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LIMITED SITE DATA

CHEM CORE SITE

SITE NO. 9-15-176

This document is NOT part of the Contract Documents for the Remedial Action at the Chem Core site. The Department neither represents that the characteristics of the contaminated media at the site will be the same as in the attached document nor considers the attached document as being a comprehensive and actual listing of contaminants that may be detected. The Contractor shall be responsible for the accurate and comprehensive characterization of contaminated media to be properly treated, removed, transported or disposed of.

August 2005

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A. SOIL ANALYTICAL DATA

SOIL ANALYTICAL DATA

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Source: "Phase I & II Remedial Investigation Report", URS Corporation, May 2002

*Source: "Remedial Design Investigation Report", URS Corporation, February 2005.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-8	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800		230		200	9
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200		52			24
1,1-Dichloroethene	UG/KG	400		12			2
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-	24				
4-Methyl-2-pentanone	UG/KG	1000	42				
Acetone	UG/KG	200	600	24		2,400	140
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					12
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	250	89	740	3,200	1,400	520
Cyclohexane	UG/KG	-					2
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500		3			55
Isopropylbenzene	UG/KG	-					19
Methyl acetate	UG/KG	-		5			6
Methylcyclohexane	UG/KG	-					17
Methylene chloride	UG/KG	100					21

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

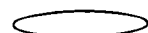
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	38	480	6,600		46
Toluene	UG/KG	1500		2		750	42
trans-1,2-Dichloroethene	UG/KG	300		3			26
Trichloroethene	UG/KG	700	15	110	2,300		4
Vinyl chloride	UG/KG	200					100
Xylene (Total)	UG/KG	1200		35			400
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	110	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	950	NA	NA
Anthracene	UG/KG	50000	NA	NA	1,800	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	2,900	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	2,800	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	3,900	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	870	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	1,300	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	1,500	NA	NA
Carbazole	UG/KG	-	NA	NA	850	NA	NA
Chrysene	UG/KG	400	NA	NA	2,700	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	300	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	540	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	5,700	NA	NA
Fluorene	UG/KG	50000	NA	NA	940	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	1,200	NA	NA
Naphthalene	UG/KG	13000	NA	NA	92	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	6,400	NA	NA
Pyrene	UG/KG	50000	NA	NA	5,100	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA		NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	15,200	NA	NA
Antimony	MG/KG	SB	NA	NA		NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	4.5	NA	NA
Barium	MG/KG	300 or SB	NA	NA	169	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	0.79	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	0.63	NA	NA
Calcium	MG/KG	SB	NA	NA	69,800	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	22.5	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	13.9	NA	NA
Copper	MG/KG	25 or SB	NA	NA	29.3	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	27,500	NA	NA
Lead	MG/KG	SB	NA	NA	55.1	NA	NA
Magnesium	MG/KG	SB	NA	NA	14,100	NA	NA
Manganese	MG/KG	SB	NA	NA	532	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	30.3	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4045 April 1, 1995 (Proposed)

 Concentration Exceeds Criteria

NA - Not Analyzed

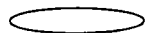
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	2,030	NA	NA
Selenium	MG/KG	2 or SB	NA	NA		NA	NA
Silver	MG/KG	SB	NA	NA	0.80	NA	NA
Sodium	MG/KG	SB	NA	NA	108	NA	NA
Thallium	MG/KG	SB	NA	NA		NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	26.8	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	91.9	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	0.51	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed
 SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800					45
1,1,2-Trichloroethane	UG/KG	-					2
1,1-Dichloroethane	UG/KG	200	8		32	1	24
1,1-Dichloroethene	UG/KG	400					11
1,2-Dibromoethane	UG/KG	-					11
1,2-Dichloroethane	UG/KG	100					6
1,2-Dichloropropane	UG/KG	-					23
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200		4	22	7	16
Benzene	UG/KG	60			18	5	2
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					4
cis-1,2-Dichloroethene	UG/KG	250	6	55	310	7	16
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500			2		
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-			2		
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed)

 Concentration Exceeds Criteria

NA - Not Analyzed

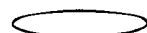
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400		1	27	1	37
Toluene	UG/KG	1500	19		4		
trans-1,2-Dichloroethene	UG/KG	300			1		
Trichloroethene	UG/KG	700			9		400
Vinyl chloride	UG/KG	200	2		3		
Xylene (Total)	UG/KG	1200			9		
Semivolatiles							
2-Methylnaphthalene	UG/KG	35400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HW-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

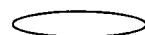
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

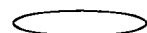
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

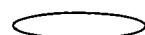
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800					
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200					
1,1-Dichloroethene	UG/KG	400					
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200	18	5	11	7	
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700	2				
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	250	3				
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	440	2	32	65	3
Toluene	UG/KG	1500	3				
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	23		21	70	
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200	5				
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HW-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

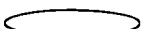
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

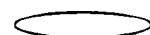
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWY-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

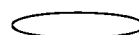
SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	2		5	2	
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200					
1,1-Dichloroethene	UG/KG	400				2	
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				4	5
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	250	2			1	
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

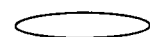
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	27	2	25	41	9
Toluene	UG/KG	1500					
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	52		8	4	8
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM, Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

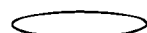
SB - Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

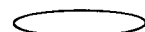
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800			25	25	340
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200			5	6	
1,1-Dichloroethene	UG/KG	400			2	2	
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100			5	3	
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200					
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300			3	3	
cis-1,2-Dichloroethene	UG/KG	250			16	24	
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	340,000	150,000	750	660	9,900
Toluene	UG/KG	1500					
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700			1,700	1,100	2,400
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA		NA	NA	NA
Acenaphthene	UG/KG	50000	NA		NA	NA	NA
Anthracene	UG/KG	50000	NA		NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA		NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA		NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA		NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA		NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA		NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA		NA	NA	NA
Carbazole	UG/KG	-	NA		NA	NA	NA
Chrysene	UG/KG	400	NA		NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA		NA	NA	NA
Dibenzofuran	UG/KG	6200	NA		NA	NA	NA
Fluoranthene	UG/KG	50000	NA		NA	NA	NA
Fluorene	UG/KG	50000	NA		NA	NA	NA

*Criteria- NYSDEC **TACM: Determination of Soil Cleanup Objectives and Cleanup Levels**; HWR-94-4046 April 1, 1995 (Proposed)



Concentration Exceeds Criteria

NA - Not Analyzed

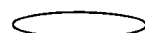
SB - Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA		NA	NA	NA
Naphthalene	UG/KG	13000	NA		NA	NA	NA
Phenanthrene	UG/KG	50000	NA		NA	NA	NA
Pyrene	UG/KG	50000	NA		NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA		NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	7,140	NA	NA	NA
Antimony	MG/KG	SB	NA		NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	1.1	NA	NA	NA
Barium	MG/KG	300 or SB	NA	58.2	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	0.33	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	0.40	NA	NA	NA
Calcium	MG/KG	SB	NA	66,400	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	11.3	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	5.0	NA	NA	NA
Copper	MG/KG	25 or SB	NA	11.5	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	13,000	NA	NA	NA
Lead	MG/KG	SB	NA	9.6	NA	NA	NA
Magnesium	MG/KG	SB	NA	26,600	NA	NA	NA
Manganese	MG/KG	SB	NA	360	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	11.9	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

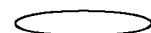
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	1,480	NA	NA	NA
Selenium	MG/KG	2 or SB	NA		NA	NA	NA
Silver	MG/KG	SB	NA		NA	NA	NA
Sodium	MG/KG	SB	NA	67.1	NA	NA	NA
Thallium	MG/KG	SB	NA		NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	15.5	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	62.0	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA		NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

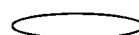
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	12	14		91	61
1,1,2-Trichloroethane	UG/KG	-				1	1
1,1-Dichloroethane	UG/KG	200				5	10
1,1-Dichloroethene	UG/KG	400		1		13	10
1,2-Dibromoethane	UG/KG	-				37	28
1,2-Dichloroethane	UG/KG	100					5
1,2-Dichloropropane	UG/KG	-				10	15
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				9	6
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600		2			
Chloroform	UG/KG	300	12	3		2	4
cis-1,2-Dichloroethene	UG/KG	250				37	52
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-	8			1	
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	480	390	6,100	85	44
Toluene	UG/KG	1500		2		1	
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	220	140	670	84	77
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

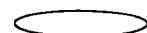
SB - Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4045 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria
 NA - Not Analyzed
 SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	10	4	72	28	
1,1,2-Trichloroethane	UG/KG	-			3		
1,1-Dichloroethane	UG/KG	200	2	2	4		
1,1-Dichloroethene	UG/KG	400		1	6		
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100		2	52	14	
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200	4				
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600			8		
Chloroform	UG/KG	300		2	29		
cis-1,2-Dichloroethene	UG/KG	250	70	85	42		
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-				10	
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	270	190	1,100	780	6,000
Toluene	UG/KG	1500	3				
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	200	72	890	240	1,300
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400		NA	NA	NA	NA
Acenaphthene	UG/KG	50000		NA	NA	NA	NA
Anthracene	UG/KG	50000		NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224		NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61		NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100		NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000		NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100		NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	180	NA	NA	NA	NA
Carbazole	UG/KG	-		NA	NA	NA	NA
Chrysene	UG/KG	400		NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14		NA	NA	NA	NA
Dibenzofuran	UG/KG	6200		NA	NA	NA	NA
Fluoranthene	UG/KG	50000		NA	NA	NA	NA
Fluorene	UG/KG	50000		NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

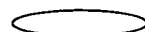
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200		NA	NA	NA	NA
Naphthalene	UG/KG	13000		NA	NA	NA	NA
Phenanthrene	UG/KG	50000		NA	NA	NA	NA
Pyrene	UG/KG	50000		NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100		NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	16,200	NA	NA	NA	NA
Antimony	MG/KG	SB	0.66	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	7.8	NA	NA	NA	NA
Barium	MG/KG	300 or SB	117	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	0.86	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	1.1	NA	NA	NA	NA
Calcium	MG/KG	SB	32,600	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	24.1	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	16.2	NA	NA	NA	NA
Copper	MG/KG	25 or SB	24.3	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	30,200	NA	NA	NA	NA
Lead	MG/KG	SB	12.3	NA	NA	NA	NA
Magnesium	MG/KG	SB	11,900	NA	NA	NA	NA
Manganese	MG/KG	SB	524	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	34.5	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

NA - Not Analyzed

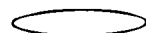
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	2,530	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	1.4	NA	NA	NA	NA
Silver	MG/KG	SB	R	NA	NA	NA	NA
Sodium	MG/KG	SB	235	NA	NA	NA	NA
Thallium	MG/KG	SB	1.4	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	29.7	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	104	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG			NA	NA	NA	NA

*Criteria- NYSDEC TAGM, Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

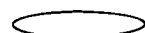
SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800		330	300		
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200				3	
1,1-Dichloroethene	UG/KG	400					
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				14	7
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	250				55	22
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500				5	
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100			180		

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

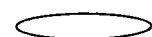
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Tetrachloroethene	UG/KG	1400	5,600	8,000	8,800	100	3
Toluene	UG/KG	1500		210	330		
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	1,200	4,000	3,800	42	
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA		NA
Acenaphthene	UG/KG	50000	NA	NA	NA		NA
Anthracene	UG/KG	50000	NA	NA	NA	220	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	440	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	280	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	380	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	120	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	160	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	1,300	NA
Carbazole	UG/KG	-	NA	NA	NA	68	NA
Chrysene	UG/KG	400	NA	NA	NA	410	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA		NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	46	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	970	NA
Fluorene	UG/KG	50000	NA	NA	NA	84	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

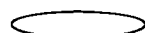
SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	150	NA
Naphthalene	UG/KG	13000	NA	NA	NA		NA
Phenanthrene	UG/KG	50000	NA	NA	NA	870	NA
Pyrene	UG/KG	50000	NA	NA	NA	720	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	4.6	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	13,500	NA
Antimony	MG/KG	SB	NA	NA	NA		NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	5.5	NA
Barium	MG/KG	300 or SB	NA	NA	NA	118	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	0.64	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	1.0	NA
Calcium	MG/KG	SB	NA	NA	NA	59,000	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	20.4	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	11.8	NA
Copper	MG/KG	25 or SB	NA	NA	NA	17.9	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	26,200	NA
Lead	MG/KG	SB	NA	NA	NA	10.6	NA
Magnesium	MG/KG	SB	NA	NA	NA	20,200	NA
Manganese	MG/KG	SB	NA	NA	NA	524	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	28.8	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

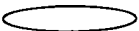
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Potassium	MG/KG	SB	NA	NA	NA	2,280	NA
Selenium	MG/KG	2 or SB	NA	NA	NA		NA
Silver	MG/KG	SB	NA	NA	NA	R	NA
Sodium	MG/KG	SB	NA	NA	NA	269	NA
Thallium	MG/KG	SB	NA	NA	NA		NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	26.9	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	83.0	NA
Miscellaneous Parameters							
Cyanide	MG/KG		NA	NA	NA		NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels. HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria
 NA - Not Analyzed
 SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/KG	800				
1,1,2-Trichloroethane	UG/KG	-				
1,1-Dichloroethane	UG/KG	200			3	
1,1-Dichloroethene	UG/KG	400			4	
1,2-Dibromoethane	UG/KG	-				
1,2-Dichloroethane	UG/KG	100				
1,2-Dichloropropane	UG/KG	-				
2-Hexanone	UG/KG	-				
4-Methyl-2-pentanone	UG/KG	1000				
Acetone	UG/KG	200	5	6	8	6
Benzene	UG/KG	60				
Carbon disulfide	UG/KG	2700				
Carbon tetrachloride	UG/KG	600				
Chloroform	UG/KG	300				
cis-1,2-Dichloroethene	UG/KG	250	2		92	4
Cyclohexane	UG/KG	-				
Dichlorodifluoromethane	UG/KG	-		2		
Ethylbenzene	UG/KG	5500				
Isopropylbenzene	UG/KG	-				
Methyl acetate	UG/KG	-				
Methylcyclohexane	UG/KG	-				
Methylene chloride	UG/KG	100				

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

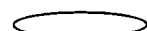
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Volatiles						
Tetrachloroethene	UG/KG	1400	29			
Toluene	UG/KG	1500	1		2	
trans-1,2-Dichloroethene	UG/KG	300				
Trichloroethene	UG/KG	700	10	2	230	49
Vinyl chloride	UG/KG	200			5	
Xylene (Total)	UG/KG	1200				
Semivolatiles						
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

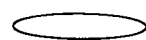
SB- Site Background

Only Detected Results Reported

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Semivolatiles						
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA
Phenanthrene	UG/KG	50000	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA
Pesticides						
4,4-DDT	UG/KG	2100	NA	NA	NA	NA
Metals						
Aluminum	MG/KG	SB	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

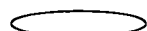
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
SOIL ANALYTICAL RESULTS SUMMARY - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Metals						
Potassium	MG/KG	SB	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA
Miscellaneous Parameters						
Cyanide	MG/KG	-	NA	NA	NA	NA

*Criteria- NYSDEC TACM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEM-CORE

Parameter	Units	Criteria*	No. of Samples	No. of Detections	Range of Detections			No. Exceed	Location of Max Value	Depth Of Max
					Min	Max	Avg			
Volatiles										
1,1,1-Trichloroethane	UG/KG	800	44	20	2.00	340.0	90.25	0	GB-15	9-10
1,1,2-Trichloroethane	UG/KG	-	44	4	1.00	3.00	1.75	4	GB-19	11-12
1,1-Dichloroethane	UG/KG	200	44	15	1.00	52.00	12.07	0	GB-01	15-16
1,1-Dichloroethene	UG/KG	400	44	12	1.00	13.00	5.50	0	GB-17	11-12
1,2-Dibromoethane	UG/KG	-	44	3	11.00	37.00	25.33	3	GB-17	11-12
1,2-Dichloroethane	UG/KG	100	44	7	2.00	52.00	12.43	0	GB-19	11-12
1,2-Dichloropropane	UG/KG	-	44	3	10.00	23.00	16.00	3	GB-06	8-10
2-Hexanone	UG/KG	-	44	1	24.00	24.00	24.00	1	GB-01	5-6
4-Methyl-2-pentanone	UG/KG	1000	44	1	42.00	42.00	42.00	0	GB-01	5-6
Acetone	UG/KG	200	44	23	4.00	2,400	144.7	2	GB-02	17-18
Benzene	UG/KG	60	44	3	2.00	18.00	8.33	0	GB-05	4-6
Carbon disulfide	UG/KG	2700	44	2	2.00	12.00	7.00	0	GB-03	4-5
Carbon tetrachloride	UG/KG	600	44	2	2.00	8.00	5.00	0	GB-19	11-12
Chloroform	UG/KG	300	44	9	2.00	29.00	6.89	0	GB-19	11-12
cis-1,2-Dichloroethene	UG/KG	250	44	25	1.00	3,200	274.0	5	GB-02	7-8
Cyclohexane	UG/KG	-	44	1	2.00	2.00	2.00	1	GB-03	4-5
Dichlorodifluoromethane	UG/KG	-	44	4	1.00	10.00	5.25	4	GB-19	14-15

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

Only parameters with detections are included in the statistical summary table.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEM-CORE

Parameter	Units	Criteria*	No. of Samples	No. of Detections	Range of Detections			No. Exceed	Location of Max Value	Depth Of Max
					Min	Max	Avg			
Volatiles										
Ethylbenzene	UG/KG	5500	44	4	2.00	55.00	16.25	0	GB-03	4-5
Isopropylbenzene	UG/KG	-	44	1	19.00	19.00	19.00	1	GB-03	4-5
Methyl acetate	UG/KG	-	44	2	5.00	6.00	5.50	2	GB-03	4-5
Methylcyclohexane	UG/KG	-	44	2	2.00	17.00	9.50	2	GB-03	4-5
Methylene chloride	UG/KG	100	44	2	21.00	180.0	100.5	1	GB-21	15.5-17.5
Tetrachloroethene	UG/KG	1400	44	39	1.00	3.40E+05	1.40E+04	9	GB-13	4-5
Toluene	UG/KG	1500	44	13	1.00	750.0	105.3	0	GB-02	17-18
trans-1,2-Dichloroethene	UG/KG	300	44	3	1.00	26.00	10.00	0	GB-03	4-5
Trichloroethene	UG/KG	700	44	34	2.00	4.000	630.9	9	GB-21	10-11
Vinyl chloride	UG/KG	200	44	4	2.00	100.0	27.50	0	GB-03	4-5
Xylene (Total)	UG/KG	1200	44	4	5.00	400.0	112.3	0	GB-03	4-5
Semivolatiles										
2-Methylnaphthalene	UG/KG	36400	4	1	110.0	110.0	110.0	0	GB-02	7-8
Acenaphthene	UG/KG	50000	4	1	950.0	950.0	950.0	0	GB-02	7-8
Anthracene	UG/KG	50000	4	2	220.0	1,800	1,010	0	GB-02	7-8
Benzo(a)anthracene	UG/KG	224	4	2	440.0	2,900	1,670	2	GB-02	7-8
Benzo(a)pyrene	UG/KG	61	4	2	280.0	2,800	1,540	2	GB-02	7-8

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



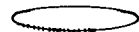
Concentration Exceeds Criteria

Only parameters with detections are included in the statistical summary table.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEM-CORE

Parameter	Units	Criteria*	No. of Samples	No. of Detections	Range of Detections			No. Exceed	Location of Max Value	Depth Of Max
					Min	Max	Avg			
Semivolatiles										
Benzo(b)fluoranthene	UG/KG	1100	4	2	380.0	3,900	2,140	1	GB-02	7-8
Benzo(g,h,i)perylene	UG/KG	50000	4	2	120.0	870.0	495.0	0	GB-02	7-8
Benzo(k)fluoranthene	UG/KG	1100	4	2	160.0	1,300	730.0	1	GB-02	7-8
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4	3	180.0	1,500	993.3	0	GB-02	7-8
Carbazole	UG/KG	-	4	2	68.00	850.0	459.0	2	GB-02	7-8
Chrysene	UG/KG	400	4	2	410.0	2,700	1,555	2	GB-02	7-8
Dibenz(a,h)anthracene	UG/KG	14	4	1	300.0	300.0	300.0	1	GB-02	7-8
Dibenzofuran	UG/KG	6200	4	2	46.00	540.0	293.0	0	GB-02	7-8
Fluoranthene	UG/KG	50000	4	2	970.0	5,700	3,335	0	GB-02	7-8
Fluorene	UG/KG	50000	4	2	84.00	940.0	512.0	0	GB-02	7-8
Indeno(1,2,3-cd)pyrene	UG/KG	3200	4	2	150.0	1,200	675.0	0	GB-02	7-8
Naphthalene	UG/KG	13000	4	1	92.00	92.00	92.00	0	GB-02	7-8
Phenanthrene	UG/KG	50000	4	2	870.0	6,400	3,635	0	GB-02	7-8
Pyrene	UG/KG	50000	4	2	720.0	5,100	2,910	0	GB-02	7-8
Pesticides										
4,4-DDT	UG/KG	2100	4	1	4.60	4.60	4.60	0	GB-22	10-11

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046 April 1, 1995 (Proposed).



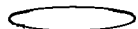
Concentration Exceeds Criteria

Only parameters with detections are included in the statistical summary table.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEM-CORE

Parameter	Units	Criteria*	No. of Samples	No. of Detections	Range of Detections			No. Exceed	Location of Max Value	Depth Of Max
					Min	Max	Avg			
Metals										
Aluminum	MG/KG	SB	4	4	7.140	1.62E+04	1.30E+04	4	GB-18	10-12
Antimony	MG/KG	SB	4	1	0.660	0.660	0.660	1	GB-18	10-12
Arsenic	MG/KG	7.5 or SB	4	4	1.10	7.80	4.72	1	GB-18	10-12
Barium	MG/KG	300 or SB	4	4	58.20	169.0	115.6	0	GB-02	7-8
Beryllium	MG/KG	0.16 or SB	4	4	0.330	0.860	0.655	4	GB-18	10-12
Cadmium	MG/KG	1 or SB	4	4	0.400	1.10	0.782	2	GB-18	10-12
Calcium	MG/KG	SB	4	4	3.26E+04	6.98E+04	5.70E+04	4	GB-02	7-8
Chromium	MG/KG	10 or SB	4	4	11.30	24.10	19.57	4	GB-18	10-12
Cobalt	MG/KG	30 or SB	4	4	5.00	16.20	11.72	0	GB-18	10-12
Copper	MG/KG	25 or SB	4	4	11.50	29.30	20.75	1	GB-02	7-8
Iron	MG/KG	2000 or SB	4	4	1.30E+04	3.02E+04	2.42E+04	4	GB-18	10-12
Lead	MG/KG	SB	4	4	9.60	55.10	21.90	4	GB-02	7-8
Magnesium	MG/KG	SB	4	4	1.19E+04	2.66E+04	1.82E+04	4	GB-13	11.5-12.5
Manganese	MG/KG	SB	4	4	360.0	532.0	485.0	4	GB-02	7-8
Nickel	MG/KG	13 or SB	4	4	11.90	34.50	26.38	3	GB-18	10-12
Potassium	MG/KG	SB	4	4	1,480	2,530	2,080	4	GB-18	10-12
Selenium	MG/KG	2 or SB	4	1	1.40	1.40	1.40	0	GB-18	10-12

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

 Concentration Exceeds Criteria

Only parameters with detections are included in the statistical summary table.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEM-CORE

Parameter	Units	Criteria*	No. of Samples	No. of Detections	Range of Detections			No. Exceed	Location of Max Value	Depth Of Max
					Min	Max	Avg			
Metals										
Silver	MG/KG	SB	2	1	0.800	0.800	0.800	1	GB-02	7-8
Sodium	MG/KG	SB	4	4	67.10	269.0	169.8	4	GB-22	10-11
Thallium	MG/KG	SB	4	1	1.40	1.40	1.40	1	GB-18	10-12
Vanadium	MG/KG	150 or SB	4	4	15.50	29.70	24.73	0	GB-18	10-12
Zinc	MG/KG	20 or SB	4	4	62.00	104.0	85.22	4	GB-18	10-12
Miscellaneous Parameters										
Cyanide	MG/KG	-	4	1	0.510	0.510	0.510	0	GB-02	7-8

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).



Concentration Exceeds Criteria

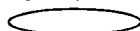
Only parameters with detections are included in the statistical summary table.

TABLE 4-1
SUMMARY OF TCLP SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-01	RD-01	RD-02	RD-02	RD-03
Sample ID			RD-1-17	RD-1-17.6	RD-2-17	RD-2-17.4	RD-3-16
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.0-17.0	17.6-17.6	17.0-17.0	17.4-17.4	16.0-16.0
Date Sampled			07/15/04	07/15/04	07/15/04	07/15/04	07/14/04
Parameter	Units	Criteria*					
TCLP Volatiles							
1,1-Dichloroethene	MG/L	0.7	0.0062 U	0.0062 U	0.0062 U	0.0062 U	0.0242 J
2-Butanone	MG/L	200	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U
Benzene	MG/L	0.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
Carbon tetrachloride	MG/L	0.5	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0147 J
Chlorobenzene	MG/L	100	0.0039 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U
Chloroform	MG/L	6	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0183 J
Tetrachloroethene	MG/L	0.7	0.0073 J	0.0058 U	0.286	0.226	1.01
Trichloroethene	MG/L	0.5	0.0062 U	0.0062 U	0.0348 J	0.0388 J	0.929
Vinyl chloride	MG/L	0.2	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U
1,2-Dichloroethane	MG/L	-	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0186 J

*Criteria- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

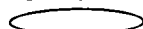
Detection Limits shown are MDL

TABLE 4-1
SUMMARY OF TCLP SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-03	RD-04	RD-04	RD-05	RD-05
Sample ID			RD-3-18.5	RD-4-14.5	RD-4-15.5	RD-5-16	RD-5-16.8
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			18.5-18.5	14.5-14.5	15.5-15.5	16.0-16.0	16.8-16.8
Date Sampled			07/14/04	07/14/04	07/14/04	07/15/04	07/15/04
Parameter	Units	Criteria*					
TCLP Volatiles							
1,1-Dichloroethene	MG/L	0.7	0.0141 J	0.0383 J	0.0216 J	0.0062 U	0.0062 U
2-Butanone	MG/L	200	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U
Benzene	MG/L	0.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
Carbon tetrachloride	MG/L	0.5	0.0075 J	0.0222 J	0.0068 U	0.0068 U	0.0068 U
Chlorobenzene	MG/L	100	0.0039 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U
Chloroform	MG/L	6	0.0127 J	0.0373 J	0.0146 J	0.0114 J	0.0098 J
Tetrachloroethene	MG/L	0.7	1.01	0.765	0.446	0.278	0.363
Trichloroethene	MG/L	0.5	0.432	0.943	0.759	0.125	0.101
Vinyl chloride	MG/L	0.2	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U
1,2-Dichloroethane	MG/L	-	0.0199 J	0.0202 J	0.0100 J	0.0106 J	0.0122 J

*Criteria- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

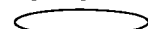
Detection Limits shown are MDL

TABLE 4-1
SUMMARY OF TCLP SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-06	RD-06	RD-07	RD-07	RD-08
Sample ID			RD-6-12	RD-6-13.7	RD-7-10-11.8	RD-7-11.8	RD-8-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			12.0-12.0	13.7-13.7	10.0-11.8	11.9-11.8	9.0-10.0
Date Sampled			07/15/04	07/15/04	07/16/04	07/16/04	07/16/04
Parameter	Units	Criteria*					
TCLP Volatiles							
1,1-Dichloroethene	MG/L	0.7	0.0062 U	0.0062 U	0.0062 U	0.0062 U	0.0062 U
2-Butanone	MG/L	200	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U
Benzene	MG/L	0.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
Carbon tetrachloride	MG/L	0.5	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
Chlorobenzene	MG/L	100	0.0039 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U
Chloroform	MG/L	6	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
Tetrachloroethene	MG/L	0.7	0.0058 U	0.0120 J	0.0682	0.0298 J	0.0858
Trichloroethene	MG/L	0.5	0.0124 J	0.0062 U	0.187	0.131	0.0449 J
Vinyl chloride	MG/L	0.2	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U
1,2-Dichloroethane	MG/L	-	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U

*Criteria- TCLP Action Levels Federal Register, Vol. 55, No. 51 No. 125

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

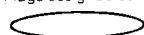
Detection Limits shown are MDL

TABLE 4-1
SUMMARY OF TCLP SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-08	RD-09	RD-09	RD-10	RD-10
Sample ID			RD-8-14	RD-9-12-12.6	RD-9-13.5-14	RD-10-10	RD-10-13.8
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			14.0-14.0	12.0-12.6	13.5-14.0	10.0-10.0	13.8-13.8
Date Sampled			07/16/04	07/16/04	07/16/04	07/15/04	07/15/04
Parameter	Units	Criteria*					
TCLP Volatiles							
1,1-Dichloroethene	MG/L	0.7	0.0062 U	0.0062 U	0.0062 U	0.0062 U	0.0062 U
2-Butanone	MG/L	200	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U
Benzene	MG/L	0.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
Carbon tetrachloride	MG/L	0.5	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
Chlorobenzene	MG/L	100	0.0039 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U
Chloroform	MG/L	6	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
Tetrachloroethene	MG/L	0.7	0.138	0.541	0.537	0.0058 U	0.0068 J
Trichloroethene	MG/L	0.5	0.0492 J	0.0596	0.0664	0.0062 U	0.0062 U
Vinyl chloride	MG/L	0.2	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U
1,2-Dichloroethane	MG/L	-	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U

*Criteria: TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

Detection Limits shown are MDL

TABLE 4-1
SUMMARY OF TCLP SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-11	RD-11
Sample ID			RD-11-13-13.5	RD-11-14-14.5
Matrix			Soil	Soil
Depth Interval (ft)			13.0-13.5	14.0-14.5
Date Sampled			07/16/04	07/16/04
Parameter	Units	Criteria*		
TCLP Volatiles				
1,1-Dichloroethene	MG/L	0.7	0.0062 U	0.0062 U
2-Butanone	MG/L	200	0.0114 U	0.0114 U
Benzene	MG/L	0.5	0.0054 U	0.0054 U
Carbon tetrachloride	MG/L	0.5	0.0068 U	0.0068 U
Chlorobenzene	MG/L	100	0.0039 U	0.0039 U
Chloroform	MG/L	6	0.0044 U	0.0044 U
Tetrachloroethene	MG/L	0.7	36.0	1.01
Trichloroethene	MG/L	0.5	0.0808	0.0062 U
Vinyl chloride	MG/L	0.2	0.0052 U	0.0052 U
1,2-Dichloroethane	MG/L	-	0.0064 U	0.0064 U

*Criteria- TCLP Action Levels: Federal Register, Vol 55, No 61 No 126.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

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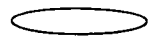
Detection Limits shown are MDL

TABLE 4-2
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-07	RD-07	RD-08	RD-09
Sample ID			RD-7-10-11.8	RD-7-10-11.8D	RD-8-9-10	RD-9-13.5-14
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.8	10.0-11.8	9.0-10.0	13.5-14.0
Date Sampled			07/16/04	07/16/04	07/16/04	07/16/04
Parameter	Units	Criteria*	Field Duplicate (1+1)			
Volatiles						
1,1,1-Trichloroethane	UG/KG	800	92	61	18	97
1,1,2,2-Tetrachloroethane	UG/KG	600	11 U	11 U	12 U	12 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	6000	11 U	11 U	12 U	12 U
1,1,2-Trichloroethane	UG/KG	-	11 U	11 U	12 U	12 U
1,1-Dichloroethane	UG/KG	200	11 U	11 U	10 J	75
1,1-Dichloroethene	UG/KG	400	35	13	3 J	46
1,2,4-Trichlorobenzene	UG/KG	3400	11 U	11 U	12 U	12 U
1,2-Dibromo-3-chloropropane	UG/KG	-	11 U	11 U	12 U	12 U
1,2-Dibromoethane	UG/KG	-	11 U	11 U	12 U	12 U
1,2-Dichlorobenzene	UG/KG	-	11 U	11 U	12 U	12 U
1,2-Dichloroethane	UG/KG	100	11 U	11 U	12 U	12 U
1,2-Dichloropropane	UG/KG	-	11 U	11 U	12 U	12 U
1,3-Dichlorobenzene	UG/KG	-	11 U	11 U	12 U	12 U
1,4-Dichlorobenzene	UG/KG	-	11 U	11 U	12 U	12 U
2-Butanone	UG/KG	300	11 U	11 U	12 U	12 U
2-Hexanone	UG/KG	-	11 U	11 U	12 U	12 U
4-Methyl-2-pentanone	UG/KG	1000	11 U	11 U	12 U	12 U
Acetone	UG/KG	200	7 J	18	12 U	12
Benzene	UG/KG	60	11 U	11 U	12 U	2 J
Bromodichloromethane	UG/KG	-	11 U	11 U	12 U	12 U
Bromoform	UG/KG	-	11 U	11 U	12 U	12 U
Bromomethane	UG/KG	-	11 U	11 U	12 U	12 U

*Criteria- NYSDEC TAGM, Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 April 1, 1995 (Proposed).

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

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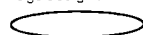
Detection Limits shown are MDL

TABLE 4-2
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-07	RD-07	RD-08	RD-09
Sample ID			RD-7-10-11.8	RD-7-10-11.8D	RD-8-9-10	RD-9-13.5-14
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.8	10.0-11.8	9.0-10.0	13.5-14.0
Date Sampled			07/16/04	07/16/04	07/16/04	07/16/04
Parameter	Units	Criteria*		Field Duplicate (1-1)		
Volatiles						
Carbon disulfide	UG/KG	2700	11 U	11 U	12 U	12 U
Carbon tetrachloride	UG/KG	600	11 U	11 U	12 U	12 U
Chlorobenzene	UG/KG	1700	11 U	11 U	12 U	12 U
Chloroethane	UG/KG	1900	11 U	11 U	12 U	12 U
Chloroform	UG/KG	300	7 J	7 J	4 J	10 J
Chloromethane	UG/KG	-	11 UJ	11 U	12 U	12 U
cis-1,2-Dichloroethene	UG/KG	250	7 J	8 J	27	1,200 J
cis-1,3-Dichloropropene	UG/KG	-	11 U	11 U	12 U	12 U
Cyclohexane	UG/KG	-	11 U	11 U	12 U	12 U
Dibromochloromethane	UG/KG	-	11 U	11 U	12 U	12 U
Dichlorodifluoromethane	UG/KG	-	11 U	11 U	12 U	12 U
Ethylbenzene	UG/KG	5500	11 U	11 U	12 U	12 U
Isopropylbenzene	UG/KG	-	11 U	11 U	12 U	12 U
Methyl acetate	UG/KG	-	11 U	11 U	12 U	12 U
Methyl tert-butyl ether	UG/KG	-	11 U	11 U	12 U	12 U
Methylcyclohexane	UG/KG	-	11 U	11 U	12 U	12 U
Methylene chloride	UG/KG	100	11 U	11 U	12 U	44
Styrene	UG/KG	-	11 U	11 U	12 U	12 U
Tetrachloroethene	UG/KG	1400	820 J	1,000 J	970 DJ	4,600 J
Toluene	UG/KG	1500	11 U	11 U	12 U	4 J
trans-1,2-Dichloroethene	UG/KG	300	11 U	11 U	12 U	3 J
trans-1,3-Dichloropropene	UG/KG	-	11 U	11 U	12 U	12 U

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels, HWY-94-4046 April 1, 1995 (Proposed).

Flags assigned during chemistry validation are shown.



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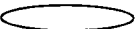
Detection Limits shown are MDL

TABLE 4-2
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEM-CORE

Location ID			RD-07	RD-07	RD-08	RD-09
Sample ID			RD-7-10-11.8	RD-7-10-11.8D	RD-8-9-10	RD-9-13.5-14
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.8	10.0-11.8	9.0-10.0	13.5-14.0
Date Sampled			07/16/04	07/16/04	07/16/04	07/16/04
Parameter	Units	Criteria*	Field Duplicate (1-1)			
Volatiles						
Trichloroethene	UG/KG	700	3,000 J	3,100 J	470 DJ	830 J
Trichlorofluoromethane	UG/KG	-	11 U	11 U	12 U	12 U
Vinyl chloride	UG/KG	200	11 U	11 U	12 U	13
Xylene (Total)	UG/KG	1200	11 U	11 U	12 U	7 J

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 April 1, 1995 (Proposed).

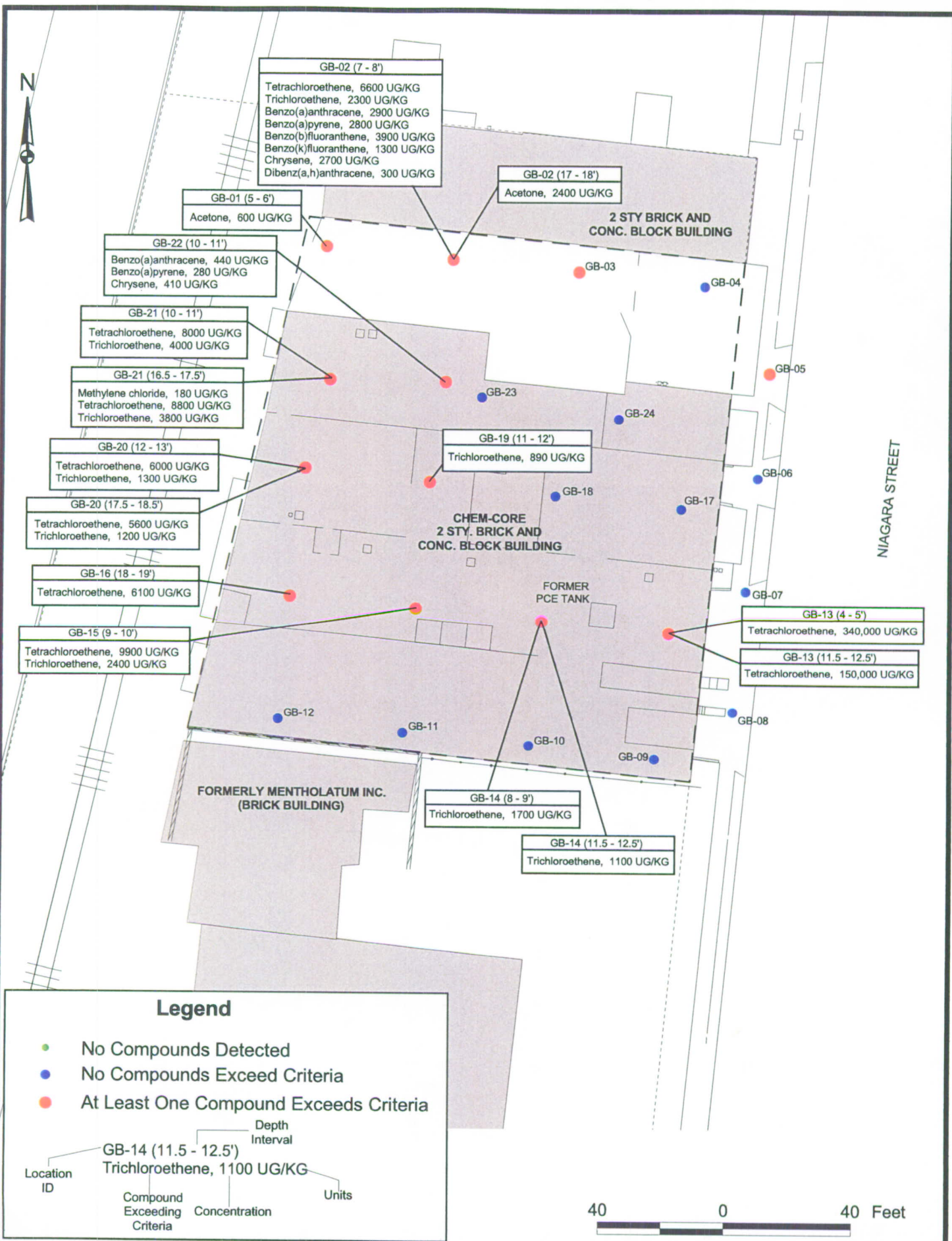
Flags assigned during chemistry validation are shown.

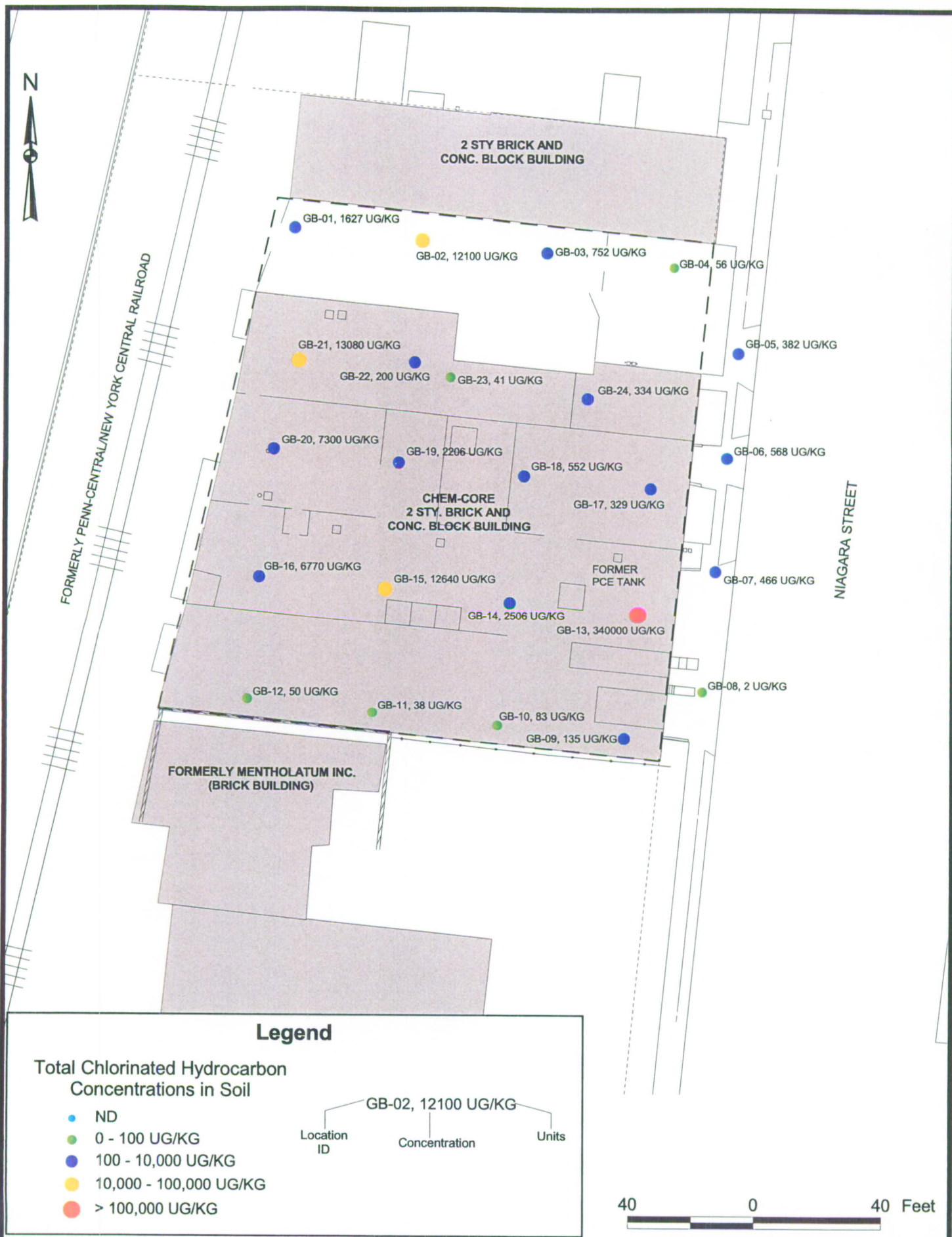
 Concentration Exceeds Criteria

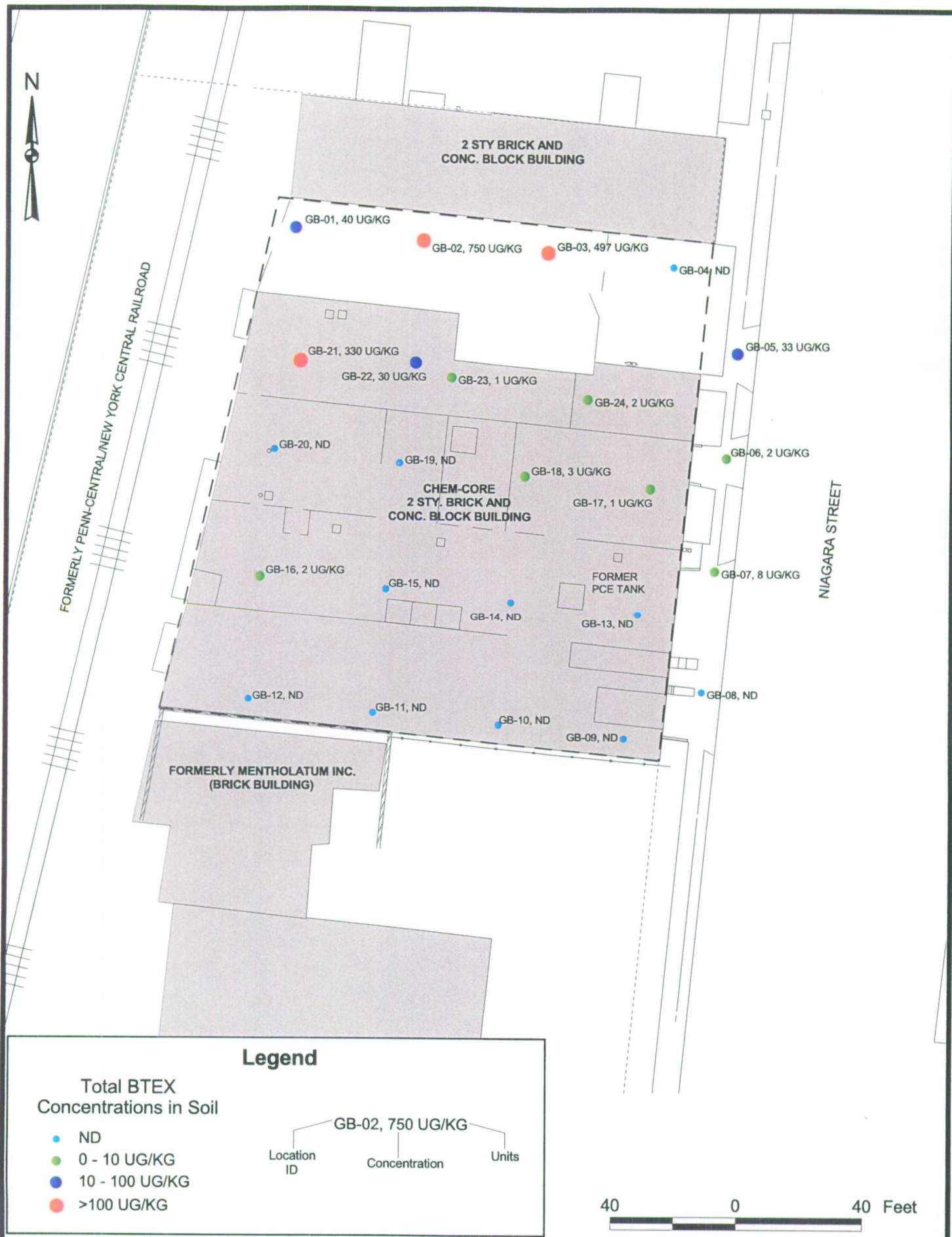
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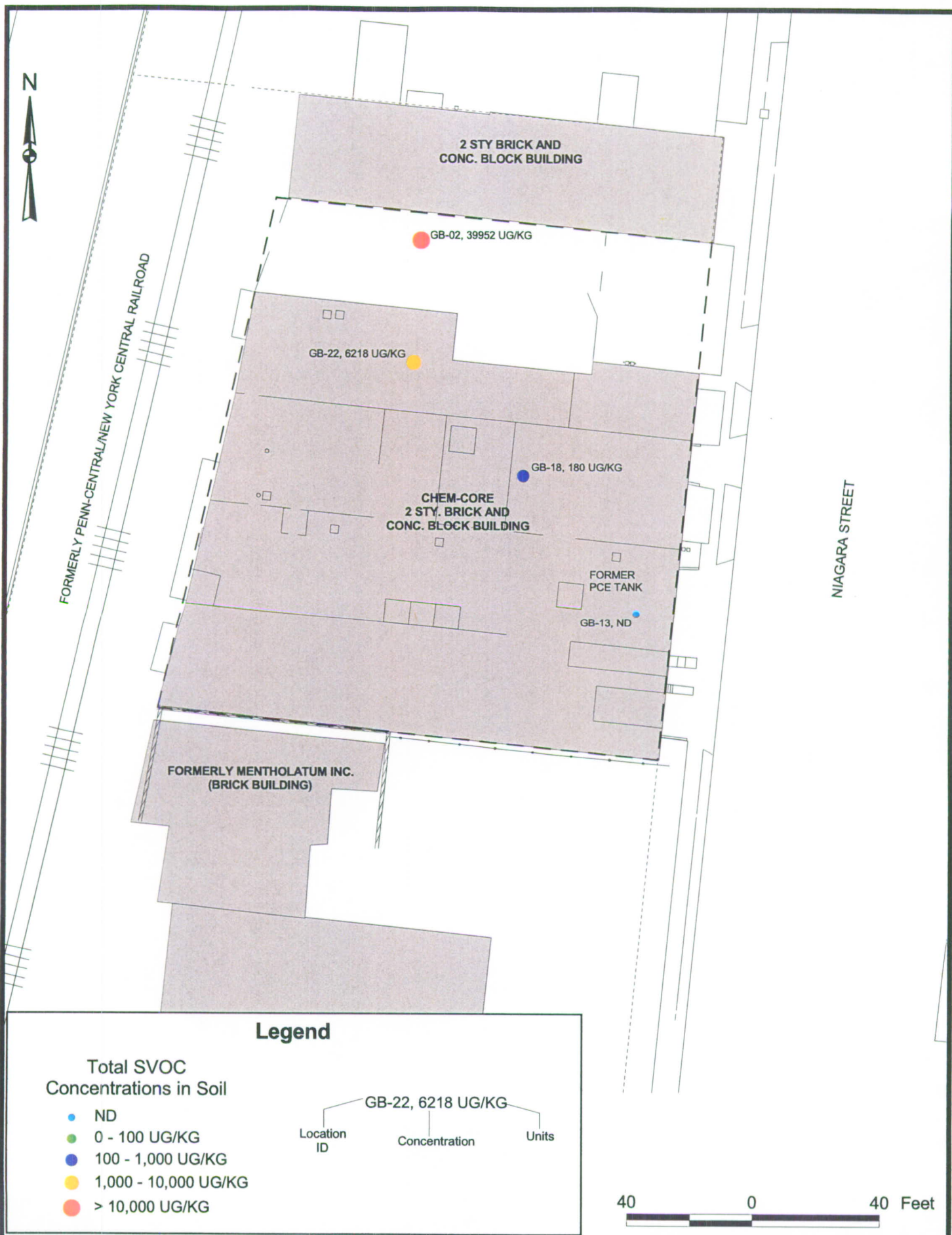
Detection Limits shown are MDL







N:\1173519.00000\06\GIS\chemical.apr 2001 RI TOTAL SVOC CONCENTRATIONS
8/1/2005



URS

CHEM CORE
MAXIMUM TOTAL SVOCs DETECTED IN SOIL (2001)

FIGURE 4-16



FORMERLY PENN-CENTRAL/NEW YORK CENTRAL RAILROAD

NIAGARA STREET

2 STY BRICK AND
CONC. BLOCK BUILDING

CHEM-CORE
2 STY. BRICK AND
CONC. BLOCK BUILDING

FORMERLY MENTHOLATUM INC.
(BRICK BUILDING)

FORMER
PCE TANK

RD-03 (16')
Tetrachloroethene, 1.01 MG/L
Trichloroethene, 0.929 MG/L

RD-03 (18.5')
Tetrachloroethene, 1.01 MG/L

RD-04 (14.5')
Tetrachloroethene, 0.765 MG/L
Trichloroethene, 0.943 MG/L

RD-04 (15.5')
Trichloroethene, 0.759 MG/L

RD-09 (13.5 - 14') *
cis-1,2-Dichloroethene, 1200 UG/KG
Tetrachloroethene, 4600 UG/KG
Trichloroethene, 830 UG/KG

RD-11 (13 - 13.5')
Tetrachloroethene, 36 MG/L

RD-11 (14 - 14.5')
Tetrachloroethene, 1.01 MG/L

RD-07 (10 - 11.8') *
Trichloroethene, 3100 UG/KG

Legend

- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

Location ID: RD-09 (13.5 - 14')
Compound Exceeding Criteria: Trichloroethene
Concentration: 3200 UG/KG and MG/L
Units: UG/KG and MG/L
Depth Interval: 13.5 - 14'

NOTES:

- 1) All samples analyzed for TCLP VOCs - units given in MG/L.
- 2) * - sample analyzed for TCL VOCs - units given in UG/KG.

40 0 40 Feet

URS

CHEM CORE
SOIL CONTAMINANTS ABOVE SCGs (2004)

FIGURE 4-1

**B. GROUNDWATER ANALYTICAL AND WATER
LEVEL DATA**

GROUNDWATER ANALYTICAL AND WATER LEVEL DATA

<u>Table</u>	<u>Title</u>
4-3*	Summary of Groundwater Analytical Results

<u>Figure</u>	<u>Title</u>
3-2*	Groundwater Elevation Contours – December 6, 2004
4-2*	Groundwater Contaminants Above SCG (2004)

Source: "Phase I & II Remedial Investigation Report", URS Corporation, May 2002

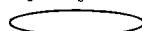
*Source: "Remedial Design Investigation Report", URS Corporation, February 2005.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			EX-01	MW-01D	MW-01S	MW-02	MW-02
Sample ID			EX-01-WG	MW-01D-WG	MW-01S-WG	MW-02-WG	MW-02-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/10/04	09/10/04	09/10/04	09/10/04
Parameter	Units	Criteria*					Field Duplicate (1-1)
Volatiles							
1,1,1-Trichloroethane	UG/L	5	5,000 D	15	530 D	3,000 D	3,000
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	5 J	10 U	10 U	10 U	200 U
1,1,2-Trichloroethane	UG/L	1	10 U	10 U	10 U	10 U	200 U
1,1-Dichloroethane	UG/L	5	510 DJ	10	280 D	720 D	660
1,1-Dichloroethene	UG/L	5	470 DJ	10 U	61	320 DJ	340
1,2-Dichlorobenzene	UG/L	3	4 J	10 U	10 U	2 J	200 U
1,2-Dichloroethane	UG/L	0.6	280 J	10 U	14	160	200 U
1,2-Dichloropropane	UG/L	1	7 J	10 U	10 U	7 J	200 U
4-Methyl-2-pentanone	UG/L	NS	4 J	10 U	10 U	2 J	200 U
Acetone	UG/L	50	18 J	10 UJ	11 J	10 UJ	200 UJ
Benzene	UG/L	1	14	10 U	3 J	30	22 J
Carbon disulfide	UG/L	60	10 U	10 U	10 U	10 U	200 U
Chlorobenzene	UG/L	5	1 J	10 U	10 U	10 U	200 U
Chloroethane	UG/L	5	10 U	10 U	10 U	10 U	200 U
Chloroform	UG/L	7	200 DJ	10 U	10	140	110 J
cis-1,2-Dichloroethene	UG/L	-	7,200 D	49	2,100 D	6,400 D	6,200 D
Ethylbenzene	UG/L	5	14	10 U	10 U	8 J	20 U
Methyl tert-butyl ether	UG/L	10	10 U	10 U	10 U	1 J	200 U
Methylene chloride	UG/L	5	320 DJ	10 U	28	170	150 J
Tetrachloroethene	UG/L	5	16,000 D	2 J	84	9,400 D	9,300 D
Toluene	UG/L	5	490 DJ	10 U	7 J	780 D	760
trans-1,2-Dichloroethene	UG/L	-	64	10 U	16	64	45 J

*Criteria- NYSDEC TOGS (1,1,1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum). Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

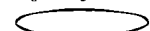
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			EX-01	MW-01D	MW-01S	MW-02	MW-02
Sample ID			EX-01-WG	MW-01D-WG	MW-01S-WG	MW-02-WG	MW-02-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/10/04	09/10/04	09/10/04	09/10/04
Parameter	Units	Criteria*					Field Duplicate (1-1)
Volatiles							
Trichloroethene	UG/L	5	15,000 D	5 J	170 DJ	7,800 D	7,800 D
Vinyl chloride	UG/L	2	640 DJ	11	590 D	2,100 D	2,000
Xylene (Total)	UG/L	5	160	10 U	10 U	62	200 U

*Criteria: NYSDEC TOGS (1-1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported

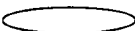
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-03	MW-04D	MW-04S	MW-05	MW-06
Sample ID			MW-03-WG	MW-04D-WG	MW-04S-WG	MW-05-WG	MW-06-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/04	09/08/04	09/08/04	09/07/04	09/11/04
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	200	10 U	10 U	10 U	900 DJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	1	10 U	10 U	10 U	10 U	3 J
1,1-Dichloroethane	UG/L	5	16	10 U	10 U	2 J	5,300 D
1,1-Dichloroethene	UG/L	5	29	10 U	10 U	10 U	210 DJ
1,2-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	10 U	10 U	10 U	10 U	65
1,2-Dichloropropane	UG/L	1	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	NS	10 U	10 U	10 U	10 U	3 J
Acetone	UG/L	50	10 UJ	10 UJ	10 UJ	10 UJ	100 J
Benzene	UG/L	1	10 U	10 U	10 U	10 U	18
Carbon disulfide	UG/L	60	10 U	10 U	10 U	10 U	2 J
Chlorobenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroform	UG/L	7	6 J	10 U	10 U	10 U	48
cis-1,2-Dichloroethene	UG/L	-	170 DJ	10 U	10 U	6 J	27,000 D
Ethylbenzene	UG/L	5	10 U	10 U	10 U	10 U	7 J
Methyl tert-butyl ether	UG/L	10	10 U	10 U	10 U	2 J	10 U
Methylene chloride	UG/L	5	10 U	10 U	10 U	10 U	350 DJ
Tetrachloroethene	UG/L	5	2,000 D	10 U	10 U	10 U	29
Toluene	UG/L	5	10 U	10 U	10 U	10 U	270 DJ
trans-1,2-Dichloroethene	UG/L	-	2 J	10 U	10 U	10 U	250 J

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

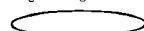
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-03	MW-04D	MW-04S	MW-05	MW-06
Sample ID			MW-03-WG	MW-04D-WG	MW-04S-WG	MW-05-WG	MW-06-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/04	09/08/04	09/08/04	09/07/04	09/11/04
Parameter	Units	Criteria*					
Volatiles							
Trichloroethene	UG/L	5	390 D	10 U	10 U	1 J	130
Vinyl chloride	UG/L	2	9 J	10 U	3 J	2 J	5,900 D
Xylene (Total)	UG/L	5	10 U	10 U	10 U	10 U	180

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum) Class GA

Flags assigned during chemistry validation are shown:

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported:

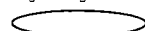
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-07	MW-08D	MW-08S	MW-09	MW-10
Sample ID			MW-07-WG	MW-08D-WG	MW-08S-WG	MW-09-WG	MW-10-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/09/04	09/09/04	09/08/04	09/08/04
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	490	10 J	10 UJ	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	100 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	1	100 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	1,600	83	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	94 J	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	100 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	100 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	100 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	NS	100 U	10 U	10 U	10 U	10 U
Acetone	UG/L	50	100 UJ	10 U	10 U	10 UJ	10 UJ
Benzene	UG/L	1	100 U	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	60	100 U	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	100 U	10 U	10 U	10 U	2 J
Chloroethane	UG/L	5	100 U	9 J	10 U	10 U	6 J
Chloroform	UG/L	7	46 J	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	-	7,000 D	5 J	140	10 U	10 U
Ethylbenzene	UG/L	5	100 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	100 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	44 J	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	360	10 U	180	10 U	10 U
Toluene	UG/L	5	39 J	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	-	35 J	2 J	1 J	10 U	10 U

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

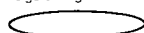
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-07	MW-08D	MW-08S	MW-09	MW-10
Sample ID			MW-07-WG	MW-08D-WG	MW-08S-WG	MW-09-WG	MW-10-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/09/04	09/09/04	09/08/04	09/08/04
Parameter	Units	Criteria*					
Volatiles							
Trichloroethene	UG/L	5	480	10 U	30	10 U	10 U
Vinyl chloride	UG/L	2	2,200 D	13	5 J	10 U	10 U
Xylene (Total)	UG/L	5	100 U	10 U	10 U	10 U	10 U

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1996 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

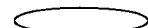
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-11	MW-12	MW-13D	MW-13D	MW-13S
Sample ID			MW-11-WG	MW-12-WG	MW-13D-WG	MW-13D-WG	MW-13S-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/04	09/08/04	09/07/04	09/07/04	09/07/04
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatiles							
1,1,1-Trichloroethane	UG/L	5	210 D	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	10 U	10 U	10 U	10 U	170 D
1,1,2-Trichloroethane	UG/L	1	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	54	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	37	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	NS	10 U	10 U	10 U	10 U	10 U
Acetone	UG/L	50	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzene	UG/L	1	1 J	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	60	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroform	UG/L	7	3 J	1 J	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	-	420 D	410 D	2 J	2 J	39
Ethylbenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	340 D	1,400 D	10 U	10 U	4 J
Toluene	UG/L	5	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	-	5 J	4 J	10 U	10 U	10 U

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown:

 Concentration Exceeds Criteria

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D - Value based on sample dilution.

Only Detected Results Reported.

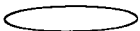
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-11	MW-12	MW-13D	MW-13D	MW-13S
Sample ID			MW-11-WG	MW-12-WG	MW-13D-WG	MW-13D-WG	MW-13S-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/04	09/08/04	09/07/04	09/07/04	09/07/04
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatiles							
Trichloroethene	UG/L	5	240 D	200 D	10 U	10 U	5 J
Vinyl chloride	UG/L	2	120	3 J	2 J	2 J	4 J
Xylene (Total)	UG/L	5	10 U	10 U	10 U	10 U	10 U

*Criteria: NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

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D - Value based on sample dilution

Only Detected Results Reported.

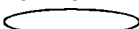
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-14	MW-15	MW-16	MW-17	MW-18
Sample ID			MW-14-WG	MW-15-WG	MW-16-WG	MW-17-WG	MW-18-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/09/04	09/08/04	09/08/04	09/08/04
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	1,500 D	10 UJ	10 UJ	10 UJ	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	1	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	250 DJ	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	150 DJ	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	94	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	10	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	NS	10 U	10 U	10 U	10 U	10 U
Acetone	UG/L	50	10 UJ	10 U	10 U	10 U	10 UJ
Benzene	UG/L	1	10	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	60	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
Chloroform	UG/L	7	73	10 U	1 J	10 U	10 U
cis-1,2-Dichloroethene	UG/L	-	4,900 D	62	460 D	24	58
Ethylbenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	44	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	5,600 D	53	940 D	62	14
Toluene	UG/L	5	1 J	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	-	35	1 J	6 J	10 U	10 U

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations June 1998 (includes 4/2000 Addendum) Class GA

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

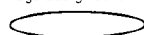
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			MW-14	MW-15	MW-16	MW-17	MW-18
Sample ID			MW-14-WG	MW-15-WG	MW-16-WG	MW-17-WG	MW-18-WG
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/11/04	09/09/04	09/08/04	09/08/04	09/08/04
Parameter	Units	Criteria*					
Volatiles							
Trichloroethene	UG/L	5	3 800 D	10	150	7 J	6 J
Vinyl chloride	UG/L	2	410 DJ	2 J	8 J	10 U	10 U
Xylene (Total)	UG/L	5	23	10 U	10 U	10 U	10 U

*Criteria- NYSDEC TOGS (1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown:



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

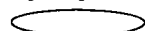
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			PZ-1
Sample ID			PZ1-WG
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			09/10/04
Parameter	Units	Criteria*	
Volatiles			
1,1,1-Trichloroethane	UG/L	5	7,200 D
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	10 U
1,1,2-Trichloroethane	UG/L	1	26
1,1-Dichloroethane	UG/L	5	860 D
1,1-Dichloroethene	UG/L	5	60 DJ
1,2-Dichlorobenzene	UG/L	3	10 U
1,2-Dichloroethane	UG/L	0.6	35
1,2-Dichloropropane	UG/L	1	10 U
4-Methyl-2-pentanone	UG/L	NS	25
Acetone	UG/L	50	570 DJ
Benzene	UG/L	1	10 U
Carbon disulfide	UG/L	60	10 U
Chlorobenzene	UG/L	5	10 U
Chloroethane	UG/L	5	10 U
Chloroform	UG/L	7	10 U
cis-1,2-Dichloroethene	UG/L	-	7,100 D
Ethylbenzene	UG/L	5	1 J
Methyl tert-butyl ether	UG/L	10	10 U
Methylene chloride	UG/L	5	590 D
Tetrachloroethene	UG/L	5	760 D
Toluene	UG/L	5	31
trans-1,2-Dichloroethene	UG/L	-	35

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

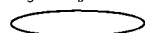
Detection Limits shown are MDL

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE

Location ID			PZ-1
Sample ID			PZ1-WG
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			09/10/04
Parameter	Units	Criteria*	
Volatiles			
Trichloroethene	UG/L	5	8 200 D
Vinyl chloride	UG/L	2	520 D
Xylene (Total)	UG/L	5	2 J

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 (includes 4/2000 Addendum), Class GA.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria

U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit.

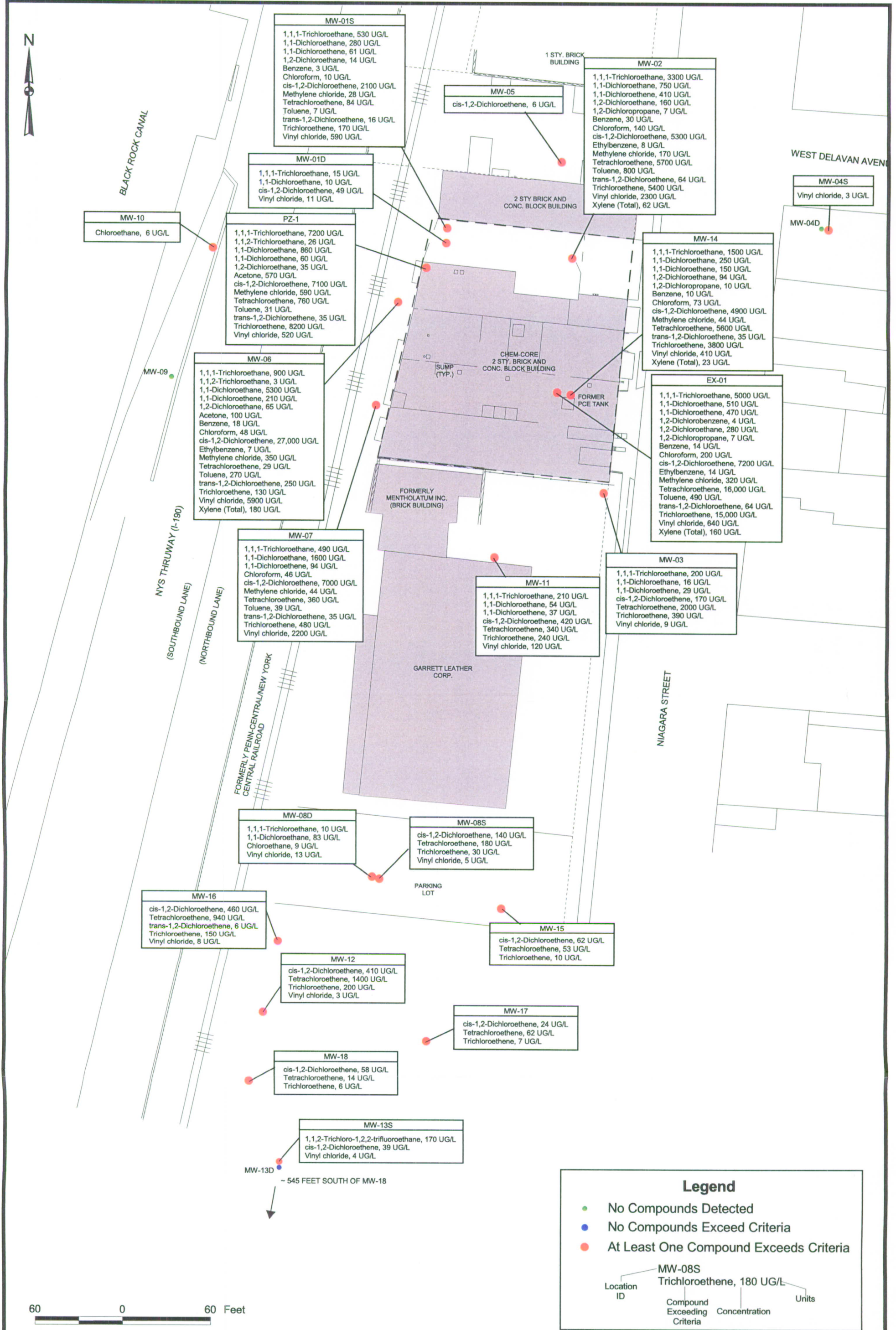
J - The analyte was positively identified, the quantitation is an estimation.

D - Value based on sample dilution.

Only Detected Results Reported.

Detection Limits shown are MDL





C. SUBSURFACE LOGS AND DATA

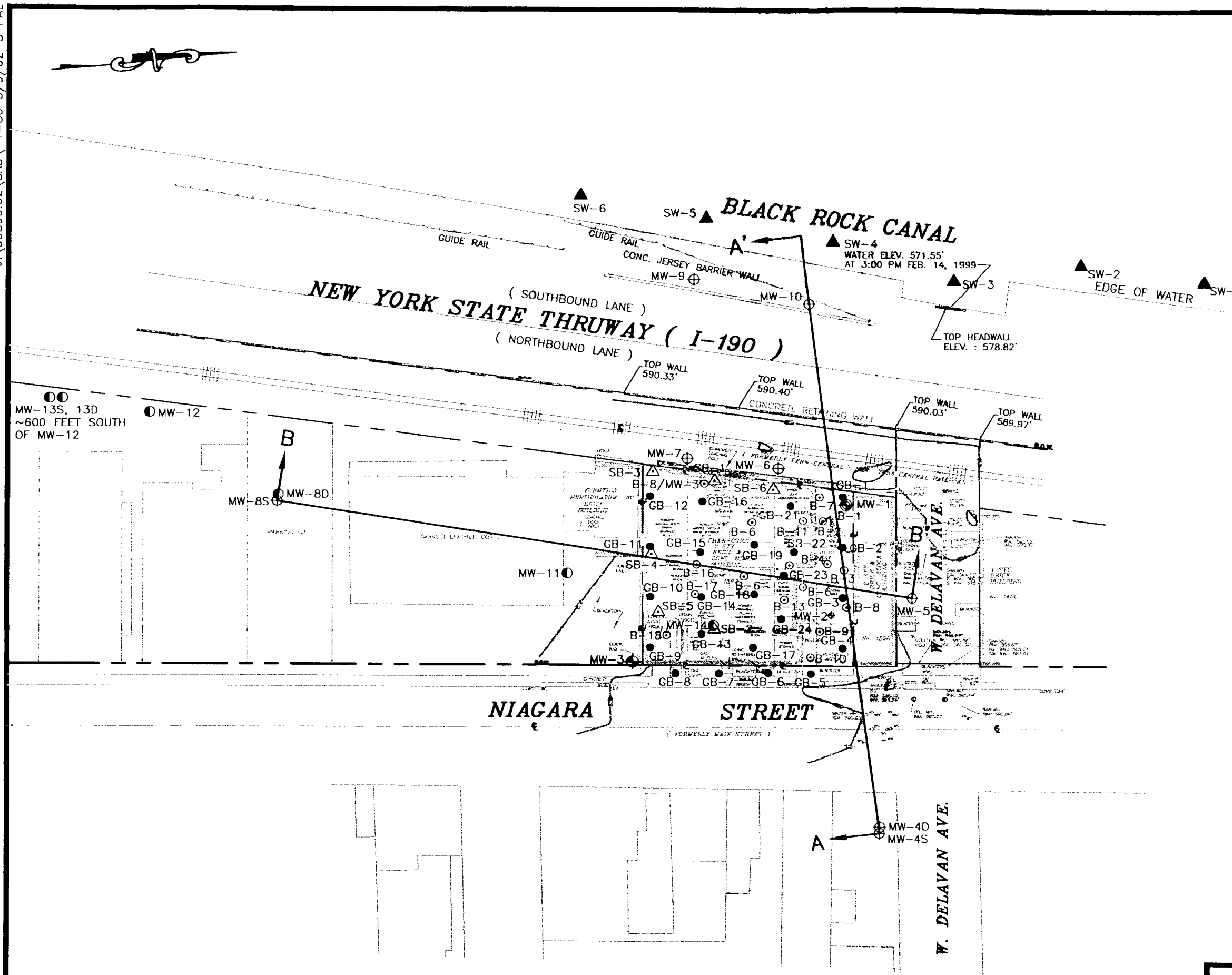
SUBSURFACE LOGS AND DATA

<u>Figure</u>	<u>Title</u>
1-4	Soil Borings, Monitoring Wells, Sampling and Cross-Section Locations
3-1	Geologic Cross-Section A-A'
3-2	Geologic Cross-Section B-B'
3-3	Bedrock Surface Elevation
2-1*	Boring/ Monitoring Well Locations

<u>Appendix</u>	<u>Title</u>
A	Boring Logs
A*	Boring Logs

Source: "Phase I & II Remedial Investigation Report", URS Corporation, May 2002

*Source: "Remedial Design Investigation Report", URS Corporation, February 2005.

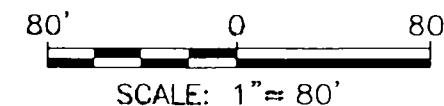


LEGEND

- MONITORING WELL - NYSDEC 1999
- UTILITY POLE
- SUMP LOCATION (APPROXIMATE)
- HEADWALL
- GROUND CONTOUR
- CHAIN LINK FENCE
- PROPERTY LINE
- PHASE II SOIL BORING (MAXIM, 1997)
- PHASE I RI SOIL BORING (URS, 2001)
- SURFACE WATER/SEDIMENT SAMPLING LOCATIONS (URS, 2001)
- PHASE I RI MONITORING WELL LOCATIONS (URS, 2001)
- PHASE II RI MONITORING WELL LOCATION (URS, 2002)
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- GEOPROBE SOIL BORING (NYSDEC, 1999)
- MONITORING WELL (NYSDEC, 1999)
- CROSS-SECTION LOCATION

NOTES:

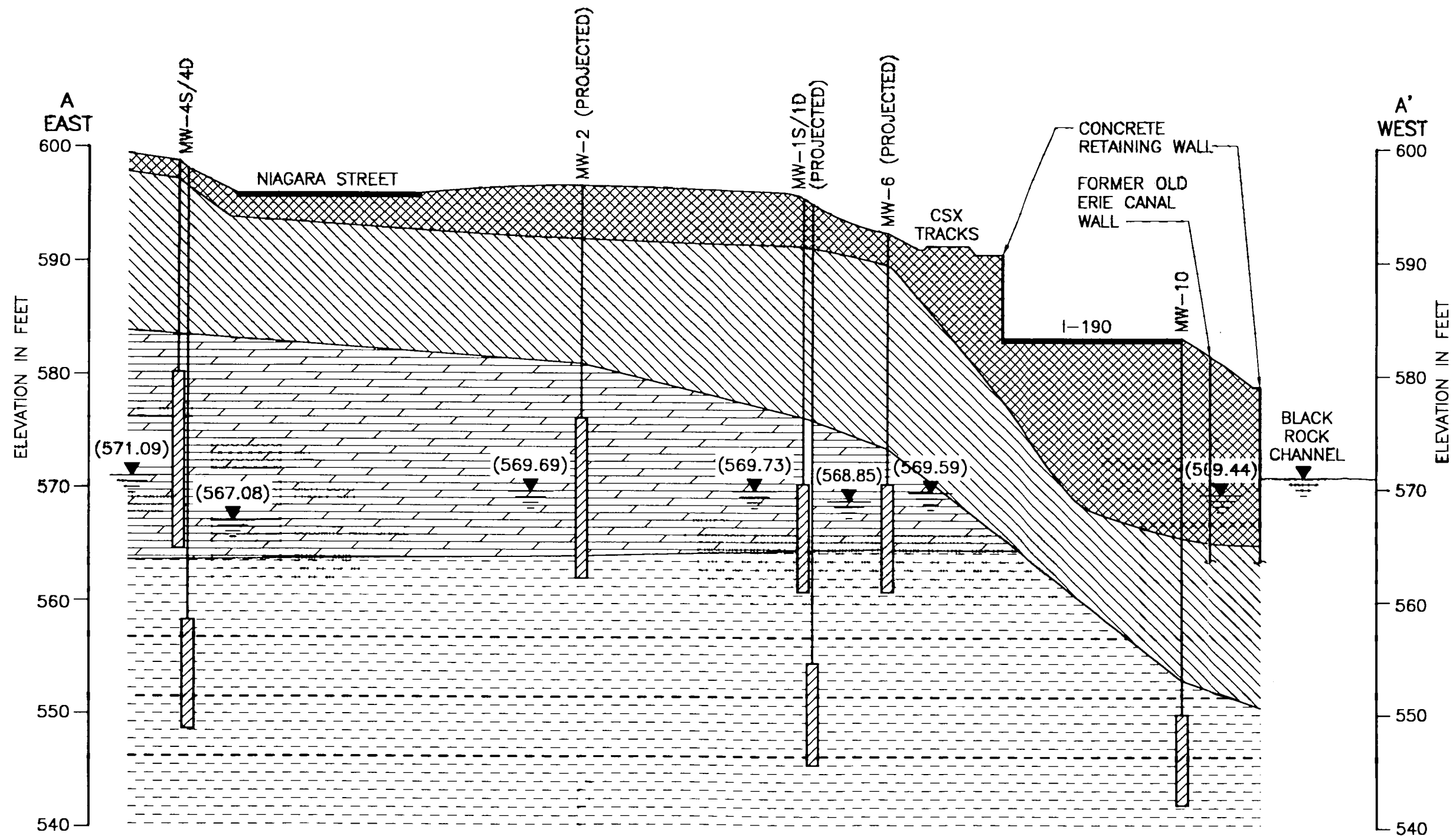
1. THIS BASEMAP WAS DEVELOPED FROM A BOUNDARY SURVEY PERFORMED BY URS CORP. ON FEBRUARY 10, 1999, DRAWING NO. 1, JOB NO. 35818.01.
2. HORIZONTAL CONTROL IS BASED UPON THE NEW YORK STATE PLANE COORDINATE SYSTEM, WESTERN ZONE, 1983 ADJUSTMENT NAD 83 (1992).
3. REFERENCED CITY OF BUFFALO ATLAS MAP REPRODUCED BY "THE SANBORN LIBRARY, LLC".
4. SEE FIGURE 1-4A FOR ENLARGED SITE PLAN OF CONTESTED BUILDING AREA.



SOIL BORINGS, MONITORING WELLS,
SAMPLING AND CROSS SECTION LOCATIONS

URS

FIGURE 1-4



LEGEND

MW-6 ← MONITORING WELL NUMBER

(569.59) POTENTIOMETRIC SURFACE (569.59) GROUNDWATER ELEVATION (11/02/01) UNLESS OTHERWISE SPECIFIED

SCREENED INTERVAL OF MONITORING WELL

BOREHOLE TERMINATION

FILL

SILTY CLAY/CLAYEY SILT

DOLOMITE AND SHALE

SHALE AND ARGILLACEOUS DOLOMITE

50' 0 50' 10' 0 10'

SCALE: 1"=50' HORIZONTAL SCALE: 1"=10' VERTICAL

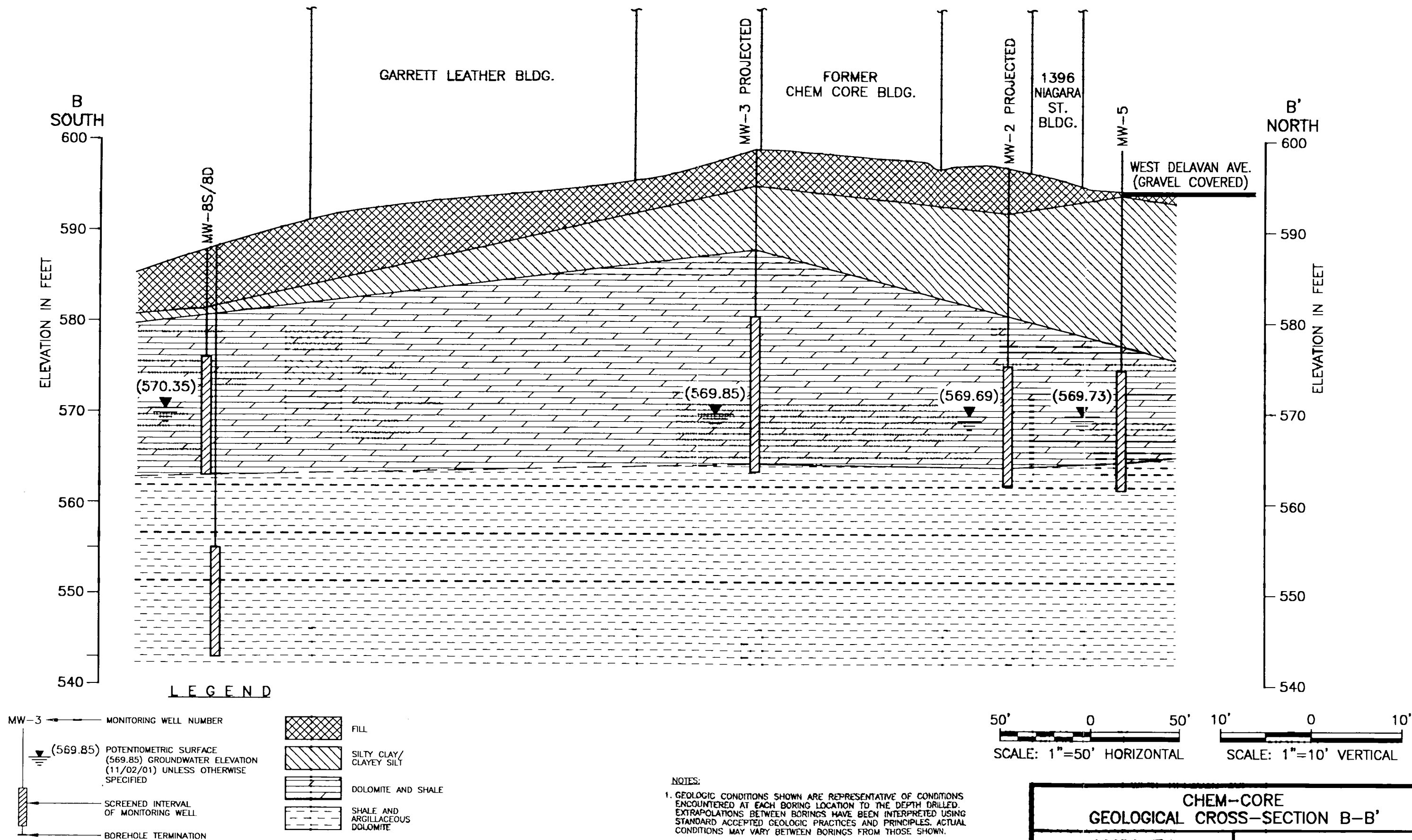
NOTES:

1. GEOLOGIC CONDITIONS SHOWN ARE REPRESENTATIVE OF CONDITIONS ENCOUNTERED AT EACH BORING LOCATION TO THE DEPTH DRILLED. EXTRAPOLATIONS BETWEEN BORINGS HAVE BEEN INTERPRETED USING STANDARD ACCEPTED GEOLOGIC PRACTICES AND PRINCIPLES. ACTUAL CONDITIONS MAY VARY BETWEEN BORINGS FROM THOSE SHOWN.
2. ELEVATIONS BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988.

CHEM-CORE
GEOLOGICAL CROSS-SECTION A-A'

URS

FIGURE 3-1



CHEM-CORE
GEOLOGICAL CROSS-SECTION B-B'

URS

FIGURE 3-2



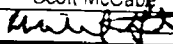


APPENDIX A

BORING LOGS

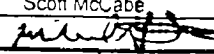
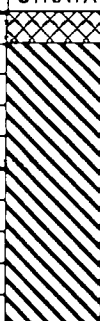
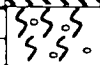
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-1			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not encountered										BORING LOCATION: N 1064880.03/ E 1063781.54			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/09/01			
				DIA.		2"				DATE FINISHED: 07/09/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		--				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	black	medium dense	Fill: Fine to coarse sand, some gravel, concrete, cinders and slag	--	1/0	dry		
3						↓	↓	↓		1.1/1.8	moist		
5						reddish brown	very stiff	Silty Clay, massive, some roots	CL	5.7/15.6			
6		2*	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		7.9/11.3			
10		3	MC		100%	↓	↓	-few gray Silt partings	↓	1.1/2.3			
										0/0			
										7.5/5			
15		4*	MC		100%					0/0			
16						↓	↓	↓	↓				
								Boring completed at 16.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (15-16')										BORING NO. GB-1			

URS Corporation										GEOPROBE LOG	
PROJECT: Chem Core										BORING NO: GB-2	
CLIENT: New York State DEC										SHEET: 1 of 1	
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02	
GROUNDWATER: Perched water 7.0-7.3'										BORING LOCATION: N1064876.19/ E 1063821.72	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50	
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/09/01
				DIA		2"				DATE FINISHED:	07/09/01
				WT.		Direct Push				DRILLER:	Steve Laramie
				FALL		---				GEOLOGIST:	Scott McCabe
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
SAMPLE					DESCRIPTION						
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID	REMARKS
2		1	MC		100%	gray brown reddish brown	dense stiff very stiff	Dolomite gravel Fill: Clayey Silt, trace brick, slag, cinder Silty Clay, massive, some roots, trace sand	---	0/0	dry
5		2	MC		100%			-7.0-7.3' Black, wet gravel	CL	0/0	wet 7.0-7.3' black product moist
10		3	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		32/41	
15		4	MC		100%			-few gray Silt partings		7.1/7.3	
16										6.3/6.1	
18		5	MC		100%	brown	very dense	Clayey Silt, some fine to coarse sand and fine gravel	ML	2.1/1.3	
20								Boring completed at 18.0' bgs MacroCore Refusal		3.4/2.1	
25										5.3/4.3	
30										121/149	
35											
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02	
* Samples submitted for analysis (7-8') and (17-18')										BORING NO. GB-2	

URS Corporation										GEOPROBE LOG											
PROJECT: Chem Core										BORING NO: GB-3											
CLIENT: New York State DEC										SHEET: 1 of 1											
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02											
GROUNDWATER: Perched water 4.0-5.5'										CAS.		SAMPLER		CORE		TUBE		BORING LOCATION: N1064872.35 / E 1063861.55			
DATE										TIME		LEVEL		TYPE		TYPE		GROUND ELEVATION: ~ 596.50			
														MacroCore				DATE STARTED: 07/09/01			
														DIA.		2"		DATE FINISHED: 07/09/01			
														WT.		Direct Push		DRILLER: Steve Laramie			
														FALL		---		GEOLOGIST: Scott McCabe			
										* POCKET PENETROMETER READING										REVIEWED BY: 	
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS										
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID											
		1	MC		100%	gray brown	dense stiff	Dolomite gravel Fill: Clayey Silt, trace brick, slag, cinder		2.5/76	dry										
										.49/0											
5																					
5.5			2*	MC		100%	black	loose	Fill: Fine to coarse sand, some gravel		19/44	wet 4.0-5.5' black product moist									
10		3	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	5/14											
										.7/3.2											
										.31/0											
										0/0											
15		4*	MC		100%																
15.5										1.31/3.42											
16.3						brown	v.dense	Clayey Silt, some sand and gravel	ML		very moist										
								Boring completed at 16.3' bgs MacroCore Refusal													
20																					
25																					
30																					
35																					
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02											
* Samples submitted for analysis (4-5) and (15-16)										BORING NO. GB-3											

URS Corporation										GEOPROBE LOG	
PROJECT: Chem Core										BORING NO: GB-4	
CLIENT: New York State DEC										SHEET: 1 of 1	
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02	
GROUNDWATER: Perched 6.5-11.0'										BORING LOCATION: N 1064868.15 / E 1063901.38	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50	
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/10/01
				DIA.		2"				DATE FINISHED:	07/10/01
				WT.		Direct Push				DRILLER:	Steve Laramie
				FALL		---				GEOLOGIST:	Scott McCabe
* POCKET PENETROMETER READING										REVIEWED BY: <i>Scott McCabe</i>	
SAMPLE										DESCRIPTION	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS	
										PID/FID	
1		1	MC		100%	gray	dense	Dolomite gravel	---	0/0	dry
						reddish brown	very stiff	Silty Clay, massive, trace sand and fine gravel	CL	0/0	
5		2*	MC		100%					0/0	moist
6.5											
		3	MC		100%	light brown	medium dense	Fine sand	SP	0/0	wet 6.5-11.0
10											
11											
		4*	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	0/0	moist
14											
15						gray	v. dense	Clayey Silt, some sand and gravel	ML	.4/1	
Boring completed at 15.0' bgs MacroCore Refusal											
20											
25											
30											
35											
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02	
* Samples submitted for analysis (14-15')										BORING NO. GB-4	

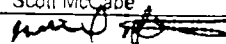
URS Corporation										GEOPROBE LOG	
PROJECT: Chem Core										BORING NO: GB-6	
CLIENT: New York State DEC										SHEET: 1 of 1	
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02	
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064808.90/E 1063913.40	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.19	
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/10/01	
				DIA.		2"				DATE FINISHED: 07/10/01	
				WT.		Direct Push				DRILLER: Steve Laramie	
				FALL		---				GEOLOGIST: Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
SAMPLE						DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID	
1		1	MC		100%	gray	v. dense	4" concrete over gravel	---	0/0	dry
						reddish brown	very stiff	Silty Clay, massive	CL	0/0	
5								Silty Clay, thinly laminated, trace coarse sand and fine gravel		0/0	
								-few gray Silt partings		0/0	moist
10		3	MC		100%					0/0	
11										0/0	
13		4	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0	
15								Boring completed at 13.0' bgs MacroCore Refusal			
20											
25											
30											
35											
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02	
* Samples submitted for analysis (8-10')										BORING NO. GB-6	

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-7			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064771 02/E 1063909 99			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.93			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/10/01			
				DIA.		2"				DATE FINISHED: 07/10/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 5"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
1		1	MC		100%	gray	v. dense	6" concrete over gravel	---	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive	CL	0/0				
5		2	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		0/0		moist	
										0/0			
10		3*	MC		100%					0/0			
12						brown	very dense	Clayey Silt, some sand and gravel	ML	0/0			
15								Boring completed at 12.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
Samples submitted for analysis (11-12')										BORING NO. GB-7			

URS Corporation										GEOPROBE LOG		
PROJECT: Chem Core										BORING NO: GB-8		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064737.14/E 1063906.47		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.77		
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/10/01	
				DIA.		2"				DATE FINISHED:	07/10/01	
				WT.		Direct Push				DRILLER:	Steve Laramie	
				FALL		---				GEOLOGIST:	Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: <i>Jim O'Connell</i>		
SAMPLE						DESCRIPTION						
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID	REMARKS	
1		1	MC		100%	gray	v.dense	3" asphalt over gravel	---	0/0	dry	
						reddish brown	very stiff	Silty Clay, massive	CL			0/0
5		2	MC		100%					0/0	moist	
												0/0
												0/0
10		3	MC		100%			Silty Clay, thinly laminated		0/0		
11.5						3333	brown	v. dense	Clayey Silt, some sand and gravel	ML	0/0	
15									Boring completed at 11.5' bgs MacroCore Refusal			
20												
25												
30												
35												
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02		
* Samples submitted for analysis (10-11')										BORING NO. GB-8		

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-9			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064718.96 / E 1063886.36			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/10/01			
				DIA.		2"				DATE FINISHED: 07/10/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		--				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
4		1	MC		100%	gray	v. dense	4" concrete	—	0/0	dry		
						reddish brown	very stiff	Silty Clay, massive	CL				
5		2	MC		100%							0/0	
												0/0	
		3*	MC		100%			Silty Clay, thinly laminated				0/0	
10									0/0				
12.3						brown	very dense	Clayey Silt, some sand and gravel	ML	0/0	moist		
Boring completed at 12.3' bgs MacroCore Refusal													
15													
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (9-10') and (11-12')										BORING NO. GB-9			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-10			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 4.5-5.0										BORING LOCATION: N 1064723.15 / E 1063846.52			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01			
				DIA.		2"				DATE FINISHED: 07/11/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		--				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
										PID/FID			
1		1	MC		100%	gray	v. dense	4" concrete over gravel	--	0/0	dry		
reddish brown						very stiff	Silty Clay, massive	CL	0/0				
5		2	MC		100%	brown	loose	Silty Fine Sand	SP	.7/1		wet 4.5-5.0 moist	
reddish brown						very stiff	Silty Clay, thinly laminated	CL	.7/1				
10		3	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0			
11.5											0/0		
15								Boring completed at 11.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (10-11')										BORING NO. GB-10			

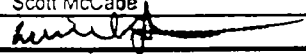
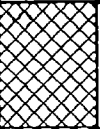
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-11			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064726.99 / E 1063806.69			
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: ~ 596.50		
DATE	TIME	LEVEL	TYPE	TYPE	MacroCore						DATE STARTED: 07/11/01		
				DIA.	2"						DATE FINISHED: 07/11/01		
				WT.	Direct Push						DRILLER: Steve Laramie		
				FALL	---						GEOLOGIST: Scott McCabe		
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE						DESCRIPTION						REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1*	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
				reddish		very	Silty Clay, massive	CL					
4						brown	stiff			0/0	moist		
5								Silty Clay, thinly laminated		0/0			
		2	MC		100%					0/0			
									0/0				
10									0/0				
11			3	MC		100%					0/0		
											0/0		
											0/0		
13.5		4*	MC		100%	brown	very	Clayey Silt, some sand and gravel	ML	0/0			
15						dense							
								Boring completed at 13.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (2-3') and (12.5-13.5')										BORING NO. GB-11			

URS Corporation										GEOPROBE LOG		
PROJECT: Chem Core										BORING NO: GB-12		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064731.19 / E 1063767.21		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50		
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/11/01	
				DIA.		2"				DATE FINISHED:	07/11/01	
				WT.		Direct Push				DRILLER:	Steve Laramie	
				FALL		--				GEOLOGIST:	Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: <i>humb</i>		
SAMPLE						DESCRIPTION					REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID		
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry	
2						brown	v. stiff	Fill: Clayey Silt, some gravel, slag				
						dark	medium	Fine Sandy Silt, trace clay				
						brown	dense					
5		2	MC		100%	reddish	very	Silty Clay, massive	CL	0/0	moist	
						brown	stiff					
								Silty Clay, thinly laminated				
10		3	MC		100%					0/0		
15		4	MC		100%					0/0		
17		5	MC		100%	brown	very	Clayey Silt, some sand and gravel	ML	0/0		
							dense			0/0		
20								Boring completed at 17.0' bgs MacroCore Refusal				
25												
30												
35												
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02		
* Samples submitted for analysis (8-10') and (16-17')										BORING NO. GB-12		

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-13			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064758.79 / E 1063890.55			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01			
				DIA.		2"				DATE FINISHED: 07/11/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE						DESCRIPTION					REMARKS		
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v. dense	4" concrete over gravel	---	26/8	dry		
						reddish	very	Silty Clay, massive	CL	25/19			
						brown	stiff			542/997	strong solvent odor		
5		2"	MC		100%				Silty Clay, thinly laminated		325/391	moist	
10		3	MC		100%					471/840			
12.5		4"	MC		100%	brown	very dense	Clayey Silt, some sand and gravel - Fine Sand seams	ML	791/2172	fast PID/FID from sand seam		
15								Boring completed at 12.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (11.5-12.5')										BORING NO. GB-13			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-14			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER:										BORING LOCATION: N 1064762.63 / E 1063850.37			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: ~ 596.50				
DATE	TIME	LEVEL	TYPE	TYPE	MacroCore				DATE STARTED: 07/11/01				
				DIA.	2"				DATE FINISHED: 07/11/01				
				WT.	Direct Push				DRILLER: Steve Laramie				
				FALL	—				GEOLOGIST: Scott McCabe				
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE					DESCRIPTION								
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	1.3/0	dry		
						reddish brown	very stiff	Clayey Silt, some gravel, trace cinder and slag				1.1/0	
4													
5		2	MC		100%	r. brown	m. dense	Silty Sand	SM	.7/0	very moist moist		
						reddish brown	very stiff	Silty Clay, thinly laminated	CL	.6/0			
10		3*	MC		100%					6.8/3.4			
11													
12.5		4*	MC		100%	brown	v.dense	Clayey Silt, some sand and gravel	ML	5/5.4			
15								Boring completed at 12.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (8-9') and (11.5-12.5')										BORING NO. GB-14			

URS Corporation										GEOPROBE LOG				
PROJECT: Chem Core										BORING NO: GB-15				
CLIENT: New York State DEC										SHEET: 1 of 1				
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02				
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064766.06/E 1063812.63				
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.82				
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01				
				DIA.		2"				DATE FINISHED: 07/11/01				
				WT.		Direct Push				DRILLER: Steve Laramie				
				FALL		---				GEOLOGIST: Scott McCabe				
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>				
SAMPLE										DESCRIPTION				
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS				
										PID/FID				
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry			
						reddish brown	very stiff	Fill: Clayey Silt, some gravel, trace cinder coal and slag		0/0				
5										1.9/0				
6		2	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	1.7/3.4	moist			
										14/8.9				
10		3*	MC		100%					1.4/3.2				
10.5										2.4/6.1				
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML					
14														
15								Boring completed at 14.0' bgs MacroCore Refusal						
20														
25														
30														
35														
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02				
* Samples submitted for analysis (9-10') and (13-14')										BORING NO. GB-15				

URS Corporation										GEOPROBE LOG		
PROJECT: Chem Core										BORING NO: GB-16		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064771.55/E 1063772.63		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.72		
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/11/01	
				DIA.		2"				DATE FINISHED:	07/11/01	
				WT.		Direct Push				DRILLER:	Steve Laramie	
				FALL		---				GEOLOGIST:	Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: 		
SAMPLE DESCRIPTION												
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS		
										PID/FID		
		1	MC		100%	gray	v. dense	4" concrete over gravel	---	0/0	dry	
reddish brown						very stiff	Fill: Sandy Silt, trace clay, cinder, and slag	0/0				
↓						↓	↓					
4			2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	0/0	
↓							↓	↓				
5	Silty Clay, thinly laminated, trace coarse sand and fine gravel						0/0					
							0/0					
10	3		MC		100%					0/0		
								0/0				
								0/0				
								0/0				
15		4	MC		100%				ML	0/0	moist	
												0/0
		5*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel		0/0		
19									0/0			
20								Boring completed at 19.0' bgs MacroCore Refusal				
25												
30												
35												
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02		
* Samples submitted for analysis (17-18') and (18-19')										BORING NO. GB-16		

J/35890.02/excel/geoprobelog

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-18			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 6.5-7.0										BORING LOCATION: N 1064802.47 / E 1063854.56			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>Scott McCabe</i>			
SAMPLE										DESCRIPTION			
DEPTH	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive	CL					
5			2	MC		100%					0/0	wet 6.5-7.0 dry	
6.5													
7													
10			3*	MC		100%					0/0		
11.5													
13.5													
15			4*	MC		100%	brown	v.dense	Clayey Silt, some sand and gravel	ML	1.3/4.2		
20								Boring completed at 13.5' bqs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-12') and (12.5-13.5')										BORING NO. GB-18			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-19			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064806 66 / E 1063814.73			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: - 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		--				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>Steve Laramie</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	gray	v. dense	4" concrete over gravel	—	5.3/1.7	dry		
3				reddish brown		very stiff	Fill: Clayey Silt, trace gravel, cinders and slag						
5				reddish brown		very stiff	Silty Clay, massive						
		2	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	7/0			
								10/3.2					
10								13/17					
		3*	MC		100%					30/17			
11.5								32/25					
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	20/11	moist		
15													
15.3								11/6					
								Boring completed at 15.3' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (11-12') and (14-15')										BORING NO. GB-19			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-20			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064810.85 / E 1063775.25			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE DESCRIPTION													
DEPTH	STRATA	NO.	TYPE	BLOWS	REC%	COLOR	CONSIST	MATERIAL	USCS	REMARKS			
FEET				PER 6"	RQD%		HARD			PID/FID			
2		1	MC		100%	gray	v.dense	4" concrete over gravel	---	1.4/0	dry		
						brown	stiff	Fill: Clayey Silt, some brick, slag and sand					
						reddish	very stiff	Silty Clay, massive	CL	3.1/1.2			
5										4.1/2.1			
										10/6			
		2	MC		100%			Silty Clay, thinly laminated		20/14.7			
										45/21			
10		3	MC		100%								
12													
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	41/22			
15										32/19			
										60/51			
		5*	MC		100%					41/19			
18.5													
20								Boring completed at 18.5' bgs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (12-13') and (17.5-18.5')										BORING NO. GB-20			

URS Corporation

GEOPROBE LOG

PROJECT: Chem Core

BORING NO: GB-21

CLIENT: New York State DEC

SHEET: 1 of 1

BORING CONTRACTOR: Geologic NY, Inc.

JOB NO.: 0500035890.02

BORING LOCATION: N 1034838 83/E 1063782 99

GROUNDWATER: Not Encountered

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 596.71

DATE	TIME	LEVEL	TYPE	TYPE				
					MacroCore			
				DIA.	2"			
				WT.	Direct Push			
				FALL	--			

DATE STARTED: 07/12/01

DATE FINISHED: 07/12/01

DRILLER: Steve Laramie

GEOLOGIST: Scott McCabe

REVIEWED BY: *Rich J. [Signature]*

* POCKET PENETROMETER READING

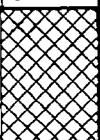
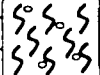
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID		
2		1	MC		100%	gray	v. dense	4" concrete over gravel				
						brown	stiff	Fill: Clayey Silt, some brick, slag and sand		.7/0		dry
						reddish	very	Silty Clay, massive		1.3/0		
5						brown	stiff		CL	3.7/1.1		
										4.1/9		
		2	MC		100%			Silty Clay, thinly laminated		4.1/1.2		
10										5.6/3		
		3*	MC		100%					20/33		moist
12.5		4	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	21/11		
15										30/17		
		5*	MC		100%							
17.5												
20								Boring completed at 17.5' bgs MacroCore Refusal				
25												
30												
35												

Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.

* Samples submitted for analysis (10-11') and (16.5-17.5')

PROJECT NO. 0500035890.02

BORING NO. GB-21

URS Corporation								GEOPROBE LOG			
PROJECT: Chem Core								BORING NO: GB-22			
CLIENT: New York State DEC								SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.								JOB NO.: 0500035890.02			
GROUNDWATER: Perched 5.5-6.0								BORING LOCATION: N1064837.91/ E 1063819.65			
CAS. SAMPLER CORE TUBE								GROUND ELEVATION: 596.75			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore		DATE STARTED: 07/12/01			
				DIA.		2"		DATE FINISHED: 07/12/01			
				WT.		Direct Push		DRILLER: Steve Laramie			
				FALL		---		GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING								REVIEWED BY: 			
SAMPLE								DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS	
										PID/FID	
		1	MC		100%	gray	v. dense	4" concrete over gravel		0/0	dry
						reddish brown	very stiff	Fill: Silty Clay, some gravel, cinder and slag		0/0	
5											
6										11.3/10.7	
		2	MC		100%	↓	↓	- 5.5-6.0 Sand and gravel			wet 5.5-6.0
						reddish brown	very stiff	Silty Clay, thinly laminated	CL	10.1/6.3	dry
10										10.7/8.2	
										76/21	
		3*	MC		100%	↓	↓				
12.5										51/65	
15							brown	very dense	Clayey Silt, some sand and gravel	ML	21/23
						↓					
								Boring completed at 15.0' bgs MacroCore Refusal			
20											
25											
30											
35											
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.								PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-11') and (14-15')								BORING NO. GB-22			

URS Corporation

GEOPROBE LOG

PROJECT: Chem Core

BORING NO: GB-23

CLIENT: New York State DEC

SHEET: 1 of 1

BORING CONTRACTOR: Geologic NY, Inc.

JOB NO.: 0500035890.02

GROUNDWATER: Perched 6-8'

BORING LOCATION: N 1064833.56 / E 1063831.15

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: ~ 596.50

DATE	TIME	LEVEL	TYPE	TYPE				
				DIA.		MacroCore		
				WT.		2"		
				FALL		Direct Push		
						—		

DATE STARTED: 07/12/01

DATE FINISHED: 07/12/01

DRILLER: Steve Laramie

GEOLOGIST: Scott McCabe

* POCKET PENETROMETER READING

REVIEWED BY: *Scott McCabe*

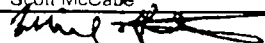
DEPTH FEET	STRATA	SAMPLE				DESCRIPTION				USCS	REMARKS	
		NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL			PID/FID	
		1	MC		100%	gray black	v.dense medium dense	4" concrete over gravel Fill: Fine to coarse sand, some slag, cinders and coal			0/0	dry
5										---	0/0	
		2*	MC		100%						0/0	wet 6-8'
8											0/0	
10		3*	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel		CL	3.4/1.4	dry
11												
12.5		4	MC		100%	brown	v. dense	Clayey Silt, some sand and gravel		ML	3.4/1.4	
15								Boring completed at 12.5' bgs MacroCore Refusal				
20												
25												
30												
35												

Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a
2" diameter by 4' long Macro Core sampler.

* Samples submitted for analysis (7-8') and (11.5-12.5')

PROJECT NO. 0500035890.02

BORING NO. GB-23

URS Corporation										GEOPROBE LOG		
PROJECT: Chem Core										BORING NO: GB-24		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02		
GROUNDWATER: Perched 4-5'										BORING LOCATION: N 1064826.92 / E 1063874.48		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50		
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED:	07/12/01	
				DIA.		2"				DATE FINISHED:	07/12/01	
				WT.		Direct Push				DRILLER:	Steve Laramie	
				FALL		---				GEOLOGIST:	Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: 		
SAMPLE										DESCRIPTION		
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS		
										PID/FID		
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry	
black						medium dense	Fill: Fine to coarse sand, some slag, cinders and coal	0/0				
5		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	0/0		wet 4-5' dry
							Silty Clay, thinly laminated, trace coarse sand and fine gravel	0/0				
10	3	MC		100%					1.3/4.2			
							4.3/8.9					
12.5		4*	MC		100%	brown	v. dense	Clayey Silt, some sand and gravel	ML	3.1/9.1		
15										6.4/12.7		
								Boring completed at 14.5' bgs MacroCore Refusal				
20												
25												
30												
35												
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02		
* Samples submitted for analysis (12-13') and (13.5-14.5')										BORING NO. GB-24		

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-1

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064782.58 N
1063757.24 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 596.65 FT

DATE TIME LEVEL TYPE

TYPE TYPE

DATE STARTED: 2/22/99

DIA. 2 1/2 IN

DATE FINISHED: 2/22/99

WT. —

DRILLER: JOE NOSSAL

FALL DIRECT PUSH

GEOLOGIST: SCOTT MCCAIG

* POCKET PENETROMETER READING

REVIEWED BY: *Michael*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION						REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		RID FID	CLASS USCS	
4.9		1	MC	NA	70%	LIGHT GRAY BLACK REDDISH BROWN	LOOSE ↓ STIFF	6 IN CONCRETE FILL: FINE TO COARSE GRAVEL AND FINE TO COARSE SAND FINE TO MEDIUM SAND, SOME CINDER, BRICK CLAYEY SILT, TRACE FINE TO MEDIUM SAND, FINE TO MEDIUM GRAVEL.		1.0 1.0	FILL	DRY
5		2	MC	NA	100%	↓	↓	↓		1.8 2.4	CL	THINLY LAMINATED, TYPICALLY 1/16 IN THICK.
7		3	MC	NA	100%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY, SILT PARTINGS		2.5 1.3	↓	
10		4	MC	NA	100%	↓	VERY STIFF	— TAKE FINE TO MEDIUM SAND AND GRAVEL		20.1 18.7	↓	
14.2		5	MC	NA	100%	REDDISH BROWN	STIFF	CLAY SILT, TAKE TO SOME FINE TO COARSE SAND AND GRAVEL.		14.8 5.6	ML	
15		6	MC	NA	100%	↓	↓	↓		7.8 5.7	↓	
19.3								BORING ADVANCED TO 19.3' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK-MOUNTED GEOPROBE MODEL 8MU TO 19.3'

PROJECT NO.: 05.35616

BORING NO.: SB-1

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-2

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064770.63 N
1063874.52 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 597.15 FT

DATE

TIME

LEVEL

TYPE

TYPE

MACROCORE

DATE STARTED: 2/22/99

DIA.

2 1/2 IN

DATE FINISHED: 2/22/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: *Michael*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION				CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	R/D F/D		
0.0	9999	1	MC		90%	DK. BROWN REDDISH BROWN	LOOSE STIFF	GEN. CONCRETE FILL: SANDY SILT, TRACE GRAVEL CLAYEY SILT, TRACE FINE TO COARSE SAND, FINE GRAVEL.	54 17.8	FILL	SOLVENT OILY. DRY
5.2		2	MC		100%	REDDISH BROWN	VERY STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS	507 14.4	CL	THINLY LAMINATED TYPICALLY 1/16" THICK.
		3	MC		100%			—TRACE FINE TO COARSE SAND, GRAVEL	1281 36.9		STRONG SOLVENT SOOP.
10		4	MC		100%	REDDISH BROWN	STIFF	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL.	884 25.0	ML	
14.5		5	MC		100%				*		* P10 = 768 F10 = 820
15								BORING ADVANCED TO 14.5' APPROXIMATE TOP OF BEDROCK			MACROCORE REFUSAL
20											
25											
30											
35											

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE, MODEL Bmw TO 14.5'

PROJECT NO.: 05.35616

BORING NO.: SB-2

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-3

PROJECT: CHEMCORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064735.31 N
1063745.35 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 596.96 FT

DATE TIME LEVEL TYPE TYPE

MACROCORE

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: *[Signature]*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		NO NO		
2.4		1	MC	NA	75%	LIGHT GRAY DARK BROWN	LOOSE MEDIUM STIFF	6 IN CONCRETE FILL: FINE TO COARSE SAND AND GRAVEL, TRACE BRICK CLAYEY SILT, SOME FINE TO MEDIUM SAND, WOOD CHIPS SILT CLAY w/ FILL		1.0 1.0	Fill	DRY
5		2	MC	NA	100%	REDDISH BROWN	STIFF			1.1 2.5		MASSIVE
7		3	MC	NA	100%	REDDISH BROWN	STIFF	SILT CLAY, FEW SILT AND SANDY SILT PARTINGS		1.5 1.0	CL	THINLY LAMINATED TYPICALLY 1/16 IN THICK.
10		4	MC	NA	100%			- TRACE FINE TO COARSE SAND, FINE GRAVEL		2.1 2.5		
13.5		5	MC	NA	100%	REDDISH BROWN	STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL		0 0	CL ML	
17.3		6	MC	NA	100%					0 0		
20								BORING ADVANCED TO 17.3' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRKX MOUNTED GEOPROBE, MODEL 800 TO 17.3'

PROJECT NO.: 05.35616

BORING NO.: SB-3

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-4

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064727.62 N
1063810.26 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 597.25 FT

DATE TIME LEVEL TYPE TYPE

MACROCORE

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT AXELRE

* POCKET PENETROMETER READING

REVIEWED BY: *[Signature]*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	P/D F/D			
0.5	DATA			NA	—			6 IN CONCRETE				
		1	ML	NA	70%	GRAY REDDISH BROWN	MEDIUM STIFF	FILL: CLAY SILT, SOME TO TRACE FINE TO COARSE SAND, FINE GRAVEL, LINDER COAL, SLAG	3/2 1/2	FILE	DRY	
5 6.5		2	ML	NA	90%	REDDISH BROWN	VERY STIFF	SILTY CLAY, TRACE FINE TO MEDIUM SAND	0	CL	THINLY LAMINATE TYPICALLY 1/16 IN THICK	
10		3	ML	NA	100%	REDDISH BROWN	STIFF	CLAYEY SILT, SOME TO TRACE FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL.	0	ML		
		4	ML	NA	100%				0			
15		5	ML	NA	100			BORING ADVANCED TO 14.5' APPROXIMATE TOP OF BEDROCK			MACRO CORE REFUSED	
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE MODEL 8MU TO 14.5'

PROJECT NO.: 05.35616

BORING NO.: SB-4

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-5

PROJECT: CHEMCORE

SHEET: 1 OF 1

CLIENT: NNSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064728.55 N
1063856.72 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 597.35 FT

DATE

TIME

LEVEL

TYPE

TYPE

DIA.

WT.

FALL

DIRECT PUSH

* POCKET PENETROMETER READING

DATE STARTED: 2/23/99

DATE FINISHED: 2/23/99

DRILLER: JOE NOSSAL

GEOLOGIST: SCOTT MCLABE

REVIEWED BY: *[Signature]*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION						REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		AD FID	CLASS USCS	
0.5	AAAA							6 IN CONCRETE				
		1	ML	NA	75%	REDDISH BROWN	STIFF	FILL: CLAYEY SILT, SOME FINE TO MEDIUM SAND AND GRAVEL, TRACE CINDER		0	FILE	DRY
							↓	SILTY FINE SAND.		0		
5		2	ML	NA	100%		VERY STIFF	SILTY CLAY		0		MASSIVE
							↓					
		3	ML	NA	100%	REDDISH BROWN	VERY STIFF	SILTY CLAY TRACE FINE TO COARSE SAND		1.5 IN	CL	THINLY LAMINATED TYPICALLY 1/16" THICK
10		4	ML	NA	100%	REDDISH BROWN	STIFF	CLAYEY SILT, SOME FINE TO COARSE SAND AND		0	ML	
							↓	FINE TO COARSE GRAVEL		1.5 IN		
13.2		5	ML	NA	100%							
								BORING ADVANCED TO 13.2' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL
15												
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUSS MOUNTED GEOPROBE, MODEL 8MU TO 13.2'

PROJECT NO.: 05.35616

BORING NO.: SB-5

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-6

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.3566

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 10648 AL. 86 N
10637 68.64 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 596.28 FT

DATE TIME LEVEL TYPE TYPE

MACROCORE

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NASSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	NO FWD			
0.5	AA	1	MC	NA	70%	BLACK ↓ REDDISH BROWN ↓	LOOSE ↓ MEDIUM STIFF ↓	6 IN CONCRETE FILL: FINE TO COARSE SAND AND CINDER, TRACE BRKK, GLASS CLAYEY SILT, TRACE FINE TO COARSE SAND AND GRAVEL, CINDER	4.3 NA	FLU	DRY	
5.5		2	MC	NA	90%	REDDISH BROWN ↓	STIFF ↓ VERY STIFF ↓	SILTY CLAY, FEW SILT AND SILTY FINE SAND PARTINGS — TRACE FINE TO COARSE SAND FINE GRAVEL,	12.43 NA	CL	THINLY LAMINATE TYPICALLY 1/16" THICK	
		3	MC	NA	100%				21.2 NA			
10		4	MC	NA	100%				7.2 NA			
		5	MC	NA	100%				7.5 NA			
13		6	MC	NA	100%	REDDISH BROWN ↓	STIFF ↓	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND AND GRAVEL	32.1 NA	ML		
15		7	MC	NA	100%				10.5 NA			
		8	MC	NA	100%				8.1 NA			
19.5								BORING ADVANCED TO 19.5 APPROXIMATE TOP OF BEDROCK.			MACRO CORE REFUSAL	
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE, MODEL 8ML TO 19.5

NA = NOT AVAILABLE

PROJECT NO.: 05.3566

BORING NO.: SB-6

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: MW-1S

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616.00

BORING CONTRACTOR: BUFFALO DRILLING CO.

BORING LOCATION: 1064882.25 N
1063786.05 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 595.86 FT

DATE	TIME	LEVEL	TYPE	TYPE	8 1/4" SPIRIT-SPAWN	NX
				DIA.	2 IN.	3 IN.
				WT.	140 #	-
				FALL	30 IN.	-

DATE STARTED: 2/9/99

DATE FINISHED: 2/15/99

DRILLER: DON RIMBECK

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: *Michael*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PID /AD	CLASS USCS	
		1	SS	1 2	25%	BLACK	LOOSE	FILL: SILTY SAND, SOME FINE TO MEDIUM GRAVEL, TRACE BRICK AND WOOD	14.8	FILL	MOIST
		2	SS	8 3	60%	REDDISH BROWN	MEDIUM STIFF	SILTY CLAY, TRACE FINE TO MEDIUM SAND, GRAVEL	16.4		
4		3	SS	4 6	50%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS (M/FM)	15.3	CL	DRY
5		4	SS	13 16			VERY STIFF		18.4		THINLY LAMINATED
		5	SS	15 15	70%		STIFF		11.8		TYPICALLY 1/16" THICK
		6	SS	18 21					6.5		
10		7	SS	4 8	80%				14.8		
		8	SS	16 17			MEDIUM STIFF		12.1		
		9	SS	3 4	80%				11.7		
		10	SS	7 8	100%				15.4		
15		11	SS	7 8	100%				15.4		WET SEAMS AT 12.5, 13.1, 13.4, 13.7"
16		12	SS	2 4	100%			TRACE FINE TO MEDIUM SAND, FINE GRAVEL.	19.2		TYPICALLY 1/2 - 3/4" THICK
		13	SS	7 11					31.7		
		14	SS	2 4	100%	REDDISH BROWN	MEDIUM STIFF	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND, FINE TO COARSE GRAVEL.	31.4	ML	MASSIVE
		15	SS	9 10	100%		STIFF		37.1		
19.8		16	SS	5 7	50%				34.1		
20		17	SS	10 54.4					17.3		SPOON REFUSAL.
25		18	NX CORE	4.25 4.7	90%	LIGHT GRAY	HARD	DOLOMITE THIN TO MEDIUM BEDDED, FINE GRAINED, WITH 1/8" - 1/4" THICK ARGILLACEOUS PARTINGS, HORIZONTAL FRACTURES SPACED 2-4" TYPICALLY.		BROKEN	ADDER REFUSAL.
		19	NX CORE	9.5 9.5	100%			VERTICAL FRACTURES: 20.4 - 21.2, 21.6 - 21.7, 25.9 - 26.1 (TYPICALLY 1/2" THICK)			PID = 2ppm
30.4		20	NX CORE	24.5 34	58%	DARK GRAY	HARD / MEDIUM HARD	MANY SMALL VUGS: 26.3 - 27.5 MOST FRACTURES ALONG ARGILLACEOUS PARTINGS			NO WATER LOST TO FORDINATION
32.5		21				LIGHT GRAY	HARD / MEDIUM HARD	SHALE: THINLY BEDDED HORIZONTAL FRACTURES SPACED 2-4" TYPICALLY. SULFUR ODOR			RUN #1 TOOK 10 MIN
		22						DOLOMITE: MEDIUM BEDDED HORIZONTAL FRACTURES SPACED 7-8" TYPICALLY			PID = 1.5ppm
35		23									20 GALLONS LOST TO FORDINATION
		24									SLIGHT SULFUR ODOR
		25									RUN #2 TOOK 21 MIN
		26									
		27									
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		100									

COMMENTS: BORING ADVANCED WITH B-63 USING 5 1/4" ID HSA TO 19.8 FEET, CORED W/ 3" NX CORE BARREL FROM 19.8' TO 34' AND REAMED WITH 5 7/8" ROLLER BIT TO 35.0' * DEC SAMPLE TAKEN

PROJECT NO.: 05.35616.00

BORING NO.: MW-1S

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

BORING NO: MW-1D

CLIENT: New York State DEC

SHEET: 1 of 1

BORING CONTRACTOR: Buffalo Drilling Co.

JOB NO.: 05-00035890.02

GROUNDWATER: Encountered at 12.0'

BORING LOCATION: N 1064872.18/E 1063785.48

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 595.67

DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX
				DIA.	8 1/4"	2"	2"
				WT.	-	140#	-
				FALL	-	30"	-
* POCKET PENETROMETER READING							

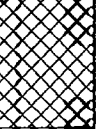
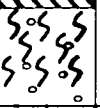
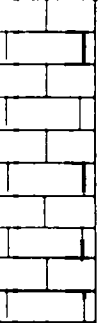
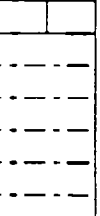
DATE STARTED: 09/17/01

DATE FINISHED: 09/19/01

DRILLER: Joe Gardner

GEOLOGIST: Scott McCabe

REVIEWED BY: *Scott McCabe*

DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
								See MW-1S boring log for lithologic description.				
4												
5												
10								See MW-1S boring log for lithologic description.				
15												
16												
19								See MW-1S boring log for lithologic description.				
20												
25								See MW-1S boring log for lithologic description.				
30												
35								See MW-1S boring log for lithologic description.				

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID
HSA to 19.0' NX cored 40.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and
reamed with 3 7/8" roller bit 40-50' bgs.

PROJECT NO. 05-00035890.02

BORING NO. MW-1D

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

BORING NO: MW-1D

CLIENT: New York State DEC

SHEET: 2 of 2

JOB NO.: 05-00035890.02

DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	
40						medium gray	medium hard	Interbedded shale and argillaceous dolomite thin to medium bedded, typically alternating ~2' typical fractures spaced 3-6"	broken		core #1 took 29 min no water lost PID=0
45		C-1	NX	9.4	10						
50											
55								Boring completed at 50' bgs			
60											
65											
70											
75											

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID
HSA to 19 0' NX cored 40 0-50 0' bgs. Reamed with 5 7/8" roller bit to 40 0' bgs and
reamed with 3 7/8" roller bit 40-50' bgs.

PROJECT NO. 05-00035890.02
BORING NO. MW-1D

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.:

MW-3

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: BUFFALO DRILLING CO.

BORING LOCATION: 1064704.41 N
1063894.05 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 598.63 FT

DATE TIME LEVEL TYPE TYPE

8 1/4" SPLIT SPOON NX

DATE STARTED: 2/11/99

DIA. 2 IN. 3 IN.

DATE FINISHED: 2/18/99

WT. 140 #

DRILLER: DON RIMBECK

FALL 30 IN.

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION				CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PID FID		
		1	SS	4	3	50%	BLACK/GRAY BLACK	HARD LOOSE	4" ASPHALT OVER 8" CONCRETE	0	MOIST
		2	SS	3	3	60%	REDDISH BROWN	MEDIUM STIFF	FILL: FINE TO COARSE SAND, CINDER, SLAG, GRAVEL TRACE BRICK CLAY SILT, TRACE SAND	0	
4		3	SS	3	7	50%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS	1.4	DRY THINLY LAMINATED TYPICALLY 1/16 IN THICK
5		4	SS	13	22	70%		HARD		2.8	
		5	SS	32	30	70%		VERY STIFF		0	
		6	SS	4	14	70%			TRACE FINE TO MEDIUM SAND, FINE GRAVEL	2.4	
10		7	SS	14	11	70%				1.4	
11		8	SS	5	23	70%	REDDISH BROWN	VERY STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL	2.5	MASSIVE #PID=30.1 FID=10.2
12.8		9	SS	20	17	70%				3.1	SPOON REFUSAL
		10	NX CORE	13	54	30%	LIGHT GRAY	HARD	DOLOMITE: THIN TO MEDIUM BEDDED, FINE GRAINED, WITH 1/16" - 1/8" THICK ARGILLACEOUS PARTINGS, HORIZONTAL FRACTURES SPACED 2-6" TYPICALLY VERTICAL FRACTURES: 19-19.2', 26.65-26.8', 30.9-31.1' FEW SMALL VUGS: 16.1-16.5', 30.3-30.75, 31.15-31.6 32.2-32.4 MOST FRACTURES ARE ALONG ARGILLACEOUS PARTINGS.	3.1	AUGER REFUSAL PID=0 RUN #1 TOOK 12 min NO WATER LOST TO FORMATION PID=0 RUN #2 TOOK 30 min 20 GALLONS LOST TO FORMATION
15		11	NX CORE	5.1	5.0	100%				8	BROKEN
20		12	NX CORE	17.9	9.1	97%				2	
		13	NX CORE	27.3	9.4	66%				2	
25		14	NX CORE	27.3	5.0	100%				2	
30		15	NX CORE	32.5	5.0	69%				2	
34.7		16	NX CORE	32.5	2.5	100%				2	
35		17	NX CORE	35.0	2.5	73%	DR. GRAY	HARD/MED	SHALE - THINLY BEDDED	2	PID=0 RUN #3 TOOK 14 min 20 GALLONS LOST TO FORMATION PID=0 RUN #4 TOOK 9 min 5 GALLONS LOST
									BORING ADVANCED TO 35.0'		

COMMENTS: BORING ADVANCED WITH B-61 USING 8 1/4" ID HSA TO 12.8 FT, CORED WITH 3" NX CORE BARREL FROM 12.8 TO 35', AND REAMED WITH 5 7/8" ROLLER BIT TO 35.0'. 4 DEL SAMPLE TAKEN.

PROJECT NO.: 05.35616

BORING NO.: MW-3

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: PZ-1

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064852.73 N
1063772.97 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 596.78 FT

DATE

TIME

LEVEL

TYPE

TYPE

MACROCORE

DATE STARTED: 2/23/99

2/23/99

17:30

11.7'

DIA.

2 1/2 IN.

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCLEABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	SD FID	CLASS USCS	
	0-0.49							1 FT CONCRETE	✓	✓	
								6 IN VOID	✓		
		1	MC	NA	90%	REDDISH BROWN	MEDIUM STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND FINE TO MEDIUM GRAVEL.	5.6 4.0	FE	DRY
5		2	MC	NA	100%		STIFF		13.1 5.7		
8		3	MC	NA	100%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS - TRACE FINE TO MEDIUM SAND	6.1 4.3	CL	THINLY LAMINATE TYPICALLY 1/16" THICK
10		4	MC	NA	100%	GRAY REDDISH BROWN	LOOSE STIFF	FINE TO COARSE SAND AND GRAVEL CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND AND GRAVEL.	12.1 19.7	SW/GW ML	WET DRY
11.5	0.5-0.8										
14	0.8-1.0							BORING ADVANCED TO 14.0'			
15											
20											
25											
30											
35											

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE MODEL 800 TO 14'
PIZOMETER INSTALLED W/ 3/4 IN PVC, SCREWED 4-14', FINISHED WITH ROADBOX

PROJECT NO.: 05.35616

BORING NO.: PZ-1

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

BORING NO: MW-4S

CLIENT: New York State DEC

SHEET: 1 of 1

BORING CONTRACTOR: Buffalo Drilling Co.

JOB NO.: 05-00035890.02

GROUNDWATER: Not Encountered

BORING LOCATION: N 1064882 02/E 1064046.79

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 598.88

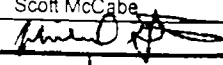
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	
				DIA.	8 1/4"	2"	2"	
				WT.	-	140#	-	
				FALL	-	30"	-	
* POCKET PENETROMETER READING								

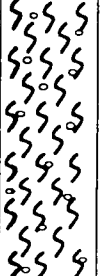
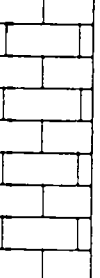
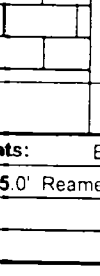
DATE STARTED: 08/20/01

DATE FINISHED: 08/28/01

DRILLER: Joe Gardner

GEOLOGIST: Scott McCabe

REVIEWED BY: 

DEPTH FEET	SAMPLE				DESCRIPTION						REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
1								See MW-4D boring log for lithologic description.				
5								See MW-4D boring log for lithologic description.				
10								See MW-4D boring log for lithologic description.				
15								See MW-4D boring log for lithologic description.				
20								See MW-4D boring log for lithologic description.				
25								See MW-4D boring log for lithologic description.				
30								See MW-4D boring log for lithologic description.				
35								See MW-4D boring log for lithologic description.				
								Boring completed at 34.5' bgs				

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID

HSA to 15.0' Reamed with 5 7/8" roller bit to 34 5' bgs.

PROJECT NO. 05-00035890.02

BORING NO. MW-4S

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

BORING NO: MW-4D

CLIENT: New York State DEC

SHEET: 1 of 2

BORING CONTRACTOR: Buffalo Drilling Co.

JOB NO.: 05-00035890.02

GROUNDWATER: Not Encountered

BORING LOCATION: N 1064882.86/E 1064042.04

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 598.67

DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	
				DIA.	8 1/4"	2"	2"	
				WT.	-	140#	-	
				FALL	-	30"	-	
* POCKET PENETROMETER READING								

DATE STARTED: 08/20/01

DATE FINISHED: 08/28/01

DRILLER: Joe Gardner

GEOLOGIST: Scott McCabe

REVIEWED BY: *[Signature]*

DEPTH FEET	SAMPLE						DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
1		1	ss	- 8	100%	gray	m. dense	4" asphalt over subbase	-	0.0	dry	
				9 13		reddish	medium	Silty Clay, massive	CL	0.0		
		2	ss	4 7	100%	brown	dense			0.0		
				12 15								
5		3	ss	14 16	75%		dense	Silty Clay, thinly laminated		30.8		
6				18 20								
		4	ss	24 21	75%	reddish	dense	Clayey Silt, trace fine to coarse sand	ML	4.1		
				29 30		brown		and gravel		1.5		
10		5	ss	6 13	100%					0.0		
				17 22								
		6	ss	23 24	50%					0.0		
				29 32								
		7	ss	9 18	100%					0.0		
				29 50/5								
15		8	ss	50/5 -	100%		v. dense	-trace dolomite gravel		0.0		
		c-1	NX	3.2 5	70% 63%	light brown	hard	Dolomite	broken		core #1 took 7 min. no water lost PID=0	
								Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings				
20												
		c-2	NX	5 4.5	100% 75%			fractures typically spaced 3-8"			core #2 took 7 min. no water lost PID=0	
								most fractures along argillaceous partings				
25												
		c-3	NX	10 10	100% 68%	dark brown		vertical fractures: 21.3-21.5, 30.8-31.0, 31.1-31.3,			core #3 took 15 min. no water lost PID=0	
								few small vugs through cores, some filled with gypsum				
30												
		c-4	NX									
35												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID
HSA to 15.0' NX cored 15.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and
reamed with 3 7/8" roller bit 40-50' bgs.

PROJECT NO. 05-00035890.02

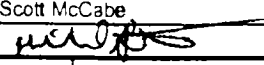
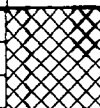
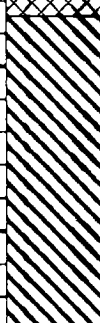
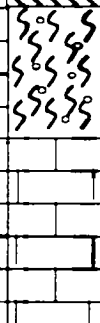
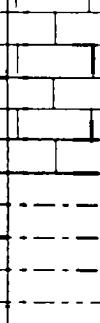
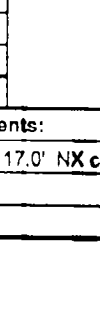
BORING NO. MW-4D

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-4D		
CLIENT: New York State DEC										SHEET: 2 of 2		
										JOB NO.: 05-00035890.02		
DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS	
		NO.	TYPE	BLOWS PER 6"	REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
		c-4	NX	5.3	5.5	96%	medium	medium	Interbedded shale and argillaceous dolomite thin to medium bedded, typically alternating ~2' typical fractures spaced 3-6"	broken		core #4 took 9 min. no water lost PID=0
					79%	gray	hard					
40												
		c-5	NX	9.2	10	92%						core # 5 took 19 min. no water lost PID=0
					41							
45												
50												
									Boring completed at 50.0' bgs.			
55												
60												
65												
70												
75												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 15.0' NX cored 15.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and reamed with 3 7/8" roller bit 40-50' bgs.										PROJECT NO. 05-00035890.02 BORING NO. MW-4D		
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URS Corporation										TEST BORING LOG	
PROJECT: Chem Core										BORING NO: MW-5	
CLIENT: New York State DEC										SHEET: 1 of 1	
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02	
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064926.55/E 1063864.57	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 594.79	
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	TUBE	DATE STARTED: 08/30/01		
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 09/04/01		
				WT.	-	140#	-		DRILLER: Joe Gardner		
				FALL	-	30"	-		GEOLOGIST: Scott McCabe		
* POCKET PENETROMETER READING										REVIEWED BY: 	
SAMPLE							DESCRIPTION				
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
1		1	ss	10 6	50%	gray	m. dense	dolomite gravel and sand	CL	0.0	dry
				5 5		reddish	stiff	Silty Clay, massive			
		2	ss	5 7	50%	brown				0.0	moist
				7 6							
5		3	ss	4 7	75%		hard	Silty Clay, laminated		0.0	
				12 15							
		4	ss	17 27	100%		very stiff			0.0	
				25 27							
		5	ss	4 10	100%					0.0	
10				11 15							
		6	ss	14 15	100%			-few gray, Silty partings		0.0	
			17 19								
		7	ss	7 9	100%					0.0	
			13 15								
15		8	ss	3 4	100%	reddish	dense	Clayey Silt, trace fine to coarse sand	ML	0.0	
			26 29			brown		and gravel		0.0	
17		9	ss	46 50/3	100%						
						light brown	hard	Dolomite	broken		
20		c-1	NX	5 5	100%			Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings			core #1 took 9 min. no water lost PID=0
					80%						
25		c-2	NX	6 7	86%			fractures typically spaced 3-8" most fractures along argillaceous partings			core #2 took 14 min. no water lost PID=0
					57%						
30								few small vugs through cores, some filled with gypsum			
32		c-3	NX	6 6	100%						core #3 took 17 min. no water lost PID=0
					54%	medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken		
35											
Boring completed at 35.0' bgs.											
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.02	
HSA to 17.0' NX cored 17.0-35.0' bgs. Reamed with 5 7/8" roller bit to 35.0'										BORING NO. MW-5	

URS Corporation										TEST BORING LOG						
PROJECT: Chem Core										BORING NO: MW-6						
CLIENT: New York State DEC										SHEET: 1 of 1						
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02						
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064832 23/E 1063752.37						
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 592.55						
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED: 09/11/01						
				DIA.	8 1/4"	2"	2"			DATE FINISHED: 09/14/01						
				WT.	-	140#	-			DRILLER: Joe Gardner						
				FALL	-	30"	-			GEOLOGIST: Scott McCabe						
* POCKET PENETROMETER READING										REVIEWED BY: <i>hink</i>						
SAMPLE DESCRIPTION																
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"		REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS				
		1	ss	5	10	50%	black	medium dense	Fill: Fine to coarse sand and gravel, trace slag, brick and coal	---	0.0	moist				
				10	12											
3.5			2	ss	16	7	50%				0.0					
5					6	7										
			3	ss	4	6	75%	reddish brown	stiff	Silty Clay, thinly laminated	CL		0.0			
					6	5										
		4	ss	11	16	75%		very stiff			0.0					
				12	17											
10		5	ss	6	10	75%					0.0					
				10	14											
12		6	ss	15	17	75%					0.0					
				16	17											
		7	ss	7	11	75%	brown	medium dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0					
					11	14										
15			8	ss	10	9					7%					0.0
					11	14										
		9	ss	10	14	100%					0.0					
				10	11											
19		10	ss	15	50/f	100%					0.0					
20																
		c-1	NX	4.5	5	90% 33%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	broken		core #1 took 10 min. no water lost PID=0				
25																
		c-2	NX	7.7	8	96% 60%			fractures typically spaced 3-6" most fractures along argillaceous partings			core #2 took 26 min. no water lost PID=0				
28																
30																
32																
							medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 2-6"	broken						
									Boring completed at 32.0' bgs.							
35																
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 19.0' NX cored 19.0-32.0' bgs. Reamed with 5 7/8" roller bit to 32.0'																
PROJECT NO. 05-00035890.02										BORING NO. MW-6						

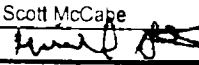
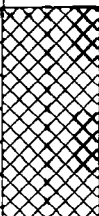
URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-7		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064762.94/E 1063737.65		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 592.53		
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 09/10/01			
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 09/14/01			
				WT.	-	140#	-		DRILLER: Joe Gardner			
				FALL	-	30"	-		GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 		
SAMPLE							DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
		1	ss	4 7	50%	black	medium dense	Fill: Fine to coarse sand and gravel, trace slag, brick and coal	—	0.0	moist	
				9 11								
3.5		2	ss	6 4	75%					0.0		
				7 7								
5		3	ss	4 6	75%	reddish brown	very stiff	Silty Clay, thinly laminated	CL	0.0		
				10 14								
		4	ss	12 13	75%							
				14 14								
10		5	ss	4 7	100%					0.0		
				9 11								
		6	ss	5 8	75%					1.4		
				9 12								
13		7	ss	14 15	75%	brown	medium dense	Clayey Silt, trace fine to coarse sand and gravel	ML	1.8		
				11 11								
15		8	ss	11 15	75%					2.5		
				10 17								
17		9	ss	50/3	100%					1.5		
20		c-1	NX	3 3	100% 60%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 2-5" most fractures along argillaceous partings few vugs through	broken		core #1 took 4 min. no water lost PID=0	
25		c-2	NX	9.4 10	94% 38%						core #2 took 26 min. no water lost PID=0	
28												
30						medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 3-6"	broken		core #3 took 10 min. no water lost PID=0	
32		c-3	NX	2.3 2.5	92% 78%							
								Boring completed at 32.0' bgs.				
35												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 17.0' NX cored 17.0-32.0' bgs. Reamed with 5 7/8" roller bit to 32.0'

PROJECT NO. 05-00035890.02

BORING NO. MW-7

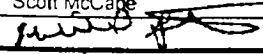
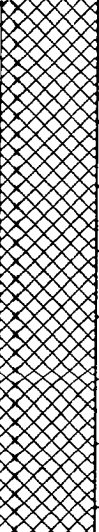
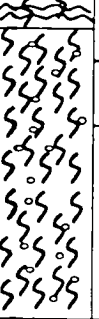
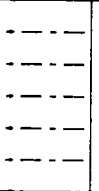
URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-8S		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064443.28/ E 1063740.85		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 587.82		
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED:	08/22/01	
				DIA	8 1/4"	2"	2"			DATE FINISHED:	08/30/01	
				WT.	-	140#	-			DRILLER:	Joe Gardner	
				FALL	-	30"	-			GEOLOGIST:	Scott McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: 		
SAMPLE										DESCRIPTION		
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"		REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		1	ss	-	14	100%	black	m. dense	4" asphalt		9.4	dry
				11	9				Fill: Fine to coarse sand and gravel,			
		2	ss	3	5	75%		loose	trace concrete and brick		14.3	moist
				3	3							
5												
6			3	ss	2	2	75%					3.1
7		4	ss	4	50/2	100%	r. brown	soft	Silty Clay, trace dolomite gravel	CL	1.4	
							light brown	hard	Dolomite	broken		core #1 took 11 min. no water lost PID = 0
10		c-1	NX	4.2	5	84% 0%			Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings			
									fractures typically spaced 2-6"			
15		c-2	NX	7	7	100% 46%	brown		most fractures along argillaceous partings			core #2 took 18 min. no water lost PID = 0
									few small vugs throught cores, some filled with gypsum			
20												
		c-3	NX	6	6	100% 60%						core #3 took 11 min. no water lost PID = 0
25												
									Boring completed at 25.0' bgs.			
30												
35												
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.02		
HSA to 7.0' NX cored 7.0-25.0' bgs. Reamed with 5 7/8" roller bit to 25.0'										BORING NO. MW-8S		

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-8D			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064444.68/E 1063735.80			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 587.61			
DATE	TIME	LEVEL	TYPE	TYPE	HSA		NX			DATE STARTED: 12/18/01			
				DIA.	8 1/4"		2"			DATE FINISHED: 01/02/02			
				WT.	-		-			DRILLER: Joe Gardner			
				FALL	-		-			GEOLOGIST: Scott McCape			
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS			
					RQD%					PID			
5								See MW-8S boring log for lithologic description.					
6.5													
10									See MW-8S boring log for lithologic description.				
15													
20													
25								contact approximated from nearby borings (MW-7 and MW-12)					
27													
30						medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken				
33								thin to medium bedded, typically alternating ~2'					
35								typical fractures spaced 3-6"					
		c-1	NX	9.1	9.5	96%					core #1 took 16 min. ~ 50 gallons lost PID=0		
						34%							
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.02			
HSA to 6.5' NX cored 33.0-42.5' bgs. Reamed with 5 7/8" roller bit 10.0-33.0' and 3 7/8" roller bit 33.0-45.0'										BORING NO. MW-8D			

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-8D		
CLIENT: New York State DEC										SHEET: 2 of 2		
										JOB NO.: 05-00035890.03		
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
						medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken		core #1 took 16 min. ~ 50 gallons lost PID=0	
40		C-1	NX	9.1 9.5	96% 34%			thin to medium bedded, typically alternating ~2'				
								typical fractures spaced 2-3"				
45												
								Boring completed at 45.0' bgs				
50												
55												
60												
65												
70												
75												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 6.5' NX cored 33.0-42.5' bgs. Reamed with 5 7/8" roller bit 10.0-33.0' and 3 7/8" roller bit 33.0-45.0'										PROJECT NO. 05-00035890.03 BORING NO. MW-8D	
--	--	--	--	--	--	--	--	--	--	--	--

URS Corporation										TEST BORING LOG									
PROJECT: Chem Core										BORING NO: MW-9									
CLIENT: New York State DEC										SHEET: 1 of 1									
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02									
GROUNDWATER: Encountered at 12.0'										CAS.		SAMPLER		CORE		TUBE		GROUND ELEVATION: 582.60	
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon				DATE STARTED: 09/05/01									
				DIA.	8 1/4"	2"				DATE FINISHED: 09/08/01									
				WT.	-	140#				DRILLER: Joe Gardner									
				FALL	-	30"				GEOLOGIST: Scott McCabe									
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>									
SAMPLE										DESCRIPTION									
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS								
	[Pattern]	1	SS	5	28	75%	black ↓	very dense	6" asphalt over 6" of gravel Fill: Fine to medium sand, trace coarse sand and gravel		0.0	moist							
				27	26														
5		2	SS	6	9	50%		medium dense			Fill: Silt, some fine to coarse sand and gravel, trace brick, cinder and slag			1.9	wet at 12.0				
				14	33														
		3	SS	31	24	75%		very dense						2.4					
				23	22														
10		4	SS	17	19	75%								1.7					
				37	50/3														
		5	SS	25	24	100%								1.3					
				20	20														
		6	SS	23	25	100%								0.0					
				28	41														
15																			
20																			
25																			
30																			
35																			
Comments: Boring advanced with truck-mounted Mobil 8-61 using 8 1/4" ID HSA to 20.0'										PROJECT NO. 05-00035890.02									
										BORING NO. MW-9									

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-10			
CLIENT: New York State DEC										SHEET: 1 of 2			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Encountered at 12.0'										BORING LOCATION: N 1064868.72/ E 1063624.93			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 582.87			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED: 09/06/01			
				DIA.	8 1/4"	2"	2"			DATE FINISHED: 09/08/01			
				WT.	-	140#	-			DRILLER: Joe Gardner			
				FALL	-	30"	-			GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS		
				-	-	black	medium	6" asphalt over 6" of gravel		0.0	moist		
		1	ss	6 11	75%	brown	dense	Fill: Fine to medium sand, trace coarse sand and gravel		0.0			
5		2	ss	7 10	50%	black		Fill: Silt, some fine to coarse sand and gravel, trace brick, cinder and slag		0.0			
		3	ss	14 12			dense			1.4			
		4	ss	20 24	100%		very dense			0.0			
10		5	ss	22 20						0.0			
		6	ss	18 22	100%		medium dense			0.0	wet at 12.0'		
		7	ss	26 22	50%					0.0			
15		8	ss	8 7	65%					0.0			
		9	ss	7 8	75%					0.0			
17		10	ss	2 7	100%	reddish	medium	Silty Clay, thinly laminated	CL	0.0			
19		8	ss	3 2	100%	brown	stiff			0.0			
20		9	ss	2 2	100%	black	loose	Silt, some organics, trace fine sand	OL	0.0			
21		10	ss	3 3	100%					0.0			
				5 14	100%	brown	dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0			
		11	ss	15 18						0.0			
25				24 22	75%								
				18 19									
30								Auger refusal at 30.0' bgs					
		c-1	NX	2.8 3	93% 64%	medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken		core #1 took 6 min. no water lost PID=0		
35		c-2	NX					thin to medium bedded, typically alternating ~2' typical fractures spaced 3-6"					

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 30.0' NX cored 30.0-41.0' bgs. Reamed with 5 7/8" roller bit to 41.0'

PROJECT NO. 05-00035890.02
 BORING NO. MW-10

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core										BORING NO: MW-10	
CLIENT: New York State DEC										SHEET: 2 of 2	
										JOB NO.: 05-00035890.02	
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	
40		c-2	NX	4.5 8	56% 0	medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 1-3"	broken		
41											
								Boring completed at 41.0' bgs			
45											
50											
55											
60											
65											
70											
75											

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 30.0' NX cored 30.0-41.0' bgs. Reamed with 5 7/8" roller bit to 41.0'

PROJECT NO. 05-00035890.02
BORING NO. Mw-10

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

CLIENT: New York State DEC

BORING CONTRACTOR: Buffalo Drilling Co.

GROUNDWATER: Not Encountered

CAS.

SAMPLER

CORE

TUBE

BORING NO: MW-11

SHEET: 1 of 1

JOB NO.: 05-00035890.03

BORING LOCATION: N 1064661.21/E 1063819.42

GROUND ELEVATION: 598.10

DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	TUBE
				DIA.	8 1/4"	2"	2"	
				WT.	-	140#	-	
				FALL	-	30"	-	
* POCKET PENETROMETER READING								

DATE STARTED: 01/03/02

DATE FINISHED: 01/08/02

DRILLER: Joe Gardner

GEOLOGIST: Scott McCabe

REVIEWED BY: *[Signature]*

DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
		1	ss	-	100%	gray	very	0-125' asphalt		0.0	dry	
				50/3		brown	dense	125-7' sub-base				
		2	ss	3	75%		stiff	7-1.5' concrete		0.0	moist	
				8				1.5-4.5 Fill; Silty Clay, trace brick, coal				
5		3	ss	10	75%							
				5		reddish	stiff	Silty Clay, thinly laminated, trace	CL	0.0		
		4	ss	9	100%	brown	very	coarse sand		0.0		
				20			stiff			0.0		
10		5	ss	9	100%					0.0		
				23								
11		6	ss	7	100%					0.0		
				12		brown	dense	Clayey Silt, trace fine to coarse sand	ML	0.0		
		7	ss	12	100%		to	and gravel		0.0		
				23			v. dense					
15		8	ss	27	100%							
				50/1								
		c-1	NX	3	100% 53%	light brown	hard	Dolomite	broken		core #1 took 12 min. no water lost PID=0	
								Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings				
20								fractures typically spaced 2-6"			core #2 took 32 min. ~ 20 gallons lost PID=0	
								most fractures along argillaceous partings				
25		c-2	NX	9.9	99% 56%			vertical fractures: 30.5-30.8'				
30												
34		c-3	NX	4.9	98% 69%						core #3 took 17 min. ~ 20 gallons lost PID=0	
35						m. gray	m. hard	interbedded shales and dolomite				

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID

HSA to 14.5' NX cored 14.5' -35.0'. Reamed with 5 7/8" roller bit 17.5-35.0' bgs.

Boring completed at 35.0' bgs

PROJECT NO. 05-00035890.03

BORING NO. MW-11

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-12			
CLIENT: New York State DEC										SHEET: 1 of 2			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03			
GROUNDWATER: Perched 4-6'										BORING LOCATION: N 1064350.54/E 1063660.96			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.22			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED: 12/18/01			
				DIA.	8 1/4"	2"	2"			DATE FINISHED: 12/26/01			
				WT.	-	140#	-			DRILLER: Joe Gardner			
				FALL	-	30"	-			GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>Scott McCabe</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS		
		1	SS	- 4	50%	black / gray	loose	Fill: Gravel, some sand and brick		0.0	dry		
		2	SS	50/4 -	75%		v. dense			0.0			
5		3	SS	3 9	100%		medium dense			0.0	wet 4.0-6.0'		
		4	SS	5 8	75%	reddish brown		Fill: regraded Silty Clay, some gravel, brick		0.0	moist		
8				11 12									
		5	SS	7 19	100%	reddish brown	hard	Silty Clay, thinly laminated, trace coarse sand	CL	0.0			
10		6	SS	17 19	100%					0.0			
				13 30									
		7	SS	3 9	75%		very stiff			0.0			
				14 12									
15		8	SS	3 9	100%					0.0			
16				14 19									
			9	SS	20 31	100%	reddish brown	very dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0	wet ~17.8'	
					50/5 -						0.0		
20													
		c-1	NX	4.75 5	95% 31%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	broken		core #1 took 13 min. no water lost PID=0		
25								fractures typically spaced 3-6"			core #2 took 10 min. no water lost PID=0		
		c-2	NX	4.4 4.5	99% 42%			most fractures along argillaceous partings					
30								vertical fractures: 30.25-31.25			core #3 took 15 min. ~ 50 gallons lost PID=0		
		c-3	NX	7 7	100% 39%								
35													
							m. gray	m. hard	Interbedded shales and dolomite				
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.03			
HSA to 20.0' NX cored 20.0-36.5' bgs. Reamed with 5 7/8" roller bit to 38.0'										BORING NO. MW-12			

URS Corporation

TEST BORING LOG

PROJECT: Chem Core

BORING NO: MW-13 S

CLIENT: New York State DEC

SHEET: 1 of 2

BORING CONTRACTOR: Buffalo Drilling Co.

JOB NO.: 05-00035890.03

BORING LOCATION: N 1063778 31/E 1063516 03

GROUNDWATER: Not Encountered

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 593.97

DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX
				DIA.	8 1/4"	2"	2"
				WT.	-	140#	-
				FALL	-	30"	-

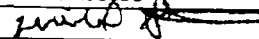
DATE STARTED: 03/05/02

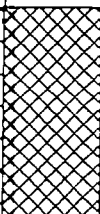
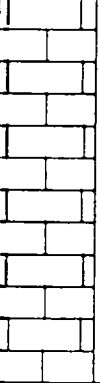
DATE FINISHED: 03/11/02

DRILLER: Joe Gardner

GEOLOGIST: Scott McCabe

* POCKET PENETROMETER READING

REVIEWED BY: 

DEPTH FEET	SAMPLE				DESCRIPTION						REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION		USCS	PID	
								See MW-13 D boring log for lithologic description.				
5												
10												
												
15												
20												
												
24												
25												
								See MW-13 D boring log for lithologic description.				
30												
35												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID

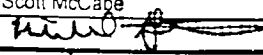
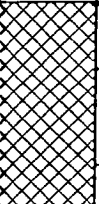
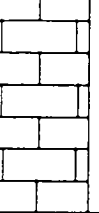
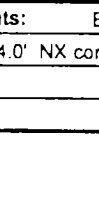
HSA to 24.0' Reamed with 5 7/8" roller bit to 37.0'

PROJECT NO. 05-00035890.04

BORING NO. MW-13 S

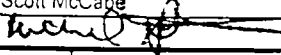
URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-13 S		
CLIENT: New York State DEC										SHEET: 2 of 2		
										JOB NO.: 05-00035890.04		
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
37												
								Boring completed at 37.0' bgs				
40												
45												
50												
55												
60												
65												
70												
75												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.03	
HSA to 24.0' Reamed with 5 7/8" roller bit to 37.0'										BORING NO. MW-13 S	

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-13 D			
CLIENT: New York State DEC										SHEET: 1 of 2			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1063773.95/E 1063514.83			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 593.95				
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	DATE STARTED: 03/07/02					
				DIA.	8 1/4"	2"	2"	DATE FINISHED: 03/13/02					
				WT.	-	140#	-	DRILLER: Joe Gardner					
				FALL	-	30"	-	GEOLOGIST: Scott McCabe					
* POCKET PENETROMETER READING								REVIEWED BY: 					
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 5"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS		
		1	ss	9 6	11 6	100%	black	medium dense	Fill: Fine to coarse sand and cinders, some gravel and slag		0.0	dry	
5													
6.5		2	ss	2 3	2 4	75%	dark gray	medium stiff	Fill: Silty Clay, some cinder, coal, and slag		0.0	moist	
10							reddish brown	medium stiff	Silty Clay, thinly laminated, trace coarse sand	CL			
15		3	ss	3 9	4 14	100%		stiff			0.0		
18.5		4	ss	2 15	9 17	100%		very stiff			0.0		
20													
24		5	ss	6 13	10 22	100%	reddish brown	medium dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0		
25													
		c-1	NX	3	3	100% 40%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	very broken to broken		core #1 took 15 min. no water lost PID=0	
30													
		c-2	NX	10	10	100% 58%			fractures typically spaced 3-6" most fractures along argillaceous partings			core #2 took 50 min. water return lost at 33.0' bgs ~ 50 gallons lost PID=0	
35													
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 24.0' NX cored 24.0-52.5' bgs. Reamed with 3 7/8" roller bit to 54.0'													
PROJECT NO. 05-00035890.04										BORING NO. MW-13 D			

URS Corporation										TEST BORING LOG		
										BORING NO: MW-13 D		
PROJECT: Chem Core										SHEET: 2 of 2		
CLIENT: New York State DEC										JOB NO.: 05-00035890.03		
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
						light brown	hard	Dolomite	very broken		core #3 took 50 min. water return lost at 48.0' bgs ~ 50 gallons lost PID=0	
40						medium gray	medium hard	Interbedded shale and argillaceous dolomite	very broken			
42.5												
45								thin to medium bedded, typically alternating 6"-1'				
								typical fractures spaced 1-3"				
50		c-3	NX	9.5	10	95%						
52.5												
54												
55								Boring completed at 54.0' bgs				
60												
65												
70												
75												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 24.0' NX cored 24.0-52.5' bgs. Reamed with 3 7/8" roller bit to 54.0'		PROJECT NO. 05-00035890.04 BORING NO. MW-13 D
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URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-14			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Nothnagle Drilling										JOB NO.: 05-00035890.03			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064770.37/E 1063871.20			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.17			
DATE	TIME	LEVEL	TYPE	TYPE	HSA		HQ			DATE STARTED: 03/06/02			
				DIA.	8 1/4"		3"			DATE FINISHED: 03/11/02			
				WT.	-		-			DRILLER: Kevin Bush			
				FALL	-		-			GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE DESCRIPTION													
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS			
										PID			
5								See SB-2 boring log for lithologic description.					
10													
15											Auger refusal 14.7'		
20		c-1	HQ	4.7	5	94% 49%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	broken		core #1 took 210 min. no water lost PID=0	
25		c-2	HQ	5	5	100% 86%			fractures typically spaced 3-8" most fractures along argillaceous partings			core #2 took 120 min. no water lost PID=0	
30		c-3	HQ	5	5	100% 58%			Interconnected vugs, 27.75-28.6'			core #3 took 150 min. no water lost PID=0	
33		c-4	HQ	5	5	100% 80%	medium grey	medium hard	Interbedded shales and dolomite	broken		core #4 took 105 min. no water lost PID=0	
35													
36													
Comments: Boring advanced with low-profile Mite-E-Mite rig using 6 1/4" ID HSA to 14.7' Core with HQ-core barrel 16.0-36.0'										PROJECT NO. 05-00035890.04 BORING NO. MW-14			

APPENDIX A

BORING LOGS

URS Corporation										WELL BORING LOG					
PROJECT: Chem Core PDI										BORING NO: EX-01					
CLIENT: NYSDEC										SHEET: 1 of 2					
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000					
GROUNDWATER:										BORING LOCATION: 1064772.09N 1063862.03E					
										GROUND ELEVATION: 597.10					
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED: 07/13/04					
				DIA.	4.25"	2"	~2"			DATE FINISHED: 07/20/04					
				WT.	and	140#				DRILLER: K. Busch					
				FALL	10.25"	30"				GEOLOGIST: S. McCabe					
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor					
SAMPLE										DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		USCS	PID	FID			
1		1	SS	-	100.0%	Reddish	Stiff	Concrete.			3.1	5.7	Moist		
			2	SS	3	75.0%	Brown	Stiff	FILL: Silty Clay, trace gravel, cinder, brick.			8.7	16.9	Wet w/ product Strong odor Moist	
5			3	SS	7	100.0%	Reddish	Stiff	CL: Silty CLAY, trace coarse sand.		CL	571	5762	Very Moist Stong odor in silt lenses Very Stong Odor Product on sample Moist	
			4	SS	8	100.0%	Brown	V. Stiff	-Fine sand layers at 5.5-5.8' and 6.3-6.4' Thickly laminated 1/16-1/8" gray silt partings every 4-6".			117	563		
		5	SS	10	100.0%			-1/4-1/2" sand/silt lenses			531	5063			
10				21	100.0%										
		6	SS	11	100.0%	Brown	V. Stiff	ML: Clayey Silt, trace sand and fine rounded gravel.		ML	631	4362			
		7	SS	15	100.0%	Reddish					27	113			
15				27	100.0%	Brown					17	61			
		C1	NX (15.5'- 18.5')	3.0	100.0% 16.7%	Lt. Brown	Hard	Dolomite with few dark gray carbonaceous/argillaceous partings, few stylolites. Typ. 1-3", most breaks at partings/stylolites.		Very Broken	ND	ND	No water loss		
20		C2	NX (18.5'- 24.5')	6.0	100.0% 96.7%	M. Gray (brown inside)	M. Hard	Argillaceous fine grained dolomite, some stylolites at breaks, few black wavy carbonaceous partings, soft deformation structures(folds/waves), few vugs(some filled with calcite, pyrite).		Broken			20 gallons water loss in fracture at 24.3-24.5'. Lost 150 gallons Major Fracture 25.6' Very Weathered Fracture at 27.8' No water return some return at 29' no return after 32' Lost 278 gallons		
25		C3	NX (24.5'- 28.0')	3.5	100.0% 85.7%			-few pits, small vugs, stylolites							
30		C4	NX (28'- 36')	8.0	100.0% 85.6%			-very broken 28-28.6'							
35								-black shaley zone 34.8'-36.6'							

Comments: Boring Advanced w/ a low profile Mite-E-Mite Drill Rig.

ND= Not Detected Above Background Levels

6" Diameter Steel Casing set @ 18.0' BGS, Open rock hole reamed to 5 7/8" to 40.0'.

PROJECT NO. 11173754.84000

BORING NO. EX-01

URS Corporation										WELL BORING LOG					
PROJECT: Chem Core PDI										BORING NO: EX-01					
CLIENT: NYSDEC										SHEET: 2 of 2					
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000					
GROUNDWATER:										BORING LOCATION: 1064772.09N 1063862.03E					
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 597.10						
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX		DATE STARTED: 07/13/04						
				DIA.	4.25"	2"	~2"		DATE FINISHED: 07/20/04						
				WT.	and	140#			DRILLER: K. Busch						
				FALL	10.25"	30"			GEOLOGIST: S. McCabe						
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor					
SAMPLE										DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC%	COLOR	CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID	FID				
					RQD%		HARDNESS								
40		C3	NX (36.0'-40.0')	3.9 4.0	97.5% 88.8%	Medium Gray to Dark Gray	Hard ↓	Fine grained, argillaceous dolomite w/ dark gray/black shaley bands (up to 3" thick), trace pyrite, no vugs.	Broken to blocky			No water return Lost 122 gallons			
								End of Boring @ 40.0' BGS							
45															
50															
55															
60															
65															
70															
Comments: Boring Advanced w/ a low profile Mite-E-Mite Drill Rig.										PROJECT NO. 11173754.84000					
ND= Not Detected Above Background Levels										BORING NO. EX-01					
6" Diameter Steel Casing set @ 18.0' BGS, Open rock hole reamed to 5 7/8" to 40.0'.															

URS Corporation										WELL BORING LOG	
PROJECT: Chem Core PDI										BORING NO: MW-15	
CLIENT: NYSDEC										SHEET: 1 of 2	
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000	
GROUNDWATER:										BORING LOCATION: 1064423.20N 1063824.56E	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 594.90	
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED:	07/23/04
				DIA.	4.25"	2"	~2"			DATE FINISHED:	07/28/04
				WT.		140#				DRILLER:	K. Busch
				FALL		30"				GEOLOGIST:	S. McCabe
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor	
SAMPLE					DESCRIPTION					REMARKS	
DEPTH	STRATA	NO.	TYPE	BLOWS	REC%		CONSISTENCY	MATERIAL	USCS	PID	
FEET				PER 6"	RQD%	COLOR	HARDNESS	DESCRIPTION			
1		1	SS	- 3	100.0%	Gray/Black	M. Stiff	0.5' Asphalt & subbase, 0.5' Cinder tr. Slag.		0	Moist
				3 3		R. Brown		1.0-6.0': FILL; Clayey Silt, trace coarse sand and fine gravel, cinder/slag.			
		2	SS	3 3	100.0%					0	
				5 6							
5		3	SS	3 3	75.0%		Soft			0	
				2 3							
		4	SS	2 2	75.0%	R. Brown	Soft	6.0-8.5': ML; Clayey Silt, trace coarse sand and fine gravel.	ML	0	moist
				2 6							
		5	SS	9 14	100.0%	G Brown	V. Stiff to Hard	8.5-13.0': SM/ML; Silty fine sand to fine sandy silt, trace fine to coarse gravel and bedrock fragments	SM/ML	2.3	faint petroleum odors
10				20 23	100.0%						
		6	SS	24 43	100.0%	to Brown					
				50/5"	-	R. Brown					
		7	SS	25 50/4"	100.0%		Hard	13.0'-35.4': Fine grained dolostone, with black carbonaceous waves and some soft deformation structures, few stylolites (most breaks at stylolites).	Broken	ND	No water loss
15				3 3	100.0%	Lt Brown					
					80.0%	Dk. Brown at 15.6'					
		C2	NX (16.0'-26.0')	9.8 10.0	98.0% 59.0%				Broken to Very Broken		Lost 15 gallons from 24-25'
20											
		C3	NX (26.0'-36.0')	10.0 10.0	100.0% 64.0%						Lost 50 gallons V. broken 27.35-27.45'
25											
								35.4'-36.0': Fine Grained Shaley Dolostone.	V. Broken		V. broken 30.65-30.8'
30											
											V. broken 31.0-31.20'
35						Dk. Gray	M. Hard				

Comments: Boring Advanced w/ a BK-81 rig.
 ND= Not Detected Above Background Levels
 4" Diameter Steel Casing set @ 16.0' BGS, Open rock hole reamed to 3 7/8" to 38.0'.

PROJECT NO.	11173754.84000
BORING NO.	MW-15

URS Corporation										WELL BORING LOG			
PROJECT: Chem Core PDI										BORING NO: MW-16			
CLIENT: NYSDEC										SHEET: 1 of 2			
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000			
GROUNDWATER:										BORING LOCATION: 1064399.70N 1063670.89E			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.00			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED: 07/21/04			
				DIA.	4.25"	2"	~2"			DATE FINISHED: 07/27/04			
				WT.		140#				DRILLER: K. Busch			
				FALL		30"				GEOLOGIST: S. McCabe			
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor			
DEPTH		SAMPLE				DESCRIPTION					REMARKS		
FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID			
1	[Pattern]	1	SS	3 3	50.0%	D. Brown to black	M. Stiff	(0-3" Asphalt and concrete)		0	Moist		
				4 3				0.3-3.8: FILL; Clayey Silt, some sand, trace brick, cinder, coal.		0			
		2	SS	4 3	50.0%	R. Brown		3.8'-4.0: FILL; Silty Clay trace coarse sand		0			
				5 3				4'-4.5': FILL; Clayey Silt trace cinder/ash		0			
5		3	SS	2 2	75.0%	D. Brown Black	Soft	4.5-5.5': FILL; Cinder, trace slag.		0			
				3 6				5.5'-8.0': FILL; Silty Clay, trace wood, cinder, slag.		0			
		4	SS	4 5	50.0%	R. Brown	M. Stiff	8-9': FILL; Clayey Silt, tr. Sand & cinder.		0			
				5 3				9-12': CL; Silty Clay tr. f. sand & organics.	CL	0			
10		5	SS	3 2	75.0%	D. Brown	Soft	trace coarse sand.		0			
				3 5		Br. Gray				0			
	[Pattern]	6	SS	2 4	100.0%	R. Brown	M. Stiff			0	125 gallons water loss		
				6 8						0			
		7	SS	4 8	100.0%		Stiff	12-18': ML; Clayey Silt, trace coarse sand and fine to medium gravel. (SA-SR)	ML	0			
				11 15						0			
15		8	SS	4 9	100.0%			-some f. sand, few wet silty sand lenses		0			
				10 20						0			
		9	SS	10 17	100.0%	Olive Green Brown	V. Stiff			0			
				22 30						0			
		10	SS	12 29	100.0%		Hard	18-20.25': ML; F. Sandy Silt, trace clay and fine to med. Gravel wet seams of f. sand		0			
				28 30						0			
	[Pattern]	11	SS	50/3"	100.0%					0	Not water loss		
		C1	NX (20.5'-23.5')	3 3	100.0% 70.0%	Lt. Brown	Hard	Fine grained Dolostone with few black carbonaceous partings (1/16-1/32" thick), few stylolites, most breaks at stylolites/partings.	Broken				
25													
		C2	NX (23.5'-33.5')	10.0 10.0	NR NR								
30													
	[Pattern]	C3	NX (33.5'-38.5')	5.0 5.0	100.0% 83.0%								
35													

Comments: Boring Advanced w/ a BK-61 rig.
ND= Not Detected Above Background Levels

PROJECT NO. 11173754.84000
BORING NO. MW-16

4" Diameter Steel Casing set @ 23.5' BGS. Open rock hole reamed to 3 7/8" to 39.0'.

URS Corporation										WELL BORING LOG	
PROJECT: Chem Core PDI										BORING NO: MW-16	
CLIENT: NYSDEC										SHEET: 2 of 2	
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000	
GROUNDWATER:										BORING LOCATION: 1064399.70N 1063670.69E	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.00	
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED: 07/21/04	
				DIA.	4.25"	2"	~2"			DATE FINISHED: 07/27/04	
				WT.		140#				DRILLER: K. Busch	
				FALL		30"				GEOLOGIST: S. McCabe	
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor	
SAMPLE										DESCRIPTION	
DEPTH	STRATA	NO.	TYPE	BLOWS	REC%	RECQD%	COLOR	CONSISTENCY	MATERIAL	USCS	PID
FEET				PER 6"				HARDNESS	DESCRIPTION		
		C3	NX (33.5'- 38.5')	5.0 5.0	100.0% 83.0%		Dk Gray Bm	M. Hard	35.7'-37.5': Shaley/Argillaceous dolostone. 37.5': Dolostone containing pyrite.		ND
40									End of Boring @ 38.5' BGS Reamed to 39' BGS		
45											
50											
55											
60											
65											
70											
Comments: Boring Advanced w/ a BK-81 rig.										PROJECT NO. 11173754.84000	
ND= Not Detected Above Background Levels										BORING NO. MW-16	
4" Diameter Steel Casing set @ 23.5' BGS, Open rock hole reamed to 3 7/8" to 39.0'.											

URS Corporation										WELL BORING LOG			
PROJECT: Chem Core PDI										BORING NO: MW-17			
CLIENT: NYSDEC										SHEET: 1 of 2			
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000			
GROUNDWATER:										BORING LOCATION: 106433.1.19N 1063773.52E			
										GROUND ELEVATION: 597.80			
DATE	TIME	LEVEL	TYPE	TYPE	CAS.	SAMPLER	CORE	TUBE		DATE STARTED: 07/22/04			
				DIA.	4.25"	2"	~2"			DATE FINISHED: 07/27/04			
				WT.		140#				DRILLER: K. Busch			
				FALL		30"				GEOLOGIST: S. McCabe			
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor			
DEPTH		SAMPLE				DESCRIPTION				REMARKS			
FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID			
1		1	SS	- 3	100.0%	Black		4" Concrete. Cinder, trace slag and coal. to 3.0'		0	Moist		
		2	SS	2 2	50.0%	R. Brown	Soft	3.0'-4.0': FILL; Silty Clay, trace cinder.		0			
		3	SS	6 5	100.0%	R. Brown	M. Stiff	4.0'-8.5': CL: Silty Clay, thickly laminated trace coarse sand.	CL	0			
		4	SS	10 12	100.0%		V. Stiff	1/2" Lite Brown Fine sand and silt lenses at 7', 7.5' and 7.8'		0			
5		5	SS	5 7	100.0%	R. Brown	M. Stiff	8.5'-14.3': ML; Clayey SILT, massive, trace coarse sand and fine to medium subangular to subrounded gravel.	ML	0			
		6	SS	4 5	75.0%	to brown				0			
		7	SS	3 6	100.0%					0			
		8	SS	6 21	100.0%	R. Brown	Hard	14.3'-16.0': ML; Fine sandy silt, trace gravel and clay grades to silty f-sand.	ML/SM	0			
10		C1	NX (16.0'-19.0')	2.8 3	93.3% 66.7%	Lt. Brown	Hard	16.0'-37': Fine grained dolostone, some black carbonaceous partings, soft deformation structures, few stylolites.	Broken	ND	Breaks at stylolites weathered frac. at 16.55 no water loss.		
		C2	NX (19.0'-29.0')	10.0 10.0	100.0% 74.5%							no water loss Weathered fractures at 20.75', 21.85', 22.25', 22.3';	
20													
25			C3	NX (29.0'-39.0')	9.9 10.0	99.0% 78.0%							Lost 50 gallons
30													
35													

Comments: Boring Advanced w/ a BK-81 rig.
ND= Not Detected Above Background Levels
4" Diameter Steel Casing set @ 19.0' BGS, Open rock hole reamed to 3 7/8" to 40.0'.

PROJECT NO. 11173754.84000
BORING NO. MW-17

URS Corporation										WELL BORING LOG																																																																																																																									
PROJECT: Chem Core PDI										BORING NO: MW-17																																																																																																																									
CLIENT: NYSDEC										SHEET: 2 of 2																																																																																																																									
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000																																																																																																																									
GROUNDWATER:										BORING LOCATION: 106433.1.19N 1063773.52E																																																																																																																									
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.80																																																																																																																									
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED:	07/22/04																																																																																																																								
				DIA.	4.25"	2"	~2"			DATE FINISHED:	07/27/04																																																																																																																								
				WT.		140#				DRILLER:	K. Busch																																																																																																																								
				FALL		30"				GEOLOGIST:	S. McCabe																																																																																																																								
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor																																																																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">DEPTH FEET</th> <th colspan="4">SAMPLE</th> <th colspan="6">DESCRIPTION</th> <th colspan="2">REMARKS</th> </tr> <tr> <th>STRATA</th> <th>NO.</th> <th>TYPE</th> <th>BLOWS PER 6"</th> <th>REC% RQD%</th> <th>COLOR</th> <th>CONSISTENCY HARDNESS</th> <th>MATERIAL DESCRIPTION</th> <th>USCS</th> <th>PID</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td rowspan="2"></td> <td rowspan="2">C3</td> <td>NX (29.0'- 39.0')</td> <td>9.9</td> <td>10.0</td> <td>99.0% 78.0%</td> <td>M. to Dk Gray</td> <td>M. Hard</td> <td>37'-39.0': Fine grained Argillaceous dolomitewith shale seam.</td> <td>Broken</td> <td>ND</td> <td>Very Broken 32.05-32.95'</td> </tr> <tr> <td>40</td> <td colspan="10">End of Boring @ 39.0' BGS Reamed to 40' BGS</td> </tr> <tr><td>45</td><td colspan="11"></td></tr> <tr><td>50</td><td colspan="11"></td></tr> <tr><td>55</td><td colspan="11"></td></tr> <tr><td>60</td><td colspan="11"></td></tr> <tr><td>65</td><td colspan="11"></td></tr> <tr><td>70</td><td colspan="11"></td></tr> </tbody> </table>												DEPTH FEET	SAMPLE				DESCRIPTION						REMARKS		STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	PID				C3	NX (29.0'- 39.0')	9.9	10.0	99.0% 78.0%	M. to Dk Gray	M. Hard	37'-39.0': Fine grained Argillaceous dolomitewith shale seam.	Broken	ND	Very Broken 32.05-32.95'	40	End of Boring @ 39.0' BGS Reamed to 40' BGS										45												50												55												60												65												70											
DEPTH FEET	SAMPLE				DESCRIPTION						REMARKS																																																																																																																								
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Comments: Boring Advanced w/ a BK-81 rig.										PROJECT NO. 11173754.84000																																																																																																																									
ND= Not Detected Above Background Levels										BORING NO. MW-17																																																																																																																									
4" Diameter Steel Casing set @ 19.0' BGS, Open rock hole reamed to 3 7/8" to 40.0'.																																																																																																																																			

URS Corporation										WELL BORING LOG			
PROJECT: Chem Core PDI										BORING NO: MW-18			
CLIENT: NYSDEC										SHEET: 1 of 2			
BORING CONTRACTOR: Nothnagle Drilling Inc.										JOB NO.: 11173754.84000			
GROUNDWATER:										BORING LOCATION: 1064303.98N 1063651.44E			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 594.40			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX			DATE STARTED: 07/21/04			
				DIA.	4.25"	2"	~2"			DATE FINISHED: 07/26/04			
				WT.		140#				DRILLER: K. Busch			
				FALL		30"				GEOLOGIST: S. McCabe			
* FIELD SCREENING VIA PID (PPM)										REVIEWED BY: C. Taylor			
DEPTH		SAMPLE				DESCRIPTION				REMARKS			
FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	PID			
1	[Pattern]	1	SS	3 49	50.0%	R. Brown		FILL: Silty Clay to 0.5' then concrete to 1'		0	Moist		
				9 5		Black	M. Stiff	1-4': FILL: Ash, cinder, slag brick and wood.		0			
		2	SS	4 4	75.0%	gry/wh				0			
				7 5		R. Brown				0			
5	[Pattern]	3	SS	5 2	75.0%			4-7': FILL: Silty Clay, trace wood, fine gravel.		0			
				4 4						0			
		4	SS	7 10	100.0%					0			
				15 12		R. Brown	Stiff	7-9': CL; Silty CLAY, thickly laminated, trace fine gravel.	CL	0			
10	[Pattern]	5	SS	6 7	100.0%			9-16.5': ML: Clayey SILT, massive, trace fine gravel.	ML	0			
				9 11		R. Brown	Stiff			0			
		6	SS	2 17	100.0%		V. Stiff			0			
				15 12						0			
	[Pattern]	7	SS	12 9	100.0%			-trace fine sand		0			
				50/2" -				-trace f-m angular to subrounded gravel.		0			
15		8	SS	7 12	75.0%		Stiff	15.8-16' Fine sand, trace silt.		0			
				14 17		Lt. Brown				0			
	[Pattern]	9	SS	11 19	100.0%		Hard	16.5-20.5': ML; Fine sandy silt/silty fine sand, trace angular-subrounded gravel.		0	moist to very moist		
				48 44		Lt. Brown				0			
		10	SS	10 12	75.0%		V. Stiff			0			
20				31 27						0			
	[Pattern]	11	SS	27 100/5'	50.0%			20.5-21': Bedrock fragments		0			
										0			
		C1	NX (21.0'-24.0')	2.8 3	93.3% 61.7%	Lt. Brown	Hard	21.0-33.8': Fine grained dolomite, most breaks at stylonitic contacts, black carbonaceous partings. Typ. 2-4".	Broken	ND		Lost 20 gallons	
25						Lt. Brown to Brown						Lost 15 gallons	
	[Pattern]	C2	NX (24.0'-34.0')	9.5 10.0	95.0% 71.0%			- approx. 6" void at 29.0'			Very broken 28.9-29.35'		
30													
35	[Pattern]	C3	NX	5.0 5.0	100.0%	M. to Dk. Gray	M. Hard	33.8'-39.0': Fine grained Argillaceous dolomite to shaley dolomite with some hard lt. to med gray dolostone layers approx 2-3" thick.	Broken (6-8")		Lost 35 gallons		

Comments: Boring Advanced w/ a BK-81 rig.
ND= Not Detected Above Background Levels
4" Diameter Steel Casing set @ 24.0' BGS, Open rock hole reamed to 3 7/8" to 39.0'.

PROJECT NO. 11173754.84000
BORING NO. MW-18

N:\11173519.00000\EXCEL\ChemCoreRD\BoringLogs.xls\EX-01

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - ROI										BORING NO: RD-01	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064733 87N 1063795 17E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 597.2		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/15/04		
				DIA.		2"			DATE FINISHED: 07/15/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: J. Doerr		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	SAMPLE					DESCRIPTION			REMARKS		
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION	USCS	PID/FID		MOISTURE	
1		1	MC	60%	Gray	0-0.5': Concrete.	CL	ND		Dry	
2					Red	0.5'-17.6': Silty CLAY, trace fine to coarse subangular gravel.		ND			
3					Brown			ND			
4								ND			
5								ND			
6		2	MC	90%		- soft to stiff		ND		Slightly Moist	
7						ND					
8						ND					
9						ND					
10						ND					
11		3	MC	100%				ND			
12						ND					
13						ND					
14						ND					
15						ND					
16		4	MC	100%				4.62			
17						ND					
18						ND					
						ND					
						ND					
18						End of Boring, Refusal at 17.6 feet BGS.					
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 17' and 17.6' were submitted for TCLP VOCs analysis										BORING NO. RD-01	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-02	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064778 90N 1063786 68E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 596.8		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/15/04		
				DIA.		2"			DATE FINISHED: 07/15/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: J. Doerr		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	SAMPLE				DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION	USCS	PID/FID	MOISTURE		
1	▲				Gray	0-0.2': Concrete.		ND			
2	▲				Black	0.2'-0.7': FILL; Silty F-C Sand, some fine gravel.		ND			
3	▲	1	MC	65%	R. Brown	0.7-17.4': CL; Silty CLAY, trace fine to coarse subangular to subrounded gravel.	CL	ND			
4	▲							ND			
5	▲							ND			
6	▲	2	MC	100%				ND			
7	▲							3.71			
8	▲							4.26			
9	▲							8.93			
10	▲	3	MC	100%				3.69			
11	▲							4.19			
12	▲							13.11			
13	▲	4	MC	100%				1.42			
14	▲							3.29			
15	▲							2.24			
16	▲	5	MC	100%				9.49			
17	▲							1.02			
18						End of Boring, Refusal at 17.4 feet BGS.					
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 17' and 17.4' were submitted for TCLP VOCs analysis										BORING NO. RD-02	

URS Corporation										TEST BORING LOG					
PROJECT: Chem Core - RDI										BORING NO: RD-03					
CLIENT: NYSDEC										SHEET: 1 of 1					
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000					
GROUNDWATER:										CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 596.7	
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore				DATE STARTED: 07/14/04					
				DIA.		2"				DATE FINISHED: 07/14/04					
				WT.						DRILLER: J. Powell					
				Push		4'				GEOLOGIST: J. Doerr					
										* POCKET PENETROMETER READING				REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	STRATA	SAMPLE			COLOR	DESCRIPTION		USCS	REMARKS						
		NO.	TYPE	RECOVERY %		MATERIAL DESCRIPTION	PID/FID		MOISTURE						
1		1	MC	33%	Gray	0-0.5' Concrete.		CL	2.0	Moist					
Black					0.5-0.7' FILL; Sandy cinder, ash and fine gravel.										
R. Brown					0.7-18.5' CL; Silty CLAY, stiff, massive.										
2		2	MC	100%	Brown				2.4	Slightly Moist					
3									6.3						
4															
5									1.0						
6		3	MC	100%	Black R. Brown				1.1	Moist					
7									1.3						
8									5.5						
9									18.0						
10		4	MC	100%	Black R. Brown				5.63						
11									4.22						
12									10.21						
13									1438						
14		5	MC	100%	Black R. Brown				31.32						
15									28.42						
16									10.63						
17															
18		6	MC	100%	Black R. Brown										
End of Boring, Refusal at 18.5 feet BGS.															

COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 16' and 18.5' were submitted for TCLP VOCs analysis										BORING NO. RD-03	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-04	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064817.16N 1063792.66E	
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.7	
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore				DATE STARTED: 07/14/04	
				DIA.		2"				DATE FINISHED: 07/14/04	
				WT.						DRILLER: J. Powell	
				Push		4'				GEOLOGIST: J. Doerr	
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	SAMPLE					DESCRIPTION			USCS	REMARKS	
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION		PID/FID		MOISTURE	
1	[Hatched Pattern]	1	MC	65%	Gray	0-0.2': Concrete.		CL	3.1	Moist	
					Black	0.2-1.1': FILL; Silty f-sand, some cinder, c. rd. gravel.					
2					R. Brown	1.1-15.3': CL; Silty CLAY, trace fine gravel, stiff					
3	[Hatched Pattern]	2	MC	100%					ND	Slightly Moist	
4											
5											
6											
7	[Hatched Pattern]	3	MC	80%					ND	Moist	
8											
9											
10	[Hatched Pattern]	4	MC	95%		- some fine sand			12.0		
11											
12											
13											
14	[Hatched Pattern]	5	MC	100%		- some fine sand			18.6		
15											
16											
17	[Hatched Pattern]					- some fine sand and fine gravel.			42.4		
18											
19						End of Boring, Refusal at 15.5 feet BGS.			32		
20									47		
21									62		
22									178		

COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 14.5' and 15.5' were submitted for TCLP VOCs analysis										BORING NO. RD-04	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-05	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064814.68N 1063817.50E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 596.8		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/15/04		
				DIA.		2"			DATE FINISHED: 07/15/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: J. Dorr		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH		SAMPLE				DESCRIPTION				REMARKS	
FEET	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION				USCS	PID/FID MOISTURE
1		1	MC	75%	Gray	0-0.2' Concrete.					6.2
					Black	0.2-1.1' FILL; Silty f-sand, some cinder, tr. F. gravel.					
2					R. Brown	1.1-15.3' CL; Silty CLAY, trace fine gravel, stiff				CL	ND
3		2	MC	100%							ND
4											ND
5											5.3
6											ND
7											ND
8		3	MC	100%							8.3
9											5.2
10											3.1
11		4	MC	100%							14.3
12											16.2
13											22.5
14		5	MC	100%							37.3
15											5.4
16											
17						End of Boring, Refusal at 16.8 feet BGS.					
18											
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 16' and 16.8' were submitted for TCLP VOCs analysis										BORING NO. RD-05	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-06	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064730.12N 1063846.01E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 597.3		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/15/04		
				DIA.		2"			DATE FINISHED: 07/15/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: J. Doerr		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	SAMPLE					DESCRIPTION			REMARKS		
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION		USCS	PID/FID MOISTURE		
1		1	MC	75%	Gray	0-0.4': Concrete.		CL	ND		
Black					0.4-0.8': FILL; F-C Sand and F-C Gravel.		ND				
2					R. Brown 0.8-13.7': CL; Silty CLAY, trace fine to coarse gravel, stiff to hard		ND				
3							ND				
4									ND		
5		2	MC	100%					ND		
6							ND				
7							ND				
8							ND				
9		3	MC	100%					4.3		
10							ND				
11							ND				
12							ND				
13		4	MC	100%					2.6		
14							ND				
15						End of Boring, Refusal at 13.7 feet BGS.					
16											
17											
18											
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 12' and 13.7' were submitted for TCLP VOCs analysis a sample from 12' was also submitted for Total VOCs analysis.										BORING NO. RD-06	

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core - RDI										BORING NO: RD-07		
CLIENT: NYSDEC										SHEET: 1 of 1		
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000		
GROUNDWATER:										BORING LOCATION: 1064747.58N 1063848.18E		
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: 597.3	
DATE	TIME	LEVEL	TYPE	TYPE	Macrocore						DATE STARTED: 07/16/04	
				DIA.	2"						DATE FINISHED: 07/16/04	
				WT.							DRILLER: J. Powell	
				Push	4'						GEOLOGIST: J. Doerr	
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>		
DEPTH		SAMPLE				DESCRIPTION				REMARKS		
FEET	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION		USCS	PID/FID	MOISTURE		
1		1	MC	80%	Gray	0-0.3': Concrete.		CL	ND	Dry		
2					R. Brown	0.3-11.8': CL; Silty CLAY, trace fine to coarse gravel, stiff to hard						
3												
4												
5		2	MC	100%					ND	Moist		
6									ND			
7									ND			
8									ND			
9		3	MC	100%					ND			
10									ND			
11									15.3			
12									ND			
13						End of Boring. Refusal at 11.8 feet BGS.						
14												
15												
16												
17												
18												
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000		
Sample from 11.8' was submitted for TCLP VOCs analysis and samples from 10-11.8' were sent for TCLP VOCs and Total VOCs analysis. A field dup was also collected.										BORING NO. RD-07		

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core - RDI										BORING NO: RD-08			
CLIENT: NYSDEC										SHEET: 1 of 1			
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000			
GROUNDWATER:										BORING LOCATION: 1064762 92N 1063856 04E			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.0			
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore				DATE STARTED: 07/16/04			
				DIA.		2"				DATE FINISHED: 07/16/04			
				WT.						DRILLER: J. Powell			
				Push		4'				GEOLOGIST: J. Doer			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
DEPTH FEET		SAMPLE				DESCRIPTION			REMARKS				
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION		USCS	PID/FID	MOISTURE			
1		1	MC	70%	Gray	0-0.3': Concrete.		CL	ND	Dry			
2					R. Brown	0.3-14.0': CL; Silty CLAY, trace fine to coarse gravel, stiff to hard							
3													
4													
5		2	MC	100%								1.2	Moist
6												5.8	
7												ND	
8												4.6	
9		3	MC	100%								18.2	
10												52.3	
11												53.6	
12												31.2	
13		4	MC	100%								5.9	
14												10.3	
							5.7						
							28.4						
15					End of Boring, Refusal at 14.0 feet BGS.								
16													
17													
18													

COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Sample from 14' was submitted for TCLP VOCs analysis and samples from 9-10' were sent for TCLP VOCs and Total VOCs analysis.										BORING NO. RD-08	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-09	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064792.84N 1063859.42E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 597.1		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/16/04		
				DIA.		2"			DATE FINISHED: 07/16/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: S. McCabe		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	STRATA	SAMPLE			COLOR	DESCRIPTION		USCS	REMARKS		
		NO.	TYPE	RECOVERY %		MATERIAL DESCRIPTION	PID/FID		MOISTURE		
1		1	MC	70%	Gray	0-0.3': Concrete.			ND	Dry	
R. Brown					0.3-6.0': FILL; Silty CLAY, trace fine to coarse gravel, cinder, brick.		ND				
2							ND				
3							ND				
4									ND	Moist	
5									ND		
6		2	MC	100%					ND		
7											
8					Brown	6.0-6.2': SP; Fine SAND		SP	1.3	Moist to very moist	
9					R. Brown	6.2-12.6': CL; Silty CLAY, trace fine to medium and angular to subangular gravel.			CL		
10		3	MC	100%					ND		
11											
12		4	MC	100%					2.7		
13											
14					R. Brown	12.6-14.0': SM; Clayey SILT, trace fine to coarse sand and fine angular to subrounded gravel.			SM		1.3
15						End of Boring, Refusal at 14.0 feet BGS.			49.1		
16											
17											
18											

COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Sample from 12-12.6' was submitted for TCLP VOCs analysis and samples from 13.5-14' were sent for TCLP VOCs and Total VOCs analysis. MS/MSDs were also collected.										BORING NO. RD-09	

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core - RDI										BORING NO: RD-10	
CLIENT: NYSDEC										SHEET: 1 of 1	
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000	
GROUNDWATER:										BORING LOCATION: 1064729.54N 1063858.95E	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 597.3		
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED: 07/15/04		
				DIA.		2"			DATE FINISHED: 07/15/04		
				WT.					DRILLER: J. Powell		
				Push		4'			GEOLOGIST: J. Doerr		
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>	
DEPTH FEET	STRATA	NO.	TYPE	RECOVERY %	COLOR	DESCRIPTION		USCS	REMARKS		
						MATERIAL DESCRIPTION			PID/FID	MOISTURE	
1		1	MC	60%	Gray	0-0.3': Concrete.			ND	Dry	
Gray					0.3-0.7': FILL; F-C Sand and F-C Gravel.			ND			
2					R. Brown	0.7-10.2': CL; Silty Clay, trace fine to coarse gravel.		CL	ND		
3									ND		
4					ND						
5		2	MC	100%					ND		
6									ND		
7									ND		
8									ND		
9		3	MC	100%					ND		
10									ND		
11					R. Brown	10-10.2': SP; F-C sand, some fine gravel and clay.		SP	0.8		
12					R. Brown	10.2-13.8': CL; Silty Clay, trace fine to coarse gravel.		CL	3.7		
13		4	MC	100%					ND		
14									ND		
15									ND		
16									ND		
17					End of Boring, Refusal at 13.8 feet BGS.						
18											

COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000	
Samples from 10' and 13.8' were submitted for TCLP VOCs analysis										BORING NO. RD-10	

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core - RDI										BORING NO: RD-11		
CLIENT: NYSDEC										SHEET: 1 of 1		
BORING CONTRACTOR: GeoLogic										JOB NO.: 11173519.84000		
GROUNDWATER:										BORING LOCATION: 1064772.32N 1063873.04E		
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: 597.1	
DATE	TIME	LEVEL	TYPE	TYPE	Macrocore						DATE STARTED: 07/16/04	
				DIA.	2"						DATE FINISHED: 07/16/04	
				WT.							DRILLER: J. Powell	
				Push	4'						GEOLOGIST: S. McCabe	
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>		
DEPTH FEET	SAMPLE				DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	RECOVERY %	COLOR	MATERIAL DESCRIPTION	USCS	PID/FID	MOISTURE			
1		1	MC	50%	Gray	0-0.2': Concrete.						
2					R. Brown	0.2'-6.0': FILL; Silty CLAY trace gravel, brick, coal.		ND	Moist			
3												
4												
5		2	MC	100%								
6												
7					R. Brown	6.0'-10.0': CL; Silty CLAY trace fine to coarse angular to CL subangular gravel and coarse sand.		673				
8												
9		3	MC	100%								
10												
11					R. Brown	10.0-14.5': SM; Clayey SILT, trace fine gravel.	SM	1931				
12												
13		4	MC	100%								
14												
15												
16												
17												
18												
End of Boring, Refusal at 14.5 feet BGS.												
COMMENTS: Boring advanced with a Bobcat mounted direct push unit.										PROJECT NO. 11173519.84000		
Sample from 14-14.5' was submitted for TCLP VOCs analysis and samples from 13-13.5' were sent for TCLP VOCs and Total VOCs analysis.										BORING NO. RD-11		

D. GROUNDWATER PUMP TEST AND DATA

GROUNDWATER PUMP TEST AND DATA

<u>Appendix</u>	<u>Title</u>
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D*	Analysis of Aquifer test of August 2004
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Source: "Phase I & II Remedial Investigation Report", URS Corporation, May 2002

*Source: "Remedial Design Investigation Report", URS Corporation, February 2005.

APPENDIX D

ANALYSIS OF AQUIFER TEST OF AUGUST 2004

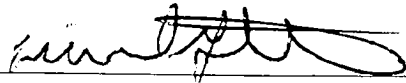
CALCULATION COVER SHEET

Client: KYSDCC Project Name: Chem-Core
Project/Calculation Number: III 73 513
Title: Analysis of Aquifer Test of August 2004
Total Number of Pages (including cover sheet): 36 (35+cover)
Total Number of Computer Runs: 1
Prepared by: Mark Ostrowski Date: Dec 13, 2004
Checked by: DUANE LEHARDT Date: Dec 13, 2004

Description and Purpose: To estimate transmissivity of the
bedrock water-bearing zone at
the Chem-Core site.

Design Basis/References/Assumptions See test.

Remarks/Conclusions/Results: Estimates range from approximately
60 to approximately 260 ft²/day.

Calculation Approved by:  12/10/04
Project Manager/Date

Revision No.:	Description of Revision:	Approved by:
_____	_____	_____
_____	_____	_____
_____	_____	_____

Project Manager/Date

URS

PAGE 1 OF 35

JOB NO. 111 73 519

MADE BY: M.O.

DATE: 10/06/04

CHKD. BY: D.L.

DATE: 10/13/04

PROJECT: Chem-Core

SUBJECT: Analysis of Aquifer Test of August, 2004

1. PURPOSE

The purpose of this calculation is to determine parameters of the water-bearing zone at the Chem-Core site. The estimate is based on the analysis of data from the August 2004 aquifer pumping test.

2. OVERALL APPROACH

As will be shown in the subsequent sections, the observed response of the aquifer to pumping does not fit any single coherent aquifer model. It can be interpreted in several ways. Moreover, it appears that there are outside influences, some very pronounced, whose origins are not known. Therefore, the approach taken in analyzing the data was not to assume a particular aquifer model, but rather to investigate several different possibilities, and see how the results would differ. The final result of the analysis has to be viewed as a possible range of values of aquifer parameters.

2. GENERAL

Information about the site is based on Reference 1. The site is located in Buffalo, NY, along the Black Rock canal (see Figure 1-1 of Reference 1). The site plan containing locations of wells is shown on Figure 3-3 of Reference 1. The water-bearing zone that was the subject of this aquifer test is the bedrock. Two units have been identified at the site: dolomite and shale, and shale and argillaceous dolomite (Figure 3-1 of reference 1). The degree and depth of water-bearing fracturing of the bedrock are not known. Most wells at the site are screened within the top 20 ft of the saturated zone. All wells that were monitored during the test were screened within the top 10 ft of the saturated zone.

The site is located approximately 250 feet from the Black Rock canal (Figure 3-1 of reference 1). The general direction of ground water flow is to the west, towards the canal (Figure 3-5 of reference 1). Note that there is no level gauge within the Black Rock canal and the water elevation there is not known. The level shown on Figure 3-1 is "not to scale". The ground water flow direction is inferred only from the well data.

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It is worth noting that the site is situated in the vicinity of a large sewage pump station. Numerous large sewer structures are located in the area. The influence of these features on the flow regime at the site is not known.

3. TEST DESCRIPTION

Well EX-1 was pumped from Aug 17 at 10:15 to Aug 20 at 8:25. Pumping rates were increased in a series of steps: 1.7 gpm, 2.1 gpm and 2.8 gpm. Water levels in the form of depth of water above the transducer were recorded in the pumping well, and in wells MW-03, MW-07 and MW-14. The pumping well and the monitoring wells, as well as the relevant distances are shown on Figure 3-3 of Reference 1.

In addition to the water levels in test wells, atmospheric pressure and precipitation data were obtained from an online source (www.wunderground.com) for the location identified by the zip code 14202, i.e. Buffalo, NY.

4. INTERPRETATION OF DATA AND METHOD OF ANALYSIS

4.1 Observed Response

Pages 10 to 12 present measurements of the water surface in the test wells in reference to the atmospheric pressure, precipitation and extraction rates. It can be observed that the drawdown was very irregular. The water level during the test was both increasing and decreasing, depending on the particular period within the test.

This was not caused by the variations in the atmospheric pressure (page 10). The water level variations induced by pressure changes are always lower than, or at most equal to, the pressure changes. Here, on the other hand, water level fluctuations in some wells were higher than the changes in the atmospheric pressure. Also, the aquifer does not seem to be influenced by the atmospheric pressure at all. During the period preceding the test (8/14 at 0:00 to 8/15 at 12:00), the atmospheric pressure increased. This would produce a decrease in water levels, if the aquifer were substantially influenced by the atmosphere. However, no such decrease took place.

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Likewise, it is difficult to ascribe water level fluctuations to the precipitation events (page 11). Small precipitation events are noted both before and after the test, without affecting the water levels. Therefore, they probably did not affect the water levels during the test. The only large precipitation event occurred during the test; however, after several water level fluctuations have already taken place. Therefore, even the large event could not have caused these fluctuations.

The pumping rate also held relatively steady during each step (page 12).

Variations of the regional water levels are the most likely explanation. Note the regular, periodic pattern after the test. Also, observation wells can be arranged according to the magnitude of the observed water level fluctuations: fluctuation MW-14 > fl. MW-03 > fl. MW-07. This pattern was true both during the test and after the test. If the wells fluctuated during the test in the same manner as they did after the test, the irregular pattern of drawdown could be the result of the superposition of the regional fluctuation and the pumping-induced stress.

Because the origin and the nature of the disturbance that caused the frequent increases in water levels during pumping is not known, it can not be factored into the analysis. Therefore, only the period before the first rise is used. Drawdowns for that period are shown on page 13. The pumping rate was 1.7 gpm (first pumping step, see page 12).

The pumping well EX-1 and well MW-14, located immediately next to EX-1, show a drawdown pattern consisting of two straight-line sections when plotted on semi-log paper. The two sections are at different slopes, with the latter arrival forming a steeper slope. A short, nearly horizontal line is located between the two straight-line portions.

Likewise, drawdown in the far well MW-03 can be interpreted as consisting of two straight-line sections, with the second section forming a steeper slope than the first. However, the MW-03 drawdown curve lacks the near-horizontal portion displayed by MW-14 and EX-1.

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Drawdown in the far well MW-07 does not contain the double straight-line effect.

Responses observed in the wells do not appear to fit any single coherent aquifer model. Also, because the aquifer comprises fractured bedrock, the nature of the response can not be deduced from the site geology, as fractured aquifers can respond to pumping in many different ways. Models that may be applicable are discussed below.

4.2 Possible Aquifer Models

Impervious boundary.

The straight-line pattern with two distinct slopes, observed in EX-1, MW-14 and MW-03, may be indicative of the presence of an impervious boundary. Under such conditions, the early data reflect the properties of the aquifer, and the late data the presence of the boundary. As shown on Figure 3-1 of reference 1, the boundary may be formed by the retaining walls located along the Black Rock canal (note: penetration depths of these retaining walls are not known, they are shown as "open-ended" on the figure). It may also be created by the fill, if the fill is characterized by low-permeability (properties of fill are not known), or by a combination of the fill and walls. This would create essentially a straight-line, infinite extent boundary along the canal.

The reason for the lack of a visible double straight-line effect in MW-07 is unknown.

High-transmissivity zone near EX-1.

The observed response pattern may mean that there is a high-transmissivity zone surrounding the pumping well. High-transmissivity zones are common in bedrock aquifers, where the transmissivity depends on the local degree of fracturing. The early data in EX-1 and MW-14 may reflect the dewatering of such a highly fractured zone. Once that zone is drained of water, the drawdown reflects the main aquifer, and the slope of the line changes. In such case, data in MW-03 and MW-07, wells located far from EX-1 and within the main aquifer, would not contain the double straight-line effect from the transmissivity change. The straight lines observed in the MW-03 would be part of the normal aquifer response. This is

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possible, if the main aquifer responded as unconfined delayed storage. A normal response of an unconfined delayed storage type may contain up to three straight lines.

Fractured aquifer.

Also, note that the drawdown in well MW-14 before the inflection point can be interpreted as the response of a fractured aquifer to pumping, as per Reference 3. The curve contains two parallel straight lines, separated by short and horizontal section. Only the beginning of the second line is seen, because the slope changes at the inflection point. However, other wells do not show that response.

Conversion from confined to unconfined aquifer.

Another explanations for the observed double straight-line effect may be a conversion from confined to unconfined situation, after the drop of water level below the top of the confined aquifer.

4.3 Selection of Models for Analysis

Impervious boundary.

An impervious boundary response is considered possible, based on both the shape of the drawdown curves and a potential effect of the retaining walls, fill and silts/clays. For the purpose of analysis, the boundary was placed at the location of retaining walls along the canal banks. This would be also close to the boundary if the boundary were formed by the low-permeability fill or silt/clay.

In case of the presence of the barrier, aquifer properties should be estimated based on the first straight-line portion of the response, before the drawdown is affected by the boundary (Reference 2, pages 479-480). Analysis can be done by a curve matching method, such as Theis, or by using the Jacob method for the straight-line portion of the curve (Reference 2, pages 479-480), applicable for large values of elapsed time at a given distance from pumping well (i.e. if $u = r^2 S / 4 T t < 0.01$, showing as a straight line part of the Theis curve on a semi-logarithmic plot).

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Here, it is assumed that the absence of the second straight-line section in the response of well MW-07 indicates that, for an unknown reason, the effect of the boundary is not yet felt at MW-07.

The impervious boundary analysis is designated as Case 1. It is analyzed using the first straight-line portion of the response curve from each well. The Jacob method is used (Reference 2, equation 11-7 and Fig 11-2b). Transmissivity is calculated using the slope of the plot of drawdown versus logarithm of time, for convenience selecting $\Delta[\log(t)] = 1$ (i.e. Δs is the change in drawdown over one logarithmic cycle).

$$T = (2.3 Q_w / 4 \pi) (1 / \Delta s)$$

The storativity is calculated by reading the time of zero drawdown from the plot, and substituting to equation 11-7:

$$s = (2.3 Q_w / 4 \pi) [\log(t) - \log(r^2 S / 2.25 T)]$$

$$s = (2.3 Q_w / 4 \pi) \log(2.25 T t / r^2 S)$$

$$s = 0 \text{ at } t = t_0$$

$$0 = (2.3 Q_w / 4 \pi) \log(2.25 T t / r^2 S)$$

$$\log(2.25 T t / r^2 S) = 1$$

$$2.25 T t = r^2 S$$

$$S = 2.25 T t / r^2$$

Note that "S" can not be reliably estimated from pumping well data. The actual effective radius of the pumping well would have to be known, which is generally impossible to establish without extensive testing.

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High-transmissivity zone near EX-1.

The case of the high-transmissivity zone can not be ruled out. It is assumed to be possible. The double-straight line would apply to the near wells EX-1 and MW-14. The large-scale transmissivity would be reflected in the second limb of the curves. The presence of straight lines in the plot indicates that the Jacob method is applicable. However, storativity can not be determined because the line is shifted in time by the presence of the first limb, and time of zero drawdown is lost.

The response in far wells MW-03 and MW-07 is assumed to be characteristic of the large-scale aquifer, and would not contain discrete straight-line portions created by different transmissivities. Under this scenario, if straight lines are present, they are assumed to be part of a normal aquifer response. The shape of the curves indicates the possibility of the unconfined delayed storage response. No other model fits the data taken as a whole. This model is used to analyze the response of the far wells.

This scenario is designated as Case 2.

Fractured aquifer.

This form of analysis can be applied to the data from MW-14 before the inflection point. However, the case will not be pursued. The transmissivity in the fractured model is calculated in the same manner as in the Jacob method (page 257 of reference 3). The model would provide the same transmissivity value as the straight-line method, already calculated under Case 1.

Conversion from confined to unconfined aquifer.

This scenario is unlikely. At the inflection point where the conversion would occur, the water table was lowered only by approximately one foot in EX-1 and MW-14, and 0.2 ft in MW-03. This is probably not sufficient to change the nature of the aquifer. Also, there is no physical "aquifer top" identified at that elevation. This case was not investigated.

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5. ANALYSIS

Data were analyzed according to two cases indicated in the preceding section: Case 1, where the aquifer is limited by a no-flow barrier along the canal; and Case 2, where the aquifer contains a high-transmissivity zone near wells EX-1 and MW-14.

Case 1, aquifer with an impervious barrier along the canal

Transmissivity was calculated with the Jacob method, using the first limb of the drawdown curves in EX-1, MW-14 and MW-03. Well MW-07, where only one straight-line section can be distinguished, was also analyzed, assuming that the well did not yet feel the effect of the barrier. See page 14 for wells EX-1 and MW-14 and page 15 for wells MW-03 and MW-07. Aquifer properties were estimated as follows:

EX-1 data:	$T = 158 \text{ ft}^2/\text{d}$	"S" not obtained
MW-14 data:	$T = 200 \text{ ft}^2/\text{d}$	$S = 0.013$
MW-03 data:	$T = 260 \text{ ft}^2/\text{d}$	$S = 0.0069$
MW-07 data:	$T = 222 \text{ ft}^2/\text{d}$	$S = 0.0093$

Case 2, aquifer with a high-transmissivity zone

The analysis of drawdown in wells MW-03 and MW-07, using the unconfined model, is presented in pages 16 (curve match), 17 (output file) and 18 - 19 (input file). The curve match is good, and both the conductivity and storativity of the aquifer are realistic. The analysis for wells EX-1 and MW-14, using the Jacob method, is shown on page 20. The second limb of the drawdown curves was used. This method allows only for the calculation of transmissivity. Results are:

EX-1 data:	$T = 60 \text{ ft}^2/\text{d}$	"S" not obtained
MW-14 data:	$T = 73 \text{ ft}^2/\text{d}$	"S" not obtained
MW-03 and MW-07 data:	$T = 64 \text{ ft}^2/\text{d}$	$S = 0.0060$

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6. SUMMARY

Transmissivity of the water-bearing zone at the Chem Core site has been estimated based on results of the August 2004 aquifer test. Noting the double straight-line effect of the aquifer response to pumping, two likely cases were investigated: Case 1, where the retaining walls along the Black Rock canal form an impervious boundary; and Case 2, where the effect is caused by a high-transmissivity zone near the pumping well.

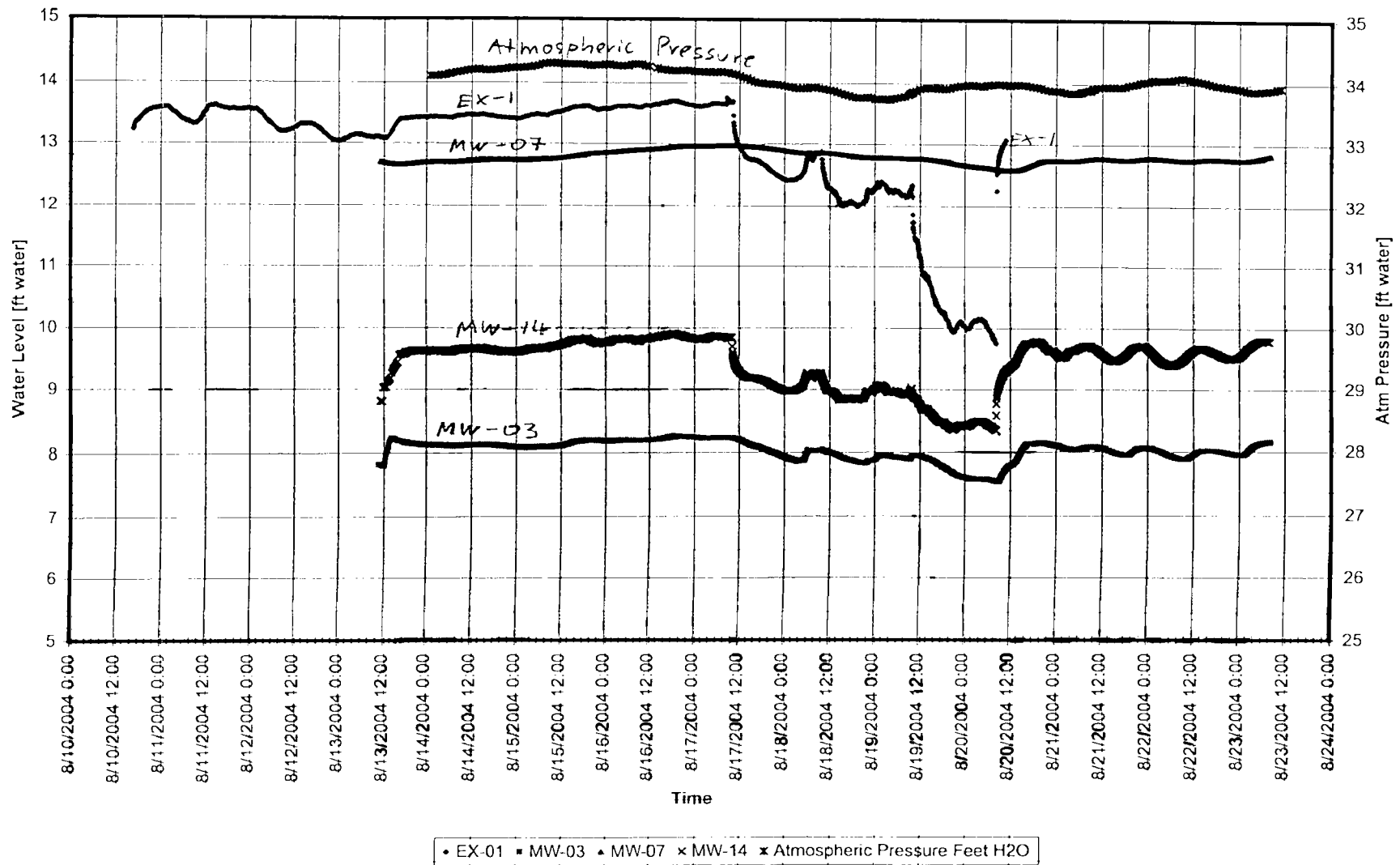
For Case 2, transmissivities calculated using data from all four wells were very similar, approximately 60 to 70 ft²/d. The approach of Case 1 resulted in a variation of transmissivities between approximately 160 and 260 ft²/d.

There is no information that would allow for the selection of one case over the other. Therefore, for the purpose of further calculations the range of 60 to 260 ft²/d is recommended.

7. REFERENCES

1. Phase I & II Remedial Investigation Report
Chem-Core Site
URS Corporation Group Consultants, Final May 2002
2. Hydraulics of Groundwater
J. Bear
McGraw-Hill, 1979
3. Analysis and Evaluation of Pumping Test Data
G.P. Kruseman, N.A. de Ridder
ILRI, 1990

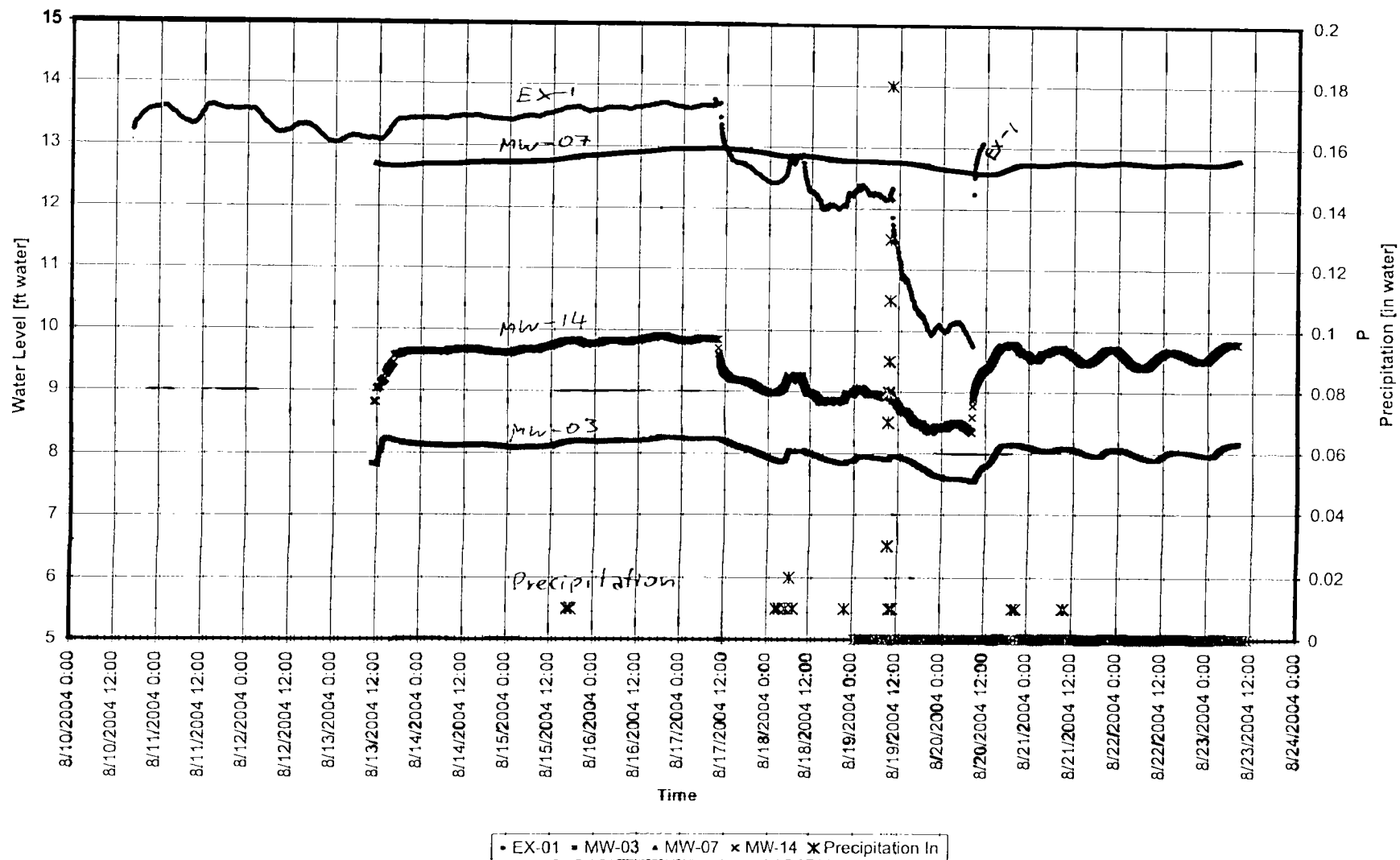
Chem Core Aquifer Test of August 2004 Water Levels and Atmospheric Pressure



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Chem Core Aquifer Test of August 2004

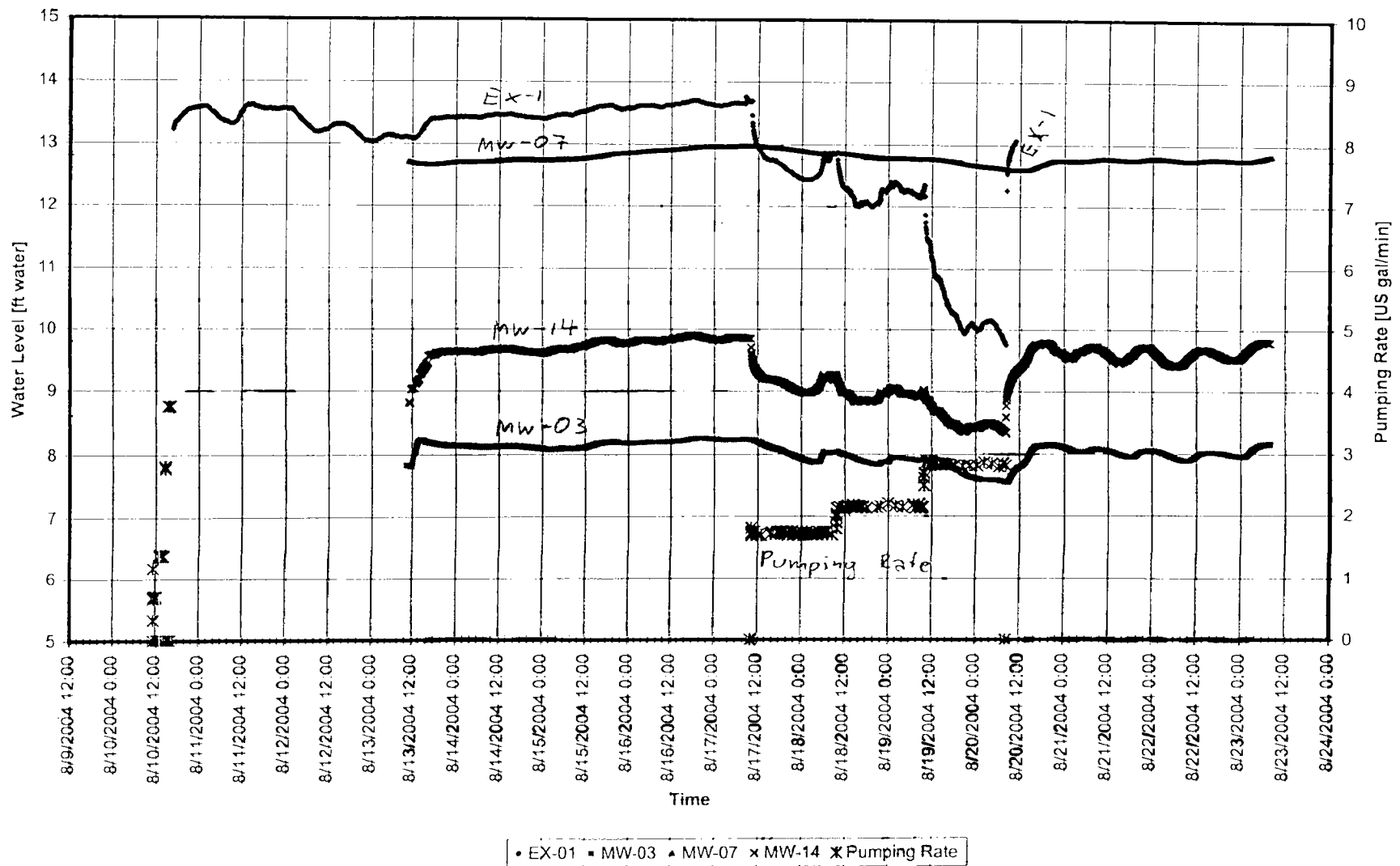
Water Levels and Precipitation



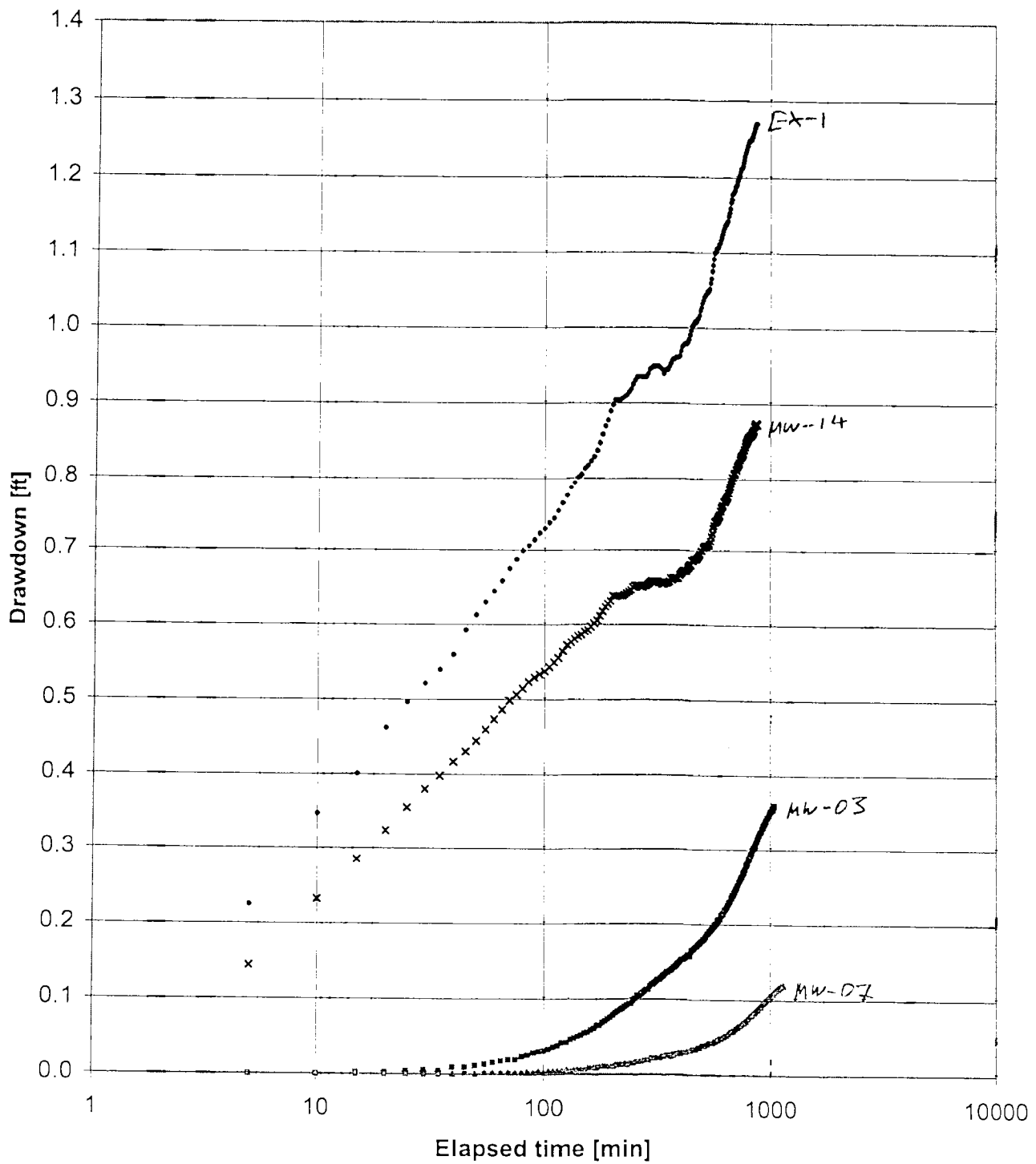
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Chem Core Aquifer Test of August 2004

Water Levels and Pumping Rate

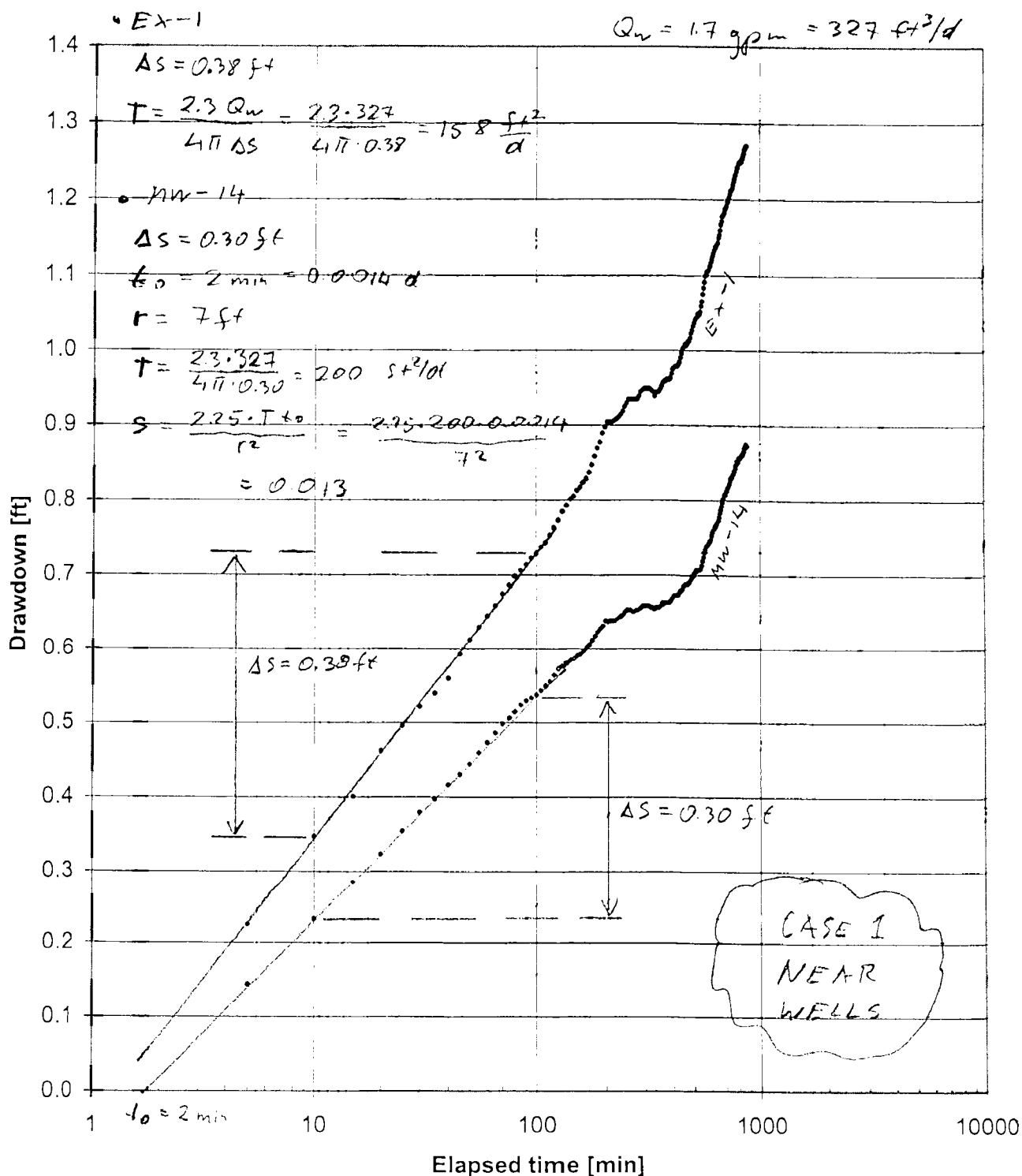


Chem Core Aug 04, 2004 Aquifer Test
Drawdown Before the First Rise of Water Level



• EX-01 • MW-03 • MW-07 × MW-14

Chem Core Aug 04, 2004 Aquifer Test Drawdown



• EX-01 • MW-14

Chem Core Aug 04, 2004 Aquifer Test Drawdown

• MW-03

$$\Delta S = 0.23 \text{ ft}$$

$$t_0 = 80 \text{ min} = 0.0625 \text{ d}$$

$$Q_w = 1.7 \text{ gpm} = 327 \frac{\text{ft}^3}{\text{d}}$$

$$r = 73 \text{ ft}$$

$$T = \frac{2.3 Q_w}{4\pi \Delta S} = \frac{2.3 \cdot 327}{4\pi \cdot 0.23} = 260 \frac{\text{ft}^2}{\text{d}}$$

$$S = \frac{2.25 \cdot T t_0}{r^2} = \frac{2.25 \cdot 260 \cdot 0.0625}{73^2} = 0.0069$$

• MW-07

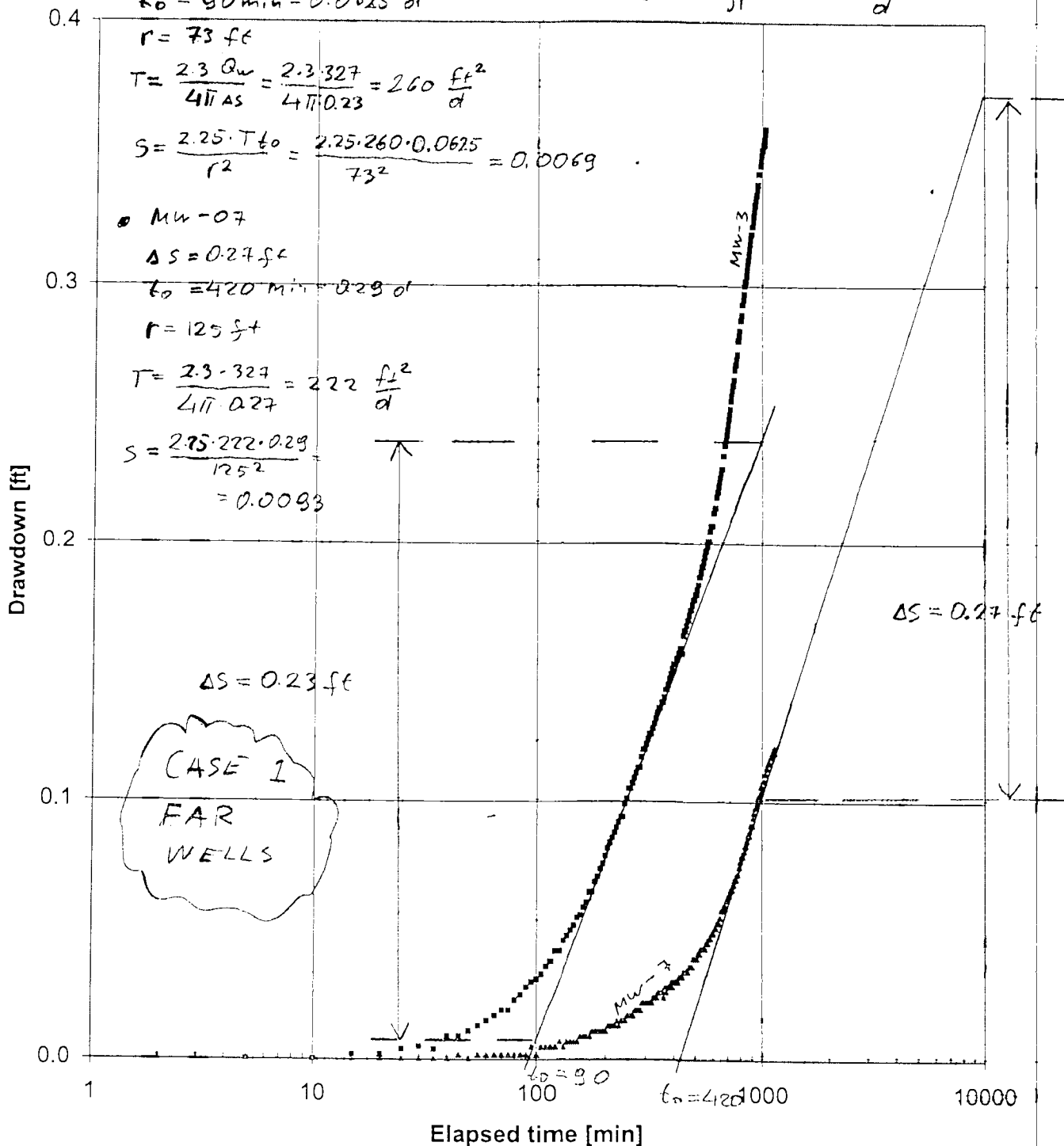
$$\Delta S = 0.27 \text{ ft}$$

$$t_0 = 420 \text{ min} = 0.29 \text{ d}$$

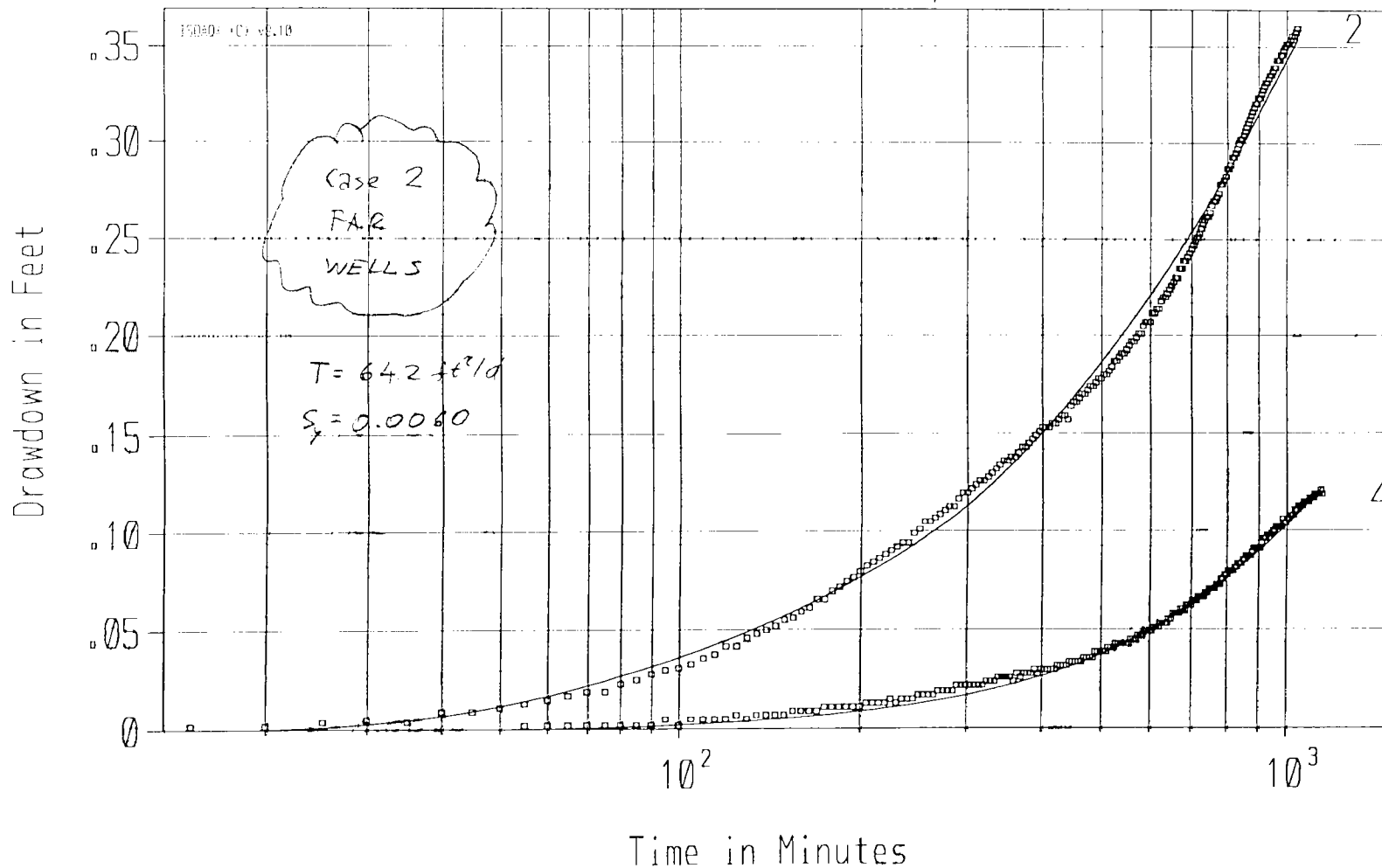
$$r = 125 \text{ ft}$$

$$T = \frac{2.3 \cdot 327}{4\pi \cdot 0.27} = 222 \frac{\text{ft}^2}{\text{d}}$$

$$S = \frac{2.25 \cdot 222 \cdot 0.29}{125^2} = 0.0093$$



Chem Core Aquifer Test of August 2004
Pumping Well EX-1, Observation Wells MW-03 (2) and MW-07 (4)
Unbiased Gambolati Unconfined "A/B" Curve Model



ISOAQX (C) v8.10 FILE C:\hydro\ChemCore.inp
test # comb: 2, 4

unbiased Unconfined (B-G) "A/B" Curve Model:
Jacob's water-table data correction: was used
continuous data sampling: skip-factor not used
solution iteration passes = 10 // elapsed time = 0.01 min
using closure tolerance setting = 1.000E-03
root mean-squared-error (ft) = -4.819E-03
hydraulic conductivity (ft/day) = 6.42
vertical hydraulic-conductivity (ft/day) = 2.19E-01
specific yield (dimensionless) = 6.027E-03
storativity (dimensionless) = 2.321E-03

$$K = 6.42 \text{ ft/d}$$

$$M = 10 \text{ ft (see next page)}$$

$$T = K \cdot M = 64 \text{ ft/d}$$

Note: The choice of M is irrelevant.
Regardless of M , the product
 $K \cdot M = T$ remains essentially
unchanged. Results obtained
with different M values are
presented below.

M	K	$T = M \cdot K$
10	6.42	64.2
15	4.24	63.6
20	3.16	63.2
30	2.10	63.0

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ISOAQX Input Data - Drawdown vs time for wells MW-03 (Test No. 2)
and MW-07 (Test No. 4)

ISOAQX (C) v8.10 FILE C:\hydro\ChemCore.inp

Test No	2: r =	73.000 ft	Q =	1.70000 gpm	M =	10.0 ft
Test No	4: r =	125.000 ft	Q =	1.70000 gpm	M =	10.0 ft

Chem Core Aquifer Test of Aug 04, Pump Well EX-1, Obs Well MW-03
Time(min.), Drawdown(ft) input data for test No 2

15.000, 0.002	20.000, 0.002	25.000, 0.004
30.000, 0.005	35.000, 0.004	40.000, 0.009
45.000, 0.009	50.000, 0.011	55.000, 0.013
60.000, 0.015	65.000, 0.017	70.000, 0.019
75.000, 0.019	80.000, 0.023	85.000, 0.025
90.000, 0.028	95.000, 0.030	100.000, 0.031
105.000, 0.033	110.000, 0.036	115.000, 0.038
120.000, 0.042	125.000, 0.042	130.000, 0.046
135.000, 0.048	140.000, 0.050	145.000, 0.052
150.000, 0.055	155.000, 0.056	160.000, 0.059
165.000, 0.061	170.000, 0.065	175.000, 0.065
180.000, 0.069	185.000, 0.071	190.000, 0.074
195.000, 0.076	200.000, 0.079	205.000, 0.082
210.000, 0.084	215.000, 0.086	220.000, 0.088
225.000, 0.090	230.000, 0.092	235.000, 0.094
240.000, 0.094	245.000, 0.099	250.000, 0.101
255.000, 0.105	260.000, 0.105	265.000, 0.107
270.000, 0.109	275.000, 0.111	280.000, 0.113
285.000, 0.113	290.000, 0.117	295.000, 0.120
300.000, 0.120	305.000, 0.122	310.000, 0.124
315.000, 0.126	320.000, 0.126	325.000, 0.128
330.000, 0.130	335.000, 0.132	340.000, 0.134
345.000, 0.136	350.000, 0.136	355.000, 0.138
360.000, 0.138	365.000, 0.140	370.000, 0.143
375.000, 0.143	380.000, 0.145	385.000, 0.147
390.000, 0.149	395.000, 0.151	400.000, 0.153
405.000, 0.153	410.000, 0.153	415.000, 0.155
420.000, 0.155	425.000, 0.157	430.000, 0.159
435.000, 0.159	440.000, 0.157	445.000, 0.164
450.000, 0.166	455.000, 0.166	460.000, 0.168
465.000, 0.170	470.000, 0.170	475.000, 0.172
480.000, 0.174	485.000, 0.174	490.000, 0.176
495.000, 0.178	500.000, 0.178	505.000, 0.180
510.000, 0.180	515.000, 0.182	520.000, 0.184
525.000, 0.187	530.000, 0.187	535.000, 0.189
540.000, 0.191	545.000, 0.191	550.000, 0.193
555.000, 0.195	560.000, 0.197	565.000, 0.197
570.000, 0.199	575.000, 0.201	580.000, 0.201
585.000, 0.205	590.000, 0.207	595.000, 0.207
600.000, 0.207	605.000, 0.212	610.000, 0.212
615.000, 0.214	620.000, 0.214	625.000, 0.218
630.000, 0.220	635.000, 0.220	640.000, 0.222
645.000, 0.224	650.000, 0.226	655.000, 0.228
660.000, 0.230	665.000, 0.230	670.000, 0.235
675.000, 0.235	680.000, 0.239	685.000, 0.239
690.000, 0.241	695.000, 0.243	700.000, 0.245
705.000, 0.247	710.000, 0.249	715.000, 0.251
720.000, 0.253	725.000, 0.256	730.000, 0.258
735.000, 0.260	740.000, 0.262	745.000, 0.262
750.000, 0.264	755.000, 0.268	760.000, 0.270
765.000, 0.270	770.000, 0.272	775.000, 0.274
780.000, 0.279	785.000, 0.279	790.000, 0.281
795.000, 0.283	800.000, 0.287	805.000, 0.287
810.000, 0.289	815.000, 0.293	820.000, 0.293
825.000, 0.295	830.000, 0.297	835.000, 0.300
840.000, 0.302	845.000, 0.302	850.000, 0.304
855.000, 0.306	860.000, 0.308	865.000, 0.310
870.000, 0.312	875.000, 0.314	880.000, 0.316
885.000, 0.318	890.000, 0.320	895.000, 0.320
900.000, 0.323	905.000, 0.323	910.000, 0.325
915.000, 0.327	920.000, 0.329	925.000, 0.331
930.000, 0.331	935.000, 0.333	940.000, 0.335
945.000, 0.335	950.000, 0.337	955.000, 0.339
960.000, 0.339	965.000, 0.343	970.000, 0.343
975.000, 0.343	980.000, 0.346	985.000, 0.346
990.000, 0.348	995.000, 0.350	1000.000, 0.352
1005.000, 0.352	1010.000, 0.352	1015.000, 0.354
1020.000, 0.356	1025.000, 0.354	1030.000, 0.356
1035.000, 0.358	1040.000, 0.360	

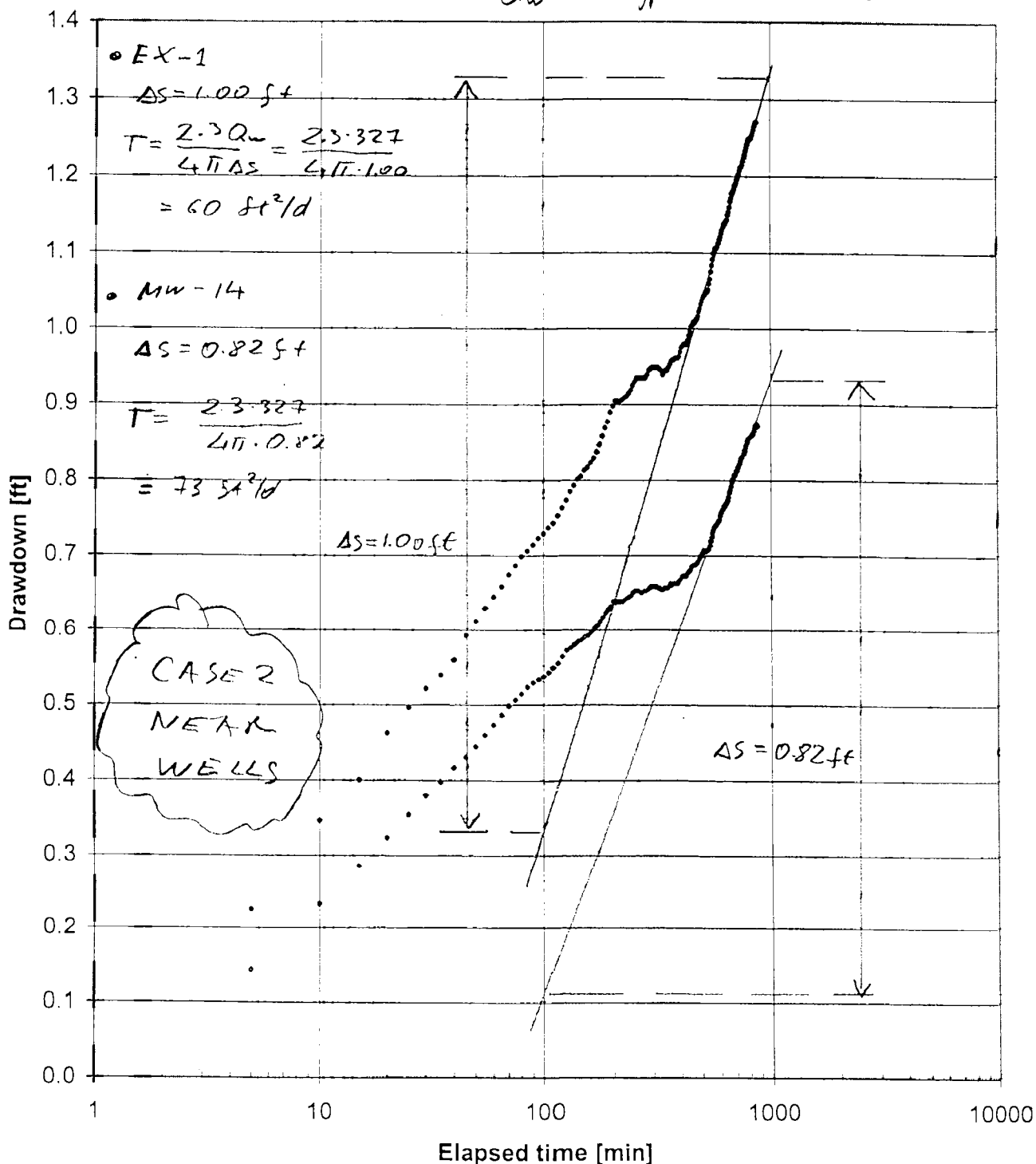
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Chem Core Aquifer Test of Aug 04, Pump Well EX-1, Obs Well MW-07
Time(min.), Drawdown(ft) input data for test No 4

55.000, 0.002	60.000, 0.002	65.000, 0.002
70.000, 0.002	75.000, 0.002	80.000, 0.002
85.000, 0.002	90.000, 0.002	95.000, 0.005
100.000, 0.002	105.000, 0.005	110.000, 0.005
115.000, 0.005	120.000, 0.005	125.000, 0.007
130.000, 0.005	135.000, 0.007	140.000, 0.007
145.000, 0.007	150.000, 0.007	155.000, 0.009
160.000, 0.009	165.000, 0.009	170.000, 0.009
175.000, 0.011	180.000, 0.011	185.000, 0.011
190.000, 0.011	195.000, 0.011	200.000, 0.011
205.000, 0.013	210.000, 0.013	215.000, 0.013
220.000, 0.013	225.000, 0.015	230.000, 0.013
235.000, 0.015	240.000, 0.015	245.000, 0.015
250.000, 0.017	255.000, 0.017	260.000, 0.017
265.000, 0.017	270.000, 0.019	275.000, 0.019
280.000, 0.019	285.000, 0.019	290.000, 0.022
295.000, 0.022	300.000, 0.022	305.000, 0.022
310.000, 0.022	315.000, 0.022	320.000, 0.022
325.000, 0.024	330.000, 0.024	335.000, 0.024
340.000, 0.026	345.000, 0.026	350.000, 0.026
355.000, 0.026	360.000, 0.024	365.000, 0.028
370.000, 0.026	375.000, 0.028	380.000, 0.028
385.000, 0.028	390.000, 0.030	395.000, 0.028
400.000, 0.030	405.000, 0.030	410.000, 0.030
415.000, 0.030	420.000, 0.030	425.000, 0.032
430.000, 0.032	435.000, 0.032	440.000, 0.032
445.000, 0.034	450.000, 0.034	455.000, 0.034
460.000, 0.034	465.000, 0.034	470.000, 0.036
475.000, 0.036	480.000, 0.036	485.000, 0.036
490.000, 0.039	495.000, 0.039	500.000, 0.039
505.000, 0.039	510.000, 0.039	515.000, 0.041
520.000, 0.041	525.000, 0.041	530.000, 0.043
535.000, 0.043	540.000, 0.043	545.000, 0.043
550.000, 0.043	555.000, 0.043	560.000, 0.045
565.000, 0.045	570.000, 0.045	575.000, 0.047
580.000, 0.047	585.000, 0.047	590.000, 0.049
595.000, 0.049	600.000, 0.049	605.000, 0.049
610.000, 0.051	615.000, 0.051	620.000, 0.051
625.000, 0.053	630.000, 0.053	635.000, 0.053
640.000, 0.053	645.000, 0.055	650.000, 0.055
655.000, 0.058	660.000, 0.058	665.000, 0.058
670.000, 0.058	675.000, 0.060	680.000, 0.060
685.000, 0.059	690.000, 0.062	695.000, 0.062
700.000, 0.062	705.000, 0.064	710.000, 0.064
715.000, 0.064	720.000, 0.066	725.000, 0.066
730.000, 0.066	735.000, 0.066	740.000, 0.068
745.000, 0.068	750.000, 0.070	755.000, 0.070
760.000, 0.070	765.000, 0.070	770.000, 0.072
775.000, 0.072	780.000, 0.072	785.000, 0.075
790.000, 0.075	795.000, 0.077	800.000, 0.077
805.000, 0.079	810.000, 0.079	815.000, 0.079
820.000, 0.079	825.000, 0.081	830.000, 0.081
835.000, 0.083	840.000, 0.083	845.000, 0.083
850.000, 0.085	855.000, 0.085	860.000, 0.087
865.000, 0.087	870.000, 0.087	875.000, 0.087
880.000, 0.089	885.000, 0.091	890.000, 0.091
895.000, 0.091	900.000, 0.091	905.000, 0.091
910.000, 0.094	915.000, 0.096	920.000, 0.096
925.000, 0.096	930.000, 0.098	935.000, 0.098
940.000, 0.098	945.000, 0.098	950.000, 0.100
955.000, 0.100	960.000, 0.102	965.000, 0.102
970.000, 0.102	975.000, 0.102	980.000, 0.102
985.000, 0.106	990.000, 0.104	995.000, 0.104
1000.000, 0.106	1005.000, 0.106	1010.000, 0.106
1015.000, 0.108	1020.000, 0.108	1025.000, 0.108
1030.000, 0.111	1035.000, 0.111	1040.000, 0.111
1045.000, 0.113	1050.000, 0.113	1055.000, 0.113
1060.000, 0.113	1065.000, 0.115	1070.000, 0.115
1075.000, 0.115	1080.000, 0.115	1085.000, 0.115
1090.000, 0.117	1095.000, 0.117	1100.000, 0.117
1105.000, 0.117	1110.000, 0.119	1115.000, 0.119
1120.000, 0.119	1125.000, 0.119	1130.000, 0.119
1135.000, 0.121	1140.000, 0.119	

Chem Core Aug 04, 2004 Aquifer Test Drawdown

$$Q_w = 1.7 \text{ gpm} = 327 \text{ ft}^3/\text{d}$$



• EX-01 • MW-14

PHASE I & II REMEDIAL INVESTIGATION REPORT

CHEM-CORE SITE

SITE #9-15-176

BUFFALO, NEW YORK

Reference 1

Prepared For:

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL REMEDIATION

WORK ASSIGNMENT D003825-29

FINAL

Prepared By:

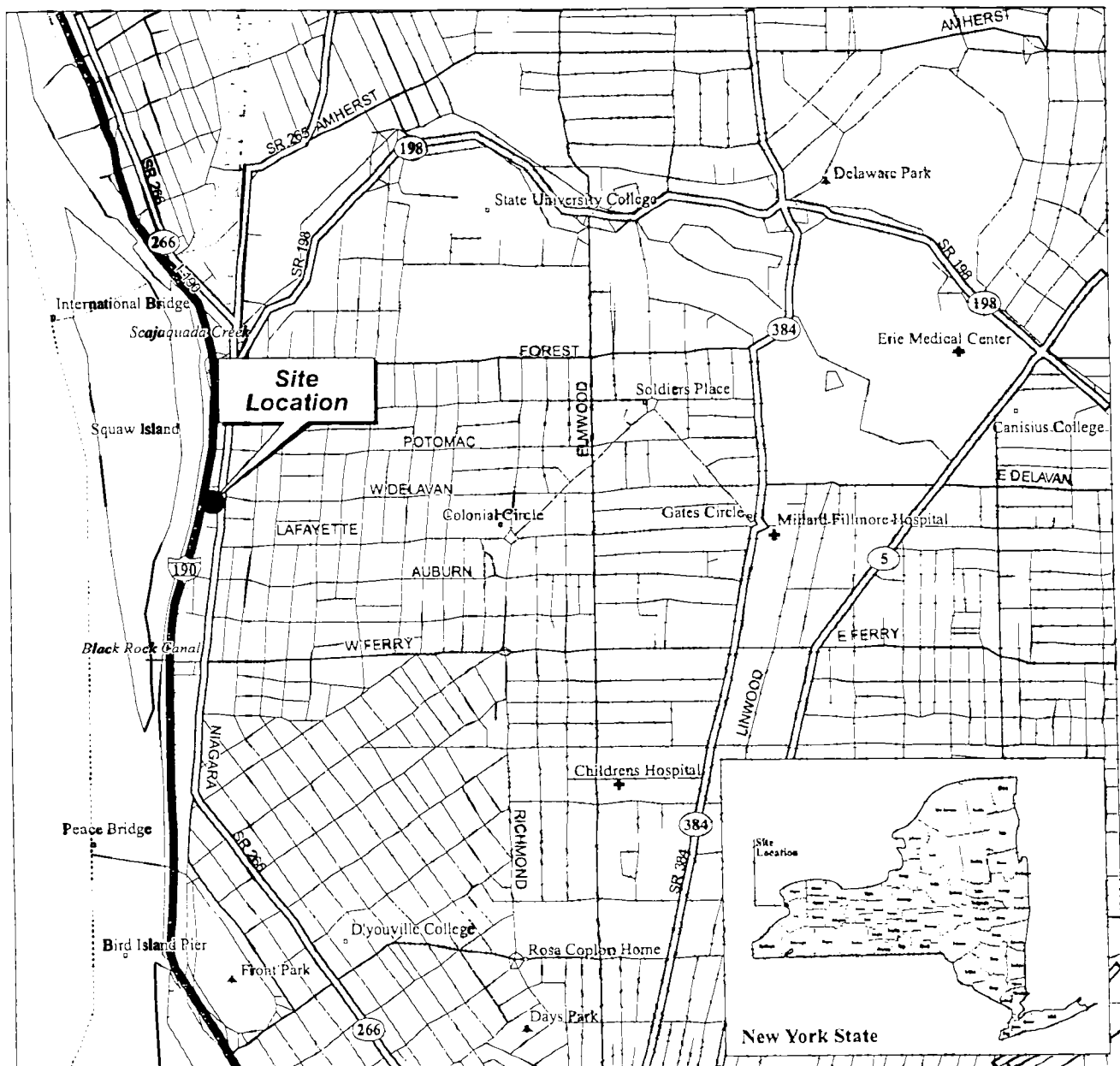
URS CORPORATION GROUP CONSULTANTS

282 DELAWARE AVENUE

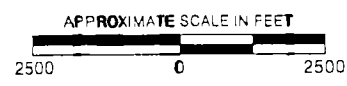
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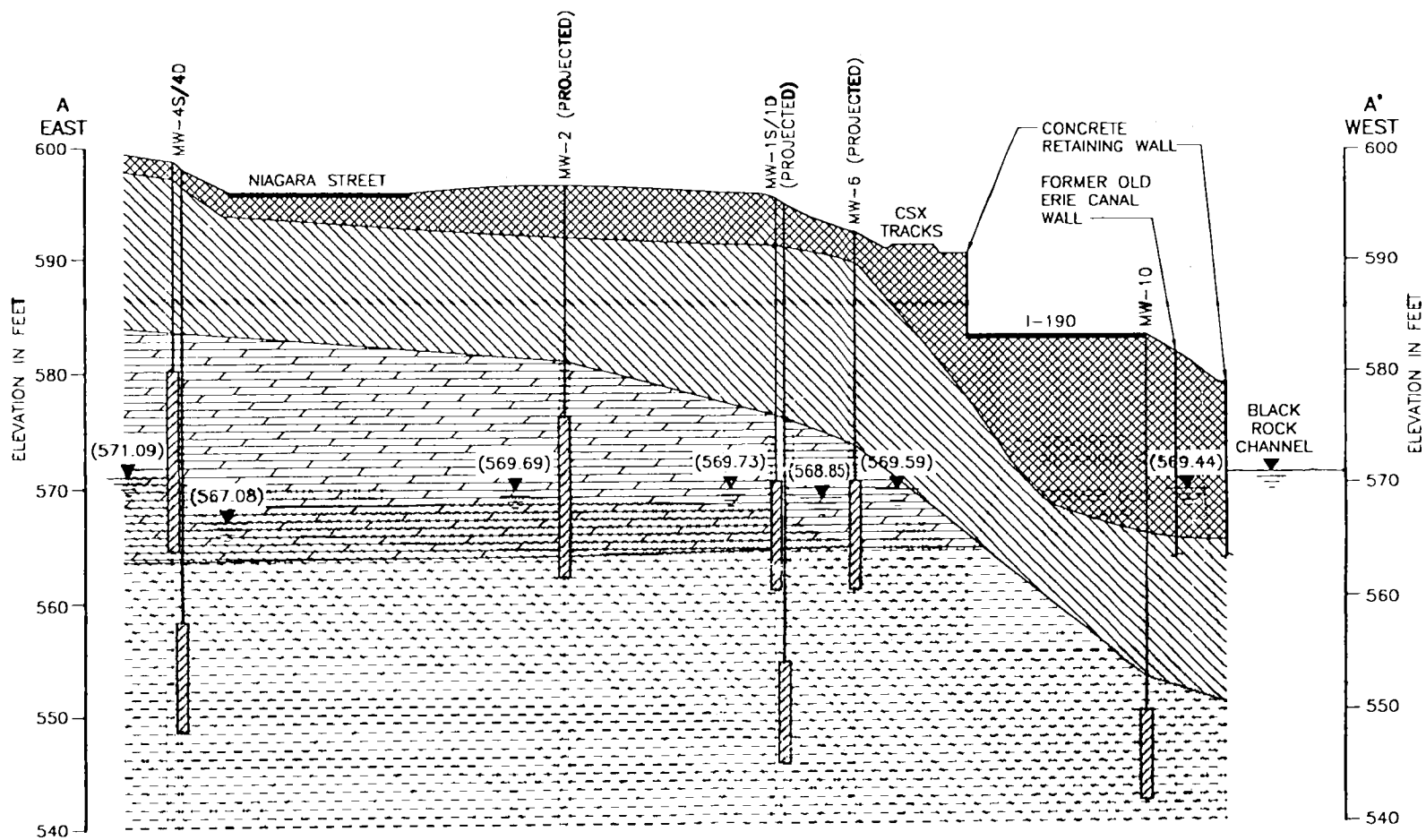
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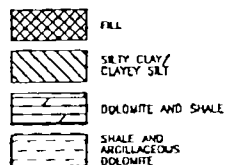
LEGEND

MW-6 — MONITORING WELL NUMBER

▼ (569.59) POTENTIOMETRIC SURFACE
(569.59) GROUNDWATER ELEVATION
(11/02/01) UNLESS OTHERWISE
SPECIFIED

— SCREENED INTERVAL
OF MONITORING WELL

— BOREHOLE TERMINATION



NOTES

1. GEOLOGIC CONDITIONS SHOWN ARE REPRESENTATIVE OF CONDITIONS ENCOUNTERED AT EACH BORING LOCATION TO THE DEPTH DRILLED. EXTRAPOLATIONS BETWEEN BORINGS HAVE BEEN INTERPRETED USING STANDARD ACCEPTED GEOLOGIC PRACTICES AND PRINCIPLES. ACTUAL CONDITIONS MAY VARY BETWEEN BORINGS FROM THOSE SHOWN.
2. ELEVATIONS BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988.

50' 0 50' 10' 0 10'
SCALE: 1"=50' HORIZONTAL SCALE: 1"=10' VERTICAL

CHEM-CORE
GEOLOGICAL CROSS-SECTION A-A'

URS

FIGURE 3-1

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URS

CHEM CORE
BEDROCK SURFACE ELEVATION

FIGURE 3-3

McGRAW-HILL
BOOK COMPANY

New York
St. Louis
San Francisco
Auckland
Bogotá
Hamburg
London
Madrid
Mexico
Montreal
New Delhi
Panama
Paris
São Paulo
Singapore
Sydney
Tokyo
Toronto

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Reference 2

JACOB BEAR

*Department of Civil Engineering
Technion—Israel Institute of Technology
Haifa
Israel*

Hydraulics of Groundwater

$$\log(r^2/t) = \log(4T/S) + \log u \quad (11-5)$$

Since Q_w , T , and S are constants, the relationships between s and r^2/t and between $W(u)$ and u are similar in form when both are plotted on a logarithmic paper, except for a certain displacement of the curves with respect to each other, caused by the first term on the right-hand side of (11-4) and (11-5).

This means that a plot of $W(u)$ versus u on a logarithmic paper is similar in form to that of s versus r^2/t plotted on the same paper. The former plot is called the *type curve* of $W(u)$, whereas the latter is called the *data curve*. If we have only one observation well, i.e., only one value of r , one can plot the data curve as s versus $1/t$.

The similarity between the two curves, as expressed by (11-4) and (11-5), indicates that if we plot the two curves on separate sheets of paper and superimpose the data curve on the segment of the type curve corresponding to the data curve, we shall find that the s and the $W(u)$ scales are displaced with respect to one another by the constant amount $\log(Q_w/4\pi T)$, while the r^2/t and u scales are displaced by the amount $\log(4T/S)$. This observation makes it possible to solve (8-61) graphically for the unknown values S and T , using observed values of $s(r, t)$ at one or more observation wells. Accordingly, the procedure for analyzing a pumping test is as follows.

- A type curve $W(u)$ versus u is drawn on a logarithmic paper.
- The observed values of s are plotted versus r^2/t (or against $1/t$ if only one observation well is used) on a transparent logarithmic paper of the same scale.
- The data sheet is superimposed on the type curve sheet and translated vertically and/or horizontally, keeping the coordinate axes of the two sheets parallel, until a position of "best fit" between the two curves is reached.
- An arbitrary point—called the match point—is chosen on the overlapping sheets and the coordinates of this point on the two sheets are recorded: s , r^2/t , $W(u)$, u .
- The four coordinates are substituted in (11-3) to yield S and T .

Figure (11-1) gives an example of the application of the type curve method. Table 8-2 gives values of the well function $W(u)$ for a confined aquifer.

Chow (1952) developed a method which avoids curve fitting. He showed that a function $F(u) = e^u W(u)/2.3$ is equal to the ratio of drawdown to slope for the straight line portion of the graph of drawdown plotted against $\log t$ for a single observation point within the cone of depression. Hence, for a given value of u , values of $F(u)$ and $W(u)$ can be determined, or we can determine u and $W(u)$ if $F(u)$ is known. Chow presents a graph which facilitates this procedure.

Jacob (1946, 1950) suggested a method based on the modified nonequilibrium formula (8-62), valid for $u < 0.01$. These equations may be rewritten as

$$s = (2.3Q_w/2\pi T) [\frac{1}{2} \log(2.25Tt/S) - \log r] \quad (11-6)$$

$$s = (2.3Q_w/4\pi T) [\log t - \log(r^2 S/2.25T)] \quad (11-7)$$

$$s = (2.3Q_w/4\pi T) [\log(2.25T/S) - \log r^2/t] \quad (11-8)$$



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Figure

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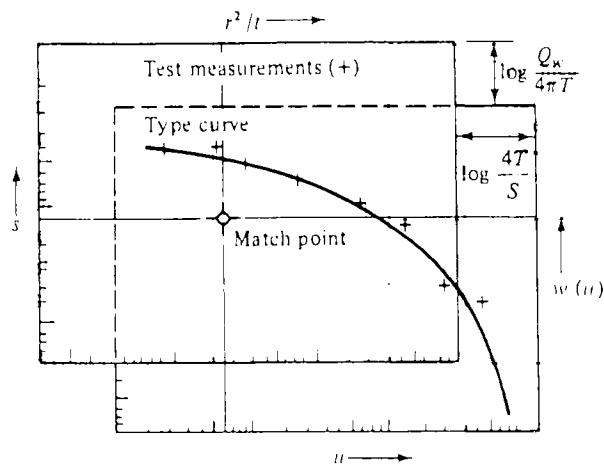


Figure 11-1 Pumping test analysis by the Theis method.

Plotting on semilog paper the test results s versus $\log r$ (at a given t), or s versus $\log t$ (for a given r), or s versus $\log r^2/t$ (for an interference test with a number of observation wells), straight lines described by (11-6) through (11-8), respectively, are obtained (Fig. 11-2). Actually, the data lie along straight lines only for sufficiently large t , or sufficiently small r (i.e., say, for $u < 0.01$). The value of the transmissivity T can be derived from the slope of the straight line portion of any of these graphs, using the following relationships.

In Fig. 11-2a: $\Delta s / \Delta(\log r) = 2.3Q_w / 2\pi T$; $T = (2.3Q_w / 2\pi) \Delta(\log r) / \Delta s$

In Fig. 11-2b: $\Delta s / \Delta(\log t) = 2.3Q_w / 4\pi T$; $T = (2.3Q_w / 4\pi) \Delta(\log t) / \Delta s$ ←

In Fig. 11-2c: $\Delta s / \Delta(\log r^2/t) = 2.3Q_w / 4\pi T$; $T = (2.3Q_w / 4\pi) \Delta(\log r^2/t) / \Delta s$

It is convenient to choose Δs such that $\Delta(\log t)$, $\Delta(\log r)$, or $\Delta(\log r^2/t)$ equals one.

In each case, only one type of straight line is possible. The case $s = s(r)$ at a constant t is rather theoretical. For a drawdown test we obtain $s = s(t)$ for a given $r = r_w$, while for an interference test we obtain $s = s(r^2/t)$.

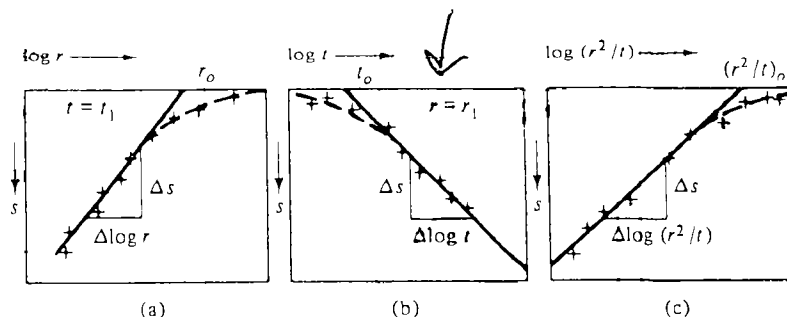


Figure 11-2 Pumping test analysis by the modified nonequilibrium formulae.

1. Obtain the increments of drawdown $\delta s_{rw,i}(t^*)$, with t^* usually taken as 1 or 2 hours (Fig. 11-8a).
2. Obtain $s_{rw}(t^*)_j$ corresponding to the discharge $Q_{w,j}$ from $s_{rw}(t^*)_j = \delta s_{rw,1}(t^*)_j + s_{rw,2}(t^*) + \dots + s_{rw,j}(t^*)$, and compute the specific drawdown $s_{rw}(t^*)_j/Q_{w,j}$.
3. Plot $Q_{w,j}$ versus the specific drawdown $s_{rw}(t^*)_j/Q_{w,j}$ on a linear scale paper and obtain the best fitting straight line.
4. From (8-185) it follows that the slope of this line, $\Delta(s_{rw}(t^*)_j/Q_{w,j})/\Delta Q_{w,j}$, is equal to C (Fig. 11-8b).
5. Equation (11-23) and the coordinates of any point on this line will solve for $B(r_w, t^*)$.

For $n \neq 2$, (e.g., for high discharge rates) the procedure of analysis is essentially the same, except that the values of $s_{rw}(t^*)_j/(Q_w - B)$ will be plotted versus Q_w on a logarithmic paper for assumed values of B . The value of B which gives the straightest line on this plot is the required one. The intercept of this line on the axis $Q_w = 1$ is equal to the value of C , while the slope $\Delta[s_{rw,j}/(Q_{w,j} - B)]/\Delta Q_{w,j}$ is equal to $n - 1$.

Once B is obtained from the analysis described above, and T and S are known from a regular pumping test analysis carried out simultaneously during the first step of a step-drawdown test, or as a separate test, the value of r_w may be obtained by substituting these data in the appropriate expression for $B(r_w, t^*)$ and solving for r_w . The appropriate expression for B depends on the type of aquifer and the type of flow regime in the aquifer. For example, for unsteady flow in a confined aquifer $B = (1/4\pi T) W(Sr_w^2/4Tt^*)$.

Pumping Test in a Bounded Aquifer

In the various pumping tests described above, it was assumed that the aquifer has an infinite areal extent; accordingly the solutions for a single well in an infinite aquifer were employed in the analysis of these tests. However, pumping tests are often performed in aquifers of limited areal extent, i.e., with boundaries of the types considered in Sec. 8-10. In general, the location of an aquifer's impervious boundary is unknown. However, it can be determined by the pumping test itself. The modified nonequilibrium formula is particularly advantageous for the analysis of boundary effects, because it is easier to recognize changes in the slope of straight lines than to detect changes in the curvature of plotted test data on a logarithmic paper.

To illustrate the method of pumping test analysis, consider the case of unsteady flow to a well of constant discharge, Q_w , in a confined aquifer which has the shape of an infinite strip between two parallel impermeable boundaries. Figure 11-9 shows the time-drawdown curve plotted on a semilogarithmic paper at an observation well placed between the pumping well and the nearest boundary. At first, no drawdown is observed at the observation well. Then the propagating cone of depression reaches the well and drawdown begins. The first points of the time-drawdown curve lie on a transition curve. Then, as u becomes smaller (say, smaller than 0.01), a straight line is obtained for $s = s(\log t)$. From this straight

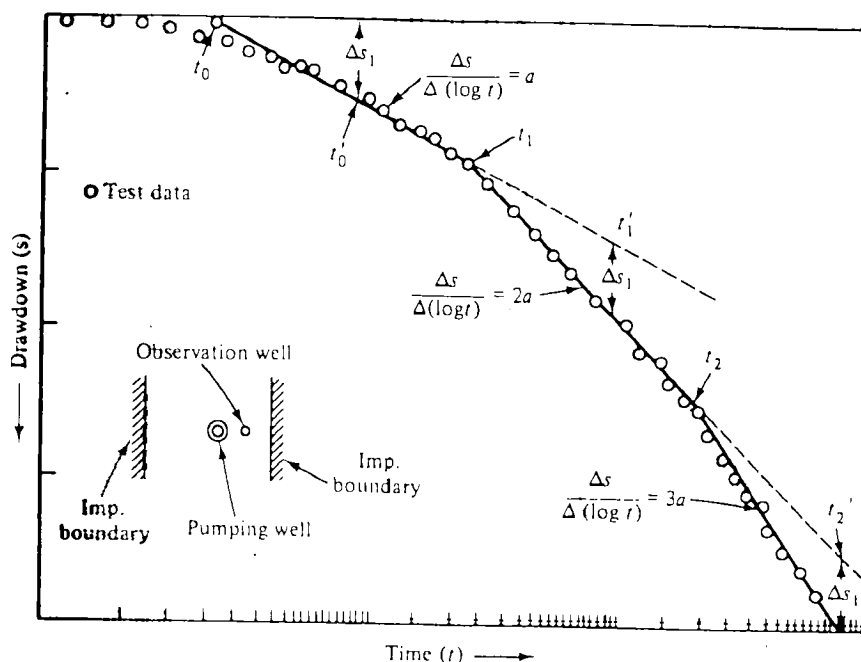


Figure 11-9 Drawdown affected by impervious boundaries.

line (called first limb), or by the type curve method for this initial period, we determine the aquifer characteristics T and S . As the test continues, the observed drawdown curve starts to bend downwards again, approaching the straight line of the second limb. This is caused by the cone of depression being reflected back to the observation well from the nearest boundary. The observed drawdown is the net effect of the pumping well and the boundary, the influence of which is equivalent to that of the image wells replacing it (Sec. 8-10). Because Q_w (of the real pumping well) and T are constant, the (pumping) image well operates at the same rate as the real well. Hence, the slope of the straight line of s versus $\log t$ is doubled when the effect of the first image well is felt at the observation well. When the influence of another image well, the one replacing the other impervious boundary, begins to be felt at the observation well, the rate of drawdown is tripled (as if the total pumping rate is $3Q_w$). The instants t_0, t_1, t_2 , etc. (Fig. 11-9) are obtained from the intersection of the straight line segments. From (8-65) and Fig. 11-9 it follows that

$$t_0/r_0^2 = t_1/r_1^2 = t_2/r_2^2 = \dots = \text{const.} \quad (11-24)$$

where r_0, r_1, r_2 , etc. are the distances from the observation well to the pumping well and to the image wells. If we consider an increment of drawdown Δs_1 (Fig. 11-9) we obtain

$$t'_0/r_0^2 = t'_1/r_1^2 = t'_2/r_2^2 = \dots = \text{const.} \quad (11-25)$$

Since the distance r_0 (to the real well) is known and t_0, t_1 , and t_2 (or t'_0, t'_1, t'_2) can be obtained from Fig. 11-9, it is possible to solve (11-24) or (11-25) for the

Analysis and Evaluation of Pumping Test Data

Second Edition (Completely Revised)

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Reference 3

Publication 47



International Institute for Land Reclamation and Improvement,
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- Choose a match point A and note the values of the coordinates of this match point, $W(u)$, $1/u$, s , and t ;
- Substitute the values of $W(u)$, s , and Q into Equation 17.5 and calculate T_r ;
- Substitute the values of $1/u$, T_r , t , and r into Equation 17.6 and calculate S_r ($\beta = 0$);
- If the data plot exhibits a horizontal straight-line segment or only an inflection point, note the value of the stabilized drawdown or that of the drawdown at the inflection point. Substitute this value into Equation 17.7 or 17.8 and calculate λ ;
- Now superimpose the late-time drawdown data plot on the type curve and adjust until a position is found where most of the plotted points fall on the type curve;
- Choose a matchpoint B and note the values of the coordinates of this matchpoint, $W(u)$, $1/u$, s , and t ;
- Substitute the values of $W(u)$, s , and Q into Equation 17.5 and calculate T_r ;
- Substitute the values of $1/u$, T_r , t , and r into Equation 17.6 and calculate $S_r + S_m$ ($\beta = 1/3$ or 1).

Remarks

- For relatively small values of ω , matching the late-time drawdowns with the Theis type curve may not be possible and the analysis will only yield values of T_r and S_r ;
- For high values of λ (i.e. for large values of r), the drawdown in an observation well no longer reflects the aquifer's double-porosity character and the analysis will only yield values of T_r and $S_r + S_m$;
- Gringarten (1982) pointed out that the Bourdet-Gringarten's type curves are identical to the time-drawdown curves for an unconsolidated unconfined aquifer with delayed yield as presented by Boulton (1963). (See also Chapter 5.) If one has no detailed knowledge of the aquifer's hydrogeology, this may lead to a misinterpretation of the pumping test data.

17.3 Kazemi et al.'s straight-line method (observation wells)

Kazemi et al. (1969) showed that the drawdown equations developed by Warren and Root (1963) for a pumped well can also be used for observation wells. Their extension of the approximation of the Warren-Root solution is, in fact, also an approximation of the general solution of Bourdet and Gringarten (1980). It can be expressed by

$$s = \frac{Q}{4\pi T_r} F(u^*, \lambda, \omega) \quad (17.1)$$

where

$$F(u^*, \lambda, \omega) = 2.3 \log(2.25 u^*) + \text{Ei}\left(-\frac{\lambda u^*}{\omega(1-\omega)}\right) - \text{Ei}\left(-\frac{\lambda u^*}{(1-\omega)}\right) \quad (17.9)$$

Equation 17.9 is valid for u^* values greater than 100, in analogy with Jacob's approximation of the Theis solution (Chapter 3).

A semi-log plot of the function $F(u^*, \lambda, \omega)$ versus u^* (for fixed values of λ and ω) will reveal two parallel straight lines connected by a transitional curve (Figure 17.3). Consequently, the corresponding s versus t plot will theoretically show the same pattern (Figure 17.4).

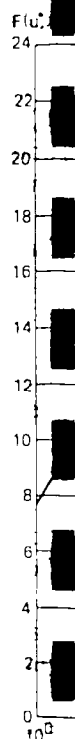


Figure 17.3



Figure 17.4

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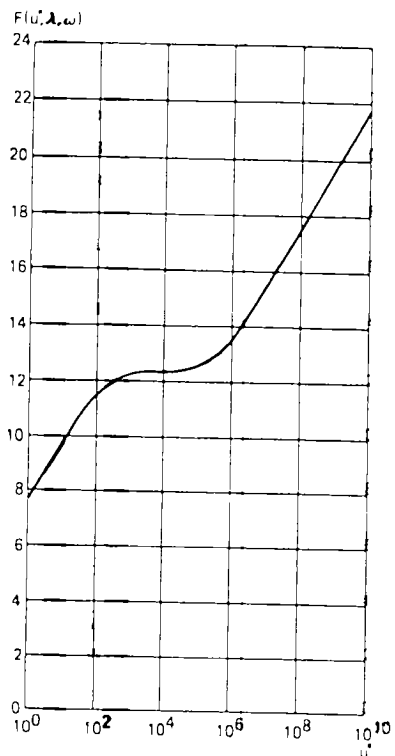


Figure 17.3 Semi-log plot of the function $F(u^*, \lambda, \omega)$ versus u^* for fixed values of λ and ω

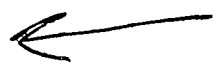
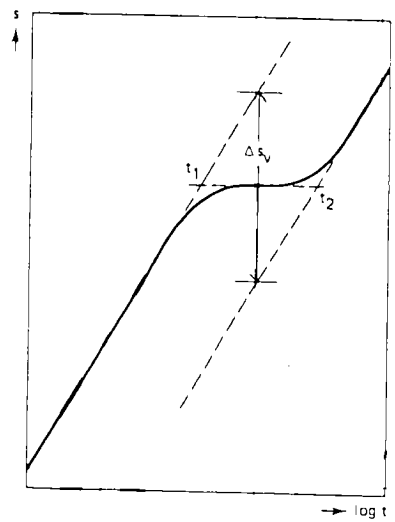


Figure 17.4 Semi-log time-drawdown plot for an observation well in a fractured rock formation of the double-porosity type

For early pumping times, Equations 17.1 and 17.9 reduce to

$$s = \frac{2.30Q}{4\pi T_f} \log \frac{2.25 T_f t}{S_f r^2} \quad (17.10)$$

Equation 17.9 is identical to Jacob's straight-line equation (Equation 3.7). The water flowing to the well during early pumping times is derived solely from the fracture system ($\beta = 0$).

For late pumping times, Equations 17.1 and 17.9 reduce to

$$s = \frac{2.30Q}{4\pi T_f} \log \frac{2.25 T_f t}{(S_f + \beta S_m) r^2} \quad (17.11)$$

Equation 17.11 is also identical to Jacob's equation. The drawdown response, however, is now equivalent to the response of an unconsolidated homogeneous isotropic aquifer whose transmissivity equals the transmissivity of the fracture system, and whose storativity equals the arithmetic sum of the storativity of the fracture system and that of the aquifer matrix. Hence, the water flowing to the well at late pumping times comes from both the fracture system and the aquifer matrix.

Kazemi et al.'s method is based on the occurrence of the two parallel straight lines in the semi-log data plot. Whether these lines appear in such a plot depends solely on the values of λ and ω . According to Mavor and Cinco Ley (1979), Equation 17.10, describing the early-time straight line, can be used if

$$u^* \leq \frac{\omega(1-\omega)}{3.6 \lambda} \quad (17.12)$$

and Equation 17.11, describing the late-time straight line, can be used if

$$u^* \geq \frac{1-\omega}{1.3 \lambda} \geq 100 \quad (17.13)$$

If the two parallel straight lines occur in a semi-log data plot, the value of ω can be derived from the vertical displacement of the two lines, Δs_v , and the slope of these lines, Δs (Figure 17.4).

$$\omega = 10^{-\Delta s_v / \Delta s} \quad (17.14)$$

According to Mavor and Cinco Ley (1979), the value of ω can also be estimated from the horizontal displacement of the two parallel straight lines (Figure 17.4)

$$\omega = t_1 / t_2 \quad (17.15)$$

Following the procedure of the Jacob method on both straight lines in Figure 17.4, we can determine values of T_f , S_f , and S_m . Using Equation 17.7 or 17.8, we can estimate the value of λ from the constant drawdown at intermediate times.

Kazemi et al.'s method can be used if, in addition to the assumptions and conditions underlying the Bourdet-Gringarten method, the condition that the value of u^* is larger than 100 is satisfied.

According to Van Golf-Racht (1982), the condition $u^* > 100$ is very restrictive and can be replaced by $u^* > 100 \omega$, if $\lambda \ll 1$, or by $u^* > 100 - 1/\lambda$, if $\omega \ll 1$.

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Procedure 17.2

- On a **sheet** of semi-log paper, plot s versus t (t on logarithmic scale);
- **Draw** a straight line through the early-time points and another through the late-time points; the two lines should plot as parallel lines;
- **Determine** the slope of the lines (i.e. the drawdown difference Δs per log cycle of time);
- **Substitute** the values of Δs and Q into $T_r = 2.30 Q / 4\pi \Delta s$, and calculate T_r ; ←
- **Extend** the early-time straight line until it intercepts the time axis where $s = 0$, and **determine** t_1 ;
- **Substitute** the values of T_r , t_1 , and r into $S_r = 2.25 T_r t_1 / r^2$, and calculate S_r ;
- **Extend** the late-time straight line until it intercepts the time axis where $s = 0$, and **determine** t_2 ;
- **Substitute** the values of T_r , t_2 , r , and β into $S_r + \beta S_m = 2.25 T_r t_2 / r^2$, and calculate $S_r + S_m$;
- **Calculate** the separate values of S_r and S_m .

Remarks

The two parallel straight lines can only be obtained at low λ values (i.e. $\lambda < 10^{-2}$). At higher λ values, only the late-time straight line, representing the fracture and block flow, will appear, provided of course that the pumping time is long enough. The analysis then yields values of T_r and $S_r + S_m$.

To obtain separate values of S_r and S_m when only one straight line is present, Procedure 17.3 can be applied.

Procedure 17.3

- Follow Procedure 17.2 to obtain values of T_r and S_r from the first straight line, or if it is not present, values of T_r and $S_r + S_m$ from the second straight line;
- **Determine** the centre of the transition period of constant drawdown and determine $1/2 \Delta s_v$;
- **Calculate** the value of ω using Equation 17.14;
- **Substituting** the values of ω and β into Equation 17.4, determine the value of S_m if S_r is known, or vice versa.

Remark

To estimate the centre of the transition period with constant drawdown, the preceding and following curved-line segments should be present in the time-drawdown plot.

17.4 Warren-Root's straight-line method (pumped well)

As Kazemi et al.'s straight-line method for observation wells is an extension of Warren-Root's straight-line method for a pumped well, we can use Equations 17.7 to 17.15 to analyze the drawdown in a pumped well if we replace the distance of the observation well to the pumped well, r , with the effective radius of the pumped well, r_w .

Following Procedure 17.2 on both straight lines in the semi-log plot of s_w versus t , we can determine T_r , S_r , and S_m , provided that there are no well losses (i.e. no skin) and that well-bore storage effects are negligible.

E. ASBESTOS SURVEY AND DATA

ASBESTOS SURVEY AND DATA

<u>Table</u>	<u>Title</u>
2-2*	Chem-Core Asbestos Survey Summary

<u>Figure</u>	<u>Title</u>
2-2*	Asbestos Survey Sample Locations -- First Floor
2-3*	Asbestos Survey Sample Locations -- Second Floor

Source: "Phase I & II Remedial Investigation Report", URS Corporation, May 2002

*Source: "Remedial Design Investigation Report", URS Corporation, February 2005.

Table 2-2
Chem-Core
Asbestos Survey Summary
10/28/2004

Material I.D./ Sample #	Material Description	Rooms Material Located In	Estimated Quantity	Asbestos Containing Y/N
CC-TI-01	6" Aircell	106	40 LF	Y
CC-TI-02	4" Aircell	101	7 LF	Y
		106	25 LF	
CC-TI-03	Elbow Mud	106	2 Each	Y
CC-TI-04	Insulation in Fire Door	102B	1 Each	Y*
		106B	1 Each	
CC-FT-01	8" X 8" Lt. Blue Floor Tile	102A	50 SF	N
CC-FT-01-Mastic	8" X 8" Lt. Blue Floor Tile Mastic			N
CC-FT-02	9" X 9" Lt. Gray Floor Tile	108	60 SF	Y
CC-FT-02-Mastic	9" X 9" Lt. Gray Floor Tile Mastic			Y
CC-FT-03	9" X 9" Red/Brown Floor Tile	201	160 SF	Y
CC-FT-03-Mastic	9" X 9" Red/Brown Floor Tile Mastic			Y
CC-FT-04	10" X 10" Imitation Wood Floor Tile	204	30 SF	N
CC-FT-05	White Vinyl Flooring	203	25 SF	N
CC-WB-01	Sheetrock	101A	300 SF	N
		108	60 SF	
		201	70 SF	
		204	90 SF	
		203	32 SF	
		205	300 SF	
		206	300 SF	
		207	900 SF	
CC-WB-02	Fiber Wallboard	102A	150 SF	N
		102	250 SF	
CC-TP-01	4' X 8' Transite Paneling	101A	300 SF	Y
		106	1050 SF	
CC-ST-01	Black Stair Tread	108	40 SF	N
CC-ST-02	Brown Stair tread	204	9 SF	N**
CC-ST-02-Mastic	Brown Stair tread mastic			
CC-CT-01	10" X 10" White Speckled Ceiling Tile	204	30 SF	N
CC-RM-01	Roofing Material	Roof	2500 SF	Y***
CC-BM-01	Brown Cove Base Molding	204	9 SF	N**
CC-CP-01	2' X 4' White Drop Down Ceiling Panels	108	4 SF	N****
		205	130 SF	
		206	130 SF	

Note: **BOLD/Shaded** items are ACM

* - No sample submitted for analysis, but assumed to be ACM based on age of building.

** - Results of PLM are inconclusive. However, part of recent renovation to 2nd floor office (post 1980). Therefore non ACM. No TEM analysis necessary.

*** - Results of TEM were negative. However, the sample of roofing material was collected from debris along exterior walls and may not be representative of roofing materials present on actual roof, which was inaccessible during survey. Therefore the roofing material at the site should be treated as ACM for the purposes of abatement design and cost estimate.

**** - Part of recent renovation to 2nd floor office (post 1980). Therefore no sample collected.

