Groundwater Sampling and Analysis Report
February 2007 Sampling Event

Former EMCA Site
Mamaroneck, New York

Prepared for:

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G39903DD

FORMER EMCA SITE

SITE NO. 360025

MAMARONECK, NEW YORK

GROUNDWATER SAMPLING AND ANALYSIS REPORT

FEBRUARY 2007 SAMPLING EVENT

Prepared for:

ROHM AND HAAS COMPANY

Submitted by:

URS CORPORATION

APRIL 2007

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted February 6-7, 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 2007); the monitoring program generates data used to monitor the effectiveness of the previous remedial actions.

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 is the fourth groundwater sampling event since the interim remedial measure in 2004.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected 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.

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 all previous sampling events, groundwater flow was generally westward towards the Sheldrake River.

Groundwater monitoring results dating back to 2003 (including the results of the November 2006 re-sampling of MW-02 and GZ-06) are provided in Table 2. Laboratory data sheets and a data usability summary report for the February 2007 results are provided in Appendix B. Historical Freon 113 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 February 2007 sampling event indicate that Freon 113 concentrations were below the remedial goal of 5 µg/L at three of the six wells sampled. Freon 113 concentrations above 5 µg/L were noted only at GZ-06 (14 µg/L), MW-02 (800 µg/L) and MW-03 (10 µg/L). Concentrations at these wells increased from the previous levels of 2 µg/L, 100 µg/L and not detected (ND), respectively.

Freon 123a and Freon 1113 are the expected reductive dechlorination daughter products of Freon 113. Freon 123a, which holds one less chlorine than Freon 113, increased in wells GZ-06 (2.0 µg/L in November 2006 to 4 µg/L in February 2007), MW-02 (10 µg/L in November 2006 to 95 µg/L in February 2007) and MW-03 (0.8 µg/L in August 2006 to 48 µg/L in February 2007). Freon 123a was not detected at MW-04 in February 2007 and it was reported at low, estimated concentrations in MW-06 (8 µg/L) and MW-07 (3 µg/L).

Freon 1113, which holds two less chlorines than Freon 113, increased from previous concentrations at MW-02 (21 µg/L to 84 µg/L) and MW-06 (ND to 100 µg/L). These increases are attributable to continued reductive dechlorination of Freon 113 and Freon 123a at these locations.

Dissolved oxygen concentrations have fluctuated widely since December 2005. Field readings made in August 2006 were suspiciously high and may reflect a malfunctioning meter. However, concentrations since then (corroborated using a second meter) are generally higher than 1 mg/L, indicating less anaerobic conditions than those seen after the injections. However, oxidation-reduction potentials have remained relatively steady and slightly negative.

The February 2007 data indicate that sulfate concentrations increased at several wells since the last full sampling round in August 2006. Methane concentrations were also up at most locations and significant increases in concentrations were reported at MW-03 and MW-06. These seemingly contradictory trends, combined with the dissolved oxygen and oxidation-reduction results, may reflect changes in water chemistry as the effects of the injections dissipate.

The data trends since the interim remedial measure injections in November 2004 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.

Across the Site, the data generated since 2003 indicate that the two injections have significantly reduced the total mass of Freon 113 present at the Site.

The February 2007 monitoring data indicate that another round of injections may be warranted to further stimulate and sustain anaerobic conditions in the subsurface, particularly in the vicinities of MW-02 and GZ-06 where Freon 113 concentrations have fluctuated the most.

5.0 FUTURE ACTIVITIES

The next routine groundwater-monitoring event is planned for August 2007 and it will include a one-time sampling and analysis of the inactive monitoring wells MW-01 and GZ-03, as requested by the NYSDEC. A work plan for another round of injections is being developed and it will be submitted to the NYSDEC when it's completed.

REFERENCES

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

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

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

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

TABLES

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

Location	Measuring Point Elevation (ft.)	Depth to Water (ft.)	Water Surface Elevation (ft.)
GZ-06	101.55	7.66	93.89
MW-01	99.22	4.75	94.47
MW-02	99.18	6.13	93.05
MW-03	99.35	6.37	92.98
MW-04	98.61	5.80	92.81
MW-05	98.14	5.33	92.81
MW-06	ND	6.30	ND
MW-07	ND	6.43	ND

Notes:

ND = Not Determined

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_52103	GZ06	GZ06-091703	GZ-06-121803	GZ06
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/21/03	07/23/03	09/17/03	12/18/03	07/22/04
Parameter	**Units**					
Volatiles						
Acetone	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
Benzene	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	5.0 UR	10 UR	5.0 UR	5.0 UR	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	5.4 NJ	0 U	24
1,1-Dichloroethene	UG/L	0.8 J	1.5 J	2.0 U	2.0 U	NA
cis-1,2-Dichloroethene	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
Ethylbenzene	UG/L	4.0 U	8 U	4.0 U	4.0 U	NA
2-Hexanone	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
4-Methyl-2-Pentanone	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
Tetrachloroethene	UG/L	0.6 J	2 U	0.5 J	1.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	100	230	74	5.0 U	100 J
Vinyl Chloride	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
Xylene (total)	UG/L	5.0 U	10 U	5.0 U	5.0 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	20	41	26	0.7 J	36
Dissolved Gases						
Methane	UG/L	140	98	89	5.9	48
Total Metals						
Iron	UG/L	2,390	866	517 J	173	NA
Dissolved Metals						
Iron	UG/L	2,290	778	583 J	85.3 B	NA
Miscellaneous Parameters						
Chloride	MG/L	559	474	477 J	218	1,610
Conductivity	MS/CM	2.27	1.99	1.98	1.11	5.25

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

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_52103	GZ06	GZ06-091703	GZ-06-121803	GZ06
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/21/03	07/23/03	09/17/03	12/18/03	07/22/04
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.76	0.5	0.48	6.86	1.15
Nitrogen, Ammonia (As N)	MG/L	0.1 U	0.1 U	0.1 U	0.1 U	NA
Nitrogen, Kjeldahl, Total	MG/L	0.5 U	0.7	1.3	0.57	NA
Nitrogen, Nitrate	MG/L	0.1 U	NA	0.58	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	0.12 J	NA	NA	NA
Oxidation Reduction Potential	mV	-110	-75	-129	73	-210
Sulfate	MG/L	25.2	27.5	32.4	5.0 U	20.8
Ferrous Iron (field)	MG/L	2.8	9.6	0.25	0.03	NA
Ferric Iron (lab)	MG/L	0.1 U	0.1 U	0.52	0.143	NA
Fluoride	MG/L	0.1 U	0.1 U	0.1 U	0.32	1.00 U
Oil & Grease	MG/L	NA	NA	5.21 UR	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		GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID		GZ-06	MW-GZ-06V08N	GZ-0608N	20061117GZ-0608	20061117GZ0608FD
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/15/06	11/17/06	11/17/06
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	15	10 U	13	2.0 J	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	9.0 J	10 U	74	2.0 J	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	4.0 J	2.0 J	23	2.0 J	2.0 J
Dissolved Gases						
Methane	UG/L	310	74	140	180	210
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	1.43	1.16	1.28	NA	NA

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		GZ-06	GZ-06	GZ-06	GZ-06	GZ-06
Sample ID		GZ-06	MW-GZ-06V08N	GZ-0608N	20061117GZ-0608	20061117GZ0608FD
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/15/06	11/17/06	11/17/06
Parameter	Units					Field Duplicate (1-1)
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.11	0.03	5.67	NA	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	-107	-59	-49	NA	NA
Sulfate	MG/L	14.2	31.7	23.2	25.1	25.4
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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NA - Not Analyzed
U - Non-Detect R - Rejected result

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Detection Limits shown are PQL

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

Location ID		GZ-06	MW-02	MW-02	MW-02	MW-02
Sample ID		20070207GZ-06V08N	MW02-5-20-03	MW02-5-20-03DUP	DUP-7_22_03	MW02-7_22_03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		02/07/07	05/20/03	05/20/03	07/22/03	07/22/03
Parameter	Units			Field Duplicate (1-1)	Field Duplicate (1-1)	
Volatiles						
Acetone	UG/L	NA	140 J	130 J	50 UR	50 UR
Benzene	UG/L	NA	50 U	25 U	50 U	50 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	50 UR	25 UR	50 UR	50 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	1.0 J	0 U	0 U	0 U	0 U
1,1-Dichloroethene	UG/L	NA	4.4 J	5.1 J	8.2 J	7.5 J
cis-1,2-Dichloroethene	UG/L	NA	50 U	25 U	50 U	50 U
Ethylbenzene	UG/L	NA	40 U	20 U	40 U	3.4 J
2-Hexanone	UG/L	NA	50 U	25 U	50 U	50 U
4-Methyl-2-Pentanone	UG/L	NA	50 U	25 U	50 U	50 U
Tetrachloroethene	UG/L	NA	10 U	5.0 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	14	710	880	1,000	1,000
Vinyl Chloride	UG/L	NA	50 U	25 U	50 U	50 U
Xylene (total)	UG/L	NA	50 U	25 U	7.1 J	11 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	4.0 J	34 J	40	40 J	41 J
Dissolved Gases						
Methane	UG/L	360	26	32	54	52
Total Metals						
Iron	UG/L	NA	27,800	28,300	30,100	30,900
Dissolved Metals						
Iron	UG/L	NA	27,900	28,200	30,500	30,500
Miscellaneous Parameters						
Chloride	MG/L	NA	338	338	307	283
Conductivity	MS/CM	3.06	1.68	NA	NA	1.65

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

Location ID		GZ-06	MW-02	MW-02	MW-02	MW-02
Sample ID		20070207GZ-06V08N	MW02-5-20-03	MW02-5-20-03DUP	DUP-7_22_03	MW02-7_22_03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		02/07/07	05/20/03	05/20/03	07/22/03	07/22/03
Parameter	Units			Field Duplicate (1-1)	Field Duplicate (1-1)	
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	4.17	0.36	NA	NA	0.26
Nitrogen, Ammonia (As N)	MG/L	NA	3.3	3.4	4.1	3.8
Nitrogen, Kjeldahl, Total	MG/L	NA	6.6	6.2	6.6	6.1
Nitrogen, Nitrate	MG/L	NA	0.15	0.16	0.1 U	0.1
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-29	-108	NA	NA	-190
Sulfate	MG/L	29.3	44.0	46.0	32.3	32.5
Ferrous Iron (field)	MG/L	NA	25.3	NA	25.7	28.0
Ferric Iron (lab)	MG/L	NA	2.5	3	4.4	2.9
Fluoride	MG/L	NA	0.28	0.3	0.37	0.39
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.
NA - Not Analyzed
U - Non-Detect R - Rejected result

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		MW02-091803	MW-02-121803	MW-02	MW-02	MW-02V06N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/18/03	12/18/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**					
Volatiles						
Acetone	UG/L	5.0 U	5.0 U	NA	NA	NA
Benzene	UG/L	5.0 U	5.0 U	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	5.0 UR	5.0 UR	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	14	120	18
1,1-Dichloroethene	UG/L	2.0 U	2.0 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5.0 U	5.0 U	NA	NA	NA
Ethylbenzene	UG/L	4.0 U	4.0 U	NA	NA	NA
2-Hexanone	UG/L	5.0 U	5.0 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	5.0 U	5.0 U	NA	NA	NA
Tetrachloroethene	UG/L	1.0 U	1.0 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	54	12	21 J	1,200	110
Vinyl Chloride	UG/L	5.0 U	5.0 U	NA	NA	NA
Xylene (total)	UG/L	5.0 U	5.0 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	7.8	3.3 J	4 J	86 J	15
Dissolved Gases						
Methane	UG/L	410	320	140	2,000	5,800
Total Metals						
Iron	UG/L	63,800 J	69,000	NA	NA	NA
Dissolved Metals						
Iron	UG/L	60,900 J	69,300	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	839	769	238	NA	NA
Conductivity	MS/CM	3.17	3.28	2.34	1.19	2.51

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

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		MW02-091803	MW-02-121803	MW-02	MW-02	MW-02V06N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/18/03	12/18/03	07/22/04	05/31/05	12/20/05
Parameter	Units					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0.53	0 U	0.91	0 U	0 U
Nitrogen, Ammonia (As N)	MG/L	11.5	11.9	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	17.1	16.9	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	-99	-108	-133	-140	-137
Sulfate	MG/L	4.80	5.0 U	15.2	25.2	5.0 U
Ferrous Iron (field)	MG/L	49.3	6.3	NA	NA	NA
Ferric Iron (lab)	MG/L	48.3	62.7	NA	NA	NA
Fluoride	MG/L	0.3	0.31	0.294	NA	NA
Oil & Grease	MG/L	5 U	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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U - Non-Detect R - Rejected result

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-03	MW-03
Sample ID		MW-02V15N	20061117MW02VISN	20070207MW-02V06N	MW03_52103	MW03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	11/17/06	02/07/07	05/21/03	07/23/03
Parameter	**Units**					
Volatiles						
Acetone	UG/L	NA	NA	NA	250 U	78
Benzene	UG/L	NA	NA	NA	250 U	2.3
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	250 UR	130 J
Chlorotrifluoroethene (Freon-1113)	UG/L	200	21	84	0 U	7.0 NJ
1,1-Dichloroethene	UG/L	NA	NA	NA	33 J	2.0 U
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	250 U	5.0 U
Ethylbenzene	UG/L	NA	NA	NA	200 U	0.3 J
2-Hexanone	UG/L	NA	NA	NA	250 U	5.0 U
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	250 U	5.0 U
Tetrachloroethene	UG/L	NA	NA	NA	50 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	890	100	800	5,800	68
Vinyl Chloride	UG/L	NA	NA	NA	250 U	5.0 U
Xylene (total)	UG/L	NA	NA	NA	250 U	1.1 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	110	10	95	78 J	43
Dissolved Gases						
Methane	UG/L	5,500	4,300	6,300	86	56
Total Metals						
Iron	UG/L	NA	NA	NA	1,170	150,000
Dissolved Metals						
Iron	UG/L	NA	NA	NA	267	152,000
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	113	143
Conductivity	MS/CM	1.55	NA	1.77	0.638	4.35

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed
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Only Detected Results Reported.

Detection Limits shown are PQL

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

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

Location ID		MW-02	MW-02	MW-02	MW-03	MW-03
Sample ID		MW-02V15N	20061117MW02VISN	20070207MW-02V06N	MW03_52103	MW03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	11/17/06	02/07/07	05/21/03	07/23/03
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	4.92	NA	1.56	0.58	0 U
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	0.36	2.7
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	1.3	10.8
Nitrogen, Nitrate	MG/L	NA	NA	NA	2	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	0.1 UJ
Oxidation Reduction Potential	mV	-144	NA	-120	40	-103
Sulfate	MG/L	27.1	5.0 U	15.9	32.7	26.9
Ferrous Iron (field)	MG/L	NA	NA	NA	0.5	3.7
Ferric Iron (lab)	MG/L	NA	NA	NA	0.67	146
Fluoride	MG/L	NA	NA	NA	0.28	0.44
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

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		DUP-91703	MW03-091703	DUP1_121703	MW-03_121703	MW-03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/17/03	09/17/03	12/17/03	12/17/03	07/23/04
Parameter	**Units**	Field Duplicate (1-1)		Field Duplicate (1-1)		
Volatiles						
Acetone	UG/L	110	110	130 J	120 J	NA
Benzene	UG/L	2.2	1.8	10 U	10 U	NA
Methyl ethyl ketone (2-Butanone)	UG/L	69 J	65 J	39 J	38 J	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	6.2 NJ	0 U	0 U	0 U	68 J
1,1-Dichloroethene	UG/L	2.0 U	2.0 U	4.0 U	4 U	NA
cis-1,2-Dichloroethene	UG/L	5.0 U	5.0 U	10 U	10 U	NA
Ethylbenzene	UG/L	4.0 U	4.0 U	8.0 U	8 U	NA
2-Hexanone	UG/L	19	16	10 U	10 U	NA
4-Methyl-2-Pentanone	UG/L	11	11	10 U	10 U	NA
Tetrachloroethene	UG/L	1.0 U	1.0 U	4.9	4.6	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	26	16	150	150	4,900 J
Vinyl Chloride	UG/L	5.0 U	5.0 U	10 U	10 U	NA
Xylene (total)	UG/L	5.0 U	5.0 U	10 U	10 U	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	180	110	170	160	3,900
Dissolved Gases						
Methane	UG/L	2,400	2,500	7,200	4,900	2,700
Total Metals						
Iron	UG/L	174,000 J	178,000 J	156,000	164,000	NA
Dissolved Metals						
Iron	UG/L	187,000 J	186,000 J	167,000	176,000	NA
Miscellaneous Parameters						
Chloride	MG/L	99.2 J	91.5 J	224	192	71.7
Conductivity	MS/CM	NA	1.64	NA	1.99	2.40

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed
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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		DUP-91703	MW03-091703	DUP1_121703	MW-03_121703	MW-03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/17/03	09/17/03	12/17/03	12/17/03	07/23/04
Parameter	Units	Field Duplicate (1-1)		Field Duplicate (1-1)		
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	NA	0.01	NA	0.35	1.05
Nitrogen, Ammonia (As N)	MG/L	0.86	0.95	1.4	1.2	NA
Nitrogen, Kjeldahl, Total	MG/L	4.5	4.4	4.0	4.0	NA
Nitrogen, Nitrate	MG/L	0.1 U	0.1 U	0.1 U	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	NA	-90	NA	-59	-143
Sulfate	MG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	25.5	27.9	23.5	30.0	NA
Ferric Iron (lab)	MG/L	67.0	93.0	132	134	NA
Fluoride	MG/L	0.27	0.2	0.22	0.25	0.397
Oil & Grease	MG/L	9.26 R	9.26 R	NA	NA	NA

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

Location ID		MW-03	MW-03	MW-03	MW-03	MW-04
Sample ID		MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N	MW04-5-20-03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/14/06	02/07/07	05/20/03
Parameter	**Units**					
Volatiles						
Acetone	UG/L	NA	NA	NA	NA	5.0 U
Benzene	UG/L	NA	NA	NA	NA	5.0 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	5.0 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	83	2.0 J	51	39	0 U
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	2.0 U
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	NA	5.0 U
Ethylbenzene	UG/L	NA	NA	NA	NA	4.0 U
2-Hexanone	UG/L	NA	NA	NA	NA	5.0 U
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	NA	5.0 U
Tetrachloroethene	UG/L	NA	NA	NA	NA	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	2.0 J	10 U	10 U	10	5.0 U
Vinyl Chloride	UG/L	NA	NA	NA	NA	5.0 U
Xylene (total)	UG/L	NA	NA	NA	NA	5.0 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	14	1.0 J	0.8 J	48	5.0 U
Dissolved Gases						
Methane	UG/L	6,300	10,000	7,400	15,000	380
Total Metals						
Iron	UG/L	NA	NA	NA	NA	18,400
Dissolved Metals						
Iron	UG/L	NA	NA	NA	NA	18,500
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	NA	238
Conductivity	MS/CM	3.19	1.20	0.946	0.91	1.61

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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-03	MW-04
Sample ID		MW-03	MW-03VION	MW-03V15N	20070207MW-03V10N	MW04-5-20-03
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/05	12/20/05	08/14/06	02/07/07	05/20/03
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	1.24	0 U	5.36	2.44	0.54
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	NA	1.6
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	NA	6.2
Nitrogen, Nitrate	MG/L	NA	NA	NA	NA	0.1 U
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	-133	-151	-123	-116	-115
Sulfate	MG/L	5.0 U	5.0 U	5.0 U	7.80	5.0 U
Ferrous Iron (field)	MG/L	NA	NA	NA	NA	17.6
Ferric Iron (lab)	MG/L	NA	NA	NA	NA	0.76
Fluoride	MG/L	NA	NA	NA	NA	0.27
Oil & Grease	MG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

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

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		MW-04_121703	Dup1	MW-04	MW-04	MW-04VION
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/17/03	07/22/04	07/22/04	05/31/05	12/20/05
Parameter	Units		Field Duplicate (1-1)			
Volatiles						
Acetone	UG/L	5.0 U	NA	NA	NA	NA
Benzene	UG/L	5.0 U	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	5.0 UR	NA	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	10 U	10 U	1.0 J	10 U
1,1-Dichloroethene	UG/L	2.0 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	5.0 U	NA	NA	NA	NA
Ethylbenzene	UG/L	4.0 U	NA	NA	NA	NA
2-Hexanone	UG/L	5.0 U	NA	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	5.0 U	NA	NA	NA	NA
Tetrachloroethene	UG/L	1.0 U	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	5.0 U	10 UJ	0.7 J	10 U	10 U
Vinyl Chloride	UG/L	5.0 U	NA	NA	NA	NA
Xylene (total)	UG/L	5.0 U	NA	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	5.0 U	10 U	10 U	10 U	10 U
Dissolved Gases						
Methane	UG/L	35	69	99	190	400
Total Metals						
Iron	UG/L	3,640	NA	NA	NA	NA
Dissolved Metals						
Iron	UG/L	3,760	NA	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	294	158	161	NA	NA
Conductivity	MS/CM	0.99	NA	1.05	1.85	1.47

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-04	MW-04	MW-04	MW-04	MW-04
Sample ID		MW-04_121703	Dup1	MW-04	MW-04	MW-04VION
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/17/03	07/22/04	07/22/04	05/31/05	12/20/05
Parameter	Units		Field Duplicate (1-1)			
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0 U	NA	0.82	0 U	0 U
Nitrogen, Ammonia (As N)	MG/L	1.2	NA	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	1.9	NA	NA	NA	NA
Nitrogen, Nitrate	MG/L	0.1 U	NA	NA	NA	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Oxidation Reduction Potential	mV	0 U	NA	-136	-126	-161
Sulfate	MG/L	9.40	10.8	10.8	14.2	6.66
Ferrous Iron (field)	MG/L	2.2	NA	NA	NA	NA
Ferric Iron (lab)	MG/L	1.3	NA	NA	NA	NA
Fluoride	MG/L	0.19	0.304	0.302	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-04	MW-04	MW-05	MW-05	MW-05
Sample ID		MW-04V15N	20070207MW-04V10N	MW05_52103	MW-05-121803	MW-05
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	02/07/07	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	0.7 J	0.6 J	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	420	400	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	1.14	0.804	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

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		MW-04V15N	20070207MW-04V10N	MW05_52103	MW-05-121803	MW-05
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/14/06	02/07/07	05/21/03	12/18/03	07/23/04
Parameter	Units					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	4.97	4.73	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	-154	-81	26	121	46
Sulfate	MG/L	5.0 U	5.0 U	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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J - Analyte is reported below the PQL at an estimated concentration.
NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

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

Flags assigned during chemistry validation are shown.

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NA - Not Analyzed
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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-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

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

Only Detected Results Reported.

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		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

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

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.

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

Only Detected Results Reported.

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-07	MW-07
Sample ID		MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	MW07-6-10-03	MW07
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/15/06	02/07/07	02/07/07	06/10/03	07/23/03
Parameter	Units		Field Duplicate (1-1)			
Volatiles						
Acetone	UG/L	NA	NA	NA	250 U	500 U
Benzene	UG/L	NA	NA	NA	250 U	500 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	250 UR	500 UR
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U	100	100	0 U	0 U
1,1-Dichloroethene	UG/L	NA	NA	NA	100 U	68 J
cis-1,2-Dichloroethene	UG/L	NA	NA	NA	250 U	500 U
Ethylbenzene	UG/L	NA	NA	NA	200 U	400 U
2-Hexanone	UG/L	NA	NA	NA	250 U	500 U
4-Methyl-2-Pentanone	UG/L	NA	NA	NA	250 U	500 U
Tetrachloroethene	UG/L	NA	NA	NA	50 U	100 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U	3.0 J	3.0 J	5,400	8,500
Vinyl Chloride	UG/L	NA	NA	NA	250 U	500 U
Xylene (total)	UG/L	NA	NA	NA	250 U	500 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U	8.0 J	8.0 J	68 J	130 J
Dissolved Gases						
Methane	UG/L	1,700	12,000	13,000	740	420
Total Metals						
Iron	UG/L	NA	NA	NA	21,300	21,200
Dissolved Metals						
Iron	UG/L	NA	NA	NA	20,800	20,800
Miscellaneous Parameters						
Chloride	MG/L	NA	NA	NA	140	168
Conductivity	MS/CM	0.033	NA	0.79	0.93	1.11

Flags assigned during chemistry validation are shown.

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
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NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

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-07	MW-07
Sample ID		MW-06V15N	20070207MW-06V15FD	20070207MW-06V15N	MW07-6-10-03	MW07
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		08/15/06	02/07/07	02/07/07	06/10/03	07/23/03
Parameter	Units		Field Duplicate (1-1)			
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	6.83	NA	1.05	0.9	0.1
Nitrogen, Ammonia (As N)	MG/L	NA	NA	NA	0.39	0.6
Nitrogen, Kjeldahl, Total	MG/L	NA	NA	NA	1.2	1.8
Nitrogen, Nitrate	MG/L	NA	NA	NA	0.1 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	NA	NA	NA	NA	0.1 UJ
Oxidation Reduction Potential	mV	87	NA	-136	-130	-108
Sulfate	MG/L	5.0 U	7.40	7.00	32.8	31.0
Ferrous Iron (field)	MG/L	NA	NA	NA	20.2	19.8
Ferric Iron (lab)	MG/L	NA	NA	NA	1	1.4
Fluoride	MG/L	NA	NA	NA	0.33	0.25
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.
NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

Detection Limits shown are PQL

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		MW07-91703	MW-07_121703	MW-07	MW-07	MW-07V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/17/03	12/17/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**					
Volatiles						
Acetone	UG/L	250 U	50 U	NA	NA	NA
Benzene	UG/L	250 U	14	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	250 UR	50 UR	NA	NA	NA
Chlorotrifluoroethene (Freon-1113)	UG/L	0 U	0 U	210	140	47
1,1-Dichloroethene	UG/L	100 U	20 U	NA	NA	NA
cis-1,2-Dichloroethene	UG/L	250 U	50 U	NA	NA	NA
Ethylbenzene	UG/L	200 U	49	NA	NA	NA
2-Hexanone	UG/L	250 U	50 U	NA	NA	NA
4-Methyl-2-Pentanone	UG/L	250 U	50 U	NA	NA	NA
Tetrachloroethene	UG/L	50 U	10 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	6,100	370	110 J	10 U	10 U
Vinyl Chloride	UG/L	250 U	50 U	NA	NA	NA
Xylene (total)	UG/L	250 U	50 U	NA	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	130 J	940	50	2.0 J	10 U
Dissolved Gases						
Methane	UG/L	1,200	1,700	2,500	5,900	9,700
Total Metals						
Iron	UG/L	32,700 J	38,900	NA	NA	NA
Dissolved Metals						
Iron	UG/L	32,500 J	38,900	NA	NA	NA
Miscellaneous Parameters						
Chloride	MG/L	300 J	328	303	NA	NA
Conductivity	MS/CM	1.44	1.94	1.69	1.75	1.65

Flags assigned during chemistry validation are shown.

B - Value between Instrument Detection Limit and Contract Required Detection Limit.
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NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

Detection Limits shown are PQL

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

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		MW07-91703	MW-07_121703	MW-07	MW-07	MW-07V15N
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/17/03	12/17/03	07/22/04	05/31/05	12/20/05
Parameter	**Units**					
Miscellaneous Parameters						
Dissolved Oxygen	MG/L	0 U	3.33	0.88	0 U	0 U
Nitrogen, Ammonia (As N)	MG/L	0.66	0.99	NA	NA	NA
Nitrogen, Kjeldahl, Total	MG/L	2.1	2.8	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	-118	-115	-153	-152	-169
Sulfate	MG/L	23.6	5.0 U	5.0 U	5.0 U	5.0 U
Ferrous Iron (field)	MG/L	33.8	19.5	NA	NA	NA
Ferric Iron (lab)	MG/L	14.1	19.4	NA	NA	NA
Fluoride	MG/L	0.24	0.19	0.190	NA	NA
Oil & Grease	MG/L	5.44 U	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.
NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

Detection Limits shown are PQL

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

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

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

Only Detected Results Reported.

Detection Limits shown are PQL

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

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

Flags assigned during chemistry validation are shown.

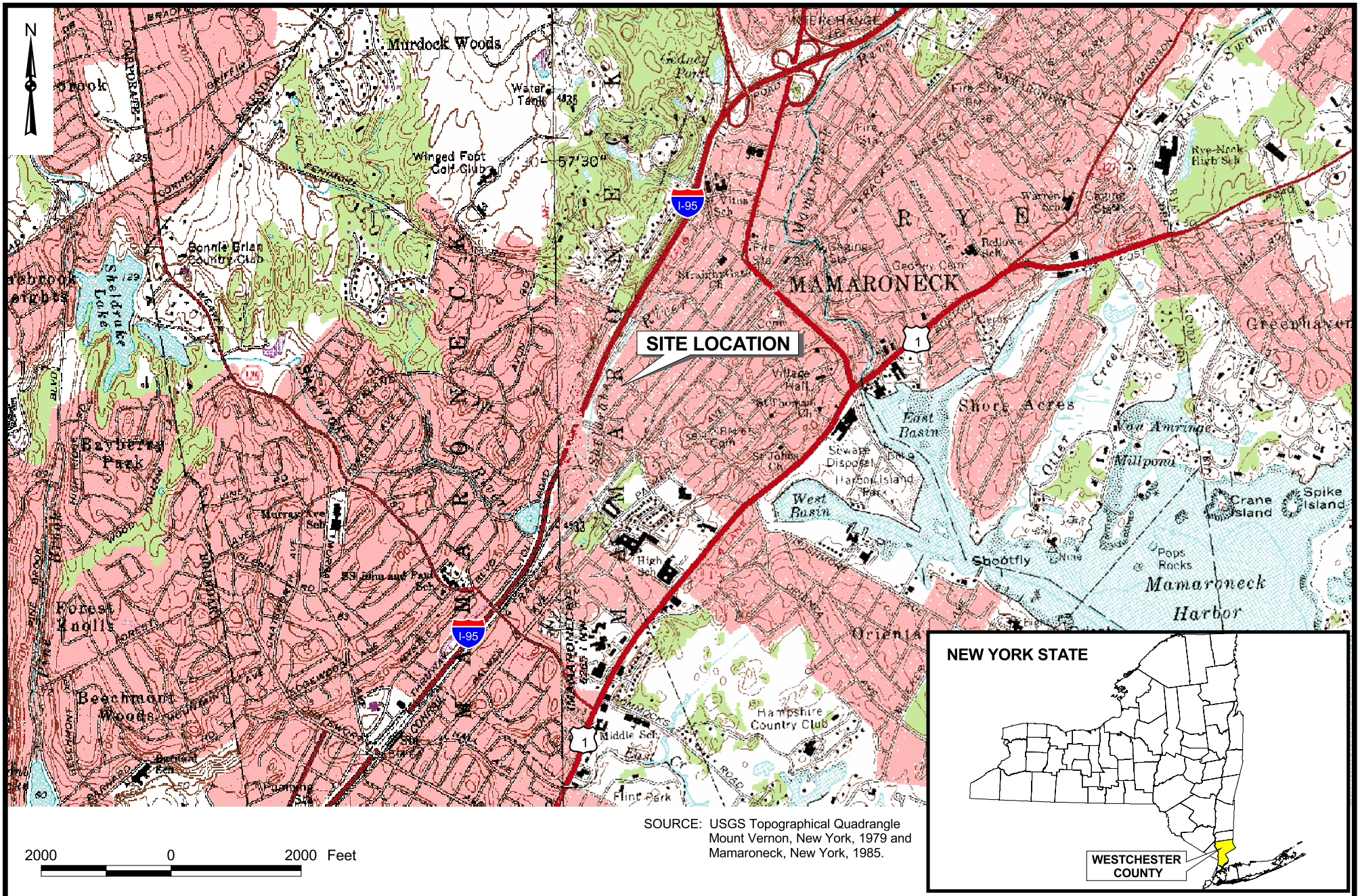
B - Value between Instrument Detection Limit and Contract Required Detection Limit.
J - Analyte is reported below the PQL at an estimated concentration.
NA - Not Analyzed
U - Non-Detect R - Rejected result

Only Detected Results Reported.

Detection Limits shown are PQL

FIGURES

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

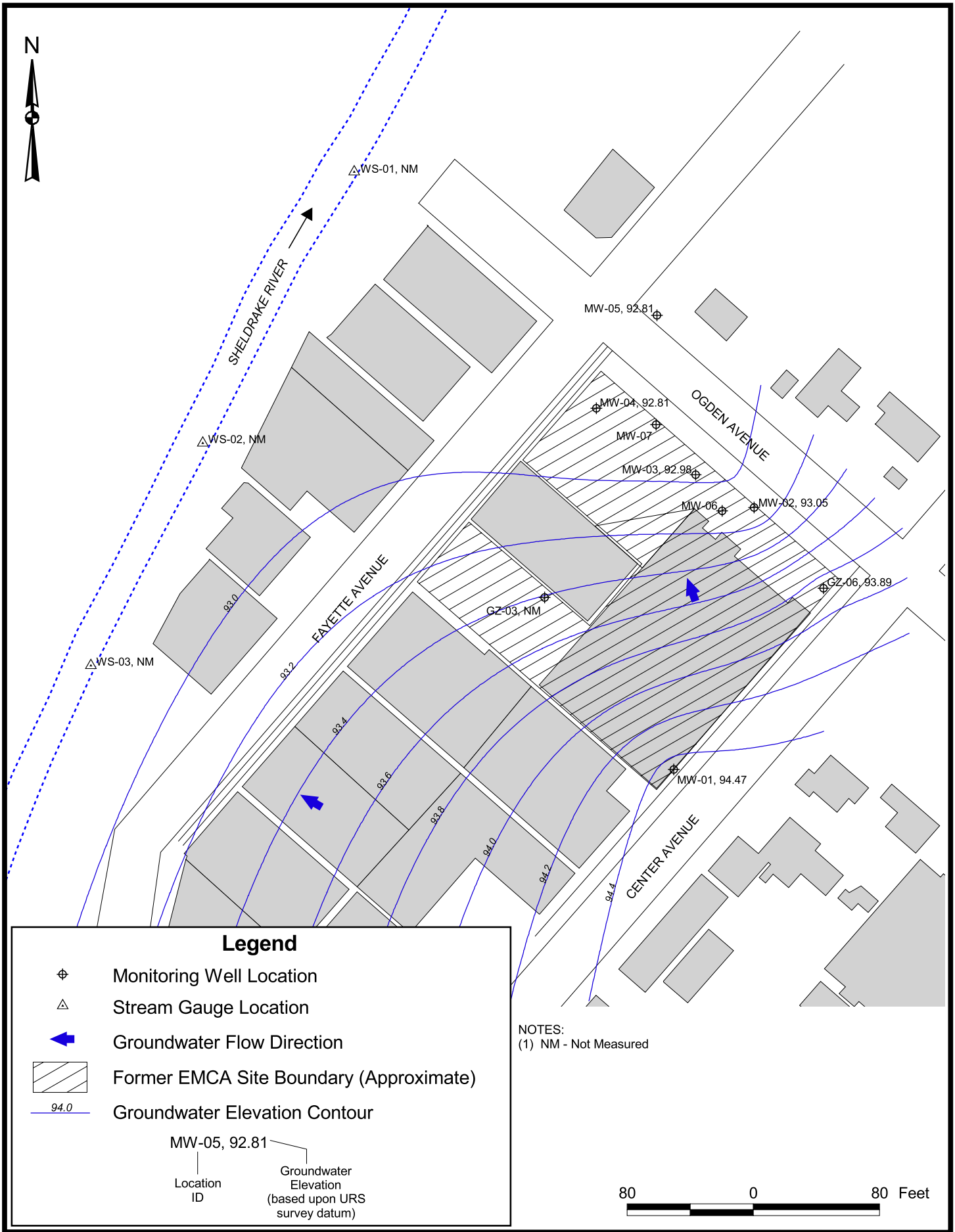


SOURCE: USGS Topographical Quadrangle Mount Vernon, New York, 1979 and Mamaroneck, New York, 1985.

URS

FORMER EMCA SITE
SITE LOCATION MAP

FIGURE 1



URS

GROUNDWATER ELEVATION CONTOUR MAP (FEBRUARY 2007)

FIGURE 2

N:\11172730.00000\DB\GIS\2001\welev.apr 02/07/07 GROUNDWATER ELEVATION CONTOURS 4/3/2007

N

MW-05	07/00	07/01	05/03	12/03	07/04
1,1,2-Trichloro-1,2,2-trifluoroethane	7	ND	ND	ND	0.5 J

MW-07	06/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	02/07
1,1,2-Trichloro-1,2,2-trifluoroethane	5400	8500	6100	370	110 J	ND	ND	ND	ND

MW-04	10/99	07/00	07/01	05/03	12/03	07/04	05/05	12/05	08/06	02/07
1,1,2-Trichloro-1,2,2-trifluoroethane	11	ND	ND	ND	ND	0.7 J	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
1,1,2-Trichloro-1,2,2-trifluoroethane	17000	11000	13000	5800	68	26	150	4900 J	2 J	ND	ND	10

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
1,1,2-Trichloro-1,2,2-trifluoroethane	740	1700	2400	880	1000	54	12	21 J	1200	110	890	100	800

MW-06	06/03	07/03	09/03	12/03	07/04	05/05	12/05	08/06	02/07
1,1,2-Trichloro-1,2,2-trifluoroethane	220	180	97	250	140 J	1 J	ND	ND	3 J

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
1,1,2-Trichloro-1,2,2-trifluoroethane	1274	200	49	900	250	100	230	74	ND	100 J	9 J	ND	74	2	14

OGDEN AVENUE

SHELDRAKE RIVER

FAYETTE AVENUE

CENTER AVENUE

Legend

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

GZ-06 05/88 (Sample Date)
1,1,2-Trichloro-1,2,2-trifluoroethane, 1274
Location ID; Parameter; Concentration

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 0 60 Feet

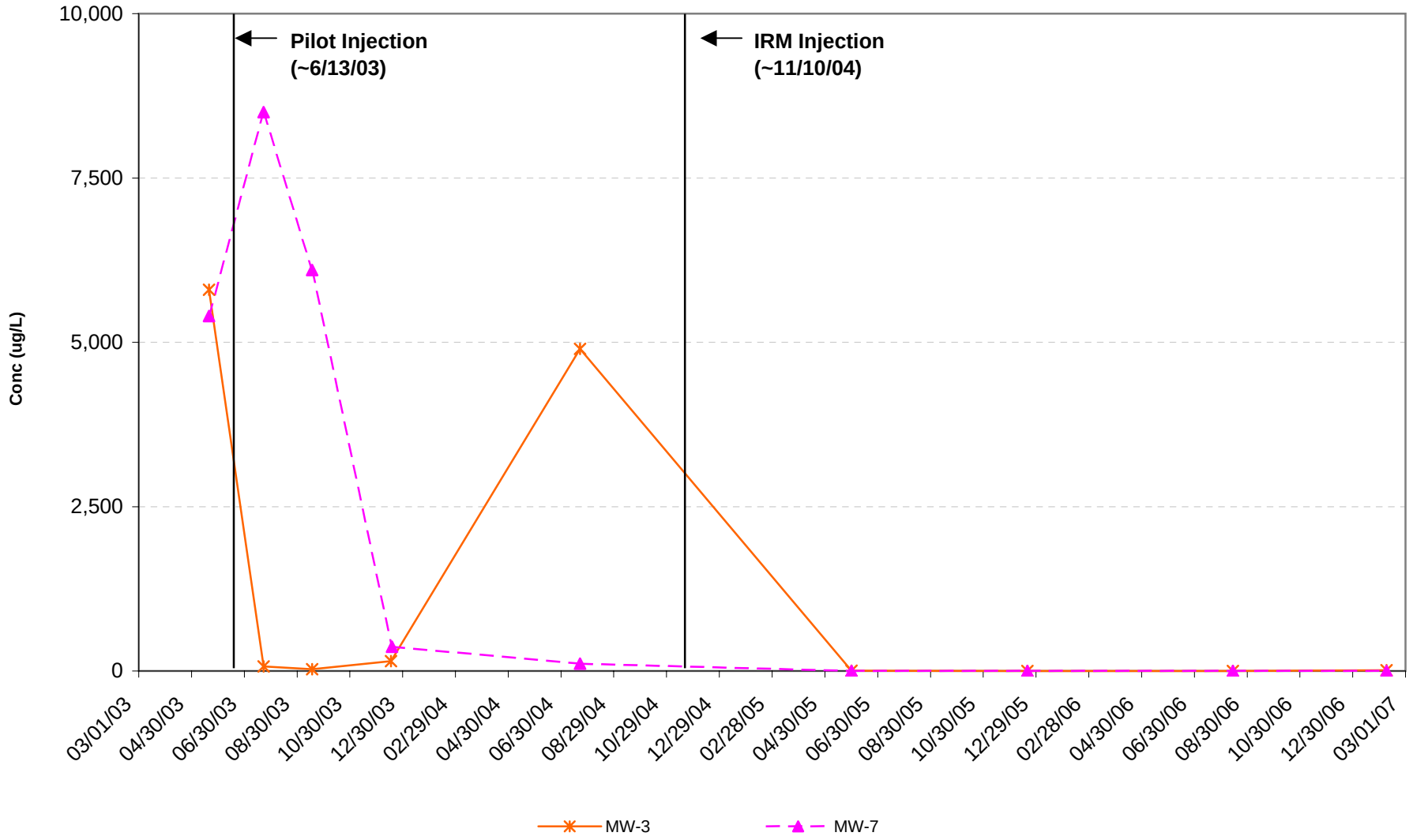
FORMER EMCA SITE
SUMMARY OF FREON 113 DETECTIONS IN GROUNDWATER

URS

FIGURE 3

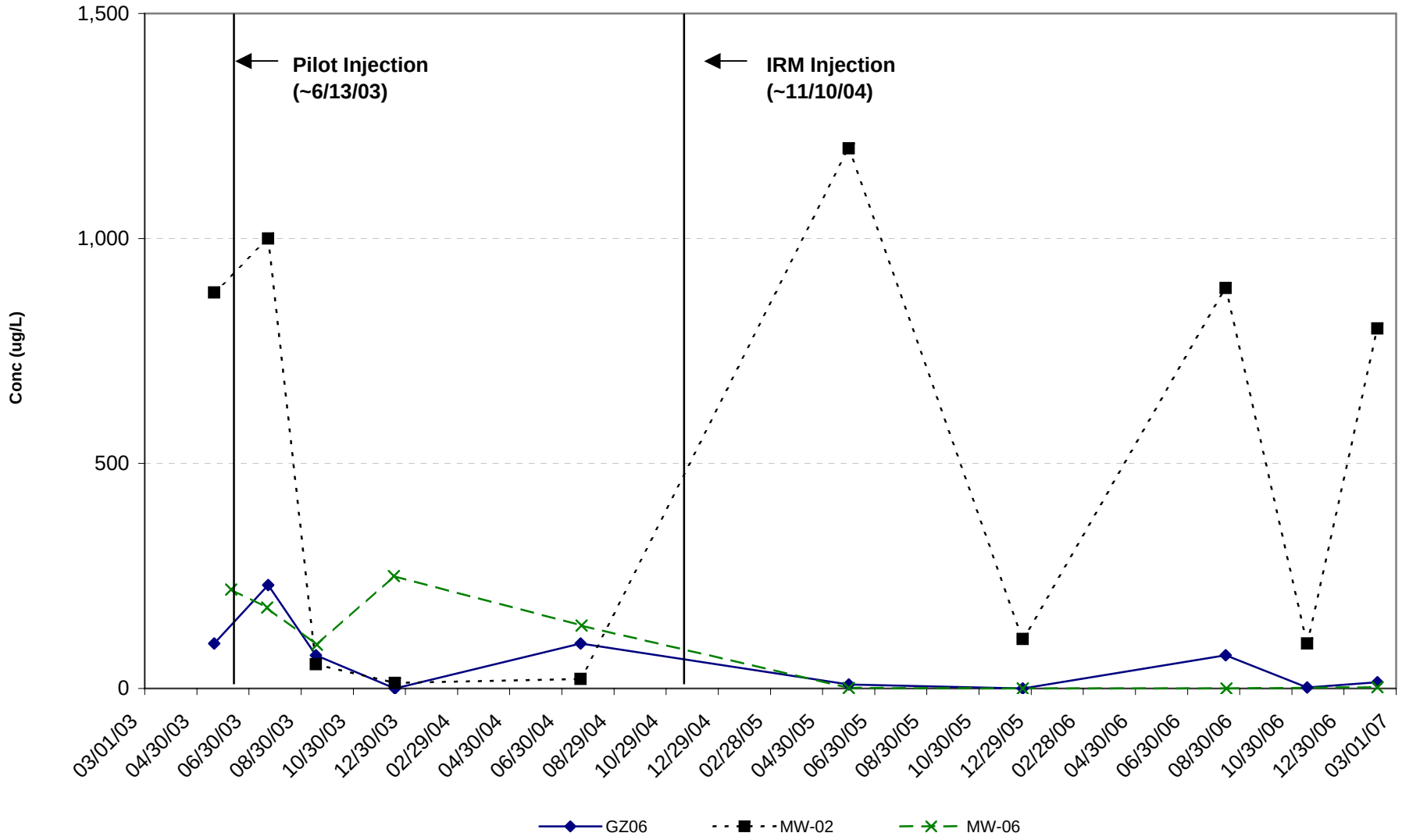
N:\11172730.00000\DB\GIS\2001\chemical.apr 02/07 SUMMARY OF FREON 113 DETECTIONS
4/3/2007

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



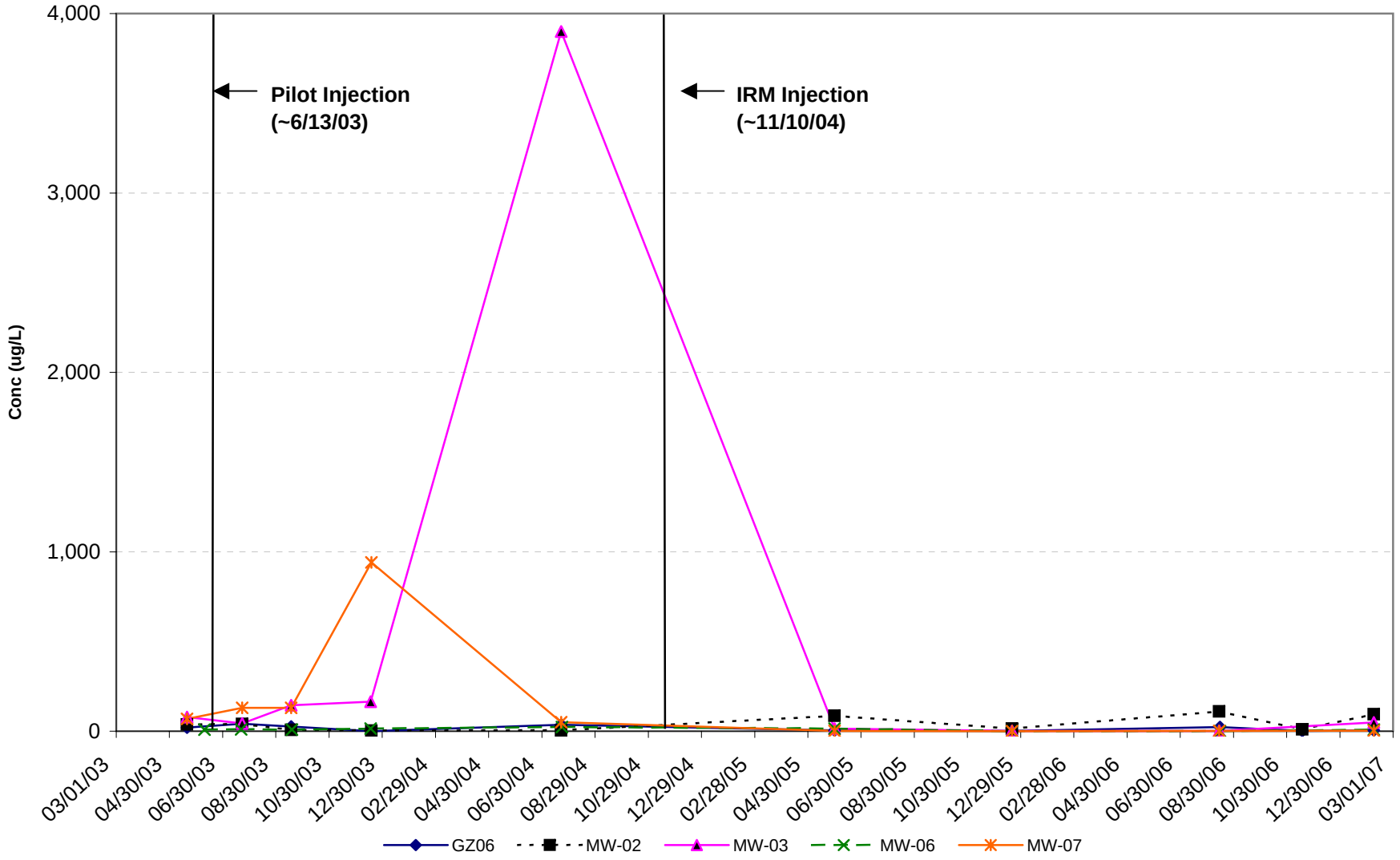
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_Feb-2007 Figure 4

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



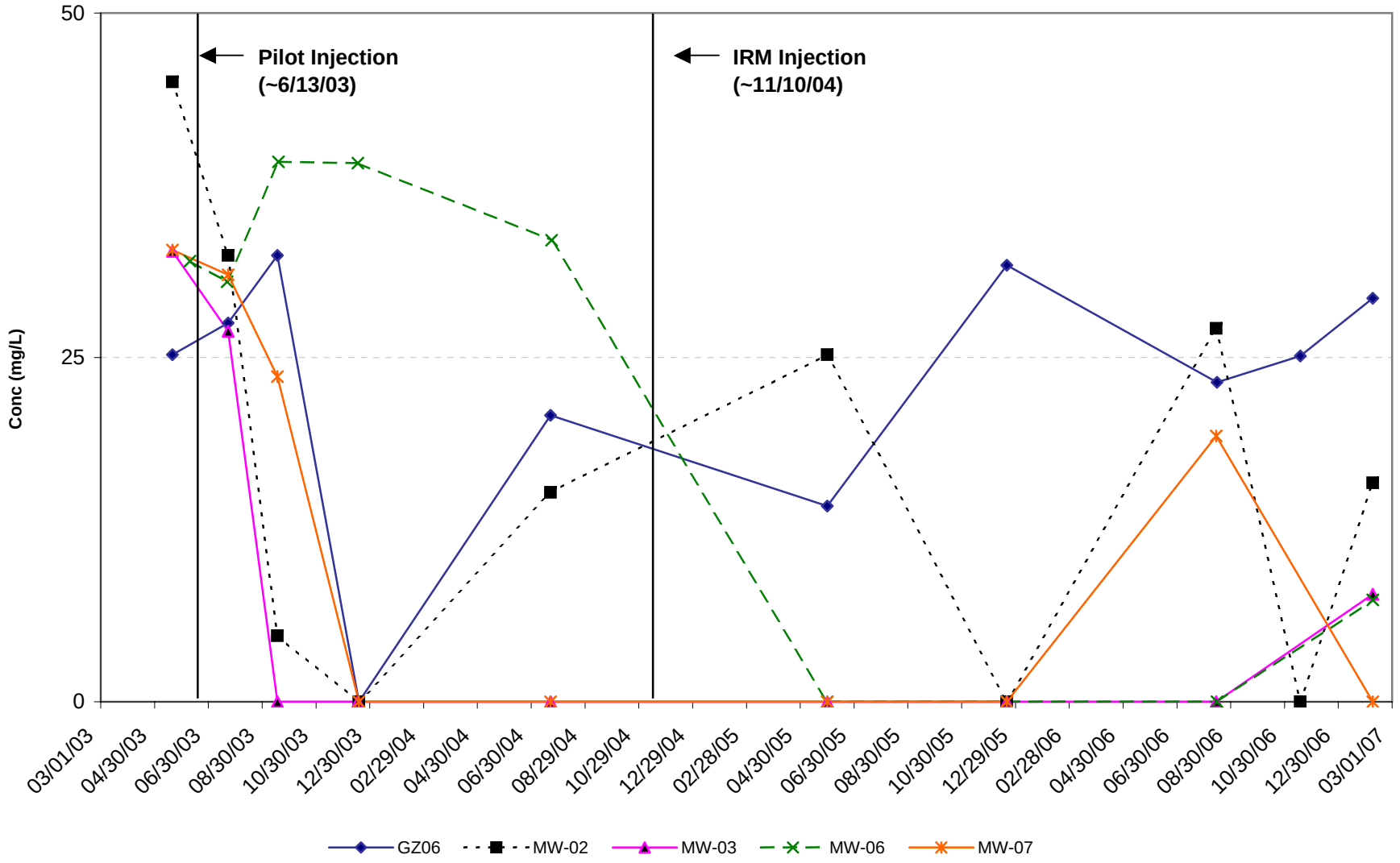
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_Feb-2007 Figure 5

FIGURE 6
FORMER EMCA SITE
Freon 123a Concentrations



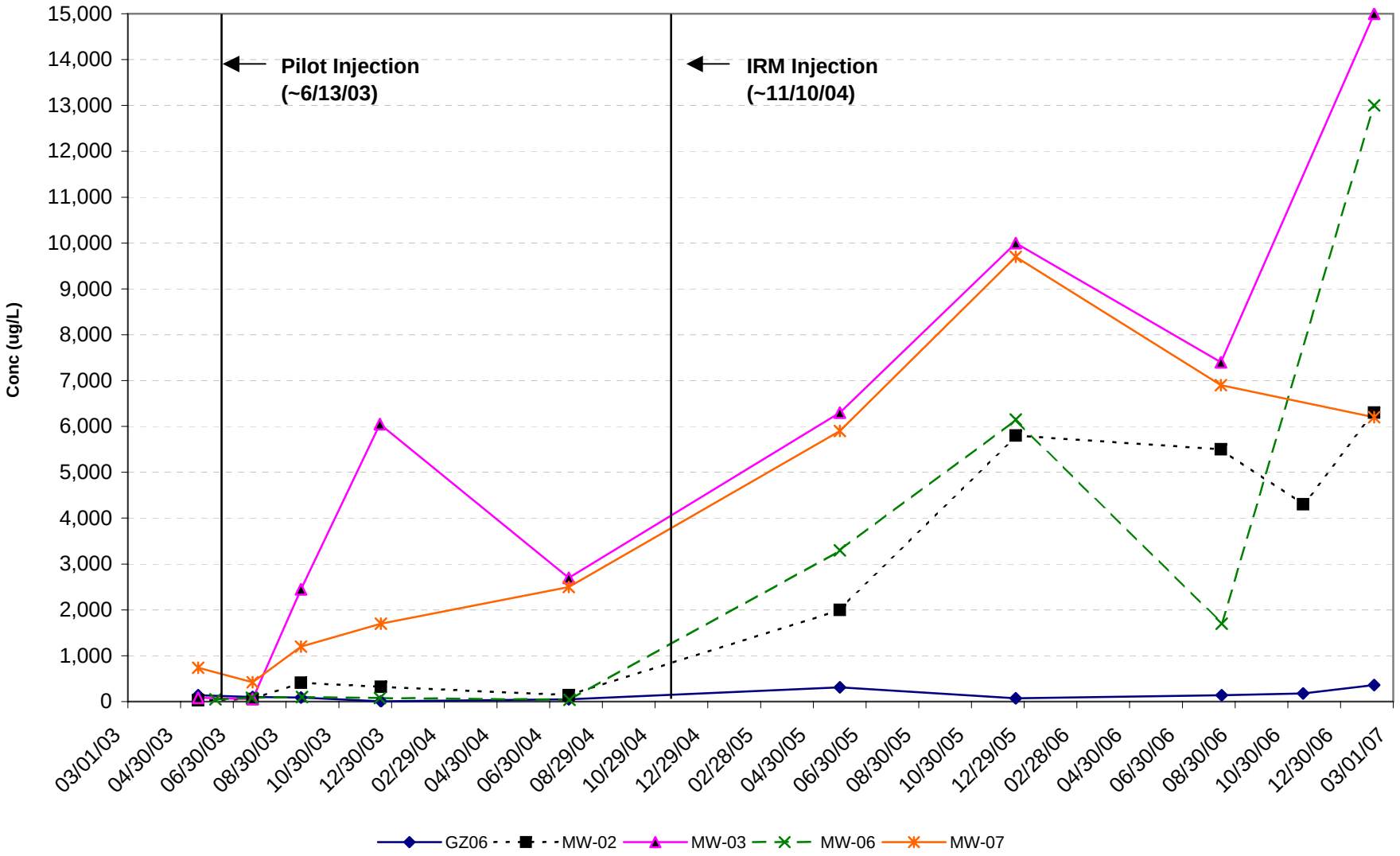
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_Feb-2007 Figure 6

FIGURE 7
FORMER EMCA SITE
Sulfate Concentrations



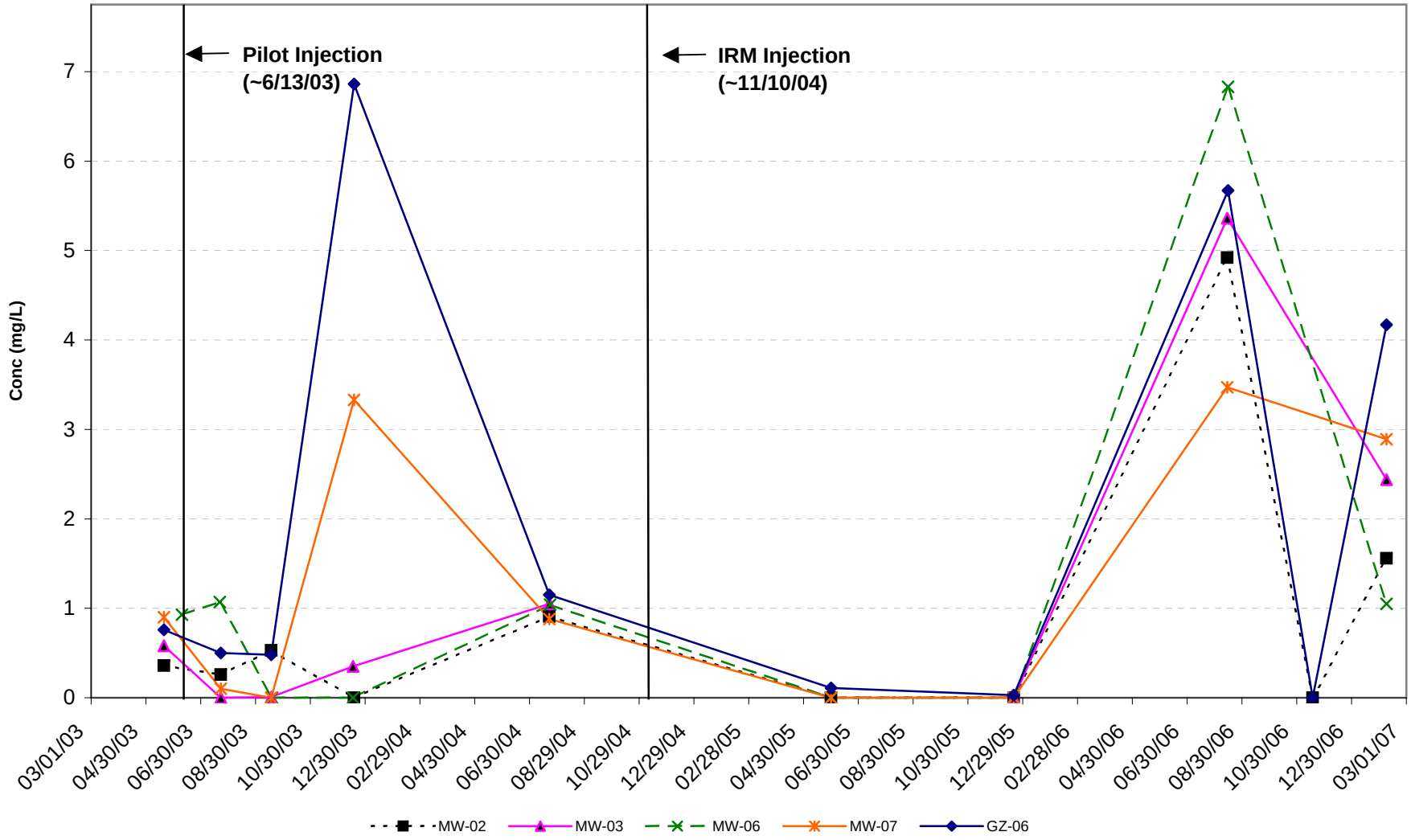
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_Feb-2007 Figure 7

FIGURE 8
FORMER EMCA SITE
Methane Concentrations



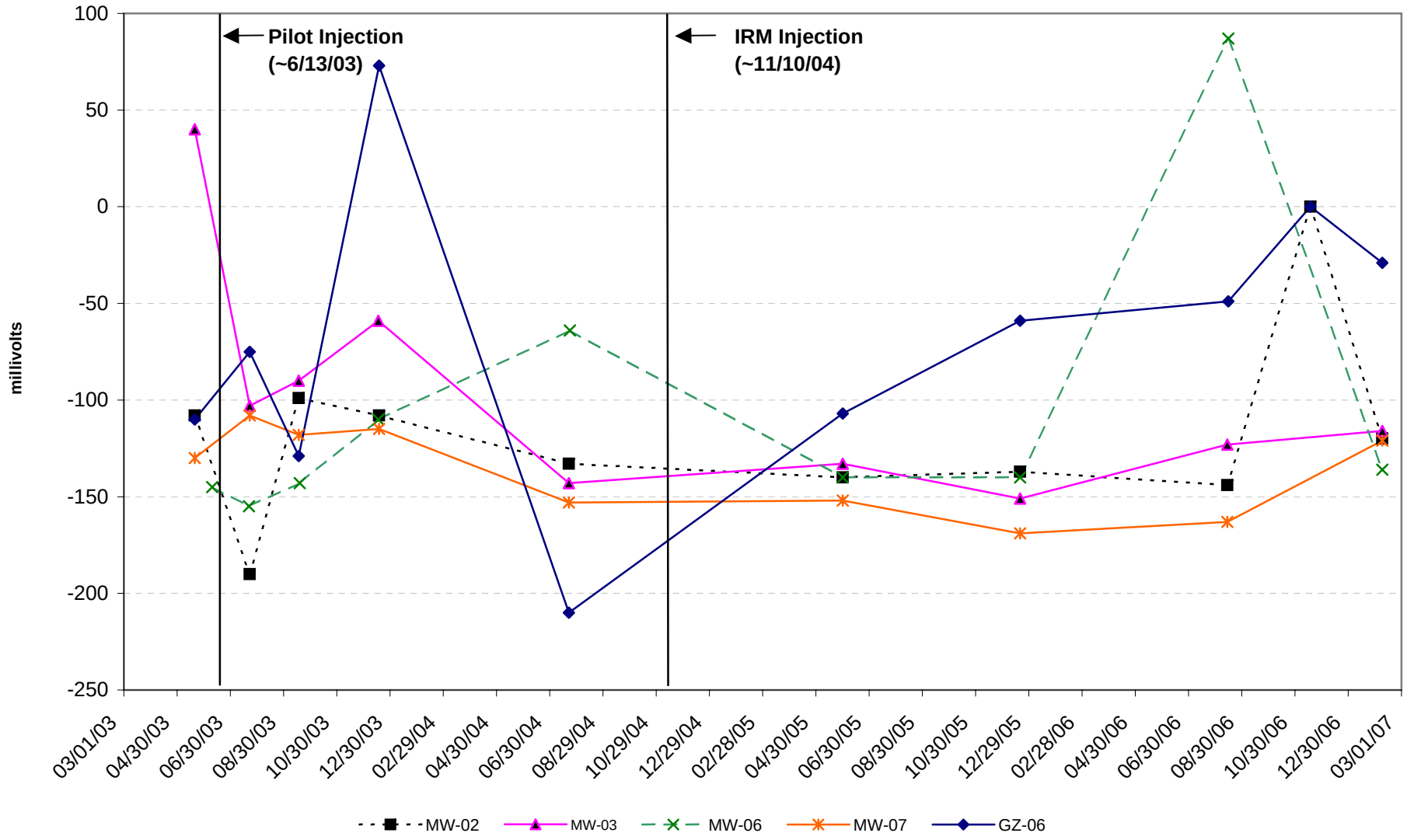
N:\11172730.00000\EXCEL\EMCA Site\Calcs Information\GW Data Plots_Time Scaled Long_Feb-2007 Figure 8

FIGURE 9
FORMER EMCA SITE
Dissolved Oxygen Concentrations



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

FIGURE 10
FORMER EMCA SITE
Oxidation Reduction Potential



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

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-02

Date: 2/7/07 Sampling Personnel: K. Kearney/S. Miller 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: 6.13' Depth to Well Bottom: 11.57 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: 20070207MW-02VO6N Sample Time: 1210 QA/QC: None

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)
1130	8.74	12.50	2.15	2.48	110.7	-110	500	6.13
1135	8.74	12.40	2.02	2.45	883.0	-114	500	6.30
1140	8.73	12.30	1.95	2.42	60.4	-116	500	6.36
1145	8.72	12.20	1.92	2.39	43.7	-119	500	6.37
1150	8.70	12.40	1.88	1.99	30.5	-118	500	6.38
1155	8.69	12.30	1.80	1.62	25.5	-119	500	6.38
1200	8.68	12.30	1.78	1.57	22.0	-120	500	6.38
1205	8.68	12.30	1.77	1.56	22.0	-120	500	6.38
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 2/7/07 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: 6.37 Depth to Well Bottom: 14.35 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: 20070207MW-03V10N Sample Time: 1715 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)
1640	8.38	14.40	1.01	2.67	103.2	-114	250	6.37
1645	8.40	14.50	0.96	2.63	37.0	-113	250	7.52
1650	8.41	14.50	0.94	2.60	20.0	-113	250	8.65
1655	8.44	14.60	0.95	2.49	10.0	-115	250	8.79
1700	8.47	14.70	0.93	2.45	9.0	-117	250	8.87
1705	8.48	14.80	0.92	2.48	6.0	-116	250	8.95
1710	8.50	14.80	0.91	2.44	7.0	-116	250	8.98
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 2/7/07 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: 5.8 Depth to Well Bottom: 10.72 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: 20070207V10N Sample Time: 1605 QA/QC: None

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)
1530	8.58	11.90	0.800	4.66	306.0	-81	250	5.80
1535	8.65	11.80	0.806	4.35	217.3	-80	250	6.25
1540	8.67	11.50	0.809	4.55	156.7	-82	250	6.56
1545	8.70	11.60	0.811	4.48	122.5	-80	250	6.88
1550	8.63	11.70	0.807	4.59	159.0	-81	250	6.97
1555	8.57	11.40	0.806	4.66	147.3	-82	250	7.55
1600	8.55	11.40	0.804	4.73	149.5	-81	250	7.90
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 (vol $_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 2/7/07 Sampling Personnel: K. Kearney/S. Miller 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: 6.3 Depth to Well Bottom: 18.58 Well Diameter: 1" Screen Length: 10

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

Sample ID: 20070207MW-06V1SN Sample Time: 1020 QA/QC: Duplicate

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

Other Information: Odor present

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)
940	8.35	12.70	1.000	1.74	45.3	-101	500	6.30
945	8.69	12.90	0.912	1.70	15.0	-115	500	6.47
950	8.79	13.00	0.887	1.69	12.5	-120	500	6.55
955	8.82	13.10	0.859	1.66	13.3	-122	500	6.59
1000	8.98	13.00	0.809	1.64	14.5	-127	500	6.60
1005	9.02	13.00	0.805	1.63	14.3	-130	500	6.61
1010	9.03	13.20	0.795	1.20	10.1	-135	500	6.62
1015	9.07	13.20	0.787	1.02	9.6	-136	500	6.62
1020	9.02	13.20	0.790	1.05	9.5	-136	500	6.62
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 2/7/07 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: 6.43 Depth to Well Bottom: 19.75 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: 20070207MW-07V15N Sample Time: 1450 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)
1415	8.10	13.50	1.950	2.90	84.1	-116	250	6.43
1420	8.16	13.40	1.970	2.81	33.5	-118	250	6.58
1425	8.25	13.40	1.990	2.79	29.6	-118	250	6.65
1430	8.32	13.40	2.000	2.85	24.0	-118	250	6.69
1435	8.37	13.40	2.010	2.87	22.3	-119	250	6.69
1440	8.42	13.40	2.010	2.82	20.7	-120	250	6.69
1445	8.44	13.40	2.020	2.89	19.5	-121	250	6.69
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 2/7/07 Sampling Personnel: K. Kearney/S. Miller 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: 7.66 Depth to Well Bottom: 15.26 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: 20070207GZ-06V08 Sample Time: 1335 QA/QC: MS/MSD

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)
1300	7.53	11.20	3.590	4.23	19.9	-26	500	7.66
1305	7.53	11.30	3.470	3.30	10.3	-30	500	8.34
1310	7.55	11.00	3.410	3.11	5.0	-33	500	8.36
1315	7.62	11.60	3.300	3.29	5.0	-30	500	9.07
1320	7.64	11.80	3.150	3.66	5.0	-29	500	9.69
1325	7.66	12.20	3.100	3.82	5.0	-30	500	9.75
1330	7.65	12.30	3.080	4.08	5.0	-28	500	9.98
1335	7.67	12.50	3.060	4.17	5.0	-29	500	10.03
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 $_{cyl} = \pi r^2 h$)

APPENDIX B

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

FEBRUARY 2007 SAMPLING EVENT

FORMER EMCA SITE
SITE NO. 360025
MAMARONECK, NEW YORK

Analyses Performed by:

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

MARCH 2007

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I.	INTRODUCTION	1
II.	ANALYTICAL METHODOLOGIES	1
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IV.	DATA DELIVERABLE COMPLETENESS	2
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VI.	NONCONFORMANCES	2
VII.	SUMMARY	2

TABLES
(Following Text)

Table 1	Sample and Analysis Summary
Table 2	Groundwater Analytical Results
Table 3	Field QC Analytical Results

ATTACHMENTS

Attachment A – Validated Form 1's

Attachment B – Support Documentation

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, dated 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 six groundwater samples, one field duplicate, one trip blank, and one matrix spike/matrix spike duplicate pair collected on February 7, 2007. Table 1 summarizes the samples collected and the requested analytical parameters. The analytical laboratory that performed the analyses is 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).

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. It should be noted several VOC samples were analyzed outside method holding time [i.e., 10 days from validated time of sample receipt (VTSR)]. Since the affected samples were analyzed with technical holding time (i.e., 14 days from collection), no data qualification was deemed necessary. All other sample analyses were performed within method/technical holding times.

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*	Methane	Sulfate	Comments
C776/C7761	20070207MW-06V15N	GW	02/07/07	X	X	X	—
	20070207MW-06V15FD	GW		X	X	X	Field Duplicate of MW-06
	20070207MW-02V06N	GW		X	X	X	—
	20070207GZ-06V08N	GW		X	X	X	MS/MSD
	20070207MW-07V15N	GW		X	X	X	---
	20070207MW-04V10N	GW		X	X	X	---
	20070207MW-03V10N	GW		X	X	X	—
	20060815MTNTB	Water		X	X	—	Trip Blank

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

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

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

Location ID		GZ-06	MW-02	MW-03	MW-04	MW-06
Sample ID		20070207GZ-06V09N	20070207MW-02V06N	20070207MW-03V10N	20070207MW-04V10N	20070207MW-06V15FD
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		02/07/07	02/07/07	02/07/07	02/07/07	02/07/07
Parameter	Units					Field Duplicate (1-1)
Volatiles						
Chlorotrifluoroethene (Freon-1113)	UG/L	1.0 J	84	39	0.6 J	100
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	14	800	10	10 U	3.0 J
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	4.0 J	95	48	10 U	8.0 J
Dissolved Gases						
Methane	UG/L	360	6,300	15,000	400	12,000
Miscellaneous Parameters						
Sulfate	MG/L	29.3	15.9	7.8	5.0 U	7.4

Flags assigned during chemistry validation are shown.

U - Non-Detect
R - Rejected result
J - Analyte is reported below the PQL at an estimated concentration.
MADE BY: ____ CHKD BY ____

Detection Limits shown are PQL

N:\11172730.00000\DB PROGRAM EDMS.mdb
Printed 3/30/2007 7:57:00 AM
[LOGDATE] = #2/7/2007# AND [MATRIX] = 'WG' AND ([PARNAME] <> 'Conductivity' AND [PARNAME] <> 'Dissolved Oxygen' AND [PARNAME] <> 'Oxidation Reduction Potential')

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

Location ID		MW-06	MW-07
Sample ID		20070207MW-06V15N	20070207MW-07V15N
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		02/07/07	02/07/07
Parameter	**Units**		
Volatiles			
Chlorotrifluoroethene (Freon-1113)	UG/L	100	89
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	3.0 J	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	8.0 J	3.0 J
Dissolved Gases			
Methane	UG/L	13,000	6,200
Miscellaneous Parameters			
Sulfate	MG/L	7.0	5.0 U

Flags assigned during chemistry validation are shown

U - Non-Detect
R - Rejected result
J - Analyte is reported below the PQL at an estimated concentration.
MADE BY: _____ CHKD BY: _____

Detection Limits shown are PQL

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

Location ID		FIELDQC
Sample ID		20070207MTNTB
Matrix		Water
Depth Interval (ft)		-
Date Sampled		02/07/07
Parameter	Units	Trip Blank (1-1)
Volatiles		
Chlorotrifluoroethene (Freon-1113)	UG/L	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	UG/L	10 U
1,2-Dichloro-1,1,2-trifluoroethane (Freon-123A)	UG/L	10 U
Dissolved Gases		
Methane	UG/L	5.0 U

Flags assigned during chemistry validation are shown.

U - Non-Detect
R - Rejected result
J - Analyte is reported below the PQL at an estimated concentration.
MADE BY: _____ CHKD BY: _____

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: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806339

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F23054

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

% Moisture: not dec. _____ Date Analyzed: 02/19/07

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	3	J
79-38-9	Chlorotrifluoroethene	100	
354-23-4	1,2-Dichlorotrifluoroethane	8	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-06V15FD

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806340

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F23055

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

% Moisture: not dec. _____ Date Analyzed: 02/19/07

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	3	J
79-38-9	Chlorotrifluoroethene	100	
354-23-4	1,2-Dichlorotrifluoroethane	8	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-02V06N

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806341

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F23060

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

% Moisture: not dec. _____ Date Analyzed: 02/19/07

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 5.0

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	800	
79-38-9	Chlorotrifluoroethene	84	
354-23-4	1,2-Dichlorotrifluoroethane	95	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GZ-06V08N

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806342

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F23056

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

% Moisture: not dec. _____ Date Analyzed: 02/19/07

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	14	
79-38-9	Chlorotrifluoroethene	1	J
354-23-4	1,2-Dichlorotrifluoroethane	4	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-07V15N

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806343

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F23057

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

% Moisture: not dec. _____ Date Analyzed: 02/19/07

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	89	
354-23-4	1,2-Dichlorotrifluoroethane	3	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-04V10N

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806344

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F22909

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

% Moisture: not dec. _____ Date Analyzed: 02/13/07

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	0.6	J
354-23-4	1,2-Dichlorotrifluoroethane	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-03V10N

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806345

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F22910

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

% Moisture: not dec. _____ Date Analyzed: 02/13/07

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	
79-38-9	Chlorotrifluoroethene	39	
354-23-4	1,2-Dichlorotrifluoroethane	48	

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MTNTB

Lab Name: STL EDISON Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: C7761

Matrix: (soil/water) WATER Lab Sample ID: 806346

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: F22911

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

% Moisture: not dec. _____ Date Analyzed: 02/13/07

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

Client ID: **MW-06V15N**
Site: Former EMCA Site

Lab Sample No: **806339**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1904.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	13000	500

Client ID: **MW-06V15FD**
Site: Former EMCA Site

Lab Sample No: **806340**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1905.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 200.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	12000	1000

Client ID: **MW-02V06N**
Site: Former EMCA Site

Lab Sample No: **806341**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1902.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	6300	500

Client ID: **GZ-06V08N**
Site: Former EMCA Site

Lab Sample No: **806342**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1897.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	360	25

Client ID: **MW-07V15N**
Site: Former EMCA Site

Lab Sample No: **806343**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1903.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 50.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	6200	250

Client ID: **MW-04V10N**
Site: Former EMCA Site

Lab Sample No: **806344**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1901.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	400	25

Client ID: **MW-03V10N**
Site: Former EMCA Site

Lab Sample No: **806345**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1906.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 200.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Methane	15000	1000

Client ID: **MTNTB**
Site: Former EMCA Site

Lab Sample No: **806346**
Lab Job No: C776

Date Sampled: 02/07/07
Date Received: 02/08/07
Date Analyzed: 02/13/07
GC Column: GS-Q
Instrument ID: VSCREEN3.i
Lab File ID: scrc1888.d

Matrix: WATER
Level: LOW
Purge Volume: 10.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

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

Site: Former EMCA Site
Matrix: WATER

Lab Job No: C776
QA Batch: 2438

Sulfate

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
806339	MW-06V15N	02/07/07	02/12/07	1.0	7.0
806340	MW-06V15FD	02/07/07	02/12/07	1.0	7.4
806341	MW-02V06N	02/07/07	02/12/07	1.0	15.9
806342	GZ-06V08N	02/07/07	02/12/07	2.0	29.3
806343	MW-07V15N	02/07/07	02/12/07	1.0	ND
806344	MW-04V10N	02/07/07	02/12/07	1.0	ND
806345	MW-03V10N	02/07/07	02/12/07	1.0	7.8

Quantitation Limit for Sulfate is 5.0 mg/l.

ATTACHMENT B

SUPPORT DOCUMENTATION

C7761

Job # C776

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 11174947-00000

SITE NAME Former EMCA site

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

DELIVERY SERVICE: Fed EX AIRBILL NO.: 858598238250

LAB STL-Edison

COOLER 1 of 1

PAGE 1 of 1

LOCATION IDENTIFIER	DATE	TIME	COMP/GRAB	SAMPLE ID	MATRIX	TOTAL NO. # OF CONTAINERS	TESTS: Freon 113,1113,123A / BOTTLE TYPE AND PRESERVATIVE: 40ml Vial HCl	TESTS: Methane RSK-175 / BOTTLE TYPE AND PRESERVATIVE: 40ml Vial HCl	TESTS: Sulfate 375.4 / BOTTLE TYPE AND PRESERVATIVE: 500 Plast. Unpres		REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)
MW-06	2/7/07	1020	Grab	20070207MW-06V15N	WG	7	3	3	1		806339	N1	0	0	—
MW-06	2/7/07	1020	Grab	20070207MW-06V15FD	WG	7	3	3	1		340	FR1	0	0	—
MW-02	2/7/07	1210	Grab	20070207MW-02V06N	WG	7	3	3	1		341	N1	0	0	—
GZ-06	2/7/07	1335	Grab	20070207GZ-06V08N	WG	7	3	3	1		342	N1	0	0	—
GZ-06	2/7/07	1335	Grab	20070207GZ-06V08MS	WG	5	2	2	1	→		MS1	0	0	—
GZ-06	2/7/07	1335	Grab	20070207GZ-06V08SD	WG	5	2	2	1			SD1	0	0	—
MW-07	2/7/07	1450	Grab	20070207MW-07V15N	WG	7	3	3	1		806343	N1	0	0	—
MW-04	2/7/07	1605	Grab	20070207MW-04V10N	WG	7	3	3	1		344	N1	0	0	—
MW-03	2/7/07	1715	Grab	20070207MW-03V10N	WG	7	3	3	1		345	N1	0	0	—
Trip Blank	2/7/07	—	Grab	20070207MTNTB	WQ	4	2	2	—		346	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
			FedEx		

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Kevin Kearney	2/7/07	1900	G. [illegible]	2/8/07	10:30

2°

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

Distribution: Original accompanies shipment, copy to coordinator field files

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

STL Edison

SEVERN TRENT STL

Nonconformance Summary

STL Edison Job Number: C776

Client: URS Greiner-NY

Date: 2/23/2007

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.

Sarah Chin
Project Manager

SDG NARRATIVE

STL EDISON

SDG No. C7761

STL Edison Sample	Client ID
806339	MW-06V15N
806340	MW-06V15FD
806341	MW-02V06N
806342	GZ06V08N
806343	MW-07V15N
806344	MW-04V10N
806345	MW-03V10N
806346	MTNTB

Fraction	Problems Encountered	Corrective Action Taken
Volatiles	Samples 806339 – 343 were analyze one day past hold time.	N/A

I certify that this data package is in compliance with the terms of the contract (OLMO4.2) 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.

2/28/07

Sarah Chin
Project Manager

STL Edison

Data Inquiry Request Form / Corrective Action Form

Date Initiated:	2/26/2007	**Job #:**	C7761
Date Needed:	3/2/2007	**Analyses:**	CLPVOA
		Lab :	VOA
Client:	URS/R&H	**Deliverable / Report Type**	
Contact:		**PDF/EDD** ____ **Full** ____	
		Bound ____ **Reduced** ____	
		Unbound ____ **ResQA** ____	
Project:	Former EMCA Site	**CD** **Other**	

Send Response to:
Name:
Address:
Phone:
FAX:
Email:

Send Via: FAX Mail UPS Email Courier

1. Type of Non-Conformance:

___ Missing Sample/Analysis
____ Wrong Sample Identification
____ Missing Pages
____ Results in Question
__X__ Holdtime Violation
____ Calibration in Question
____ Insufficient Data for Validation
____ Explanation of Analysis
____ EDD

2. Explanation of Details:

806339, 806340, 806341, 806342, 806343 missed CLPVOA 10 day Holding Time.

Initiator Signature:	Sarah Chin	**Date:**	2/26/2007

3. Required Actions:

v if needed	Department	Actions Required:	Actions Completed: Initials:	Date:
	PM			
	LOGIN			
X	VOAGC/MS		BTR	3/2/2007
	BNAMS			
	PEST/BNAGC			
	METALS			
	WETCHEM			
	SUBWORK			
	IT			
	ORG PREP			
	RP			

4. Final Approval of Data Inquiry Actions Taken:

Initiator Signature:		**Date:**	

5. STL ERROR YES _X_ NO (IF YES, PLEASE COMPLETE SECTIONS 5 - 7) **CORRECTIVE ACTION ID#:** 2007-030

6. Quality Assurance Review and Assignment of Further Action: *(to be completed by Q.A Manager - use page 2 if needed)*

Recommended Corrective Action:

PM/VOA: Please investigate andrespond in section 7 below for corrective action.

7. Final Resolution of Corrective Action: *(to be completed by Dept. Supervisor - use page 2 if needed)*

Samples were received 2/8/07. Initially analyzed 2/9/07 and the five samples above had already injected before project notes received indicating that extra Freons needed. Analyst was told to stop the sequence and that we would need to calibrate for the extra Freons. She did not process the 5 samples that had injected already, knowing they would not be reported. The instrument was re-calibrated for the Freons on 2/12/07. The second shift analyst took over and proceeded to run the sequence, but did not realize the first 5 vials had already been injected as they were not processed. During 2nd level review/forms generation, the QC did not match the sample. Samples were reanalyzed to confirm on 2/19/07 and this error was discovered. 2/19/07 is one day past the 10 day CLP hold time. Analysts and reviewers involved were informed of error and procedures are in place to prevent such occurrences. These procedures will be reinforced to all parties involved.

Supervisor Signature:	Ben Rao	**Date:**	3/2/2007

8. Quality Assurance Final Approval *(QA Manager or designee use only)*:

QA Signature:		**Date:**	3/5/2007