (08/14)

Table 3: Gene-Trac Dhc Control Results, Test Reference S-3552

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	30-Apr-15	qPCR with KB1 genomic DNA (CSLD-0859)	4.2×10^{6}	4.3×10^{5}	See Note 1
Positive Control High Concentration	30-Apr-15	qPCR with KB1 genomic DNA (CSHD-0859)	1.0×10^{10}	1.3×10^{10}	--
DNA Extraction Blank	29-Apr-15	DNA extraction sterile water (FB-2386)	0	2.6×10^{3} U	--
Negative Control	30-Apr-15	Tris Reagent Blank (TBD-0818)	0	2.6×10^{3} U	--

Notes:

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantification limit.

[1]Outside recovery limit guideline of +/- 50%.