URS

August 31, 2010

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

**Re: Former EMCA Site, Mamaroneck, New York**
**Site Number 360025**
**Groundwater Sampling and Analysis Report**
**June 2010 Sampling Event**

Dear Mr. Lee:

Enclosed are two bound copies and a CD containing the Groundwater Sampling and Analysis Report for the June 2010 Sampling Event. This transmittal is being made on behalf of Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company.

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

Sincerely,

**URS Corporation**

Bruce J. Przybyl
Project Manager

Enc.

cc: Mr. Nathan Walz, NYSDOH (w/attachments)
Mr. Ed Tokarski, Dow (w/attachments)
Mr. Louis Vetere, Cablevision (w/attachments)
Ms. Sally Dewes, NYSDEC (e-mail of LOT)
File: 11172730/C-1

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# Groundwater Sampling and Analysis Report June 2010 Sampling Event

## Former EMCA Site
## Mamaroneck, New York

*Prepared for:*

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

*Prepared by:*

URS
77 Goodell Street
Buffalo, New York 14203

**August 2010**

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**FORMER EMCA SITE**

**SITE NO. 360025**

**MAMARONECK, NEW YORK**

# GROUNDWATER SAMPLING AND ANALYSIS REPORT
## JUNE 2010 SAMPLING EVENT

**Prepared for:**

**ROHM AND HAAS COMPANY**

**A WHOLLY-OWNED SUBSIDIARY OF THE DOW CHEMICAL COMPANY**

**Submitted by:**

**URS CORPORATION**

**77 Goodell Street**

**Buffalo, New York 14203**

**AUGUST 2010**

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## 1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted on June 24, 2010 at the former EMCA site located in Mamaroneck, New York (Figure 1). The semi-annual sampling and analyses of groundwater at this site is detailed in the Draft Operation Maintenance and Monitoring Plan (URS 2007b); the monitoring program generates data used to monitor the effectiveness of remedial actions performed at the site from 2003 to 2010.

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

## 2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from a total of five monitoring wells using low-flow purging and sampling procedures. Remediation goals were achieved for four consecutive monitoring events at monitoring well GZ-06, therefore sampling at well GZ-06 has been discontinued. Static groundwater level measurements were taken prior to purging and sampling. Field purging and sampling logs are presented in Appendix A.

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

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

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

## 3.0 RESULTS

Groundwater level data are presented in Table 1 and a groundwater elevation map is shown on Figure 2. Monitoring well GZ-03 was damaged by a vehicle, and therefore was modified from a stick-up well to a flush-mount well on June 24, 2010. A site-wide resurvey was performed on June 25, 2010 to reestablish the monitoring reference points. Two new permanent benchmarks were established along the Sheldrake River located at the South Bridge (BM-B) and the North Bridge (BM-D) to aid in the generation of future groundwater contour maps. One temporary benchmark (BM-C) was established off a tree branch overhanging the river just southwest of Ogden Avenue and will only be used for this groundwater report. In future events, the difference of BM-B and BM-D elevations compared to their baseline elevations will be avaraged to determine an approximate elevation for the area around BM-C. As found during previous sampling events, groundwater flow was generally northwestward towards the Sheldrake River.

Groundwater monitoring results for the current event are provided in Table 2. Historical groundwater analytical results are presented in Table 3. Laboratory data sheets and a data usability summary report for the June 2010 results are provided in Appendix B. Freon 113, 123a and 1113 concentrations are shown in plan view on Figure 3 and trend plots are presented for Freon 113 (Figures 4 and 5), Freon 123a (Figure 6), Freon 1113 (Figure 7), sulfate (Figure 8), methane (Figure 9), dissolved oxygen (Figure 10), oxidation-reduction potential (Figure 11), and pH (Figure 12). Dissolved oxygen, oxidation-reduction potential, and pH were measured in the field by real-time instrumentation. Pre-injection Freon results (2003) and current Freon results are also shown in graph form on Figure 13.

## 4.0 DATA ASSESSMENT

The groundwater analytical data collected in June 2010 is the third set of data collected following the supplemental injection of food-grade emulsified soybean oil and sodium lactate

completed on September 9, 2009. The previous round of groundwater sampling occurred on February 25 and 26, 2010. These results were presented in the previous Groundwater Sampling and Analysis Report for February 2010 (URS, 2010). The groundwater analytical results for the June 2010 sampling event indicate that Freon 113 concentrations were either at or below the remedial goal of 5 µg/L or not detected at four of the five wells sampled. A Freon 113 concentration above 5 µg/L was noted at MW-02 (670 µg/L), increasing from 76 J µg/L in February 2010.

Freon 123a and Freon 1113 are the expected reductive dechlorination daughter products of Freon 113. Freon 123a holds one less chlorine than Freon 113. Therefore, the concentrations of these are expected to increase over time as Freon 113 declines in response to the treatments. Compared to the previous sampling event (February 2010), Freon 123a increased at MW-02 (6.1 µg/L to 37 µg/L), and MW-03 (non-detect to 0.5 J µg/L) and decreased at MW-06 (3.6 µg/L to 0.57 J µg/L), and MW-07R (8.1 µg/L to 1.8 µg/L). Freon 123a was not detected at MW-04 in both the February 2010 and June 2010 events.

Freon 1113, which holds two less chlorines than Freon 113, increased in concentration from the February 2010 event at MW-02 (92 J µg/L to 240 µg/L), MW-03 (17 J µg/L to 26 µg/L), MW-04 (7.7 J µg/L to 12 µg/L), MW-06 (35 J µg/L to 68 J µg/L), and MW-07R (150 J µg/L to 390 µg/L).

The June 2010 sulfate concentrations increased at all locations compared to the previous event. Dissolved oxygen concentrations also increased at all locations (ranging from 0.64 mg/L to 0.85 mg/L). These two trends indicate generally less biological activity.

Methane concentrations increased at MW-02 and MW-07R and decreased at MW-03, MW-04, and MW-06 compared to the previous event.

Oxidation-reduction potentials fluctuated slightly in all wells from the previous event, but remained generally within the same range between –124 to –170 millivolts.

Of note, pH values increased in all wells (8.8 to 9.3 S.U. in the June 2010 event) from the previous event (6.3 to 6.7 S.U. in the February 2010 event), increasing by more than two standard

units. Historically, pH values have ranged between 6 S.U. and 7 S.U. at this site. Because the field pH results appeared anomalous, URS asked the laboratory to determine pH on the unpreserved, unused sample aliquots. Results for all samples fell in the range of 7.04 to 7.26 S.U.; the laboratory pH analyses, however, were performed well outside the 15 minute holding time. Therefore, it is possible (but not conclusive) that the field pH results do not represent actual conditions.

## 5.0 CONCLUSIONS

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

The Freon data trends generally show a continuing, but diminishing, impact of the August-September 2009 supplemental injection event, particularly at MW-02. Freon 113 concentrations increased at MW-02, decreased at MW-07R and remained the same at non-detect at the remaining three wells (MW-03, MW-04, and MW-06) in June 2010. Freon 113 daughter product Freon 123a increased at MW-02, decreased at MW-06 and MW-07R, and was non-detect or showed no significant change at MW-03 and MW-04 in the June 2010 event. An increasing trend of the Freon 113 daughter product Freon 1113 was apparent in all locations. However, this is expected following injection, as daughter products are created as the parent is reduced; the daughter products are then in turn reduced.

Oxidation-reduction potentials fluctuated in all wells. Following the IRM injection in November 2004 (a period of strong Freon reduction), oxidation-reduction potentials in site wells except GZ-06 were observed to fall to approximately –135 to –155 millivolts. Currently, the oxidation-reduction potentials in site wells (not including GZ-06) appear to have a similar range (-124 to –170 millivolts). Methane concentrations increased at MW-02 and MW-07R and decreased at MW-03, MW-04, and MW-06.

Sulfate, which is a competing electron acceptor with Freon, increased at all well locations. Dissolved oxygen concentrations also increased at all locations. These changes suggest that there is decreasing biological activity present.

## 6.0 CONTINGENCY TRIGGER EVALUATION

A comparison of the current round of data to the contingency measure trigger criteria is presented below. These criteria were accepted by the NYSDEC in an E-mail dated August 25, 2010.

<table>
<tr><th>TRIGGER CRITERIA</th><th>ANALYSIS</th></tr>
<tr><td>1. A successive increase of 100-percent or greater in Freon 113 concentrations for two consecutive events at any monitored well, assuming that the remediation goal (5 μg/L) is exceeded in at least one of the monitoring events. For example, a well concentration that increased from 4 μg/L to 8 μg/L to 16 μg/L over two consecutive events would trigger contingency measures.</td><td>Freon 113 was detected above the remediation goal in only 1 well (MW-02) in this sampling round. Freon 113 was detected at 670 μg/L in June 2010 at MW-02, increasing from 76 μg/L in February 2010. This increase is greater than 100-percent. Although contingency measures are not triggered at this juncture, measures will be triggered by a detection of 1,340 μg/L or greater in the next sampling event.</td></tr>
<tr><td>2. Freon 113 is confirmed at MW-04 at a concentration greater than the remediation goal (5 μg/L).</td><td>Freon 113 was not detected at MW-04 in this sampling event.</td></tr>
<tr><td>3. The maximum detected Freon 113 concentration at any well is greater than a maximum target level, as shown below.
<table>
<tr><th>YEAR</th><th>TARGET MAXIMUM</th></tr>
<tr><td>2011</td><td>320 μg/L</td></tr>
<tr><td>2012</td><td>160 μg/L</td></tr>
<tr><td>2013</td><td>80 μg/L</td></tr>
<tr><td>2014</td><td>40 μg/L</td></tr>
</table>
Once 40 μg/L is achieved after 2014, Criteria #1 becomes the relevant criteria.</td><td>Freon 113 was detected at MW-02 at a concentration of 670 μg/L in this sampling event. Although contingency measures are not triggered at this juncture, measures will be triggered if the Freon 113 concentration remains above 320 μg/L in either event scheduled in 2011.</td></tr>
</table>

Based on this analysis, contingency measures are not triggered by the June 2010 sampling event.

## 7.0 NEXT STEPS

Based on experience with past events, the duration of significant impact of substrate injections appears to be on the order of about 1 to 2 years. Reductive dechlorination may resume at a significant pace into 2011. The next sampling event is scheduled for October 2010. This event will be used to evaluate the pace of reductive dechlorination at the site, particularly in the vicinity of MW-02.

**REFERENCES**


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

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

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

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

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

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

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

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

# TABLES

**TABLE 1**
**GROUNDWATER ELEVATION MEASUREMENTS (June 2010)**
**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 | 6.35 | 19.81 |
| GZ-06 | 28.02 | 7.65 | 20.37 |
| MW-01 | 25.74 | 5.60 | 20.14 |
| MW-02 | 25.63 | 6.01 | 19.62 |
| MW-03 | 25.59 | 5.95 | 19.64 |
| MW-04 | 25.31 | 5.89 | 19.42 |
| MW-05 | 24.63 | 5.06 | 19.57 |
| MW-06 | 25.77 | 6.18 | 19.59 |
| MW-07R | 25.63 | 6.06 | 19.57 |
| Benchmark B (Sheldrake River - South Bridge) | 32.21 | 13.25 | 18.96 |
| Benchmark C[4] (Sheldrake River - between North and South Bridge) | 24.17 | 6.17 | 18.00 |
| Benchmark D (Sheldrake River - North Bridge) | 27.41 | 10.35 | 17.06 |

Notes:

1) All of the monitoring well and benchmark locations were resurveyed on 6/25/2010.
2) Depth to water for all wells was collected on 6/24/2010. Water elevation for all benchmarks was collected on 6/25/2010.
3) Monitoring well GZ-03 was modified from a stick-up well to a flush-mount well on 6/24/2010.
4) Benchmark C was established off a tree branch overhanging the Sheldrake River between the north and south bridges. This benchmark is not permanent and will only be used for this groundwater report.

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

| Location ID | | | MW-02 | MW-03 | MW-04 | MW-06 | MW-07R |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100624MW-02V08N | 20100624MW-03V09N | 20100624MW-04V08N | 20100624MW-06V13N | 20100624MW-07RV15FD |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 06/24/10 | 06/24/10 | 06/24/10 | 06/24/10 | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 240 | 26 | 12 | 68 J | 350 J |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 670 | 1 U | 1 U | 1 U | 1.1 J |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 37 | 0.5 J | 1 U | 0.57 J | 1.7 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 8,400 | 6,000 | 4,000 | 9,400 | 8,100 |
| **Miscellaneous Parameters** | | | | | | | |
| Sulfate | MG/L | 250 | 38.9 | 15.8 | 18.4 | 52.3 | 17 |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.64 | 0.85 | 0.80 | 0.73 | NA |
| Oxidation Reduction Potential | mV | - | -136 | -170 | -146 | -124 | NA |
| pH | S.U. | - | 8.91 | 9.28 | 8.99 | 8.81 | NA |
| Specific Conductance | MS/CM | - | 1.70 | 1.50 | 1.84 | 0.958 | NA |
| Temperature | DEG C | - | 16.71 | 16.51 | 18.45 | 17.79 | NA |
| Turbidity | NTU | - | 3.0 | 5.1 | 1.9 | 0.45 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect

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

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07R |
|---|---|---|---|
| Sample ID | | | 20100624MW-07RV15N |
| Matrix | | | Groundwater |
| Depth Interval (ft) | | | - |
| Date Sampled | | | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | |
| **Volatiles** | | | |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 390 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 1 |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1.8 |
| **Dissolved Gases** | | | |
| Methane | UG/L | - | 8,400 |
| **Miscellaneous Parameters** | | | |
| Sulfate | MG/L | 250 | 11.2 |
| **Field Parameter** | | | |
| Dissolved Oxygen | MG/L | - | 0.69 |
| Oxidation Reduction Potential | mV | - | -129 |
| pH | S.U. | - | 8.83 |
| Specific Conductance | MS/CM | - | 2.09 |
| Temperature | DEG C | - | 16.45 |
| Turbidity | NTU | - | 0.35 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect

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

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

Advanced Selection: WG Jun10 Tab
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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | GZ-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

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

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

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Advanced Selection: WG Jun10 Tab
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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | GZ-06 | GZ-06 | 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

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

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UJ - Not detected above the estimated quantitation limit

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-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

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

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

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

Only Detected Results Reported.

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Advanced Selection: WG Jun10 Tab
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 8/4/2010 8:59:52 AM
([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

UJ - Not detected above the estimated quantitation limit

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
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Only Detected Results Reported.

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-02 | MW-02 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100225MW-02V08N | 20100624MW-02V08N | MW03_52103 | MW03 | DUP-91703 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/25/10 | 06/24/10 | 05/21/03 | 07/23/03 | 09/17/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | 250 U | 78 | 110 |
| Benzene | UG/L | 1 | NA | NA | 250 U | 2.3 | 2.2 |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | R | 130 J | 69 J |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 92 J | 240 | 0 U | 7.0 NJ | 6.2 NJ |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | 33 J | 2.0 U | 2.0 U |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | 250 U | 5.0 U | 5.0 U |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | 250 U | 5.0 U | 5.0 U |
| Ethylbenzene | UG/L | 5 | NA | NA | 200 U | 0.3 J | 4.0 U |
| 2-Hexanone | UG/L | 50 | NA | NA | 250 U | 5.0 U | 19 |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | 250 U | 5.0 U | 11 |
| Tetrachloroethene | UG/L | 5 | NA | NA | 50 U | 1.0 U | 1.0 U |
| Trichloroethene | UG/L | 5 | NA | NA | 50 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 76 J | 670 | 5,800 | 68 | 26 |
| Vinyl Chloride | UG/L | 2 | NA | NA | 250 U | 5.0 U | 5.0 U |
| Xylene (total) | UG/L | 5 | NA | NA | 250 U | 1.1 J | 5.0 U |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 6.1 | 37 | 78 J | 43 | 180 |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 7,500 | 8,400 | 86 | 56 | 2,400 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | 1,170 | 150,000 | 174,000 J |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | 267 | 152,000 | 187,000 J |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-02 | MW-02 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100225MW-02V08N | 20100624MW-02V08N | MW03_52103 | MW03 | DUP-91703 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/25/10 | 06/24/10 | 05/21/03 | 07/23/03 | 09/17/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | 113 | 143 | 99.2 J |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | 0.36 | 2.7 | 0.86 |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | 1.3 | 10.8 | 4.5 |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | 2 | NA | 0.1 U |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | 0.1 UJ | NA |
| Sulfate | MG/L | 250 | 5 U | 38.9 | 32.7 | 26.9 | 5.0 U |
| Ferrous Iron (field) | MG/L | - | NA | NA | 0.5 | 3.7 | 25.5 |
| Ferric Iron (lab) | MG/L | - | NA | NA | 0.67 | 146 | 67.0 |
| Fluoride | MG/L | 1.5 | NA | NA | 0.28 | 0.44 | 0.27 |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | R |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.00 | 0.64 | 0.58 | 0 U | NA |
| Oxidation Reduction Potential | mV | - | -147 | -136 | 40 | -103 | NA |
| pH | S.U. | - | 6.57 | 8.91 | NA | NA | NA |
| Specific Conductance | MS/CM | - | 4.48 | 1.70 | 0.638 | 4.35 | NA |
| Temperature | DEG C | - | 9.33 | 16.71 | NA | NA | NA |
| Turbidity | NTU | - | 0 | 3.0 | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
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UJ - Not detected above the estimated quantitation limit
U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW03-091703 | DUP1_121703 | MW-03_121703 | MW-03 | MW-03 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 09/17/03 | 12/17/03 | 12/17/03 | 07/23/04 | 05/31/05 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | 110 | 130 J | 120 J | NA | NA |
| Benzene | UG/L | 1 | 1.8 | 10 U | 10 U | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | 65 J | 39 J | 38 J | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 0 U | 0 U | 0 U | 68 J | 83 |
| 1,1-Dichloroethene | UG/L | 5 | 2.0 U | 4.0 U | 4 U | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | 5.0 U | 10 U | 10 U | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | 5.0 U | 10 U | 10 U | NA | NA |
| Ethylbenzene | UG/L | 5 | 4.0 U | 8.0 U | 8 U | NA | NA |
| 2-Hexanone | UG/L | 50 | 16 | 10 U | 10 U | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | 11 | 10 U | 10 U | NA | NA |
| Tetrachloroethene | UG/L | 5 | 1.0 U | 4.9 | 4.6 | NA | NA |
| Trichloroethene | UG/L | 5 | 1.0 U | 2.0 U | 2 U | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 16 | 150 | 150 | 4,900 J | 2.0 J |
| Vinyl Chloride | UG/L | 2 | 5.0 U | 10 U | 10 U | NA | NA |
| Xylene (total) | UG/L | 5 | 5.0 U | 10 U | 10 U | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 110 | 170 | 160 | 3,900 | 14 |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 2,500 | 7,200 | 4,900 | 2,700 | 6,300 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | 178,000 J | 156,000 | 164,000 | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | 186,000 J | 167,000 | 176,000 | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW03-091703 | DUP1_121703 | MW-03_121703 | MW-03 | MW-03 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 09/17/03 | 12/17/03 | 12/17/03 | 07/23/04 | 05/31/05 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | 91.5 J | 224 | 192 | 71.7 | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | 0.95 | 1.4 | 1.2 | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | 4.4 | 4.0 | 4.0 | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | 0.1 U | 0.1 U | 0.1 U | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Ferrous Iron (field) | MG/L | - | 27.9 | 23.5 | 30.0 | NA | NA |
| Ferric Iron (lab) | MG/L | - | 93.0 | 132 | 134 | NA | NA |
| Fluoride | MG/L | 1.5 | 0.2 | 0.22 | 0.25 | 0.397 | NA |
| Oil & Grease | MG/L | - | R | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.01 | NA | 0.35 | 1.05 | 1.24 |
| Oxidation Reduction Potential | mV | - | -90 | NA | -59 | -143 | -133 |
| pH | S.U. | - | NA | NA | NA | NA | NA |
| Specific Conductance | MS/CM | - | 1.64 | NA | 1.99 | 2.40 | 3.19 |
| Temperature | DEG C | - | NA | NA | NA | NA | NA |
| Turbidity | NTU | - | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-03VION | MW-03V15N | 20070207MW-03V10N | 20070731MW-03V10N | 20080228MW03V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/14/06 | 02/07/07 | 07/31/07 | 02/28/08 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 2.0 J | 51 | 39 | 54 | 13 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 | 2.0 J | 0.5 J |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1.0 J | 0.8 J | 48 | 7.0 J | 4.0 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 10,000 | 7,400 | 15,000 | 4,500 | 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

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-03VION | MW-03V15N | 20070207MW-03V10N | 20070731MW-03V10N | 20080228MW03V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/14/06 | 02/07/07 | 07/31/07 | 02/28/08 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 5.0 U | 5.0 U | 7.80 | 38.4 | 14.1 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 5.36 | 2.44 | 0.22 | 2.94 |
| Oxidation Reduction Potential | mV | - | -151 | -123 | -116 | -79.7 | -123.0 |
| pH | S.U. | - | NA | NA | NA | 6.15 | 6.15 |
| Specific Conductance | MS/CM | - | 1.20 | 0.946 | 0.91 | 1.309 | 1.36 |
| Temperature | DEG C | - | NA | NA | NA | NA | 11.6 |
| Turbidity | NTU | - | NA | NA | NA | NA | 41 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

Advanced Selection: WG Jun10 Tab
N:\11172730.00000\DB\PROGRAM\EDMS.mde
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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20080812MW03V10FD | 20080812MW03V10N | 20090218MW-03V10N | 20091013MW-03V10FD | 20091013MW-03V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/12/08 | 08/12/08 | 02/18/09 | 10/13/09 | 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 | 10 | 10 | 38 | 20 | 19 |
| 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 | 5.0 J | 0.92 J | 0.82 J |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1.0 J | 1.0 J | 40 | 2.1 | 1.9 |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 10,000 | 8,400 | 13,000 | 5,300 | 4,800 |
| **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

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

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

UJ - Not detected above the estimated quantitation limit

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20080812MW03V10FD | 20080812MW03V10N | 20090218MW-03V10N | 20091013MW-03V10FD | 20091013MW-03V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/12/08 | 08/12/08 | 02/18/09 | 10/13/09 | 10/13/09 |
| **Parameter** | **Units** | **Criteria*** | Field Duplicate (1-1) | | | Field Duplicate (1-1) | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 30.0 | 28.1 | 50.7 J | 4.6 J | 8.7 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | NA | 0 U | 0 U | NA | 0.00 |
| Oxidation Reduction Potential | mV | - | NA | -149 | -185 | NA | -103 |
| pH | S.U. | - | NA | 6.36 | 6.06 | NA | 5.87 |
| Specific Conductance | MS/CM | - | NA | 1.69 | 2.08 | NA | 1.85 |
| Temperature | DEG C | - | NA | 17.8 | 12.87 | NA | 18.68 |
| Turbidity | NTU | - | NA | 2 | 5 | NA | 8.7 |

*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

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100226MW-03V09N | 20100624MW-03V09N | MW04-5-20-03 | MW-04_121703 | Dup1 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/26/10 | 06/24/10 | 05/20/03 | 12/17/03 | 07/22/04 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | 5.0 U | 5.0 U | NA |
| Benzene | UG/L | 1 | NA | NA | 5.0 U | 5.0 U | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | R | R | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 17 J | 26 | 0 U | 0 U | 10 U |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | 2.0 U | 2.0 U | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | 5.0 U | 5.0 U | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | 5.0 U | 5.0 U | NA |
| Ethylbenzene | UG/L | 5 | NA | NA | 4.0 U | 4.0 U | NA |
| 2-Hexanone | UG/L | 50 | NA | NA | 5.0 U | 5.0 U | NA |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | 5.0 U | 5.0 U | NA |
| Tetrachloroethene | UG/L | 5 | NA | NA | 1.0 U | 1.0 U | NA |
| Trichloroethene | UG/L | 5 | NA | NA | 1.0 U | 1.0 U | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 1 UJ | 1 U | 5.0 U | 5.0 U | 10 UJ |
| Vinyl Chloride | UG/L | 2 | NA | NA | 5.0 U | 5.0 U | NA |
| Xylene (total) | UG/L | 5 | NA | NA | 5.0 U | 5.0 U | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1 U | 0.5 J | 5.0 U | 5.0 U | 10 U |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 13,000 | 6,000 | 380 | 35 | 69 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | 18,400 | 3,640 | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | 18,500 | 3,760 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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J - Analyte is reported below the PQL at an estimated concentration.
UJ - Not detected above the estimated quantitation limit
U - Non-Detect NA - Not Analyzed R - Rejected

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-03 | MW-03 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100226MW-03V09N | 20100624MW-03V09N | MW04-5-20-03 | MW-04_121703 | Dup1 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/26/10 | 06/24/10 | 05/20/03 | 12/17/03 | 07/22/04 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | 238 | 294 | 158 |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | 1.6 | 1.2 | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | 6.2 | 1.9 | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | 0.1 U | 0.1 U | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 11.6 | 15.8 | 5.0 U | 9.40 | 10.8 |
| Ferrous Iron (field) | MG/L | - | NA | NA | 17.6 | 2.2 | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | 0.76 | 1.3 | NA |
| Fluoride | MG/L | 1.5 | NA | NA | 0.27 | 0.19 | 0.304 |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.00 | 0.85 | 0.54 | 0 U | NA |
| Oxidation Reduction Potential | mV | - | -138 | -170 | -115 | 0 U | NA |
| pH | S.U. | - | 6.32 | 9.28 | NA | NA | NA |
| Specific Conductance | MS/CM | - | 3.39 | 1.50 | 1.61 | 0.99 | NA |
| Temperature | DEG C | - | 8.95 | 16.51 | NA | NA | NA |
| Turbidity | NTU | - | 94 | 5.1 | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-04 | MW-04 | MW-04VION | MW-04V15N | 20070207MW-04V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 07/22/04 | 05/31/05 | 12/20/05 | 08/14/06 | 02/07/07 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 10 U | 1.0 J | 10 U | 0.7 J | 0.6 J |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | NA |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | NA |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 0.7 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 | 10 U | 10 U | 10 U | 10 U | 10 U |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 99 | 190 | 400 | 420 | 400 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-04 | MW-04 | MW-04VION | MW-04V15N | 20070207MW-04V10N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 07/22/04 | 05/31/05 | 12/20/05 | 08/14/06 | 02/07/07 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | 161 | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 10.8 | 14.2 | 6.66 | 5.0 U | 5.0 U |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | 0.302 | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.82 | 0 U | 0 U | 4.97 | 4.73 |
| Oxidation Reduction Potential | mV | - | -136 | -126 | -161 | -154 | -81 |
| pH | S.U. | - | NA | NA | NA | NA | NA |
| Specific Conductance | MS/CM | - | 1.05 | 1.85 | 1.47 | 1.14 | 0.804 |
| Temperature | DEG C | - | NA | NA | NA | NA | NA |
| Turbidity | NTU | - | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20070801MW-04V10N | 20080228MW04V10N | 20080812MW04V08N | 20090218MW-04V08FD | 20090218MW-04V08N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/01/07 | 02/28/08 | 08/12/08 | 02/18/09 | 02/18/09 |
| **Parameter** | **Units** | **Criteria*** | | | | Field Duplicate (1-1) | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 10 U | 1.0 J | 10 U | 1.0 J | 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 UJ | 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 | - | 43 | 5,700 | 290 | 1,600 | 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

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-04 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20070801MW-04V10N | 20080228MW04V10N | 20080812MW04V08N | 20090218MW-04V08FD | 20090218MW-04V08N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/01/07 | 02/28/08 | 08/12/08 | 02/18/09 | 02/18/09 |
| **Parameter** | **Units** | **Criteria*** | | | | Field Duplicate (1-1) | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 7.0 | 5 U | 5 U | 5 UJ | 5 UJ |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.41 | 2.91 | 0 U | NA | 0 U |
| Oxidation Reduction Potential | mV | - | -79.2 | -136.0 | -126 | NA | -158 |
| pH | S.U. | - | 6.59 | 6.45 | 6.65 | NA | 6.33 |
| Specific Conductance | MS/CM | - | 1.241 | 1.16 | 0.531 | NA | 1.75 |
| Temperature | DEG C | - | NA | 9.19 | 21.3 | NA | 9.36 |
| Turbidity | NTU | - | NA | 9 | 2 | NA | 4 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-05 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20091013MW-04V08N | 20100225MW04V08FD | 20100225MW-04V08N | 20100624MW-04V08N | MW05_52103 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 10/13/09 | 02/25/10 | 02/25/10 | 06/24/10 | 05/21/03 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | 5.0 U |
| Benzene | UG/L | 1 | NA | NA | NA | NA | 5.0 U |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | R |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 15 | 6.6 J | 7.7 J | 12 | 0 U |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 2.0 U |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 5.0 U |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 5.0 U |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | 4.0 U |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | 5.0 U |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | 5.0 U |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | 0.4 J |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 1 U | 1 UJ | 1 UJ | 1 U | 5.0 U |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | 5.0 U |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | 5.0 U |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1 U | 1 U | 1 U | 1 U | 5.0 U |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 3,100 | 5,200 | 5,100 | 4,000 | 27 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | 2,110 |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | 1,670 |

*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

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

**Detection Limits shown are PQL**

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

| Location ID | | | MW-04 | MW-04 | MW-04 | MW-04 | MW-05 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20091013MW-04V08N | 20100225MW04V08FD | 20100225MW-04V08N | 20100624MW-04V08N | MW05_52103 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 10/13/09 | 02/25/10 | 02/25/10 | 06/24/10 | 05/21/03 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | 49.8 |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | 0.25 |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | 3.6 |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | 0.22 |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 20.8 | 13 | 11.3 | 18.4 | 50.1 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | 1.7 |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | 0.43 |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | 0 U |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.00 | NA | 0.00 | 0.80 | 0.37 |
| Oxidation Reduction Potential | mV | - | -122 | NA | -124 | -146 | 26 |
| pH | S.U. | - | 6.43 | NA | 6.50 | 8.99 | NA |
| Specific Conductance | MS/CM | - | 1.83 | NA | 2.14 | 1.84 | 0.426 |
| Temperature | DEG C | - | 19.37 | NA | 8.34 | 18.45 | NA |
| Turbidity | NTU | - | 4.6 | NA | 1.5 | 1.9 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

| Location ID | | | MW-05 | MW-05 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-05-121803 | MW-05 | MW06-6-10-03 | MW06-7_22_03 | MW06-091803 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/18/03 | 07/23/04 | 06/10/03 | 07/22/03 | 09/18/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| Benzene | UG/L | 1 | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | R | NA | R | R | R |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 0 U | 10 U | 0 U | 5.7 NJ | 0 U |
| 1,1-Dichloroethene | UG/L | 5 | 2.0 U | NA | 4 U | 1.2 J | 2.0 U |
| cis-1,2-Dichloroethene | UG/L | 5 | 5.0 U | NA | 10 U | 1.7 J | 1.4 J |
| trans-1,2-Dichloroethene | UG/L | 5 | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| Ethylbenzene | UG/L | 5 | 4.0 U | NA | 8 U | 4.0 U | 4.0 U |
| 2-Hexanone | UG/L | 50 | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| 4-Methyl-2-Pentanone | UG/L | - | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| Tetrachloroethene | UG/L | 5 | 1.0 U | NA | 2 U | 1.0 U | 1.0 U |
| Trichloroethene | UG/L | 5 | 1.0 U | NA | 2 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 5.0 U | 0.5 J | 220 | 180 | 97 |
| Vinyl Chloride | UG/L | 2 | 5.0 U | NA | 10 U | 1.2 J | 5.0 U |
| Xylene (total) | UG/L | 5 | 5.0 U | NA | 10 U | 5.0 U | 5.0 U |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 5.0 U | 10 U | 8.8 J | 9.5 | 8.6 |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 6.7 | 47 | 49 | 81 | 99 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | 15,500 | NA | 14,400 | 10,500 | 8,370 J |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | 39.7 U | NA | 14,300 | 10,300 | 8,470 J |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-05 | MW-05 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-05-121803 | MW-05 | MW06-6-10-03 | MW06-7_22_03 | MW06-091803 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/18/03 | 07/23/04 | 06/10/03 | 07/22/03 | 09/18/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | 27.5 | 63.9 | 184 | 82.3 | 74.6 |
| Nitrogen, Ammonia (As N) | MG/L | 2 | 0.1 U | NA | 0.19 | 0.33 | 0.31 |
| Nitrogen, Kjeldahl, Total | MG/L | - | 0.61 | NA | 0.72 | 1.1 | 0.88 |
| Nitrogen, Nitrate | MG/L | 10 | 0.18 | NA | 0.33 | 0.1 U | 0.1 U |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 61.4 | 42.3 | 32.0 | 30.5 | 39.2 |
| Ferrous Iron (field) | MG/L | - | 0.07 | NA | 14.3 | 8.6 | 6.0 |
| Ferric Iron (lab) | MG/L | - | 15.4 | NA | 0.12 | 1.9 | 8.4 |
| Fluoride | MG/L | 1.5 | 0.12 | 0.103 | 0.46 | 0.56 | 0.37 |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | 5 U |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 0.97 | 0.93 | 1.07 | 0 U |
| Oxidation Reduction Potential | mV | - | 121 | 46 | -145 | -155 | -143 |
| pH | S.U. | - | NA | NA | NA | NA | NA |
| Specific Conductance | MS/CM | - | 0.629 | 0.463 | 0.741 | 0.866 | 0.581 |
| Temperature | DEG C | - | NA | NA | NA | NA | NA |
| Turbidity | NTU | - | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-06_121703 | MW-06 | Field-Dup | MW-06 | MW-06V15FD |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/17/03 | 07/23/04 | 05/31/05 | 05/31/05 | 12/20/05 |
| **Parameter** | **Units** | **Criteria*** | | | Field Duplicate (1-1) | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | 10 U | NA | NA | NA | NA |
| Benzene | UG/L | 1 | 10 U | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | R | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 0 U | 5 J | 6.0 J | 5.0 J | 6.0 J |
| 1,1-Dichloroethene | UG/L | 5 | 4 U | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | 1.3 J | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | 10 U | NA | NA | NA | NA |
| Ethylbenzene | UG/L | 5 | 8 U | NA | NA | NA | NA |
| 2-Hexanone | UG/L | 50 | 10 U | NA | NA | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | 10 U | NA | NA | NA | NA |
| Tetrachloroethene | UG/L | 5 | 2 U | NA | NA | NA | NA |
| Trichloroethene | UG/L | 5 | 2 U | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 250 | 140 J | 1.0 J | 1.0 J | 10 U |
| Vinyl Chloride | UG/L | 2 | 10 U | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | 10 U | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 14 | 23 | 16 | 14 | 10 UJ |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 78 | 40 | 3,600 | 3,300 | 6,700 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | 7,690 | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | 7,670 | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-06_121703 | MW-06 | Field-Dup | MW-06 | MW-06V15FD |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/17/03 | 07/23/04 | 05/31/05 | 05/31/05 | 12/20/05 |
| **Parameter** | **Units** | **Criteria*** | | | Field Duplicate (1-1) | | Field Duplicate (1-1) |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | 84.0 | 60.5 | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | 0.36 | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | 0.79 | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | 0.1 UJ | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 39.1 | 33.5 | 5.0 U | 5.0 U | 5.0 U |
| Ferrous Iron (field) | MG/L | - | 8.7 | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | 1.0 U | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | 0.42 | 0.467 | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 1.04 | NA | 0 U | NA |
| Oxidation Reduction Potential | mV | - | -110 | -64 | NA | -140 | NA |
| pH | S.U. | - | NA | NA | NA | NA | NA |
| Specific Conductance | MS/CM | - | 0.602 | 0.513 | NA | 1.13 | NA |
| Temperature | DEG C | - | NA | NA | NA | NA | NA |
| Turbidity | NTU | - | NA | NA | NA | NA | NA |

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

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Concentration Exceeds Criteria

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-06V15N | MW-06V15FD | MW-06V15N | 20070207MW-06V15FD | 20070207MW-06V15N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/15/06 | 08/15/06 | 02/07/07 | 02/07/07 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | Field Duplicate (1-1) | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 6.0 J | 10 U | 10 U | 100 | 100 |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | NA |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | NA |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 10 U | 10 U | 10 U | 3.0 J | 3.0 J |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 10 UJ | 10 U | 10 U | 8.0 J | 8.0 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 5,600 | 1,600 | 1,700 | 12,000 | 13,000 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-06V15N | MW-06V15FD | MW-06V15N | 20070207MW-06V15FD | 20070207MW-06V15N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/15/06 | 08/15/06 | 02/07/07 | 02/07/07 |
| **Parameter** | **Units** | **Criteria*** | | Field Duplicate (1-1) | | Field Duplicate (1-1) | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 5.0 U | 5.0 U | 5.0 U | 7.40 | 7.00 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | NA | 6.83 | NA | 1.05 |
| Oxidation Reduction Potential | mV | - | -140 | NA | 87 | NA | -136 |
| pH | S.U. | - | NA | NA | NA | NA | NA |
| Specific Conductance | MS/CM | - | 1.29 | NA | 0.033 | NA | 0.79 |
| Temperature | DEG C | - | NA | NA | NA | NA | NA |
| Turbidity | NTU | - | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

Advanced Selection: WG Jun10 Tab
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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20070731MW-06V15FD | 20070731MW-06V15N | 20080228MW06V15FD | 20080228MW06V15N | 20080812MW06V13N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 07/31/07 | 07/31/07 | 02/28/08 | 02/28/08 | 08/12/08 |
| **Parameter** | **Units** | **Criteria*** | Field Duplicate (1-1) | | Field Duplicate (1-1) | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 18 | 21 | 8.0 J | 8.0 J | 4.0 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 | 0.5 J | 0.6 J | 10 U | 10 U | 10 U |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 3,800 | 2,500 | 12,000 | 14,000 | 12,000 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-06 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20070731MW-06V15FD | 20070731MW-06V15N | 20080228MW06V15FD | 20080228MW06V15N | 20080812MW06V13N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 07/31/07 | 07/31/07 | 02/28/08 | 02/28/08 | 08/12/08 |
| **Parameter** | **Units** | **Criteria*** | Field Duplicate (1-1) | | Field Duplicate (1-1) | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 41.8 | 44.2 | 5 U | 5 U | 17.8 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | NA | 0.31 | NA | 2.61 | 0 U |
| Oxidation Reduction Potential | mV | - | NA | -99.7 | NA | -122.0 | -117 |
| pH | S.U. | - | NA | 6.38 | NA | 6.24 | 6.37 |
| Specific Conductance | MS/CM | - | NA | 1.050 | NA | 1.21 | 1.47 |
| Temperature | DEG C | - | NA | NA | NA | 12.2 | 17.0 |
| Turbidity | NTU | - | NA | NA | NA | 9 | 5 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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UJ - Not detected above the estimated quantitation limit
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Only Detected Results Reported.

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20090219MW-06V13N | 20091013MW-06V13N | 20100226MW-06V13N | 20100624MW-06V13N | MW07-6-10-03 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/19/09 | 10/13/09 | 02/26/10 | 06/24/10 | 06/10/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | 250 U |
| Benzene | UG/L | 1 | NA | NA | NA | NA | 250 U |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | R |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 34 | 6.4 | 35 J | 68 J | 0 U |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 100 U |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 250 U |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | 250 U |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | 200 U |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | 250 U |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | 250 U |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | 50 U |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | 50 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 2.0 J | 1 U | 1 UJ | 1 U | 5,400 |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | 250 U |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | 250 U |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 35 | 1 U | 3.6 | 0.57 J | 68 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 9,000 | 7,300 | 13,000 | 9,400 | 740 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | 21,300 |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | 20,800 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Only Detected Results Reported.

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-06 | MW-06 | MW-06 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20090219MW-06V13N | 20091013MW-06V13N | 20100226MW-06V13N | 20100624MW-06V13N | MW07-6-10-03 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 02/19/09 | 10/13/09 | 02/26/10 | 06/24/10 | 06/10/03 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | 140 |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | 0.39 |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | 1.2 |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | 0.1 U |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 57.0 J | 2.8 J | 31.2 | 52.3 | 32.8 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | 20.2 |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | 1 |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | 0.33 |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 0.00 | 0.00 | 0.73 | 0.9 |
| Oxidation Reduction Potential | mV | - | -132 | -139 | -140 | -124 | -130 |
| pH | S.U. | - | 6.30 | 6.57 | 6.46 | 8.81 | NA |
| Specific Conductance | MS/CM | - | 0.84 | 1.79 | 2.48 | 0.958 | 0.93 |
| Temperature | DEG C | - | 13.23 | 17.80 | 11.80 | 17.79 | NA |
| Turbidity | NTU | - | 8 | 2.2 | 39 | 0.45 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW07 | MW07-91703 | MW-07_121703 | MW-07 | MW-07 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 07/23/03 | 09/17/03 | 12/17/03 | 07/22/04 | 05/31/05 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | 500 U | 250 U | 50 U | NA | NA |
| Benzene | UG/L | 1 | 500 U | 250 U | 14 | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | R | R | R | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 0 U | 0 U | 0 U | 210 | 140 |
| 1,1-Dichloroethene | UG/L | 5 | 68 J | 100 U | 20 U | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | 500 U | 250 U | 50 U | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | 500 U | 250 U | 50 U | NA | NA |
| Ethylbenzene | UG/L | 5 | 400 U | 200 U | 49 | NA | NA |
| 2-Hexanone | UG/L | 50 | 500 U | 250 U | 50 U | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | 500 U | 250 U | 50 U | NA | NA |
| Tetrachloroethene | UG/L | 5 | 100 U | 50 U | 10 U | NA | NA |
| Trichloroethene | UG/L | 5 | 100 U | 50 U | 10 U | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 8,500 | 6,100 | 370 | 110 J | 10 U |
| Vinyl Chloride | UG/L | 2 | 500 U | 250 U | 50 U | NA | NA |
| Xylene (total) | UG/L | 5 | 500 U | 250 U | 50 U | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 130 J | 130 J | 940 | 50 | 2.0 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 420 | 1,200 | 1,700 | 2,500 | 5,900 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | 21,200 | 32,700 J | 38,900 | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | 20,800 | 32,500 J | 38,900 | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-07V15N | MW-07V15N | 20070207MW-07V15N | 20070731MW-07V15N | 20080228MW07V15N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/14/06 | 02/07/07 | 07/31/07 | 02/28/08 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 47 | 97 | 89 | 82 | 92 |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | NA |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | NA |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 10 U | 10 U | 10 U | 6.0 J | 10 UJ |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 10 U | 1.0 J | 3.0 J | 10 | 0.9 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 9,700 | 6,900 | 6,200 | 4,100 | 7,100 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

UJ - Not detected above the estimated quantitation limit

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

Advanced Selection: WG Jun10 Tab
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 8/4/2010 8:59:57 AM
([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 |
|---|---|---|---|---|---|---|---|
| Sample ID | | | MW-07V15N | MW-07V15N | 20070207MW-07V15N | 20070731MW-07V15N | 20080228MW07V15N |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 12/20/05 | 08/14/06 | 02/07/07 | 07/31/07 | 02/28/08 |
| **Parameter** | **Units** | **Criteria*** | | | | | |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 5.0 U | 19.3 | 5.0 U | 6.1 | 5 U |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 3.47 | 2.89 | 0.48 | 2.64 |
| Oxidation Reduction Potential | mV | - | -169 | -163 | -121 | -113.5 | -137.0 |
| pH | S.U. | - | NA | NA | NA | 6.78 | 6.32 |
| Specific Conductance | MS/CM | - | 1.65 | 1.44 | 2.02 | 2.182 | 1.62 |
| Temperature | DEG C | - | NA | NA | NA | NA | 9.03 |
| Turbidity | NTU | - | NA | NA | NA | NA | 54 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07 | MW-07 | MW-07R | MW-07R | MW-07R |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20080812MW07V09N | 20090218MW-07V09N | 20091013MW-07RV15N | 20100225MW-07RV15N | 20100624MW-07RV15FD |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/12/08 | 02/18/09 | 10/13/09 | 02/25/10 | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Acetone | UG/L | 50 | NA | NA | NA | NA | NA |
| Benzene | UG/L | 1 | NA | NA | NA | NA | NA |
| Methyl ethyl ketone (2-Butanone) | UG/L | 50 | NA | NA | NA | NA | NA |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 170 | 150 | 370 D | 150 J | 350 J |
| 1,1-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Ethylbenzene | UG/L | 5 | NA | NA | NA | NA | NA |
| 2-Hexanone | UG/L | 50 | NA | NA | NA | NA | NA |
| 4-Methyl-2-Pentanone | UG/L | - | NA | NA | NA | NA | NA |
| Tetrachloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| Trichloroethene | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 3.0 J | 46 | 580 D | 18 J | 1.1 J |
| Vinyl Chloride | UG/L | 2 | NA | NA | NA | NA | NA |
| Xylene (total) | UG/L | 5 | NA | NA | NA | NA | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 16 | 20 | 76 | 8.1 | 1.7 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 5,600 | 11,000 | 5,900 | 6,500 | 8,100 |
| **Total Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |
| **Dissolved Metals** | | | | | | | |
| Iron | UG/L | 300 | NA | NA | NA | NA | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

UJ - Not detected above the estimated quantitation limit

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07 | MW-07 | MW-07R | MW-07R | MW-07R |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20080812MW07V09N | 20090218MW-07V09N | 20091013MW-07RV15N | 20100225MW-07RV15N | 20100624MW-07RV15FD |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 08/12/08 | 02/18/09 | 10/13/09 | 02/25/10 | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | | | | | Field Duplicate (1-1) |
| **Miscellaneous Parameters** | | | | | | | |
| Chloride | MG/L | 250 | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA | NA | NA | NA | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA | NA | NA | NA | NA |
| Sulfate | MG/L | 250 | 5.6 | 5 UJ | 6.3 | 7.9 | 17 |
| Ferrous Iron (field) | MG/L | - | NA | NA | NA | NA | NA |
| Ferric Iron (lab) | MG/L | - | NA | NA | NA | NA | NA |
| Fluoride | MG/L | 1.5 | NA | NA | NA | NA | NA |
| Oil & Grease | MG/L | - | NA | NA | NA | NA | NA |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0 U | 0 U | 0.00 | 0.00 | NA |
| Oxidation Reduction Potential | mV | - | -167 | -154 | -139 | -146 | NA |
| pH | S.U. | - | 6.48 | 6.18 | 6.45 | 6.52 | NA |
| Specific Conductance | MS/CM | - | 1.99 | 2.01 | 2.74 | 2.79 | NA |
| Temperature | DEG C | - | 17.3 | 12.11 | 18.36 | 10.69 | NA |
| Turbidity | NTU | - | 25 | 21 | 1.1 | 1.1 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

Advanced Selection: WG Jun10 Tab
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 8/4/2010 8:59:58 AM
([LOGDATE] BETWEEN #05/01/03# AND #6/24/10#) AND [MATRIX] = 'WG' AND ( [SACODE] = 'N' OR [SACODE] = 'FD

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

| Location ID | | | MW-07R |
|---|---|---|---|
| Sample ID | | | 20100624MW-07RV15N |
| Matrix | | | Groundwater |
| Depth Interval (ft) | | | - |
| Date Sampled | | | 06/24/10 |
| **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 | 390 |
| 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 |
| Vinyl Chloride | UG/L | 2 | NA |
| Xylene (total) | UG/L | 5 | NA |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1.8 |
| **Dissolved Gases** | | | |
| Methane | UG/L | - | 8,400 |
| **Total Metals** | | | |
| Iron | UG/L | 300 | NA |
| **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

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07R |
|---|---|---|---|
| Sample ID | | | 20100624MW-07RV15N |
| Matrix | | | Groundwater |
| Depth Interval (ft) | | | - |
| Date Sampled | | | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | |
| **Miscellaneous Parameters** | | | |
| Chloride | MG/L | 250 | NA |
| Nitrogen, Ammonia (As N) | MG/L | 2 | NA |
| Nitrogen, Kjeldahl, Total | MG/L | - | NA |
| Nitrogen, Nitrate | MG/L | 10 | NA |
| Nitrogen, Nitrate-Nitrite | MG/L | 10 | NA |
| Sulfate | MG/L | 250 | 11.2 |
| Ferrous Iron (field) | MG/L | - | NA |
| Ferric Iron (lab) | MG/L | - | NA |
| Fluoride | MG/L | 1.5 | NA |
| Oil & Grease | MG/L | - | NA |
| **Field Parameter** | | | |
| Dissolved Oxygen | MG/L | - | 0.69 |
| Oxidation Reduction Potential | mV | - | -129 |
| pH | S.U. | - | 8.83 |
| Specific Conductance | MS/CM | - | 2.09 |
| Temperature | DEG C | - | 16.45 |
| Turbidity | NTU | - | 0.35 |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

Only Detected Results Reported.

**Detection Limits shown are PQL**

# Table 4

## Comparison of February 2010 to June 2010 Data

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

Legend

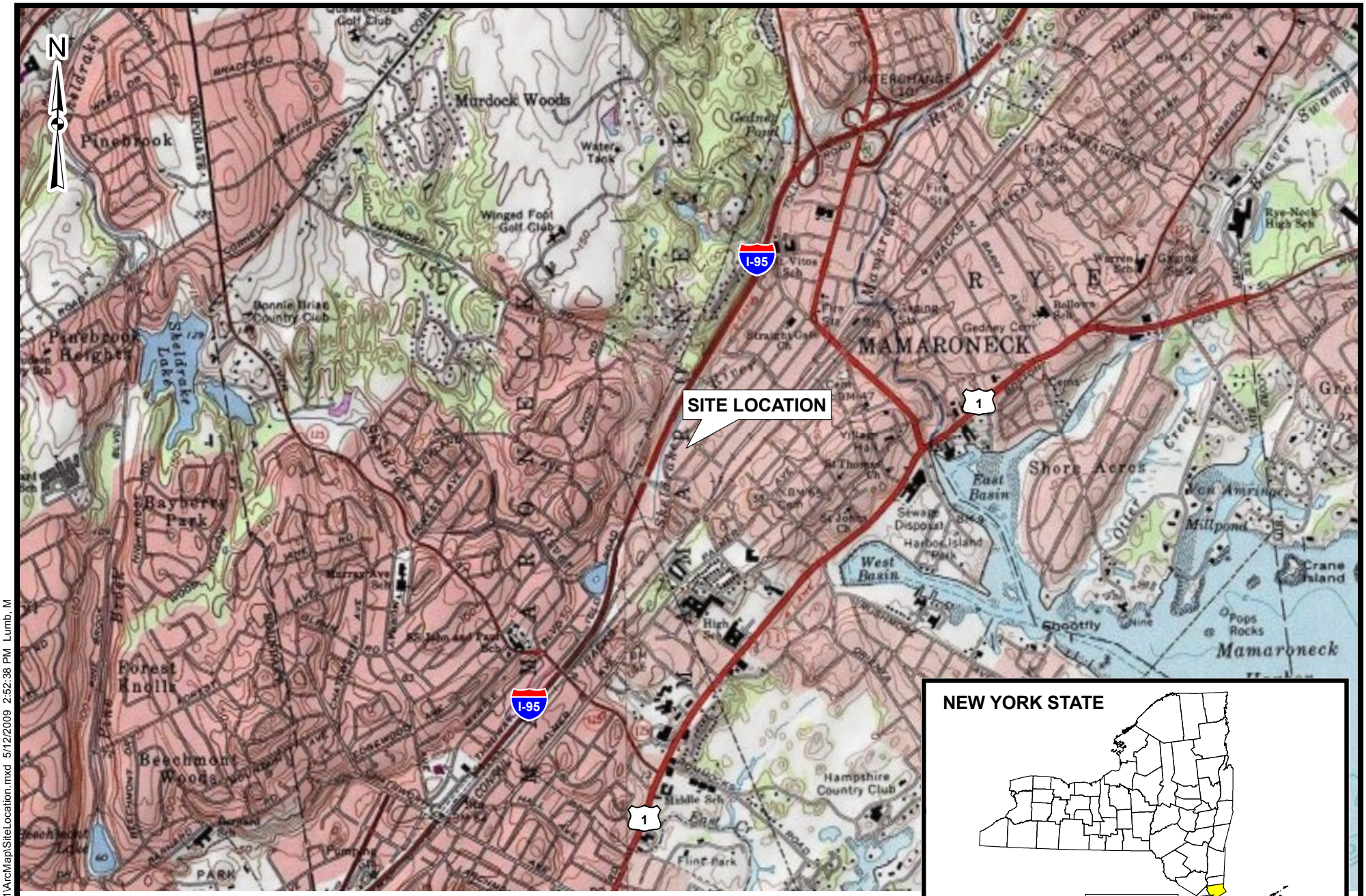
↓ Decrease from previous event

↑ Increase from previous event

↔ No significant change from previous event

Note: Remediation goals were achieved for four consecutive monitoring events at monitoring well GZ-06, therefore sampling at well GZ-06 has been discontinued.

# FIGURES



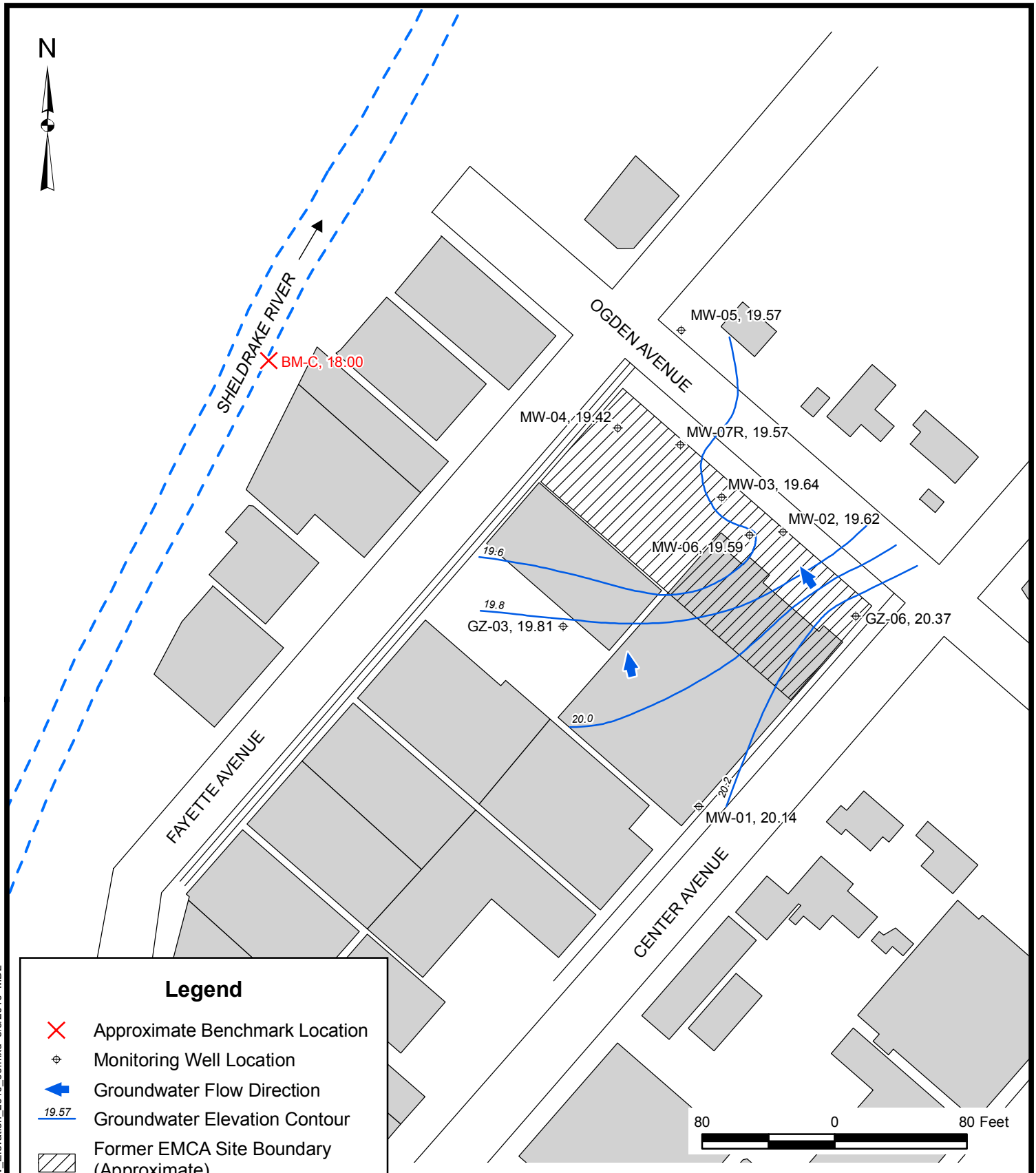

SOURCE: USGS Topographical Quadrangle Mount Vernon, New York, 1979 and Mamaroneck, New York, 1985.

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

URS

SITE LOCATION MAP

FIGURE 1




## Legend

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

MW-05, 19.57
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 (BM-C) was established off of a tree branch overhanging the Sheldrake River between the North and South bridges. This benchmark is not permanent, and will only be used for this groundwater report.

URS

# GROUNDWATER ELEVATION MAP (JUNE 2010)

FIGURE 2

N:\11172730.00000\DB\GIS\2001\ArcMap\GW_Elevation_2010_06.mxd 8/5/2010 MDL

N

| MW-04 | 10/99 | 7/00 | 7/01 | 5/03 | 12/03 | 7/04 | 5/05 | 12/05 | 8/06 | 2/07 | 8/07 | 2/08 | 8/08 | 2/09 | 10/09 | 2/10 | 6/10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | 11 | ND | ND | ND | ND | 0.7 J | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chlorotrifluoroethene (Freon-1113) | ND | ND | ND | ND | ND | ND | 1.0 J | ND | 0.7 J | 0.6 J | ND | 1.0 J | ND | 1.0J | 15 | 7.7 J | 12 |

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

| MW-03 | 10/99 | 7/00 | 7/01 | 5/03 | 7/03 | 9/03 | 12/03 | 7/04 | 5/05 | 12/05 | 8/06 | 2/07 | 8/07 | 2/08 | 8/08 | 2/09 | 10/09 | 2/10 | 6/10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | 17000 | 11000 | 13000 | 5800 | 68 | 26 | 150 | 4900 J | 2 J | ND | ND | 10 | 2.0 J | 0.5 J | ND | 5.0J | 0.9J | ND | ND |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | ND | ND | ND | 78 J | 43 | 180 | 170 | 3900 | 14 | 1.0 J | 0.8 J | 48 | 7.0 J | 4.0 J | 1.0 J | 40 | 2.1 | ND | 0.5J |
| Chlorotrifluoroethene (Freon-1113) | ND | ND | ND | ND | 7 | 6.2 | ND | 68 J | 83 | 2.0 J | 51 | 39 | 54 | 13 J | 10 | 38 | 20 | 17 J | 26 |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | 5400 | 8500 | 6100 | 370 | 110 J | ND | ND | ND | ND | 6.0 J | ND | 3.0 J | 46 | 580 | 18 J | 1.1J |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | 68 J | 130 J | 130 J | 940 | 50 | 2.0 J | ND | 1.0 J | 3.0 J | 10 | 0.9 J | 16 | 20 | 76 | 8.1 | 1.8 |
| Chlorotrifluoroethene (Freon-1113) | ND | ND | ND | ND | 210 | 140 | 47 | 97 | 89 | 82 | 92 | 170 | 150 | 370 | 150 J | 390 |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | 740 | 1700 | 2400 | 880 | 1000 | 54 | 12 | 21 J | 1200 | 110 | 890 | 100 | 800 | 290 | 830 J | 700 | 1300 | 1200 | 76 J | 670 |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | ND | ND | ND | 40 | 41 J | 7.8 | 3.3 J | 4 J | 86 J | 15 | 110 | 10 | 95 | 40 | 72 | 38 J | 34J | 51 | 6.1 | 37 |
| Chlorotrifluoroethene (Freon-1113) | ND | ND | ND | ND | ND | ND | ND | 14 | 120 | 18 | 200 | 21 | 84 | 61 | 120 J | 160 | 81J | 300 | 92 J | 240 |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | 220 | 180 | 97 | 250 | 140 J | 1.0 J | ND | ND | 3 J | ND | ND | ND | 2.0J | ND | ND | ND |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | 8.8 J | 9.5 | 8.6 | 14 | 23 | 16 | ND | ND | 8 J | 0.6 J | ND | ND | 35 | ND | 3.6 | 0.57 J |
| Chlorotrifluoroethene (Freon-1113) | ND | 5.7 | ND | ND | 5 J | 6.0 J | 6.0 J | ND | 100 | 21 | 8.0 J | 4.0 J | 34 | 6.4 | 35 J | 68 J |

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

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

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

SHELDRAKE RIVER

FAYETTE AVENUE

OGDEN AVENUE

CENTER AVENUE

## Legend

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

All Analytical Results are Reported in UG/L

**NOTES:**

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

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

80 0 80 Feet

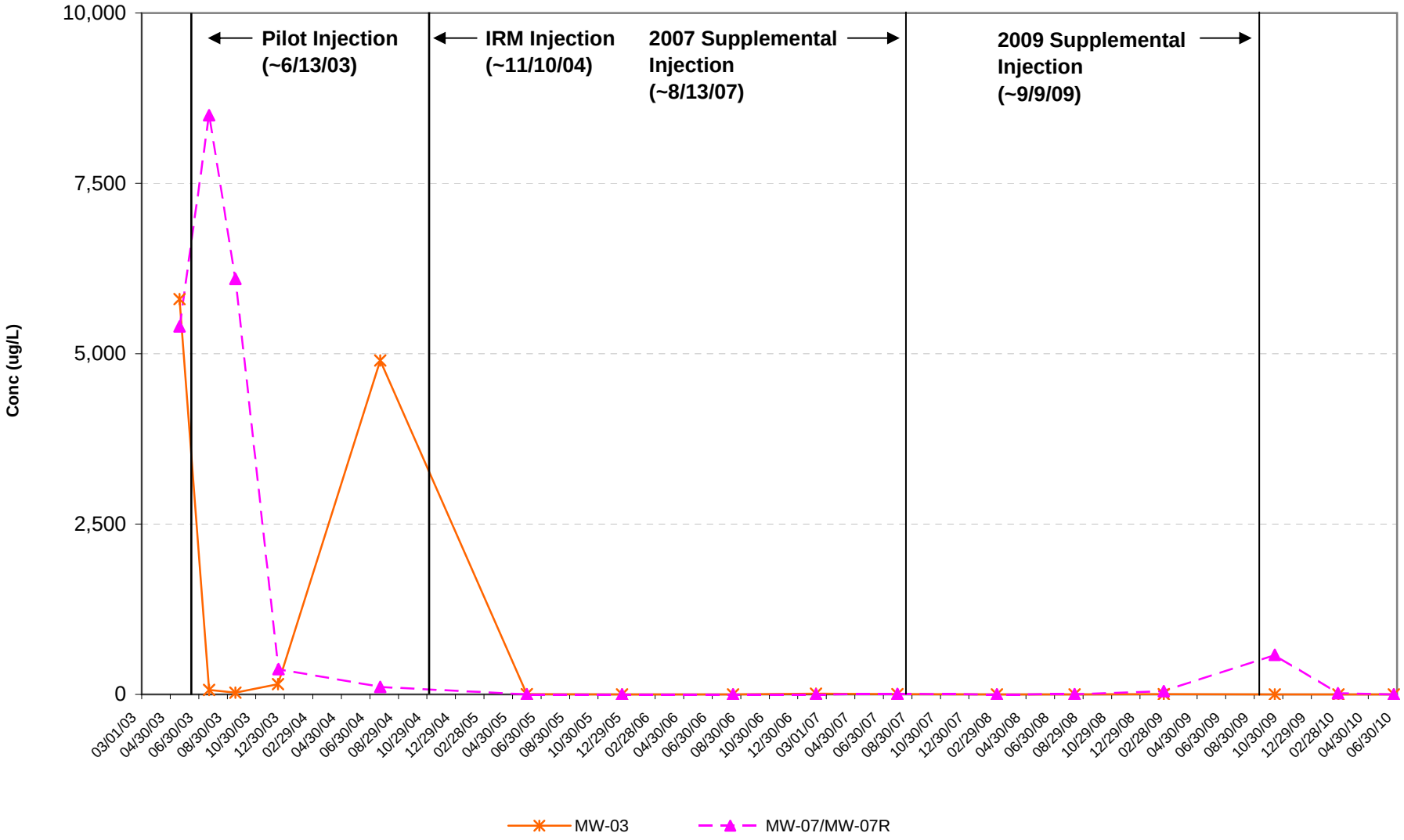
# FORMER EMCA SITE
# SUMMARY OF FREON DETECTIONS IN GROUNDWATER

URS

FIGURE 3

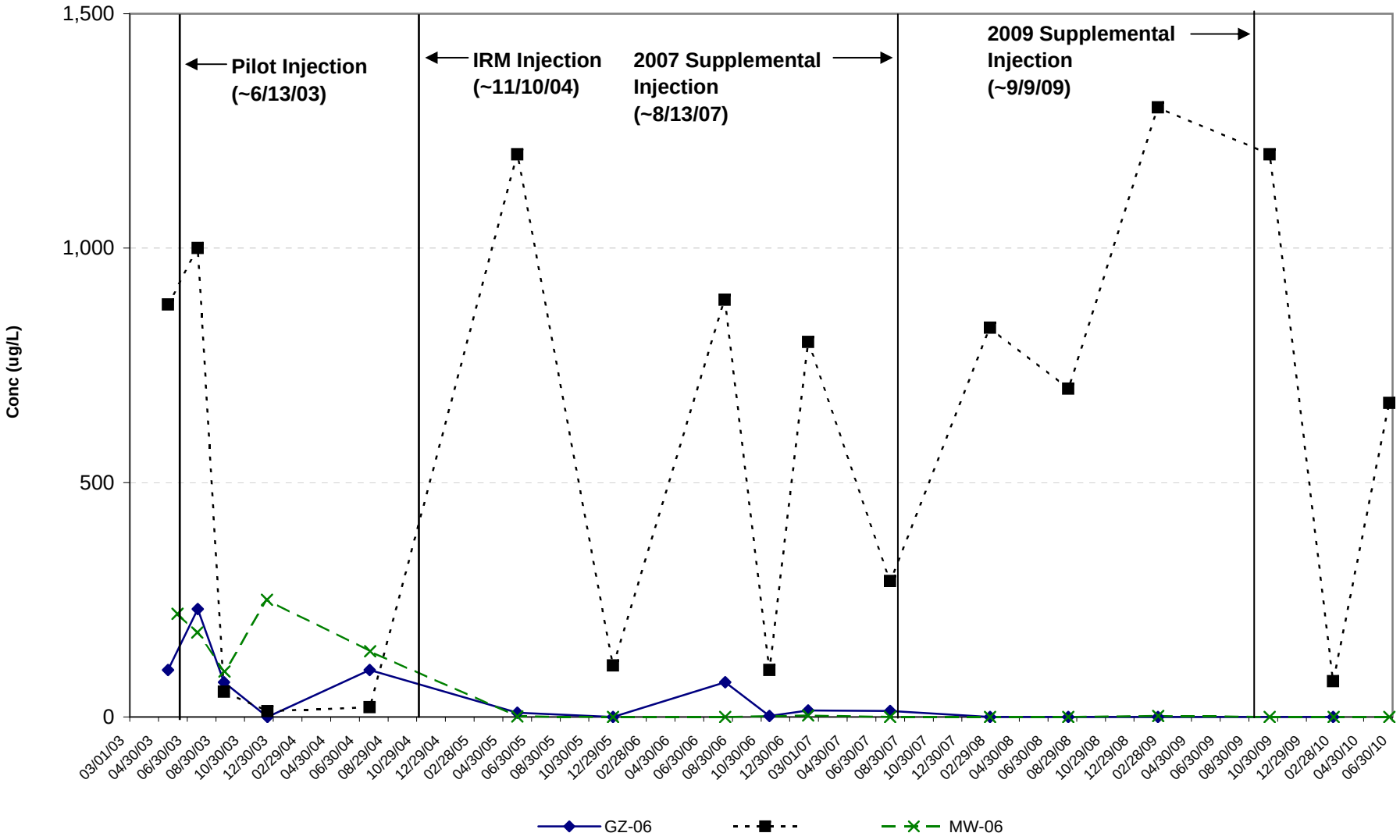
N:\11172730.00000\DB\GIS\2001\ArcMap\Chemical_Update_2010_06.mxd 8/18/2010 MDL

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




*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 4*

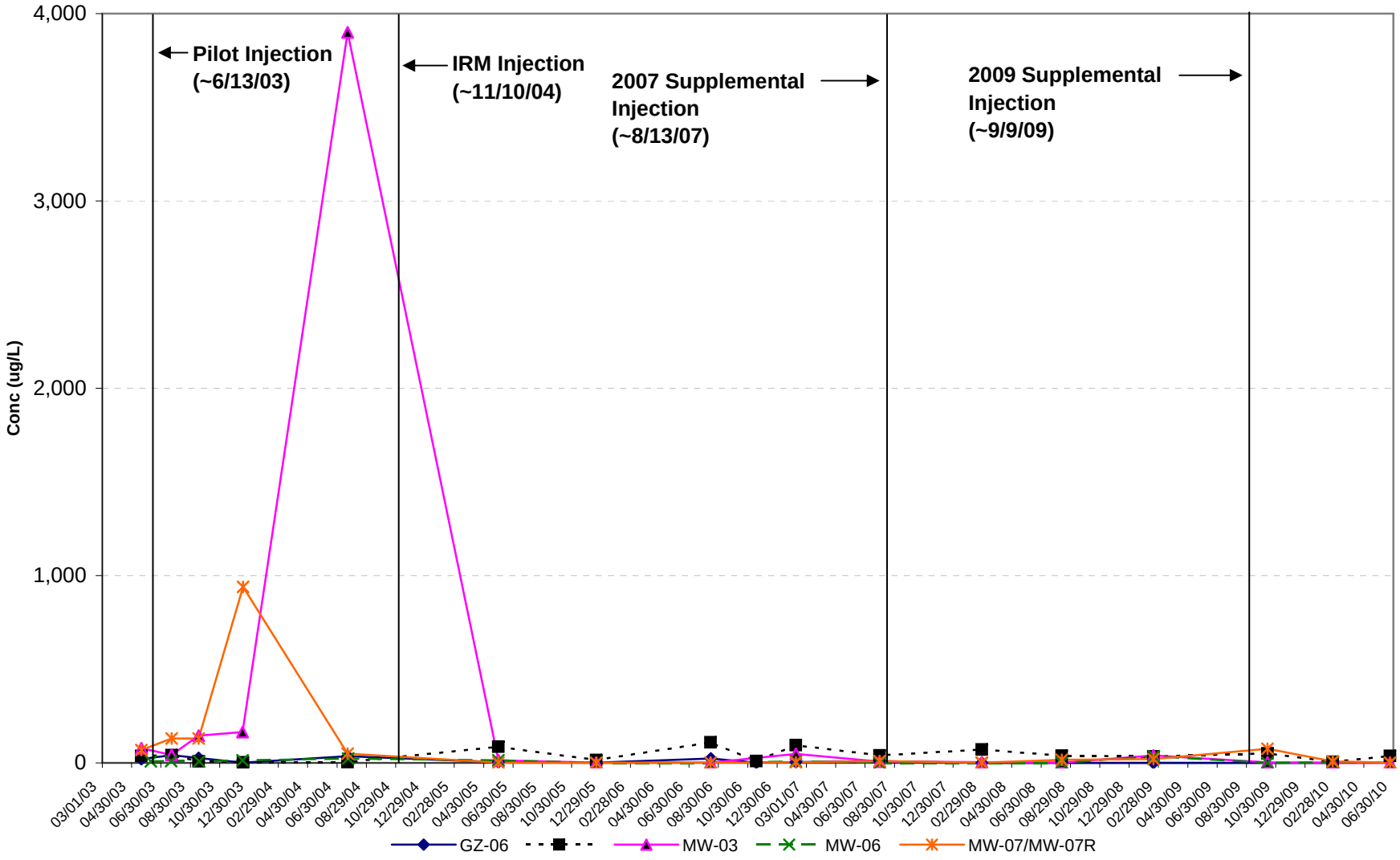
# FIGURE 5
# FORMER EMCA SITE
## Freon 113 Concentrations, GZ-06, MW-02, and MW-06




*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 5*

# FIGURE 6
# FORMER EMCA SITE

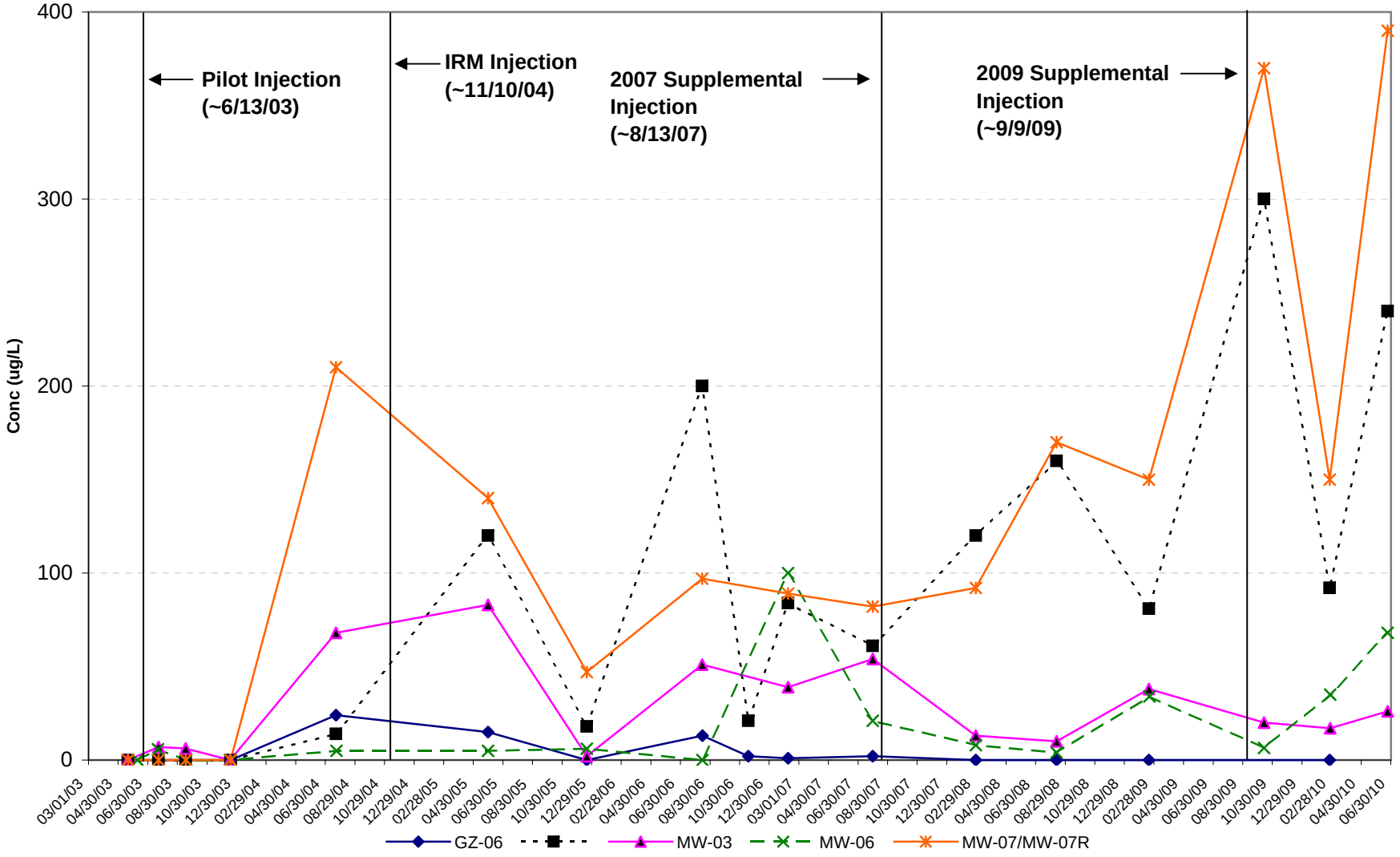
## Freon 123a Concentrations




*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 6*

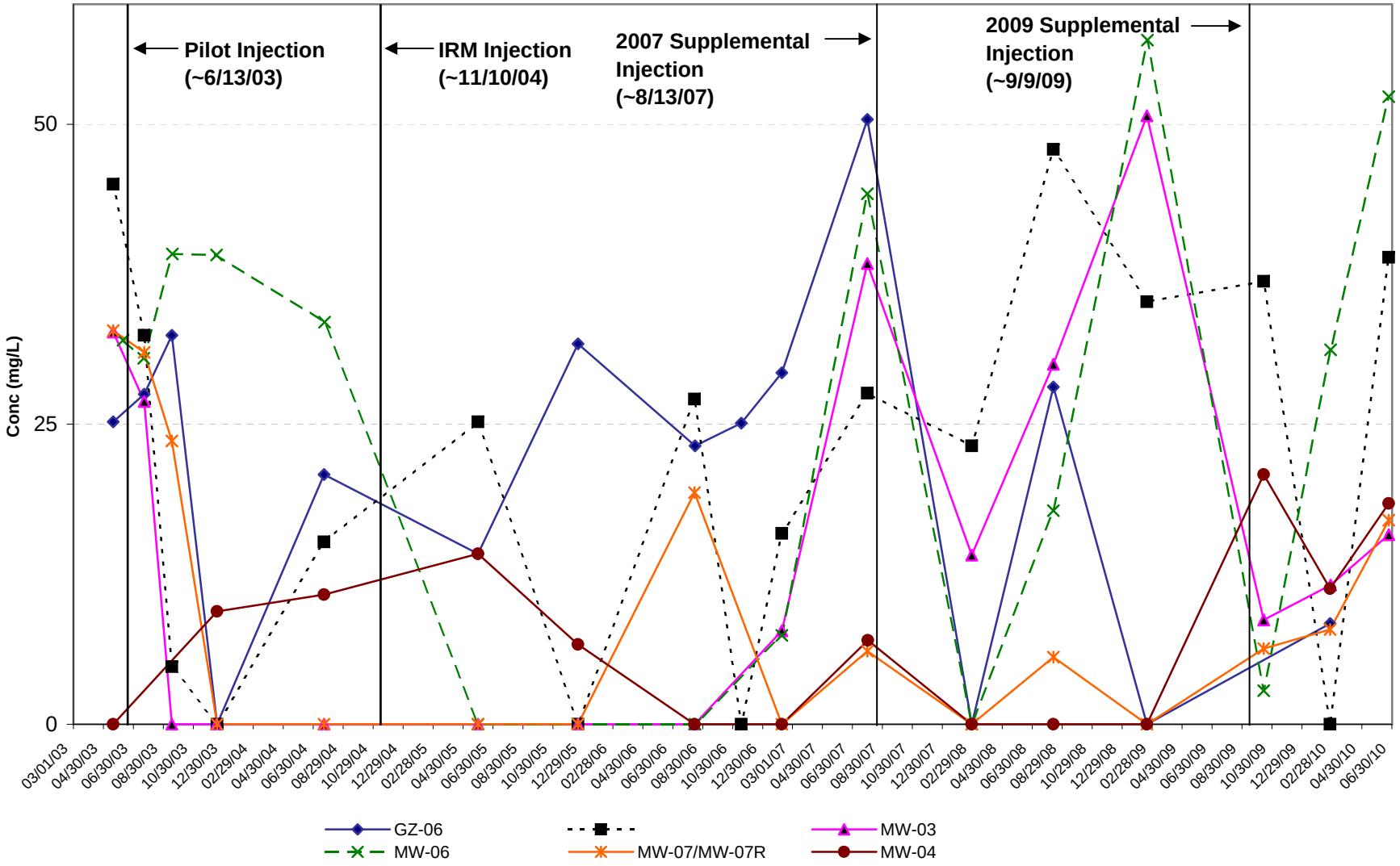
# FIGURE 7
# FORMER EMCA SITE

## Freon 1113 Concentrations



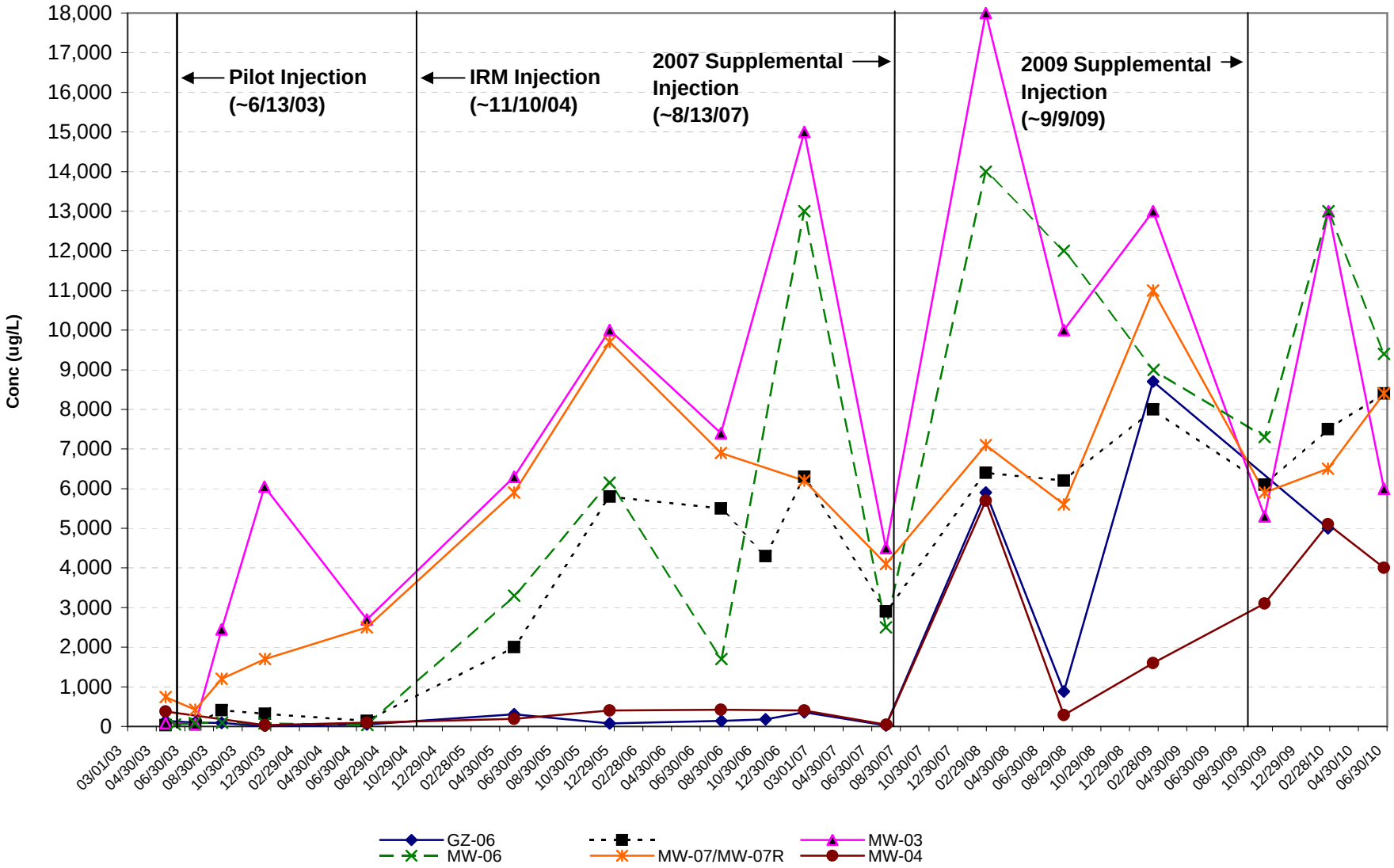

*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 7*

# FIGURE 8
# FORMER EMCA SITE
## Sulfate Concentrations



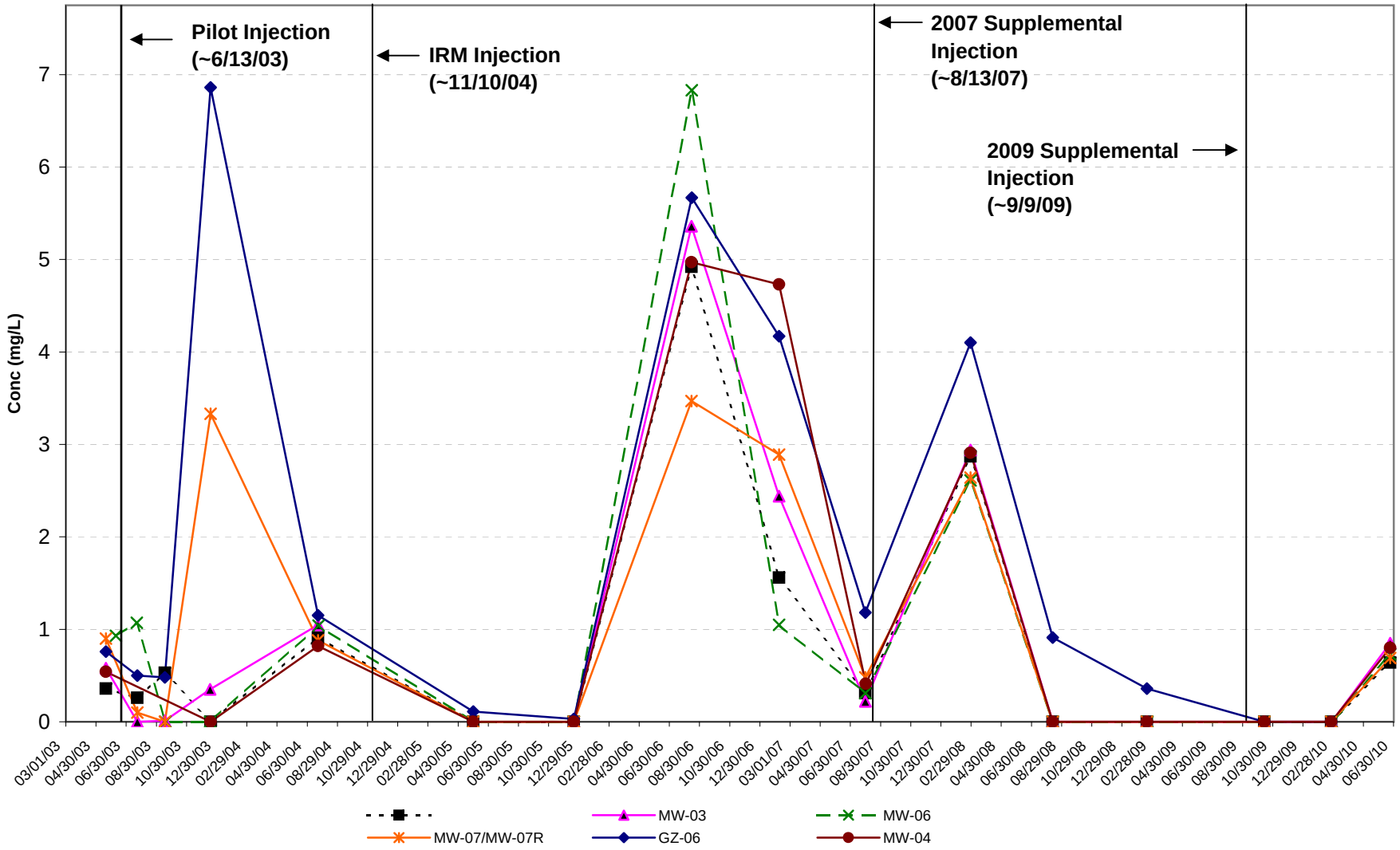

*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 8*

# FIGURE 9
# FORMER EMCA SITE
## Methane Concentrations



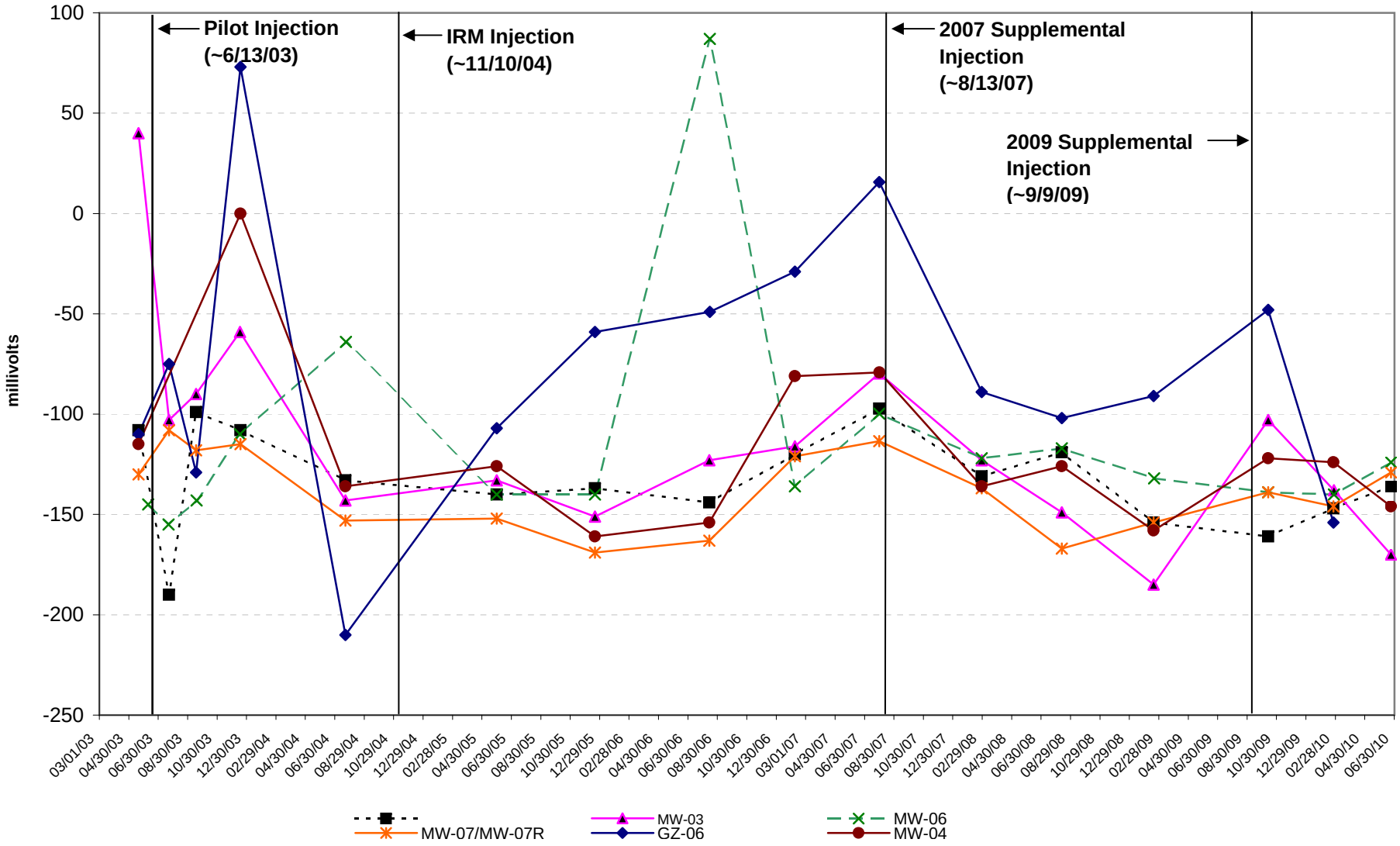

*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 9*

# FIGURE 10
# FORMER EMCA SITE
## Dissolved Oxygen Concentrations



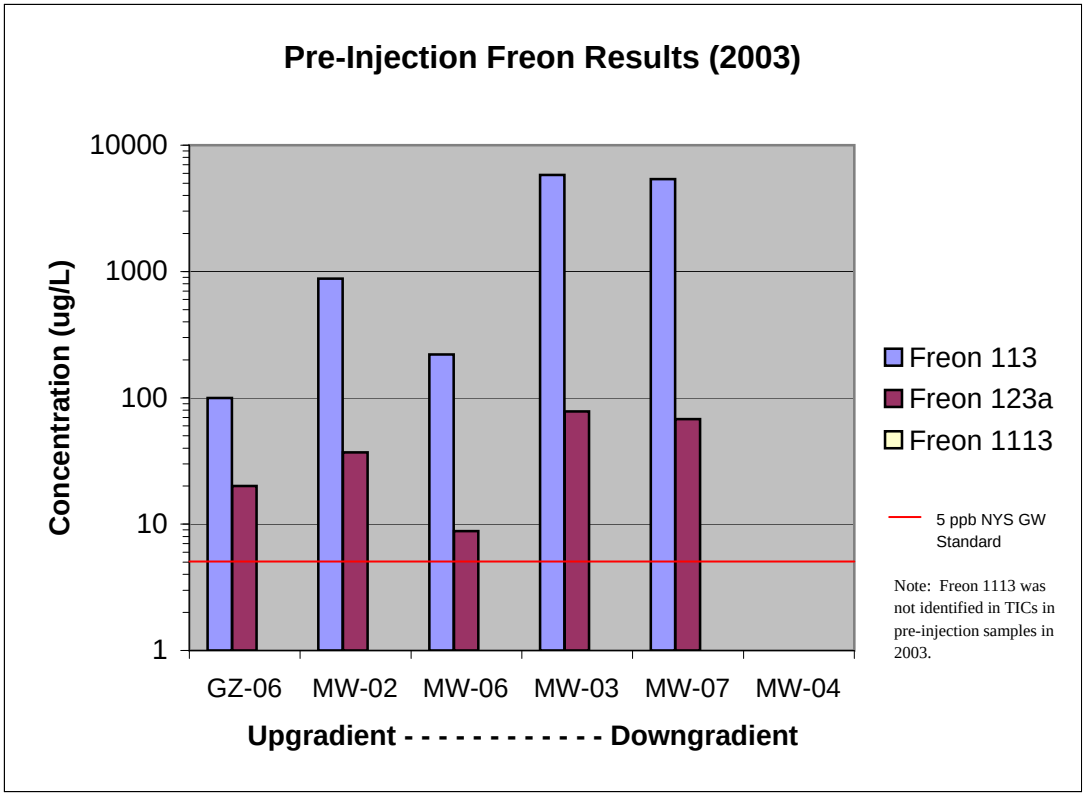

*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 10*

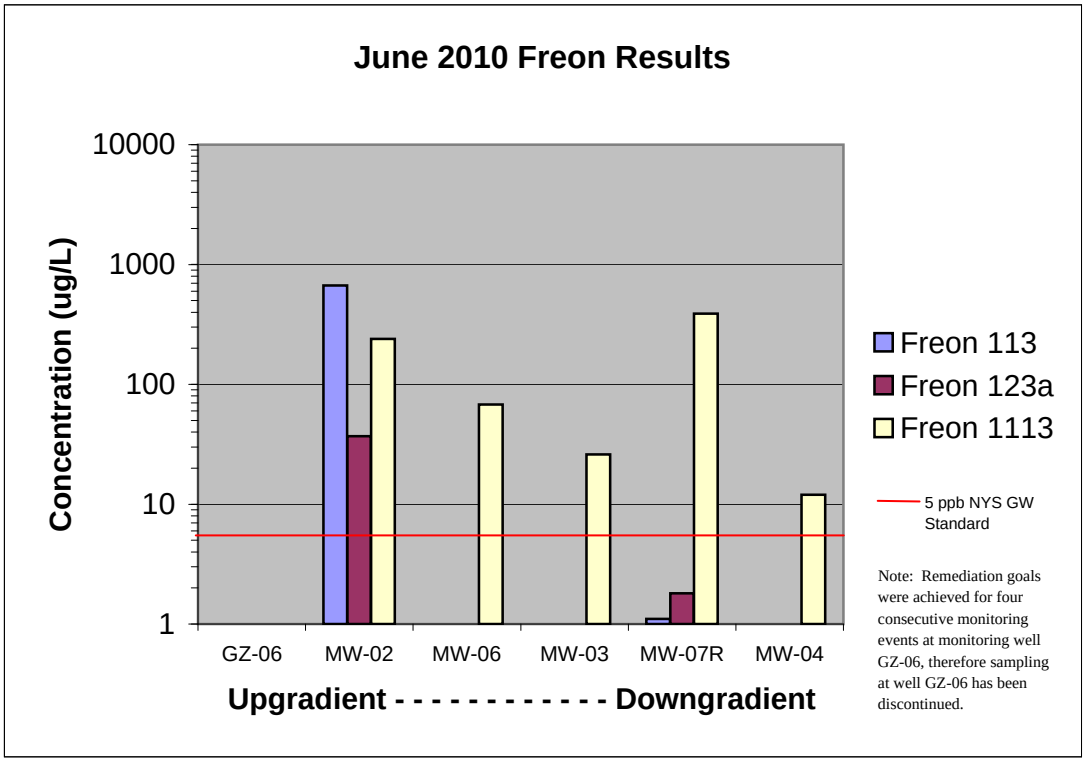
# FIGURE 11
# FORMER EMCA SITE
## Oxidation Reduction Potential




*N:\11172730.00000\WORD\DRAFT\GW SAR Reports\Jun 2010 GW SAR\Figures\GW Data Plots_Time Scaled Long_June 2010.xls - Figure 11*

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



# APPENDIX A

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOGS

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 6/24/2010  Sampling Personnel: Tim Ifkovich  Company: URS Corporation

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

Measuring Point: Below Top of Riser  Initial Depth to Water: 6.01  Depth to Well Bottom: 11.79  Well Diameter: 1"  Screen Length: 10'

Casing Type: PVC  Volume in 1 Well Casing (liters): 0.89  Estimated Purge Volume (liters): 12.0

Sample ID: 20100624MW-02V08N  Sample Time: 1647  QA/QC: --

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

Notes: Slightly cloudy to start, clear upon sampling

## PURGE PARAMETERS

| TIME | pH | TEMP ($^0$C) | COND. (mS/cm) | DISS. $O_2$ (mg/l) | TURB. (NTU) | Eh (mV) | FLOW RATE (ml/min.) | DEPTH TO WATER (btor) |
|---|---|---|---|---|---|---|---|---|
| 1607 | 8.93 | 17.64 | 2.43 | 1.58 | 65 | -129 | 300 | 6.01 |
| 1612 | 9.07 | 17.07 | 2.27 | 1.24 | 40 | -132 | 300 | 6.04 |
| 1617 | 8.99 | 16.88 | 2.03 | 1.46 | 20 | -129 | 300 | 6.05 |
| 1622 | 8.93 | 16.81 | 1.90 | 0.97 | 12 | -129 | 300 | 6.05 |
| 1627 | 8.90 | 16.78 | 1.82 | 0.84 | 6.7 | -130 | 300 | 6.05 |
| 1632 | 8.90 | 16.76 | 1.75 | 0.71 | 4.5 | -133 | 300 | 6.05 |
| 1637 | 8.90 | 16.77 | 1.73 | 0.68 | 4.1 | -133 | 300 | 6.05 |
| 1642 | 8.90 | 16.79 | 1.71 | 0.66 | 3.4 | -135 | 300 | 6.05 |
| 1647 | 8.91 | 16.71 | 1.70 | 0.64 | 3.0 | -136 | 300 | 6.05 |
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| **Tolerance:** | **0.1** | **---** | **3%** | **10%** | **10%** | **+ or - 10** | **---** | |

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

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 6/24/2010  Sampling Personnel: Tim Ifkovich  Company: URS Corporation

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

Measuring Point: Below Top of Riser  Initial Depth to Water: 5.95  Depth to Well Bottom: 14.25  Well Diameter: 1"  Screen Length: 10'

Casing Type: PVC  Volume in 1 Well Casing (liters): 1.3  Estimated Purge Volume (liters): 17.1

Sample ID: 20100624MW-03V09N  Sample Time: 1340  QA/QC: MS/MSD

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

Notes: Tiny black flecks, blackish tint, slight sheen on water in purge bucket, clear upon sampling

## PURGE PARAMETERS

| TIME | pH | TEMP ($^0$C) | COND. (mS/cm) | DISS. $O_2$ (mg/l) | TURB. (NTU) | Eh (mV) | FLOW RATE (ml/min.) | DEPTH TO WATER (btor) |
|---|---|---|---|---|---|---|---|---|
| 1230 | 9.47 | 16.26 | 2.13 | 1.55 | 95 | -145 | 435 | 5.95 |
| 1235 | 9.31 | 16.76 | 1.78 | 1.58 | 75 | -144 | 230 | 6.64 |
| 1240 | 9.25 | 16.74 | 1.73 | 1.43 | 40 | -146 | 230 | 6.69 |
| 1245 | 9.16 | 16.73 | 1.66 | 1.22 | 17 | -147 | 230 | 6.75 |
| 1250 | 9.16 | 16.80 | 1.65 | 1.14 | 10 | -148 | 230 | 6.77 |
| 1255 | 9.15 | 16.83 | 1.63 | 1.08 | 7.4 | -149 | 230 | 6.79 |
| 1300 | 9.21 | 16.65 | 1.61 | 1.03 | 4.8 | -154 | 230 | 6.81 |
| 1305 | 9.25 | 16.47 | 1.57 | 1.00 | 5.6 | -157 | 230 | 6.81 |
| 1310 | 9.17 | 16.61 | 1.63 | 1.00 | 5.2 | -160 | 230 | 6.81 |
| 1315 | 9.19 | 16.46 | 1.63 | 0.93 | 5.2 | -163 | 230 | 6.82 |
| 1320 | 9.23 | 16.35 | 1.58 | 0.91 | 5.6 | -164 | 230 | 6.83 |
| 1325 | 9.24 | 16.38 | 1.57 | 0.89 | 5.4 | -165 | 230 | 6.84 |
| 1330 | 9.25 | 16.46 | 1.54 | 0.87 | 5.2 | -168 | 230 | 6.85 |
| 1335 | 9.27 | 16.47 | 1.53 | 0.86 | 5.3 | -168 | 230 | 6.85 |
| 1340 | 9.28 | 16.51 | 1.50 | 0.85 | 5.1 | -170 | 230 | 6.86 |
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| **Tolerance:** | **0.1** | **---** | **3%** | **10%** | **10%** | **+ or - 10** | **---** | |

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

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 6/24/2010  Sampling Personnel: Tim Ifkovich  Company: URS Corporation

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

Measuring Point: Below Top of Riser  Initial Depth to Water: 5.89  Depth to Well Bottom: 11.76  Well Diameter: 1"  Screen Length: 10'

Casing Type: PVC  Volume in 1 Well Casing (liters): 0.90  Estimated Purge Volume (liters): 8.3

Sample ID: 20100624MW-04V08N  Sample Time: 1545  QA/QC: --

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

Notes: Slight sheen on water in purge bucket, clear upon sampling

## PURGE PARAMETERS

| TIME | pH | TEMP ($^0$C) | COND. (mS/cm) | DISS. $O_2$ (mg/l) | TURB. (NTU) | Eh (mV) | FLOW RATE (ml/min.) | DEPTH TO WATER (btor) |
|---|---|---|---|---|---|---|---|---|
| 1515 | 8.56 | 20.00 | 1.87 | 1.39 | 34 | -121 | 280 | 5.89 |
| 1520 | 8.65 | 19.76 | 1.88 | 1.33 | 25 | -128 | 190 | 5.93 |
| 1525 | 8.83 | 19.43 | 1.90 | 1.25 | 16 | -136 | 190 | 5.96 |
| 1530 | 8.89 | 19.11 | 1.90 | 0.96 | 7.4 | -139 | 190 | 5.96 |
| 1535 | 8.95 | 18.68 | 1.88 | 0.86 | 5.0 | -142 | 270 | 5.97 |
| 1540 | 8.98 | 18.53 | 1.86 | 0.84 | 3.3 | -144 | 270 | 5.97 |
| 1545 | 8.99 | 18.45 | 1.84 | 0.80 | 1.9 | -146 | 270 | 5.97 |
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| **Tolerance:** | **0.1** | **---** | **3%** | **10%** | **10%** | **+ or - 10** | **---** | |

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

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 6/24/2010  Sampling Personnel: Tim Ifkovich  Company: URS Corporation

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Purging/ Sampling Device: | Low Flow Peristaltic Pump (GeoPump 2) | | | Tubing Type: | HDPE and Silicone | | Pump/Tubing Inlet Location: | Midpoint of Saturated Screen | |
| Measuring Point: | Below Top of Riser | Initial Depth to Water: | 6.18 | Depth to Well Bottom: | 18.62 | Well Diameter: | 1" | Screen Length: | 10' |
| Casing Type: | PVC | | | Volume in 1 Well Casing (liters): | 1.9 | | Estimated Purge Volume (liters): | 14.0 | |

Sample ID: 20100624MW-06V13N  Sample Time: 1750  QA/QC: --

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

Notes: Clear upon sampling

## PURGE PARAMETERS

| TIME | pH | TEMP ($^0$C) | COND. (mS/cm) | DISS. $O_2$ (mg/l) | TURB. (NTU) | Eh (mV) | FLOW RATE (ml/min.) | DEPTH TO WATER (btor) |
|---|---|---|---|---|---|---|---|---|
| 1705 | 8.37 | 19.01 | 0.185 | 1.94 | 24 | -72 | 310 | 6.18 |
| 1710 | 8.56 | 18.73 | 0.239 | 1.29 | 14 | -91 | 310 | 6.24 |
| 1715 | 8.73 | 18.26 | 0.317 | 0.78 | 3.5 | -10 | 310 | 6.24 |
| 1720 | 8.77 | 18.18 | 0.407 | 0.74 | 2.8 | -114 | 310 | 6.24 |
| 1725 | 8.77 | 18.09 | 0.537 | 0.72 | 2.3 | -116 | 310 | 6.24 |
| 1730 | 8.79 | 17.96 | 0.674 | 0.68 | 1.4 | -119 | 310 | 6.24 |
| 1735 | 8.79 | 17.96 | 0.785 | 0.73 | 0.75 | -121 | 310 | 6.24 |
| 1740 | 8.79 | 17.96 | 0.847 | 0.77 | 0.60 | -122 | 310 | 6.24 |
| 1745 | 8.80 | 17.93 | 0.921 | 0.73 | 0.75 | -123 | 310 | 6.24 |
| 1750 | 8.81 | 17.79 | 0.958 | 0.73 | 0.45 | -124 | 310 | 6.24 |
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| **Tolerance:** | **0.1** | **---** | **3%** | **10%** | **10%** | **+ or - 10** | **---** | |

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

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 6/24/2010 | Sampling Personnel: Tim Ifkovich | Company: URS Corporation

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

Measuring Point: Below Top of Riser | Initial Depth to Water: 6.06 | Depth to Well Bottom: 19.93 | Well Diameter: 1" | Screen Length: 10'

Casing Type: PVC | Volume in 1 Well Casing (liters): 2.1 | Estimated Purge Volume (liters): 11.2

Sample ID: 20100624MW-07RV15N | Sample Time: 1450 | QA/QC: Field Duplicate

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

Notes: Clear upon sampling

## PURGE PARAMETERS

| TIME | pH | TEMP ($^0$C) | COND. (mS/cm) | DISS. $O_2$ (mg/l) | TURB. (NTU) | Eh (mV) | FLOW RATE (ml/min.) | DEPTH TO WATER (btor) |
|---|---|---|---|---|---|---|---|---|
| 1410 | 9.02 | 17.17 | 2.11 | 1.37 | 11 | -125 | 280 | 6.06 |
| 1415 | 8.73 | 16.55 | 2.15 | 1.56 | 2.1 | -117 | 280 | 6.21 |
| 1420 | 8.83 | 16.49 | 2.15 | 1.31 | 1.1 | -118 | 280 | 6.21 |
| 1425 | 8.86 | 16.46 | 2.16 | 1.14 | 0.85 | -121 | 280 | 6.21 |
| 1430 | 8.86 | 16.57 | 2.13 | 0.98 | 0.7 | -124 | 280 | 6.21 |
| 1435 | 8.84 | 16.49 | 2.12 | 0.90 | 0.7 | -125 | 280 | 6.23 |
| 1440 | 8.83 | 16.48 | 2.12 | 0.80 | 0.65 | -126 | 280 | 6.23 |
| 1445 | 8.83 | 16.47 | 2.10 | 0.73 | 0.4 | -128 | 280 | 6.24 |
| 1450 | 8.83 | 16.45 | 2.09 | 0.69 | 0.35 | -129 | 280 | 6.24 |
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| **Tolerance:** | **0.1** | **---** | **3%** | **10%** | **10%** | **+ or - 10** | **---** | |

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

# APPENDIX B

# DATA USABILITY SUMMARY REPORT

**APPENDIX B**

# DATA USABILITY SUMMARY REPORT

**JUNE 2010 SAMPLING EVENT**

**FORMER EMCA SITE**
**SITE NO. 360025**
**MAMARONECK, NEW YORK**

**Analyses Performed by:**

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

**Prepared for:**

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

**Prepared by:**

**URS CORPORATION**
**77 Goodell Street**
**Buffalo, New York 14203**

**AUGUST 2010**

## 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 *Draft DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for the Development of Data Usability Summary Reports,* December 2002. This DUSR discusses the analytical data for five (5) groundwater samples, one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank collected by URS personnel on June 24, 2010, as summarized on Table B-1. The samples were collected as part of the semi-annual groundwater monitoring event at the Former EMCA Site located in Mamaroneck, New York.

## II. ANALYTICAL METHODOLOGIES

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

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

Notes:

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

References:

1 NYSDEC Analytical Services Protocol, July 2005.

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

## III. DATA VALIDATION

A limited data validation was performed following the guidelines in USEPA Region II *Standard Operating Procedure for the Validation of Organic Data Acquired Using SW-846 Method 8260B, SOP No. HW-24, Rev. #2,* August 2008 and the intent of USEPA Region II *Evaluation of Metals Data for the Contract Laboratory Program, based on SOW – ILM05.3,* SOP No. HW-2, Revision 13, September 2006. The validated groundwater and field quality control (QC) analytical results are presented in Tables B-2 and B-3, respectively. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Copies of the case narratives, chain-of-custodies, and documentation supporting the qualification of data are presented in Attachment B. Only problems affecting data usability are discussed in this report.

## IV. DATA DELIVERABLE COMPLETENESS

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

## V. PRESERVATION/ SAMPLE RECEIPT/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC), except that the laboratory did not document the date/time the samples were received at the lab. A copy of the FedEx tracking form is presented in Attachment B, which indicates the samples were received at the lab on 06/25/10 at 10:16 a.m.

## VI. NONCONFORMANCES

### Instrument Calibration

The percent differences (%Ds) between the initial calibration (ICAL) average relative response factors (RRFs) and the RRFs in the continuing calibration (CCAL) standard associated with groundwater samples 20100624MW-06V13N and 20100624MW-07RV15FD were greater than 20% for Freon-123a and Freon-1113. In addition, the minimum RRF for Freon-1113 was less than 0.050

in the CCAL. The Freon-123a and Freon-1113 results for the above referenced groundwater samples were qualified 'J' or 'UJ', as summarized on Table B-2. Documentation supporting the qualification of data (i.e., Forms 5 and 7) is presented in Attachment B.

## VII. SUMMARY

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

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

| SDG Nos. | Sample ID | Matrix | Date of Collection | VOCs* | Methane | Sulfate | Comments |
|---|---|---|---|---|---|---|---|
| 460-14649-1 | 20100624MW-03V09N | GW | 06/24/10 | X | X | X | MS/MSD |
| | 20100624MW-07RV15N | GW | | X | X | X | --- |
| | 20100624MW-07RV15FD | GW | | X | X | X | Field Duplicate of MW-07R |
| | 20100624MW-04V08N | GW | | X | X | X | --- |
| | 20100624MW-02V08N | GW | | X | X | X | --- |
| | 20100624MW-06V13N | GW | | X | X | X | --- |
| | TB062410 | Water | | X | X | --- | Trip Blank |

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

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

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

| Location ID | | | MW-02 | MW-03 | MW-04 | MW-06 | MW-07R |
|---|---|---|---|---|---|---|---|
| Sample ID | | | 20100624MW-02V08N | 20100624MW-03V09N | 20100624MW-04V08N | 20100624MW-06V13N | 20100624MW-07DV1450 |
| Matrix | | | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Depth Interval (ft) | | | - | - | - | - | - |
| Date Sampled | | | 06/24/10 | 06/24/10 | 06/24/10 | 06/24/10 | 06/24/10 |
| Parameter | Units | Criteria* | | | | | Field Duplicate (1-1) |
| **Volatiles** | | | | | | | |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 240 | 26 | 12 | 68 J | 350 J |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 670 | 1 U | 1 U | 1 U | 1.1 J |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 37 | 0.5 J | 1 U | 0.57 J | 1.7 J |
| **Dissolved Gases** | | | | | | | |
| Methane | UG/L | - | 8,400 | 6,000 | 4,000 | 9,400 | 8,100 |
| **Miscellaneous Parameters** | | | | | | | |
| Sulfate | MG/L | 250 | 38.9 | 15.8 | 18.4 | 52.3 | 17 |
| **Field Parameter** | | | | | | | |
| Dissolved Oxygen | MG/L | - | 0.64 | 0.85 | 0.80 | 0.73 | NA |
| Oxidation Reduction Potential | mV | - | -136 | -170 | -146 | -124 | NA |
| pH | S.U. | - | 8.91 | 9.28 | 8.99 | 8.81 | NA |
| Specific Conductance | MS/CM | - | 1.70 | 1.50 | 1.84 | 0.958 | NA |
| Temperature | DEG C | - | 16.71 | 16.51 | 18.45 | 17.79 | NA |
| Turbidity | NTU | - | 3.0 | 5.1 | 1.9 | 0.45 | NA |

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Non-Detect

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

UJ - Not detected above the estimated quantitation limit

MADE BY: PRF 08/04/10 CHKD BY: MEB_08/06/10

**Detection Limits shown are PQL**

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

| Location ID | | | MW-07R |
|---|---|---|---|
| Sample ID | | | 20100624MW-07RVAEN |
| Matrix | | | Groundwater |
| Depth Interval (ft) | | | - |
| Date Sampled | | | 06/24/10 |
| **Parameter** | **Units** | **Criteria*** | |
| **Volatiles** | | | |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 5 | 390 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 5 | 1 |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 5 | 1.8 |
| **Dissolved Gases** | | | |
| Methane | UG/L | - | 8,400 |
| **Miscellaneous Parameters** | | | |
| Sulfate | MG/L | 250 | 11.2 |
| **Field Parameter** | | | |
| Dissolved Oxygen | MG/L | - | 0.69 |
| Oxidation Reduction Potential | mV | - | -129 |
| pH | S.U. | - | 8.83 |
| Specific Conductance | MS/CM | - | 2.09 |
| Temperature | DEG C | - | 16.45 |
| Turbidity | NTU | - | 0.35 |

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Non-Detect

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

UJ - Not detected above the estimated quantitation limit

MADE BY: PRF 08/04/10 CHKD BY: MEB_08/06/10

**Detection Limits shown are PQL**

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

| Location ID | | FIELDQC |
|---|---|---|
| Sample ID | | TB062410 |
| Matrix | | Water |
| Depth Interval (ft) | | - |
| Date Sampled | | 06/24/10 |
| Parameter | Units | Trip Blank (1-1) |
| Volatiles | | |
| Chlorotrifluoroethene (Freon-1113) | UG/L | 1 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | UG/L | 1 U |
| 1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A) | UG/L | 1 U |
| Dissolved Gases | | |
| Methane | UG/L | 2.7 U |

Flags assigned during chemistry validation are shown.

U - Non-Detect

MADE BY: PRF 08/04/10 CHKD BY: MEB_08/06/10

**Detection Limits shown are PQL**

# ATTACHMENT A

# VALIDATED ANALYTICAL RESULTS (FORM 1's)

## DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

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

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

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

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

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

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-03V09N

Lab Sample ID: 460-14649-1

Client Matrix: Water

Date Sampled: 06/24/2010 1340

Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0186.d |
| Dilution: | 25 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0107 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 6000 | | 11 | 67 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** **20100624MW-07RV15N**

Lab Sample ID: 460-14649-2
Client Matrix: Water

Date Sampled: 06/24/2010 1450
Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0197.d |
| Dilution: | 50 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0258 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 8400 | | 22 | 130 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** **20100624MW-07RV15FD**

Lab Sample ID: 460-14649-3
Client Matrix: Water

Date Sampled: 06/24/2010 1450
Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0199.d |
| Dilution: | 25 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0318 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 8100 | | 11 | 67 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-04V08N

Lab Sample ID: 460-14649-4

Client Matrix: Water

Date Sampled: 06/24/2010 1545

Date Received: 06/24/2010 1800

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

| | | | | | |
|---|---|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | | Instrument ID: | VOAGC2 |
| Preparation: | N/A | | | Lab File ID: | scrf0198.d |
| Dilution: | 20 | | | Initial Weight/Volume: | 10 mL |
| Date Analyzed: | 06/30/2010 0308 | | | Final Weight/Volume: | 10 mL |
| Date Prepared: | | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 4000 | | 8.6 | 54 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** **20100624MW-02V08N**

Lab Sample ID: 460-14649-5
Client Matrix: Water

Date Sampled: 06/24/2010 1647
Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0200.d |
| Dilution: | 25 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0328 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 8400 | | 11 | 67 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** **20100624MW-06V13N**

Lab Sample ID: 460-14649-6
Client Matrix: Water

Date Sampled: 06/24/2010 1750
Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0196.d |
| Dilution: | 25 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0248 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Methane | 9400 | | 11 | 67 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** TB062410

Lab Sample ID: 460-14649-7TB

Client Matrix: Water

Date Sampled: 06/24/2010 0000

Date Received: 06/24/2010 1800

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

| | | | |
|---|---|---|---|
| Method: | 3810M | Analysis Batch: 460-41542 | Instrument ID: VOAGC2 |
| Preparation: | N/A | | Lab File ID: scrf0195.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 10 mL |
| Date Analyzed: | 06/30/2010 0238 | | Final Weight/Volume: 10 mL |
| Date Prepared: | | | |

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

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-03V09N

Lab Sample ID: 460-14649-1
Client Matrix: Water

Date Sampled: 06/24/2010 1340
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42326 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38060.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 0514 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 0514 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 1.0 | U | 0.28 | 1.0 |
| Chlorotrifluoroethene | 26 | | 0.55 | 1.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 0.50 | J | 0.32 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 70 - 122 |
| Toluene-d8 (Surr) | 101 | | 69 - 125 |
| Bromofluorobenzene | 97 | | 69 - 135 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** **20100624MW-07RV15N**

Lab Sample ID: 460-14649-2
Client Matrix: Water

Date Sampled: 06/24/2010 1450
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42326 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38064.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 0651 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 0651 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 1.0 | | 0.28 | 1.0 |
| Chlorotrifluoroethene | 390 | | 0.55 | 1.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 1.8 | | 0.32 | 1.0 |

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

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-07RV15FD

Lab Sample ID: 460-14649-3
Client Matrix: Water

Date Sampled: 06/24/2010 1450
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42290 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38078.d |
| Dilution: | 2.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 1234 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 1234 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 1.1 | J | 0.56 | 2.0 |
| Chlorotrifluoroethene | 350 | J | 1.1 | 2.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 1.7 | J | 0.64 | 2.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surr) | 103 | | 70 - 122 |
| Toluene-d8 (Surr) | 102 | | 69 - 125 |
| Bromofluorobenzene | 99 | | 69 - 135 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-04V08N

Lab Sample ID: 460-14649-4
Client Matrix: Water

Date Sampled: 06/24/2010 1545
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42326 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38066.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 0739 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 0739 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 1.0 | U | 0.28 | 1.0 |
| Chlorotrifluoroethene | 12 | | 0.55 | 1.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 1.0 | U | 0.32 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 70 - 122 |
| Toluene-d8 (Surr) | 97 | | 69 - 125 |
| Bromofluorobenzene | 94 | | 69 - 135 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-02V08N

Lab Sample ID: 460-14649-5
Client Matrix: Water

Date Sampled: 06/24/2010 1647
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42326 | | Instrument ID: | VOAMS13 |
| Preparation: | 5030B | | | Lab File ID: | p38070.d |
| Dilution: | 5.0 | | | Initial Weight/Volume: | 5 mL |
| Date Analyzed: | 07/08/2010 0915 | | | Final Weight/Volume: | 5 mL |
| Date Prepared: | 07/08/2010 0915 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 670 | | 1.4 | 5.0 |
| Chlorotrifluoroethene | 240 | | 2.8 | 5.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 37 | | 1.6 | 5.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 70 - 122 |
| Toluene-d8 (Surr) | 96 | | 69 - 125 |
| Bromofluorobenzene | 94 | | 69 - 135 |

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** 20100624MW-06V13N

Lab Sample ID: 460-14649-6
Client Matrix: Water

Date Sampled: 06/24/2010 1750
Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42290 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38077.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 1210 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 1210 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Freon TF | 1.0 | U | 0.28 | 1.0 |
| Chlorotrifluoroethene | 68 | J | 0.55 | 1.0 |
| 1,2-Dichloro-1,1,2-trifluoroethane | 0.57 | ~~J~~ J | 0.32 | 1.0 |

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

8/4/10

Client: URS Corporation

Job Number: 460-14649-1

**Client Sample ID:** TB062410

Lab Sample ID: 460-14649-7TB

Client Matrix: Water

Date Sampled: 06/24/2010 0000

Date Received: 06/24/2010 1800

**8260B Volatile Organic Compounds (GC/MS)**

| | | | |
|---|---|---|---|
| Method: | 8260B | Analysis Batch: 460-42326 | Instrument ID: VOAMS13 |
| Preparation: | 5030B | | Lab File ID: p38059.d |
| Dilution: | 1.0 | | Initial Weight/Volume: 5 mL |
| Date Analyzed: | 07/08/2010 0450 | | Final Weight/Volume: 5 mL |
| Date Prepared: | 07/08/2010 0450 | | |

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

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 70 - 122 |
| Toluene-d8 (Surr) | 108 | | 69 - 125 |
| Bromofluorobenzene | 105 | | 69 - 135 |

General Chemistry

Client Sample ID: 20100624MW-03V09N

Lab Sample ID: 460-14649-1 Date Sampled: 06/24/2010 1340
Client Matrix: Water Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | 15.8 | | mg/L | 0.32 | 5.0 | 1.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1039

General Chemistry

**Client Sample ID:** 20100624MW-07RV15N

Lab Sample ID: 460-14649-2
Client Matrix: Water

Date Sampled: 06/24/2010 1450
Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | 11.2 | | mg/L | 0.32 | 5.0 | 1.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1040

General Chemistry

Client Sample ID: 20100624MW-07RV15FD

Lab Sample ID: 460-14649-3 Date Sampled: 06/24/2010 1450

Client Matrix: Water Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | 17.0 | | mg/L | 0.32 | 5.0 | 1.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1044

General Chemistry

Client Sample ID: 20100624MW-04V08N

Lab Sample ID: 460-14649-4 Date Sampled: 06/24/2010 1545
Client Matrix: Water Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | . 18.4 | | mg/L | 0.32 | 5.0 | 1.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1044

General Chemistry

Client Sample ID: 20100624MW-02V08N

Lab Sample ID: 460-14649-5

Client Matrix: Water

Date Sampled: 06/24/2010 1647

Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | 38.9 | | mg/L | 0.32 | 5.0 | 1.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1044

General Chemistry

Client Sample ID: 20100624MW-06V13N

Lab Sample ID: 460-14649-6

Client Matrix: Water

Date Sampled: 06/24/2010 1750

Date Received: 06/24/2010 1800

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Sulfate | 52.3 | | mg/L | 0.63 | 10.0 | 2.0 | D516-90, 02 |

Analysis Batch: 460-42417 Date Analyzed: 07/09/2010 1114

# ATTACHMENT B

# SUPPORT DOCUMENTATION

## CASE NARRATIVE

## Client: URS Corporation

## Project: Rohm and Haas - Former EMCA Site

## Report Number: 460-14649-1

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 06/24/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.5 C.

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

**DISSOLVED HYDROCARBON GASES**
Samples 460-14649-1 through 460-14649-7 were analyzed for dissolved hydrocarbon gases in accordance with EPA Method 3810M (Methane, Ethane, Ethene, Propane). The samples were analyzed on 06/30/2010.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Methane were outside control limits in batch 41542. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Refer to the QC report for details.

The following samples were diluted due to the abundance of target analytes: 20100624MW-02V08N (460-14649-5), 20100624MW-03V09N (460-14649-1), 20100624MW-04V08N (460-14649-4), 20100624MW-06V13N (460-14649-6), 20100624MW-07RV15FD (460-14649-3), 20100624MW-07RV15N (460-14649-2). Elevated reporting limits (RLs) are provided.
No other difficulties were encountered during the dissolved hydrocarbon gases analyses.

All other quality control parameters were within the acceptance limits.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples 460-14649-1 through 460-14649-7 were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/08/2010.

Samples 460-14649-3(2X) and 460-14649-5(5X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analyses.

All quality control parameters were within the acceptance limits.

**SULFATE**
Samples 460-14649-1 through 460-14649-6 were analyzed for sulfate in accordance with ASTM Method D516-90. The samples were analyzed on 07/09/2010.

Sample 460-14649-6(2X) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analyses.

All quality control parameters were within the acceptance limits.

GC.

# CHAIN OF CUSTODY RECORD

**URS**

PROJECT NO. 11176110.00001

SITE NAME Former EMCA Site

SAMPLERS (PRINT/SIGNATURE) Tim Ifkovich Tim Ifkovich

LAB Test America - Edison

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: Fedex AIRBILL NO.: 8645 1193 8550

14649

| LOCATION IDENTIFIER | DATE | TIME | COMP/ GRAB | SAMPLE ID | MATRIX | TOTAL NO.# OF CONTAINERS | TESTS: From 113, 1113, 12BA (8260B) | TESTS: Methane (RSK-175) | TESTS: Sulfate (375.4) | BOTTLE TYPE AND PRESERVATIVE: 40mL Vial (HCl) | BOTTLE TYPE AND PRESERVATIVE: 40mL Vial (HCl) | BOTTLE TYPE AND PRESERVATIVE: 500mL Poly | REMARKS | SAMPLE TYPE | BEGINNING DEPTH (IN FEET) | ENDING DEPTH (IN FEET) | FIELD LOT NO.# (IRPIMS ONLY) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-03 | 6/24/10 | 1340 | G | 20100624MW-03VOSW | WG | 7 | 3 | 3 | 1 | | | | 14649-1 | N, | | | |
| MW-03 | 6/24/10 | 1340 | G | 20100624MW-03VOSMS | WG | 7 | 3 | 3 | 1 | | | | 2 | MS, | | | |
| MW-03 | 6/24/10 | 1340 | G | 20100624MW-03VOSSD | WG | 7 | 3 | 3 | 1 | | | | 3 | SD, | | | |
| MW-07R | 6/24/10 | 1450 | G | 20100624MW-07RVISAL | WG | 7 | 3 | 3 | 1 | | | | 4 | N, | | | |
| MW-07R | 6/24/10 | 1450 | G | 20100624MW-07RVSED | WG | 7 | 3 | 3 | 1 | | | | 5 | FD, | | | |
| MW-04 | 6/24/10 | 1545 | G | 20100624MW-04VOSW | WG | 7 | 3 | 3 | 1 | | | | 6 | N, | | | |
| MW-02 | 6/24/10 | 1647 | G | 20100624MW-02VOSW | WG | 7 | 3 | 3 | 1 | | | | 7 | N, | | | |
| MW-06 | 6/24/10 | 1750 | G | 20100624MW-06VOSW | WG | 7 | 3 | 3 | 1 | | | | 8 | N, | | | |
| Trip Blank | — | — | — | TB@62410 | WQ | 4 | 2 | 2 | | | | | 9 | | | | |

6/24/10

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

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

| RELINQUISHED BY (SIGNATURE) | DATE | TIME | RECEIVED BY (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|
| | | | | | |
| RELINQUISHED BY (SIGNATURE) | DATE | TIME | RECEIVED FOR LAB BY (SIGNATURE) | DATE | TIME |
| Tim Ifkovich | 6/24/10 | 1800 | | | |

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

*Distribution: Original accompanies shipment, copy to coordinator field files*

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

3.5 $40

07/15/2010

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# Login Sample Receipt Check List

Client: URS Corporation

Job Number: 460-14649-1

**Login Number: 14649**

**List Source: TestAmerica Edison**

**Creator: Meyers, Gary**

**List Number: 1**

| Question | T / F/ NA | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | 616630 |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 3.5 °C IR#40 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Is the Field Sampler's name present on COC? | True | |
| Sample Preservation Verified | True | |

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Tracking no.: 864511938550 Select time format 12H | 24H E-mail notifications

**Delivered**

Initiated Picked up In transit Delivered

**Delivered**
Signed for by GARY

| Shipment Dates | Destination |
|---|---|
| Ship date Jun 24, 2010 | EDISON, NJ |
| Delivery date Jun 25, 2010 10 16 AM | Signature Proof of Delivery |

### Shipment Facts

Help

| | | | |
|---|---|---|---|
| Service type | Priority Overnight | Delivered to | Receptionist/Front Desk |

### Shipment Travel History

Help

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

| Date/Time | Activity | Location | Details |
|---|---|---|---|
| Jun 25, 2010 10 16 AM | Delivered | EDISON, NJ | |
| Jun 25, 2010 8 34 AM | On FedEx vehicle for delivery | EDISON, NJ | |
| Jun 25, 2010 7 01 AM | At local FedEx facility | EDISON, NJ | |
| Jun 25, 2010 3 58 AM | Departed FedEx location | NEWARK, NJ | |
| Jun 25, 2010 1 14 AM | Arrived at FedEx location | NEWARK, NJ | |
| Jun 24, 2010 8 45 PM | Left FedEx origin facility | STAMFORD, CT | |
| Jun 24, 2010 6 52 PM | Picked up | STAMFORD, CT | |


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

Lab Name: TestAmerica Edison  Job No.: 460-14649-1

SDG No.:

Lab File ID: p38071.d  BFB Injection Date: 07/08/2010

Instrument ID: VOAMS13  BFB Injection Time: 09:35

Analysis Batch No.: 42290

| M/E | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE | |
|---|---|---|---|
| 50 | 15.0 - 40.0 % of mass 95 | 25.9 | |
| 75 | 30.0 - 60.0 % of mass 95 | 54.9 | |
| 95 | Base Peak, 100% relative abundance | 100.0 | |
| 96 | 5.0 - 9.0 % of mass 95 | 7.4 | |
| 173 | Less than 2.0 % of mass 174 | 0.6 | (0.9)1 |
| 174 | 50.0 - 120.00 % of mass 95 | 74.4 | |
| 175 | 5.0 - 9.0 % of mass 174 | 5.8 | (7.8)1 |
| 176 | 95.0 - 101.0 % of mass 174 | 71.2 | (95.6)1 |
| 177 | 5.0 - 9.0 % of mass 176 | 5.3 | (7.4)2 |

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

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

| CLIENT SAMPLE ID | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| | CCVIS 460-42290/2 | p38073.d | 07/08/2010 | 10:21 |
| | MB 460-42290/3 | p38076.d | 07/08/2010 | 11:38 |
| 20100624MW-06V13N | 460-14649-6 | p38077.d | 07/08/2010 | 12:10 |
| 20100624MW-07RV15FD | 460-14649-3 | p38078.d | 07/08/2010 | 12:34 |
| | LCS 460-42290/8 | p38081.d | 07/08/2010 | 13:46 |

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison  Job No.: 460-14649-1

SDG No.:

Lab Sample ID: CCVIS 460-42290/2  Calibration Date: 07/08/2010 10:21

Instrument ID: VOAMS13  Calib Start Date: 07/07/2010 23:36

GC Column: DB-624  ID: 0.18(mm)  Calib End Date: 07/08/2010 02:49

Lab File ID: p38073.d  Conc. Units: ug/L  Heated Purge: (Y/N) N

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|---|---|---|---|---|---|---|---|---|
| Chlorotrifluoroethene | Ave | 0.0723 | 0.0400 | | 11.1 | 20.0 | -44.6 | 50.0 |
| Dichlorodifluoromethane | Ave | 0.2517 | 0.2067 | | 16.4 | 20.0 | -17.9 | 50.0 |
| Chloromethane | Ave | 0.3670 | 0.2907 | 0.1000 | 15.8 | 20.0 | -20.8 | 50.0 |
| Vinyl chloride | Ave | 0.3044 | 0.2604 | | 17.1 | 20.0 | -14.5 | 20.0 |
| Bromomethane | QuaF | 0.1767 | 0.1056 | | 14.6 | 20.0 | -27.0 | 50.0 |
| Chloroethane | Ave | 0.1978 | 0.1730 | | 17.5 | 20.0 | -12.5 | 50.0 |
| n-Pentane | Ave | 0.0403 | 0.0390 | | 19.3 | 20.0 | -3.3 | 50.0 |
| Trichlorofluoromethane | Ave | 0.3499 | 0.2914 | | 16.7 | 20.0 | -16.7 | 50.0 |
| Isopropene | Ave | 0.3372 | 0.3606 | | 21.4 | 20.0 | 6.9 | 50.0 |
| Ethyl ether | Ave | 0.2219 | 0.2820 | | 25.4 | 20.0 | 27.1 | 50.0 |
| 1,1-Dichloroethene | Ave | 0.1623 | 0.1511 | | 18.6 | 20.0 | -6.9 | 20.0 |
| 1,2-Dichloro-1,1,2-trifluoro ethane | Ave | 0.2636 | 0.1986 | | 15.1 | 20.0 | -24.7 | 50.0 |
| Carbon disulfide | Ave | 0.7047 | 0.7625 | | 21.6 | 20.0 | 8.2 | 50.0 |
| Ethanol | QuaF | 0.0014 | 0.0015 | | 3440 | 3000 | 14.8 | 50.0 |
| Freon TF | Ave | 0.1825 | 0.1849 | | 20.3 | 20.0 | 1.3 | 50.0 |
| Acrolein | Ave | 0.0458 | 0.0534 | | 46.6 | 40.0 | 16.6 | 99.0 |
| Isopropanol | Ave | 0.0161 | 0.0186 | | 3460 | 3000 | 15.3 | 50.0 |
| Methylene Chloride | Ave | 0.2313 | 0.2296 | | 19.9 | 20.0 | -0.7 | 50.0 |
| Acetone | Ave | 0.0246 | 0.0368 | | 29.9 | 20.0 | 49.7 | 50.0 |
| trans-1,2-Dichloroethene | Ave | 0.2048 | 0.1914 | | 18.7 | 20.0 | -6.5 | 50.0 |
| Methyl acetate | Ave | 0.0493 | 0.0660 | | 26.8 | 20.0 | 33.8 | 50.0 |
| Hexane | Ave | 0.2102 | 0.2138 | | 20.3 | 20.0 | 1.7 | 50.0 |
| MTBE | Ave | 0.7140 | 0.8907 | | 24.9 | 20.0 | 24.7 | 50.0 |
| TBA | Ave | 0.0207 | 0.0290 | | 562 | 400 | 40.5 | 50.0 |
| Acetonitrile | Ave | 0.0081 | 0.0104 | | 519 | 400 | 29.7 | 50.0 |
| DIPE | Ave | 1.089 | 1.316 | | 24.2 | 20.0 | 20.8 | 50.0 |
| 1,1-Dichloroethane | Ave | 0.4612 | 0.4572 | 0.1000 | 19.8 | 20.0 | -0.9 | 50.0 |
| Acrylonitrile | Ave | 0.1037 | 0.1182 | | 22.8 | 20.0 | 14.1 | 50.0 |
| Tert-butyl ethyl ether | Ave | 0.8390 | 1.018 | 0.0100 | 24.3 | 20.0 | 21.4 | 50.0 |
| Vinyl acetate | Ave | 0.5190 | 0.6981 | | 26.9 | 20.0 | 34.5 | 50.0 |
| cis-1,2-Dichloroethene | Ave | 0.2231 | 0.2169 | | 19.4 | 20.0 | -2.8 | 50.0 |
| 2,2-Dichloropropane | Ave | 0.3567 | 0.3471 | | 19.5 | 20.0 | -2.7 | 50.0 |
| Cyclohexane | LinF | 0.4383 | 0.4227 | | 18.5 | 20.0 | -7.6 | 50.0 |
| Bromochloromethane | Ave | 0.1035 | 0.1088 | | 21.0 | 20.0 | 5.1 | 50.0 |
| Chloroform | Ave | 0.4075 | 0.4080 | | 20.0 | 20.0 | 0.1 | 20.0 |
| Carbon tetrachloride | Ave | 0.2755 | 0.2571 | | 18.7 | 20.0 | -6.7 | 50.0 |
| Ethyl acetate | Ave | 0.0261 | 0.0324 | | 49.7 | 40.0 | 24.2 | 50.0 |
| Tetrahydrofuran | LinF | 0.1635 | 0.1925 | | 28.6 | 20.0 | 42.8 | 50.0 |
| 1,1,1-Trichloroethane | Ave | 0.3380 | 0.3210 | | 19.0 | 20.0 | -5.0 | 50.0 |
| 1,1-Dichloropropene | Ave | 0.3284 | 0.3043 | | 18.5 | 20.0 | -7.3 | 50.0 |