Groundwater Sampling and Analysis Report

August 2007 Sampling Event and Summary of Supplemental Injection Event

Former EMCA Site
Mamaroneck, New York

Prepared for:

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October 2007

G390303S

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT

AUGUST 2007 SAMPLING EVENT

&

SUMMARY OF SUPPLEMENTAL INJECTION EVENT

Prepared for:

ROHM AND HAAS COMPANY

Submitted by:

URS CORPORATION

OCTOBER 2007

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted July 31-August 1, 2007 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 the remedial actions.

In addition, this report presents the details of a supplemental injection event completed in August 2007, after the sampling event took place.

The pilot program conducted in 2003 and the interim remedial measure in 2004 involved the injections of 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 fifth groundwater sampling event since the interim remedial measure in 2004.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from a total of eight monitoring wells using low flow purging and sampling procedures. Static groundwater level measurements were taken prior to purging and sampling. Field purging and sampling logs are presented in Appendix A.

This event included a non-routine, one-time sampling of the inactive monitoring wells MW-01 and GZ-03, as requested by the NYSDEC to assess upgradient and downgradient contaminant levels. The non-routine reporting of chlorinated compound concentrations at MW-01 was provided separately to the NYSDEC for their use in tracking offsite sources of contamination.

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	USEPA CLP OLM 04.2
Freon 123a	USEPA CLP OLM 04.2
Freon 1113	USEPA CLP OLM 04.2
Methane	RSK-175
Sulfate	375.4

3.0 RESULTS

Groundwater level data are presented in Table 1 and a groundwater elevation contour map is shown on Figure 2. As found during previous sampling events, groundwater flow was generally westward towards the Sheldrake River.

Groundwater monitoring results are provided in Tables 2 and 3 (Table 3 contains the routine analytical results from monitoring well MW-01). Laboratory data sheets and a data usability summary report for the August 2007 results are provided in Appendix B. Freon 113, 123a and 1113 concentrations are shown in plan view on Figure 3 and the trend plots are presented for Freon 113 (Figure 4 and 5), Freon 123a (Figure 6), sulfate (Figure 7), methane (Figure 8), dissolved oxygen (Figure 9) and oxidation-reduction potential (Figure 10).

4.0 DATA ASSESSMENT

The groundwater analytical results for the August 2007 sampling event indicate that Freon 113 concentrations were below the remedial goal of 5 µg/L at five of the eight wells sampled. No Freon concentrations were detected in the one-time sampling of either inactive well (MW-01 or GZ-03), indicating that neither upgradient nor downgradient Freon contamination is present in these portions of the site.

Freon 113 concentrations above 5 µg/L were noted only at GZ-06 (13 µg/L), MW-02 (290 µg/L) and MW-07 (6 J µg/L). Concentrations at GZ-06 and MW-02 decreased from the

previous levels of 14 µg/L and 800 µg/L, respectively. The Freon 113 concentration in MW-07 increased slightly from ND to the estimated concentration of 6 µg/L.

Freon 123a and Freon 1113 are the expected reductive dechlorination daughter products of Freon 113. Minor fluctuations were seen in the concentrations of both compounds compared to the previous sampling round. Freon 123a, which holds one less chlorine than Freon 113, increased in wells GZ-06 (4 J µg/L in February 2007 to 10 µg/L in August 2007) and MW-07 (3 J µg/L in February 2007 to 10 µg/L in August 2007). Freon 123a concentrations decreased at MW-03 (48 µg/L in February 2007 to 7 J µg/L in August 2007), MW-02 (95 µg/L in February 2007 to 40 µg/L in August 2007) and MW-06 (8 J µg/L in February 2007 to 0.6 J µg/L in August 2007). Freon 123a was not detected at MW-04 in August 2007.

Overall, little change was seen in Freon 1113 concentrations. Freon 1113, which holds two less chlorines than Freon 113, increased from previous concentrations at MW-03 (39 µg/L to 54 µg/L) and GZ-06 (1 J µg/L to 2 J µg/L). Concentrations decreased at MW-06 (100 µg/L to 21 µg/L), MW-07 (89 µg/L to 82 µg/L) and MW-02 (84 µg/L to 61 µg/L).

Dissolved oxygen concentrations have fluctuated widely since December 2005, but most recently, the trend was downward. Results were generally below 1.0 mg/L (GZ-06 was slightly above 1 mg/L). Oxidation-reduction potentials have increased slightly, but remained generally negative, with the exception of GZ-06 where the potential was just slightly positive.

The August 2007 sulfate concentrations increased at all wells. Conversely, methane concentrations were down at all locations. These two trends indicate less reducing (more aerobic) conditions site-wide, as the effects of earlier injections dissipate.

The data trends show that the concentrations of Freon 113 at MW-02 have ranged from a high of 2,400 µg/L in July 2001 to a low of 12 µg/L in December 2003 (Figure 3), with wide fluctuations and rebounding concentrations becoming common in recent years. Similarly, the concentrations of Freon 113 at well GZ-06 have ranged from a high of 1,274 µg/L in May 1988 to less than detectable in December 2003 and December 2005 (Figure 3), with sporadic increases reported recently. While Freon 113 concentrations at these two wells continue to exhibit relatively wide fluctuations, it's important to note that the concentrations at the other wells have

remained flat (at low levels or ND), with concentrations of Freon daughter products that are indicative of continued dechlorination and remedial progress.

The previous rounds of injections significantly reduced the total mass of Freon 113 present at the Site, but the February 2007 and August 2007 monitoring data indicate that another injection event was warranted to further stimulate and sustain anaerobic conditions in the subsurface, particularly in the vicinity of MW-02 and GZ-06, where Freon 113 concentrations have fluctuated the most.

5.0 2007 SUPPLEMENTAL INJECTION PROGRAM

The 2003 and 2004 injections of sodium lactate and emulsified oil substrate were successful in establishing favorable conditions for reductive dechlorination of Freon compounds. The goals of the supplemental injections were to stimulate and maintain anaerobic biological processes and to remediate remaining areas of contamination.

The Supplemental Injection Work Plan (URS 2007c) was approved by the NYSDEC and NYSDOH on June 15, 2007. Injections began in August 2007, after the August 2007 groundwater sampling. The target interval for the 27 proposed injection locations was the saturated zone, extending from the water table to approximately 25 feet below grade. Based on the most recent water level readings, the depths to the water table ranged from approximately 5-9 feet below grade.

Field Program

On July 27, 2007, Naeva Geophysics of Congers, New York located and marked out utilities in the vicinities of the 27 proposed injection points. Some of the injection locations had to be relocated slightly to avoid surface and/or subsurface obstructions.

The injections of sodium lactate and emulsified oil substrate began on August 13, 2007 using Zebra Environmental of Lynbrook, New York as the contractor to supply the mixing and injection equipment. URS coordinated and oversaw all fieldwork. A geoprobe rig was used to advance a pressure-activated injection probe and drive rod assembly. Zebra used an injection pull

cap that provided a sealed connection between the high-pressure hose and rods. This allowed continuous injection through rods while retracting the tool string, and it featured an O-ring sealed swiveled connection to the probe rod and a male quick-connect coupler at the high-pressure hose. Using this equipment, only a brief stoppage was required every four feet to remove the rod sections and reconnect the injection hose.

Emulsified oil and sodium lactate injections were completed at the 29 locations shown on Figure 11 (note: two additional locations were added around GZ-06). The volumes injected in each interval are presented in Appendix C. The injection program was completed over six days and a total of more than 6,000 gallons of dilute substrate was injected in the subsurface.

It was not possible to inject the solutions into some of the intervals without significant leakage at the surface. This resistance to fluid flow reflects the low permeability of some of the soils. Tighter soils often resulted in higher pressures in the annular space and the probability of leakage at the surface. Several measures were taken to make sure that as much material was delivered into the subsurface as possible. These included tightly sealing the surface, raising the injection screen to different zones as necessary, avoiding zones very near the surface where leakage was occurring and even pausing at the end to allow substrate to migrate into the soils.

Refusal at approximately 14-17 feet below grade was common near monitoring well GZ-06. After several moves of the rig and attempts at different locations in this area, the proposed injection volumes were finally achieved by placing material into zones that could be reached and that would accept the solution. When completed, a total of nearly 900 gallons of dilute EOS® was injected into this single, relatively small, upgradient area of about 400 square feet using six injection locations instead of the four that had been proposed.

6.0 FUTURE ACTIVITIES

The next routine groundwater-monitoring event is planned for February 2008. The time since the injections in August 2007 will allow for the dispersion and fermentation of the recently-injected substrate. Contaminant levels and indicator parameters will be evaluated for evidence of further progress toward the remedial objectives.

REFERENCES

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

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

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

URS Inc., 2007b. *Operation, Maintenance and Monitoring Plan (Draft), Former EMCA Site, Site No. 360025, Mamaroneck, New York.* March.

URS Inc., 2007c. *Supplemental Injection Work Plan, Former EMCA Site, Site No. 360025, Mamaroneck, New York.* May.

TABLES

TABLE 1
FORMER EMCA SITE, MAMARONECK, NEW YORK
GROUNDWATER ELEVATION MEASUREMENTS (AUGUST 2007)

Location	Measuring Point Elevation (ft.)	Depth to Water (ft.)	Water Surface Elevation (ft.)
GZ-03	102.71	8.53	94.18
GZ-06	101.55	7.68	93.87
MW-01	99.22	5.51	93.71
MW-02	99.18	5.88	93.30
MW-03	99.35	6.12	93.23
MW-04	98.61	5.52	93.09
MW-05	98.14	5.08	93.06
MW-06	ND	6.05	ND
MW-07	ND	6.20	ND

Notes:

1) The riser and protective casing are damaged at monitoring well GZ-03. This water surface elevation is not included in the Groundwater Elevation Contour Map (Figure 2).

2) ND = Not Determined

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

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**					
Volatiles						
Acetone	UG/L	NA	5.0 U	10 U	5.0 U	5.0 U
Benzene	UG/L	NA	5.0 U	10 U	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	5.0 UR	10 UR	5.0 UR	5.0 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	0 U	0 U	5.4 NJ	0 U
1,1-Dichloroethene	UG/L	NA	0.8 J	1.5 J	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	NA	5.0 U	10 U	5.0 U	5.0 U
Ethylbenzene	UG/L	NA	4.0 U	8 U	4.0 U	4.0 U
2-Hexanone	UG/L	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	NA	0.6 J	2 U	0.5 J	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	100	230	74	5.0 U
Vinyl Chloride	UG/L	NA	5.0 U	10 U	5.0 U	5.0 U
Xylene (total)	UG/L	NA	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	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	NA	2,390	866	517 J	173
Dissolved Metals						
Iron	UG/L	NA	2,290	778	583 J	85.3 B
Miscellaneous Parameters						
Chloride	MG/L	NA	559	474	477 J	218
Conductivity	MS/CM	0.599	2.27	1.99	1.98	1.11

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

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					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.52	0.76	0.5	0.48	6.86
Nitrogen, Ammonia (As N)	MG/L	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	NA	0.1 U	NA	0.58	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	0.12 J	NA	NA
Oxidation Reduction Potential	mV	98.5	-110	-75	-129	73
Sulfate	MG/L	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	NA	0.1 U	0.1 U	0.1 U	0.32
Oil & Grease	MG/L	NA	NA	NA	5.21 UR	NA

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

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**					
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	24	15	10 U	13	2.0 J
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	100 J	9.0 J	10 U	74	2.0 J
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	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	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	1,610	NA	NA	NA	NA
Conductivity	MS/CM	5.25	1.43	1.16	1.28	NA

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NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

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					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	1.15	0.11	0.03	5.67	NA
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-210	-107	-59	-49	NA
Sulfate	MG/L	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	1.00 U	NA	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

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Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mdb
Printed: 10/18/2007 3:15:59 PM
([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

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

Location ID		GZ-06	GZ-06	GZ-06	MW-02	MW-02
Sample ID		20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	MW02-5-20-03	MW02-5-20-03DUP
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		11/17/06	02/07/07	07/31/07	05/20/03	05/20/03
Parameter	Units	Field Duplicate (1-1)				Field Duplicate (1-1)
Volatiles						
Acetone	UG/L	NA	NA	NA	140 J	130 J
Benzene	UG/L	NA	NA	NA	50 U	25 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	50 UR	25 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	2.0 J	1.0 J	2.0 J	0 U	0 U
1,1-Dichloroethene	UG/L	NA	NA	NA	4.4 J	5.1 J
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	50 U	25 U
Ethylbenzene	UG/L	NA	NA	NA	40 U	20 U
2-Hexanone	UG/L	NA	NA	NA	50 U	25 U
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	50 U	25 U
Tetrachloroethene	UG/L	NA	NA	NA	10 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	2.0 J	14	13	710	880
Vinyl Chloride	UG/L	NA	NA	NA	50 U	25 U
Xylene (total)	UG/L	NA	NA	NA	50 U	25 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	2.0 J	4.0 J	10	34 J	40
Dissolved Gases						
Methane	UG/L	210	360	23	26	32
Total Metals						
Iron	UG/L	NA	NA	NA	27,800	28,300
Dissolved Metals						
Iron	UG/L	NA	NA	NA	27,900	28,200
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	338	338
Conductivity	MS/CM	NA	3.06	1.671	1.68	NA

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mdb
Printed: 10/18/2007 3:15:59 PM
([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

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

Location ID		GZ-06	GZ-06	GZ-06	MW-02	MW-02
Sample ID		20061117GZ0608FD	20070207GZ-06V08N	20070731GZ-06V08	MW02-5-20-03	MW02-5-20-03DUP
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		11/17/06	02/07/07	07/31/07	05/20/03	05/20/03
Parameter	Units	Field Duplicate (1-1)				Field Duplicate (1-1)
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	4.17	1.18	0.36	NA
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	3.3	3.4
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	6.6	6.2
Nitrogen, Nitrate	MG/L	NA	NA	NA	0.15	0.16
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-29	15.6	-108	NA
Sulfate	MG/L	25.4	29.3	50.4	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	NA	NA	NA	0.28	0.3
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed

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Detection Limits shown are PQL

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

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**	Field Duplicate (1-1)				
Volatiles						
Acetone	UG/L	50 UR	50 UR	5.0 U	5.0 U	NA
Benzene	UG/L	50 U	50 U	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	50 UR	50 UR	5.0 UR	5.0 UR	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	0 U	0 U	14
1,1-Dichloroethene	UG/L	8.2 J	7.5 J	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	50 U	50 U	5.0 U	5.0 U	NA
Ethylbenzene	UG/L	40 U	3.4 J	4.0 U	4.0 U	NA
2-Hexanone	UG/L	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	10 U	10 U	1.0 U	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	1,000	1,000	54	12	21 J
Vinyl Chloride	UG/L	50 U	50 U	5.0 U	5.0 U	NA
Xylene (total)	UG/L	7.1 J	11 J	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	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	30,100	30,900	63,800 J	69,000	NA
Dissolved Metals						
Iron	UG/L	30,500	30,500	60,900 J	69,300	NA
Miscellaneous Parameters						
Chloride	MG/L	307	283	839	769	238
Conductivity	MS/CM	NA	1.65	3.17	3.28	2.34

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

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**	Field Duplicate (1-1)				
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	0.26	0.53	0 U	0.91
Nitrogen, Ammonia (As N)	MG/L	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	0.1 U	0.1	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-190	-99	-108	-133
Sulfate	MG/L	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	0.37	0.39	0.3	0.31	0.294
Oil & Grease	MG/L	NA	NA	5 U	NA	NA

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

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**					
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	120	18	200	21	84
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	1,200	110	890	100	800
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	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	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	NA	NA
Conductivity	MS/CM	1.19	2.51	1.55	NA	1.77

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

Detection Limits shown are PQL

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

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**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0 U	0 U	4.92	NA	1.56
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-140	-137	-144	NA	-120
Sulfate	MG/L	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	NA	NA	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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J - Analyte is reported below the PQL at an estimated concentration.
U - Non-Detect R - Rejected result
NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-02	MW-03	MW-03	MW-03	MW-03
Sample ID		20070731MW-02V15N	MW03_52103	MW03	DUP-91703	MW03-091703
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		07/31/07	05/21/03	07/23/03	09/17/03	09/17/03
Parameter	Units				Field Duplicate (1-1)	
Volatiles						
Acetone	UG/L	NA	250 U	78	110	110
Benzene	UG/L	NA	250 U	2.3	2.2	1.8
Methyl ethyl ketone (2-Butanone)	UG/L	NA	250 UR	130 J	69 J	65 J
Chlorotrifluoroethene (Freon-1113)	UG/L	61	0 U	7.0 NJ	6.2 NJ	0 U
1,1-Dichloroethene	UG/L	NA	33 J	2.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	NA	250 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	UG/L	NA	200 U	0.3 J	4.0 U	4.0 U
2-Hexanone	UG/L	NA	250 U	5.0 U	19	16
4-Methyl-2-Pentanone	UG/L	NA	250 U	5.0 U	11	11
Tetrachloroethene	UG/L	NA	50 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	290	5,800	68	26	16
Vinyl Chloride	UG/L	NA	250 U	5.0 U	5.0 U	5.0 U
Xylene (total)	UG/L	NA	250 U	1.1 J	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	40	78 J	43	180	110
Dissolved Gases						
Methane	UG/L	2,900	86	56	2,400	2,500
Total Metals						
Iron	UG/L	NA	1,170	150,000	174,000 J	178,000 J
Dissolved Metals						
Iron	UG/L	NA	267	152,000	187,000 J	186,000 J
Miscellaneous Parameters						
Chloride	MG/L	NA	113	143	99.2 J	91.5 J
Conductivity	MS/CM	2.357	0.638	4.35	NA	1.64

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

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

Location ID		MW-02	MW-03	MW-03	MW-03	MW-03
Sample ID		20070731MW-02V15N	MW03_52103	MW03	DUP-91703	MW03-091703
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		07/31/07	05/21/03	07/23/03	09/17/03	09/17/03
Parameter	Units				Field Duplicate (1-1)	
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.31	0.58	0 U	NA	0.01
Nitrogen, Ammonia (As N)	MG/L	NA	0.36	2.7	0.86	0.95
Nitrogen, Kjeldahl, Total	MG/L	NA	1.3	10.8	4.5	4.4
Nitrogen, Nitrate	MG/L	NA	2	NA	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	0.1 UJ	NA	NA
Oxidation Reduction Potential	mV	-97.2	40	-103	NA	-90
Sulfate	MG/L	27.6	32.7	26.9	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	NA	0.5	3.7	25.5	27.9
Ferric Iron (lab)	MG/L	NA	0.67	146	67.0	93.0
Fluoride	MG/L	NA	0.28	0.44	0.27	0.2
Oil & Grease	MG/L	NA	NA	NA	9.26 R	9.26 R

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Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID		DUP1_121703	MW-03_121703	MW-03	MW-03	MW-03VION
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/17/03	12/17/03	07/23/04	05/31/05	12/20/05
Parameter	**Units**	Field Duplicate (1-1)				
Volatiles						
Acetone	UG/L	130 J	120 J	NA	NA	NA
Benzene	UG/L	10 U	10 U	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	39 J	38 J	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	68 J	83	2.0 J
1,1-Dichloroethene	UG/L	4.0 U	4 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	10 U	10 U	NA	NA	NA
Ethylbenzene	UG/L	8.0 U	8 U	NA	NA	NA
2-Hexanone	UG/L	10 U	10 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	10 U	10 U	NA	NA	NA
Tetrachloroethene	UG/L	4.9	4.6	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	150	150	4,900 J	2.0 J	10 U
Vinyl Chloride	UG/L	10 U	10 U	NA	NA	NA
Xylene (total)	UG/L	10 U	10 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	170	160	3,900	14	1.0 J
Dissolved Gases						
Methane	UG/L	7,200	4,900	2,700	6,300	10,000
Total Metals						
Iron	UG/L	156,000	164,000	NA	NA	NA
Dissolved Metals						
Iron	UG/L	167,000	176,000	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	224	192	71.7	NA	NA
Conductivity	MS/CM	NA	1.99	2.40	3.19	1.20

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-03	MW-03	MW-03	MW-03	MW-03
Sample ID		DUP1_121703	MW-03_121703	MW-03	MW-03	MW-03VION
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/17/03	12/17/03	07/23/04	05/31/05	12/20/05
Parameter	Units	Field Duplicate (1-1)				
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	0.35	1.05	1.24	0 U
Nitrogen, Ammonia (As N)	MG/L	1.4	1.2	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	4.0	4.0	NA	NA	NA
Nitrogen, Nitrate	MG/L	0.1 U	0.1 U	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-59	-143	-133	-151
Sulfate	MG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	23.5	30.0	NA	NA	NA
Ferric Iron (lab)	MG/L	132	134	NA	NA	NA
Fluoride	MG/L	0.22	0.25	0.397	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed

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Detection Limits shown are PQL

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

Location ID		MW-03	MW-03	MW-03	MW-04	MW-04
Sample ID		MW-03V15N	20070207MW-03V10N	20070731MW-03V10N	MW04-5-20-03	MW-04_121703
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	02/07/07	07/31/07	05/20/03	12/17/03
Parameter	**Units**					
Volatiles						
Acetone	UG/L	NA	NA	NA	5.0 U	5.0 U
Benzene	UG/L	NA	NA	NA	5.0 U	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	5.0 UR	5.0 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	51	39	54	0 U	0 U
1,1-Dichloroethene	UG/L	NA	NA	NA	2.0 U	2.0 U
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	5.0 U	5.0 U
Ethylbenzene	UG/L	NA	NA	NA	4.0 U	4.0 U
2-Hexanone	UG/L	NA	NA	NA	5.0 U	5.0 U
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	5.0 U	5.0 U
Tetrachloroethene	UG/L	NA	NA	NA	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	10	2.0 J	5.0 U	5.0 U
Vinyl Chloride	UG/L	NA	NA	NA	5.0 U	5.0 U
Xylene (total)	UG/L	NA	NA	NA	5.0 U	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	0.8 J	48	7.0 J	5.0 U	5.0 U
Dissolved Gases						
Methane	UG/L	7,400	15,000	4,500	380	35
Total Metals						
Iron	UG/L	NA	NA	NA	18,400	3,640
Dissolved Metals						
Iron	UG/L	NA	NA	NA	18,500	3,760
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	238	294
Conductivity	MS/CM	0.946	0.91	1.309	1.61	0.99

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-03	MW-03	MW-03	MW-04	MW-04
Sample ID		MW-03V15N	20070207MW-03V10N	20070731MW-03V10N	MW04-5-20-03	MW-04_121703
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	02/07/07	07/31/07	05/20/03	12/17/03
Parameter	Units					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	5.36	2.44	0.22	0.54	0 U
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	1.6	1.2
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	6.2	1.9
Nitrogen, Nitrate	MG/L	NA	NA	NA	0.1 U	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-123	-116	-79.7	-115	0 U
Sulfate	MG/L	5.0 U	7.80	38.4	5.0 U	9.40
Ferrous Iron (field)	MG/L	NA	NA	NA	17.6	2.2
Ferric Iron (lab)	MG/L	NA	NA	NA	0.76	1.3
Fluoride	MG/L	NA	NA	NA	0.27	0.19
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID		Dup1	MW-04	MW-04	MW-04VION	MW-04V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		07/22/04	07/22/04	05/31/05	12/20/05	08/14/06
Parameter	Units	Field Duplicate (1-1)				
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	10 U	1.0 J	10 U	0.7 J
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 UJ	0.7 J	10 U	10 U	10 U
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	10 U	10 U	10 U	10 U
Dissolved Gases						
Methane	UG/L	69	99	190	400	420
Total Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	158	161	NA	NA	NA
Conductivity	MS/CM	NA	1.05	1.85	1.47	1.14

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-04	MW-04	MW-04	MW-04	MW-04
Sample ID		Dup1	MW-04	MW-04	MW-04VION	MW-04V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		07/22/04	07/22/04	05/31/05	12/20/05	08/14/06
Parameter	Units	Field Duplicate (1-1)				
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	0.82	0 U	0 U	4.97
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-136	-126	-161	-154
Sulfate	MG/L	10.8	10.8	14.2	6.66	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	0.304	0.302	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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J - Analyte is reported below the PQL at an estimated concentration.
U - Non-Detect R - Rejected result
NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		MW-04	MW-04	MW-05	MW-05	MW-05
Sample ID		20070207MW-04V10N	20070801MW-04V10N	MW05_52103	MW-05-121803	MW-05
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		02/07/07	08/01/07	05/21/03	12/18/03	07/23/04
Parameter	**Units**					
Volatiles						
Acetone	UG/L	NA	NA	5.0 U	5.0 U	NA
Benzene	UG/L	NA	NA	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	5.0 UR	5.0 UR	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0.6 J	10 U	0 U	0 U	10 U
1,1-Dichloroethene	UG/L	NA	NA	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	5.0 U	5.0 U	NA
Ethylbenzene	UG/L	NA	NA	4.0 U	4.0 U	NA
2-Hexanone	UG/L	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	NA	NA	0.4 J	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	10 U	5.0 U	5.0 U	0.5 J
Vinyl Chloride	UG/L	NA	NA	5.0 U	5.0 U	NA
Xylene (total)	UG/L	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	10 U	5.0 U	5.0 U	10 U
Dissolved Gases						
Methane	UG/L	400	43	27	6.7	47
Total Metals						
Iron	UG/L	NA	NA	2,110	15,500	NA
Dissolved Metals						
Iron	UG/L	NA	NA	1,670	39.7 U	NA
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	49.8	27.5	63.9
Conductivity	MS/CM	0.804	1.241	0.426	0.629	0.463

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

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

Location ID		MW-04	MW-04	MW-05	MW-05	MW-05
Sample ID		20070207MW-04V10N	20070801MW-04V10N	MW05_52103	MW-05-121803	MW-05
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		02/07/07	08/01/07	05/21/03	12/18/03	07/23/04
Parameter	Units					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	4.73	0.41	0.37	0 U	0.97
Nitrogen, Ammonia (As N)	MG/L	NA	NA	0.25	0.1 U	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	3.6	0.61	NA
Nitrogen, Nitrate	MG/L	NA	NA	0.22	0.18	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-81	-79.2	26	121	46
Sulfate	MG/L	5.0 U	7.0	50.1	61.4	42.3
Ferrous Iron (field)	MG/L	NA	NA	1.7	0.07	NA
Ferric Iron (lab)	MG/L	NA	NA	0.43	15.4	NA
Fluoride	MG/L	NA	NA	0 U	0.12	0.103
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		MW06-6-10-03	MW06-7_22_03	MW06-091803	MW-06_121703	MW-06
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/10/03	07/22/03	09/18/03	12/17/03	07/23/04
Parameter	**Units**					
Volatiles						
Acetone	UG/L	10 U	5.0 U	5.0 U	10 U	NA
Benzene	UG/L	10 U	5.0 U	5.0 U	10 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	10 UR	5.0 UR	5.0 UR	10 UR	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	5.7 NJ	0 U	0 U	5 J
1,1-Dichloroethene	UG/L	4 U	1.2 J	2.0 U	4 U	NA
cis-1,2-Dichloroethene	UG/L	10 U	1.7 J	1.4 J	1.3 J	NA
Ethylbenzene	UG/L	8 U	4.0 U	4.0 U	8 U	NA
2-Hexanone	UG/L	10 U	5.0 U	5.0 U	10 U	NA
4-Methyl-2-Pentanone	UG/L	10 U	5.0 U	5.0 U	10 U	NA
Tetrachloroethene	UG/L	2 U	1.0 U	1.0 U	2 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	220	180	97	250	140 J
Vinyl Chloride	UG/L	10 U	1.2 J	5.0 U	10 U	NA
Xylene (total)	UG/L	10 U	5.0 U	5.0 U	10 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	8.8 J	9.5	8.6	14	23
Dissolved Gases						
Methane	UG/L	49	81	99	78	40
Total Metals						
Iron	UG/L	14,400	10,500	8,370 J	7,690	NA
Dissolved Metals						
Iron	UG/L	14,300	10,300	8,470 J	7,670	NA
Miscellaneous Parameters						
Chloride	MG/L	184	82.3	74.6	84.0	60.5
Conductivity	MS/CM	0.741	0.866	0.581	0.602	0.513

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		MW06-6-10-03	MW06-7_22_03	MW06-091803	MW-06_121703	MW-06
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/10/03	07/22/03	09/18/03	12/17/03	07/23/04
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.93	1.07	0 U	0 U	1.04
Nitrogen, Ammonia (As N)	MG/L	0.19	0.33	0.31	0.36	NA
Nitrogen, Kjeldahl, Total	MG/L	0.72	1.1	0.88	0.79	NA
Nitrogen, Nitrate	MG/L	0.33	0.1 U	0.1 U	0.1 UJ	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-145	-155	-143	-110	-64
Sulfate	MG/L	32.0	30.5	39.2	39.1	33.5
Ferrous Iron (field)	MG/L	14.3	8.6	6.0	8.7	NA
Ferric Iron (lab)	MG/L	0.12	1.9	8.4	1.0 U	NA
Fluoride	MG/L	0.46	0.56	0.37	0.42	0.467
Oil & Grease	MG/L	NA	NA	5 U	NA	NA

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		Field-Dup	MW-06	MW-06V15FD	MW-06V15N	MW-06V15FD
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	05/31/05	12/20/05	12/20/05	08/15/06
Parameter	Units	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	6.0 J	5.0 J	6.0 J	6.0 J	10 U
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	1.0 J	1.0 J	10 U	10 U	10 U
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	16	14	10 UJ	10 UJ	10 U
Dissolved Gases						
Methane	UG/L	3,600	3,300	6,700	5,600	1,600
Total Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	NA	NA
Conductivity	MS/CM	NA	1.13	NA	1.29	NA

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		Field-Dup	MW-06	MW-06V15FD	MW-06V15N	MW-06V15FD
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	05/31/05	12/20/05	12/20/05	08/15/06
Parameter	Units	Field Duplicate (1-1)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	0 U	NA	0 U	NA
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-140	NA	-140	NA
Sulfate	MG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	NA	NA	NA	NA	NA
Fluoride	MG/L	NA	NA	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/15/06	02/07/07	02/07/07	07/31/07	07/31/07
Parameter	Units		Field Duplicate (1-1)		Field Duplicate (1-1)	
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	100	100	18	21
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	3.0 J	3.0 J	10 U	10 U
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	8.0 J	8.0 J	0.5 J	0.6 J
Dissolved Gases						
Methane	UG/L	1,700	12,000	13,000	3,800	2,500
Total Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	NA	NA
Conductivity	MS/CM	0.033	NA	0.79	NA	1.050

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

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

Location ID		MW-06	MW-06	MW-06	MW-06	MW-06
Sample ID		MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	20070731MW-06V15FD	20070731MW-06V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/15/06	02/07/07	02/07/07	07/31/07	07/31/07
Parameter	Units		Field Duplicate (1-1)		Field Duplicate (1-1)	
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	6.83	NA	1.05	NA	0.31
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	87	NA	-136	NA	-99.7
Sulfate	MG/L	5.0 U	7.40	7.00	41.8	44.2
Ferrous Iron (field)	MG/L	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	NA	NA	NA	NA	NA
Fluoride	MG/L	NA	NA	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

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

Location ID		MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID		MW07-6-10-03	MW07	MW07-91703	MW-07_121703	MW-07
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/10/03	07/23/03	09/17/03	12/17/03	07/22/04
Parameter	**Units**					
Volatiles						
Acetone	UG/L	250 U	500 U	250 U	50 U	NA
Benzene	UG/L	250 U	500 U	250 U	14	NA
Methyl ethyl ketone (2-Butanone)	UG/L	250 UR	500 UR	250 UR	50 UR	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	0 U	0 U	210
1,1-Dichloroethene	UG/L	100 U	68 J	100 U	20 U	NA
cis-1,2-Dichloroethene	UG/L	250 U	500 U	250 U	50 U	NA
Ethylbenzene	UG/L	200 U	400 U	200 U	49	NA
2-Hexanone	UG/L	250 U	500 U	250 U	50 U	NA
4-Methyl-2-Pentanone	UG/L	250 U	500 U	250 U	50 U	NA
Tetrachloroethene	UG/L	50 U	100 U	50 U	10 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5,400	8,500	6,100	370	110 J
Vinyl Chloride	UG/L	250 U	500 U	250 U	50 U	NA
Xylene (total)	UG/L	250 U	500 U	250 U	50 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	68 J	130 J	130 J	940	50
Dissolved Gases						
Methane	UG/L	740	420	1,200	1,700	2,500
Total Metals						
Iron	UG/L	21,300	21,200	32,700 J	38,900	NA
Dissolved Metals						
Iron	UG/L	20,800	20,800	32,500 J	38,900	NA
Miscellaneous Parameters						
Chloride	MG/L	140	168	300 J	328	303
Conductivity	MS/CM	0.93	1.11	1.44	1.94	1.69

Flags assigned during chemistry validation are shown.

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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NA - Not Analyzed

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID		MW07-6-10-03	MW07	MW07-91703	MW-07_121703	MW-07
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/10/03	07/23/03	09/17/03	12/17/03	07/22/04
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.9	0.1	0 U	3.33	0.88
Nitrogen, Ammonia (As N)	MG/L	0.39	0.6	0.66	0.99	NA
Nitrogen, Kjeldahl, Total	MG/L	1.2	1.8	2.1	2.8	NA
Nitrogen, Nitrate	MG/L	0.1 U	NA	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	0.1 UJ	NA	NA	NA
Oxidation Reduction Potential	mV	-130	-108	-118	-115	-153
Sulfate	MG/L	32.8	31.0	23.6	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	20.2	19.8	33.8	19.5	NA
Ferric Iron (lab)	MG/L	1	1.4	14.1	19.4	NA
Fluoride	MG/L	0.33	0.25	0.24	0.19	0.190
Oil & Grease	MG/L	NA	NA	5.44 U	NA	NA

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID		MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**					
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	140	47	97	89	82
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	NA
Ethylbenzene	UG/L	NA	NA	NA	NA	NA
2-Hexanone	UG/L	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	10 U	10 U	10 U	6.0 J
Vinyl Chloride	UG/L	NA	NA	NA	NA	NA
Xylene (total)	UG/L	NA	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	2.0 J	10 U	1.0 J	3.0 J	10
Dissolved Gases						
Methane	UG/L	5,900	9,700	6,900	6,200	4,100
Total Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	NA	NA
Conductivity	MS/CM	1.75	1.65	1.44	2.02	2.182

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-0

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

Location ID		MW-07	MW-07	MW-07	MW-07	MW-07
Sample ID		MW-07	MW-07V15N	MW-07V15N	20070207MW-07V15N	20070731MW-07V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/14/06	02/07/07	07/31/07
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0 U	0 U	3.47	2.89	0.48
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-152	-169	-163	-121	-113.5
Sulfate	MG/L	5.0 U	5.0 U	19.3	5.0 U	6.1
Ferrous Iron (field)	MG/L	NA	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	NA	NA	NA	NA	NA
Fluoride	MG/L	NA	NA	NA	NA	NA
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

N:\11172730.00000\DB\PROGRAM\EDMS.mdb
Printed: 10/18/2007 3:16:01 PM
([LOGDATE] BETWEEN #05/01/03# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [PARNAME] <> 'pH' AND [LOCID] <> 'MW-I

TABLE 3
FORMER EMCA SITE, MAMARONECK, NEW YORK
MW-01 GROUNDWATER ANALYTICAL RESULTS

Location ID		MW-01
Sample ID		20070801MW-01V08N
Matrix		Groundwater
Depth Interval (ft)		-
Date Sampled		08/01/07
Parameter	Units	
Volatiles		
Chlorotrifluoroethene (Freon-1113)	UG/L	20 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	20 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	20 U
Dissolved Gases		
Methane	UG/L	98
Miscellaneous Parameters		
Conductivity	MS/CM	1.755
Dissolved Oxygen	MG/L	0.99
Oxidation Reduction Potential	mV	95.4
Sulfate	MG/L	39.2

Flags assigned during chemistry validation are shown.

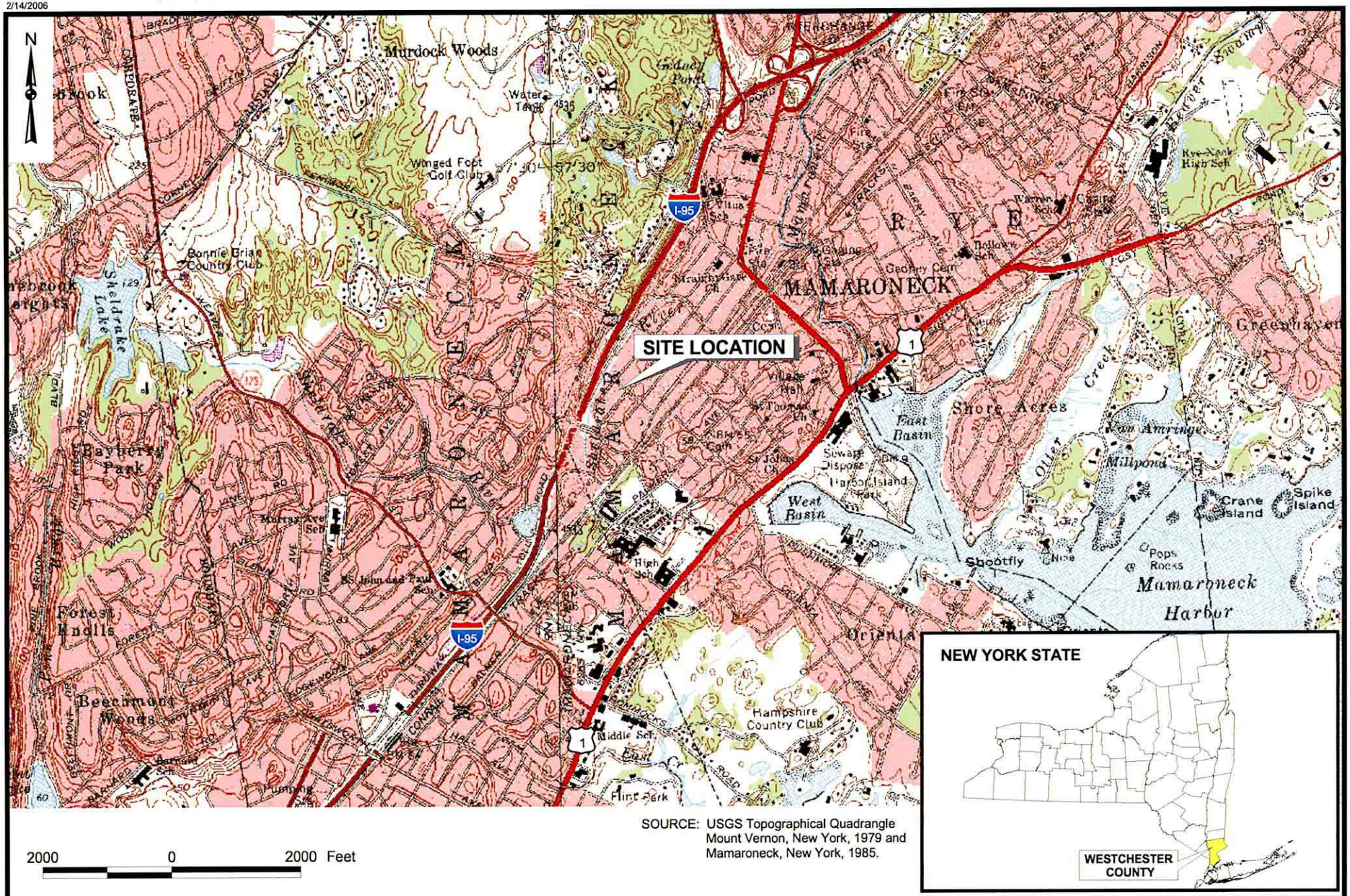
U - Non-Detect

Detection Limits shown are PQL

Advanced Selection: WG_MW-01
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 10/25/2007 3:08:13 PM
[LOCID] = 'MW-01' AND [LOGDATE] = #08/01/07# AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND ([PARNAME] <> 'pH' AND [PARNAME] <> '1,1-Dichloroethane' AND [PARNAME] <> '1,2-Dichloroethane' AND [PARNAME] <> '1,1-Dichloroethene' AND [PARNAME] <> 'cis-1,2-Dichloroethene' AND [PARNAME] <> 'trans-1,2-Dichloroethene' AND [PARNAME] <>

FIGURES

N:\11172730.00000\DB\GIS\2001\report00.apr SITE LOCATION
2/14/2006



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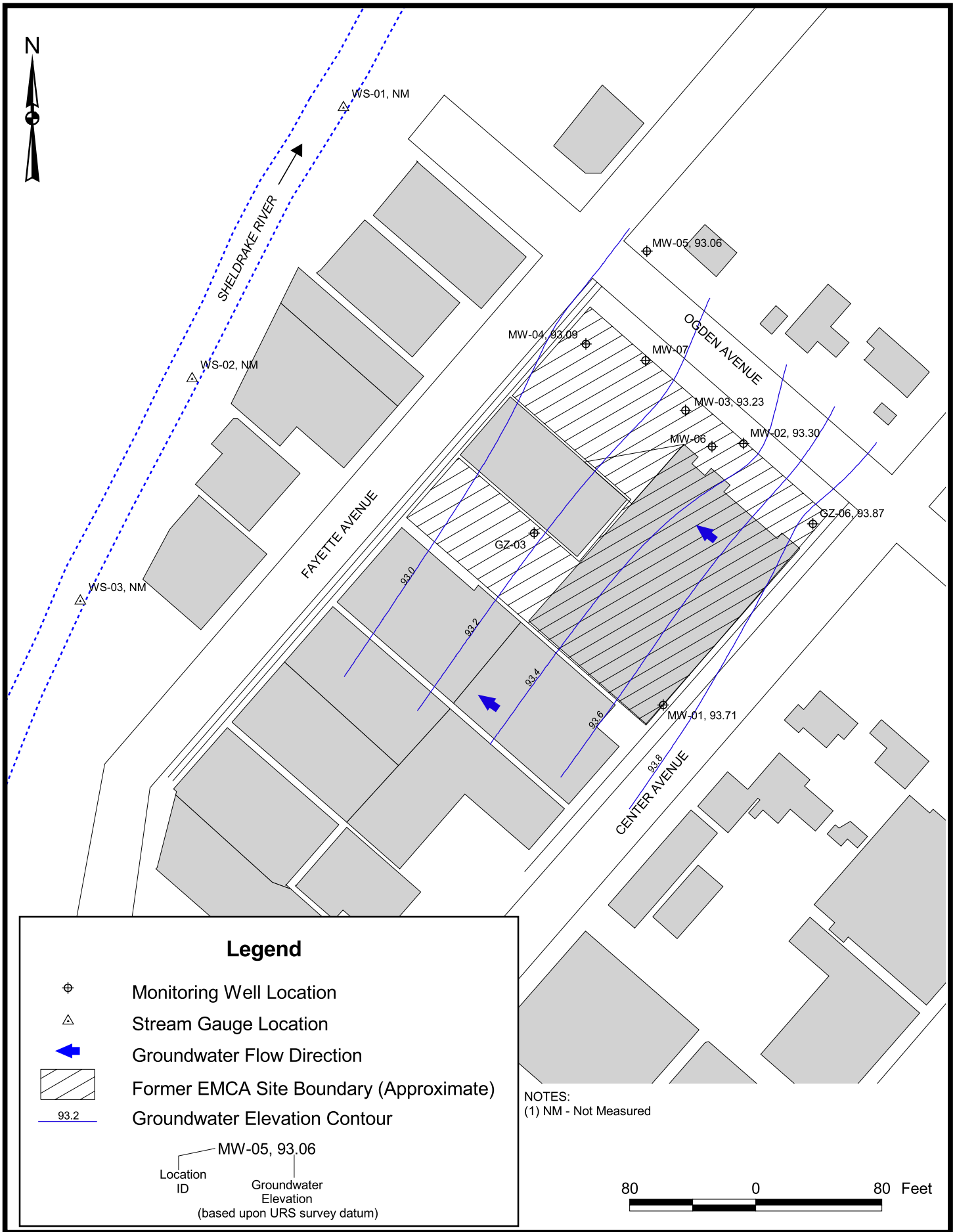
FORMER EMCA SITE
SITE LOCATION MAP

FIGURE 1



N:\11172730.00000\DB\GIS\2001\welev.apr 07/31/07 GROUNDWATER ELEVATION CONTOURS 10/9/2007

URS

GROUNDWATER ELEVATION CONTOUR MAP (JULY 31, 2007)

FIGURE 2

N
W E
S

MW-04	10/99	07/00	07/01	05/03	12/03	07/04	05/05	12/05	08/06	02/07	8/07
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	11	ND	ND	ND	ND	0.7 J	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
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	1.0 J	ND	0.7 J	0.6 J	ND

MW-05	07/00	07/01	05/03	12/03	07/04
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	07/00	07/01	05/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	02/07	8/07
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
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
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	7	6.2	ND	68 J	83	2.0 J	51	39	54

MW-02	10/99	07/00	07/01	05/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	11/06	02/07	8/07
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
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
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	ND	ND	ND	14	120	18	200	21	84	61

MW-07	06/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	02/07	08/07
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	5400	8500	6100	370	110 J	ND	ND	ND	ND	6.0 J
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
Chlorotrifluoroethene (Freon-1113)	ND	ND	ND	ND	210	140	47	97	89	82

MW-06	06/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	02/07	08/07
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	220	180	97	250	140 J	1.0 J	ND	ND	3 J	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
Chlorotrifluoroethene (Freon-1113)	ND	5.7	ND	ND	5 J	6.0 J	6.0 J	ND	100	21

GZ-03	08/07
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	05/88	03/89	10/99	07/00	07/01	05/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	11/06	02/07	08/07
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
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
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

MW-01	08/07
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
- Concentration Exceeds NYSDEC TOGS (1.1.1) Class GA Standards
- Generalized Groundwater Flow Direction

All Analytical Results are Reported in UG/L

NOTES:
ND - Not Detected
07/00 - Pre-Pilot Injection Sampling Dates
12/03 - Post-Pilot Injection/Pre-IRM Injection Sampling Dates
12/05 - Post-IRM Injection Sampling Dates

60 30 0 60 Feet

FORMER EMCA SITE
SUMMARY OF FREON DETECTIONS IN GROUNDWATER

URS

FIGURE 3

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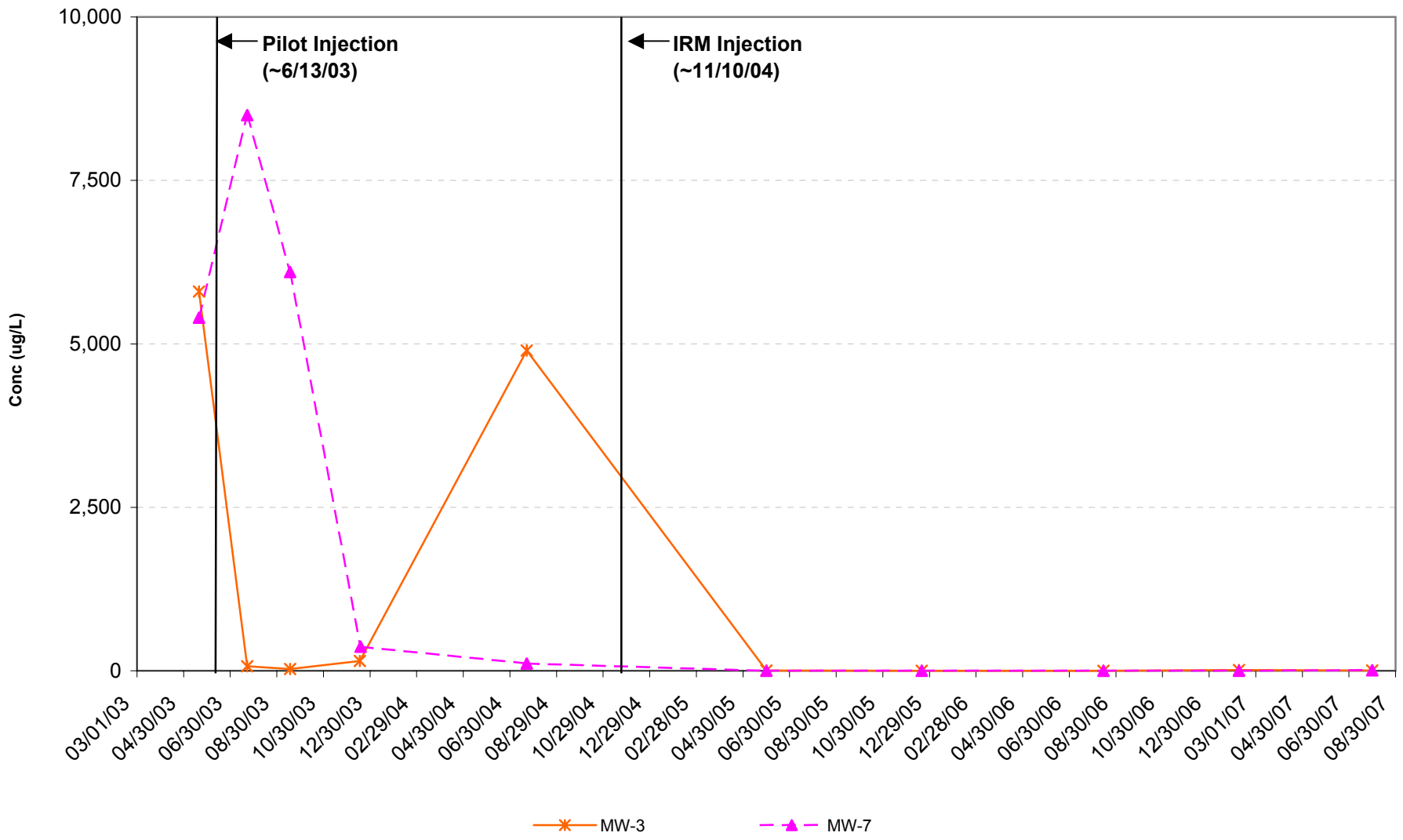
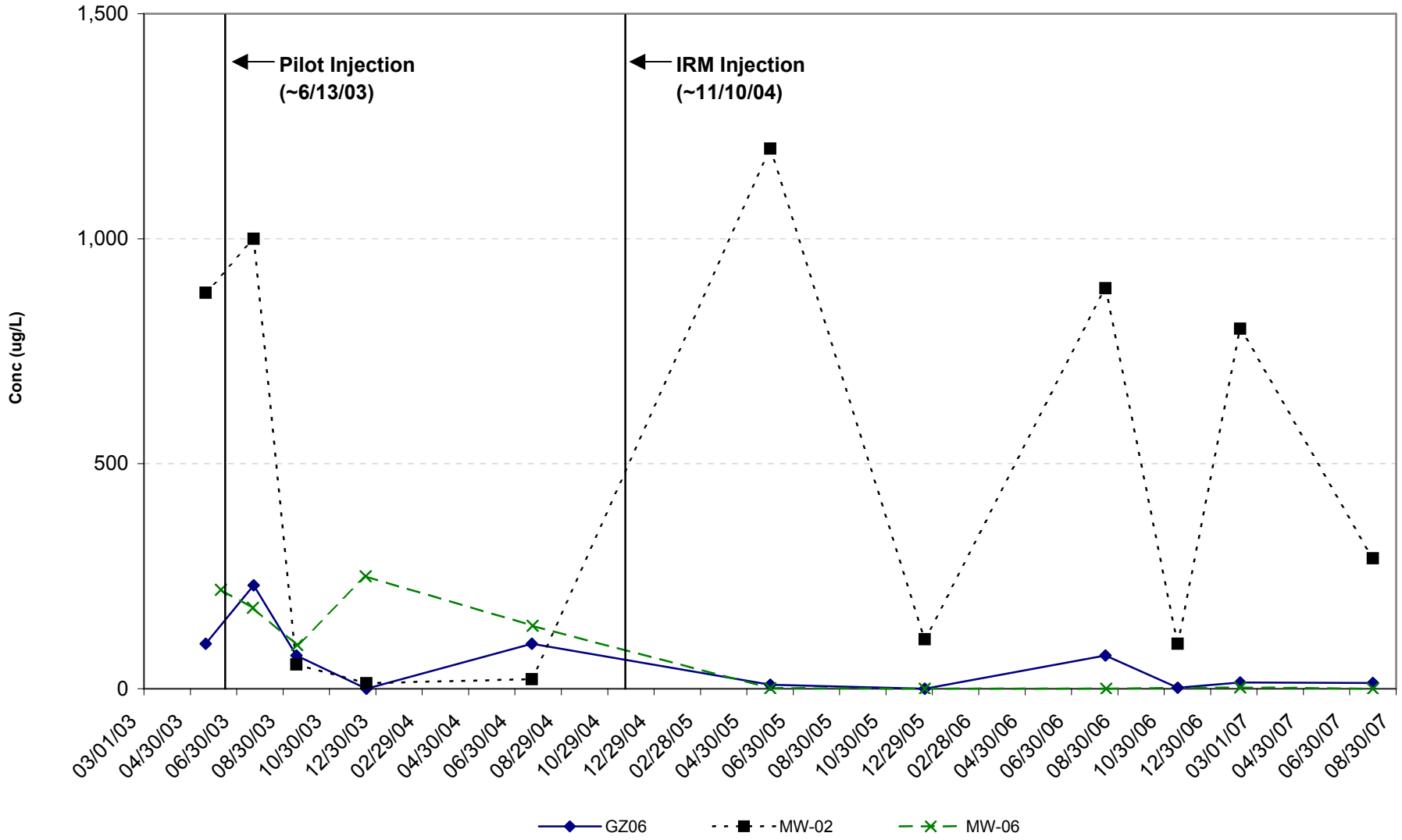
FIGURE 4
FORMER EMCA SITE
Freon 113 Concentrations, MW-03 and MW-07



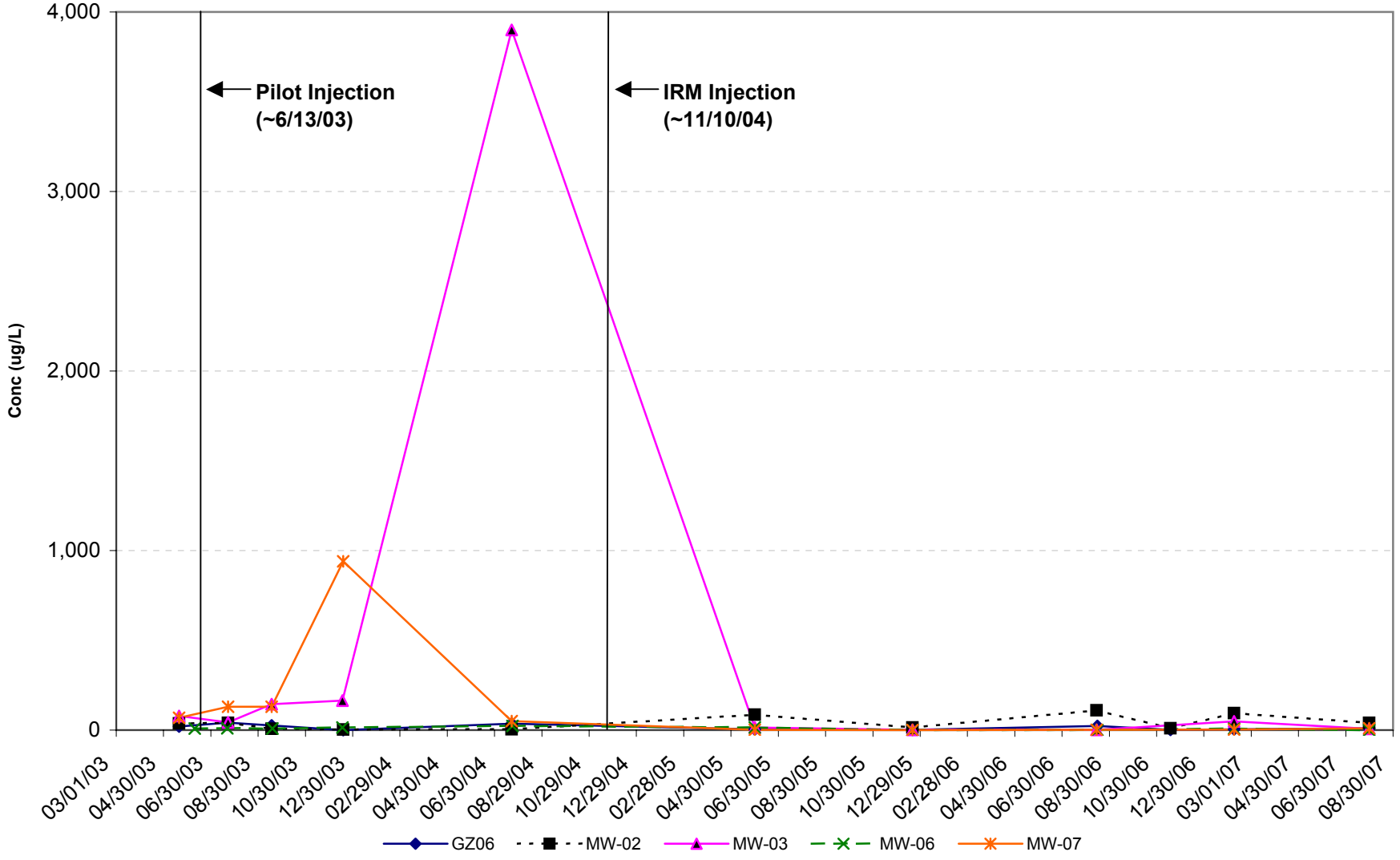
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 4

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



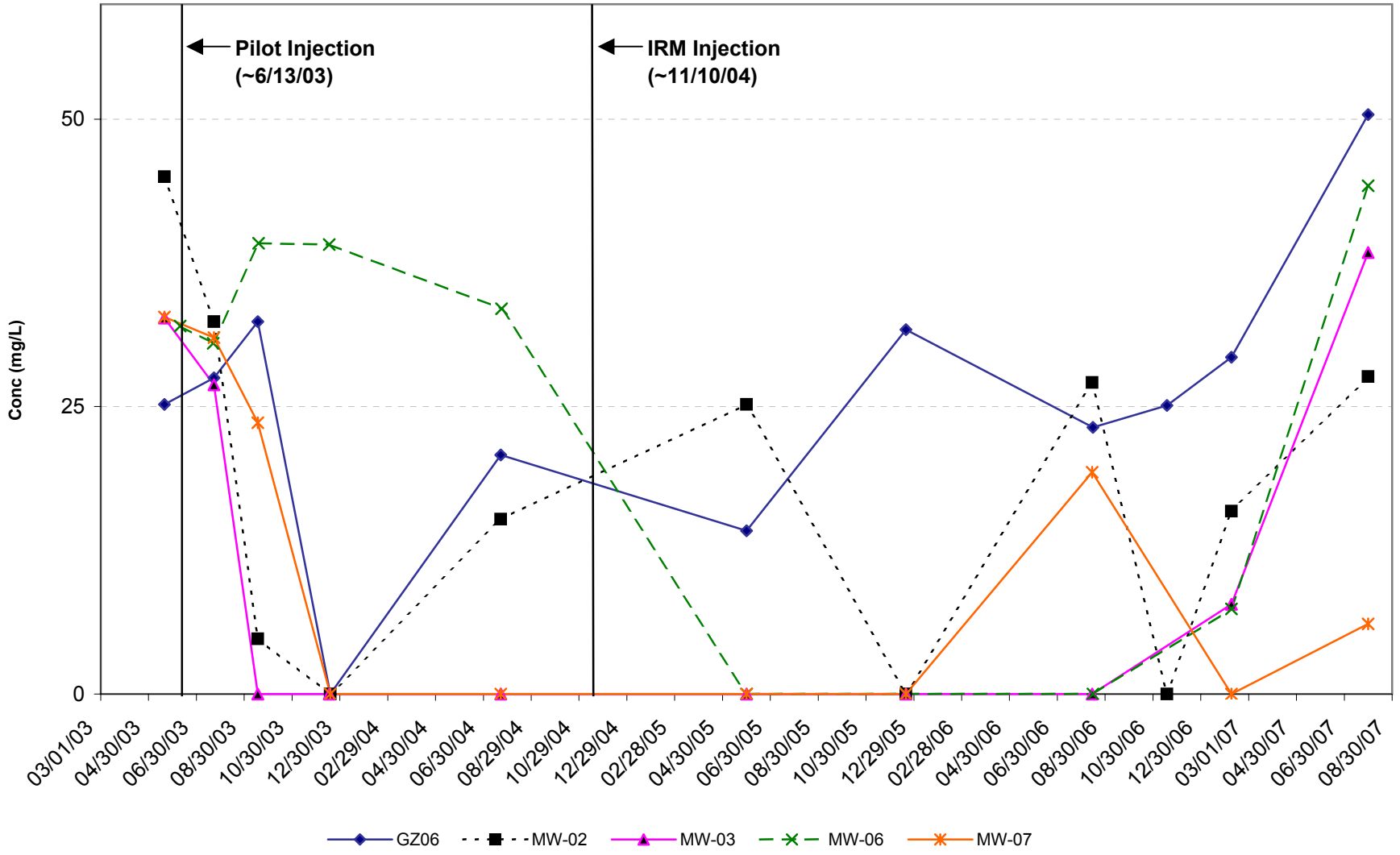
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 5

FIGURE 6
FORMER EMCA SITE
Freon 123a Concentrations



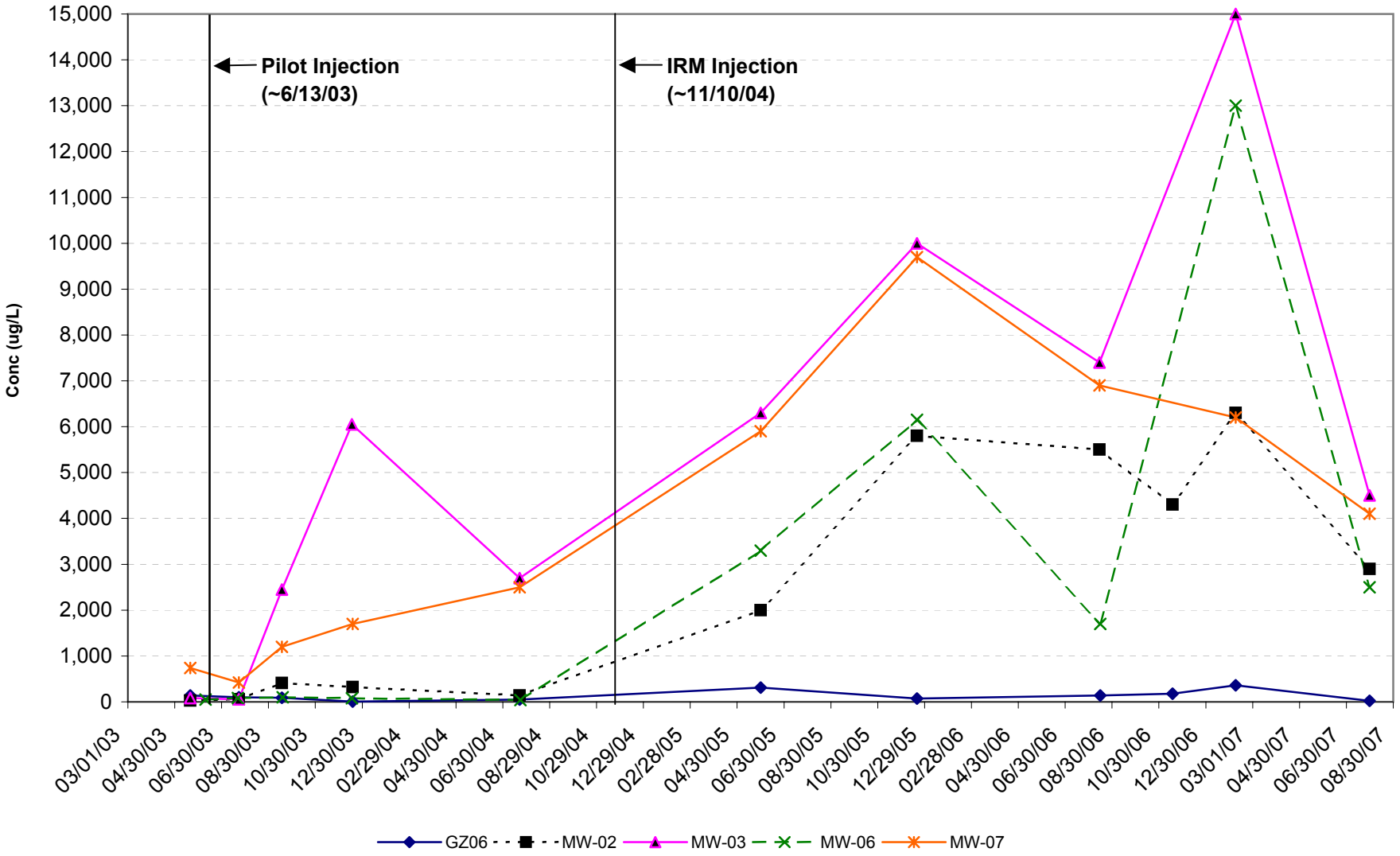
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 6

FIGURE 7
FORMER EMCA SITE
Sulfate Concentrations



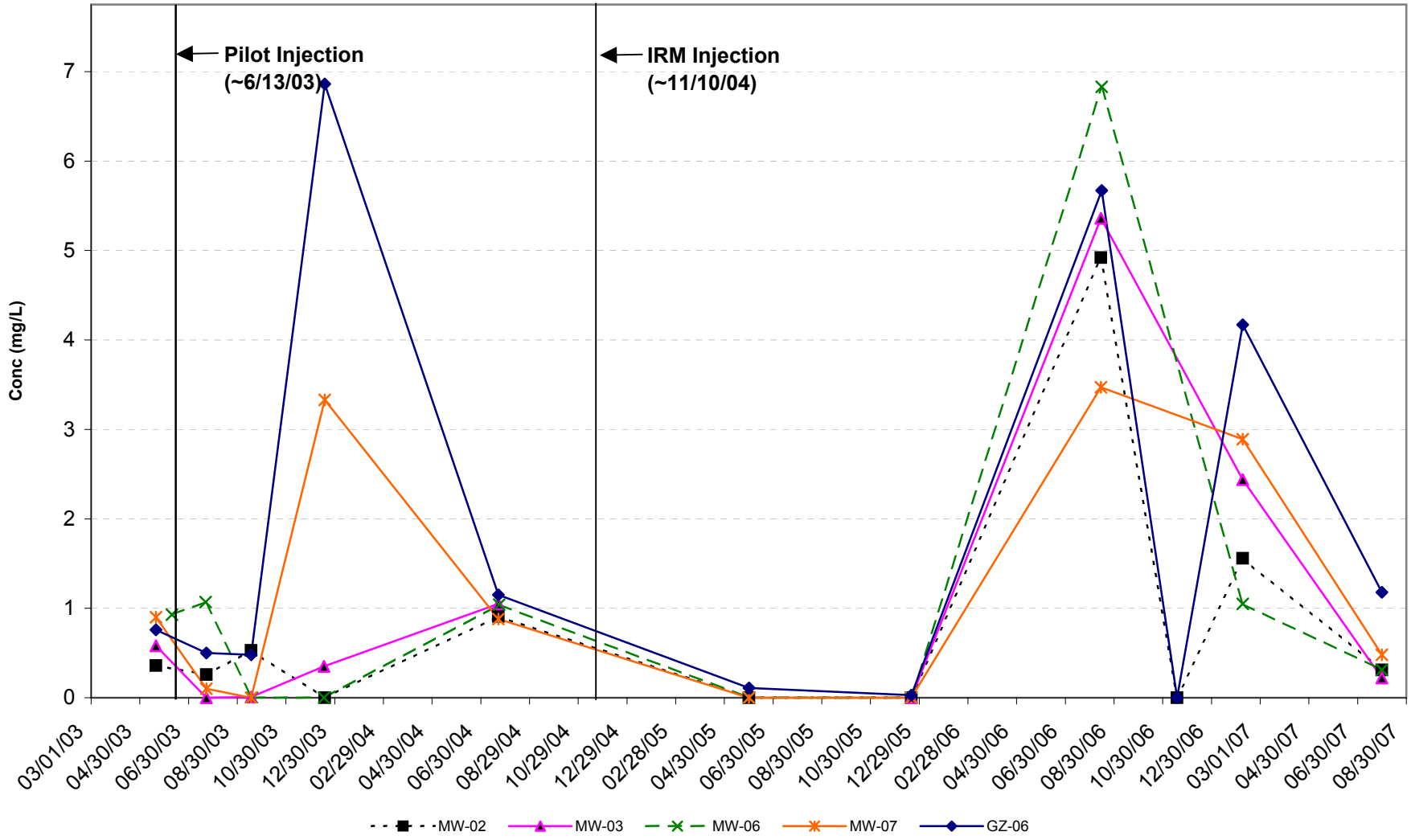
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 7

FIGURE 8
FORMER EMCA SITE
Methane Concentrations



N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 8

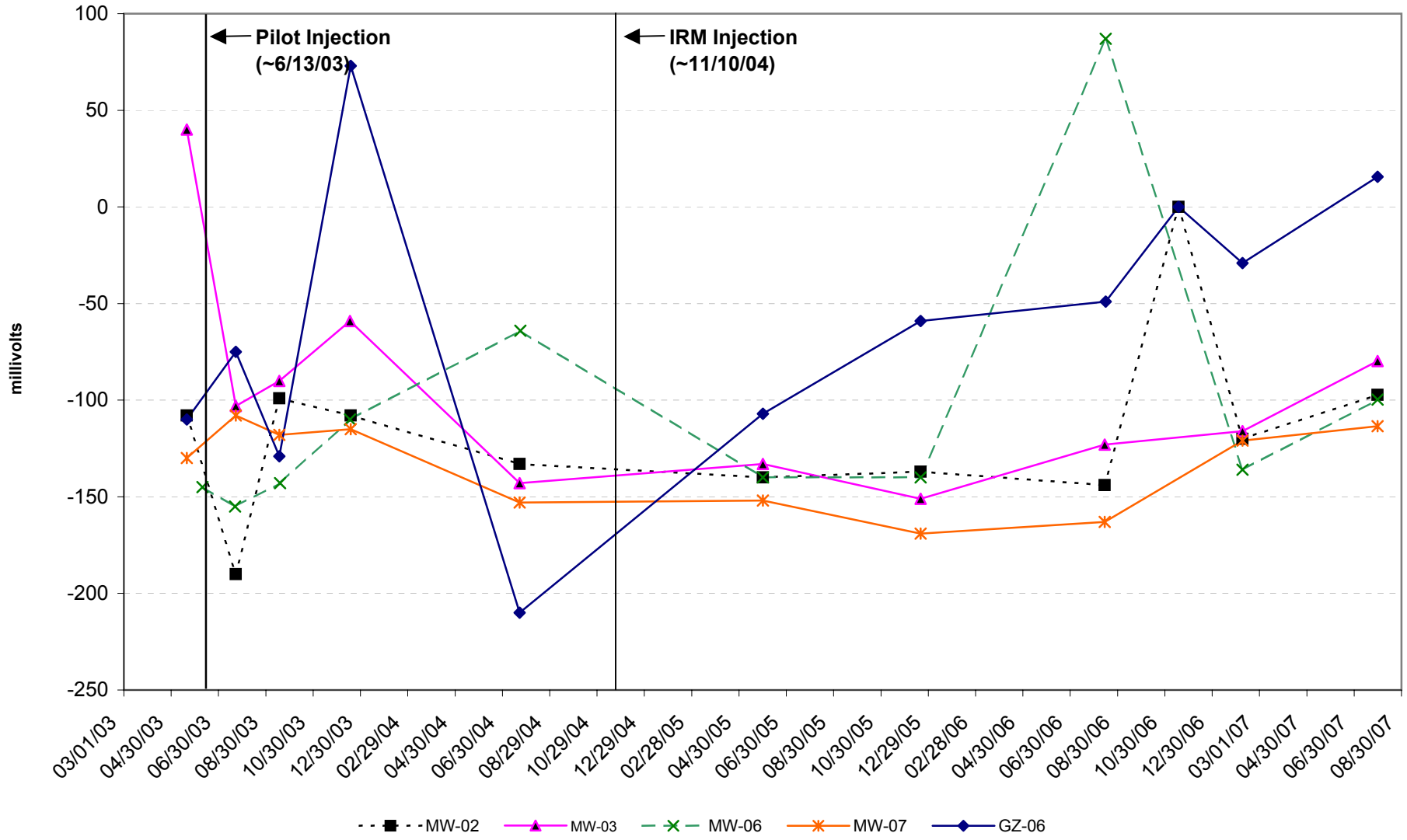
FIGURE 9
FORMER EMCA SITE
Dissolved Oxygen Concentrations



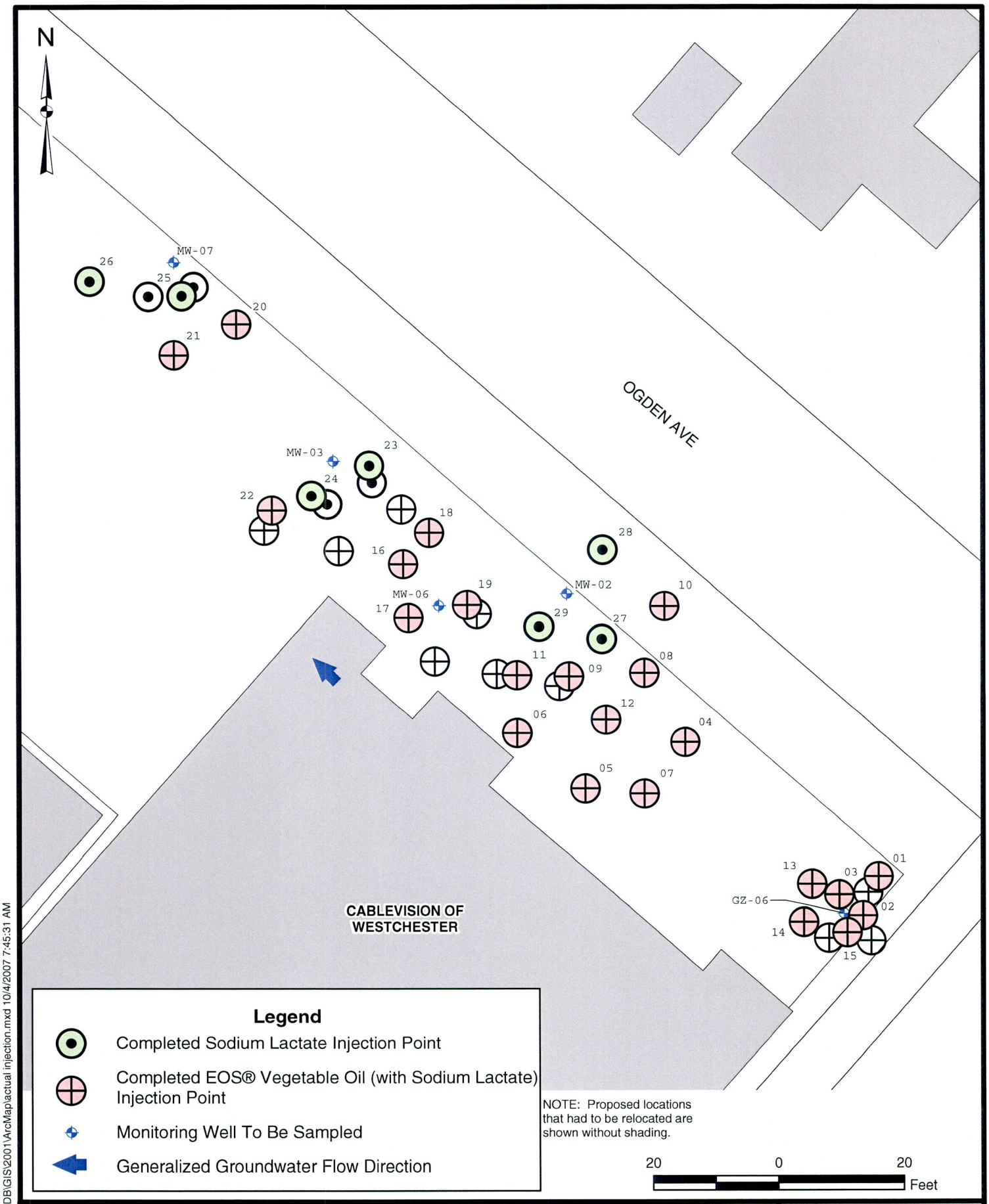
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 9

FIGURE 10
FORMER EMCA SITE

Oxidation Reduction Potential



N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_August-2007.xls Figure 10



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FORMER EMCA SITE
COMPLETED 2007 SUPPLEMENTAL INJECTION LOCATIONS

FIGURE 11

N:\11172730.00000\DB\GIS\2001\ArcMap\actual injection.mxd 10/4/2007 7:45:31 AM

APPENDIX A

LOW FLOW GROUNDWATER PURGING/SAMPLING LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: MW-01

Date: 8/1/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.51 Depth to Well Bottom: 7.62 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.3 Estimated Purge Volume (liters): 0.5

Sample ID: 20070801MW-01V08N Sample Time: 12:50 QA/QC: None

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

Other Information: Well contained sediment initially to approximatly 7.0', removed some sand proir to sampling with pump.

Well purged dry after approximately 0.5 liters removed. Well sampled after it recharged.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1220	6.22	19.6	1.706	0.93	75	92.3	250	5.51
1250	6.25	19.9	1.755	0.99	65	95.4	250	6.15
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 ($v_{ol} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: MW-02

Date: 7/31/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.88 Depth to Well Bottom: 11.5 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.9 Estimated Purge Volume (liters): 17.5

Sample ID: 20070731MW-02VO6N Sample Time: 12:35 QA/QC: None

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

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1200	6.67	19.6	3.050	1.09	25	-110.5	500	5.88
1205	6.61	19.7	3.006	0.82	18	-109.4	500	6.03
1210	6.52	19.6	2.695	0.59	17	-107.5	500	6.03
1215	6.43	19.6	2.589	0.43	15	-103.3	500	6.03
1220	6.42	19.6	2.487	0.33	14	-102.5	500	6.03
1225	6.40	19.5	2.433	0.29	14	-101.6	500	6.03
1230	6.40	19.6	2.362	0.30	13	-99.3	500	6.03
1235	6.39	19.7	2.357	0.31	12	-97.2	500	6.03
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 ($vol = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: Cablevision Well I.D.: MW-03

Date: 7/31/07 Sampling Personnel: K. Kearney Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: 1/4 HDPE Pump/Tubing Inlet Location: 12'

Measuring Point: Top of Riser Initial Depth to Water: 6.12 Depth to Well Bottom: 14.27 Well Diameter: 1" Screen Length: 10

Casing Type: PVC Volume in 1 Well Casing (liters): 1.2 Estimated Purge Volume (liters): 7.5

Sample ID: 20070731MW-03V10N Sample Time: 15:35 QA/QC: None

Sample Parameters:

Other Information:

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)
1505	6.21	19.0	1.293	0.51	27	-57.0	250	6.12
1510	6.19	18.3	1.305	0.40	22	-67.5	250	6.95
1515	6.18	17.9	1.307	0.37	19	-72.3	250	7.93
1520	6.17	17.7	1.309	0.33	17	-75.5	250	8.12
1525	6.16	17.6	1.310	0.24	15	-78.2	250	8.17
1530	6.16	17.5	1.310	0.25	14	-79.3	250	8.35
1535	6.15	17.5	1.309	0.22	14	-79.7	250	8.59
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 ($v_{ol} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: MW-04

Date: 8/1/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.52 Depth to Well Bottom: 10.73 Well Diameter: 1" Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 0.8 Estimated Purge Volume (liters): 7.5

Sample ID: 20070801MW04V10N Sample Time: 930 QA/QC: None

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

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
900	6.78	21.6	1.137	0.94	15	-78.2	250	5.52
905	6.72	21.6	1.150	0.77	14	-78.0	250	5.95
910	6.68	21.5	1.163	0.62	13	-77.9	250	6.18
915	6.63	21.5	1.175	0.58	13	-77.6	250	6.22
920	6.62	21.5	1.193	0.50	13	-78.7	250	6.24
925	6.60	21.3	1.230	0.43	13	-78.9	250	6.25
930	6.59	21.4	1.241	0.41	13	-79.2	250	6.25
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 ($v_{ol} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: MW-06

Date: 7/31/07 Sampling Personnel: K. Kearney Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: 1/4 HDPE Pump/Tubing Inlet Location: 16'

Measuring Point: Top of Riser Initial Depth to Water: 6.05 Depth to Well Bottom: 18.51 Well Diameter: 1" Screen Length: 10

Casing Type: PVC Volume in 1 Well Casing (liters): 2.0 Estimated Purge Volume (liters): 20

Sample ID: 20070731MW-06V1SN Sample Time: 1130 QA/QC: Duplicate

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

Other Information:

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)
1050	6.64	18.3	1.016	0.65	14	-117.1	500	6.05
1055	6.52	18.2	1.022	0.69	13	-113.7	500	6.08
1100	6.47	18.2	1.035	0.70	12	-110.3	500	6.12
1105	6.37	18.1	1.046	0.71	13	-108.7	500	6.15
1110	6.34	18.0	1.048	0.49	12	-107.8	500	6.15
1115	6.36	18.0	1.049	0.42	11	-101.3	500	6.15
1120	6.38	18.0	1.051	0.39	10	-97.1	500	6.15
1125	6.38	18.2	1.049	0.33	9	-98.8	500	6.15
1130	6.38	18.1	1.050	0.31	8	-99.7	500	6.15
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 ($vol = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: MW-07

Date: 7/31/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 6.2 Depth to Well Bottom: 18.83 Well Diameter: 1" Screen Length: 10

Casing Type: PVC Volume in 1 Well Casing (liters): 2.1 Estimated Purge Volume (liters): 7.5

Sample ID: 20070731MW-07V15N Sample Time: 1630 QA/QC: None

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

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1600	6.27	17.6	2.257	1.07	25	-110.6	250	6.20
1605	6.35	17.5	2.210	0.89	22	-111.0	250	6.33
1610	6.49	17.6	2.196	0.77	20	-112.2	250	6.40
1615	6.52	17.4	2.190	0.63	19	-112.8	250	6.44
1620	6.72	17.4	2.186	0.58	19	-113.0	250	6.47
1625	6.76	17.3	2.184	0.54	18	-113.3	250	6.49
1630	6.78	17.3	2.182	0.48	18	-113.5	250	6.50
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: GZ-03

Date: 8/1/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 8.53 Depth to Well Bottom: 11.98 Well Diameter: 2" Screen Length: 10

Casing Type: PVC Volume in 1 Well Casing (liters): 2.1 Estimated Purge Volume (liters): 7.5

Sample ID: 20070801GZ-03V11N Sample Time: 1045 QA/QC: None

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

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1015	7.17	22.1	0.609	1.15	21	66.3	500	8.53
1020	6.65	21.8	0.606	0.97	20	81.7	500	9.25
1025	6.27	21.8	0.604	0.75	23	91.6	250	9.27
1030	6.08	21.8	0.599	0.66	28	96.8	250	9.72
1035	6.07	21.7	0.600	0.55	26	97.1	250	10.18
1040	6.06	21.6	0.601	0.50	29	99.3	250	10.20
1045	6.05	21.6	0.599	0.52	28	98.5	250	10.22
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Former EMCA Site Site: R& H Former EMCA Site Well I.D.: GZ-06

Date: 7/31/07 Sampling Personnel: K. Kearney Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 7.68 Depth to Well Bottom: 15.22 Well Diameter: 2" Screen Length: 10

Casing Type: PVC Volume in 1 Well Casing (liters): 4.7 Estimated Purge Volume (liters): 17.5

Sample ID: 20070731GZ-06V08 Sample Time: 1405 QA/QC: MS/MSD

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

Other Information:

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)
1330	6.45	17.6	1.573	0.90	22	43.5	500	7.68
1335	6.39	17.5	1.549	0.76	17	38.0	500	8.48
1340	6.29	17.6	1.570	0.56	15	26.2	500	9.17
1345	6.24	17.4	1.636	0.48	14	25.9	500	9.20
1350	6.24	17.1	1.658	0.77	14	21.5	500	9.39
1355	6.23	16.9	1.673	0.95	13	16.7	500	9.76
1400	6.21	16.8	1.680	1.15	10	14.4	500	9.87
1405	6.22	16.7	1.671	1.18	10	15.6	500	9.90
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 ($v_{ol} = \pi r^2 h$)

APPENDIX B

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

JULY - AUGUST 2007 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

TESTAMERICA ANALYTICAL TESTING CORPORATION
(FORMERLY SEVERN TRENT LABORATORIES, INC.)
777 NEW DURHAM ROAD
EDISON, NEW JERSEY 08817

Prepared for:

ROHM & HAAS COMPANY
3100 STATE ROAD
CROYDON, PA 19021

Prepared by:

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203

OCTOBER 2007

TABLE OF CONTENTS

TABLES
(Following Text)

ATTACHMENTS

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 results for the groundwater samples collected from the Former EMCA Site located in Mamaroneck, New York.

II. ANALYTICAL METHODOLOGIES

The data being evaluated are for eight groundwater samples, one field duplicate, two trip blanks, and one matrix spike/matrix spike duplicate pair collected on July 31 to August 1, 2007. Table 1 summarizes the samples collected and the requested analytical parameters. The analytical laboratory that performed the analyses is Test America Analytical Testing Corporation (formerly Severn Trent Laboratories, Inc.), located in Edison, New Jersey. The samples were analyzed for the following parameters:

Parameter	Method No.	References
Volatile Organic Compounds (VOCs)*	OLM04.3	1
Methane	RSK-175	2
Sulfate	375.4	1

References:

1 NYSDEC Analytical Services Protocol, June 2000.

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

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). Sample MW-01 was analyzed for the following additional chlorinated VOCs: 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; cis + trans-1,2-dichloroethene; tetrachloroethane; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethene; and vinyl chloride.

III. DATA VALIDATION

A limited data validation was performed following the guidelines in USEPA Region II *Contract Laboratory Program Organics Data Review and Preliminary Review for Statement of Work OLM04.2*, SOP No. HW-6, Revision 12, March 2001 and USEPA Region II *Evaluation of Metals Data*

for the Contract Laboratory Program, based on SOW – ILM05.3, Revision 13, September 2005. The validated analytical results are presented in Tables 2 and 3. 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.

VI. NONCONFORMANCES

There were no method or data validation nonconformances noted during the data review.

VII. SUMMARY

All sample analyses were found to be compliant with the method and validation criteria and all data are usable as reported. URS does not recommend the re-collection of any samples at this time.

TABLE 1
SAMPLE AND ANALYSIS SUMMARY
FORMER EMCA SITE

SDG Nos.	Sample ID	Matrix	Date of Collection	VOCs*	Chlorinated VOCs**	Methane	Sulfate	Comments
J3871/J387/ J309	20070731MW-06V15N	GW	07/31/07	X	---	X	X	---
	20070731MW-06V15FD	GW		X	---	X	X	Field Duplicate of MW-06
	20070731MW-02V15N	GW		X	---	X	X	---
	20070731GZ-06V08	GW		X	---	X	X	MS/MSD
	20070731MW-07V15N	GW		X	---	X	X	---
	20070731MW-03V10N	GW		X	---	X	X	---
	20070731MTNTB	Water		X	---	X	---	Trip Blank
	20070801MW-04V10N	GW	08/01/07	X	---	X	X	---
	20070801GZ-03V11N	GW		X	---	X	X	---
	20070801MW-01V08N	GW		X	X	X	X	---
	20060815MTNTB	Water		X	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).
** - Chlorinated VOCs include 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; cis + trans-1,2-dichloroethene; tetrachloroethane; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethene; and vinyl chloride.

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

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

Location ID		GZ-03	GZ-06	MW-01	MW-02	MW-03
Sample ID		20070801GZ-03V11N	20070731GZ-06V08	20070801MW-01V08N	20070731MW-02V15N	20070731MW-03V10N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/01/07	07/31/07	08/01/07	07/31/07	07/31/07
Parameter	**Units**					
Volatiles						
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	2.0 J	20 U	61	54
1,1-Dichloroethane	UG/L	NA	NA	20 U	NA	NA
1,2-Dichloroethane	UG/L	NA	NA	20 U	NA	NA
1,1-Dichloroethene	UG/L	NA	NA	20 U	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	250	NA	NA
trans-1,2-Dichloroethene	UG/L	NA	NA	4.0 J	NA	NA
Tetrachloroethene	UG/L	NA	NA	8.0 J	NA	NA
1,1,1-Trichloroethane	UG/L	NA	NA	20 U	NA	NA
1,1,2-Trichloroethane	UG/L	NA	NA	20 U	NA	NA
Trichloroethene	UG/L	NA	NA	5.0 J	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	13	20 U	290	2.0 J
Vinyl Chloride	UG/L	NA	NA	5.0 J	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	10	20 U	40	7.0 J
Dissolved Gases						
Methane	UG/L	5.0 U	23	98	2,900	4,500
Miscellaneous Parameters						
Conductivity	MS/CM	0.599	1.671	1.755	2.357	1.309
Dissolved Oxygen	MG/L	0.52	1.18	0.99	0.31	0.22
pH	PH UNITS	6.05	6.22	6.25	6.39	6.15
Oxidation Reduction Potential	mV	98.5	15.6	95.4	-97.2	-79.7
Sulfate	MG/L	15.8	50.4	39.2	27.6	38.4

Flags assigned during chemistry validation are shown.

U - Non-Detect
J - Analyte is reported below the PQL at an estimated concentration.
NA - Not Analyzed
MADE BY: __PRF_10/02/07___ CHKD BY: __GEK_10/02/07___

Detection Limits shown are PQL

Advanced Selection: WG Results
N:\11172730.00000\DB\PROGRAM\EDMS.mde
Printed: 10/18/2007 3:28:47 PM
([LOGDATE] BETWEEN #07/31/07# AND #08/01/07#) AND [MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD

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

Location ID		MW-04	MW-06	MW-06	MW-07
Sample ID		20070801MW-04V10N	20070731MW-06V15FD	20070731MW-06V15N	20070731MW-07V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-
Date Sampled		08/01/07	07/31/07	07/31/07	07/31/07
Parameter	Units		Field Duplicate (1-1)		
Volatiles					
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	18	21	82
1,1-Dichloroethane	UG/L	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	NA	NA	NA	NA
1,1-Dichloroethene	UG/L	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA
trans-1,2-Dichloroethene	UG/L	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA
1,1,1-Trichloroethane	UG/L	NA	NA	NA	NA
1,1,2-Trichloroethane	UG/L	NA	NA	NA	NA
Trichloroethene	UG/L	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	10 U	10 U	6.0 J
Vinyl Chloride	UG/L	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	0.5 J	0.6 J	10
Dissolved Gases					
Methane	UG/L	43	3,800	2,500	4,100
Miscellaneous Parameters					
Conductivity	MS/CM	1.241	NA	1.050	2.182
Dissolved Oxygen	MG/L	0.41	NA	0.31	0.48
pH	PH UNITS	6.59	NA	6.38	6.78
Oxidation Reduction Potential	mV	-79.2	NA	-99.7	-113.5
Sulfate	MG/L	7.0	41.8	44.2	6.1

Flags assigned during chemistry validation are shown.

U - Non-Detect
J - Analyte is reported below the PQL at an estimated concentration.
NA - Not Analyzed
MADE BY: __PRF_10/02/07___ CHKD BY: __GEK_10/02/07___

Detection Limits shown are PQL

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

Location ID		FIELDQC	FIELDQC
Sample ID		20070731MTNTB	20070801MTNTB
Matrix		Water	Water
Depth Interval (ft)		-	-
Date Sampled		07/31/07	08/01/07
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	10 U
1,1-Dichloroethane	UG/L	NA	10 U
1,2-Dichloroethane	UG/L	NA	10 U
1,1-Dichloroethene	UG/L	NA	10 U
cis-1,2-Dichloroethene	UG/L	NA	10 U
trans-1,2-Dichloroethene	UG/L	NA	10 U
Tetrachloroethene	UG/L	NA	10 U
1,1,1-Trichloroethane	UG/L	NA	10 U
1,1,2-Trichloroethane	UG/L	NA	10 U
Trichloroethene	UG/L	NA	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	10 U
Vinyl Chloride	UG/L	NA	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	10 U
Dissolved Gases			
Methane	UG/L	5.0 U	5.0 U

Flags assigned during chemistry validation are shown.

U - Non-Detect
MADE BY: __PRF_10/02/07___ CHKD BY: __GEK_10/02/07___

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED 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.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06V15N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849866

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29106

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	10	U
79-38-9	Chlorotrifluoroethene	21	
354-23-4	1,2-Dichlorotrifluoroethane	0.6	J

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06V15FD

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849867

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29107

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	10	U
79-38-9	Chlorotrifluoroethene	18	
354-23-4	1,2-Dichlorotrifluoroethane	0.5	J

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-02V15N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849868

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29116

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	290	
79-38-9	Chlorotrifluoroethene	61	
354-23-4	1,2-Dichlorotrifluoroethane	40	

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GL-06V08

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849869

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29108

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	13	
79-38-9	Chlorotrifluoroethene	2	J
354-23-4	1,2-Dichlorotrifluoroethane	10	

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-03V10N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849870

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29109

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	2	J
79-38-9	Chlorotrifluoroethene	54	
354-23-4	1,2-Dichlorotrifluoroethane	7	J

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-07V15N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849871

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29110

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	6	J
79-38-9	Chlorotrifluoroethene	82	
354-23-4	1,2-Dichlorotrifluoroethane	10	

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MTNTB

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 849878

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29111

Level: (low/med) LOW Date Received: 08/01/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	10	U
79-38-9	Chlorotrifluoroethene	10	U
354-23-4	1,2-Dichlorotrifluoroethane	10	U

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-04V10N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 850290

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29128

Level: (low/med) LOW Date Received: 08/02/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	10	U
79-38-9	Chlorotrifluoroethene	10	U
354-23-4	1,2-Dichlorotrifluoroethane	10	U

FORM I VOA-1 OLM04.2

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GZ-03V11N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 850291

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29129

Level: (low/med) LOW Date Received: 08/02/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	112-Trichlorotrifluoroethane	10	U
79-38-9	Chlorotrifluoroethene	10	U
354-23-4	1,2-Dichlorotrifluoroethane	10	U

FORM I VOA-1 OLM04.2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-01V08N

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 850292

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29132

Level: (low/med) LOW Date Received: 08/02/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl Chloride	5	J
75-35-4	1,1-Dichloroethene	20	U
76-13-1	112-Trichlorotrifluoroethane	20	U
156-60-5	trans-1,2-Dichloroethene	4	J
75-34-3	1,1-Dichloroethane	20	U
156-59-2	cis-1,2-Dichloroethene	250	
71-55-6	1,1,1-Trichloroethane	20	U
107-06-2	1,2-Dichloroethane	20	U
79-01-6	Trichloroethene	5	J
79-00-5	1,1,2-Trichloroethane	20	U
127-18-4	Tetrachloroethene	8	J
79-38-9	Chlorotrifluoroethene	20	U
354-23-4	1,2-Dichlorotrifluoroethane	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MTNTB

Lab Name: TESTAMERICA EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: J3871

Matrix: (soil/water) WATER Lab Sample ID: 850293

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F29115

Level: (low/med) LOW Date Received: 08/02/07

% Moisture: not dec. _____ Date Analyzed: 08/09/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	112-Trichlorotrifluoroethane	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
71-55-6	1,1,1-Trichloroethane	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
79-38-9	Chlorotrifluoroethene	10	U
354-23-4	1,2-Dichlorotrifluoroethane	10	U

FORM I VOA-1 OLM04.2

Client ID: **MW-04V10N**
Site: R&H Former EMCA Sit

Lab Sample No: **850290**
Lab Job No: J387

Date Sampled: 08/01/07
Date Received: 08/02/07
Date Analyzed: 08/14/07
GC Column: GS-Q
Instrument ID: VSCREEN5.i
Lab File ID: scrf3801.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	43	5.0

Client ID: **GZ-03V11N**
Site: R&H Former EMCA Sit

Lab Sample No: **850291**
Lab Job No: J387

Date Sampled: 08/01/07
Date Received: 08/02/07
Date Analyzed: 08/14/07
GC Column: GS-Q
Instrument ID: VSCREEN5.i
Lab File ID: scrf3802.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	ND	5.0

Client ID: **MW-01V08N**
Site: R&H Former EMCA Sit

Lab Sample No: **850292**
Lab Job No: J387

Date Sampled: 08/01/07
Date Received: 08/02/07
Date Analyzed: 08/14/07
GC Column: GS-Q
Instrument ID: VSCREEN5.i
Lab File ID: scrf3806.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	98	5.0

Client ID: **MTNTB**
Site: R&H Former EMCA Sit

Lab Sample No: **850293**
Lab Job No: J387

Date Sampled: 08/01/07
Date Received: 08/02/07
Date Analyzed: 08/14/07
GC Column: GS-Q
Instrument ID: VSCREEN5.i
Lab File ID: scrf3800.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	ND	5.0

MW-

Client ID: 06V15N
Site: R&H Former EMCA Sit

Lab Sample No: 849866
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2823.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 25.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	2500	120

MW-

Client ID: 06V15FD
Site: R&H Former EMCA Sit

Lab Sample No: 849867
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2827.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 50.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	3800	250

MW-

Client ID: 02V15N
Site: R&H Former EMCA Sit

Lab Sample No: 849868
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2822.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 25.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	2900	120

GZ-

Client ID: 06V08
Site: R&H Former EMCA Sit

Lab Sample No: 849869
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2819.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	23	5.0

MW

Client ID: 03V10N
Site: R&H Former EMCA Sit

Lab Sample No: 849870
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2828.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 100.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	4500	500

MW-

Client ID: 07V15N
Site: R&H Former EMCA Sit

Lab Sample No: 849871
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2824.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 50.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	4100	250

Client ID: **MTNTB**
Site: R&H Former EMCA Sit

Lab Sample No: **849878**
Lab Job No: J309

Date Sampled: 07/31/07
Date Received: 08/01/07
Date Analyzed: 08/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc2818.d

Matrix: WATER
Level: MED
Purge Volume: 10.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

METHANE, ETHANE, ETHENE
METHOD 3810

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Methane	ND	5.0

Site: R&H Former EMCA Sit
Lab Job No: J387
Matrix: WATER
QA Batch: 2503

Sulfate

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
850290	MW-04V10N	08/01/07	08/06/07	1.0	7.0
850291	GZ-03V11N	08/01/07	08/06/07	1.0	15.8
850292	MW-01V08N	08/01/07	08/06/07	2.0	39.2

Quantitation Limit for Sulfate is 5.0 mg/l.

Site: R&H Former EMCA Sit

Lab Job No: J309

Matrix: WATER

QA Batch: 2503

Sulfate

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
849866	MW06V15N	07/31/07	08/03/07	2.0	44.2
849867	MW06V15FD	07/31/07	08/03/07	2.0	41.8
849868	MW02V15N	07/31/07	08/03/07	1.0	27.6
849869	G-206V08	07/31/07	08/03/07	2.0	50.4
849870	MW03V10N	07/31/07	08/03/07	2.0	38.4
849871	MW07V15N	07/31/07	08/03/07	1.0	6.1

Quantitation Limit for Sulfate is 5.0 mg/l.

ATTACHMENT B

SUPPORT DOCUMENTATION

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732 549 3900 Fax: 732 549 3679
www.stl-inc.com

SDG NARRATIVE

TEST AMERICA EDISON

SDG No. I3871

Test America Edison Sample	Client ID
849866	20070731MW-06V15N
849867	20070731MW-06V15FD
849868	20070731MW-02V15N
849869	20070731GZ-06V08
849870	2007073MW-03V10N
849871	20070731MW-07V15N
849878	20070731MTNTB
850290	20070801MW-04V10N
850291	20070801GZ-03V11N
850292	20070801MW-01V08N

Fraction	Problems Encountered	Corrective Action Taken
Volatiles	None	N/A
Gc Volatiles	None	N/A

I certify that this data package is in compliance with the terms of the contract (OLM04.2) both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the laboratory manager or his designee.

Thomas Tanico
Project Manager

J38710

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 11174947-00000

SITE NAME R&H Former EMCA site

SAMPLERS (PRINT/SIGNATURE) Kevin S. Kearney / Kevin S. Kearney

DELIVERY SERVICE: FedEx AIRBILL NO.: 861900839570

LAB STL

COOLER 1 of 1

PAGE 1 of 1

TESTS: Freon 113/113A; Methane RSK-175; Sulfate 375.4

BOTTLE TYPE AND PRESERVATIVE: 40ml Vial (HCl); 40ml Vial (HCl); 250ml Plast. (None)

J309

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	40ml Vial (HCl)	40ml Vial (HCl)	250ml Plast. (None)	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (ERPIMS)
MW-06	7/31/07	1130	Grab	20070731MW-06V15N	WG	7	3	3	1	849864	N1	0	8	1
MW-06	7/31/07	1130	Grab	20070731MW-06V15FD	WG	7	3	3	1	849866	FR1	0	0	—
MW-02	7/31/07	1235	Grab	20070731MW-02V15N	WG	7	3	3	1	849867	N1	0	0	—
GZ-06	7/31/07	1405	Grab	20070731GZ-06V08	WG	7	3	3	1	849868	N1	0	0	—
GZ-06	7/31/07	1405	Grab	20070731GZ-06V08MS	WG	7	3	3	1	849868	MS1	0	0	—
GZ-06	7/31/07	1405	Grab	20070731GZ-06V08SD	WG	7	3	3	1	849868	SD1	0	0	—
MW-03	7/31/07	1535	Grab	20070731MW-03V10N	WG	7	3	3	1	849869	N1	0	0	—
MW-07	7/31/07	1630	Grab	20070731MW-07V15N	WG	7	3	3	1	849870	N1	0	0	—
Trip Blank	7/31/07	—	Grab	20070731MTNTB	WQ	2	1	1	—	849871	TB1	0	0	—

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
Kevin S. Kearney	7/31/07	1900	[signature]	8/1/07	1000

SPECIAL INSTRUCTIONS: Samples shipped on ice. Questions: Call Peter Fairbanks @ 716-856-5636

Distribution: Original accompanies shipment, copy to coordinator field files

TestAmerica Edison

16

CHAIN OF COUSTODY RECORD

URS

PROJECT NO. 11174947.00000

SITE NAME R4H Former EMCA site

SAMPLERS (PRINT/SIGNATURE) Kevin S. Kearney / Kevin S. Kearney

DELIVERY SERVICE: Fed EX

AIRBILL NO.: 861900839592

LAB STL-Edison

COOLER 1 of 1

PAGE 1 of 1

J387

LOCATION IDENTIFIER	DATE	TIME	COMP/GRAB	SAMPLE ID	MATRIX	TOTAL NO. # OF CONTAINERS	Freon 113/113,123a — 40ml vial (Hcl)	Methane RSK-175 — 40ml vial (Hcl)	Sulfate 375-4 — 250ml Plast. (None)	Chlorinated Solvents — 40ml Vial (HCl)					REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)
MW-04	8/1/07	0930	Grab	20070801MW-04V10N	WG	7	3	3	1	—					850290	N1	0	0	—
GZ-03	8/1/07	1045	Grab	20070801GZ-03V11N	WG	7	3	3	1	—					850291	N1	0	0	—
MW-01	8/1/07	1250	Grab	20070801MW-01V08N	WG	10	3	3	1	3					850292	N1	0	0	—
Trip Blank	8/1/07	—	Grab	20070801MTNTB	WQ	3	1	1	—	1					850293	TB1	0	0	—

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) Kevin S. Kearney | DATE 8/1/07 | TIME 1400 | RECEIVED FOR LAB BY (SIGNATURE) [signature] | DATE 8-2-07 | TIME 1020

SPECIAL INSTRUCTIONS Questions: Please call Peter Fairbanks @ 716-856-5636. All samples shipped on ice.

Distribution: Original accompanies shipment, copy to coordinator field files

STL

Nonconformance Summary

STL Edison Job Number: J387

Client: URS Greiner-NY

Date: 9/4/2007

Sample Receipt:

Sample delivery conforms with requirements.

Volatile Organic Analysis (GC):

All data conforms with method requirements.

Wet Chemistry:

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Director or their designee, as verified by the following signature.

Thomas Tanico
Project Manager

STL

Nonconformance Summary

STL Edison Job Number: J309

Client: URS Greiner-NY

Date: 8/21/2007

Sample Receipt:

Sample delivery conforms with requirements.

Volatile Organic Analysis (GC):

All data conforms with method requirements.

Wet Chemistry:

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Director or their designee, as verified by the following signature.

Thomas Tanico
Project Manager

APPENDIX C

SUPPLEMENTAL INJECTION SUMMARY TABLE

Supplemental Injection Summary
Former EMCA Site, Mamaronek, New York
August 13-20, 2007

Injection Point	Interval (ft bgs)	Volume (Gal.)	Notes
1 **(EOS® 600XE Injections - #1 through #22)**	9-14	112	Refusal at 14'.
	Subtotal	**112**	
2	13-17	70	Refusal at 17'; difficulty with seal at surface
	Subtotal	**70**	
3	8-17	70	Refusal at 17';
	Subtotal	**70**	
4	8-12	42	
	12-15	40	
	15-18	50	
	18-21	60	
	21-24	50	
	Subtotal	**242**	
5	9-13	52	
	13-17	70	
	17-21	70	
	21-24	50	
	Subtotal	**242**	
6	9-12	72	
	12-16	60	
	16-20	60	
	20-24	50	
	Subtotal	**242**	
7	9-12	52	
	12-16	50	
	16-20	70	
	20-24	70	
	Subtotal	**242**	
8	9-12	66	
	12-16	66	
	16-20	70	
	20-24	40	
	Subtotal	**242**	
9	12-16	92	Difficulty with seal at surface
	16-20	80	
	20-24	70	
	25	10	
	Subtotal	**252**	
10	12-16	20	Difficulty with seal at surface
	16-20	70	
	20-24	90	
	Subtotal	**180**	
11	16-20	121	Initial refusal at 10' bgs
	20-24	183	
	Subtotal	**304**	Add'l volume was unused from #10
12	16-20	80	
	20-24	162	Add'l 77 gal. injected at 21' bgs after moving location over 3 ft.
	Subtotal	**242**	
13	10-13	121	Refusal at 18'
	13-17	242	
	Subtotal	**363**	

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14	12-16	0	Formation would not accept injection
	16-21	242	
	Subtotal	**242**	
15	12-15	20	Refusal at 17'; difficulty seal at surface and saturation at surface 7' away.
	Subtotal	**20**	
16	10-15	80	
	15-18	92	
	20-24	170	
	Subtotal	**342**	
17	8-10	76	Had to relocate point due to max. pressures and little volume
	14-16	25	
	16-18	46	
	19-21	95	
	Subtotal	**242**	
18	6-10	34	
	10-12	10	
	12-14	25	
	14-16	25	
	16-18	50	
	21-23	75	
	23-25	21	
	Subtotal	**240**	
19	8-10	35	
	12-14	45	
	16-18	77	
	18-20	45	
	21-23	40	
	Subtotal	**242**	
20	0-1	2	Approx. 2 gal. residual solution leaked from rod head into the near-surface
	8-10	25	
	11-12	30	
	13-15	64	
	15-17	45	
	18-20	68	
	21-23	28	
	Subtotal	**262**	
21	7-9	86	
	10-12	30	
	13-15	35	
	16-18	86	
	21-23	5	
	Subtotal	**242**	
22	0-1	5	Approx. 5 gal. residual solution leaked from rod head into the near-surface
	2-4	15	Leakage between loose rod sections
	4-8	66	
	9-11	35	
	13-15	71	
	15-20	25	
	20-25	25	
	Subtotal	**242**	

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Injection Point	Interval (ft bgs)	Volume (Gal.)	Notes
23 **(Switched to WILCLEAR Injections - #23 through #29)**	6-8	26	
	9-11	30	
	12-14	35	
	18-20	20	
	20-22	50	
	22-24	15	
	Subtotal	**176**	
24	6-8	35	
	9-11	30	
	14-16	30	
	16-18	50	
	20-22	31	
	Subtotal	**176**	
25	6-8	30	
	10-12	30	
	14-16	30	
	16-18	45	
	21-23	41	
	Subtotal	**176**	
26	4-8	40	Refusal at 4-6' – two locations
	8-10	10	
	12-14	10	
	14-16	20	
	16-18	40	
	18-20	26	
	22-24	30	
	Subtotal	**176**	
27	8-10	57	Initially had clogged screen
	9-11	10	
	13-15	30	
	15-17	20	
	17-19	18	
	18-20	20	
	23-25	21	
	Subtotal	**176**	
28	7-9	56	
	9-11	50	
	12-14	20	
	14-16	20	
	18-20	25	
	22-24	5	
	Subtotal	**176**	
29	8-10	21	
	11-13	40	
	13-15	30	
	16-18	40	
	18-20	25	
	22-24	20	
	Subtotal	**176**	