



March 29, 2011

Mr. Vivek Nattanmai, P.E.
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

**RE: Final Summary Letter Report for In-Situ Bioremediation Monitoring
NYSDEC Standby Contract W/A D004440-4.1
Chem Core – Site #9-15-176**

Dear Mr. Nattanmai:

URS Corporation (URS) is pleased to present the New York State Department of Environmental Conservation (NYSDEC) with this *Final Summary Letter Report* for the application of Edible Oil Substrate (EOS™) in three (3) on-site infiltration galleries that were constructed during remedial activities and reapplication of EOS™/monitoring in the pilot study area at the above-referenced site (Figure 1).

1.0 EOS™ Application in Source Area Infiltration Galleries

On October 9, 2008, URS personnel completed the EOS™ application in the on-site infiltration galleries. Approximately 55 gallons (approximately 422 pounds) of concentrated EOS™ was mixed with 1,500 gallons of water obtained from the municipal water line supply at the treatment building and discharged into each of the three infiltration galleries (Figure 2). The EOS™ concentrate and water was mixed in a high-density polyethylene (HDPE) tank prior to gravity discharge into each infiltration gallery from the ground surface. URS did not conduct groundwater monitoring as part of this task because groundwater monitoring is already being conducted as part of the treatment plant OM&M.

2.0 Reapplication of EOS™ in the Pilot Study Area

On October 10, 2008, eight wells within and near the pilot study area were resampled as a baseline prior to the reapplication of the EOS™. These wells include MW-8S, MW-8D, MW-12, MW-16, MW-18, MW-19 and two injection wells located on the east edge of the injection grid (IW-A2 and IW-A5) as depicted in Figure 2. Prior to groundwater sampling, the static groundwater level was measured at each monitoring well prior to purging and sample collection. A groundwater contour map for this date is included as Figure 3. Groundwater samples were collected using low-flow purging and sampling procedures. Water was purged from each well using a low-flow peristaltic pump operated at a discharge rate of less than one (1) liter per minute. Water quality parameter readings were recorded on low-flow purging logs provided in Attachment 1.

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All samples were sent to Mitkem Laboratories (Warwick, RI) for analysis. The samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.2, total and filtered iron (Fe) by USEPA CLP SOW ILM04.1, sulfate by Methods for the Chemical Analysis of Water and Wastes (MCAWW) Method 300.0, and total organic carbon (TOC) by Standard Methods for the Examination of Water and Wastewater (SM) Method SM5310B. The TOC analyses were subcontracted to RI Analytical Laboratories (Warwick, RI). Table 1 of the October 2008 DUSR summarizes the analytical data. The Data Usability Summary Report (DUSR) is included as Attachment 2. Figure 4 depicts the contaminants detected above standards, criteria, and guidance values (SCGs) for the October 2008 sampling round.

On October 13 and 14, 2008, approximately 4.5 gallons of concentrated EOSTM (approximately 34.5 pounds) was mixed with 150 gallons of water and placed into each of the 24 injection wells via gravity discharge from the ground surface. Water was obtained from the municipal water line supply at the treatment building. The EOSTM dose was the same as was used during the pilot study (refer to Bioremediation Pilot Study Work Plan – URS, 2005).

On May 8, 2009, a second sampling event was completed from the eight wells within and near the pilot study area (i.e., MW-8S, MW-8D, MW-12, MW-16, MW-18, MW-19 and two injection wells located on the east edge of the injection grid (IW-A2 and IW-A5) as depicted in Figure 2. Prior to groundwater sampling, the static groundwater level was measured at each monitoring well prior to purging and sample collection. A groundwater contour map for this date is included as Figure 5. Groundwater samples were collected using low-flow purging and sampling procedures. Water was purged from each well using a low-flow peristaltic pump operated at a discharge rate of less than one (1) liter per minute. Water quality parameter readings were recorded on low-flow purging logs provided in Attachment 1.

All samples were sent to Mitkem Laboratories for analysis. The samples were analyzed for TCL VOCs following USEPA CLP SOW OLM04.2, total and filtered iron by USEPA CLP SOW ILM04.1, sulfate by MCAWW Method 300.0, and TOC by SM Method SM5310B. The TOC analyses were subcontracted to RI Analytical Laboratories. Table 1 of the May 2009 DUSR summarizes the analytical data. The DUSR is included as Attachment 3. Figure 6 depicts the contaminants detected above standards, criteria, and guidance values (SCGs) for the May 2009 sampling round.

3.0 Assessment of Monitoring Results

3.1 Source Area

Table 1 summarizes the chlorinated hydrocarbon analytical results including perchloroethene (PCE), trichloroethene (TCE), cis- and trans-1,2-dichloroethene (c/t-DCE), and vinyl chloride (VC) for groundwater monitoring conducted within and near the source area as part of the treatment plant OM&M. The summary of results includes monitoring data prior to EOSTM application in the on-site infiltration galleries which corresponds to the August 23, 2007 sampling event in MW-20, MW-21, and MW-22. Additional monitoring events occurred on January 27, 2009, April 2, 2009, July 29,

2009, October 22, 2009, and February 23, 2010 and included other wells around the perimeter of the source area. Refer to Table 1 and Figure 2 for monitoring wells and locations.

Application of the EOS™ occurred on October 9, 2008. Analytical results indicate that concentrations of PCE and TCE decreased significantly within the source wells (i.e., MW-20, MW-21, and MW-22) after application of the EOS™ in the infiltration galleries for the January 2009 and April 2009 sampling events. PCE and TCE concentrations increased in MW-20 for the July 2009 and October 2009 sampling events followed by another decrease for the February 2010 sampling event. In monitoring wells MW-21 and MW-22, PCE and TCE concentrations remained low throughout the monitoring events. Corresponding concentrations of c/t-DCE increased significantly for the January 2009 sampling event in MW-20 and MW-22. Corresponding concentrations of VC increased significantly for the January 2009 sampling event in MW-20, MW-21, and MW-22. With the exception of concentrations of c/t-DCE in MW-22 for the April 2009 sampling events, concentrations of c/t-DCE and VC decreased significantly for the April 2009 sampling event compared to the January 2009 sampling event. For subsequent events, concentrations of c/t-DCE and VC were somewhat variable, but in general, concentrations of VC remained elevated in MW-22 and MW-20, and variably elevated in MW-21. Concentrations of c/t-DCE remained elevated in MW-22 and MW-20 and variably elevated but below baseline in MW-21.

Oxidation reduction potential (ORP) ranged between -185 millivolts to -311 millivolts. This range of ORP is within the range that is conducive for reductive dechlorination of c/t-DCE and VC.

3.2 Pilot Study Area

Table 2 summarizes the chlorinated hydrocarbon analytical results including PCE, TCE, c/t-DCE, VC, and ORP for groundwater monitoring conducted within and near the source area as part of the treatment plant OM&M. The summary of results includes monitoring data prior to EOS™ reapplication in the pilot study area wells which corresponds to the October 10, 2008 sampling event.

Reported concentrations of PCE and TCE were generally lower after reapplication compared to the baseline throughout the monitoring events. Reported concentrations of c/t-DCE and VC were variable based upon the available data, however, a notable increase in concentration occurred in MW-12 and MW-16 which are located within the pilot study area. The ORP values in these two wells are not conducive for c/t-DCE and VC dechlorination, perhaps because of the groundwater flow direction (Figure 5). Overall and in a majority of the wells, VC concentrations decreased throughout the monitoring events compared to the baseline event. In general, ORP values initially decreased after the baseline sampling event indicating that the reapplication of EOS™ induced stronger reducing conditions.

The *Final Bioremediation Pilot Study Report* (February 2009) is also included in this transmittal as Attachment 4 to provide background information about the EOS™ Pilot Study.

4.0 Conclusions

4.1 Source Area

Application of EOS™ in the infiltration galleries has definitively resulted in reductive dechlorination within the source area. While the analytical results indicate that concentrations of PCE and TCE have significantly decreased, concentrations of c/t-DCE and VC remain elevated in some wells indicating that the geochemical conditions and quantity of EOS™ is not sufficient for the complete destruction of chlorinated hydrocarbons. Additional application(s) of EOS™ may be necessary.

4.2 Pilot Study Area

Reapplication of EOS™ in the pilot study area wells has resulted in reductive dechlorination within the pilot study area. For most wells, the analytical results indicate that concentrations of PCE and TCE have significantly decreased. However, concentrations of c/t-DCE and VC remain elevated in two infield wells (MW-12 and MW-16) probably as a result of groundwater flow direction diluting the EOS™.

5.0 Recommendations

A second application of EOS™ should be conducted within the source area infiltration galleries. The quantity should be at least 1 55-gallon drum per infiltration gallery diluted with water as appropriate. In addition, source area monitoring wells should be utilized for application of additional EOS™. Monitoring should be conducted quarterly for 1 year and samples should be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), sulfate, total organic carbon, ferrous iron, ethene, and geochemical indicator parameters including ORP. The wells to be monitored should include MW-03, MW-05, MW-06, MW-07, MW-11, MW-20, MW-21, and MW-22. No additional actions are necessary for the pilot study area at this time due to the aggressive remedial actions undertaken within the source area to date.

Closing

URS appreciates assisting the Department with this project. Please call me if you have questions.

Sincerely,

URS CORPORATION

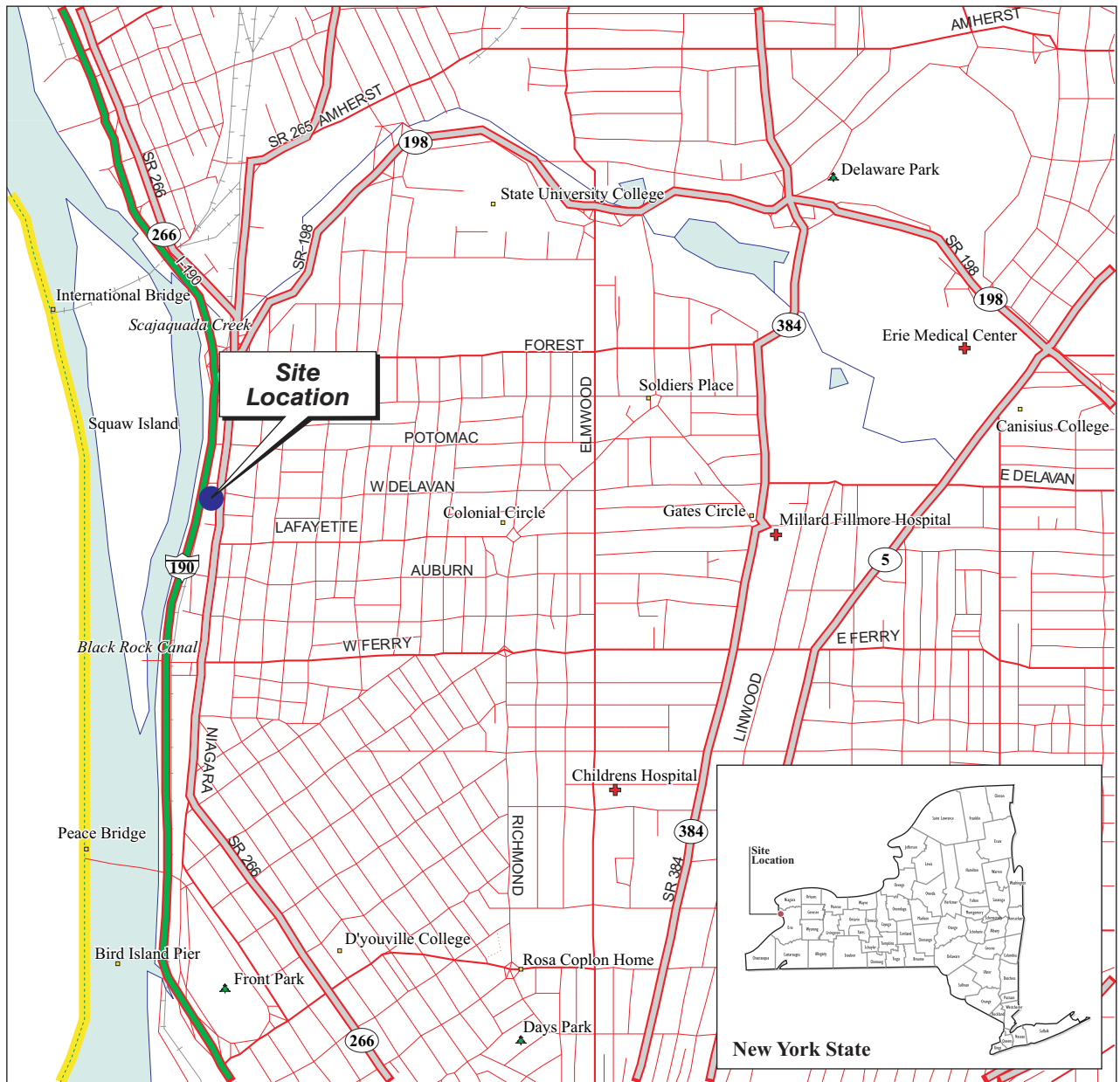
A handwritten signature in dark ink, appearing to read 'Michael Gutmann', with a stylized flourish at the end.

Michael Gutmann
Project Manager

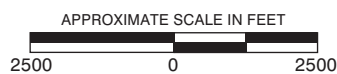
Enclosures

Figure 1	Site Location Map
Figure 2	Infiltration Gallery and Pilot Study Area Monitoring Well Locations
Figure 3	Groundwater Elevation Contour Map – October 10, 2008
Figure 4	Groundwater Contaminants Above SCGs (October 2008)
Figure 5	Groundwater Elevation Contour Map – May 8, 2009
Figure 6	Groundwater Contaminants Above SCGs (May 2009)
Table 1	Summary of Chlorinated Hydrocarbon Sampling Results – Source Area
Table 2	Summary of Chlorinated Hydrocarbon Sampling Results – Pilot Study Area
Attachment 1	Low-Flow Purge Logs – October 2008 and May 2009
Attachment 2	Data Usability Summary Report – October 2008 (on compact disk)
Attachment 3	Data Usability Summary Report – May 2009 (on compact disk)
Attachment 4	Final Bioremediation Pilot Study Report – February 2009 (on compact disk)
cc:	Mr. Gerard Burke, P.E., Section Chief, NYSDEC Craig Pawlewski, P.E., URS - Buffalo File: 11174478.00000 (C-1)

FIGURES



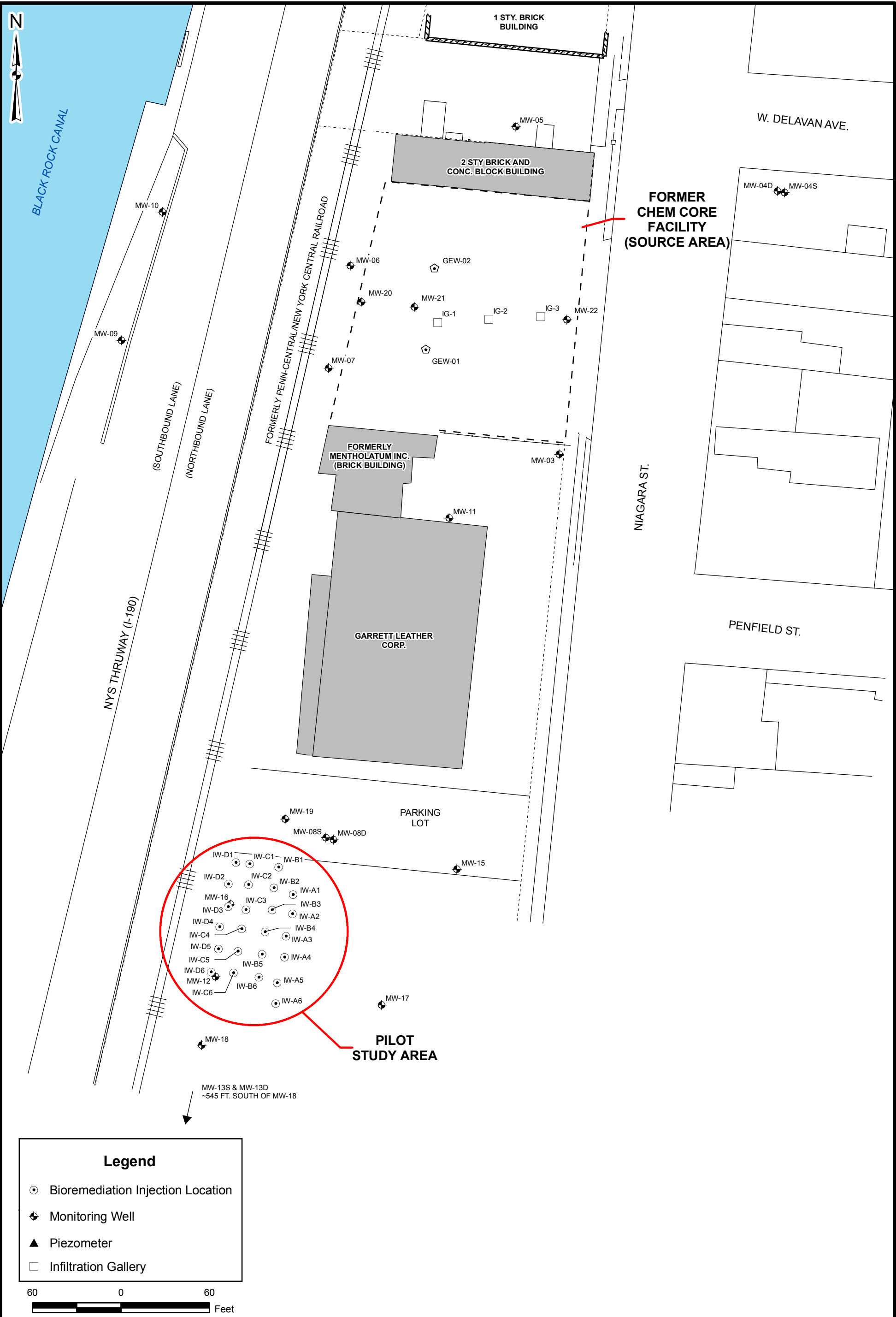
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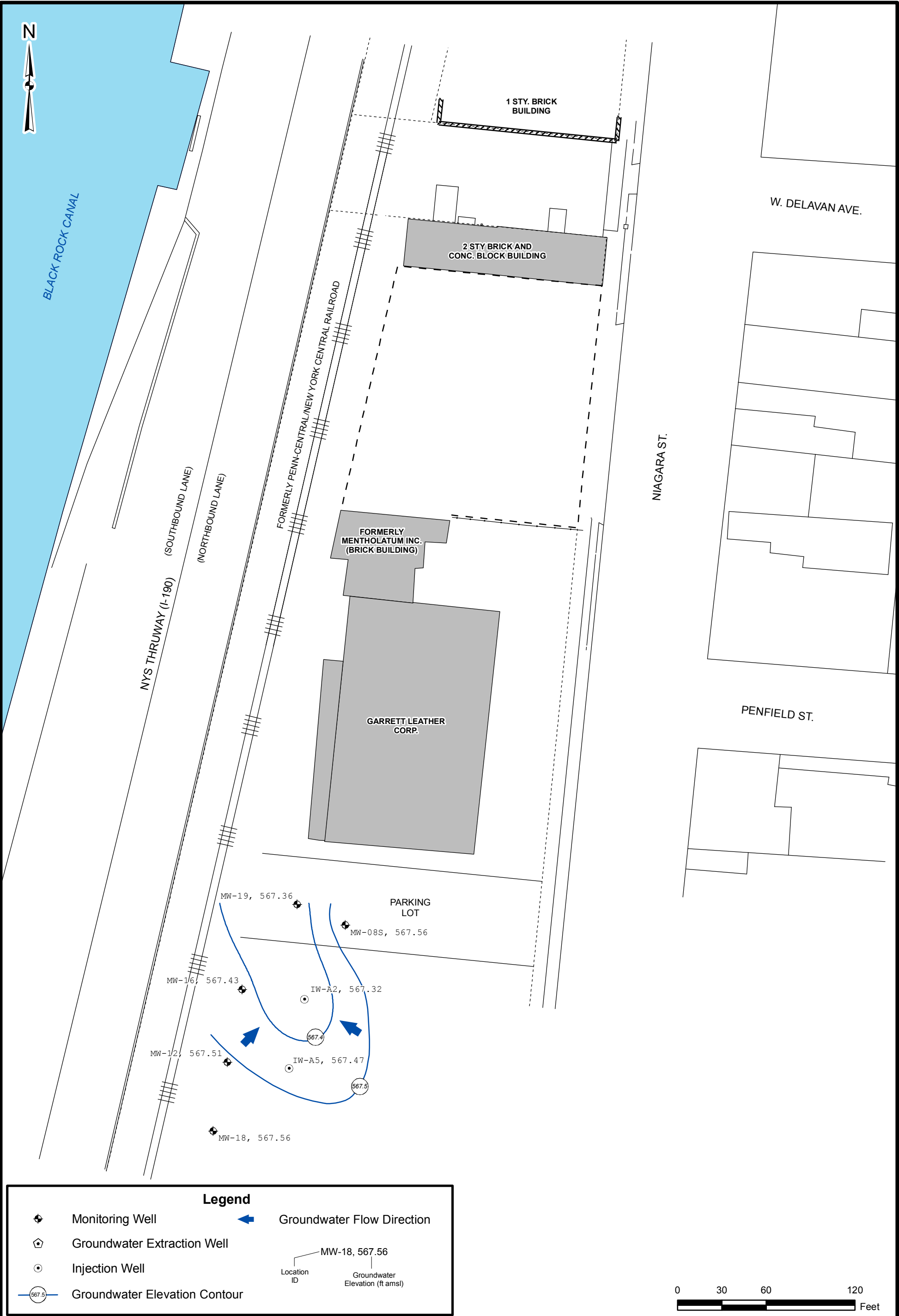


URS

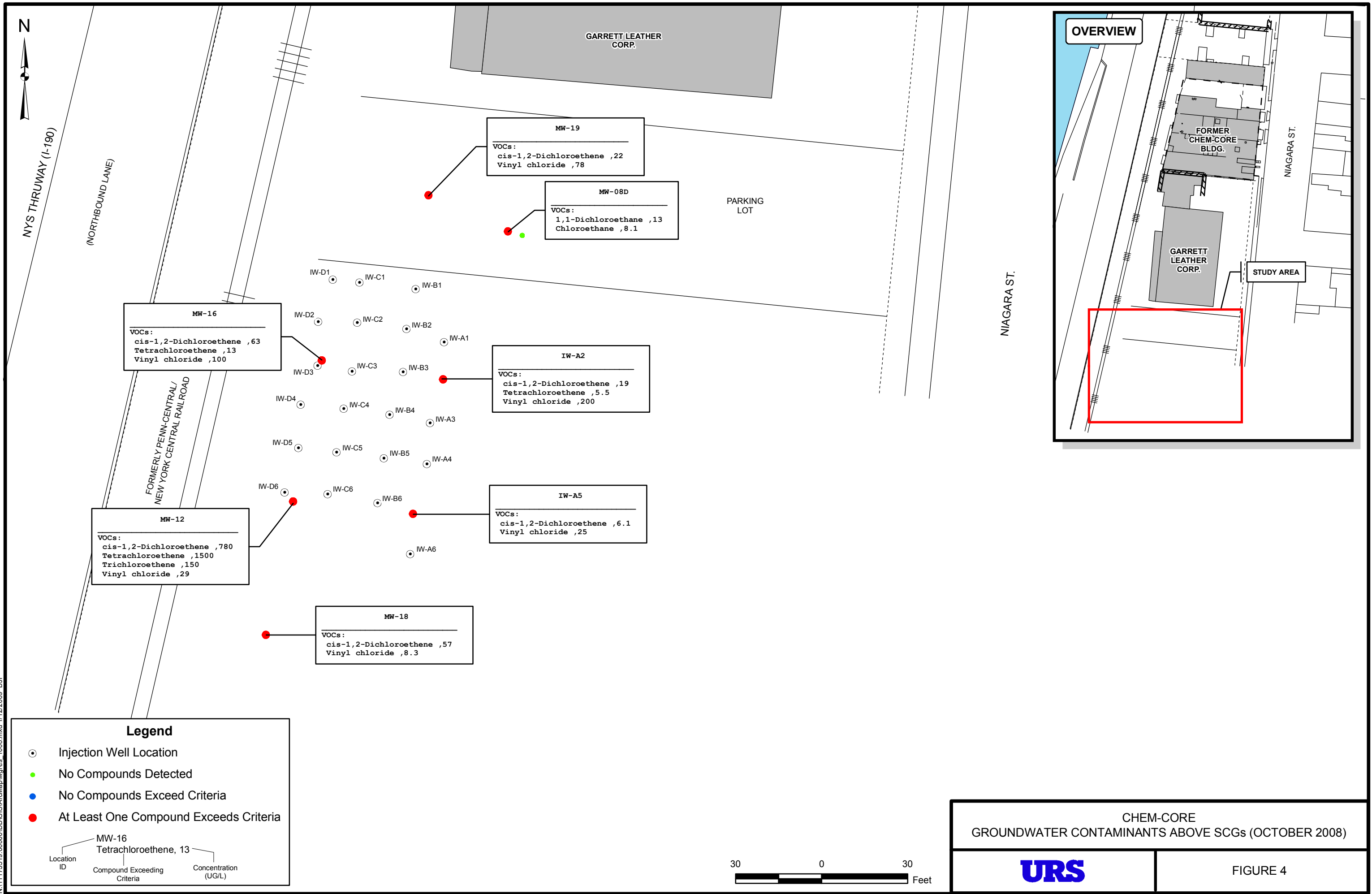
**CHEM-CORE
SITE LOCATION MAP**

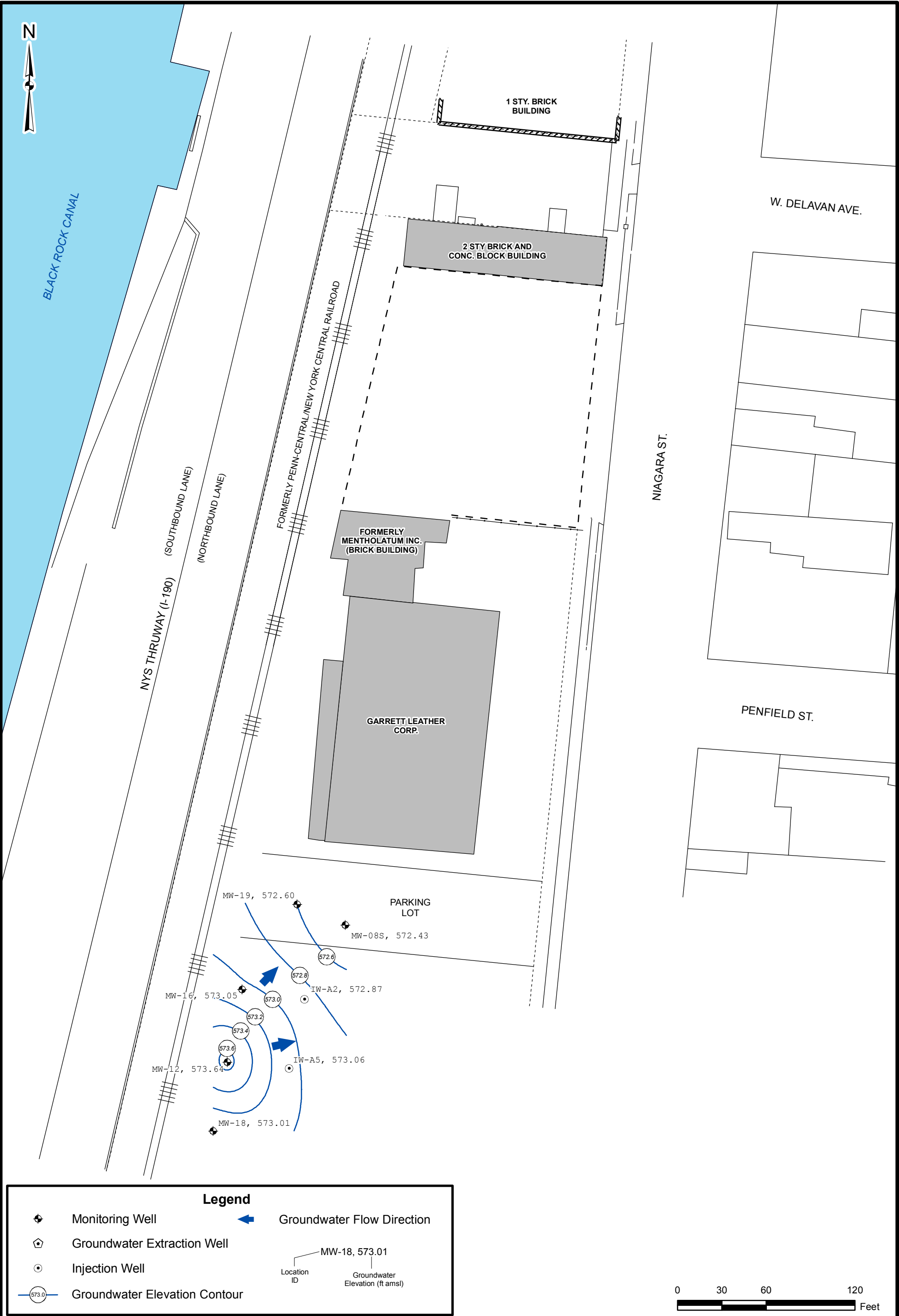
FIGURE 1



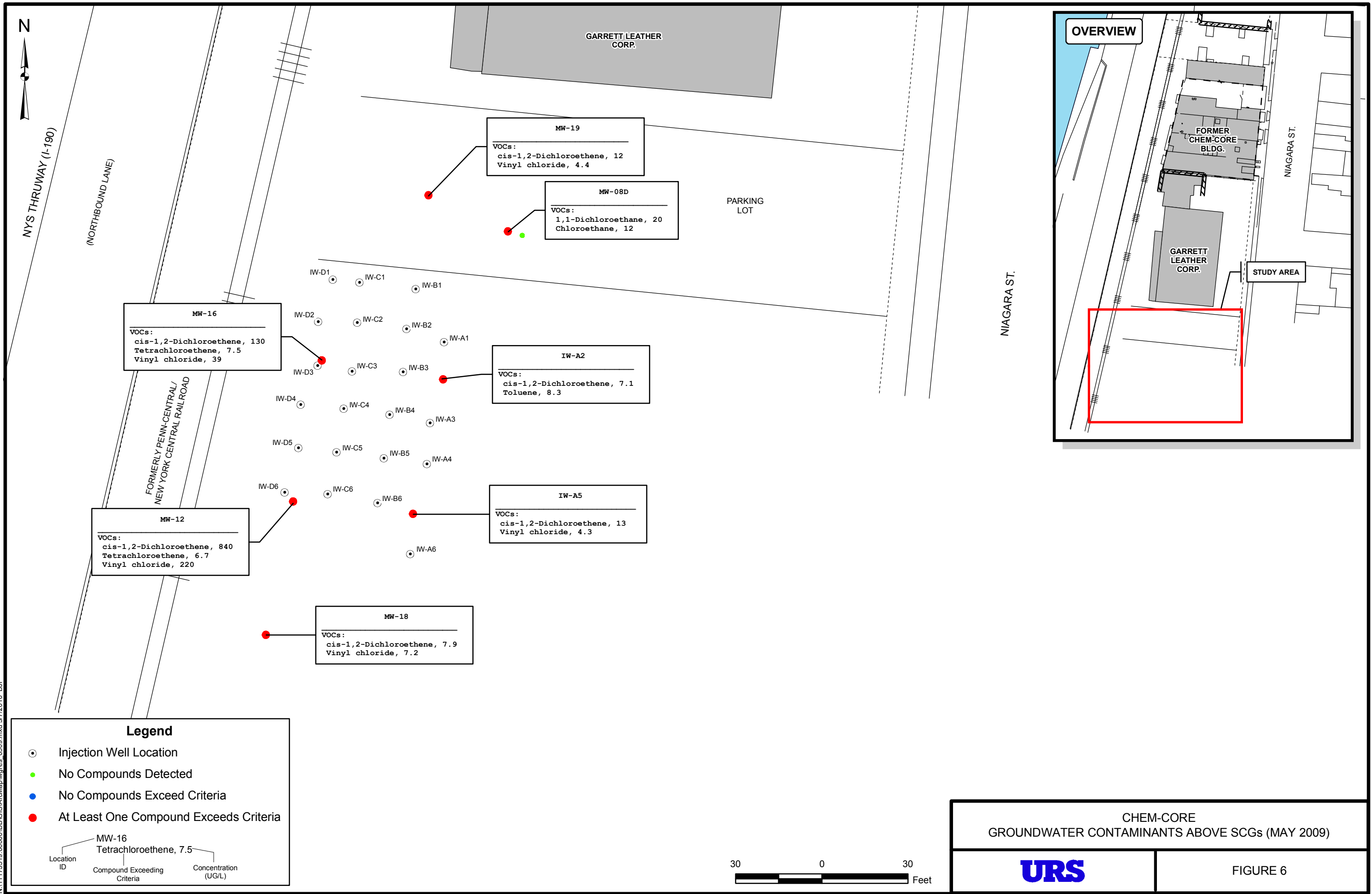


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TABLES

Table 1

Chlorinated Hydrocarbon Sampling Results - Source Area

PCE (µg/L)							
WELL	LOCATION	8/23/2007	1/27/2009	4/2/2009	7/29/2009	10/22/2009	2/23/2010
MW-03	perimeter	NA	NA	410	1100	ND	16
MW-04S	upgradient	NA	NA	ND	ND	NA	ND
MW-04D	upgradient	NA	NA	ND	ND	NA	ND
MW-05	upgradient	NA	NA	ND	ND	ND	ND
MW-06	perimeter	NA	NA	ND	ND	ND	ND
MW-07	perimeter	NA	NA	12	11	19	26
MW-09	downgradient	NA	NA	NA	ND	ND	NA
MW-10	downgradient	NA	NA	NA	ND	ND	ND
MW-11	downgradient	NA	NA	290	19	27	58
MW-20	source	ND	ND	ND	160	230	0.66
MW-21	source	820	0.52	ND	2.1	5.7	ND
MW-22	source	1900	ND	6.2	50	ND	6.9
TCE (µg/L)							
MW-03	perimeter	NA	NA	1200	1200	280	790
MW-04S	upgradient	NA	NA	ND	ND	NA	ND
MW-04D	upgradient	NA	NA	ND	ND	NA	ND
MW-05	upgradient	NA	NA	1.1	0.68	1.5	ND
MW-06	perimeter	NA	NA	5	5	ND	3.8
MW-07	perimeter	NA	NA	11	17	21	26
MW-09	downgradient	NA	NA	NA	ND	ND	NA
MW-10	downgradient	NA	NA	NA	ND	ND	ND
MW-11	downgradient	NA	NA	290	44	33	38
MW-20	source	260	ND	0.79	330	1900	1.3
MW-21	source	2300	2	1.3	5.8	17	0.82
MW-22	source	1700	21	ND	210	ND	7.7
c,t-DCE (µg/L)							
MW-03	perimeter	NA	NA	10059	4936	9600	18062
MW-04S	upgradient	NA	NA	2.3	0.44	NA	3
MW-04D	upgradient	NA	NA	4.6	ND	NA	2.1
MW-05	upgradient	NA	NA	98.5	82.6	98.8	14
MW-06	perimeter	NA	NA	13000	14200	13094	12090
MW-07	perimeter	NA	NA	11	15	28	39
MW-09	downgradient	NA	NA	NA	0.41	ND	NA
MW-10	downgradient	NA	NA	NA	ND	ND	ND
MW-11	downgradient	NA	NA	660	67.1	101.8	2034
MW-20	source	4900	13086	33.5	1620	12074	113.1
MW-21	source	2000	864	102	13.4	99	20
MW-22	source	2900	10042	16000	14057	7400	3437
VC (µg/L)							
MW-03	perimeter	NA	NA	2100	760	3700	7000
MW-04S	upgradient	NA	NA	ND	0.46	NA	1.5
MW-04D	upgradient	NA	NA	ND	ND	NA	1.4
MW-05	upgradient	NA	NA	61	84	99	28
MW-06	perimeter	NA	NA	8600	8900	11000	11000
MW-07	perimeter	NA	NA	ND	0.83	5.9	9.2
MW-09	downgradient	NA	NA	NA	ND	ND	NA
MW-10	downgradient	NA	NA	NA	ND	ND	ND
MW-11	downgradient	NA	NA	29	1.4	34	1000
MW-20	source	3000	13000	54	920	5100	93
MW-21	source	ND	1200	270	6.8	120	23
MW-22	source	ND	4200	3000	4800	11000	8400
ORP (mv)							
MW-03	perimeter	NA	NA	-133	-127	-87	-95
MW-04S	upgradient	NA	NA	-127	-128	NA	-130
MW-04D	upgradient	NA	NA	0	-216	NA	-144
MW-05	upgradient	NA	NA	-268	-193	-193	-222
MW-06	perimeter	NA	NA	-151	-148	-163	-100
MW-07	perimeter	NA	NA	148	4	-43	-109
MW-09	downgradient	NA	NA	NA	-230	-248	NA
MW-10	downgradient	NA	NA	NA	-249	-257	-178
MW-11	downgradient	NA	NA	25	3	-44	-68
MW-20	source	NA	NA	-211	-185	-245	-305
MW-21	source	NA	NA	-301	-234	-298	-301
MW-22	source	NA	NA	-298	-226	-297	-311

ND - Not Detected

NA - Not Analyzed

Application date occurred 10/9/2008 in three infiltration galleries within source area.

Table 2

Chlorinated Hydrocarbon Sampling Results - Pilot Study Area

PCE (µg/L)							
WELL	LOCATION	10/10/2008	5/8/2009	4/2/2009	7/29/2009	10/22/2009	2/23/2010
IW-A2	Infield	5.5	ND	NA	NA	NA	NA
IW-A5	Infield	3.7	ND	NA	NA	NA	NA
MW-8S	15 meters downgradient	ND	ND	NA	NA	ND	ND
MW-8D	15 meters downgradient	ND	ND	NA	NA	ND	ND
MW-12	Infield	1,500	6.7	NA	NA	13	4.6
MW-13S	10 meters upgradient	NA	NA	3.7	4.4	3.7	4.3
MW-13D	10 meters upgradient	NA	NA	ND	ND	ND	ND
MW-15	30 meters upgradient	NA	NA	ND	ND	ND	ND
MW-16	Infield	13	7.5	NA	NA	0.43	ND
MW-18	15 meters downgradient	ND	ND	NA	NA	ND	ND
MW-19	10 meters downgradient	3.4	ND	NA	NA	ND	ND
TCE (µg/L)							
IW-A2	Infield	ND	ND	NA	NA	NA	NA
IW-A5	Infield	ND	ND	NA	NA	NA	NA
MW-8S	15 meters downgradient	ND	ND	NA	NA	ND	ND
MW-8D	15 meters downgradient	ND	ND	NA	NA	ND	ND
MW-12	Infield	150	2.1	NA	NA	4	1.1
MW-13S	10 meters upgradient	NA	NA	2.8	3.3	3.2	2.2
MW-13D	10 meters upgradient	NA	NA	ND	ND	ND	ND
MW-15	30 meters upgradient	NA	NA	0.86	ND	ND	ND
MW-16	Infield	ND	2.5	NA	NA	0.67	ND
MW-18	15 meters upgradient	ND	ND	NA	NA	ND	ND
MW-19	10 meters downgradient	ND	ND	NA	NA	ND	ND
c,t-DCE (µg/L)							
IW-A2	Infield	19	7.1	NA	NA	NA	NA
IW-A5	Infield	6.1	13	NA	NA	NA	NA
MW-8S	15 meters downgradient	ND	ND	NA	NA	1.2	0.74
MW-8D	15 meters downgradient	ND	ND	NA	NA	ND	0.58
MW-12	Infield	780	844	NA	NA	3008.4	3107.7
MW-13S	10 meters upgradient	NA	NA	11	8.2	6.7	3.7
MW-13D	10 meters upgradient	NA	NA	1.3	0.4	0.46	0.71
MW-15	30 meters upgradient	NA	NA	1	0.48	ND	0.74
MW-16	Infield	63	130	NA	NA	392.1	161.3
MW-18	15 meters upgradient	57	7.9	NA	NA	4.7	5.7
MW-19	10 meters downgradient	22	12	NA	NA	9	110.99
VC (µg/L)							
IW-A2	Infield	200	ND	NA	NA	NA	NA
IW-A5	Infield	25	4.3	NA	NA	NA	NA
MW-8S	15 meters downgradient	ND	ND	NA	NA	0.74	ND
MW-8D	15 meters downgradient	ND	ND	NA	NA	ND	0.51
MW-12	Infield	29	220	NA	NA	650	920
MW-13S	10 meters upgradient	NA	NA	ND	1.1	0.82	ND
MW-13D	10 meters upgradient	NA	NA	ND	0.39	0.45	ND
MW-15	30 meters upgradient	NA	NA	ND	0.26	ND	ND
MW-16	Infield	100	39	NA	NA	140	120
MW-18	15 meters upgradient	8.3	7.2	NA	NA	13	3.6
MW-19	10 meters downgradient	78	4.4	NA	NA	7.3	62
ORP (mv)							
IW-A2	Infield	-100	-241	NA	NA	NA	NA
IW-A5	Infield	-141	-242	NA	NA	NA	NA
MW-8S	15 meters downgradient	13	-234	NA	NA	-275	-134
MW-8D	15 meters downgradient	-293	-274	NA	NA	-252	-190
MW-12	Infield	6	-138	-19	NA	-175	-135
MW-13S	10 meters upgradient	NA	NA	-41	-15	-139	-33
MW-13D	10 meters upgradient	NA	NA	-234	-220	-238	-234
MW-15	30 meters upgradient	NA	NA	NA	-142	-168	-124
MW-16	Infield	-147	-221	NA	NA	-168	-82
MW-18	15 meters upgradient	-107	-176	NA	NA	-183	none
MW-19	10 meters downgradient	-188	-206	NA	NA	-188	-120

ND - Not Detected

Injection date occurred 10/13/2008 and sampling dates occurred on 10/10/2008 and 5/08/2009

NA - Not Analyzed

ATTACHMENT 1

Low-Flow Purge Logs

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-08S

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 19.89 Depth to
Well Bottom: 24.54 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 26.4 Estimated
Purge
Volume
(liters): 28

Sample ID: MW-08S-WG Sample
Time: 830 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.16 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
800	6.90	14.8	1.410	1.42	15	-14	1000	
802	7.03	14.8	1.410	0.88	10	-23	1000	
804	7.24	15.0	1.410	0.89	5.3	-24	1000	
806	7.30	15.0	1.410	0.97	3.4	-22	1000	
808	7.32	15.0	1.410	0.99	2.8	-21	1000	
810	7.34	15.0	1.410	1.01	2.1	-20	1000	
812	7.37	15.1	1.410	1.01	2.0	-14	1000	
814	7.39	15.1	1.410	1.03	1.9	-9	1000	
816	7.45	15.1	1.410	1.03	1.1	-4	1000	
818	7.48	15.2	1.410	1.12	0.0	-2	1000	
820	7.5	15.2	1.410	1.07	0.0	2	1000	
822	7.53	15.2	1.410	1.10	0.0	6	1000	
824	7.54	15.2	1.410	1.13	0.0	10	1000	
826	7.55	15.2	1.410	1.12	0.0	11	1000	
828	7.56	15.2	1.410	1.15	0.0	13	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

N:\11173519.00000\EXCEL\October 2008 purge.xls\MW-18

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-08D

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 20.25 Depth to
Well Bottom: 44.68 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 60.3 Estimated
Purge
Volume
(liters): 65

Sample ID: MW-08D-WG Sample
Time: 950 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.00 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:45	7.49	14.2	1.970	1.51	16.4	156	1000	
8:50	7.55	14.2	2.200	1.12	2.5	-191	1000	
8:55	7.76	14.4	2.180	0.90	1.3	-220	1000	
9:00	7.77	14.4	2.180	0.88	0.0	-224	1000	
9:05	7.77	14.4	2.180	0.84	0.0	-231	1000	
9:10	7.77	14.4	2.180	0.82	0.0	-237	1000	
9:15	7.76	14.4	2.180	0.80	0.0	-241	1000	
9:20	7.75	14.4	2.180	0.79	0.0	-247	1000	
9:25	7.73	14.5	2.180	0.79	0.0	-255	1000	
9:30	7.71	14.5	2.180	0.76	0.0	-271	1000	
9:35	7.69	14.5	2.180	0.76	0.0	-287	1000	
9:40	7.68	14.5	2.180	0.75	0.0	-291	1000	
9:45	7.67	14.5	2.180	0.73	0.0	-293	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-12

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 28.20 Depth to
Well Bottom: 35.90 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 43.7 Estimated
Purge
Volume
(liters): 50

Sample ID: MW-12-WG Sample
Time: 1400 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.19 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1310	7.37	13.9	0.870	4.17	923	-53	1000	
1315	7.23	13.5	0.863	3.95	621	-24	1000	
1320	7.15	13.0	0.852	3.80	225	-7	1000	
1325	7.07	13.2	0.846	4.55	103	15	1000	
1330	7.03	13.3	0.848	4.74	94	11	1000	
1335	7.03	13.3	0.845	4.61	73	9	1000	
1340	7.02	13.3	0.843	4.59	53	12	1000	
1345	7.02	13.3	0.841	4.47	31	10	1000	
1350	7.02	13.3	0.840	4.39	42	9	1000	
1355	7.02	13.3	0.839	4.29	40	6	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-16

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 29.17 Depth to
Well Bottom: 38.42 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 22.8 Estimated
Purge
Volume
(liters): 22

Sample ID: MW-16-WG Sample
Time: 1435 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 2.30 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1410	7.09	13.3	1.500	0.88	536	-106	1000	
1412	7.01	13.1	1.620	0.79	230	-117	1000	
1414	7.01	13.2	1.660	0.82	220	-119	1000	
1416	7.01	13.2	1.820	0.79	193	-120	1000	
1418	7.03	13.2	1.960	0.75	167	-124	1000	
1420	7.08	13.2	2.180	0.70	116	-131	1000	
1422	7.09	13.2	2.200	0.70	93	-134	1000	
1424	7.09	13.3	2.230	0.70	61	-137	1000	
1426	7.11	13.3	2.260	0.68	45	-139	1000	
1428	7.12	13.3	2.250	0.66	43	-141	1000	
1430	7.13	13.3	2.240	0.67	37	-144	1000	
1432	7.13	13.4	2.250	0.67	44	-147	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-18

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 26.75 Depth to
Well Bottom: 39.07 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 30.4 Estimated
Purge
Volume
(liters): 26

Sample ID: MW-18-WG Sample
Time: 1300 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.36 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1230	7.82	12.2	0.980	2.54	389	-105	1000	
1232	7.71	12.2	0.970	1.17	281	-109	1000	
1234	7.58	12.2	0.970	0.97	193	-110	1000	
1236	7.52	12.2	0.940	0.88	155	-119	1000	
1238	7.50	12.2	0.940	0.83	67	-121	1000	
1240	7.49	12.2	0.930	0.89	59	-123	1000	
1242	7.48	12.2	0.920	0.88	48	-123	1000	
1244	7.48	12.2	0.900	0.86	47	-122	1000	
1246	7.48	12.1	0.682	0.80	37	-115	1000	
1248	7.47	12.1	0.683	0.79	38	-112	1000	
1250	7.46	12.1	0.685	0.76	33	-110	1000	
1252	7.46	12.1	0.685	0.72	26	-109	1000	
1254	7.45	12.1	0.686	0.79	37	-108	1000	
1256	7.45	12.1	0.688	0.81	21	-107	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-19

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 17.34 Depth to
Well Bottom: 27.75 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 25.7 Estimated
Purge
Volume
(liters): 24

Sample ID: MW-19-WG Sample
Time: 1025 QA/QC: MS/MSD

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 5.40 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1000	8.08	16.2	3.130	1.61	351	-163	1000	
1002	7.66	16.2	3.180	0.96	296	-175	1000	
1004	7.62	16.2	3.160	0.88	224	-177	1000	
1006	7.58	16.3	3.150	0.82	169	-180	1000	
1008	7.54	16.3	3.020	0.80	101	-182	1000	
1010	7.55	16.3	2.750	0.79	71	-181	1000	
1012	7.56	16.4	2.550	0.83	53	-179	1000	
1014	7.53	16.4	2.450	0.82	56	-180	1000	
1016	7.51	16.4	2.460	0.81	36	-182	1000	
1018	7.48	16.4	2.550	0.79	31	-186	1000	
1020	7.48	16.4	2.280	0.79	24	-187	1000	
1022	7.46	16.4	2.620	0.77	20	-188	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: IW-A2

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 28.53 Depth to
Well Bottom: 39.38 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 26.8 Estimated
Purge
Volume
(liters): 26

Sample ID: IW-A2-WG Sample
Time: 1515 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 4.20 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1445	7.21	12.5	1.390	0.77	260	-90	1000	
1447	7.19	12.5	1.380	0.79	200	-90	1000	
1449	7.18	12.5	1.370	0.81	180	-93	1000	
1451	7.16	12.5	1.370	0.82	128	-95	1000	
1453	7.14	12.6	1.350	0.79	124	-94	1000	
1455	7.09	12.6	1.240	0.79	103	-95	1000	
1457	7.07	12.6	1.200	0.78	88	-95	1000	
1459	7.05	12.6	1.180	0.78	76	-94	1000	
1501	7.05	12.7	1.112	0.76	51	-96	1000	
1503	7.04	12.7	1.110	0.79	45	-97	1000	
1505	7.03	12.7	1.120	0.77	37	-97	1000	
1507	7.03	12.7	1.120	0.72	23	-99	1000	
1509	7.03	12.7	1.120	0.75	22	-99	1000	
1511	7.02	12.7	1.130	0.75	23	-100	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: IW-A5

Date: 10/10/08 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 27.75 Depth to
Well Bottom: 38.83 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 27.4 Estimated
Purge
Volume
(liters): 28

Sample ID: IW-A5-WG Sample
Time: 1600 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 1.10 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1530	7.26	12.5	0.928	1.09	543	-87	1000	
1532	7.26	12.5	0.914	0.93	124	-93	1000	
1534	7.25	12.7	0.908	0.75	58	-108	1000	
1536	7.10	12.6	0.909	0.76	51	-111	1000	
1538	7.10	12.6	0.906	0.78	55	-113	1000	
1540	7.11	12.6	0.905	0.77	49	-115	1000	
1542	7.14	12.7	0.902	0.73	46	-119	1000	
1544	7.13	12.7	0.897	0.71	37	-124	1000	
1546	7.10	12.7	0.895	0.71	44	-130	1000	
1548	7.10	12.7	0.891	0.72	41	-132	1000	
1550	7.10	12.8	0.868	0.71	30	-134	1000	
1552	7.10	12.8	0.884	0.70	32	-137	1000	
1554	7.10	12.8	0.883	0.71	35	-138	1000	
1556	7.10	12.8	0.879	0.70	33	-140	1000	
1558	7.11	12.8	0.877	0.70	31	-141	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-08S

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 15.02 Depth to
Well Bottom: 24.38 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 53.3 Estimated
Purge
Volume
(liters): 55

Sample ID: MW-08S-WG Sample
Time: 955 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.21 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
905	7.02	10.3	1.026	1.26	69	-218.0	1000	15.02
910	6.99	10.2	1.033	0.29	43	-218.8	1000	16.48
915	6.99	10.2	1.031	0.12	28.0	-219.9	1000	16.92
920	7.00	10.2	1.031	0.07	26.0	-227.0	1000	17.48
925	7.00	10.2	1.031	0.04	28.0	-231.9	1000	18.00
930	7.00	10.2	1.031	0.01	44.0	-232.6	1000	18.95
935	7.01	10.2	1.031	0.00	30.0	-229.0	1000	19.42
940	7.00	10.3	1.033	0.00	31.0	-227.4	1000	20.42
945	7.01	10.4	1.033	0.00	30.0	-226.8	1000	20.85
950	7.01	10.4	1.033	0.00	30.0	-230.3	1000	21.50
955	7.01	10.4	1.033	0.00	31.0	-233.8	1000	21.85
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-08D

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 16.68 Depth to
Well Bottom: 44.52 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 68.7 Estimated
Purge
Volume
(liters): 70

Sample ID: MW-08D-WG Sample
Time: 1120 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.00 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1010	6.74	10.84	1.437	0.39	2.0	-221	1000	16.68
1015	6.70	10.78	1.442	0.10	2.0	-226	1000	16.78
1020	6.67	10.90	1.517	0.00	1.0	-234	1000	16.78
1025	6.77	11.18	1.789	0.00	1.0	-246	1000	16.78
1030	6.90	11.29	1.985	0.00	1.0	-260	1000	16.88
1035	6.91	11.29	2.003	0.00	1.0	-265	1000	16.88
1045	6.90	11.29	2.007	0.00	1.0	-226	1000	16.88
1055	6.90	11.33	2.007	0.00	1.0	-269	1000	16.88
1100	6.89	11.35	2.004	0.00	1.0	-272	1000	16.88
1105	6.87	11.33	1.992	0.00	1.0	-270	1000	16.88
1110	6.87	11.31	1.995	0.00	1.0	-276.2	1000	16.88
1115	6.88	11.31	1.004	0.00	1.0	-274.1	1000	16.88
1120	6.88	11.30	2.004	0.00	1.0	-273.8	1000	16.88
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-12

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 22.07 Depth to
Well Bottom: 35.70 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 36.8 Estimated
Purge
Volume
(liters): 50

Sample ID: MW-12-WG Sample
Time: 1500 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 3.11 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1420	6.78	12.50	0.751	1.47	30	-107.3	1000	22.07
1430	6.67	12.16	0.756	0.50	14	-116.3	1000	22.42
1435	6.57	12.10	0.755	0.31	11	-120.3	1000	22.78
1440	6.54	12.04	0.756	0.31	10	-118.5	1000	22.85
1445	6.51	12.09	0.755	0.31	10	-124.6	1000	22.93
1450	6.48	12.11	0.756	0.31	9	-130.4	1000	22.98
1455	6.46	12.10	0.756	1.32	8	-134.8	1000	23.08
1500	6.41	12.09	0.756	0.33	8	-137.9	1000	23.14
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-16

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 23.55 Depth to
Well Bottom: 38.30 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 36.4 Estimated
Purge
Volume
(liters): 40

Sample ID: MW-16-WG Sample
Time: 1555 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.79 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1515	6.45	12.93	0.970	1.36	78	-191.3	1000	23.55
1525	6.33	12.44	0.958	0.21	35	-229.2	1000	24.48
1530	6.33	12.34	0.962	0.38	27	-235.0	1000	24.72
1535	6.33	12.35	0.959	0.35	26	-242.1	1000	24.78
1540	6.31	12.33	0.945	0.31	25	-241.0	1000	24.92
1545	6.31	12.31	0.938	0.36	24	-230.8	1000	24.95
1550	6.31	12.23	0.936	0.38	23	-226.0	1000	24.98
1555	6.30	12.26	0.935	0.36	61	-220.9	1000	25.00
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{cy} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-18

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 21.30 Depth to
Well Bottom: 39.02 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 43.8 Estimated
Purge
Volume
(liters): 45

Sample ID: MW-18-WG Sample
Time: 1350 QA/QC: none

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 2.61 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1305	6.66	12.45	0.785	0.99	11	-161.4	1000	21.30
1315	6.60	12.00	0.726	0.65	10	-168.3	1000	21.55
1320	6.51	11.82	0.649	0.31	9	-172.9	1000	21.60
1325	6.48	11.80	0.655	0.53	6	-171.5	1000	21.60
1330	6.46	11.79	0.658	0.40	5	-173.9	1000	21.60
1335	6.43	11.77	0.667	0.46	4	-177.5	1000	21.60
1340	6.40	11.79	0.670	0.72	3	-174.1	1000	21.60
1345	6.39	11.83	0.669	0.70	3	-173.6	1000	21.60
1350	6.33	11.80	0.683	0.70	3	-175.9	1000	21.60
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: MW-19

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 12.10 Depth to
Well Bottom: 27.45 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 37.9 Estimated
Purge
Volume
(liters): 40

Sample ID: MW-19-WG Sample
Time: 1220 QA/QC: MS/MSD

Sample Parameters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.99 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1140	7.10	11.65	0.963	5.32	87	-181.5	1000	12.10
1150	5.86	9.75	0.995	0.28	85	-204.3	1000	12.85
1155	5.90	9.73	1.020	0.20	40	-203.0	1000	12.95
1200	5.92	9.72	1.031	0.16	26	-202.8	1000	13.05
1205	5.95	9.70	1.042	0.13	12	-201.6	1000	13.15
1210	5.91	9.81	1.052	0.45	11	-206.5	1000	13.22
1215	5.95	9.76	1.060	0.43	10	-201.9	1000	13.28
1220	5.96	9.78	1.053	0.45	10	-205.7	1000	13.35
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: IW-A2

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 22.98 Depth to
Well Bottom: 39.28 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 40.3 Estimated
Purge
Volume
(liters): 42

Sample ID: IW-A2-WG Sample
Time: 1221 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.10 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1620	7.46	21.1	0.003	8.04		-53		
1625								
1635	6.03	12.4	1.010	0.74	>1000	-153	1000	24.30
1645	6.00	12.3	1.014	0.42	515	-158	1000	24.95
1650	5.98	12.3	1.020	0.30	548	-165	1000	25.26
1655	5.96	12.2	1.029	0.25	558	-170	1000	25.50
1700	5.92	12.2	1.059	0.13	634	-195	1000	25.52
1705	5.91	12.2	1.093	0.05	600	-210	1000	25.55
1710	5.92	12.2	1.126	0.00	577	-223	1000	25.68
1715	5.94	12.1	1.177	0.00	342	-240.5	1000	25.88
1718	5.95	12.1	1.190	0.00	292	-243.8	1000	25.98
1721	5.96	12.1	1.207	0.00	283	-241	1000	25.98
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem Core Site: Chem Core Well I.D.: IW-A5

Date: 5/8/09 Sampling Personnel: Rob Murphy Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: HDPE Pump/Tubing
Inlet Location: Screen midpoint

Measuring
Point: Top of Riser Initial Depth
to Water: 22.16 Depth to
Well Bottom: 38.74 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 40.9 Estimated
Purge
Volume
(liters): 41

Sample ID: IW-A5-WG Sample
Time: 1600 QA/QC: none

Sample Paramaters: TCL VOCs, TOC, Total Iron, Dissolved Iron, and Sulfate

Other Information: Ferrous iron = 0.85 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1740	6.69	12.86	0.999	0.58	108	-209.9	1000	22.16
1745	6.29	12.41	0.881	0.16	72	-224.7	1000	23.30
1750	6.26	12.34	0.882	0.05	68	-235.0	1000	23.70
1755	6.18	12.34	0.886	0.00	42	-242.4	1000	23.60
1800	6.12	12.41	0.893	0.00	45	-241.0	1000	23.50
1805	6.10	12.54	0.899	0.00	48	-242.6	1000	23.48
1810	6.07	12.66	0.902	0.00	52	-244.6	1000	23.45
1815	6.05	12.91	0.906	0.00	50	-244.5	1000	23.45
1820	6.03	12.63	0.911	0.00	49	-242.4	1000	23.45
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{cy} = πr²h)

ATTACHMENT 2

Data Usability Summary Report – October 2008 (On Compact Disk)

DATA USABILITY SUMMARY REPORT

**CHEM CORE SITE
SITE ID #9-15-176
BUFFALO, NEW YORK**

Analyses Performed by:

**MITKEM LABORATORIES, INC.
WARWICK, RHODE ISLAND**

Prepared by:

**URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203**

NOVEMBER 2008

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TABLES (Following Text)

Table 1	Validated Groundwater Analytical Results
Table 2	Validated Field QC Analytical Results

ATTACHMENTS

Attachment A– Validated Form 1’s
Attachment B – Support Documentation

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation Draft DER-10 *Technical Guidance for Site Investigation and Remediation*, dated December 2002, Appendix 2B- Guidance for the Development of Data Usability Summary Reports. The data being evaluated are from the October 10, 2008 sampling of eight groundwater samples, one matrix spike/matrix spike duplicate (MS/MSD) pair, one equipment rinse blank, and one trip blank at the Chem Core site.

II. ANALYTICAL METHODOLOGIES

All samples were sent to Mitkem Laboratories (Warwick, RI) for analysis. The samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.2, total and filtered iron (Fe) by USEPA CLP SOW ILM04.1, sulfate by Methods for the Chemical Analysis of Water and Wastes (MCAWW) Method 300.0, and total organic carbon (TOC) by Standard Methods for the Examination of Water and Wastewater (SM) Method SM5310B. The TOC analyses were subcontracted to RI Analytical Laboratories (Warwick, RI). The equipment rinse blank and trip blank were analyzed for TCL VOCs only.

A limited data validation was performed following the guidelines in USEPA Region II CLP *Organics Data Review and Preliminary Review*, SOP HW-6, Revision 14, September 2006 and *Validation of Metals for the CLP Program*, SOP HW-2, Revision 13, September 2006. The limited validation included: a review of holding times and completeness of all required deliverables; a review of quality control (QC) results (blanks, instrument tunings, calibration standards, duplicate analyses, and laboratory control sample recoveries) to determine if the data are within the protocol-required limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

Qualifications applied to the data include 'J' (estimated concentration) and 'U' (non-detect).

Qualifications applied to the data include 'J' (estimated concentration) and 'U' (non-detect). Definitions of USEPA Region II data qualifiers are presented at the end of this text. A summary of the validated analytical results are presented on Tables 1 and 2. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Documentation supporting the qualification of data is presented in Attachment B. Only analytical deviations affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

Full deliverable data packages were provided by the laboratory, which included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

IV. PRESERVATION/HOLDING TIMES/SAMPLE RECEIPT

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC). All samples were analyzed within the required holding times.

V. NON-CONFORMANCES

- Laboratory Blanks

Iron was detected in the laboratory method blank at a concentration above the method detection limit (MDL). The results for total Fe in sample MW-08D and filtered Fe in samples MW-08D and MW-08S were between the MDL and contract required detection limit (CRDL) and also less than five times the value detected in the method blank. The results for Fe in these samples were elevated to the CRDL and reported as non-detect ('U').

Documentation supporting the qualification of data (i.e., Form 3) is presented in Attachment B.

- Serial Dilution

The percent difference of filtered Fe in the serial dilution performed on sample MW-19 was greater than the QC limit (i.e., %D>10%). The detected results for filtered Fe in samples IW-A2, IW-A5, MW-12, MW-16, MW-18, and MW-19 were qualified 'J'.

Documentation supporting the qualification of data (i.e., Form 9) is presented in Attachment B.

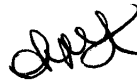
VI. SAMPLE RESULTS AND REPORTING

All quantitation/reporting limits were reported in accordance with method requirements and were adjusted for sample volume and dilution factors. The VOC fraction of sample MW-12 was diluted prior to analysis due to elevated concentrations of target compounds. The quantitation limits reported for the non-detect compounds are the lowest achievable at the dilution utilized.

VII. SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified 'J' (estimated) are considered conditionally usable. All other sample results are usable as reported. URS does not recommend the recollection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist



Date:

11/20/08

Reviewed By: James J. Lehnen, Senior Chemist



Date:

11/21/08

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

- U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- B – The analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the quantitation limit.
- D – The positive value is the result of an analysis at a secondary dilution factor.

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2-WG	IW-A5-WG	MW-8D-WG	MW-8S-WG	MW-12-WG
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08	10/10/08	10/10/08
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,1-Dichloroethane	UG/L	10 U	10 U	13	10 U	100 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	100 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	100 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U	100 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	100 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	100 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U	10 U	100 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	100 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	100 U
2-Butanone	UG/L	10 U	10 U	10 U	10 U	100 U
2-Hexanone	UG/L	10 U	10 U	10 U	10 U	100 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U	10 U	100 U
Acetone	UG/L	10 U	10 U	10 U	10 U	100 U
Benzene	UG/L	10 U	10 U	10 U	10 U	100 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U	100 U
Bromoform	UG/L	10 U	10 U	10 U	10 U	100 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U	100 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U	100 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08

CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2-WG	IW-A5-WG	MW-8D-WG	MW-8S-WG	MW-12-WG
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08	10/10/08	10/10/08
Parameter	Units					
Volatiles						
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U	100 U
Chlorobenzene	UG/L	10 U	10 U	10 U	10 U	100 U
Chloroethane	UG/L	10 U	10 U	8.1 J	10 U	100 U
Chloroform	UG/L	10 U	10 U	10 U	10 U	100 U
Chloromethane	UG/L	10 U	10 U	10 U	10 U	100 U
cis-1,2-Dichloroethene	UG/L	19	6.1 J	10 U	10 U	780
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	100 U
Cyclohexane	UG/L	10 U	10 U	10 U	10 U	100 U
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U	100 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U	100 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U	100 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U	100 U
Methyl acetate	UG/L	10 U	10 U	10 U	10 U	100 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U	100 U
Methylcyclohexane	UG/L	10 U	10 U	10 U	10 U	100 U
Methylene chloride	UG/L	10 U	10 U	10 U	10 U	100 U
Styrene	UG/L	10 U	10 U	10 U	10 U	100 U
Tetrachloroethene	UG/L	5.5 J	3.7 J	10 U	10 U	1,500
Toluene	UG/L	10 U	10 U	10 U	10 U	100 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	100 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	100 U
Trichloroethene	UG/L	10 U	10 U	10 U	10 U	150
Trichlorofluoromethane	UG/L	10 U	10 U	10 U	10 U	100 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08

CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2-WG	IW-A5-WG	MW-8D-WG	MW-8S-WG	MW-12-WG
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08	10/10/08	10/10/08
Parameter	Units					
Volatiles						
Vinyl chloride	UG/L	200	25	10 U	10 U	29 J
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U	100 U
Filtered Metals						
Iron	UG/L	4,330 J	1,520 J	100 U	100 U	302 J
Total Metals						
Iron	UG/L	5,280	1,850	100 U	382	4,830
Miscellaneous Parameters						
Sulfate (as SO ₄)	MG/L	77	120	700	250	63
Total Organic Carbon (TOC)	MG/L	30	28	10	6.2	3.1

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08
 CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16-WG	MW-18-WG	MW-19-WG
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08
Parameter	Units			
Volatiles				
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U
2-Butanone	UG/L	10 U	10 U	10 U
2-Hexanone	UG/L	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U
Acetone	UG/L	10 U	10 U	10 U
Benzene	UG/L	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08
 CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16-WG	MW-18-WG	MW-19-WG
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08
Parameter	Units			
Volatiles				
Carbon tetrachloride	UG/L	10 U	10 U	10 U
Chlorobenzene	UG/L	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	63	57	22
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U
Tetrachloroethene	UG/L	13	10 U	3.4 J
Toluene	UG/L	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08
 CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16-WG	MW-18-WG	MW-19-WG
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		10/10/08	10/10/08	10/10/08
Parameter	Units			
Volatiles				
Vinyl chloride	UG/L	100	8.3 J	78
Xylene (Total)	UG/L	10 U	10 U	10 U
Filtered Metals				
Iron	UG/L	3,980 J	598 J	4,360 J
Total Metals				
Iron	UG/L	7,040	1,860	4,840
Miscellaneous Parameters				
Sulfate (as SO ₄)	MG/L	130	75	100
Total Organic Carbon (TOC)	MG/L	4.1	2.8	4.7

Flags assigned during chemistry validation are shown.

MADE BY: AMK 11/14/08
 CHECKED BY: JJL 11/19/08

Detection Limits shown are MDL

TABLE 2
VALIDATED FIELDQC ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-101008	TB-101008
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		10/10/08	10/10/08
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
1,1,1-Trichloroethane	UG/L	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U
2-Butanone	UG/L	10 U	10 U
2-Hexanone	UG/L	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U
Acetone	UG/L	10 U	10 U
Benzene	UG/L	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U
Bromoform	UG/L	10 U	10 U
Bromomethane	UG/L	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: CHL 11/14/08
 CHECKED BY: VR 11/19/08

Detection Limits shown are PQL

TABLE 2
VALIDATED FIELDQC ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-101008	TB-101008
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		10/10/08	10/10/08
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
Carbon tetrachloride	UG/L	10 U	10 U
Chlorobenzene	UG/L	10 U	10 U
Chloroethane	UG/L	10 U	10 U
Chloroform	UG/L	10 U	10 U
Chloromethane	UG/L	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U
Cyclohexane	UG/L	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U
Methyl acetate	UG/L	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U
Methylene chloride	UG/L	10 U	10 U
Styrene	UG/L	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U
Toluene	UG/L	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U
Trichloroethene	UG/L	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: chp 11/14/08
 CHECKED BY: TR 11/19/08

Detection Limits shown are PQL

TABLE 2
VALIDATED FIELDQC ANALYTICAL RESULTS
OCTOBER 2008
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-101008	TB-101008
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		10/10/08	10/10/08
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
Vinyl chloride	UG/L	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: chf 11/14/08
 CHECKED BY: YDL 11/19/08

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED FORM 1's

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
IW-A2-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1867.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	200	
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	19	
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	5.5	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U

EPA OLM

0074

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW-A2-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1867.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
106-93-4	1,2-Dibromoethane		10
108-90-7	Chlorobenzene		10
100-41-4	Ethylbenzene		10
1330-20-7	Xylene (Total)		10
100-42-5	Styrene		10
75-25-2	Bromoform		10
98-82-8	Isopropylbenzene		10
79-34-5	1,1,2,2-Tetrachloroethane		10
541-73-1	1,3-Dichlorobenzene		10
106-46-7	1,4-Dichlorobenzene		10
95-50-1	1,2-Dichlorobenzene		10
96-12-8	1,2-Dibromo-3-chloropropane		10
120-82-1	1,2,4-Trichlorobenzene		10

EPA OLM

0075

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IW-A2-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1867.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A _i		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW-A5-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1868.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		25	
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		6.1	J
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		3.7	J
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0083

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW-A5-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1868.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

EPA OLM

0084

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IW-A5-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1868.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8D-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1862.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		8.1	J
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		13	
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0030

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
MW-8D-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1862.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-8D-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1862.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8S-WG

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.:

Mod. Ref No.:

SDG No.: MG1790

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: G1790-01A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K1861.D

Level: (TRACE/LOW/MED) LOW

Date Received: 10/11/2008

% Moisture: not dec.

Date Analyzed: 10/16/2008

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0024

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
MW-8S-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-01A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1861.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-8S-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-01A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1861.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12-WG

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.:

Mod. Ref No.:

SDG No.: MG1790

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: G1790-04A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K1864.D

Level: (TRACE/LOW/MED) LOW

Date Received: 10/11/2008

% Moisture: not dec.

Date Analyzed: 10/16/2008

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 10.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl chloride		29	J
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon disulfide		100	U
79-20-9	Methyl acetate		100	U
75-09-2	Methylene chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
1634-04-4	Methyl tert-butyl ether		100	U
75-34-3	1,1-Dichloroethane		100	U
156-59-2	cis-1,2-Dichloroethene		780	
78-93-3	2-Butanone		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
110-82-7	Cyclohexane		100	U
56-23-5	Carbon tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		150	
108-87-2	Methylcyclohexane		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		1500	
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U

EPA OLM

0047

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
MW-12-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1864.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U
1330-20-7	Xylene (Total)		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
98-82-8	Isopropylbenzene		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U
96-12-8	1,2-Dibromo-3-chloropropane		100	U
120-82-1	1,2,4-Trichlorobenzene		100	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-12-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1864.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-16-WG

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.:

Mod. Ref No.:

SDG No.: MG1790

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: G1790-05A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K1865.D

Level: (TRACE/LOW/MED) LOW

Date Received: 10/11/2008

% Moisture: not dec.

Date Analyzed: 10/16/2008

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		100	
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		63	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		13	
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0057

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-16-WG

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.:

Mod. Ref No.:

SDG No.: MG1790

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: G1790-05A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K1865.D

Level: (TRACE/LOW/MED) LOW

Date Received: 10/11/2008

% Moisture: not dec.

Date Analyzed: 10/16/2008

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

EPA OLM

0058

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-16-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-05A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1865.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-18-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1866.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		8.3	J
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		57	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0066

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
MW-18-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1866.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
106-93-4	1,2-Dibromoethane		10
108-90-7	Chlorobenzene		10
100-41-4	Ethylbenzene		10
1330-20-7	Xylene (Total)		10
100-42-5	Styrene		10
75-25-2	Bromoform		10
98-82-8	Isopropylbenzene		10
79-34-5	1,1,2,2-Tetrachloroethane		10
541-73-1	1,3-Dichlorobenzene		10
106-46-7	1,4-Dichlorobenzene		10
95-50-1	1,2-Dichlorobenzene		10
96-12-8	1,2-Dibromo-3-chloropropane		10
120-82-1	1,2,4-Trichlorobenzene		10

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-18-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1866.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-19-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1863.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		78	
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		22	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		3.4	J
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0038

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-19-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1863.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

EPA OLM

0039

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-19-WG

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1863.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
EB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1869.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U

EPA OLM

0092

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1869.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
106-93-4	1,2-Dibromoethane		10
108-90-7	Chlorobenzene		10
100-41-4	Ethylbenzene		10
1330-20-7	Xylene (Total)		10
100-42-5	Styrene		10
75-25-2	Bromoform		10
98-82-8	Isopropylbenzene		10
79-34-5	1,1,2,2-Tetrachloroethane		10
541-73-1	1,3-Dichlorobenzene		10
106-46-7	1,4-Dichlorobenzene		10
95-50-1	1,2-Dichlorobenzene		10
96-12-8	1,2-Dibromo-3-chloropropane		10
120-82-1	1,2,4-Trichlorobenzene		10

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1869.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1870.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0098

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1870.D
Level: (TRACE/LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-101008

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: _____ Mod. Ref No.: _____ SDG No.: MG1790
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: G1790-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K1870.D
Level: (TRACE or LOW/MED) LOW Date Received: 10/11/2008
% Moisture: not dec. Date Analyzed: 10/16/2008
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A2-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-07Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	5280			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A2-WG

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: MG1790D

Matrix (soil/water): WATER

Lab Sample ID: G1790-07

Level (low/med): MED

Date Received: 10/11/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	4330		✓	P

OK
11/13/08

Color Before COLORLESS Clarity Before: CLEAR

Texture:

Color After: COLORLESS Clarity After: CLEAR

Artifacts:

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A5-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-08Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	1850			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A5-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790DMatrix (soil/water): WATERLab Sample ID: G1790-08Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	1520		<u>7.5</u>	P

done
11/13/08

Color Before COLORLESSClarity Before: CLEAR

Texture: _____

Color After: COLORLESSClarity After: CLEAR

Artifacts: _____

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8D-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-02Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	100 48.5	B	C	P

OK
11/13/08

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8D-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790DMatrix (soil/water): WATERLab Sample ID: G1790-02Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	<u>100</u> 31.3	5	2	P

Handwritten:
OK
11/13/08

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8S-WG

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MG1790

Matrix (soil/water): WATER Lab Sample ID: G1790-01

Level (low/med): MED Date Received: 10/11/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	382			P

Color Before COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8S-WG

Lab Name: Mitkem Laboratories Contract: 11174478.50
Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MG1790D
Matrix (soil/water): WATER Lab Sample ID: G1790-01
Level (low/med): MED Date Received: 10/11/2008
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	<u>100</u> 55.9	<u>✓</u> ✓	<u>✓</u>	P

OK
11/13/08

Color Before COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-12-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-04Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	4830			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-12-WG

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: MG1790D

Matrix (soil/water): WATER

Lab Sample ID: G1790-04

Level (low/med): MED

Date Received: 10/11/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	302		✓	P

OK
11/13/08

Color Before COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-16-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-05Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	7040			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-16-WG

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MG1790D

Matrix (soil/water): WATER Lab Sample ID: G1790-05

Level (low/med): MED Date Received: 10/11/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	3980	✓	3	P

Handwritten:
OK
11/13/08

Color Before COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-18-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-06Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	1860			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-18-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790DMatrix (soil/water): WATERLab Sample ID: G1790-06Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	598.		<u>73</u>	P

Q178
11/13/08

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

DISSOLVED

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-19-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Matrix (soil/water): WATERLab Sample ID: G1790-03Level (low/med): MEDDate Received: 10/11/2008% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	4840			P

Color Before COLORLESS Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS Clarity After: CLEAR

Artifacts: _____

Comments:

TOTAL

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-19-WG

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: MG1790D

Matrix (soil/water): WATER Lab Sample ID: G1790-03

Level (low/med): MED Date Received: 10/11/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	4360		<u>7.5</u>	P

Handwritten:
448
11/13/08

Color Before COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

DISSOLVED

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: IW-A2-WG
Lab ID: G1790-07

Project: ChemCore
Collection Date: 10/10/08 15:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	77		5.0	mg/L	1	10/16/2008 16:04	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: IW-A5-WG
Lab ID: G1790-08

Project: ChemCore
Collection Date: 10/10/08 16:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)							E300IC_W
Sulfate	120		5.0	mg/L	1	10/16/2008 16:16	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories**Date:** 03-Nov-08**Client:** URS Corporation**Client Sample ID:** MW-8D-WG**Lab ID:** G1790-02**Project:** ChemCore**Collection Date:** 10/10/08 9:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	700		50	mg/L		10/10/17/2008 11:06	39363

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

0241

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: MW-8S-WG
Lab ID: G1790-01

Project: ChemCore
Collection Date: 10/10/08 9:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	250		25	mg/L	5	10/17/2008 10:54	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0240

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: MW-12-WG
Lab ID: G1790-04

Project: ChemCore
Collection Date: 10/10/08 14:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	63		5.0	mg/L	1	10/16/2008 15:29	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: MW-16-WG
Lab ID: G1790-05

Project: ChemCore
Collection Date: 10/10/08 14:35

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	130		5.0	mg/L	1	10/16/2008 15:41	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0244

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation
Client Sample ID: MW-18-WG
Lab ID: G1790-06

Project: ChemCore
Collection Date: 10/10/08 13:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	75		5.0	mg/L	1	10/16/2008 15:53	39363

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 03-Nov-08

Client: URS Corporation

Client Sample ID: MW-19-WG

Lab ID: G1790-03

Project: ChemCore

Collection Date: 10/10/08 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)							E300IC_W
Sulfate	100		5.0	mg/L	1	10/16/2008 14:54	39363

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

0242

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: IW-A2-WG
Lab ID: G1790-07

Project: ChemCore
Collection Date: 10/10/08 15:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion						SM5310B_TOC_W	
Organic Carbon, Total	30		0.50	mg/L	1	11/04/2008 0:00	SUBBED

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0324

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: IW-A5-WG
Lab ID: G1790-08

Project: ChemCore
Collection Date: 10/10/08 16:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion						SM5310B_TOC_W	
Organic Carbon, Total	28		0.50	mg/L	1	11/04/2008 0:00	SUBBED

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories**Date:** 06-Nov-08**Client:** URS Corporation**Client Sample ID:** MW-8D-WG**Lab ID:** G1790-02**Project:** ChemCore**Collection Date:** 10/10/08 9:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total		10		0.50		mg/L	1 11/04/2008 0:00
							SUBBED

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: MW-8S-WG
Lab ID: G1790-01

Project: ChemCore
Collection Date: 10/10/08 9:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	6.2	✓	0.50	mg/L	1	11/04/2008 0:00	SUBBED

OK
11/20/08

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: MW-12-WG
Lab ID: G1790-04

Project: ChemCore
Collection Date: 10/10/08 14:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	3.1		0.50	mg/L	1	11/04/2008 0:00	SUBBED

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation

Client Sample ID: MW-16-WG

Lab ID: G1790-05

Project: ChemCore

Collection Date: 10/10/08 14:35

Analyses	Result Qual	RL Units	DF Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion				SM5310B_TOC_W
Organic Carbon, Total	4.1 ✓	0.50 mg/L	1 11/04/2008 0:00	SUBBED

OK
11/10/08

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0322

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: MW-18-WG
Lab ID: G1790-06

Project: ChemCore
Collection Date: 10/10/08 13:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	2.8		0.50	mg/L	1	11/04/2008 0:00	SUBBED

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0323

Mitkem Laboratories

Date: 06-Nov-08

Client: URS Corporation
Client Sample ID: MW-19-WG
Lab ID: G1790-03

Project: ChemCore
Collection Date: 10/10/08 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	4.7	/	0.50	mg/L	1	11/04/2008 0:00	SUBBED

Handwritten signature and date: 11/04/08

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0320

ATTACHMENT B

SUPPORT DOCUMENTATION

CHAIN OF CUSTODY RECORD

PROJECT NO. 1174478.5000 SITE NAME CHEN CORRE

SAMPLERS (PRINT/SIGNATURE) S. MACCABIZ

TESTS

72L VOC - 72L

Sulfate 12me

Iron 12me

Chloride 12me

BOTTLE TYPE AND PRESERVATIVE



LAB Chen

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: FedEx AIRBILL NO. 964045474241

LOCATION IDENTIFIER	DATE	TIME	COMP/GRAB	SAMPLE ID	MATRIX	TOTAL NO. # OF CONTAINERS	40m 1 HCL	250m 1 HCL	250m 1 40C	250m 1 14NO3	250m 1 14NO3	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (FRIMS)
MW-8S	10/10/08	830	G	MW-8S-WB	WB	7	2	2	1	1	1		M			
MW-8D	10/10/08	900	G	MW-8D-WB	WB	7	2	2	1	1	1		M			
MW-19	10/10/08	1025	G	MW-19-WB	WB	7	2	2	1	1	1		M			
MW-19	10/10/08	1025	G	MW-19-WB-MS	WB	7	2	2	1	1	1		MS			
MW-19	10/10/08	1025	G	MW-19-WB-MSD	WB	7	2	2	1	1	1		MS			
MW-12	10/10/08	1400	G	MW-12-WB	WB	7	2	2	1	1	1		M			
MW-16	10/10/08	1435	G	MW-16-WB	WB	7	2	2	1	1	1		M			
MW-18	10/10/08	1300	G	MW-18-WB	WB	7	2	2	1	1	1		M			
IW-AZ	10/10/08	1515	G	IW-AZ-WB	WB	7	2	2	1	1	1		M			
IW-A5	10/10/08	1600	G	IW-A5-WB	WB	7	2	2	1	1	1		M			
Equip Blank	10/10/08	1440	G	EB-101008	WB	4	2	2					EB			
Trip Blank	10/10/08	—	G	TB-101008	WB	2	2	2					TB			

MATRIX CODES: AA - AMBIENT AIR, SE - SEDIMENT, SH - HAZARDOUS SOLID WASTE, SL - SLUDGE, WP - DRINKING WATER, WW - WASTE WATER, WG - GROUND WATER, SO - SOIL, DC - DRILL CUTTINGS, WL - LEACHATE, GS - SOIL GAS, WC - DRILLING WATER, WO - OCEAN WATER, WS - SURFACE WATER, WQ - WATER FIELD QC

SAMPLE TYPE CODES: TB# - TRIP BLANK, SD# - MATRIX SPIKE DUPLICATE, RB# - RINSE BLANK, FR# - FIELD REPLICATE, N# - NORMAL ENVIRONMENTAL SAMPLE, MS# - MATRIX SPIKE

LF - HAZARDOUS LIQUID WASTE, LF - FLOATING/FREE PRODUCT ON GW TABLE

(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE) [Signature] DATE 10/10/08 TIME 1745

RECEIVED BY (SIGNATURE) [Signature] DATE 10/10/08 TIME 1745

RECEIVED FOR LAB BY (SIGNATURE) [Signature] DATE 10/10/08 TIME 1745

SPECIAL INSTRUCTIONS: Samples Stored & Shipped on Ice. Contact Ann Marie / Logistical Questions 76-923-1137

Distribution: Original accompanies shipment, copy to coordinator field files

SDG Narrative

Mitkem Laboratories submit the enclosed data package in response to URS Corporation's Chem Core project. Under this deliverable, analysis results are presented for ten aqueous samples that were received on October 14, 2008. Analyses were performed per specifications in the project's contract and the chain of custody forms. Following the narrative is the Mitkem Work Order for cross-referencing sample client ID with laboratory sample ID.

The analyses were performed according to NYSDEC ASP protocols (2000 update) and reported per NYSDEC ASP requirement for Category B deliverable with the exception of sulfate and total organic carbon. The analytical result for sulfate is reported in the Mitkem format with supporting raw data.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. The originals of initial calibrations that are shared among several cases are maintained on file at the laboratory, with photocopies included in the data package.

2. Volatile Analysis:

Trap used for instrument V5: OI Analytical #10 trap containing 8 cm each of Tenax, silica gel and carbon molecular sieve.

GC column used: 30 m x 0.25 mm id (1.4 um film thickness) DB-624 capillary column.

The aqueous samples were acid preserved; pH <2.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample MW-19-WG. Spike recoveries and replicate RPDs were within the QC limits.

Sample analysis: no unusual observation was made for the analysis.

3. Metals Analysis (Total):

The metals analysis results are reported in two sub-SDGs, MG1790 and MG1790D. The total metals analysis results are reported in SDG MG1790 and the dissolved metals analysis results are reported in SDG MG1790D. The raw data for both sub-SDGs may be found following Form 14 of SDG MG1790D.

Metals were analyzed using either a Perkin Elmer Model 3100XL Optima or a Perkin Elmer Model 4300DV ICAP.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike: matrix spike was performed on sample MW-19-WG. Spike recovery was not within the QC limits. The spike recovery for iron could not be accurately determined, as the sample concentration was significantly greater than the spike concentration. When the sample concentration is more than four times the spike concentration, it tends to obscure the relatively smaller spike amount; control limits do not apply in this circumstance.

Duplicate: duplicate analysis was performed on sample MW-19-WG. Replicate RPDs were within the QC limits.

Sample analysis: serial dilution was performed on sample MW-19-WG. Percent difference was within the QC. No other unusual observation was made for the analysis.

4. Metals Analysis (Dissolved):

Metals were analyzed using either a Perkin Elmer Model 3100XL Optima or a Perkin Elmer Model 4300DV ICAP.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike: matrix spike was performed on sample MW-19-WG. Spike recovery was not within the QC limits. The spike recovery for iron could not be accurately determined, as the sample concentration was significantly greater than the spike concentration. When the sample concentration is more than four times the spike concentration, it tends to obscure the relatively smaller spike amount; control limits do not apply in this circumstance.

Duplicate: duplicate analysis was performed on sample MW-19-WG. Replicate RPDs were within the QC limits.

Sample analysis: serial dilution was performed on sample MW-19-WG. Percent difference was not within the QC limits. Iron is flagged with an "E" on the data report forms. No other unusual observation was made for the analysis.

5. Sulfate Analysis:

Results for the sulfate analysis is included following the blue section divider after the metals section of the data report.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample W-19WG. Spike recovery and replicate RPD were within the QC limits.

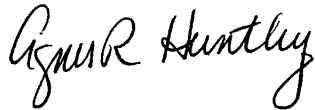
Sample analysis: no unusual observation was made for the analysis.

6. Total Organic Carbon Analysis:

Due to instrumentation issues, the total organic carbon analysis was performed by sub-contract laboratory RI Analytical Laboratories of Warwick, RI. Per discussions with the client, the unpreserved bottle received for the sulfate analysis was preserved with sulfuric acid. Sample EB-101008 could not be analyzed for total organic carbon. An unpreserved plastic bottle was not received for this sample. The sub-contract laboratory can only analyze TOC samples preserved the sulfuric acid.

All pages in this report have been numbered consecutively, starting with the title page and ending with a page saying only "Last Page of Data Report".

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

A handwritten signature in cursive script, reading "Agnes Huntley". The signature is written in dark ink and is positioned above the printed name.

Agnes Huntley
CLP Project Manager
11/07/08

U.S. EPA - CLP

3

BLANKS

Lab Name: Mitkem LaboratoriesContract: 11174478.50000Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790Preparation Blank Matrix (soil/water): WATER

Method Blank ID:

MB-39566

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

OPTIMA3_081027B

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	
		C	1	C	2	C	3	C		C M
Iron	5.5	U	5.5	U	5.5	U	5.5	U	15.492	B

U.S. EPA - CLP

9

EPA SAMPLE NO.

ICP SERIAL DILUTIONS

MW-19-WG

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: MG1790DMatrix (soil/water): WATERLevel (low/med): MED

Concentration Units (ug/L or mg/kg dry weight): ug/L

Analyte	Initial Sample		Serial Dilution		% Difference	Q	M
	Result (I)	C	Result (S)	C			
Iron	4356.01		5157.56		18	E	P

ATTACHMENT 3

Data Usability Summary Report – May 2009 (On Compact Disk)

DATA USABILITY SUMMARY REPORT

**CHEM CORE SITE
SITE ID #9-15-176
BUFFALO, NEW YORK**

Analyses Performed by:

**MITKEM LABORATORIES, INC.
WARWICK, RHODE ISLAND**

Prepared by:

**URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203**

JUNE 2009

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IV. PRESERVATION/HOLDING TIMES/SAMPLE RECEIPT	2
V. NON-CONFORMANCES	2
VI. SAMPLE RESULTS AND REPORTING.....	3
VII. SUMMARY	3

TABLES (Following Text)

Table 1	Validated Groundwater Analytical Results
Table 2	Validated Field QC Analytical Results

ATTACHMENTS

- Attachment A– Validated Form 1's
Attachment B – Support Documentation

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation Draft DER-10 *Technical Guidance for Site Investigation and Remediation*, December 2002, *Appendix 2B- Guidance for the Development of Data Usability Summary Reports*. Analytical data for eight groundwater samples, one matrix spike/matrix spike duplicate (MS/MSD) pair, one equipment rinse blank, and one trip blank collected by URS personnel on May 8, 2009 from the Chem Core site are discussed in this DUSR.

II. ANALYTICAL METHODOLOGIES

All samples were sent to Mitkem Laboratories, Inc. (Warwick, RI) for analysis. The samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.2, total and filtered iron (Fe) by USEPA CLP SOW ILM05.3, sulfate by Methods for the Chemical Analysis of Water and Wastes (MCAWW) Method 300.0, and total organic carbon (TOC) by Standard Methods for the Examination of Water and Wastewater (SM) Method SM5310B. The equipment rinse blank and trip blank were analyzed for TCL VOCs only.

A limited data validation was performed following the guidelines in USEPA Region II CLP *Organics Data Review and Preliminary Review*, SOP HW-6, Revision 14, September 2006 and *Validation of Metals for the CLP Program*, SOP HW-2, Revision 13, September 2006. The limited validation included: a review of holding times and completeness of all required deliverables; a review of quality control (QC) results (blanks, instrument tunings, calibration standards, duplicate analyses, and laboratory control sample recoveries) to determine if the data are within the protocol-required limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

Qualifications applied to the data include 'J' (estimated concentration) and 'U' (non-detect). Definitions of USEPA Region II data qualifiers are presented at the end of this text. A summary of the

validated analytical results are presented on Tables 1 and 2. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Documentation supporting the qualification of data is presented in Attachment B. Only analytical deviations affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

A full deliverable data package was provided by the laboratory, which included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

IV. PRESERVATION/HOLDING TIMES/SAMPLE RECEIPT

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC). All samples were analyzed within the required holding times.

V. NON-CONFORMANCES

- Instrument Calibration

The percent difference (%D) between the initial calibration (ICAL) average relative response factor (RRF) and the RRF in the continuing calibration (CCAL) standards exceeded the QC limit of 20% for acetone. The results for acetone in all samples were qualified 'J' or 'UJ'.

Documentation supporting the qualification of data (i.e., Forms 5 and 7) is presented in Attachment B.

- Laboratory Blanks

Iron was detected in the continuing calibration blanks at a concentration above the method detection limit (MDL). The result for total Fe in sample MW-08D was between the MDL and contract required detection limit (CRDL). The result for Fe in this sample was elevated to the CRDL and reported as non-detect ('U').

Documentation supporting the qualification of data (i.e., Form 3) is presented in Attachment B.

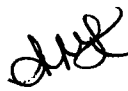
VI. SAMPLE RESULTS AND REPORTING

All quantitation/reporting limits were reported in accordance with method requirements and were adjusted for sample volume and dilution factors. Results below the quantitation limits were qualified 'J' by the laboratory. VOC results reported from secondary dilutions analyses were qualified 'D'.

VII. SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified 'J' or 'UJ' are considered conditionally usable. All other sample results are usable as reported. URS does not recommend the recollection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist



Date: 6/22/09

Reviewed By: James J. Lehnen, Senior Chemist



Date: 6/22/09

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

- U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- B – The analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the quantitation limit.
- D – The positive value is the result of an analysis at a secondary dilution factor.

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2	IW-A5	MW-8D	MW-8S	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09	05/08/09	05/08/09
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	20	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	2.0 J
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
2-Butanone	UG/L	3.6 J	10 U	10 U	10 U	10 U
2-Hexanone	UG/L	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U	10 U	10 U
Acetone	UG/L	30 J	19 J	10 UJ	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: *OLSK* 6/9/09
 CHECKED BY: *TH* 6/18/09

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2	IW-A5	MW-8D	MW-8S	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09	05/08/09	05/08/09
Parameter	Units					
Volatiles						
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	12	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	7.1 J	13	10 U	10 U	840 D
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U	10 U	10 U	6.7 J
Toluene	UG/L	8.3 J	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	4.0 J
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U	10 U	2.1 J
Trichlorofluoromethane	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: OKW 6/9/09
 CHECKED BY: SM 6/11/09

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		IW-A2	IW-A5	MW-08D	MW-08S	MW-12
Sample ID		IW-A2	IW-A5	MW-8D	MW-8S	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09	05/08/09	05/08/09
Parameter	Units					
Volatiles						
Vinyl chloride	UG/L	10 U	4.3 J	10 U	10 U	220 D
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U	10 U
Filtered Metals						
Iron	UG/L	6,110	976	100 U	123	15,200
Total Metals						
Iron	UG/L	9,950	11,400	100 U	2,000	16,900
Miscellaneous Parameters						
Sulfate (as SO ₄)	MG/L	44	86	390	11	4.1 J
Total Organic Carbon (TOC)	MG/L	37	14	3.7 J	29	6.9 J

Flags assigned during chemistry validation are shown.

MADE BY: Shel 6/19/09
 CHECKED BY: SVL 6/18/09

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16	MW-18	MW-19
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09
Parameter	Units			
Volatiles				
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U
2-Butanone	UG/L	10 U	10 U	10 U
2-Hexanone	UG/L	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U
Acetone	UG/L	10 UJ	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY:

CHECKED BY:

[Signature] 6/9/09
 5/26/09

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16	MW-18	MW-19
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09
Parameter	Units			
Volatiles				
Carbon tetrachloride	UG/L	10 U	10 U	10 U
Chlorobenzene	UG/L	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	130	7.9 J	12
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U
Tetrachloroethene	UG/L	7.5 J	10 U	10 U
Toluene	UG/L	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Trichloroethene	UG/L	2.5 J	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: CHL 6/18/09

CHECKED BY: ML 6/18/09

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		MW-16	MW-18	MW-19
Sample ID		MW-16	MW-18	MW-19
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		05/08/09	05/08/09	05/08/09
Parameter	Units			
Volatiles				
Vinyl chloride	UG/L	39	7.2 J	4.4 J
Xylene (Total)	UG/L	10 U	10 U	10 U
Filtered Metals				
Iron	UG/L	14,600	2,700	4,750
Total Metals				
Iron	UG/L	17,200	3,110	5,760
Miscellaneous Parameters				
Sulfate (as SO ₄)	MG/L	60	37	100
Total Organic Carbon (TOC)	MG/L	8.9 J	3.7 J	9.0 J

Flags assigned during chemistry validation are shown.

MADE BY: duf 6/9/09

CHECKED BY: VR 6/18/09

Detection Limits shown are PQL

TABLE 2
VALIDATED FIELD QC ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-050809	TB-050809
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/08/09	05/08/09
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
1,1,1-Trichloroethane	UG/L	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U
2-Butanone	UG/L	10 U	10 U
2-Hexanone	UG/L	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U
Acetone	UG/L	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U
Bromoform	UG/L	10 U	10 U
Bromomethane	UG/L	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: duke 4/9/09

CHECKED BY: mm 6/18/09

Detection Limits shown are PQL

TABLE 2
VALIDATED FIELD QC ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-050809	TB-050809
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/08/09	05/08/09
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
Carbon tetrachloride	UG/L	10 U	10 U
Chlorobenzene	UG/L	10 U	10 U
Chloroethane	UG/L	10 U	10 U
Chloroform	UG/L	10 U	10 U
Chloromethane	UG/L	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U
Cyclohexane	UG/L	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U
Methyl acetate	UG/L	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U
Methylene chloride	UG/L	10 U	10 U
Styrene	UG/L	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U
Toluene	UG/L	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U
Trichloroethene	UG/L	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: duf

CHECKED BY: ml 6/11/09

Detection Limits shown are PQL

TABLE 2
VALIDATED FIELD QC ANALYTICAL RESULTS
CHEM-CORE SITE

Location ID		FIELDQC	FIELDQC
Sample ID		EB-050809	TB-050809
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/08/09	05/08/09
Parameter	Units	Equipment Blank (1-1)	Trip Blank (1-1)
Volatiles			
Vinyl chloride	UG/L	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: Chad 6/9/09

CHECKED BY: TR 6/10/09

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED FORM 1's

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

IW-A2

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7721.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/19/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		30	5
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		7.1	J
78-93-3	2-Butanone		3.6	J
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		8.3	J
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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4/18/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

IW-A2

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7721.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/19/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

IW-A2

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7721.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/19/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

IW-A5

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.: SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-09A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7724.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/19/2009

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		4.3	J
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		19	3
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		13	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

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4/9/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

IW-A5

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7724.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/19/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
106-93-4	1,2-Dibromoethane		10
108-90-7	Chlorobenzene		10
100-41-4	Ethylbenzene		10
1330-20-7	Xylene (Total)		10
100-42-5	Styrene		10
75-25-2	Bromoform		10
98-82-8	Isopropylbenzene		10
79-34-5	1,1,2,2-Tetrachloroethane		10
541-73-1	1,3-Dichlorobenzene		10
106-46-7	1,4-Dichlorobenzene		10
95-50-1	1,2-Dichlorobenzene		10
96-12-8	1,2-Dibromo-3-chloropropane		10
120-82-1	1,2,4-Trichlorobenzene		10

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

IW-A5

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7724.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/19/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-8D

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7695.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		12	
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U ³
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		20	
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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4/18/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-8D

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7695.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-8D

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7695.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-8S

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.: SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-01A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7694.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/18/2009

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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0024

Handwritten signature and date 6/9/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-8S

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-01A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7694.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-8S

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-01A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7694.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-12

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.: SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-06A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7701.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/18/2009

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride	220-270		U D
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		2.0	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U 3
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		4.0	J
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene	840-800		U D
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		2.1	J
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		6.7	J
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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6/9/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-12

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7701.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-12

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7701.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-12DL

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.:

SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-06ADL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7719.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/18/2009

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 5.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		50	U
74-87-3	Chloromethane		50	U
75-01-4	Vinyl chloride		220	D
74-83-9	Bromomethane		50	U
75-00-3	Chloroethane		50	U
75-69-4	Trichlorofluoromethane		50	U
75-35-4	1,1-Dichloroethene		50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		50	U
67-64-1	Acetone		50	U-5
75-15-0	Carbon disulfide		50	U
79-20-9	Methyl acetate		50	U
75-09-2	Methylene chloride		50	U
156-60-5	trans-1,2-Dichloroethene		50	U
1634-04-4	Methyl tert-butyl ether		50	U
75-34-3	1,1-Dichloroethane		50	U
156-59-2	cis-1,2-Dichloroethene		840	D
78-93-3	2-Butanone		50	U
67-66-3	Chloroform		50	U
71-55-6	1,1,1-Trichloroethane		50	U
110-82-7	Cyclohexane		50	U
56-23-5	Carbon tetrachloride		50	U
71-43-2	Benzene		50	U
107-06-2	1,2-Dichloroethane		50	U
79-01-6	Trichloroethene		50	U
108-87-2	Methylcyclohexane		50	U
78-87-5	1,2-Dichloropropane		50	U
75-27-4	Bromodichloromethane		50	U
10061-01-5	cis-1,3-Dichloropropene		50	U
108-10-1	4-Methyl-2-pentanone		50	U
108-88-3	Toluene		50	U
10061-02-6	trans-1,3-Dichloropropene		50	U
79-00-5	1,1,2-Trichloroethane		50	U
127-18-4	Tetrachloroethene		50	U
591-78-6	2-Hexanone		50	U
124-48-1	Dibromochloromethane		50	U

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01/18/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-12DL

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.:

SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-06ADL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7719.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/18/2009

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 5.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		50	U
108-90-7	Chlorobenzene		50	U
100-41-4	Ethylbenzene		50	U
1330-20-7	Xylene (Total)		50	U
100-42-5	Styrene		50	U
75-25-2	Bromoform		50	U
98-82-8	Isopropylbenzene		50	U
79-34-5	1,1,2,2-Tetrachloroethane		50	U
541-73-1	1,3-Dichlorobenzene		50	U
106-46-7	1,4-Dichlorobenzene		50	U
95-50-1	1,2-Dichlorobenzene		50	U
96-12-8	1,2-Dibromo-3-chloropropane		50	U
120-82-1	1,2,4-Trichlorobenzene		50	U

6/10/09

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-12DL

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-06ADL
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7719.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

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6/19/09

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-16

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7720.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		39	
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		130	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		2.5	J
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		7.5	J
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0080

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1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-16

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7720.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-16

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-07A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7720.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-18

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7699.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		7.2	J
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U-5
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		7.9	J
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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6/19/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-18

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7699.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-18

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7699.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-19

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7696.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		4.4	J
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		12	
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

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4/9/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-19

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7696.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-19

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7696.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-050809

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H0810

Mod. Ref No.: SDG No.: SH0810

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H0810-05A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: V5K7700.D

Level: (TRACE/LOW/MED) LOW

Date Received: 05/11/2009

% Moisture: not dec.

Date Analyzed: 05/18/2009

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U <i>3</i>
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

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05/18/09

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-050809

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-05A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7700.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EB-050809

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-05A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7700.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-050809

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7704.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane		10	U
74-87-3	Chloromethane		10	U
75-01-4	Vinyl chloride		10	U
74-83-9	Bromomethane		10	U
75-00-3	Chloroethane		10	U
75-69-4	Trichlorofluoromethane		10	U
75-35-4	1,1-Dichloroethene		10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		10	U
67-64-1	Acetone		10	U-3
75-15-0	Carbon disulfide		10	U
79-20-9	Methyl acetate		10	U
75-09-2	Methylene chloride		10	U
156-60-5	trans-1,2-Dichloroethene		10	U
1634-04-4	Methyl tert-butyl ether		10	U
75-34-3	1,1-Dichloroethane		10	U
156-59-2	cis-1,2-Dichloroethene		10	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		10	U
71-55-6	1,1,1-Trichloroethane		10	U
110-82-7	Cyclohexane		10	U
56-23-5	Carbon tetrachloride		10	U
71-43-2	Benzene		10	U
107-06-2	1,2-Dichloroethane		10	U
79-01-6	Trichloroethene		10	U
108-87-2	Methylcyclohexane		10	U
78-87-5	1,2-Dichloropropane		10	U
75-27-4	Bromodichloromethane		10	U
10061-01-5	cis-1,3-Dichloropropene		10	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		10	U
10061-02-6	trans-1,3-Dichloropropene		10	U
79-00-5	1,1,2-Trichloroethane		10	U
127-18-4	Tetrachloroethene		10	U
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		10	U

EPA OLM

0109

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-050809

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7704.D
Level: (TRACE/LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
106-93-4	1,2-Dibromoethane		10	U
108-90-7	Chlorobenzene		10	U
100-41-4	Ethylbenzene		10	U
1330-20-7	Xylene (Total)		10	U
100-42-5	Styrene		10	U
75-25-2	Bromoform		10	U
98-82-8	Isopropylbenzene		10	U
79-34-5	1,1,2,2-Tetrachloroethane		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
96-12-8	1,2-Dibromo-3-chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB-050809

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H0810-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5K7704.D
Level: (TRACE or LOW/MED) LOW Date Received: 05/11/2009
% Moisture: not dec. Date Analyzed: 05/18/2009
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A2

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: SH0810

Matrix (soil/water): WATER Lab Sample ID: H0810-08

Level (low/med): MED Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9950			P

Handwritten:
OK
4/10/09

Color Before Colorless Clarity Before: Clear Texture: _____Color After: Colorless Clarity After: Clear Artifacts: _____

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A2

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: SH0810DMatrix (soil/water): WATERLab Sample ID: H0810-08Level (low/med): MEDDate Received: 05/11/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	6110			P

OK
*7/19/09*Color Before Colorless Clarity Before: Clear

Texture: _____

Color After: Colorless Clarity After: Clear

Artifacts: _____

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A5

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: SH0810Matrix (soil/water): WATERLab Sample ID: H0810-09Level (low/med): MEDDate Received: 05/11/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	11400			P

OK
4/9/09

Color Before: Colorless Clarity Before: Clear

Texture: _____

Color After: Colorless Clarity After: Clear

Artifacts: _____

Comments: _____

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

IW-A5

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: SH0810DMatrix (soil/water): WATERLab Sample ID: H0810-09Level (low/med): MEDDate Received: 05/11/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	976			P

49109
dmsColor Before Colorless Clarity Before: Clear

Texture: _____

Color After: Colorless Clarity After: Clear

Artifacts: _____

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8D

Lab Name: Mitkem Laboratories Contract: 11174478.50
Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: SH0810
Matrix (soil/water): WATER Lab Sample ID: H0810-02
Level (low/med): MED Date Received: 05/11/2009
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	<u>100</u> 50.9	☒		P

chk
49109

Color Before Colorless Clarity Before: Clear Texture: _____Color After: Colorless Clarity After: Clear Artifacts: _____

Comments: _____

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8D

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: SH0810DMatrix (soil/water): WATERLab Sample ID: H0810-02Level (low/med): MEDDate Received: 05/11/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	100	U		P

49109

Color Before Colorless Clarity Before: Clear

Texture: _____

Color After: Colorless Clarity After: Clear

Artifacts: _____

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8S

Lab Name: Mitkem LaboratoriesContract: 11174478.50Lab Code: MITKEM

Case No.: _____

NRAS No.: _____

SDG No.: SH0810Matrix (soil/water): WATERLab Sample ID: H0810-01Level (low/med): MEDDate Received: 05/11/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	2000			P

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JMS
6/9/09Color Before Colorless Clarity Before: Clear

Texture: _____

Color After: Colorless Clarity After: Clear

Artifacts: _____

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-8S

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810D

Matrix (soil/water): WATER

Lab Sample ID: H0810-01

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	123			P

OK
4/9/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-12

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810

Matrix (soil/water): WATER

Lab Sample ID: H0810-06

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	16900			P

OK
6/19/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-12

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810D

Matrix (soil/water): WATER

Lab Sample ID: H0810-06

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	15200			P

OK
6/9/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-16

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810

Matrix (soil/water): WATER

Lab Sample ID: H0810-07

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	17200			P

Handwritten signature
4/9/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-16

Lab Name: Mitkem Laboratories Contract: 11174478.50
Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: SH0810D
Matrix (soil/water): WATER Lab Sample ID: H0810-07
Level (low/med): MED Date Received: 05/11/2009
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	14600			P

OK
4/9/09

Color Before Colorless Clarity Before: Clear Texture: _____
Color After: Colorless Clarity After: Clear Artifacts: _____

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-18

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: SH0810

Matrix (soil/water): WATER Lab Sample ID: H0810-04

Level (low/med): MED Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	3110			P

Defy
6/19/09

Color Before Colorless Clarity Before: Clear Texture: _____Color After: Colorless Clarity After: Clear Artifacts: _____

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-18

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810D

Matrix (soil/water): WATER

Lab Sample ID: H0810-04

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	2700			P

OK
6/9/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

DISSOLVED

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-19

Lab Name: Mitkem Laboratories

Contract: 11174478.50

Lab Code: MITKEM

Case No.:

NRAS No.:

SDG No.: SH0810

Matrix (soil/water): WATER

Lab Sample ID: H0810-03

Level (low/med): MED

Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	5760			P

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6/9/09

Color Before Colorless Clarity Before: Clear

Texture:

Color After: Colorless Clarity After: Clear

Artifacts:

Comments:

TOTAL

USEPA - CLP

1A-IN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW-19

Lab Name: Mitkem Laboratories Contract: 11174478.50

Lab Code: MITKEM Case No.: _____ NRAS No.: _____ SDG No.: SH0810D

Matrix (soil/water): WATER Lab Sample ID: H0810-03

Level (low/med): MED Date Received: 05/11/2009

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	4750			P

Handwritten signature
6/9/09

Color Before Colorless Clarity Before: Clear Texture: _____Color After: Colorless Clarity After: Clear Artifacts: _____

Comments:

DISSOLVED

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation
Client Sample ID: IW-A2
Lab ID: H0810-08

Project: ChemCore
Collection Date: 05/08/09 17:21

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	44	P	5.0	mg/L	1	05/14/2009 13:13	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	37		10	mg/L	1	05/12/2009 20:42	43561

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JUL 14 4 49/109

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0272

Mitkem Laboratories**Date:** 20-May-09**Client:** URS Corporation**Client Sample ID:** IW-A5**Lab ID:** H0810-09**Project:** ChemCore**Collection Date:** 05/08/09 18:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)							E300IC_W
Sulfate	86	✓	5.0	mg/L		1 05/14/2009 13:24	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	14		10	mg/L		1 05/12/2009 21:07	43561

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6/9/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0273

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation
Client Sample ID: MW-8D
Lab ID: H0810-02

Project: ChemCore
Collection Date: 05/08/09 11:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	390	J	15	mg/L	3	05/15/2009 14:28	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	3.7	J	10	mg/L	1	05/12/2009 17:24	43561

4/18/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation
Client Sample ID: MW-8S
Lab ID: H0810-01

Project: ChemCore
Collection Date: 05/08/09 9:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)							E300IC_W
Sulfate	11	#	5.0	mg/L		1 05/14/2009 12:14	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	29		10	mg/L		1 05/12/2009 17:00	43561

Supp
6/9/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0266

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation
Client Sample ID: MW-12
Lab ID: H0810-06

Project: ChemCore
Collection Date: 05/08/09 15:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	4.1	J	5.0	mg/L	1	05/14/2009 12:49	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	6.9	J	10	mg/L	1	05/12/2009 19:54	43561

Handwritten: OK 6/9/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

0270

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation

Client Sample ID: MW-16

Lab ID: H0810-07

Project: ChemCore

Collection Date: 05/08/09 15:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromotography (LOW)							E300IC_W
Sulfate	60	J	5.0	mg/L		1 05/14/2009 13:01	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	8.9	J	10	mg/L		1 05/12/2009 20:18	43561

6/19/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories

Date: 20-May-09

Client: URS Corporation

Client Sample ID: MW-18

Lab ID: H0810-04

Project: ChemCore

Collection Date: 05/08/09 13:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)							E300IC_W
Sulfate	37	J	5.0	mg/L		1 05/14/2009 12:37	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion							SM5310B_TOC_W
Organic Carbon, Total	3.7	J	10	mg/L		1 05/12/2009 19:31	43561

Handwritten signature
4/9/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Mitkem Laboratories**Date:** 20-May-09**Client:** URS Corporation**Client Sample ID:** MW-19**Lab ID:** H0810-03**Project:** ChemCore**Collection Date:** 05/08/09 12:20

Analyses	Result Qual	RL Units	DF Date Analyzed	Batch ID
EPA 300.0 -- Ion Chromatography (LOW)				E300IC_W
Sulfate	100 <i>E</i>	5.0 mg/L	1 05/14/2009 11:15	43630
SM 5310B TOC -- TOTAL ORGANIC CARBON by Combustion				SM5310B_TOC_W
Organic Carbon, Total	9.0 J	10 mg/L	1 05/12/2009 17:48	43561

OK
6/9/09

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

ATTACHMENT B

SUPPORT DOCUMENTATION

SDG Narrative

Mitkem Laboratories submit the enclosed data package in response to URS Corporation's Chem Core project. Under this deliverable, analysis results are presented for ten aqueous samples that were received on May 11, 2009. Analyses were performed per specifications in the project's contract and the chain of custody forms. Following the narrative is the Mitkem Work Order for cross-referencing sample client ID with laboratory sample ID.

The analyses were performed according to NYSDEC ASP protocols (2000 update) and reported per NYSDEC ASP requirement for Category B deliverable with the exception of sulfate and total organic carbon. The analytical result for sulfate is reported in the Mitkem format with supporting raw data.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. The originals of initial calibrations that are shared among several cases are maintained on file at the laboratory, with photocopies included in the data package.

2. Volatile Analysis:

Trap used for instrument V5: OI Analytical #10 trap containing 8 cm each of Tenax, silica gel and carbon molecular sieve.

GC column used: 30 m x 0.25 mm id (1.4 μ m film thickness) DB-624 capillary column.

The aqueous samples were acid preserved; pH <2.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample MW-19. Spike recoveries and replicate RPDs were within the QC limits.

Sample analysis: no unusual observation was made for the analysis.

3. Metals Analysis (Total):

The metals analysis results are reported in two sub-SDGs, SH0810 and SH0810D. The total metals analysis results are reported in SDG SH0810 and the dissolved metals analysis results are reported in SDG SH0810D. The raw data for both sub-SDGs may be found following Form 14 of SDG SH0810D.

Metals were analyzed using either a Perkin Elmer Model 3100XL Optima or a Perkin Elmer Model 4300DV ICAP.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike: matrix spike was performed on sample MW-19. Spike recovery was not within the QC limits. The spike recovery for iron could not be accurately determined, as the sample concentration was significantly greater than the spike concentration. When the sample concentration is more than four times the spike concentration, it tends to obscure the relatively smaller spike amount; control limits do not apply in this circumstance.

Duplicate: duplicate analysis was performed on sample MW-19. Replicate RPD was within the QC limits.

Sample analysis: serial dilution was performed on sample MW-19. Percent difference was within the QC. No other unusual observation was made for the analysis.

4. Metals Analysis (Dissolved):

Metals were analyzed using either a Perkin Elmer Model 3100XL Optima or a Perkin Elmer Model 4300DV ICAP.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike: matrix spike was performed on sample MW-19. Spike recovery was not within the QC limits. The spike recovery for iron could not be accurately determined, as the sample concentration was significantly greater than the spike concentration. When the sample concentration is more than four times the spike concentration, it tends to obscure the relatively smaller spike amount; control limits do not apply in this circumstance.

Duplicate: duplicate analysis was performed on sample MW-19. Replicate RPD was within the QC limits.

Sample analysis: serial dilution was performed on sample MW-19. Percent difference was within the QC limits. No other unusual observation was made for the analysis.

5. Wet Chemistry Analyses:

Lab control sample: spike recovery was within the QC limits for both sulfate and total organic carbon.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample MW-19 for sulfate. Spike recovery and replicate RPD were within the QC limits.

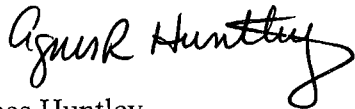
Matrix spike: matrix spike was performed on sample MW-19 for total organic carbon. Spike recovery was within the QC limits.

Duplicate: duplicate analysis was performed on sample MW-19 for total organic carbon. Replicate RPD was within the QC limits.

Sample analysis: sulfate was detected in method blank MB-43630. Please note that the concentration of sulfate in the method blank is less than the reporting limit, but above the method detection limit. The concentration of sulfate in the associated samples will be qualified with a "B". No other unusual observation was made for the analysis.

All pages in this report have been numbered consecutively, starting with the title page and ending with a page saying only "Last Page of Data Report".

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

A handwritten signature in cursive script, appearing to read "Agnes Huntley".

Agnes Huntley
CLP Project Manager
05/29/09

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB5W

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Lab File ID: V5K7690.D BFB Injection Date: 05/18/2009
Instrument ID: V5 BFB Injection Time: 10:14
GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.8
75	30.0 - 66.0% of mass 95	52.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	81.4
175	4.0 - 9.0% of mass 174	6.5 (7.9)1
176	93.0 - 101.0% of mass 174	79.7 (98.0)1
177	5.0 - 9.0% of mass 176	5.1 (6.4)2

1 - Value is % mass 174

2 - Value is % mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0505W	VSTD0505W	V5K7691.D	05/18/2009	10:40
02	VBLK5W	MB-43513	V5K7692.D	05/18/2009	11:07
03	V5WLCS	LCS-43513	V5K7693.D	05/18/2009	11:34
04	MW-8S	H0810-01A	V5K7694.D	05/18/2009	12:01
05	MW-8D	H0810-02A	V5K7695.D	05/18/2009	12:28
06	MW-19	H0810-03A	V5K7696.D	05/18/2009	12:55
07	MW-19MS	H0810-03AMS	V5K7697.D	05/18/2009	13:22
08	MW-19MSD	H0810-03AMSD	V5K7698.D	05/18/2009	13:48
09	MW-18	H0810-04A	V5K7699.D	05/18/2009	14:15
10	EB-050809	H0810-05A	V5K7700.D	05/18/2009	14:42
11	MW-12	H0810-06A	V5K7701.D	05/18/2009	15:09
12	TB-050809	H0810-10A	V5K7704.D	05/18/2009	16:31

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: MITKEM LABORATORIES Contract: _____
 Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
 Instrument ID: V5 Calibration Date: 05/18/2009 Time: 10:40
 Lab File ID: V5K7691.D Init. Calib. Date(s): 05/05/2009 05/05/2009
 EPA Sample No. (VSTD#####): VSTD0505W Init. Calib. Time(s): 12:15 14:29
 Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)
 Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	2.699	2.960	0.010	9.7	
Chloromethane	2.089	2.359	0.010	12.9	
Vinyl chloride	1.984	2.226	0.100	12.2	25.0
Bromomethane	1.273	1.564	0.100	22.8	25.0
Chloroethane	0.919	1.108	0.010	20.6	
Trichlorofluoromethane	2.683	3.036	0.010	13.2	
1,1-Dichloroethene	1.142	1.306	0.100	14.4	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	1.291	1.333	0.010	3.3	
Acetone	0.391	0.524	0.010	34.0	
Carbon disulfide	4.493	5.163	0.010	14.9	
Methyl acetate	1.050	1.200	0.010	14.2	
Methylene chloride	1.954	2.175	0.010	11.3	
trans-1,2-Dichloroethene	1.761	2.016	0.010	14.5	
Methyl tert-butyl ether	4.629	5.516	0.010	19.2	
1,1-Dichloroethane	3.557	4.022	0.200	13.1	25.0
cis-1,2-Dichloroethene	1.816	2.089	0.010	15.1	
2-Butanone	0.645	0.742	0.010	15.0	
Chloroform	3.429	4.030	0.200	17.5	25.0
1,1,1-Trichloroethane	0.544	0.623	0.100	14.6	25.0
Cyclohexane	0.453	0.441	0.010	-2.7	
Carbon tetrachloride	0.496	0.569	0.100	14.7	25.0
Benzene	1.233	1.344	0.500	9.0	25.0
1,2-Dichloroethane	2.598	3.145	0.100	21.0	25.0
Trichloroethene	0.349	0.394	0.300	12.8	25.0
Methylcyclohexane	0.349	0.352	0.010	0.9	

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB5X

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
Lab File ID: V5K7716.D BFB Injection Date: 05/18/2009
Instrument ID: V5 BFB Injection Time: 21:53
GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.0
75	30.0 - 66.0% of mass 95	54.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	83.7
175	4.0 - 9.0% of mass 174	6.5 (7.8)1
176	93.0 - 101.0% of mass 174	81.5 (97.3)1
177	5.0 - 9.0% of mass 176	5.4 (6.6)2

1 - Value is % mass 174

2 - Value is % mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0505X	VSTD0505X	V5K7717.D	05/18/2009	22:20
02	VBLK5X	MB-43658	V5K7718.D	05/18/2009	22:46
03	MW-12DL	H0810-06ADL	V5K7719.D	05/18/2009	23:13
04	MW-16	H0810-07A	V5K7720.D	05/18/2009	23:40
05	IW-A2	H0810-08A	V5K7721.D	05/19/2009	00:07
06	IW-A5	H0810-09A	V5K7724.D	05/19/2009	08:02
07	VHBLK5X	VHBLK5X	V5K7725.D	05/19/2009	08:29

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: MITKEM LABORATORIES Contract: _____
 Lab Code: MITKEM Case No.: H0810 Mod. Ref No.: _____ SDG No.: SH0810
 Instrument ID: V5 Calibration Date: 05/18/2009 Time: 22:20
 Lab File ID: V5K7717.D Init. Calib. Date(s): 05/05/2009 05/05/2009
 EPA Sample No. (VSTD#####): VSTD0505X Init. Calib. Time(s): 12:15 14:29
 Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)
 Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	2.699	2.595	0.010	-3.9	
Chloromethane	2.089	2.095	0.010	0.3	
Vinyl chloride	1.984	2.103	0.100	6.0	25.0
Bromomethane	1.273	1.495	0.100	17.4	25.0
Chloroethane	0.919	1.045	0.010	13.7	
Trichlorofluoromethane	2.683	3.112	0.010	16.0	
1,1-Dichloroethene	1.142	1.255	0.100	9.9	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	1.291	1.288	0.010	-0.2	
Acetone	0.391	0.537	0.010	37.5	
Carbon disulfide	4.493	4.813	0.010	7.1	
Methyl acetate	1.050	1.143	0.010	8.8	
Methylene chloride	1.954	2.096	0.010	7.3	
trans-1,2-Dichloroethene	1.761	1.882	0.010	6.9	
Methyl tert-butyl ether	4.629	5.233	0.010	13.0	
1,1-Dichloroethane	3.557	3.702	0.200	4.1	25.0
cis-1,2-Dichloroethene	1.816	1.938	0.010	6.7	
2-Butanone	0.645	0.696	0.010	7.9	
Chloroform	3.429	3.852	0.200	12.3	25.0
1,1,1-Trichloroethane	0.544	0.616	0.100	13.4	25.0
Cyclohexane	0.453	0.415	0.010	-8.4	
Carbon tetrachloride	0.496	0.569	0.100	14.7	25.0
Benzene	1.233	1.259	0.500	2.1	25.0
1,2-Dichloroethane	2.598	3.045	0.100	17.2	25.0
Trichloroethene	0.349	0.376	0.300	7.7	25.0
Methylcyclohexane	0.349	0.327	0.010	-6.3	

USEPA - CLP

3-IN

BLANKS

Lab Name: Mitkem LaboratoriesContract: 11174478.50000Lab Code: MITKEMCase No.: NRAS No.: SDG No.: SH0810Preparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

MB-43574

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	
Iron	100.000	U	1.458	J	100.000	U	1.723	J	100.000	U	P

ATTACHMENT 4

Final Bioremediation Pilot Study Report – February 2009 (On Compact Disk)



BIOREMEDIATION PILOT STUDY REPORT

WORK ASSIGNMENT D004440-4

**CHEM CORE SITE
CITY OF BUFFALO (C)**

**SITE NO. 9-15-176
ERIE COUNTY, NY**

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York

Alexander B. Grannis, Commissioner

DIVISION OF ENVIRONMENTAL REMEDIATION

URS Corporation
77 Goodell Street
Buffalo, New York 14203

**Final
February 2009**

BIOREMEDIATION PILOT STUDY REPORT

CHEM-CORE SITE

SITE #9-15-176

BUFFALO, NEW YORK

PREPARED FOR:

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL REMEDIATION

WORK ASSIGNMENT D004440-4

FINAL

PREPARED BY:

URS CORPORATION, INC.

77 GOODELL STREET

BUFFALO, NEW YORK 14203

FEBRUARY 2009

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APPENDICES

Appendix A	Monitoring Well Construction Logs
Appendix B	Well Development Logs
Appendix C	Purge Logs
Appendix D	Validation Summary Tables
Appendix E	Analytical Data Trends For Chlorinated Hydrocarbons and Geochemical Indicator Parameters

1.0 INTRODUCTION

This report has been prepared to present the results of the In-Situ Bioremediation Pilot Study conducted as part of the remedial design at the Chem Core site as required under Subtask 3.1 of Work Assignment D003825-61. The report describes the means and methods that were used to implement the bioremediation pilot study at an off-site location south of the source area and presents results of the monitoring.

1.1 Site Description

The Chem-Core site is located at 1382 Niagara Street in the City of Buffalo, Erie County, New York (Figure 1-1). The site was occupied by a two-story 39,000 square foot industrial building on approximately 0.5 acres that was demolished in 2006 as part remedial activities. The site is situated on an historically industrial corridor in close proximity to residential neighborhoods to the east and adjacent to a rail corridor to the west with both the Interstate I-190 highway and the Black Rock Canal (which leads from Lake Erie to the Niagara River) farther to the west.

1.2 Background

The Record of Decision (ROD) for the Chem Core site includes the following elements to address groundwater remediation:

1. Install and operate a groundwater pump and treat system on site.
2. Evaluate results from the on-site pump and treat system after five years and determine if additional measures (e.g. bioremediation) are necessary to achieve the remediation goal.
3. Implement a bioremediation pilot study off site to use as a basis for full-scale implementation of bioremediation at the five year point of remediation, if necessary.

This report presents the results of the bioremediation pilot study.

1.3 Objectives

An approximately 1-year pilot study was implemented to satisfy the following objectives:

- Evaluate the impact of in-situ bioremediation using EOSTM on concentrations of chlorinated hydrocarbons in groundwater south of the site.
- Develop a basis for full-scale design with regard to the quantity and frequency of injection of EOSTM into the groundwater.

2.0 DESIGN

2.1 Bioremediation Products

The bioremediation product chosen for this pilot study acts as a hydrogen donor in biological reactions and stimulates anabolic biological activity that leads to reductive dechlorination of chlorinated aliphatic hydrocarbons. For the pilot study, chlorinated hydrocarbons of primary concern include vinyl chloride (VC), cis 1,2-dichloroethene (cDCE), trans 1,2- dichloroethene (tDCE), trichloroethene (TCE), and tetrachlorethene (PCE). URS considered initially two bioremediation products for the bioremediation pilot test at the Chem Core site. These products are:

- Hydrogen Release Compound (HRCTM) manufactured by Regenesi Bioremediation Products.
- Edible Oil Substrate (EOSTM) manufactured by EOS Remediation, Inc.

Although experience using these products in fractured bedrock is believed to be limited, both products have been successfully used for chlorinated hydrocarbon remediation in groundwater. URS performed an analysis of the two products and in URS' opinion, EOSTM was determined to be more suitable for the pilot study for the following reasons:

- EOSTM has a lower viscosity than HRCTM and may spread more completely into bedrock fractures and joints since a lower viscosity means it can move more readily in the bedrock aquifer.
- EOSTM is a slower release compound than HRCTM. A slow release compound is more appropriate for the site because of the relatively flat gradient and lower concentrations in the downgradient area.
- EOSTM is blended with vitamin B12, which provides micronutrients for enhancing bioremediation.

- HRC™ has to be heated before injection.

EOS™ was chosen for the pilot study.

2.2 Field Program

2.2.1 Injection Well Locations

EOS™ was applied using 24 injection wells constructed in a nominal 4,000 square foot area, which is over two hundred feet south of the site (Figure 1-1). This area was chosen because it is easily accessible (no buildings restrict access) and because total chlorinated hydrocarbon concentrations in area monitoring wells are relatively high (1-2 parts per million - ppm), but not as high as the source area. In the source area, total chlorinated hydrocarbon concentrations are in the range of 10-50 ppm. Source area concentrations are expected to decrease as a result of implementing pump and treat technology at the source, and it is anticipated that they will be comparable to the present downgradient pilot study concentrations in the future.

2.2.2 Well Construction

Injection wells were installed generally in a grid pattern using spacing of approximately 15 feet. Each injection well was installed to depth of approximately 40 feet (20 feet into the saturated zone.) Construction specifications were as follows:

- 4-inch diameter steel casing installed approximately 2-3 feet into bedrock.
- 3 7/8-inch diameter open rock hole from the base of the casing to a depth of 40 feet.
- Annular backfill consisting of cement/bentonite grout.
- Flush-mount protective curb box with locking cover and concrete apron.

Prior to drilling, each proposed injection well location was cleared to avoid underground utilities and structures. Commercial utility locating services, public utilities, and the City of Buffalo was contacted to provide subsurface utility information. Well construction logs are provided in Appendix A. All drilling equipment was steam cleaned prior to use at the site and prior to demobilization from the site. Downhole equipment, such as drive points and rods, was also cleaned between well and injection locations. A geologist provided oversight during the drilling and well construction activities. The field geologist logged each borehole and documented the as-built well details on well construction log sheets. Each injection well was surveyed by URS. The survey included northing, easting and elevations of ground and top of well casing.

2.2.3 Well Development

All new injection wells were developed by pumping until the discharge water was relatively free of sediment and measured water quality parameters stabilized. Measurements of pH, conductivity, and temperature were taken from the pump discharge at the following frequency:

- Initial discharge
- Every static well water volume

The static water level was measured in each well prior to and at the conclusion of development. Well development logs are included in Appendix B.

2.3 Injection Rate and Methods

EOSTM was injected over a one-week period that took place between May 25 and May 30, 2005. EOSTM concentrate, in the amount of 844 pounds (110 gallons), was used for the pilot study. Prior to injection, the concentrate was mixed with water on site. The dilute solution was prepared and applied to the saturated zone using a pressurized injection system that included a motorized mixing hopper, hydraulic pump, and pneumatic packer assembly that isolated each of

three injection zones in each well. Approximately 1.5 gallons of concentrated EOS™ diluted in 50 gallons of water was injected into each of three equal intervals (zones) in each well. EOS™ was mixed on site at a ratio of 33.3 gallons of water to 1 gallon of EOS™ concentrate using a gas-powered cement mixer. Five hundred milliliters of Vitamin B12 supplement, supplied by the manufacturer, was added to each 55-gallon drum of EOS™ concentrate. In addition, sodium sulfite was added as an oxygen scavenger to prevent the introduction of oxygen into the EOS™ mixture during injection. The dilute solution was prepared and applied to the saturated zone using a direct pressurized injection system with a hydraulic pump (with a minimum pressure rating of 1,500 pounds per square inch - psi), and pneumatic packer assembly. The solution was injected under pressure in three successive increments of approximately 6 to 7 feet, starting from the bottom of each open rock intake. The packers isolated each bedrock interval. The quantity of water injected into each increment represents about one half the pore volume in a section of bedrock 15 feet in diameter (the distance between wells) and 7 feet high.

2.4 Groundwater Flow in the Pilot Study Area

Groundwater elevations were measured and potentiometric surfaces were plotted during Phase I and Phase II of the Remedial Investigation (1999 – 2002) and during the Remedial Design Investigation. These data showed the following:

- The potentiometric surface at the Chem-Core site and in and around the pilot study area is relatively flat.
- Groundwater beneath the Chem-Core site generally moves westward toward the Black Rock Canal.
- There is a southward component of flow from the Chem-Core site toward the pilot study area.
- During the Remedial Design Investigation, flow from the pilot study area was north to northeast, toward the site. This flow direction is attributed to influence of a pump test that was being performed on site during the Remedial Design Investigation.

The water level data from the Remedial Design Investigation was used to calculate the gradient, which is an input parameter to calculate the amount of bioremediation product required for the pilot test. Even though the gradient may be a temporary condition caused by pumping, it is believed this data provides a conservative estimate for bioremediation product use. Groundwater levels were monitored during the pilot test.

2.5 Sampling and Monitoring

Eight wells were sampled during five sampling events as part of the pilot test. These wells included MW-8S, MW-8D, MW-12, MW-16, MW-18, MW-19, IW-A2, and IW-A5. Sampling schedule is summarized in Table 2-1. Sampling events included an initial a baseline event, and four quarterly events during the approximately one-year pilot study period. Sampling events took place on April 28, 2005 (baseline), September 22, 2005 (first event after injection), December 28, 2005 (second event after injection), April 11, 2006 (third event after injection), and September 29, 2006 (fourth event after injection). Table 2-1 summarizes the analytical and sampling schedule.

2.6 Geology and Hydrogeology

The site is situated in the Erie-Ontario Lowlands physiographic province of New York State (Broughton, et al. 1966). The province is characterized by low plains with little relief. Glacial deposition and shoreline deposits have modified the topography. Erie County was buried by glacial ice during the Wisconsin glaciation, which ended approximately 10,000 years ago. During the glaciations and subsequent retreats, glacial ice eroded soil material and bedrock material which were ultimately redeposited as a mixture of unconsolidated sediments. In the northern part of the County, glacial lake waters were much broader than present day Lake Erie. The sediments deposited in the proglacial Lake Erie basin are lacustrine silts and clays (USDA-SCS, 1986). The overburden deposits in the region have been mapped as lake silts and clays (Muller, 1977). The thickness of the overburden at the site varies in thickness from approximately 11.5 feet to 20 feet. Beneath the overburden deposits, the bedrock consist of the

Silurian age Akron Dolostone. The rocks strike east-west and dip gently to the south at approximately 1 degree or 40 to 50 feet per mile.

2.6.1 Site Geology

The stratigraphic sequence in the vicinity of the pilot study area includes from the surface down: fill; stratified clayey silt/silty clay; and bedrock. The overburden was determined to be approximately 19 to 22.5 feet thick based upon drilling information. The surficial deposits have been mapped as lacustrine silts and clays. A thin veneer of fill was encountered at most drilling locations, which was described as heterogeneous mixture of sand, gravel, concrete, bricks, cinders and slag. At the site, fill thickness ranged from 1 to 8 feet and fill was thickest beneath the building. Off site, fill was thickest near the Erie Canal at MW-10 (i.e., 17 feet). Silty clay and clayey silt was encountered beneath the fill. The thickness ranged from approximately 9 feet in MW-03 to 17.5 feet in MW-01. The clayey silt and silty clay unit was stratified and/or laminated and contained silt and fine sand partings where distinct wet seams occurred. In a few instances, seams containing saturated mixtures of sand and gravel were encountered, typically immediately above the bedrock. Bedrock was encountered beneath the silts and clays.

Bedrock was encountered at depths ranging from 12.8 feet in MW-03 to 30 feet in MW-10, and averaged approximately 20 feet in the pilot study area. Bedrock was identified as dolostone with argillaceous partings. It was characterized as light gray, thin to medium bedded, fine to medium grained dolomite. It also contained thin beds of dark gray, medium hard, thinly bedded shale. The upper several feet of bedrock has been mapped as the Akron Dolostone (Buehler and Tesmer 1963). Although difficult to discern, the contact with the underlying Bertie Formation appears to be 15 to 20 feet below ground surface. The upper portions of the Bertie Formation consist of dark gray shale and dolostone beds of variable thickness. Bedrock surface elevation ranges from a high at MW-03 of 585.83 feet amsl to a low of 552.87 feet amsl at MW-10. Bedrock surface slopes steeply toward the Black Rock Canal from MW-03.

2.6.2 Site Hydrogeology

The primary hydrogeologic unit identified beneath the site is the unconfined water-table aquifer present in the Akron Dolostone and Bertie Formation. However, groundwater is present in the overburden and is found in the coarser sand and sandy silt partings and seams within the silty clay/clayey silt deposits. The extent and quantity of the overburden water is limited, but the overburden immediately above bedrock was wet at several boring locations. The water in the overburden is perched above the water levels measured in the bedrock. Groundwater in the bedrock flows through primarily secondary porosity features in the rock including faults, joints, solution cavities and bedding planes. Both the Akron Dolostone and Bertie Formation have little primary porosity so groundwater flow is controlled by the distribution of fractures within the rock.

During the RI, confining sediments in the form of a wedge of lacustrine silts and clays draping over the sloping bedrock surface were observed in the vicinity of MW-10. Because the Black Rock Canal bottoms into bedrock, there is a hydraulic connection between groundwater and the canal. Monitoring well MW-09 is constructed as a water table monitor in soft sediments adjacent to the Black Rock Canal. Based upon the water level data, the water level surface in MW-09 is not substantially different than MW-10. The lacustrine silt and clay wedge draped over the bedrock along the I-190 corridor likely impedes groundwater flow toward the Black Rock Canal, however, a gentle horizontal hydraulic gradient exists towards the Black Rock Canal.

Figures 3-1 and 3-2 depict the potentiometric surface of the shallow bedrock aquifer on September 10, 2004 and December 6, 2004. Figure 3-3 depicts a potentiometric surface comparison of the bedrock aquifer in the pilot study area. The bedrock wells at the site monitor the lower Akron Dolostone and upper Bertie Formation rock units. Figure 3-1 depicts the potentiometric surface at the site is nearly flat at approximately 573 feet amsl. There is a slight gradient from the site toward the canal. On the south side of the Garrett Leather Corp. building the groundwater gradient is toward the north and west. The northerly component of groundwater flow may have been induced as part of the 72-hour pumping test. Figure 3-2 depicts the potentiometric surface at the site as nearly flat. There is a westward component to the gradient

from the site toward the canal. South of the Garrett Leather Corp. building, the gradient is toward the north, but only slightly and less than that measured on September 10, 2004. Near MW-12, the gradient is nearly flat.

During the RI, wide ranges of hydraulic conductivities were estimated from slug tests. This is indicative of the aquifer's heterogeneity and the anisotropic nature of the fractured bedrock. The hydraulic conductivities ranged from negligible (i.e., estimated to be less than 10^{-6} cm/second in several wells) to 5.7×10^{-3} cm/second in MW-4S.

During the RDI, hydraulic conductivities of the newly installed bedrock monitoring wells and the extraction well (i.e., EX-01) were estimated by conducting slug tests. Tests were performed by inserting (falling head test) or removing (rising head test) a stainless steel slug of known volume and recording the rate of recovery of the water level in the well. Recovery data was gathered with an In-Situ down-hole data logger. The slug test data was analyzed using the methods of Bouwer and Rice (1976) and/or Bouwer (1989). Because the method of analyses assumes that the aquifer is a porous media, the values obtained by the methods should be considered as relative order of magnitude estimates. Results were consistent with those observed during the RI. The hydraulic conductivities range from 3.7×10^{-2} cm/second in well EX-01 to 2.2×10^{-4} cm/second in well MW-17. Likewise, the well transmissivities ranged from 2,535 square feet per day (ft^2/d) in well EX-01 to $14 \text{ ft}^2/\text{d}$ in well MW-17. The analysis of the aquifer test performed on EX-01 indicates the transmissivity of the water-bearing zone at the Chem Core site ranges from 60 to 260 square feet per day (ft^2/d). Storativity of the aquifer is estimated to range from 0.013 to 0.0060. Ranges are given because the aquifer responses observed did not fit any single coherent aquifer model. Two possible models were used to estimate the aquifer transmissivity. One model assumes the aquifer is limited by a no-flow barrier along the Black Rock Canal, possibly formed by the retaining walls and/or low permeability fill materials located along the canal. The other model assumes there is a high transmissivity zone near EX-01 caused by a high degree of local fracturing in the vicinity of the well.

2.6.3 Hydraulic Conductivity Testing – Pilot Test

Slug tests were performed in all 24 injection wells using a Hermit Data Logger, pressure transducer, and stainless-steel slugs. Both falling head (slug-in) and rising head (slug-out) tests were performed. The tests consisted of inserting or removing the slug from the well and monitoring the recovery of the water level in the well to static conditions. Hydraulic conductivities ranged from 1.29 E-4 cm/second to 8.82 E -5 cm/second. Table 2-2 summarizes the results. Results were similar to those calculated as part of previous investigations. These calculations were made using the methods of Bouwer and Rice (1976) and Bouwer (1989). The field crew conducted the slug tests using the procedures outlined in the work plan.

2.7 Groundwater Sampling

Groundwater samples were collected from eight wells (i.e., MW-08S, MW-08D, MW-12, MW-16, MW-18, MW-19, IW-A2, and IW-A5) for each of the five sampling events and were analyzed for Target Compound List (TCL) volatiles, chloride, sulfate, total iron, dissolved iron, total organic carbon (TOC), alkalinity, ferric iron, and methane, ethane, and ethene. Indicator parameters including pH, temperature, dissolved oxygen, redox potential, ferrous iron, and conductivity were measured in the field.

The static groundwater level was measured at each monitoring well prior to purging and sample collection. An electronic water level indicator was used to measure the depth to the water surface, from the top of the well riser pipe, to the nearest 0.01-foot. Groundwater samples were collected using low-flow purging and sampling procedures. Water was purged from each well using a low-flow peristaltic pump operated at a discharge rate of less than one (1) liter per minute. The purging rate was maintained at a rate sufficient to prevent drawdown in excess of ten percent of the standing water column. Dedicated new discharge and intake tubing was used for each well. The tubing inlet was set at the midpoint of the well screen. Purging continued until the water quality parameters have stabilized, determined by the following criteria:

- pH $\pm$ 0.10 SU

- Specific conductivity $\pm 3\%$ of full scale
- Temperature $\pm 0.2^\circ \text{C}$

Water quality parameter readings were recorded on low-flow purging and sampling procedures. Once purging was complete, groundwater samples were collected using the peristaltic pump. Groundwater samples were analyzed for the parameters listed in Table 2-1. Purge logs are provided in Appendix C.

2.8 Chain of Custody and Shipping

Chain of Custody (COC) procedures were used to ensure the custody and integrity of the samples from the time of sampling and continuing through transport, sample receipt, preparation, analysis, storage, reporting, and sample disposal. Records concerning the custody and condition of the samples were maintained in the field and laboratory records. Information on the custody, transfer, and shipping of samples was recorded on COC forms that were initiated in the field by the sampler. Each COC form included the following information:

- Project Number
- Site name
- Name of sampler(s)
- Unique sample identification
- Date and time of sample collection
- Sample type
- Preservative used
- Analytical requirements
- Method of shipment

- Custody transfer signatures and the dates and times of sample transfer from the field to the transporter and to the laboratory.

Samples collected in the field were transported in coolers to the laboratory as expeditiously as possible. The samples were packed with ice or freezer packs to maintain a temperature of 4° C.

2.9 Field Documentation

Field activities were documented using field notebooks, photographs, and standard field forms. Field notebooks serve as the primary record of activities at the site. Field notebooks were bound with consecutively numbered pages. All entries into the notebook contained a variety of information including: dates, times, weather, personnel at the site and affiliations, equipment being used, level of personnel protective equipment, instrument calibration, drilling information, sampling/measurement data, and any other relevant information.

3.0 GROUNDWATER SAMPLING RESULTS

Groundwater samples were collected from six monitoring wells (i.e., MW-08S, MW-08D, MW-12, MW-16, MW-18, and MW-19) and two injection wells (i.e., IW-A2 and IW-A5) for each of the five sampling events and were analyzed for Target Compound list (TCL) volatiles, nitrate/nitrite, Total Kjeldahl Nitrogen, ammonia, chloride, sulfate, total iron, dissolved iron, total organic carbon, alkalinity, ferric iron, ferrous iron, and methane, ethane, and ethene. Water indicator parameters including pH, temperature, dissolved oxygen, redox potential, and conductivity were measured in the field. Table 3-1 summarizes the analytical results and these data and results are discussed below. Complete data validation summary tables can be found in Appendix D.

3.1 Baseline

Baseline sampling took place on April 5, 2005. The primary contaminants detected in the bedrock groundwater are chlorinated VOCs. Detected VOCs included cDCE, PCE, TCE, VC, and tDCE. MW-16 reported the highest total chlorinated VOCs at 1,530 ug/L and MW-18 reported the lowest total chlorinated VOCs at 55 ug/L. MW-16 is situated near the western edge of the injection area and MW-18 is situated along the southern and downgradient edge of the injection area. Figure 3-1 depicts the VOCs detected at concentrations above New York State groundwater criteria in the wells. Figure 3-2 depicts the wet chemistry parameter results in the wells.

3.2 Post-Injection Results and Discussion

Figures 3-3 through 3-6 depict the VOCs detected at concentrations above New York State groundwater criteria in the wells for the four sampling events. Figures 3-7 through 3-10 depict the wet chemistry parameters for each of the sampling events. Table 3-2 summarizes the chlorinated hydrocarbon sampling results and Table 3-3 summarizes the geochemical indicator parameters. Appendix E provides a summary of the analytical data trends for PCE, TCE, cis- and trans-DCE, VC, ethane, methane, and key geochemical indicator parameters.

In IW-A2, an in-field well, concentrations of PCE and TCE decreased to below detection limits (bdl) within 120 days of treatment and a significant increase in cis-1,2-dichloroethene/trans-1,2-dichloroethene (cDCE/tDCE), and VC was observed. After 220 days, concentrations of PCE and TCE remained bdl and concentrations of cDCE/tDCE and VC decreased by over 99 and 97 percent, respectively. After 317 days, concentrations of PCE and TCE remained below detection limits and concentrations of cDCE/tDCE and VC continued to decline to levels below or near the NYS groundwater quality standards. After 485 days, PCE and TCE remained below NYS standards, and concentrations of cDCE/tDCE and VC increased slightly. Favorable geochemical conditions were observed after injection through approximately 317 days. Between the third and fourth sampling events, sulfate concentrations rebounded, TOC concentrations decreased, and oxidation-reduction potential (ORP) increased indicating that the carbon source was depleted and reducing conditions were less favorable for conversion to cDCE/tDCE and VC.

In IW-A5, an in-field well, concentrations of PCE and TCE decreased over 99 percent within 120 days of treatment and a significant increase in cDCE/tDCE and VC was observed. After 220 days, concentrations of PCE and TCE increased slightly but remained at levels near the NYS groundwater standard, and concentrations of cDCE/tDCE and VC decreased by over 85 and 48 percent, respectively. After 317 days, concentrations of PCE and TCE remained below detection limits and concentrations of cDCE/tDCE and VC declined further. After 485 days, concentrations of PCE and TCE remained below NYS standards, and cDCE/tDCE and VC concentrations continued to decline. Favorable geochemical conditions were observed after injection through the first sampling event and sulfate concentrations and ORP fluctuated, possibly indicating dilution by groundwater flux. Between the third and fourth sampling events, sulfate concentrations rebounded, TOC concentrations decreased, and ORP increased indicating that the carbon source was depleted and reducing conditions were less favorable for reduction of cDCE/tDCE and VC.

In MW-16, an in-field well, concentrations of PCE and TCE decreased substantially after treatment and remained low throughout the pilot study. Concentrations of cDCE/tDCE and VC initially increased after treatment, and then generally decreased, although there was a slight increase between 317 and 485 days. Sulfate concentrations initially decreased and then gradually

increased throughout the monitoring period. Ferrous iron initially increased before decreasing and fluctuating throughout the monitoring period. TOC remained in the formation throughout the 317 day period before declining to near the baseline levels after 485 days. ORP initially decreased substantially and increased and stabilized. Methane concentrations increased throughout the monitoring period.

In MW-12, an in-field well, concentrations of PCE and TCE decreased by approximately 90 percent within 120 days of treatment and concentrations of cDCE/tDCE and VC increased. Concentrations of PCE and TCE fluctuated between 220 and 485 days. Concentrations of cDCE/tDCE and VC also fluctuated during this period indicating that there was probably some hydraulic effect since this well is on the edge of the injection well array. Geochemical indicator parameters indicated that the carbon source was inconsistent, although sulfate concentrations were initially depleted before gradually increasing. These results may have been influenced by groundwater flux.

In downgradient wells MW-8S and MW-8D, monitoring results were similar to those in in-field well IW-A5 (Appendix E).

In downgradient well MW-19, PCE and TCE concentrations decreased to below detection limits within 120 days of treatment and an increase in cDCE, tDCE, and VC was observed. After 220 days, very low concentrations of PCE and TCE were reported but below NYS standards, and levels of cDCE/tDCE and VC decreased. Residual low levels of cDCE/tDCE and VC were observed after the third and fourth sampling events. Geochemical indicators in MW-19 fluctuated throughout the sampling events.

Results in the upgradient area (MW-18) indicated relatively stable concentrations of PCE, TCE, and VC, and an order of magnitude increase in cDCE and tDCE, coupled with relatively stable geochemical indicators.

4.0 CONCLUSIONS

Results of this pilot study indicate that a single EOSTM injection event induced strongly reducing conditions and generally sustained favorable geochemical conditions for anaerobic reductive dechlorination to occur in fractured bedrock within the pilot area for about one year. The EOSTM injection event was successful in degrading PCE and TCE, as well as their daughter products, in the test area. The monitoring results indicate that the reducing conditions accelerated degradation of PCE, TCE, and their daughter products to ethene or other innocuous end products while sufficient substrate was present. The injection also positively impacted water quality in downgradient wells located approximately 45 feet away from the injection array. However, within the injection area and between the third and fourth sampling events (i.e., 317 days and 485 days after treatment), sulfate concentrations rebounded, TOC concentrations decreased, and ORP increased indicating that the carbon source was depleted and conditions were less favorable for reduction of cDCE/tDCE and VC, which resulted in production of cDCE/tDCE above baseline values and NYS groundwater standards. The injection also positively impacted water quality in downgradient wells located approximately 45 feet away from the injection array.

Based upon these results, the New York State Department of Environmental Conservation is now implementing full-scale design of EOSTM in the source area and adjacent off-site areas. Three infiltration galleries were constructed on top of the bedrock surface during remedial activities, which will be used to help distribute EOSTM into the bedrock aquifer. Additional injection wells may be constructed in the future. In-situ bioremediation will be used in combination with the pump and treat groundwater extraction system to accelerate remediation of the bedrock groundwater aquifer. Routine monitoring of groundwater contaminants and indicator parameters are an integral component of the full-scale design.

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TABLES

TABLE 2-1
MONITORING/SAMPLING SCHEDULE
CHEM CORE SITE (ID# 9-15-176), BUFFALO, NY
BIOREMEDIATION PILOT STUDY

Parameter	Method Number/ References ¹	Number of Samplers per Event	Number of Events	QA/QC Samples				Total No. of Samples
				MS/MSD/MD	Field Duplicates	Equipment Rinse Blanks	Trip Blanks	
TCL Volatiles	OLM04.2	8	5	5/5/0	0	5	5	60
Nitrate/Nitrite	9056	8	5	5/5/0	0	0	0	50
Total Kjeldahl Nitrogen	351.3	8	5	5/5/0	0	0	0	50
Ammonia	SM4500_NH3	8	5	5/5/0	0	0	0	50
Chloride	9056	8	5	5/5/0	0	0	0	50
Sulfate	9056	8	5	5/5/0	0	0	0	50
Total Iron	ILM04.1	8	5	5/0/5	0	0	0	50
Dissolved Iron	ILM04.1	8	5	5/0/5	0	0	0	50
TOC	415	8	5	0/0/0	0	0	0	40
Alkalinity	310	8	5	0/0/0	0	0	0	40
Ferric Iron (Fe ⁺³)	calculation*	8	5	0/0/0	0	0	0	40
Ferrous Iron (Fe ⁺²)	field	8	5	0/0/0	0	0	0	40
Methane, ethane, ethene	RSK-175	8	5	5/5/0	0	0	0	50
pH	Field	8	5	0/0/0	0	0	0	40
Temperature	Field	8	5	0/0/0	0	0	0	40
Dissolved Oxygen	Field	8	5	0/0/0	0	0	0	40
Redox Potential	Field	8	5	0/0/0	0	0	0	40
Conductivity	Field	8	5	0/0/0	0	0	0	40

***Determined via field testing.**

Notes:

1) NYSDEC Analytical Services Protocol, June 2000

Field – Field Personnel will perform Analysis

TCL – Target Compound List

MS/MSD/MD – Matrix Spike/Matrix Spike Duplicate/Matrix Duplicate

TABLE 2-2
May 2005 Chem Core Slug Tests
Summary of Hydraulic Conductivity Results - Pilot Study

Well ID	Hydraulic Conductivity [cm/sec]					
	Test #1	Test #2	Test #3	Test #4	N(*)	Mean (**)
IWA-1	3.23E-04	3.18E-04	2.49E-04	5.19E-04	2	3.21E-04
IWA-2	2.30E-04	3.92E-04			2	3.11E-04
IWA-3	1.41E-04	1.47E-04			2	1.44E-04
IWA-4	8.38E-05	3.23E-05			2	5.81E-05
IWA-5	1.76E-04	1.92E-04			2	1.84E-04
IWA-6	2.24E-04	2.93E-04			4	3.21E-04
IWB-1	2.50E-04	2.51E-04	3.39E-04	3.69E-04	2	2.50E-04
IWB-2	2.46E-05	4.74E-05			2	3.60E-05
IWB-3	1.15E-04	1.44E-04			2	1.29E-04
IWB-4	1.24E-04	1.37E-04			2	1.30E-04
IWB-5	6.93E-05	6.82E-05			2	6.87E-05
IWB-6	8.42E-05	2.09E-04			2	1.47E-04
IWC-1	4.05E-05	4.19E-05			2	4.12E-05
IWC-2	7.17E-05	9.12E-05			2	8.14E-05
IWC-3	3.84E-05	3.71E-05			2	3.78E-05
IWC-4	9.87E-05	1.87E-04			2	1.43E-04
IWC-5	1.61E-05	1.34E-05			2	1.48E-05
IWC-6	1.86E-05	5.01E-06			2	1.18E-05
IWD-1	1.31E-04	1.43E-04			2	2.46E-04
IWD-2	5.03E-05	5.82E-05			2	5.43E-05
IWD-3	1.40E-04	1.47E-04			2	1.43E-04
IWD-4	1.35E-04	2.36E-05			2	7.93E-05
IWD-5	9.15E-05	8.49E-05			2	8.82E-05
IWD-6	2.49E-05	2.82E-05			2	2.66E-05
MW-19	1.03E-03	6.00E-04			2	8.16E-04

(*) - number of valid tests

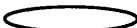
(**) - geometric mean

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50			16		3 J
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
Chloromethane	UG/L	5					1 J
cis-1,2-Dichloroethene	UG/L	5	150	2,200 D	16	3 J	10
Cyclohexane	UG/L	50				1 J	
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
Tetrachloroethene	UG/L	5	560				
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5		21 J	6 J	1 J	
Trichloroethene	UG/L	5	65				1 J
Vinyl chloride	UG/L	2		490	13	4 J	5 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

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

D - Result reported from a secondary dilution analysis.

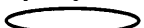
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		27,500	18,300	28,000	14,600
Total Metals							
Iron	UG/L	300	137	27,000	23,400	29,800	24,400
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.905	0.178	0.130	0.42
Chloride	MG/L	250	43.9	33.2	35.1	53.6	31
pH	S.U.	6.5-8.5	6.99	8.3	7.51	6.71	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	
Nitrate-Nitrite	MG/L	10	0.430				NA
Sulfate (as SO ₄)	MG/L	250	213	19.7 J	40.3	35.2	90
Total Alkalinity	MG/L	-	344	478	465	639	450
Total Kjeldahl Nitrogen	MG/L	-	3.22	1.20	1.41	0.536	0.83
Total Organic Carbon (TOC)	MG/L	-	10.1	86.7	84.7 J	128	11
Ferrous Iron	MG/L	-		19	16.1	19.40	12.1
Temperature	DEG C	-	12.20	13.06	13.0	13.84	12.7
Specific Conductance	UMHOS	-	1,180	876	1,150	810	1,260
Dissolved Oxygen	MG/L	-	2.55	0.77	1.07		
Oxidation Reduction Potential	mV	-	72	-470	-461	-445	-202
Turbidity	NTU	-	25	39	31	44	47
Dissolved Gases							
Ethane	UG/L	-			26 DJ	32 J	
Ethene	UG/L	-		18	44	5 J	2.4 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

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

D - Result reported from a secondary dilution analysis.

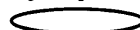
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-		250 D	720 D	1,800 J	9,800 D

*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

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

D - Result reported from a secondary dilution analysis.

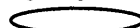
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50		10 J	14 J		
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	66	910 D	120	25	26
Cyclohexane	UG/L	50					
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
Tetrachloroethene	UG/L	5	230		9 J		1 J
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5	2 J	8 J	9 J	5 J	2 J
Trichloroethene	UG/L	5	27		3 J		0.9 J
Vinyl chloride	UG/L	2		110	58	24	12

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		17,900	400	2,940	1,760
Total Metals							
Iron	UG/L	300		18,000	1,600	3,780	3,210
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.534	0.107	0.136	0.26
Chloride	MG/L	250	67.1	21.3	18.4	31.7	20
pH	S.U.	6.5-8.5	6.87	8.33	7.46	6.7	6.5
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.036 J
Nitrate-Nitrite	MG/L	10	1.03				NA
Sulfate (as SO ₄)	MG/L	250	181	8.85 J	80.0	32.9	80
Total Alkalinity	MG/L	-	344	474	450	640	450
Total Kjeldahl Nitrogen	MG/L	-	2.55	0.693	2.96	0.686	0.78
Total Organic Carbon (TOC)	MG/L	-	21.2	84.1	48.7 J	57.8	4.7
Ferrous Iron	MG/L	-	0.01	16.3	1.02	2.31	2.7
Temperature	DEG C	-	12.00	11.96	12.9	13.69	12.4
Specific Conductance	UMHOS	-	1,180	773	1,050	730	990
Dissolved Oxygen	MG/L	-	2.76	0.69	1.07		
Oxidation Reduction Potential	mV	-	39	-459	-373	-380	-253
Turbidity	NTU	-	24	47	24	32	32
Dissolved Gases							
Ethane	UG/L	-			8	14 J	
Ethene	UG/L	-		8	21	4 J	6.0

*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 - Result reported from a secondary dilution analysis.

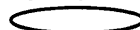
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-		260 D	510 D	1,600 J	10,000 D

*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

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

D - Result reported from a secondary dilution analysis.

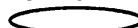
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5		5 J	7 J	16	2 J
1,1-Dichloroethane	UG/L	5	3 J	35	55	93	23
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6				2 J	
Acetone	UG/L	50		9 J	5 J		
Benzene	UG/L	1					5 J
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					2 J
Chloroform	UG/L	7					
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	110		2 J	11	7 J
Cyclohexane	UG/L	50				1 J	
Ethylbenzene	UG/L	5			0.9 J		
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5				1 J	
Tetrachloroethene	UG/L	5	310				
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5			2 J	3 J	0.7 J
Trichloroethene	UG/L	5	31				
Vinyl chloride	UG/L	2	7 J	1 J	8 J	35	18

*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.

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Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		721			71.4 B
Total Metals							
Iron	UG/L	300		871	138	200	93.4 B
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.325	1.45	1.23	1.92	0.97
Chloride	MG/L	250	268	404	371 D	452	260
pH	S.U.	6.5-8.5	6.9	7.91	7.62	7.48	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	
Nitrate-Nitrite	MG/L	10	0.255		0.270		NA
Sulfate (as SO ₄)	MG/L	250	220	258 J	171	374	74
Total Alkalinity	MG/L	-	283	337	346	239	400
Total Kjeldahl Nitrogen	MG/L	-	2.36	1.26	1.76	2.03	1.9
Total Organic Carbon (TOC)	MG/L	-	9.34	36.6	32.1 J	4.81 B	3.6
Ferrous Iron	MG/L	-	0.02	0.86	0.36	0.01	0.7
Temperature	DEG C	-	11.4	15.00	14.2	13.21	14.4
Specific Conductance	UMHOS	-	1,820	1,930	2,040	2,110	1,760
Dissolved Oxygen	MG/L	-	1.94	1.97	1.21		
Oxidation Reduction Potential	mV	-	-194	-354	-312	-276	-211
Turbidity	NTU	-	28	9	11	7	1
Dissolved Gases							
Ethane	UG/L	-			13	1 J	
Ethene	UG/L	-		42	13	15 J	25

*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.

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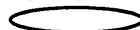
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-	20 D	240 D	420 D	250 J	5,500 D

*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.

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 Concentration Exceeds Criteria

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D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50		7 J			
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	94	260 D	6 J	4 J	3 J
Cyclohexane	UG/L	50					
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5				1 J	
Tetrachloroethene	UG/L	5	130	2 J		2 J	2 J
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5	2 J	2 J			
Trichloroethene	UG/L	5	21	1 J	1 J	1.0 J	0.7 J
Vinyl chloride	UG/L	2	3 J	47	10		

*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.

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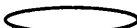
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		783	120	82.1	145
Total Metals							
Iron	UG/L	300	910	1,690	1,770	5,690	8,240
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.203			0.047 J
Chloride	MG/L	250	75.6	100	99.6	135	130
pH	S.U.	6.5-8.5	7.05	7.93	7.59	7.55	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.032 J
Nitrate-Nitrite	MG/L	10	0.450	0.0750			NA
Sulfate (as SO ₄)	MG/L	250	306	134 J	186	355	350
Total Alkalinity	MG/L	-	298	315	323	241	250
Total Kjeldahl Nitrogen	MG/L	-	2.77	0.197 B	1.06		0.58
Total Organic Carbon (TOC)	MG/L	-	6.80	12.6	5.65 J	5.66	3.5
Ferrous Iron	MG/L	-	0.05	0.82	0.18		
Temperature	DEG C	-	10.5	15.35	14.6	12.22	15.6
Specific Conductance	UMHOS	-	1,350	961	1,320	887	1,710
Dissolved Oxygen	MG/L	-	3.69	1.11	2.45	2.03	
Oxidation Reduction Potential	mV	-	71	-269	-84	-7	20
Turbidity	NTU	-	41	15	6	11	4
Dissolved Gases							
Ethane	UG/L	-			0.2 J		6.8
Ethene	UG/L	-		0.8 J	3		

*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 - Result reported from a secondary dilution analysis.

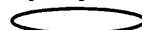
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-		13	6		21

*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.

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D - Result reported from a secondary dilution analysis.

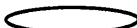
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50				65 J	
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	280	1,300	1,500 D	1,500	290
Cyclohexane	UG/L	50					
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5		7 J			
Tetrachloroethene	UG/L	5	750	35 J	990	16 J	1,300
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5	6 J		13 J	11 J	
Trichloroethene	UG/L	5	120	12 J	200	15 J	140 J
Vinyl chloride	UG/L	2		20 J	100	370	

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		3,270	1,230	847	173
Total Metals							
Iron	UG/L	300	786	20,300	3,000	5,240	788
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.998	0.281		0.047 J
Chloride	MG/L	250	51.4	18.4	14.3	32.7	10
pH	S.U.	6.5-8.5	6.87	7.68	7.52	7.36	6.5
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.68
Nitrate-Nitrite	MG/L	10	0.580		0.215		NA
Sulfate (as SO ₄)	MG/L	250	122	12.7 J	32.4	22.5	37
Total Alkalinity	MG/L	-	351	450	365	440	320
Total Kjeldahl Nitrogen	MG/L	-	4.76	0.866	0.415	0.246 B	0.099 J
Total Organic Carbon (TOC)	MG/L	-	3.08 B	70.6	21.6 J	18.7	1.9
Ferrous Iron	MG/L	-	0.03	3.19	7.9	0.62	0.15
Temperature	DEG C	-	11.90	13.14	13.0	14.03	12.6
Specific Conductance	UMHOS	-	969	714	845	536	605
Dissolved Oxygen	MG/L	-	4.80	11.63	0.95		0.24
Oxidation Reduction Potential	mV	-	68	-331	-307	-326	-155
Turbidity	NTU	-	27	19	15	32	11
Dissolved Gases							
Ethane	UG/L	-			10	11 J	
Ethene	UG/L	-		1 J	17	19 J	5.2

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-	10	20	120 D	550 J	360 D

*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

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

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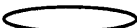
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3		7 J			
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50					
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50		9 J			
Chlorobenzene	UG/L	5		9 J			
Chloroethane	UG/L	5					
Chloroform	UG/L	7		8 J	1 J		
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	390	1,200	230 D	57	190
Cyclohexane	UG/L	50					
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10		9 J			
Methylene chloride	UG/L	5		13 J			
Tetrachloroethene	UG/L	5	1,000		11		15
Toluene	UG/L	5		7 J			
trans-1,2-Dichloroethene	UG/L	5		21 J	6 J	2 J	1 J
Trichloroethene	UG/L	5	140		16		10
Vinyl chloride	UG/L	2		420	52	32	84

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300		25,600	7,420	19,700	15,100
Total Metals							
Iron	UG/L	300	672	26,100	17,900	27,500	16,000
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.629	0.179	0.148	0.56
Chloride	MG/L	250	63.6	54.0	37.3	108	35
pH	S.U.	6.5-8.5	6.89	7.6	7.55	7.10	6.4
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	
Nitrate-Nitrite	MG/L	10	0.345	0.685			NA
Sulfate (as SO ₄)	MG/L	250	108	9.26 J	27.5	38.6	47
Total Alkalinity	MG/L	-	371	460	424	569	420
Total Kjeldahl Nitrogen	MG/L	-	3.08	1.08	0.815	0.434	0.72
Total Organic Carbon (TOC)	MG/L	-	3.43 B	60.4	17.7 J	53.0	5.0
Ferrous Iron	MG/L	-	0.05	16.4	7.4	11	16.1
Temperature	DEG C	-	12.40	12.89	13.4	14.12	12.9
Specific Conductance	UMHOS	-	1,110	853	1,030	777	853
Dissolved Oxygen	MG/L	-	4.50	0.49	1.33		
Oxidation Reduction Potential	mV	-	18	-316	-345	-343	-253
Turbidity	NTU	-	38	43	21	43	1
Dissolved Gases							
Ethane	UG/L	-			10	17 J	
Ethene	UG/L	-		26	31	6 J	13

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-	8	87 D	500 D	1,100 J	5,800 D

*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.

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 Concentration Exceeds Criteria

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D - Result reported from a secondary dilution analysis.

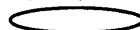
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5					
1,2-Dichlorobenzene	UG/L	3					
1,2-Dichloroethane	UG/L	0.6					
Acetone	UG/L	50					
Benzene	UG/L	1					
Bromodichloromethane	UG/L	50					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					1 J
Chloromethane	UG/L	5					
cis-1,2-Dichloroethene	UG/L	5	38	270 D	280	320	120
Cyclohexane	UG/L	50					
Ethylbenzene	UG/L	5					
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
Tetrachloroethene	UG/L	5	12	5 J	13 J	33 J	370 D
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5	2 J	3 J	3 J		1 J
Trichloroethene	UG/L	5	3 J	3 J	10 J	15 J	37
Vinyl chloride	UG/L	2		10	12 J	16 J	5 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

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D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Filtered Metals							
Iron	UG/L	300	58.3 B	2,780	1,220	1,160	
Total Metals							
Iron	UG/L	300	261	2,940	1,460	1,460	
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2		0.207		0.075	
Chloride	MG/L	250	125	30.8	48.8	64	268
pH	S.U.	6.5-8.5	6.89	7.49	7.13	6.5	6.9
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	0.027 J	NA
Nitrate-Nitrite	MG/L	10				NA	0.715
Sulfate (as SO ₄)	MG/L	250	105	81.6	102	93	137
Total Alkalinity	MG/L	-	353	379	396	360	281
Total Kjeldahl Nitrogen	MG/L	-	2.40	0.726		0.31 J	2.21
Total Organic Carbon (TOC)	MG/L	-	4.06 B	2.97 BJ	3.15 B	1.7	4.00 B
Ferrous Iron	MG/L	-	0.26	0.56	1.27	1.19	
Temperature	DEG C	-	11.70	12.0	13.02	11.5	9.8
Specific Conductance	UMHOS	-	1,220	980	582	924	1,730
Dissolved Oxygen	MG/L	-	2.52	1.80			3.17
Oxidation Reduction Potential	mV	-	-124	-216	-128	-105	-113
Turbidity	NTU	-	15		3	14	2
Dissolved Gases							
Ethane	UG/L	-		0.09 J			
Ethene	UG/L	-		0.5 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.

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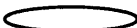
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Dissolved Gases							
Methane	UG/L	-	70 D	24	6 J	94	

*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.

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D - Result reported from a secondary dilution analysis.

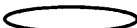
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/L	5				
1,1-Dichloroethane	UG/L	5				
1,2-Dichlorobenzene	UG/L	3				
1,2-Dichloroethane	UG/L	0.6				
Acetone	UG/L	50	11 J	8 J		
Benzene	UG/L	1				
Bromodichloromethane	UG/L	50				
Chlorobenzene	UG/L	5				
Chloroethane	UG/L	5				
Chloroform	UG/L	7				
Chloromethane	UG/L	5				
cis-1,2-Dichloroethene	UG/L	5	190	11	14	49
Cyclohexane	UG/L	50				
Ethylbenzene	UG/L	5				
Methyl tert-butyl ether	UG/L	10				
Methylene chloride	UG/L	5				
Tetrachloroethene	UG/L	5		3 J		13
Toluene	UG/L	5				
trans-1,2-Dichloroethene	UG/L	5	6 J			
Trichloroethene	UG/L	5		1 J		3 J
Vinyl chloride	UG/L	2	220		11	13

*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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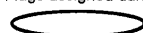
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Filtered Metals						
Iron	UG/L	300	10,100	7,270	11,200	4,680
Total Metals						
Iron	UG/L	300	10,900	8,400	12,000	5,710
Miscellaneous Parameters						
Ammonia, Nitrogen (As N)	MG/L	2	0.414	0.137		0.29
Chloride	MG/L	250	387	332 D	222	85
pH	S.U.	6.5-8.5	8	7.43	6.95	6.4
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	0.31
Nitrate-Nitrite	MG/L	10		0.0700		NA
Sulfate (as SO ₄)	MG/L	250	9.55 UJ	15.4	17.3	97
Total Alkalinity	MG/L	-	430	417	484	380
Total Kjeldahl Nitrogen	MG/L	-	0.372	0.657	0.172 B	0.77
Total Organic Carbon (TOC)	MG/L	-	53.0	66.8 J	42.2	4.5
Ferrous Iron	MG/L	-	14.1	9.6	10.60	3.0
Temperature	DEG C	-	16.15	13.4	10.32	16.8
Specific Conductance	UMHOS	-	1,550	1,810	853	1,210
Dissolved Oxygen	MG/L	-	0.68	1.36	1.46	
Oxidation Reduction Potential	mV	-	-408	-326	-216	-183
Turbidity	NTU	-	4	24	25	27
Dissolved Gases						
Ethane	UG/L	-		31	18 J	
Ethene	UG/L	-	21	22	1 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

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

D - Result reported from a secondary dilution analysis.

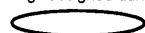
Only Detected Results Reported.

TABLE 3-1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Dissolved Gases						
Methane	UG/L	-	66 D	570 D	1,400 J	3,100 D

*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

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

D - Result reported from a secondary dilution analysis.

Only Detected Results Reported.

TABLE 3-2
SUMMARY OF CHLORINATED HYDROCARBON SAMPLING RESULTS
CHEM-CORE PILOT STUDY

PCE (ug/L)						
WELL	LOCATION	BASELINE	120 Days	220 Days	317 days	485 Days
IW-A2	Infield	560	ND	ND	ND	ND
IW-A5	Infield	230	ND	9	ND	1
MW-8S	45 feet downgradient	130	2	ND	2	ND
MW-8D	45 feet downgradient	310	ND	ND	ND	ND
MW-12	Infield	750	35	990	16	1300
MW-16	Infield	1000	ND	11	ND	15
MW-19	45 feet downgradient	370	ND	3	ND	13
MW-18	30 feet upgradient	12	-	5	13	33
TCE (ug/L)						
IW-A2	Infield	65	ND	ND	ND	1
IW-A5	Infield	27	ND	3	ND	0.9
MW-8S	45 feet downgradient	21	1	1	1	0.7
MW-8D	45 feet downgradient	31	ND	ND	ND	ND
MW-12	Infield	120	12	200	15	140
MW-16	Infield	140	ND	16	ND	10
MW-19	45 feet downgradient	37	ND	1	ND	3
MW-18	30 feet upgradient	3	-	3	10	15
c,t-DCE (ug/L)						
IW-A2	Infield	150	2221	22	4	10
IW-A5	Infield	68	918	129	30	28
MW-8S	45 feet downgradient	96	3	6	4	3
MW-8D	45 feet downgradient	110	ND	4	14	7.7
MW-12	Infield	286	1300	1513	1511	290
MW-16	Infield	390	1221	236	59	191
MW-19	45 feet downgradient	121	196	11	14	49
MW-18	30 feet upgradient	40	-	273	283	320
VC (ug/L)						
IW-A2	Infield	ND	490	13	4	5
IW-A5	Infield	ND	110	58	24	12
MW-8S	45 feet downgradient	3	47	10	ND	ND
MW-8D	45 feet downgradient	7	1	8	35	18
MW-12	Infield	ND	20	100	370	ND
MW-16	Infield	ND	420	52	32	84
MW-19	45 feet downgradient	5	220	ND	11	13
MW-18	30 feet upgradient	ND	-	10	12	16
ETHENE (ug/L)						
IW-A2	Infield	ND	18	44	5	2.4
IW-A5	Infield	ND	8	21	4	6
MW-8S	45 feet downgradient	ND	0.8	3	ND	ND
MW-8D	45 feet downgradient	ND	42	13	15	25
MW-12	Infield	ND	1	17	19	5.2
MW-16	Infield	ND	26	31	6	13
MW-19	45 feet downgradient	ND	21	22	1	ND
MW-18	30 feet upgradient	ND	-	0.5	ND	ND

ND - Not Detected

Injection dates occurred 5/25-30/2005

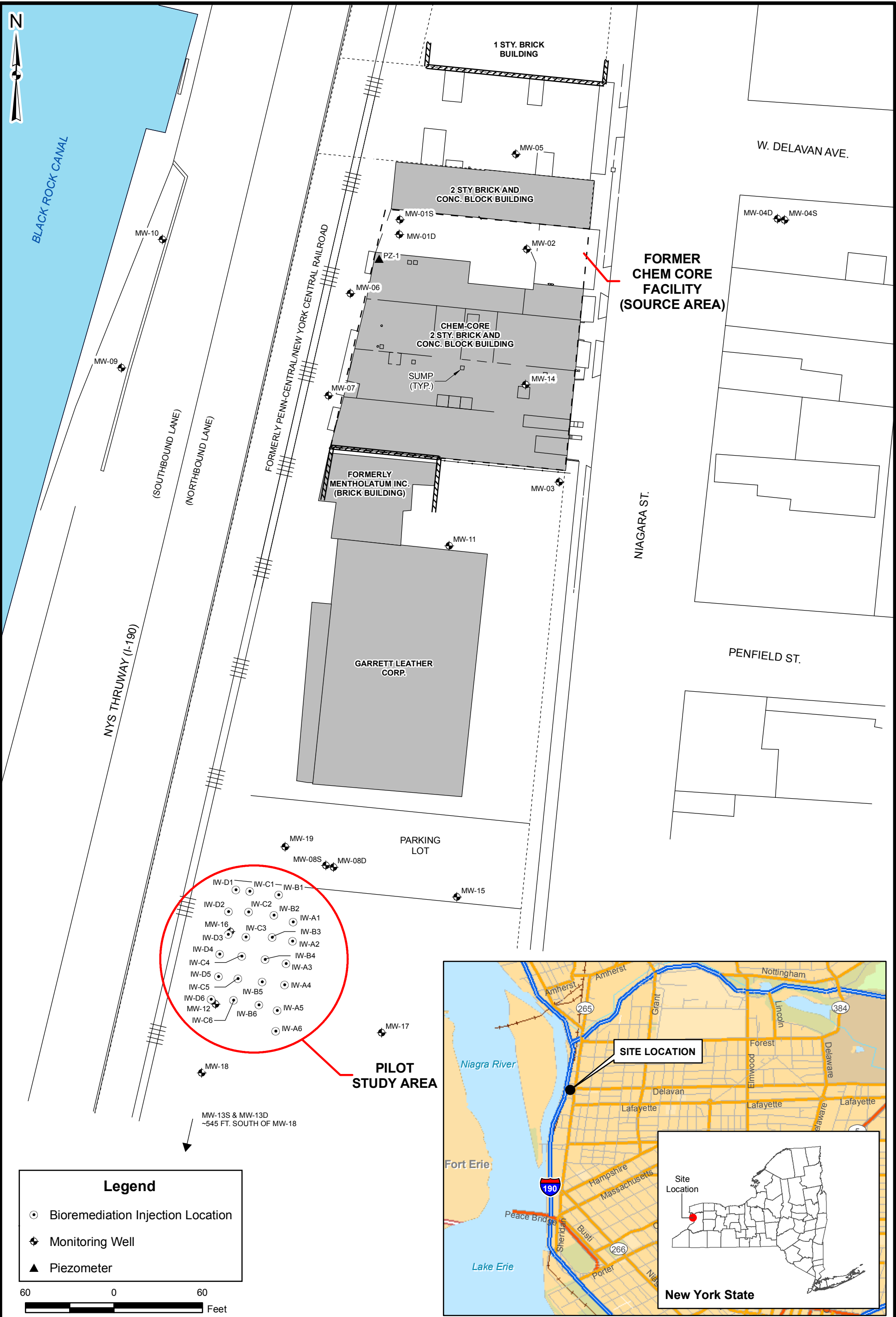
TABLE 3-3
SUMMARY OF GEOCHEMICAL INDICATOR PARAMETERS
CHEM-CORE PILOT STUDY

Sulfate (mg/L)						
WELL	LOCATION	BASELINE	120 Days	220 Days	317 days	485 Days
IW-A2	Infield	213	19.7	40.3	35.2	90
IW-A5	Infield	181	8.85	80	32.9	80
MW-8S	45 feet downgradient	306	134	186	355	350
MW-8D	45 feet downgradient	220	258	171	374	74
MW-12	Infield	122	12.7	32.4	22.5	37
MW-16	Infield	108	9.26	27.5	38.6	47
MW-19	45 feet downgradient	137	9.55	15.4	17.3	97
MW-18	30 feet upgradient	105	-	81.6	102	93
Ferrous Iron (mg/L)						
IW-A2	Infield	ND	19	16.1	19.4	12.1
IW-A5	Infield	0.01	16.3	1.02	2.31	2.7
MW-8S	45 feet downgradient	0.05	0.82	0.18	ND	ND
MW-8D	45 feet downgradient	0.02	0.86	0.36	0.01	0.7
MW-12	Infield	0.03	3.19	7.9	0.62	0.15
MW-16	Infield	0.05	16.4	7.4	11	16.1
MW-19	45 feet downgradient	ND	14.1	9.6	10.6	3
MW-18	30 feet upgradient	0.26	-	0.56	1.27	1.19
TOC (mg/L)						
IW-A2	Infield	10.1	86.7	84.7	128	11
IW-A5	Infield	21.2	84.1	48.7	57.8	4.7
MW-8S	45 feet downgradient	6.8	12.6	5.65	5.66	3.5
MW-8D	45 feet downgradient	9.34	36.6	32.1	4.81	3.6
MW-12	Infield	3.08	70.6	21.6	18.7	1.9
MW-16	Infield	3.43	60.4	17.7	53	5
MW-19	45 feet downgradient	4	53	66.8	42.2	4.5
MW-18	30 feet upgradient	4.06	-	2.97	3.15	1.7
ORP (mV)						
IW-A2	Infield	72	-470	-461	-445	-202
IW-A5	Infield	39	-459	-373	-380	-253
MW-8S	45 feet downgradient	71	-269	-84	-7	20
MW-8D	45 feet downgradient	-194	-354	-312	-276	-211
MW-12	Infield	68	-331	-307	-326	-155
MW-16	Infield	18	-316	-345	-343	-253
MW-19	45 feet downgradient	-113	-408	-326	-216	-183
MW-18	30 feet upgradient	-124	-	-216	-128	-105
METHANE (ug/L)						
IW-A2	Infield	ND	250	720	1800	9800
IW-A5	Infield	ND	260	510	1600	10000
MW-8S	45 feet downgradient	ND	13	6	ND	21
MW-8D	45 feet downgradient	20	240	420	250	5500
MW-12	Infield	10	20	120	550	360
MW-16	Infield	8	87	500	1100	5800
MW-19	45 feet downgradient	ND	66	570	1400	3100
MW-18	30 feet upgradient	70	-	24	6	94

ND - Not Detected

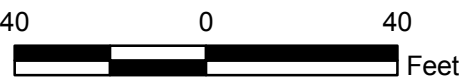
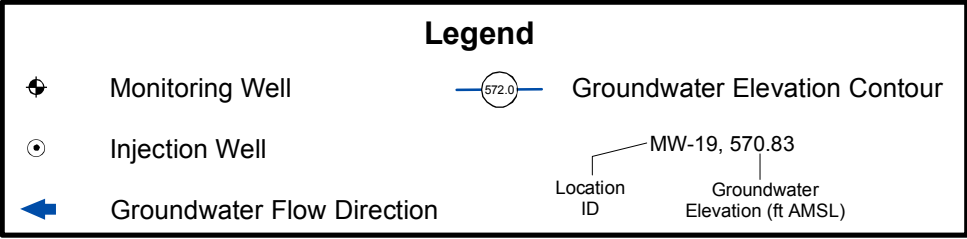
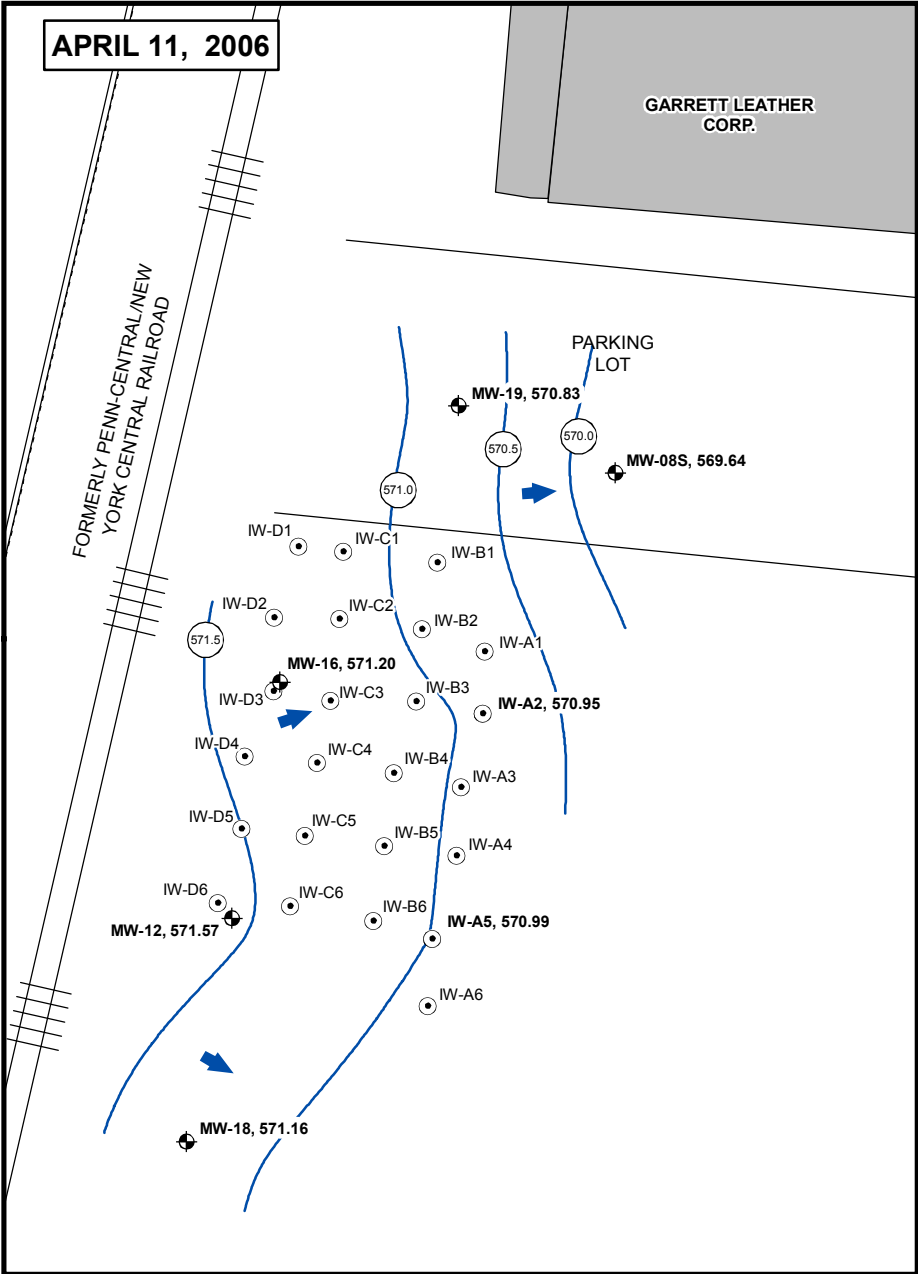
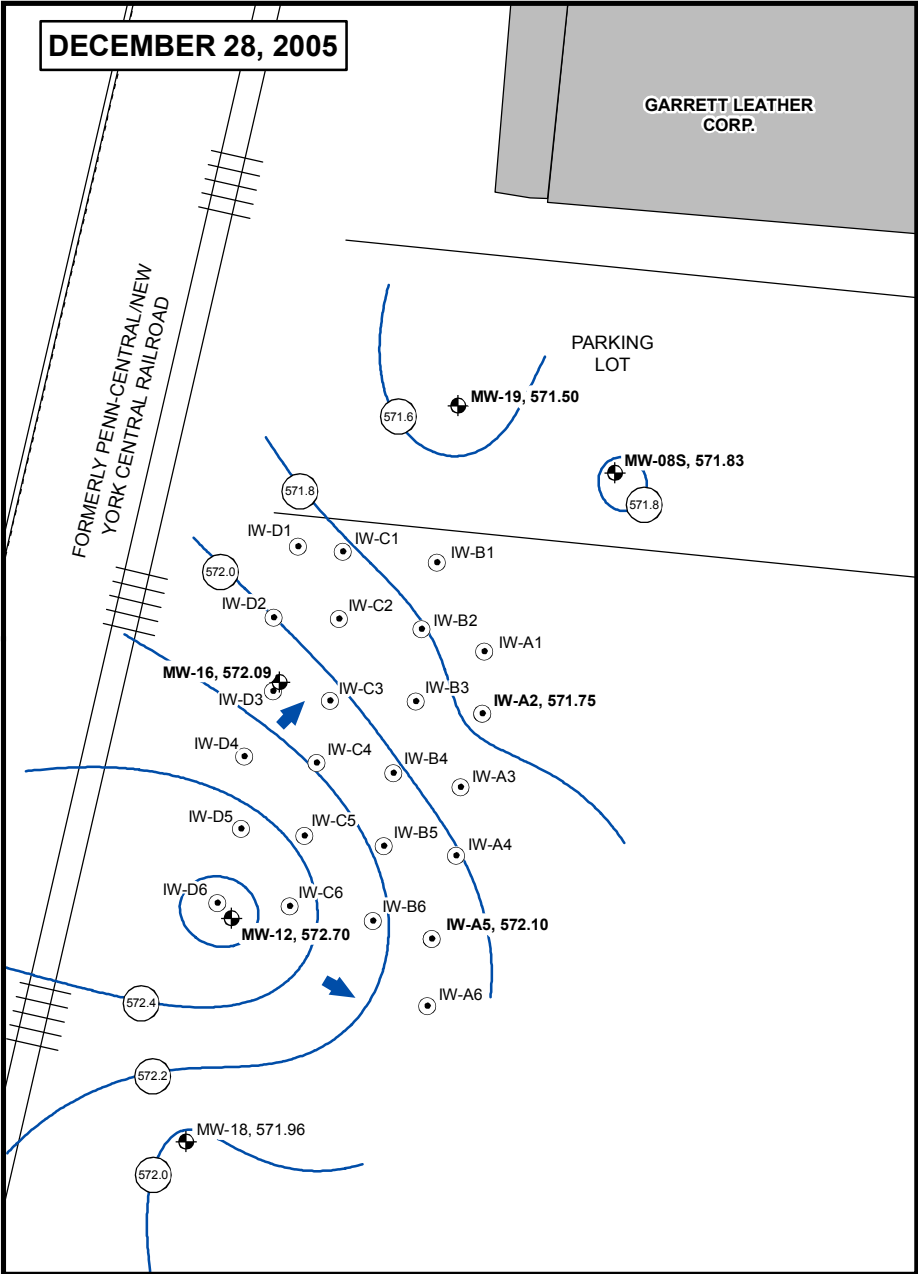
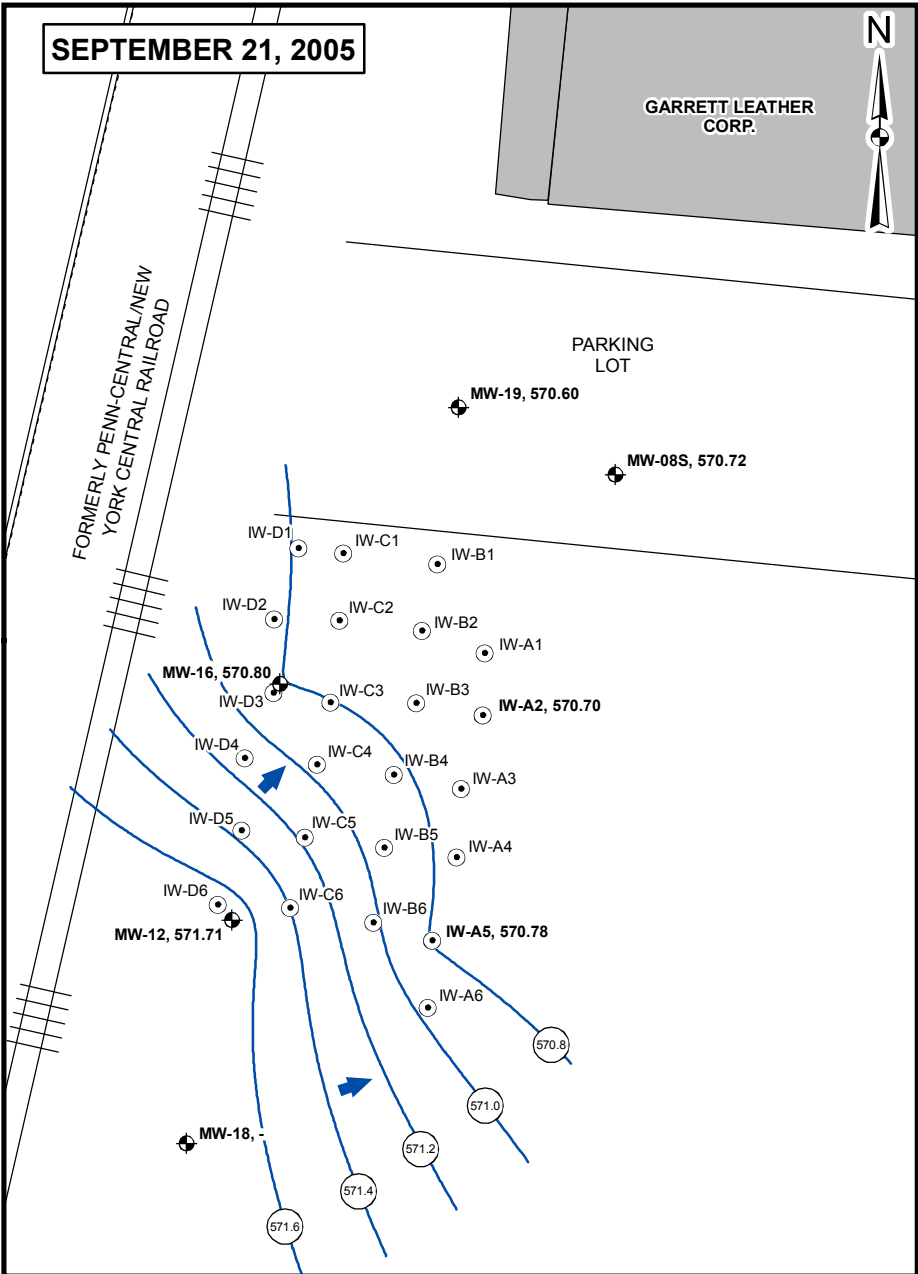
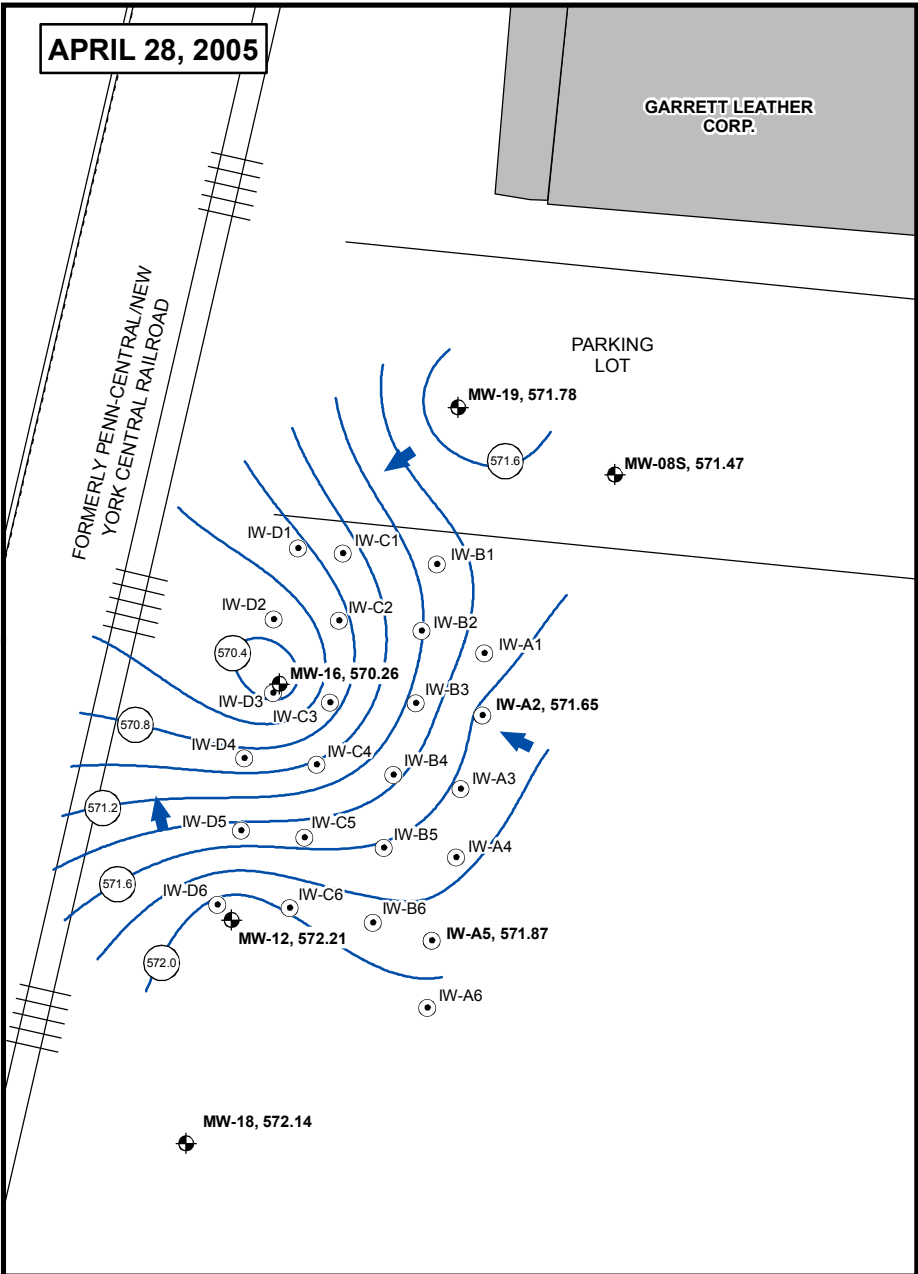
Injection dates occurred 5/25-30/2005

FIGURES

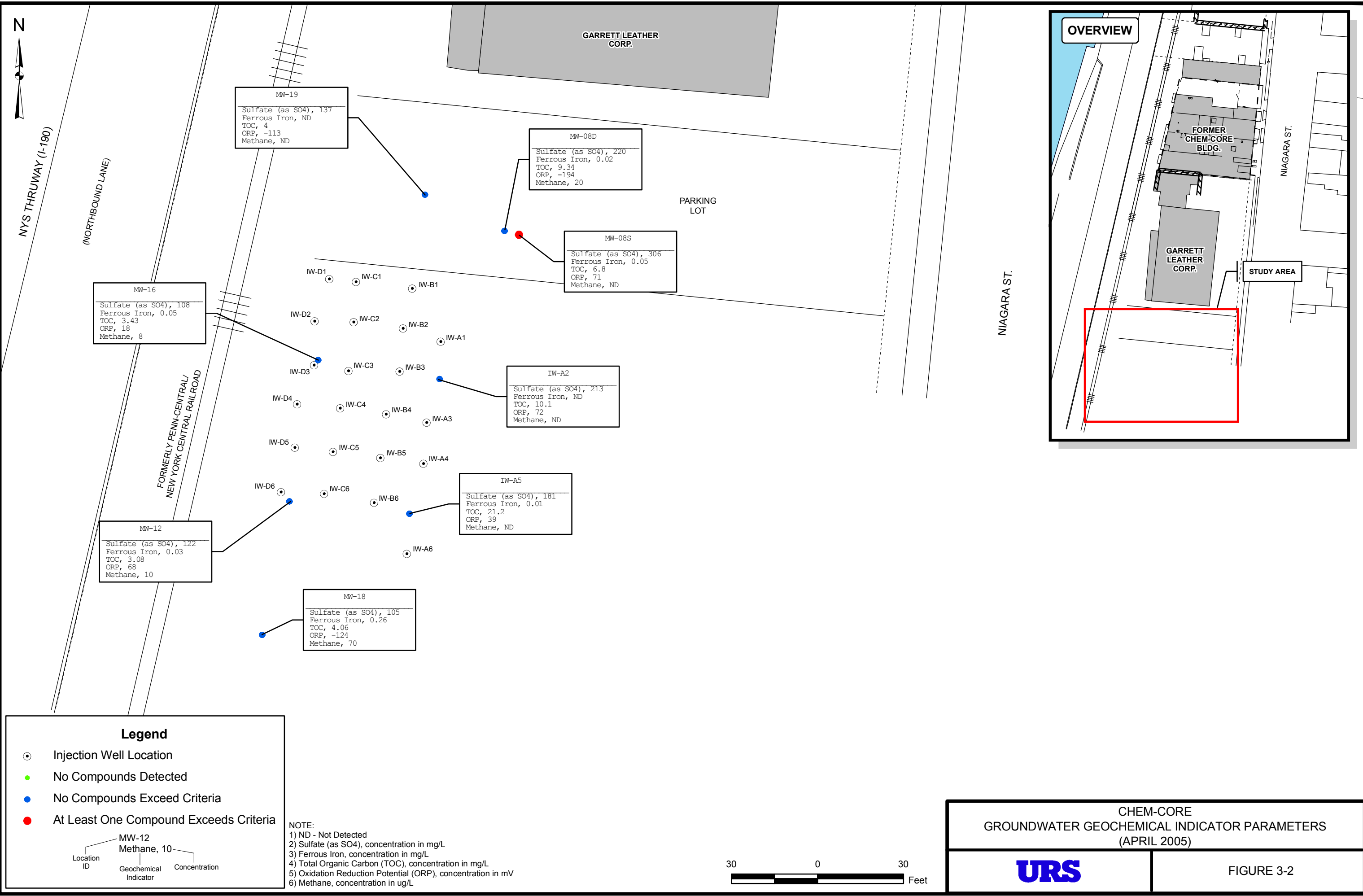








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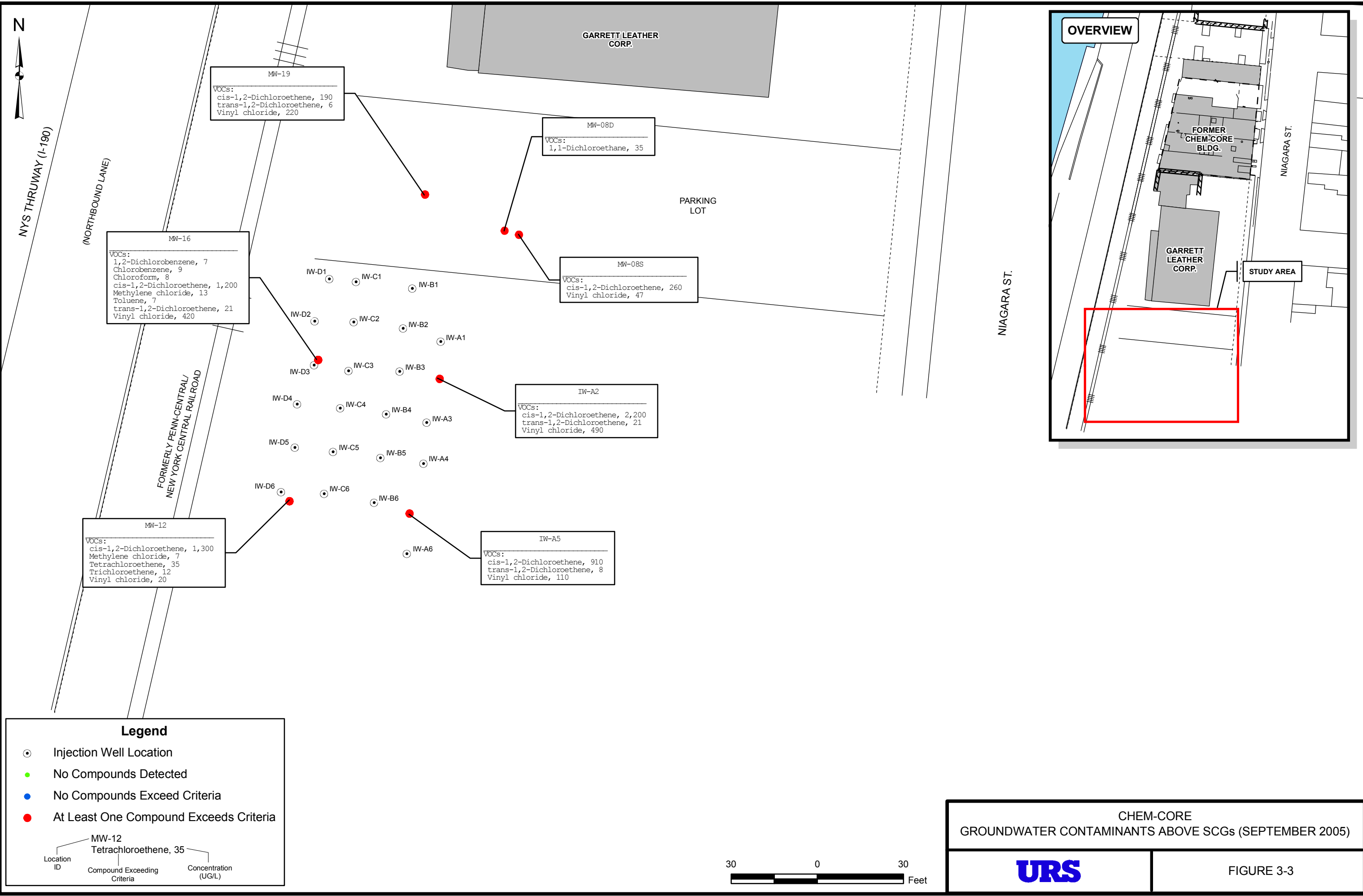


CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(APRIL 2005)

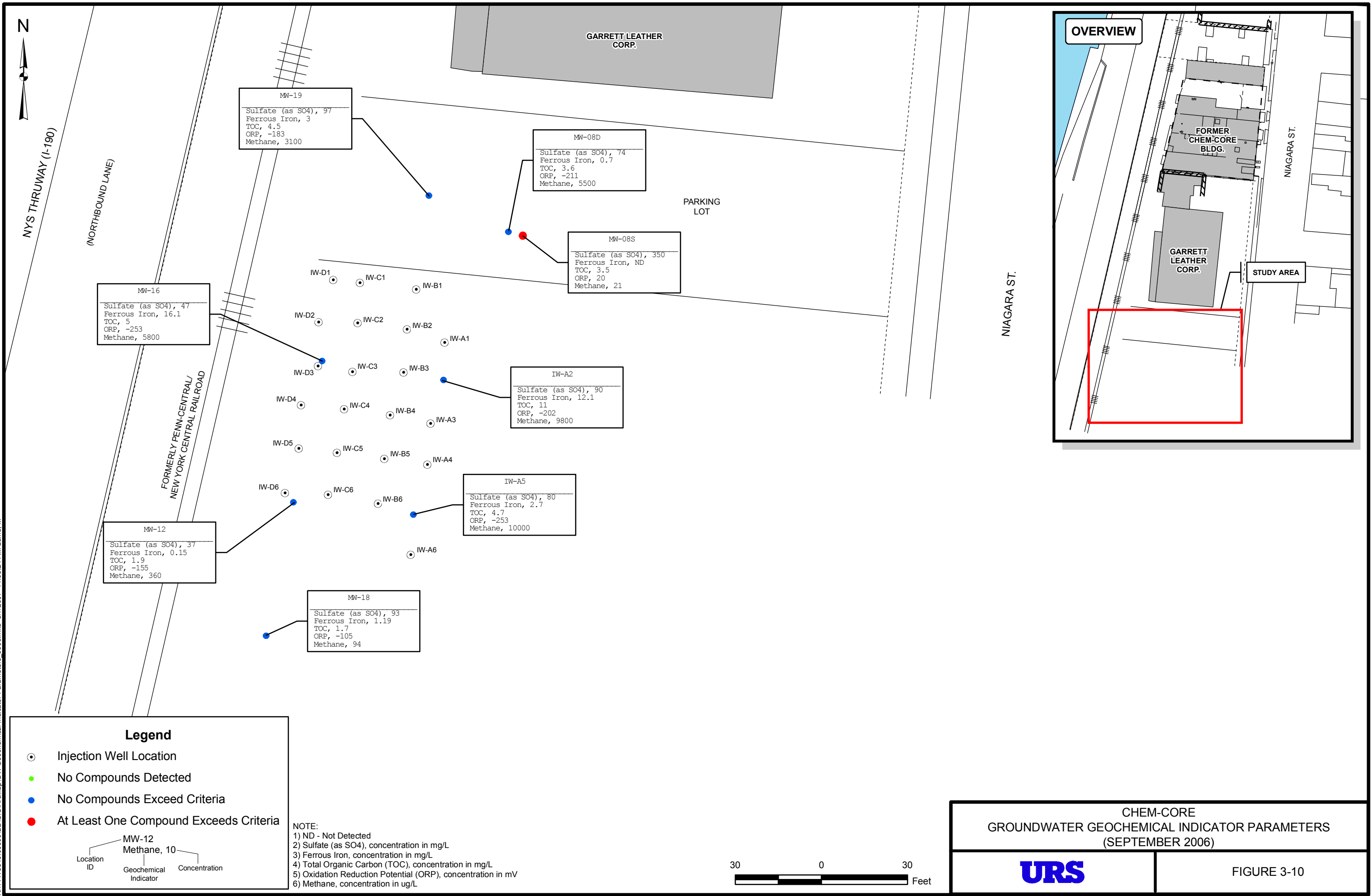


FIGURE 3-2

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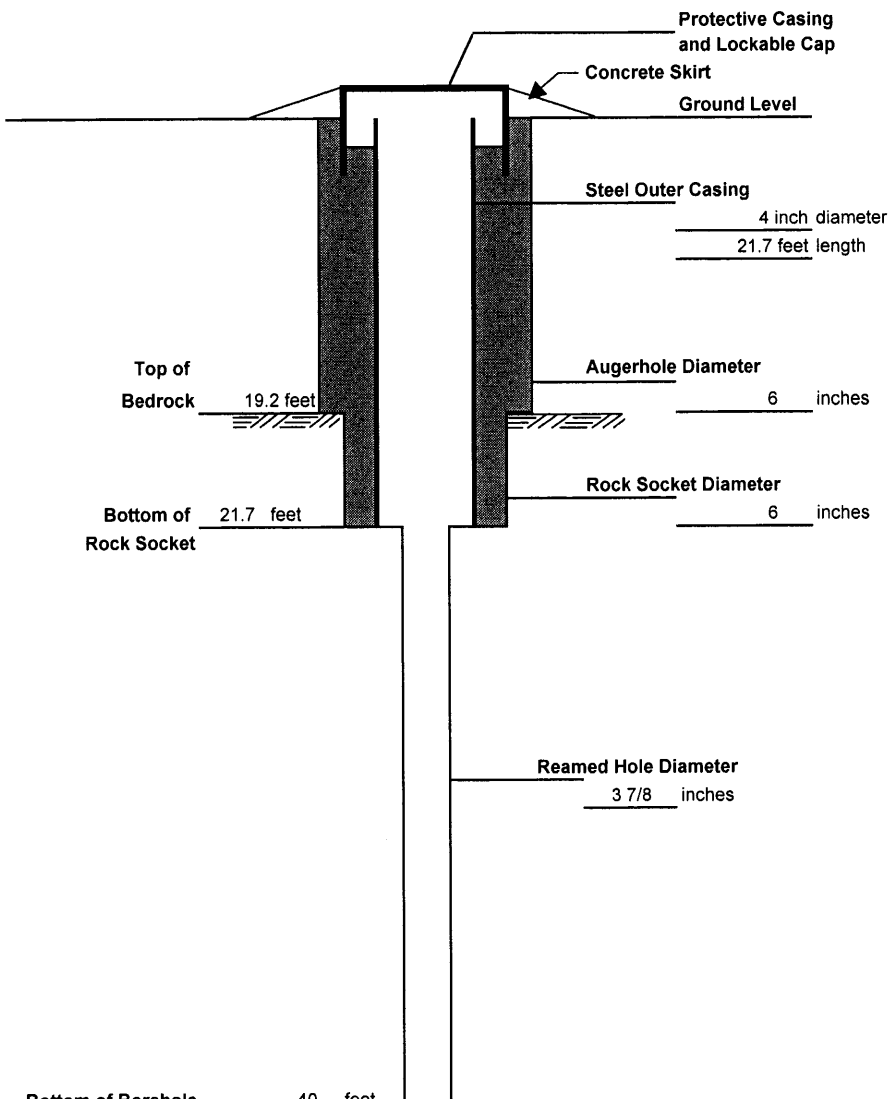


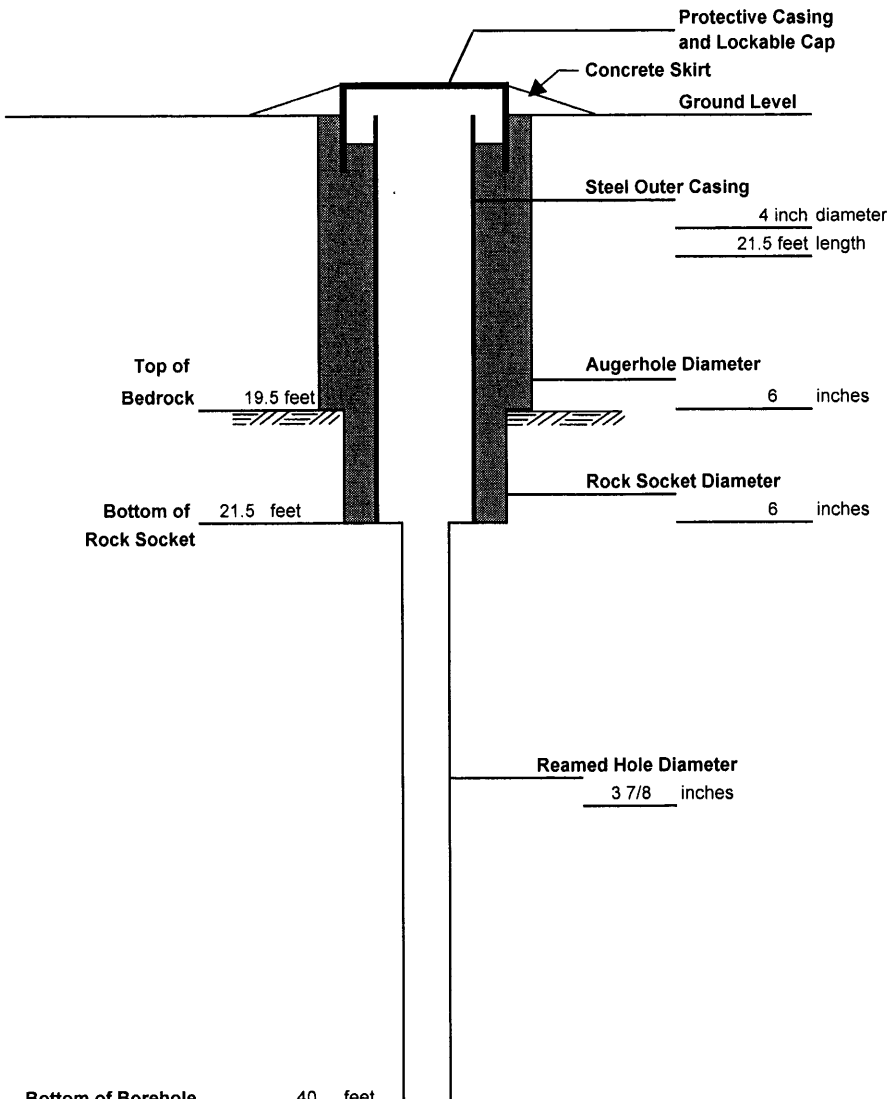
APPENDICES

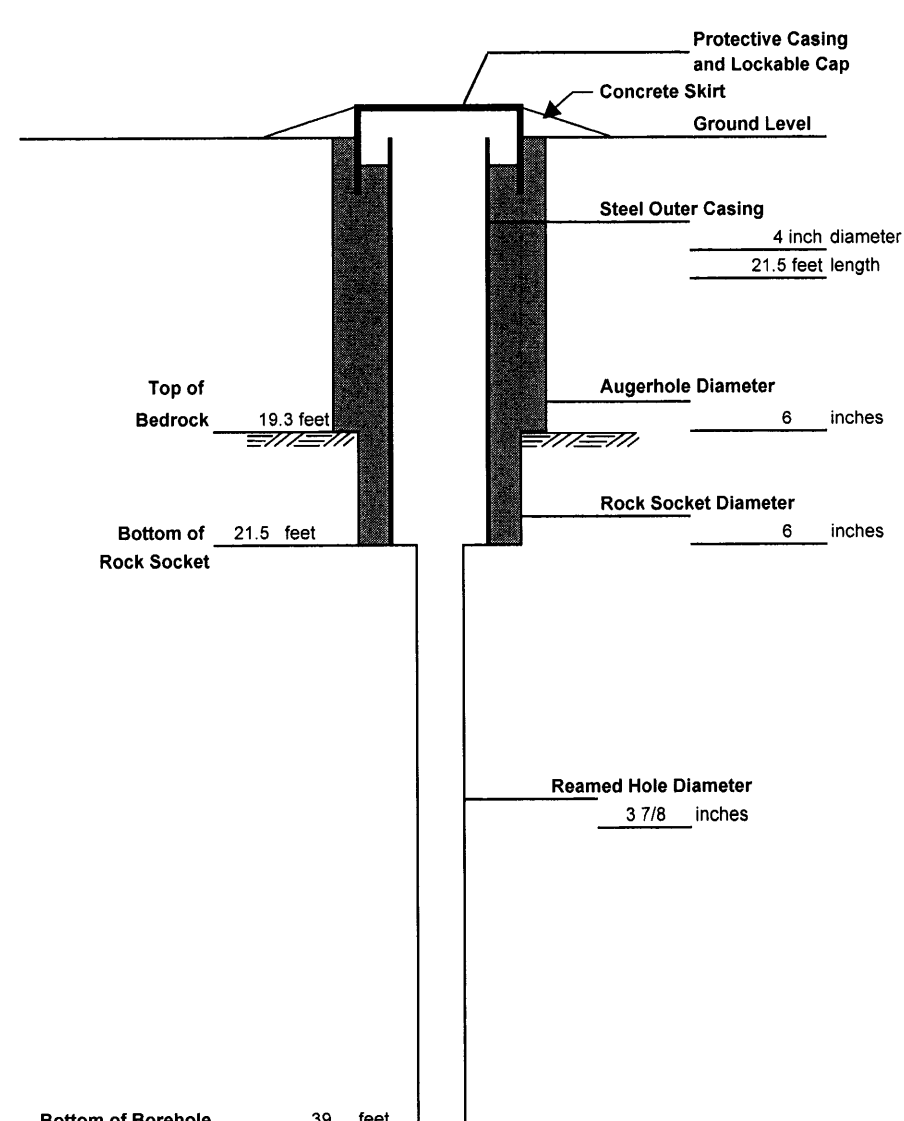
APPENDIX A

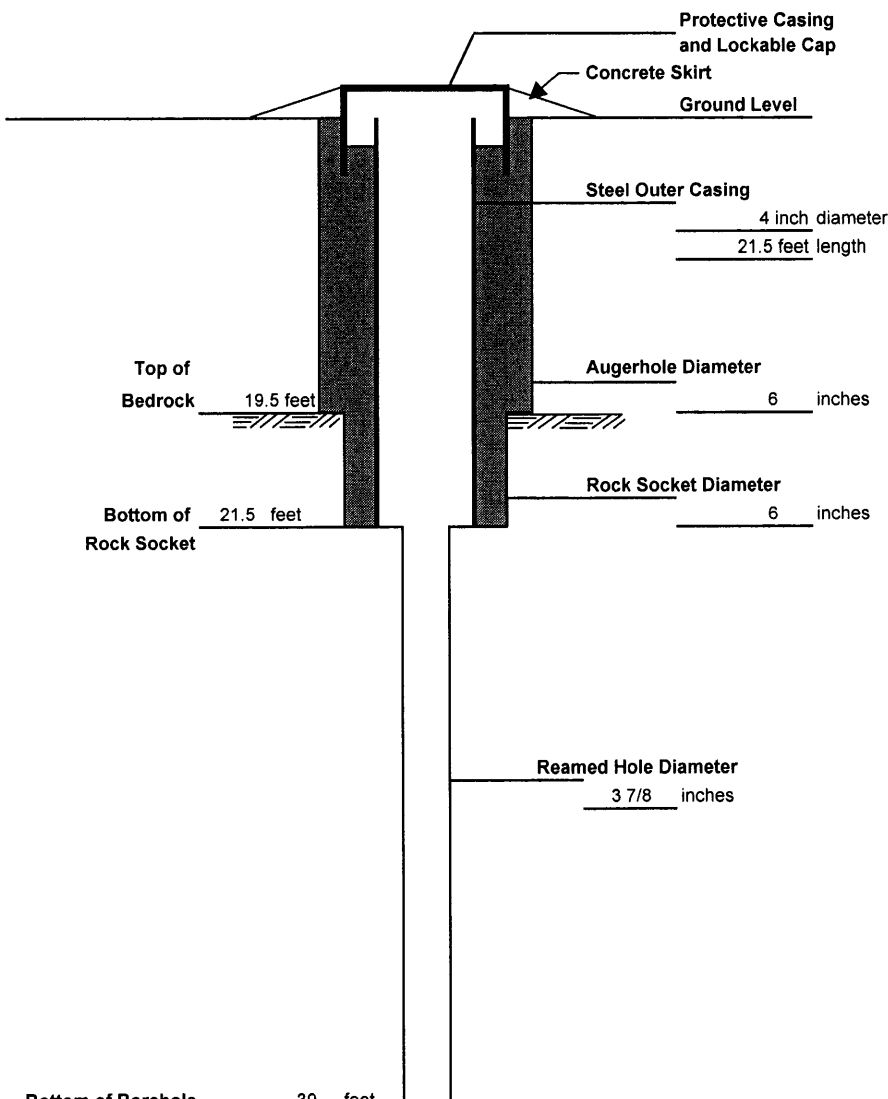
WELL CONSTRUCTION LOGS

DRILLING SUMMARY		D E P T H			
Geologist:	Scott McCabe				
Drilling Co.	American Auger				
Operator:	Rocky Baye				
Model:	Versa Drill 2000				
Date:	4/15/2005				
GEOLOGIC LOG*					
Depth (ft.)	Description				
0-19.5	See boring log for MW-12 and MW-16 for overburden description				
19.5-40.0	Dolostone Bedrock				
WELL DESIGN		Bottom of Borehole 40 feet			
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface:	12" Steel protective cover (Flush Mount)	Type:	Open Hole	Type:	
Monitor:	4" Carbon Steel	Slot Size:		Setting:	
				SEAL MATERIAL	
				Type 1:	
				Setting:	
				Type 1:	
				Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval:	None	Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter:	3 7/8"		
Client:	NYSDEC	Location:	Chem Core	Project No.:	11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.:	IW-A1

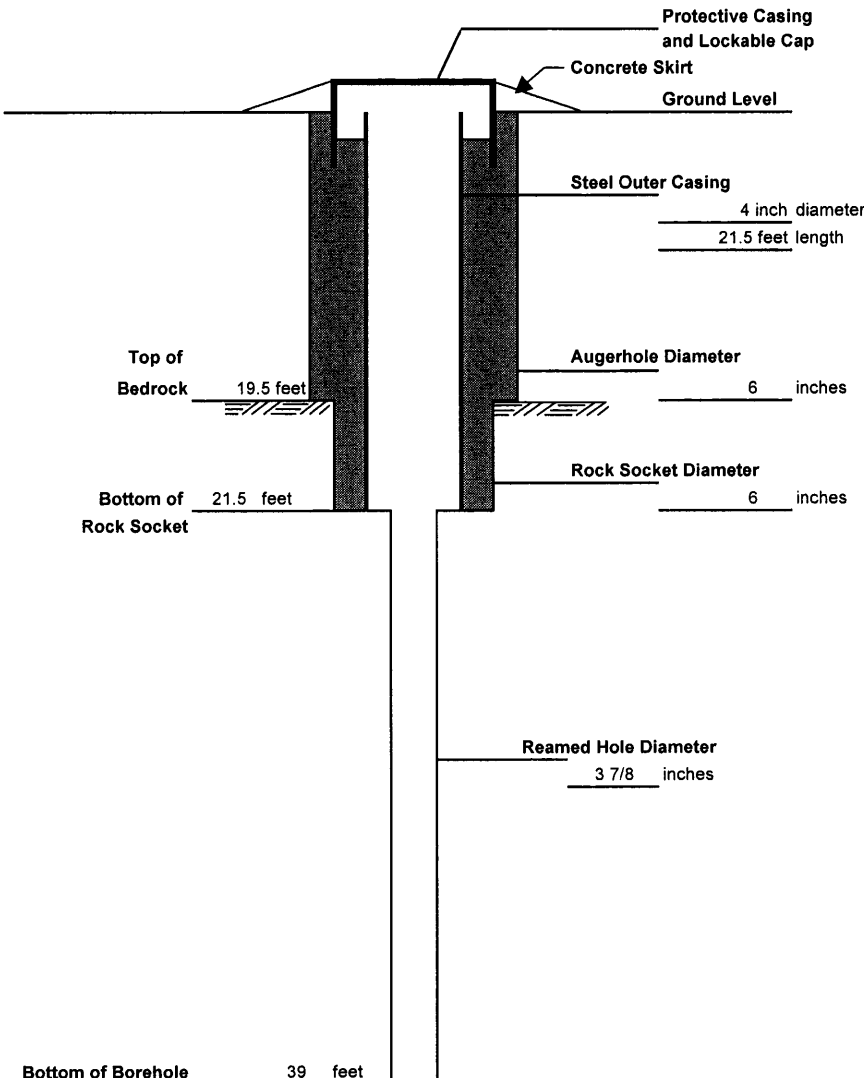
DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/15/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.2	See boring log for MW-12 and MW-16 for overburden description		
19.2-40.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 40 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type:	Type: Setting:
Monitor: 4" Carbon Steel	Slot Size:		SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND	
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout	
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000	
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-A2	

DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/18/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MW-16 for overburden description		
19.5-40.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 40 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)		Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel			SEAL MATERIAL
		Slot Size:	Type 1: Setting:
			Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-A3

DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/18/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.3	See boring log for MW-12 and MW-16 for overburden description		
19.3-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-A4

DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/18/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MW-16 for overburden description		
19.5-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND	
	Cored Interval: None	Cement/Bentonite Grout	
	Core Diameter:		
	Reamed Diameter: 3 7/8"		
Client: NYSDEC	Location: Chem Core	Project No.:	11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.:	IW-A5

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/18/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-21.3	See boring log for MW-12 and MW-16 for overburden description		
21.3-39.0	Dolostone Bedrock		
WELL DESIGN		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000	
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-A6	

DRILLING SUMMARY		DEPTH 	
Geologist:	Scott McCabe		
Drilling Co.	American Auger		
Operator:	Rocky Baye		
Model:	Versa Drill 2000		
Date:	4/20/2005		
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MW-16 for overburden description	WELL DESIGN	
19.5-39.0	Dolostone Bedrock		
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND	
	Cored Interval: None	Cement/Bentonite Grout	
	Core Diameter:		
	Reamed Diameter: 3 7/8"		
Client: NYSDEC	Location: Chem Core	Project No.:	11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.:	IW-B1

DRILLING SUMMARY		D E P T H			
Geologist: Scott McCabe					
Drilling Co. American Auger					
Operator: Rocky Baye					
Model: Versa Drill 2000					
Date: 4/20/2005					
GEOLOGIC LOG*					
Depth (ft.)	Description				
0-19.5	See boring log for MW-12 and MVV-16 for overburden description				
19.5-39.0	Dolostone Bedrock				
WELL DESIGN		Bottom of Borehole 39 feet			
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:		Type: Setting:	
				SEAL MATERIAL	
				Type 1: Setting: Type 1: Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval: None		Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core		Project No.: 11173755.84000	
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.: IW-B2	

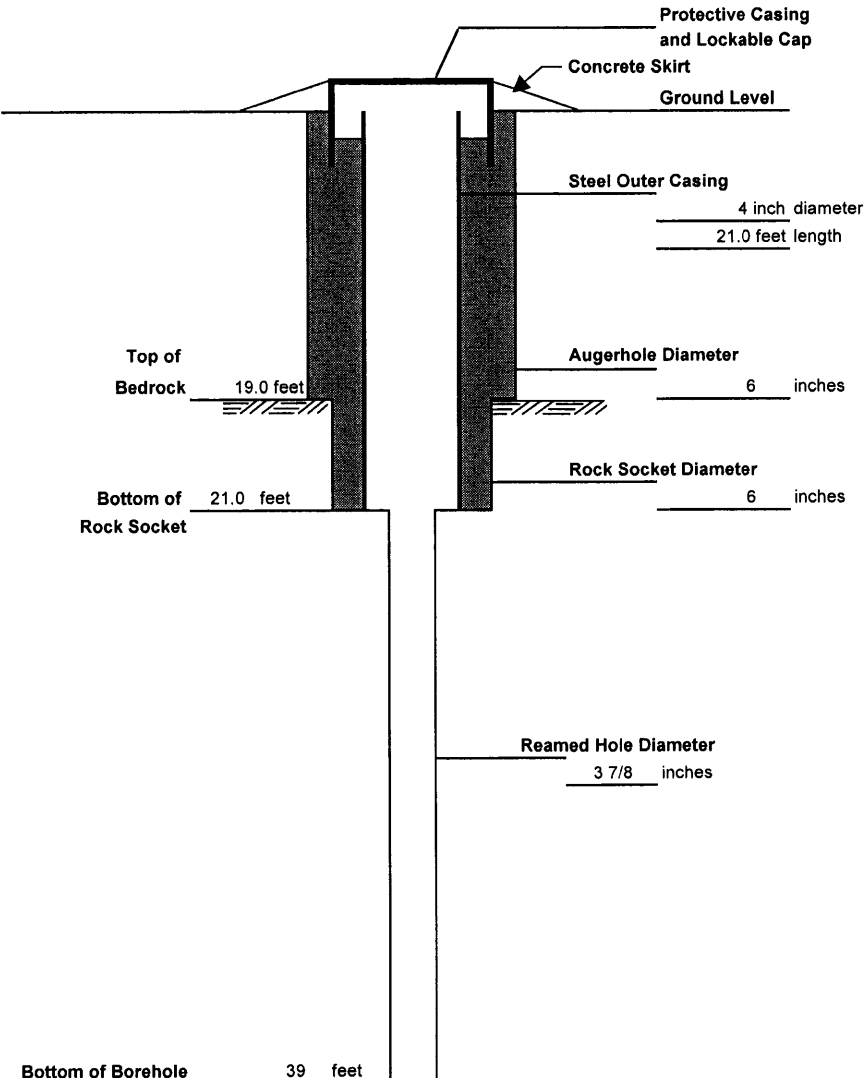
DRILLING SUMMARY		D E P T H			
Geologist: Scott McCabe					
Drilling Co. American Auger					
Operator: Rocky Baye					
Model: Versa Drill 2000					
Date: 4/20/2005					
GEOLOGIC LOG*					
Depth (ft.)	Description				
0-19.5	See boring log for MW-12 and MW-16 for overburden description				
19.5-39.0	Dolostone Bedrock				
WELL DESIGN		Bottom of Borehole 39 feet			
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:		Type: Setting:	
				SEAL MATERIAL	
				Type 1: Setting: Type 1: Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval: None		Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core		Project No.: 11173755.84000	
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.: IW-B3	

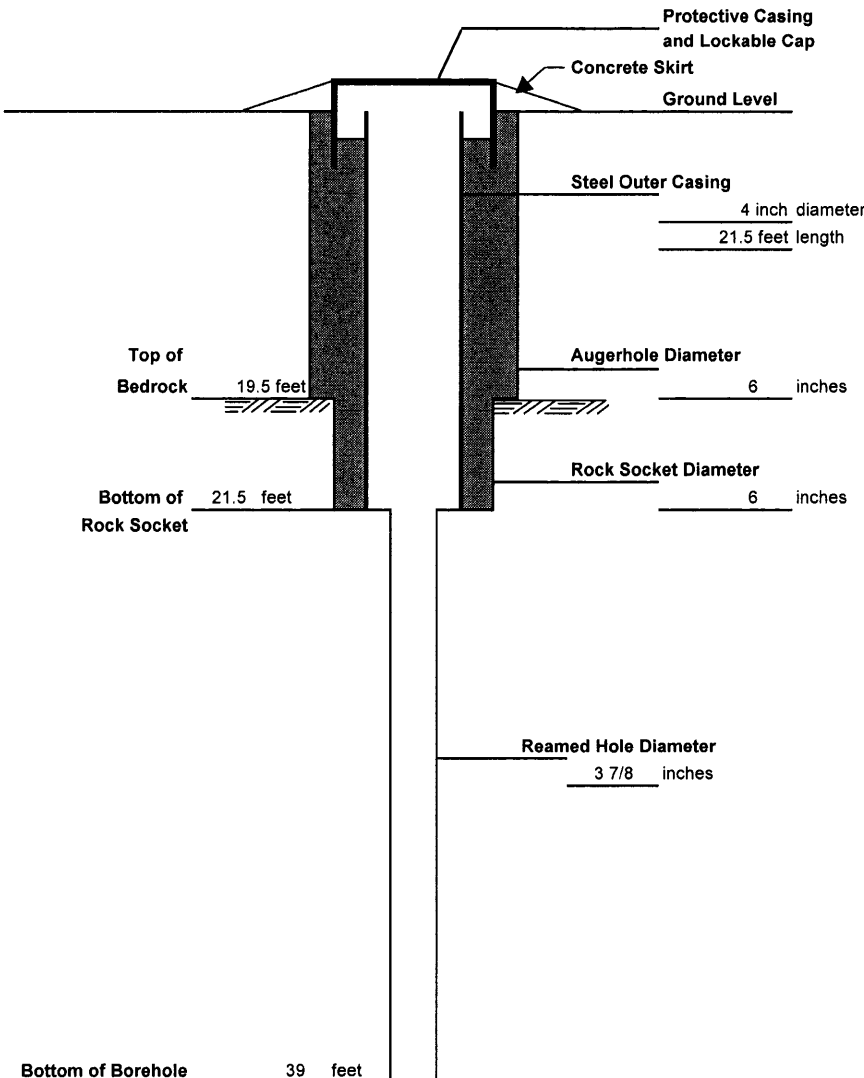
DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/20/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MVV-16 for overburden description		
19.5-39.0	Dolostone Bedrock		
WELL DESIGN		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000	
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-B4	

DRILLING SUMMARY		D E P T H		Protective Casing and Lockable Cap Concrete Skirt Ground Level Steel Outer Casing 4 inch diameter 21.5 feet length Augerhole Diameter 6 inches Rock Socket Diameter 6 inches Reamed Hole Diameter 3 7/8 inches	
Geologist: Scott McCabe					
Drilling Co. American Auger					
Operator: Rocky Baye					
Model: Versa Drill 2000					
Date: 4/20/2005					
GEOLOGIC LOG*				Top of Bedrock 19.5 feet Bottom of Rock Socket 21.5 feet Bottom of Borehole 39 feet	
Depth (ft.)	Description				
0-19.5	See boring log for MW-12 and MW-16 for overburden description				
19.5-39.0	Dolostone Bedrock				
WELL DESIGN					
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount)		Type: Open Hole		Type: Setting:	
Monitor: 4" Carbon Steel		Slot Size:		SEAL MATERIAL	
				Type 1: Setting: Type 1: Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval: None		Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core		Project No.: 11173755.84000	
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.: IW-B5	

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/21/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MVV-16 for overburden description		
19.5-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-B6

DRILLING SUMMARY		DEPTH			
Geologist: Scott McCabe					
Drilling Co. American Auger					
Operator: Rocky Baye					
Model: Versa Drill 2000					
Date: 4/21/2005					
GEOLOGIC LOG*					
Depth (ft.)	Description				
0-19.0	See boring log for MW-12 and MW-16 for overburden description				
19.0-39.0	Dolostone Bedrock				
WELL DESIGN		Bottom of Borehole 39 feet			
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:		Type: Setting:	
				SEAL MATERIAL	
				Type 1: Setting: Type 1: Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval: None		Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core		Project No.: 11173755.84000	
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.: IW-C1	

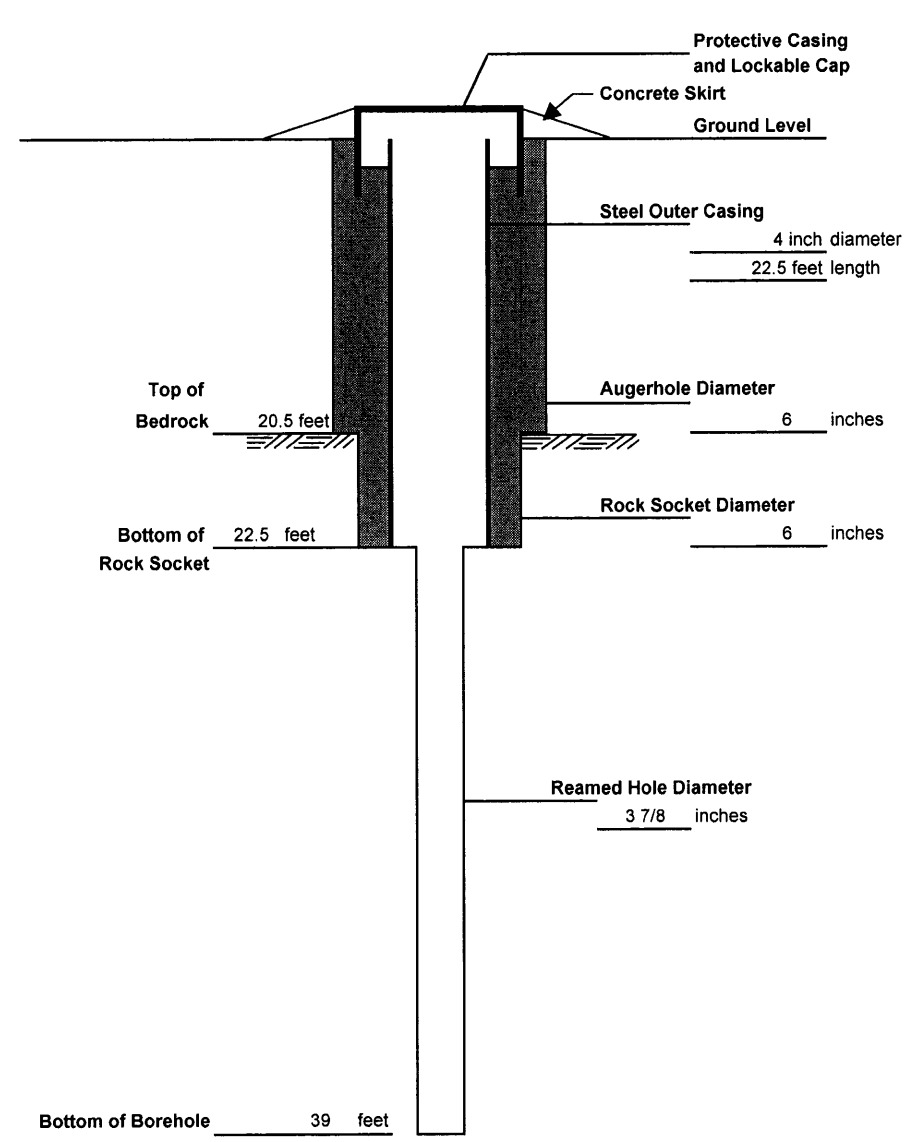
DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/20/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.0	See boring log for MW-12 and MW-16 for overburden description		
19.0-39.0	Dolostone Bedrock		
WELL DESIGN			
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000	
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-C2	

DRILLING SUMMARY		DEPTH 	
Geologist:	Scott McCabe		
Drilling Co.	American Auger		
Operator:	Rocky Baye		
Model:	Versa Drill 2000		
Date:	4/20/2005		
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.5	See boring log for MW-12 and MW-16 for overburden description		
19.5-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type: Setting:	
Monitor: 4" Carbon Steel	Slot Size:	SEAL MATERIAL	
		Type 1: Setting:	
		Type 1: Setting:	
COMMENTS:	ROCK CORING	LEGEND	
	Cored Interval: None	Cement/Bentonite Grout	
	Core Diameter:		
	Reamed Diameter: 3 7/8"		
Client: NYSDEC	Location: Chem Core	Project No.:	11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.:	IW-C3

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/20/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-22.5	See boring log for MW-12 and MW-16 for overburden description		
22.5-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-C4

DRILLING SUMMARY		D E P T H			
Geologist: Scott McCabe					
Drilling Co. American Auger					
Operator: Rocky Baye					
Model: Versa Drill 2000					
Date: 4/19/2005					
GEOLOGIC LOG*					
Depth (ft.)	Description				
0-22.5	See boring log for MW-12 and MW-16 for overburden description				
22.5-39.0	Dolostone Bedrock				
WELL DESIGN		Bottom of Borehole 39 feet			
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL	
Surface: 12" Steel protective cover (Flush Mount)		Type: Open Hole		Type: Setting:	
Monitor: 4" Carbon Steel		Slot Size:		SEAL MATERIAL	
				Type 1: Setting: Type 1: Setting:	
COMMENTS:		ROCK CORING		LEGEND	
		Cored Interval: None		Cement/Bentonite Grout	
		Core Diameter:			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core		Project No.: 11173755.84000	
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well No.: IW-C5	

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/19/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-22.5	See boring log for MW-12 and MW-16 for overburden description		
22.5-39.0	Dolostone Bedrock		
WELL DESIGN		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Slot Size:	Type: Setting:
Monitor: 4" Carbon Steel			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND	
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout	
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000	
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-C6	

DRILLING SUMMARY		DEPTH 	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/19/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-20.5	See boring log for MW-12 and MW-16 for overburden description		
20.5-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D1

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co. American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/19/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-19.0	See boring log for MW-12 and MW-16 for overburden description		
19.0-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount) Monitor: 4" Carbon Steel		Type: Open Hole Slot Size:	Type: Setting:
			SEAL MATERIAL
			Type 1: Setting: Type 1: Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D2

DRILLING SUMMARY	
Geologist: Scott McCabe	
Drilling Co. American Auger	
Operator: Rocky Baye	
Model: Versa Drill 2000	
Date: 4/19/2005	
GEOLOGIC LOG*	
Depth (ft.)	Description
0-20.5	See boring log for MW-12 and MW-16 for overburden description
20.5-39.0	Dolostone Bedrock
WELL DESIGN	

DEPTH

Protective Casing and Lockable Cap

Concrete Skirt

Ground Level

Steel Outer Casing
4 inch diameter
22.5 feet length

Augerhole Diameter
6 inches

Rock Socket Diameter
6 inches

Reamed Hole Diameter
3 7/8 inches

Top of Bedrock 20.5 feet

Bottom of Rock Socket 22.5 feet

Bottom of Borehole 39 feet

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel	Slot Size:	SEAL MATERIAL
		Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D3

DRILLING SUMMARY	
Geologist: Scott McCabe	
Drilling Co. American Auger	
Operator: Rocky Baye	
Model: Versa Drill 2000	
Date: 4/19/2005	
GEOLOGIC LOG*	
Depth (ft.)	Description
0-23.0	See boring log for MW-12 and MW-16 for overburden description
23.0-39.0	Dolostone Bedrock
WELL DESIGN	

DEPTH

Protective Casing and Lockable Cap

Concrete Skirt

Ground Level

Steel Outer Casing
4 inch diameter
25.0 feet length

Augerhole Diameter
6 inches

Rock Socket Diameter
6 inches

Reamed Hole Diameter
3 7/8 inches

Top of Bedrock 23.0 feet

Bottom of Rock Socket 25.0 feet

Bottom of Borehole 39 feet

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel	Slot Size:	SEAL MATERIAL
		Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D4

DRILLING SUMMARY		DEPTH	
Geologist: Scott McCabe			
Drilling Co.: American Auger			
Operator: Rocky Baye			
Model: Versa Drill 2000			
Date: 4/19/2005			
GEOLOGIC LOG*			
Depth (ft.)	Description		
0-22.4	See boring log for MW-12 and MW-16 for overburden description		
22.4-39.0	Dolostone Bedrock		
WELL DESIGN			
		Bottom of Borehole 39 feet	
CASING MATERIAL		SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)		Type: Open Hole	Type:
Monitor: 4" Carbon Steel			Setting:
		Slot Size:	SEAL MATERIAL
			Type 1:
			Setting:
			Type 1:
			Setting:
COMMENTS:		ROCK CORING	LEGEND
		Cored Interval: None	Cement/Bentonite Grout
		Core Diameter:	
		Reamed Diameter: 3 7/8"	
Client: NYSDEC		Location: Chem Core	Project No.: 11173755.84000
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D5

DRILLING SUMMARY	
Geologist: Scott McCabe	
Drilling Co. American Auger	
Operator: Rocky Baye	
Model: Versa Drill 2000	
Date: 4/19/2005	
GEOLOGIC LOG*	
Depth (ft.)	Description
0-22.5	See boring log for MW-12 and MW-16 for overburden description
22.5-39.0	Dolostone Bedrock
WELL DESIGN	

DEPTH

Protective Casing and Lockable Cap

Concrete Skirt

Ground Level

Steel Outer Casing
4 inch diameter
24.5 feet length

Augerhole Diameter
6 inches

Rock Socket Diameter
6 inches

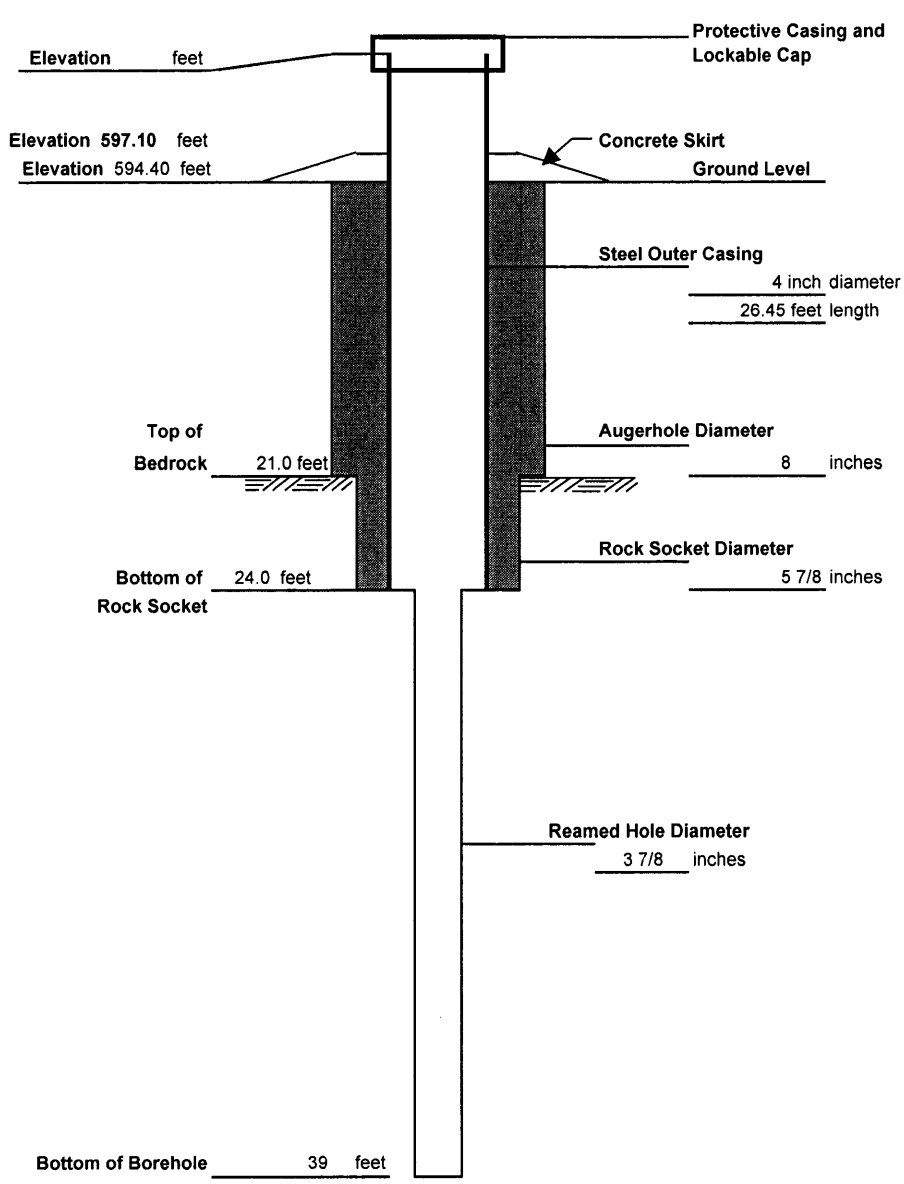
Reamed Hole Diameter
3 7/8 inches

Top of Bedrock 22.5 feet

Bottom of Rock Socket 24.5 feet

Bottom of Borehole 39 feet

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel	Slot Size:	SEAL MATERIAL
		Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: IW-D6

DRILLING SUMMARY		 Elevation _____ feet Elevation 597.10 feet Elevation 594.40 feet Top of Bedrock 21.0 feet Bottom of Rock Socket 24.0 feet Bottom of Borehole 39 feet Protective Casing and Lockable Cap Concrete Skirt Ground Level Steel Outer Casing 4 inch diameter, 26.45 feet length Augerhole Diameter 8 inches Rock Socket Diameter 5 7/8 inches Reamed Hole Diameter 3 7/8 inches			
Geologist: Scott McCabe					
Drilling Co. Nothnagle Drilling Inc.					
Operator: K. Busch					
Model: BK-81					
Date: 7/26/2004					
GEOLOGIC LOG*		D E P T H			
Depth (ft.)	Description				
0-7.0	FILL: Silty Clay, ash cinder, slag, brick, wood, gravel.				
7.0-9.0	CL; Silty Clay				
9.0-16.5	ML; Clayey Silt				
16.5-20.5	ML; Fine sandy silt/silty fine sand				
21.0-33.8	Fine grained dolostone				
33.8-39.0	Fine grained argillaceous dolostone to shaley dolostone.				
WELL DESIGN					
CASING MATERIAL				SCREEN MATERIAL	FILTER MATERIAL
Surface: 4" Steel protective cover (Stick-up)				Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel				Slot Size:	SEAL MATERIAL
Type 1: Setting: Type 1: Setting:					
COMMENTS:		ROCK CORING	LEGEND		
* - Detailed Geologic Description in Corresponding Well Boring Log		Cored Interval: 21.0'-39.0'	 Cement/Bentonite Grout		
		Core Diameter: NX			
		Reamed Diameter: 3 7/8"			
Client: NYSDEC		Location: Chem Core	Project No.: 11173754.84000		
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: MW-18		

DRILLING SUMMARY	
Geologist:	Scott McCabe
Drilling Co.	American Auger
Operator:	Rocky Baye
Model:	Versa Drill 2000
Date:	4/21/2005
GEOLOGIC LOG*	
Depth (ft.)	Description
0-4.5	See boring log for MW-8S and for overburden description
4.5-27.0	Dolostone Bedrock
WELL DESIGN	

DEPTH

Protective Casing and Lockable Cap

Concrete Skirt

Ground Level

Steel Outer Casing
4 inch diameter
7.5 feet length

Augerhole Diameter
6 inches

Rock Socket Diameter
6 inches

Reamed Hole Diameter
3 7/8 inches

Top of Bedrock
4.5 feet

Bottom of Rock Socket
7.5 feet

Bottom of Borehole
27 feet

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	Type: Open Hole	Type: Setting:
Monitor: 4" Carbon Steel	Slot Size:	SEAL MATERIAL
		Type 1: Setting: Type 1: Setting:
COMMENTS:	ROCK CORING	LEGEND
	Cored Interval: None Core Diameter: Reamed Diameter: 3 7/8"	Cement/Bentonite Grout
Client: NYSDEC	Location: Chem Core	Project No.: 11173755.84000
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well No.: MW-19

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					
SAMPLE										DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	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				5 3				4'-4.5': FILL; Clayey Silt trace cinder/ash		0					
		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. trace coarse sand.	CL	0					
10				3 5	75.0%	Br. Gray R. Brown	Soft			0					
		6	SS	2 4	100.0%					0					
			6 8												
		7	SS	4 8	100.0%		Stiff	12-18': ML; Clayey Silt, trace coarse sand and fine to medium gravel. (SA-SR)	ML	0	Not water loss 125 gallons water loss				
15			11 15						0						
	8	SS	4 9	100.0%					0						
			10 20						0						
	9	SS	10 17	100.0%	Olive Green Brown	V. Stiff	-some f. sand, few wet silty sand lenses		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						
20			28 30						0						
		11	SS	50/3"	100.0%					0					
		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															
		C3	NX (33.5'-38.5')	5.0 5.0	100.0% 83.0%										
35															
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-16					
CLIENT: NYSDEC										SHEET: 2 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					
SAMPLE										DESCRIPTION				REMARKS	
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC%	COLOR	CONSISTENCY	MATERIAL DESCRIPTION	USCS	PID					
					RQD%		HARDNESS								
		C3	NX (33.5'-38.5')	5.0	5.0	100.0% 83.0%	Dk Gray Brn	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-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 FEET	SAMPLE				DESCRIPTION					REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	PID			
1		1	SS	3 49	50.0%	R. Brown Black gry/wh R. Brown	M. Stiff	FILL: Silty Clay to 0.5' then concrete to 1' 1-4': FILL; Ash, cinder, slag brick and wood. 4-7': FILL; Silty Clay, trace wood, fine gravel.		0	Moist		
				9 5								0	
		2	SS	4 4	75.0%							0	
				7 5								0	
5		3	SS	5 2	75.0%	R. Brown	Stiff	7-9': CL; Silty CLAY, thickly laminated, trace fine gravel.	CL	0			
				4 4								0	
		4	SS	7 10	100.0%							0	
				15 12								0	
10		5	SS	6 7	100.0%	R. Brown	Stiff V. Stiff	9-16.5': ML: Clayey SILT, massive, trace fine gravel. -trace fine sand -trace f-m angular to subrounded gravel.	ML	0			
				9 11								0	
		6	SS	2 17	100.0%							0	
				15 12								0	
15		7	SS	12 9	100.0%	Lt. Brown	Stiff	15.8-16' Fine sand, trace silt.		0			
				50/2" -								0	
		8	SS	7 12	75.0%							0	
				14 17								0	
20		9	SS	11 19	100.0%	Lt. Brown	Hard V. Stiff	16.5-20.5: ML; Fine sandy silt/silty fine sand, trace angular-subrounded gravel.		0	moist to very moist		
				48 44								0	
		10	SS	10 12	75.0%							0	
				31 27								0	
		11	SS	27 100/6"	50.0%	Lt. Brown	Hard	20.5-21': Bedrock fragments		0			
												0	
		C1	NX (21.0'-24.0')	2.8 3	93.3% 61.7%							0	
												0	
25						Lt. Brown to Brown		21.0-33.8': Fine grained dolomite, most breaks at stylonitic contacts, black carbonaceous partings. Typ. 2-4". - approx. 6" void at 29.0'	Broken	ND	Lost 20 gallons		
		C2	NX (24.0'-34.0')	9.5 10.0	95.0% 71.0%								
30						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		
		C3	NX (34.0-39.0')	5.0 5.0	100.0% 80.0%								

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

URS Corporation										WELL BORING LOG			
PROJECT: Chem Core PDI										BORING NO: MW-18			
CLIENT: NYSDEC										SHEET: 2 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			
SAMPLE					DESCRIPTION					REMARKS			
DEPTH	STRATA	NO.	TYPE	BLOWS	REC%		CONSISTENCY	MATERIAL	USCS	PID			
FEET				PER 6"	RQD%	COLOR	HARDNESS	DESCRIPTION					
		C3	NX (34.0'-39.0')	5.0	100.0% 80.0%	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	ND	Very Broken 37.75-38.1'.		
40								End of Boring @ 39.0' 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-18			
4" Diameter Steel Casing set @ 24.0' BGS, Open rock hole reamed to 3 7/8" to 39.0'.													

APPENDIX B

WELL DEVELOPMENT LOGS

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A1

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.50</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.52</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.98</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>50</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40	50						
pH	8.97	8.36	7.81	7.55	7.57	7.53						
SPEC. COND. (uS)	820	810	850	920	950	980						
TEMPERATURE (°F)	63.2	62.1	59.3	58.3	56.2	56.5						
TURBIDITY (NTU)	951	541	419	100	35	16						

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A2

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.45	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	24.89	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.56	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	9.6	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	60	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40	50	60					
pH	11.15	9.97	8.84	8.27	8.00	7.78	7.67					
SPEC. COND. (uS)	3800	750	850	950	960	980	990					
TEMPERATURE (°F)	58.7	58.3	57.8	57.6	57.2	55.5	55.3					
TURBIDITY (NTU)	>1000	788	307	82	32	29	12					

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A3

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.60</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.61</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.99</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>60</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40	50	60					
pH	12.41	9.97	8.40	7.70	7.71	7.53	7.47					
SPEC. COND. (uS)	1061	750	870	900	920	930	950					
TEMPERATURE (°F)	66.9	61.8	59.6	59	57.4	57.2	51.4					
TURBIDITY (NTU)	>1000	>1000	312	115	45	14	9					

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A4

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.40</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.65</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.75</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.1</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>70</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40	50	60	70				
pH	12.38	9.57	8.36	7.84	7.70	7.55	7.44	7.40				
SPEC. COND. (uS)	1770	800	900	900	890	920	920	910				
TEMPERATURE (°F)	57.7	57.2	56.6	57.7	57.5	56.4	56.1	57.3				
TURBIDITY (NTU)	>1000	>1000	1000	759	393	130	33	21				

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A5

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.74</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.95</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>14.79</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.8</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>50</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40	50						
pH	8.21	7.94	7.30	7.32	7.29	7.27						
SPEC. COND. (uS)	640	1050	1070	1090	1100	1160						
TEMPERATURE (°F)	63.1	56.9	58.9	56.1	56.2	57.3						
TURBIDITY (NTU)	>1000	>1000	326	187	57	47						

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-A6

PROJECT NO.: 11173755.84000

STAFF: S. Mccabe

DATE(S): 4/26/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.93</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.19</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>15.74</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>10.4</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>50</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40	50						
pH	8.64	7.56	7.37	7.23	7.21	7.19						
SPEC. COND. (uS)	630	1010	1200	1280	1280	1290						
TEMPERATURE (°F)	62.2	58.9	56.3	56.7	57.1	57.4						
TURBIDITY (NTU)	>1000	>1000	670	200	69	44						

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B1

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.47</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.13</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.34</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>6.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.12	7.48	7.42	7.48	7.56							
SPEC. COND. (uS)	1405	1300	1345	1420	1460							
TEMPERATURE (°F)	52.1	52.2	51.65	56.7	57.1							
TURBIDITY (NTU)	>1000	>1000	354	125	35							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B2

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.95</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.34</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.61</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.3</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.26	7.23	7.19	7.25	7.31							
SPEC. COND. (uS)	1105	1200	1283	1350	1400							
TEMPERATURE (°F)	52.9	53.4	53.1	53.7	54.5							
TURBIDITY (NTU)	>1000	695	388	46	21							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B3

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.72</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.69</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.03</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.6</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.62	7.43	7.43	7.37	7.34							
SPEC. COND. (uS)	940	980	1010	1000	1030							
TEMPERATURE (°F)	60.9	57.1	56.8	60	60.3							
TURBIDITY (NTU)	>1000	162	13	6	11							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B4

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.71</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.70</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>14.01</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	8.12	7.44	7.36	7.42	7.39							
SPEC. COND. (uS)	930	940	970	1000	1010							
TEMPERATURE (°F)	65.3	59	56.8	58	57.6							
TURBIDITY (NTU)	>1000	180	8	6	3							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B5

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.85</u>	WELL ID. 1"	VOL. (GAL/FT) 0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.75</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>15.10</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>10.0</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x #6)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.50	7.46	7.45	7.48	7.53							
SPEC. COND. (uS)	920	960	960	960	980							
TEMPERATURE (°F)	59.3	58.8	58.7	58.9	58.4							
TURBIDITY (NTU)	>1000	61	47	11	15							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-B6

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.55</u>	WELL ID.	VOL. (GAL/FT)
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.84</u>	1"	0.04
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>14.71</u>	2"	0.17
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	3"	0.38
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.7</u>	4"	0.66
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	5"	1.04
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	6"	1.50
			8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.58	7.34	7.27	7.26	7.28							
SPEC. COND. (uS)	1040	1020	980	1000	990							
TEMPERATURE (°F)	58.2	57.9	57.7	57.1	56.4							
TURBIDITY (NTU)	>1000	>1000	158	96	20							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C1

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.10</u>	WELL ID. 1"	VOL. (GAL/FT) 0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.25</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.85</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.5</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60

OR
V=0.0408 x (CASING DIAMETER)²

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.21	7.20	7.19	7.21	7.25							
SPEC. COND. (uS)	2500	2500	2500	2500	2400							
TEMPERATURE (°F)	54.3	54.1	53.7	53.1	52.9							
TURBIDITY (NTU)	>1000	793	126	24	19							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C2

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.15</u>	WELL ID. 1"	VOL. (GAL/FT) 0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.22</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.93</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60

OR
V=0.0408 x (CASING DIAMETER)²

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	8.61	7.44	7.28	7.22	7.17							
SPEC. COND. (uS)	370	2200	2600	2600	2400							
TEMPERATURE (°F)	54.5	54.9	55.1	54.3	55.2							
TURBIDITY (NTU)	>1000	553	66	21	18							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C3

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.90</u>	WELL ID. 1"	VOL. (GAL/FT) 0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>27.20</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>11.70</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>7.7</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.58	7.60	7.60	7.61	7.68							
SPEC. COND. (uS)	251	840	860	870	880							
TEMPERATURE (°F)	57.3	56.9	55.9	55.4	55.1							
TURBIDITY (NTU)	>1000	954	141	29	23							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C4

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.95</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.41</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.54</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.3</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	7.81	7.59	7.44	7.41	7.36							
SPEC. COND. (uS)	640	660	840	900	920							
TEMPERATURE (°F)	55.7	55.1	55	54.7	54.6							
TURBIDITY (NTU)	>1000	587	109	51	36							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C5

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.78</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.30</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.48</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.9</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>30</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30								
pH	7.96	7.89	7.68	7.63								
SPEC. COND. (uS)	330	800	860	880								
TEMPERATURE (°F)	57.6	58	57.5	57.1								
TURBIDITY (NTU)	464	131	36	27								

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-C6

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.60</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.20</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.40</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	8.63	9.12	7.92	7.90	7.86							
SPEC. COND. (uS)	310	330	820	860	890							
TEMPERATURE (°F)	57.9	57.1	57.5	57.6	57.8							
TURBIDITY (NTU)	>1000	>1000	142	47	23							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D1

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.78</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.40</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.38</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.31	7.20	7.25	7.19	7.21							
SPEC. COND. (uS)	1240	3400	3500	3500	3400							
TEMPERATURE (°F)	54.8	55.6	56.1	55.9	55.6							
TURBIDITY (NTU)	>1000	104	56	45	38							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D2

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.62</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.15</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.47</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40							
pH	7.41	7.39	7.11	7.28	7.19							
SPEC. COND. (uS)	1470	1400	1400	1400	1400							
TEMPERATURE (°F)	53.5	54.2	54.9	54.7	54.3							
TURBIDITY (NTU)	>1000	976	237	77	41							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D3

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.90</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.30</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.60</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.3</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	9.83	7.76	7.48	7.39	7.34							
SPEC. COND. (uS)	3620	1140	1170	1200	1280							
TEMPERATURE (°F)	55.7	55.3	55.1	55	54.8							
TURBIDITY (NTU)	>1000	920	180	29	23							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D4

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.55</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.31</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.24</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.7</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	7.58	7.54	7.32	7.40	7.36							
SPEC. COND. (uS)	950	850	850	900	920							
TEMPERATURE (°F)	55.9	55.3	55.4	55.6	55.1							
TURBIDITY (NTU)	>1000	869	218	68	41							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D5

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>38.80</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.40</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.40</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>8.8</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	7.93	7.95	7.55	7.57	7.55							
SPEC. COND. (uS)	360	570	840	870	890							
TEMPERATURE (°F)	59.9	58.3	60.3	58.3	57.7							
TURBIDITY (NTU)	>1000	>1000	111	47	13							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: IW-D6

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/22/05

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.00</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.05</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.2</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	8.86	9.03	7.93	7.79	7.73							
SPEC. COND. (uS)	1170	1190	1210	1220	1250							
TEMPERATURE (°F)	61.1	57.5	61.6	60.6	58.2							
TURBIDITY (NTU)	>1000	>1000	49	10	9							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-18

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 10/14/2005

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>39.10</u>	WELL ID.	VOL. (GAL/FT)
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>13.25</u>	1"	0.04
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>25.85</u>	2"	0.17
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	3"	0.38
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.1</u>	4"	0.66
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	5"	1.04
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>60</u>	6"	1.50
			8"	2.60
				OR
				$V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	5	10	15	20	25	30	35	40	45	50	55
pH	8.03	7.95	7.83	7.48	7.32	7.20	7.16	7.13	7.15	7.11	7.10	7.10
SPEC. COND. (uS)	1200	1300	1300	1300	1200	1200	1100	1100	1100	1100	1100	1100
TEMPERATURE (°F)	54.9	55.6	55.3	54.9	54.5	53.6	53.7	53.8	53.7	53.8	54.1	53.7
TURBIDITY (NTU)	>1000	565	219	176	79	51	43	19	11	6	3	1

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

Well developed performed after bricks were reamed from well casing (obstruction at 26.12' bgs) using 3 7/8-inch roller bit.

Well stick-up protective casing was cut down and a flush-munt protective casing was installed in a concrete pad.

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WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-18

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 10/14/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>27.71</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>13.28</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>14.43</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.5</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	60											
pH	7.10											
SPEC. COND. (uS)	1100											
TEMPERATURE (°F)	53.9											
TURBIDITY (NTU)	1											

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

Well developed performed after bricks were reamed from well casing (obstruction at 26.12' bgs) using 3 7/8-inch roller bit.

Well stick-up protective casing was cut down and a flush-munt protective casing was installed in a concrete pad.

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WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-19

PROJECT NO.: 11173755.84000

STAFF: S. McCabe

DATE(S): 4/26/05

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>27.71</u>	WELL ID. 1"	VOL. (GAL/FT) 0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>13.28</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>14.43</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.5</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>-</u>	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	<u>40</u>	8"	2.60
OR $V=0.0408 \times (\text{CASING DIAMETER})^2$				

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)											
	0	10	20	30	40							
pH	7.90	7.58	7.52	7.47	7.52							
SPEC. COND. (uS)	1390	1530	1520	1530	1490							
TEMPERATURE (°F)	59.5	55.9	55.9	55.9	54.7							
TURBIDITY (NTU)	>1000	96	19	6	3							

COMMENTS:

Well developed with submersible pump and dedicated/ disposable HDPE tubing.

APPENDIX C

PURGE LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8S

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling

Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

Measuring Point: Top of Riser Initial Depth to Water: 16.55 Depth to Well Bottom: 24.70 Well Diameter: 6" Screen Length:

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

Sample ID: MW-08S-WG Sample Time: 8:30 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.00 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
7:30	6.78	12.16	886	2.12	266	10	1000	16.55
7:35	6.96	12.20	886	2.02	251	6	1000	16.71
7:40	7.14	12.22	886	1.96	234	3	1000	16.83
7:45	7.25	12.23	886	1.93	146	4	1000	16.91
7:50	7.27	12.21	886	1.97	121	5	1000	17.51
7:55	7.36	12.22	886	1.97	114	5	1000	17.73
8:00	7.38	12.20	886	1.95	91	6	1000	17.91
8:05	7.41	12.22	887	1.95	67	4	1000	18.13
8:10	7.48	12.22	887	1.99	53	5	1000	18.25
8:15	7.51	12.15	887	2.03	48	-2	1000	18.31
8:20	7.53	12.26	887	2.01	31	-4	1000	18.47
8:25	7.54	12.23	886	2.00	19	-6	1000	18.53
8:30	7.55	12.22	887	2.03	11	-7	1000	18.66
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8D

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 17.81 Depth to Well
Bottom: 44.80 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 66.7 Estimated
Purge Volume
(liters):

Sample ID: MW-08D-WG Sample Time: 9:55 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.01 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:45	7.57	13.44	2240	0.00	87	-153	1000	17.81
8:50	7.47	13.33	2220	0.00	44	-180	1000	18.10
8:55	7.33	13.31	2200	0.00	27	-192	1000	18.11
9:00	7.38	13.28	2180	0.00	22	-202	1000	18.11
9:05	7.45	13.27	2150	0.00	18	-218	1000	18.11
9:10	7.41	13.23	2140	0.00	16	-228	1000	18.12
9:15	7.45	13.22	2130	0.00	14	-240	1000	18.13
9:20	7.45	13.23	2120	0.00	13	-250	1000	18.11
9:25	7.46	13.20	2120	0.00	12	-257	1000	18.11
9:30	7.47	13.19	2110	0.00	11	-267	1000	18.11
9:35	7.46	13.20	2110	0.00	9	-270	1000	18.11
9:40	7.48	13.21	2110	0.00	7	-271	1000	18.11
9:45	7.49	13.21	2110	0.00	6	-274	1000	18.11
9:50	7.49	13.20	2110	0.00	6	-276	1000	18.11
9:55	7.48	13.21	2110	0.00	7	-276	1000	18.11
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-12

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.14 Depth to Well
Bottom: 36.05 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 66.2 Estimated
Purge Volume
(liters):

Sample ID: MW-12-WG Sample Time: 13:25 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.62 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:05	7.42	13.73	520	0.00	557	-204	1000	24.14
12:15	7.31	13.83	520	0.00	470	-241	1000	24.75
12:25	7.28	13.89	520	0.00	278	-284	1000	25.45
12:35	7.34	13.94	521	0.00	205	-299	1000	25.71
12:45	7.37	13.96	524	0.00	126	-314	1000	25.86
12:55	7.39	14.07	526	0.00	77	-320	1000	26.13
13:05	7.39	14.04	527	0.00	49	-322	1000	26.41
13:10	7.39	14.05	530	0.00	35	-324	1000	26.50
13:15	7.38	14.11	532	0.00	28	-325	1000	26.51
13:20	7.37	14.07	534	0.00	31	-325	1000	26.53
13:25	7.36	14.03	536	0.00	32	-326	1000	26.55
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-16

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 25.40 Depth to Well
Bottom: 38.55 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 32.5 Estimated
Purge Volume
(liters):

Sample ID: MW-16-WG Sample Time: 14:05 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 11.0 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:35	7.57	13.96	783	0.00	599	-316	1000	25.40
13:40	7.40	13.95	754	0.00	321	-321	1000	26.32
13:45	7.30	14.29	753	0.00	137	-325	1000	26.55
13:50	7.25	14.36	754	0.00	176	-326	1000	26.57
13:55	7.16	14.10	759	0.00	95	-333	1000	26.59
14:00	7.14	14.10	756	0.00	62	-335	1000	26.58
14:05	7.12	14.11	761	0.00	50	-340	1000	26.61
14:10	7.10	14.12	777	0.00	43	-343	1000	26.71

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{cyl} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-18

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 23.15 Depth to Well
Bottom: 39.20 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 39.7 Estimated
Purge Volume
(liters):

Sample ID: Sample Time: 11:45 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 1.27 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:05	7.34	13.01	584	0.00	92.4	-133	1000	23.15
11:10	7.26	13.02	584	0.00	75.3	-133	1000	23.20
11:15	7.22	13.01	586	0.00	66.1	-131	1000	23.25
11:20	7.18	13.01	589	0.00	65.3	-130	1000	23.32
11:25	7.17	13.01	589	0.00	49.1	-129	1000	23.35
11:30	7.15	13.03	588	0.00	30	-129	1000	23.37
11:35	7.14	13.03	588	0.00	24	-128	1000	23.41
11:40	7.14	13.01	586	0.00	17	-128	1000	23.44
11:45	7.13	13.03	584	0.00	9	-128	1000	23.45
11:50	7.13	13.02	582	0.00	3	-128	1000	23.47

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-19

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 13.87 Depth to Well
Bottom: 27.84 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 34.5 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 10:40 QA/QC: MS/MSD

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 10.60mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has petroleum odor and sheen.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:10	7.41	10.26	804	0.63	3.72	-181	1000	13.87
10:15	7.31	10.22	753	0.14	389	-186	1000	13.99
10:20	7.01	10.23	773	2.53	220	-194	1000	14.13
10:25	6.97	10.25	803	1.62	142	-197	1000	14.15
10:30	6.95	10.26	812	1.79	81	-199	1000	14.17
10:35	6.93	10.31	837	1.65	53	-204	1000	14.18
10:40	6.92	10.32	861	1.47	42	-207	1000	14.19
10:45	6.95	10.31	849	1.41	36	-211	1000	14.17
10:50	6.95	10.32	853	1.46	25	-216	1000	14.18
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core **Site:** Chem-Core **Well I.D.:** IW-A2

Date: 4/11/06 **Sampling Personnel:** Scott McCabe **Company:** URS Corporation

Purging/ Sampling Device:	Whale submersible pump	Tubing Type: High Density Polyethylene	Pump/Tubing Inlet Location:	~1-2 feet off bottom
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Measuring Point:	Top of Riser	Initial Depth to Water:	24.90	Depth to Well Bottom:	39.19	Well Diameter:	4"	Screen Length:
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Casing Type:	Steel	Volume in 1 Well Casing (liters):	35.3	Estimated Purge Volume (liters):
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Sample ID: MW-19-WG Sample Time: 14:50 QA/QC:

Sample Paramaters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 19.4 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:25	7.68	13.75	716	0.00	794	-341	1000	24.90
14:30	7.58	13.82	715	0.00	521	-356	1000	25.23
14:35	7.25	13.85	729	0.00	338	-363	1000	25.71
14:40	6.95	13.85	750	0.00	147	-375	1000	25.97
14:45	6.84	13.88	761	0.00	86	-390	1000	26.13
14:50	6.75	13.85	789	0.00	64	-425	1000	26.37
14:55	6.76	13.81	804	0.00	52	-440	1000	26.41
15:00	6.71	13.84	810	0.00	44	-445	1000	26.48
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A5

Date: 4/11/06 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling

Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

Measuring Point: Top of Riser Initial Depth to Water: 24.23 Depth to Well Bottom: 38.97 Well Diameter: 4" Screen Length:

Casing Type: Steel Volume in 1 Well Casing (liters): 36.4 Estimated Purge Volume (liters):

Sample ID: MW-19-WG Sample Time: 16:40 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 2.31 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:15	7.29	13.81	791	0.00	>1000	-360	1000	24.27
15:20	7.25	13.76	772	0.00	852	-367	1000	24.56
15:25	7.09	13.75	754	0.00	521	-371	1000	24.81
15:30	6.87	13.75	745	0.00	246	-371	1000	25.03
15:35	6.76	13.72	745	0.00	81	-371	1000	25.29
15:40	6.72	13.70	739	0.00	63	-374	1000	25.25
15:45	-	-	-	-	-	-	-	-
15:50	-	-	-	-	-	-	-	-
15:55	6.70	13.69	730	0.00	32	-380	1000	25.36
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8S

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 15.62 Depth to Well
Bottom: 24.67 Well
Diameter: 6" Screen
Length:

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

Sample ID: MW-08S-GW Sample Time: 8:00 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.18 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
7:30	6.60	14.4	1350	8.04	166	-4	1000	15.62
7:35	7.12	14.5	1320	3.30	56	-43	1000	16.13
7:40	7.18	14.6	1320	3.02	43	-49	1000	16.42
7:45	7.31	14.6	1320	2.72	17	-59	1000	17.51
7:50	7.36	14.6	1320	2.64	6	-60	1000	18.32
7:55	7.42	14.6	1320	2.55	9	-68	1000	18.93
8:00	7.46	14.6	1320	2.56	8	-69	1000	19.15
8:05	7.48	14.6	1320	2.54	12	-73	1000	19.62
8:10	7.56	14.6	1320	2.52	16	-75	1000	20.15
8:15	7.56	14.6	1320	2.51	17	-81	1000	-
8:20	7.59	14.6	1320	2.45	6	-84	1000	-
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8D

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 18.44 Depth to Well
Bottom: 44.75 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 65.0 Estimated
Purge Volume
(liters):

Sample ID: MW-08D-WG Sample Time: 9:35 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.36 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:30	7.41	14.1	2110	3.83	126	-192	1000	18.49
8:35	7.42	14.0	2130	2.51	43	-197	1000	18.61
8:40	7.43	14.0	2140	1.86	4	-200	1000	18.95
8:45	7.43	14.0	2140	1.73	8	-204	1000	19.15
8:50	7.45	14.1	2140	1.69	11	-212	1000	19.22
8:55	7.47	14.1	2110	1.51	14	-231	1000	19.25
9:00	7.53	14.2	2070	1.38	15	-248	1000	19.30
9:05	7.54	14.2	2050	1.38	19	-255	1000	19.32
9:10	7.54	14.2	2050	1.36	24	-261	1000	19.35
9:15	7.56	14.2	2050	1.33	22	-281	1000	19.37
9:20	7.58	14.2	2050	1.29	21	-296	1000	19.41
9:25	7.60	14.2	2040	1.25	17	-306	1000	19.44
9:30	7.61	14.2	2040	1.24	15	-308	1000	19.51
9:35	7.62	14.2	2040	1.21	11	-312	1000	-
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-12

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 23.01 Depth to Well
Bottom: 36.09 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 72.7 Estimated
Purge Volume
(liters):

Sample ID: MW-12-WG Sample Time: 13:20 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 7.9 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:00	7.45	12.6	520	3.65	120	-290	1000	23.01
12:05	7.50	12.7	910	2.03	89	-313	1000	23.90
12:10	7.51	12.7	910	1.80	78	-319	1000	23.95
12:15	7.52	12.7	910	1.60	66	-325	1000	24.19
12:20	7.53	12.7	900	1.46	59	-329	1000	24.25
12:25	7.53	12.8	900	1.37	43	-332	1000	24.40
12:30	7.53	12.8	899	1.06	39	-338	1000	24.88
12:35	7.53	12.9	1000	0.88	35	-339	1000	25.01
12:40	7.52	12.9	899	0.85	33	-341	1000	25.45
12:45	7.54	12.9	895	0.86	32	-341	1000	25.91
12:50	7.52	13.0	864	0.80	28	-340	1000	25.89
12:55	7.52	13.0	879	0.85	25	-328	1000	25.91
13:00	7.51	13.0	865	0.90	20	-315	1000	25.95
13:05	7.50	13.0	844	0.93	17	-308	1000	25.99
13:10	7.52	13.0	845	0.95	15	-307	1000	25.91
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-16

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.51 Depth to Well
Bottom: 38.50 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 34.6 Estimated
Purge Volume
(liters):

Sample ID: MW-16-WG Sample Time: 14:05 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 7.40 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:30	7.56	13.1	1150	2.46	267	-318	1000	24.51
13:35	7.54	13.2	1140	1.81	35	-336	1000	25.05
13:40	7.53	13.2	1130	1.50	35	-343	1000	25.11
13:45	7.53	13.4	1060	1.36	41	-349	1000	25.20
13:50	7.54	13.4	1040	1.36	30	-342	1000	25.25
13:55	7.55	13.4	1040	1.36	25	-341	1000	25.31
14:00	7.55	13.5	1040	1.35	23	-343	1000	25.34
14:05	7.55	13.4	1030	1.33	21	-345	1000	25.37
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{cul} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-18

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 22.35 Depth to Well
Bottom: 39.20 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 41.6 Estimated
Purge Volume
(liters):

Sample ID: Sample Time: 11:45 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.56 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:00	7.76	11.6	1010	8.28	44	-213	1000	22.35
11:05	7.54	11.8	990	3.49	40	-215	1000	22.51
11:10	7.50	11.9	970	2.28	31	-218	1000	22.57
11:15	7.51	11.9	980	2.02	5	-216	1000	22.63
11:20	7.50	12.0	980	1.91	3	-214	1000	22.70
11:25	7.50	12.0	980	1.90	1	-214	1000	22.72
11:30	7.49	12.0	980	1.88	0	-214	1000	22.75
11:35	7.48	12.0	980	1.85	0	-215	1000	22.73
11:40	7.49	12.0	980	1.82	0	-215	1000	22.71
11:45	7.49	12.0	980	1.80	0	-216	1000	22.70
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-19

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 13.20 Depth to Well
Bottom: 27.90 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 36.3 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 10:40 QA/QC: MS/MSD

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 9.60mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has petroleum odor and sheen.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:00	7.65	12.9	1210	5.33	186	-280	1000	13.20
10:05	7.47	13.3	1430	1.78	158	-300	1000	13.41
10:10	7.46	13.3	1450	1.66	97	-304	1000	13.73
10:15	7.44	13.3	1570	1.55	72	-311	1000	13.78
10:20	7.43	13.4	1680	1.47	54	-316	1000	13.91
10:25	7.43	13.4	1770	1.43	48	-319	1000	14.03
10:30	7.43	13.4	1750	1.40	30	-321	1000	14.17
10:35	7.43	13.4	1790	1.38	29	-322	1000	14.15
10:40	7.43	13.4	1810	1.36	24	-326	1000	14.29
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{ca} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A2

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 24.10 Depth to Well
Bottom: 39.36 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 37.7 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 14:50 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 16.1 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:10	7.33	12.5	2360	3.31	356	-377	1000	24.10
14:15	7.35	12.7	1720	1.86	710	-379	1000	24.59
14:20	7.65	12.9	1170	1.15	353	-413	1000	24.78
14:25	7.63	12.9	1150	1.09	327	-425	1000	24.83
14:30	7.53	12.9	1140	1.08	192	-454	1000	24.85
14:35	7.52	13.0	1140	1.08	85	-454	1000	24.87
14:40	7.51	13.0	1140	1.06	48	-461	1000	24.91
14:45	7.51	13.0	1150	1.07	37	-461	1000	24.94
14:50	7.51	13.0	1150	1.07	31	-461	1000	24.99
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A5

Date: 12/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 23.12 Depth to Well
Bottom: 38.96 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 39.1 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 16:40 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 1.02 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:00	7.41	12.5	1310	3.01	276	-373	1000	23.12
16:05	7.45	12.6	1250	1.87	200	-378	1000	24.11
16:10	7.47	12.7	1180	1.56	123	-377	1000	24.20
16:15	7.48	12.8	1110	1.35	96	-373	1000	24.20
16:20	7.48	12.9	1070	1.19	47	-370	1000	24.21
16:25	7.47	12.9	1060	1.11	45	-372	1000	24.20
16:30	7.47	12.9	1060	1.10	36	-372	1000	24.20
16:35	7.46	12.9	1050	1.08	30	-372	1000	24.20
16:40	7.46	12.9	1050	1.07	24	-373	1000	24.21

Tolerance: | 0.1 | --- | 3% | 10% | 10% | + or - 10 | --- |

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol_{cm} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8S

Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 16.73 Depth to Well
Bottom: 24.51 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 43.3 Estimated
Purge Volume
(liters):

Sample ID: MW-08S-WG Sample Time: 8:30 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.82 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
7:45	7.17	14.59	920	9.80	18	-173	1000	
7:50	7.65	14.73	992	1.89	9	-232	1000	
7:55	7.75	14.79	995	1.24	6	-238	1000	
8:00	7.82	14.84	999	1.34	4	-252	1000	
8:05	7.96	14.95	997	1.11	10	-263	1000	
8:10	7.88	15.11	999	0.98	18	-270	1000	
8:15	7.91	15.22	977	0.80	19	-271	1000	
8:20	7.93	15.53	970	0.98	20	-279	1000	
8:25	7.95	15.37	965	1.03	16	-276	1000	
8:30	7.93	15.35	961	1.11	15	-269	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8D

Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 17.45 Depth to Well
Bottom: 44.65 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 67.2 Estimated
Purge Volume
(liters):

Sample ID: MW-08D-WG Sample Time: 10:00 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.86 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:50	7.88	13.42	1850	2.56	41	-280	1000	
9:00	7.83	13.49	1790	3.89	33	-288	1000	
9:10	7.85	14.03	1840	4.06	22	-289	1000	
9:20	7.83	14.21	1860	4.31	20	-299	1000	
9:30	7.82	14.65	1870	4.57	25	-319	1000	
9:40	7.81	14.71	1890	3.70	32	-334	1000	
9:50	7.85	14.89	1910	2.53	13	-337	1000	
10:00	7.91	15.00	1930	1.97	9	-354	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-12
 Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.00 Depth to Well
Bottom: 36.40 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 69.0 Estimated
Purge Volume
(liters):

Sample ID: MW-12-WG Sample Time: 13:45 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 3.19 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (μmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:10	7.54	12.49	911	16.49	>1000	-269	1000	
12:20	7.63	12.41	866	14.50	999	-317	1000	
12:30	7.83	12.49	859	13.27	850	-326	1000	
12:40	7.83	12.51	842	13.08	701	-321	1000	
12:50	7.73	12.58	811	17.19	444	-.326	1000	
13:00	7.74	12.53	775	15.88	261	-332	1000	
13:10	7.74	12.59	754	15.10	118	-334	1000	
13:20	7.73	12.67	734	14.24	78	-337	1000	
13:30	7.72	13.04	717	13.29	30	-339	1000	
13:40	7.68	13.14	714	11.63	19	-331	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
 4 inch diameter well = 2470 ml/ft (vol _{cy} = πr²h)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-12
 Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
 Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 24.00 Depth to Well
Bottom: 36.40 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 69.0 Estimated
Purge Volume
(liters):

Sample ID: MW-12-WG Sample Time: 13:45 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 3.19 mg/L

Ferrous Iron sample was diluted by a factor of 2 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:10	7.54	12.49	911	16.49	>1000	-269	1000	
12:20	7.63	12.41	866	14.50	999	-317	1000	
12:30	7.83	12.49	859	13.27	850	-326	1000	
12:40	7.83	12.51	842	13.08	701	-321	1000	
12:50	7.73	12.58	811	17.19	444	-326	1000	
13:00	7.74	12.53	775	15.88	261	-332	1000	
13:10	7.74	12.59	754	15.10	118	-334	1000	
13:20	7.73	12.67	734	14.24	78	-337	1000	
13:30	7.72	13.04	717	13.29	30	-339	1000	
13:40	7.68	13.14	714	11.63	19	-331	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-16
 Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 25.80 Depth to Well
Bottom: 38.45 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 31.3 Estimated
Purge Volume
(liters):

Sample ID: MW-16-WG Sample Time: 14:30 QA/QC: MS/MSD

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 16.4 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:50	7.73	12.52	951	1.92	>100	-227	1000	
13:55	7.75	12.50	956	1.55	>1000	-233	1000	
14:00	7.61	12.99	941	1.21	630	-241	1000	
14:05	7.45	13.01	936	1.19	410	-256	1000	
14:10	7.36	13.00	923	0.73	222	-270	1000	
14:15	7.61	12.94	879	0.48	112	-315	1000	
14:20	7.66	12.91	867	0.37	97	-315	1000	
14:25	7.64	12.87	859	0.41	61	-313	1000	
14:30	7.60	12.89	853	0.49	43	-316	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-18

Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring Point: Top of Riser Initial Depth to Water: _____ Depth to Well Bottom: _____ Well Diameter: 4" Screen Length: _____

Casing Type:	<u>Steel</u>	Volume in 1 Well Casing (liters):	<u>0.0</u>	Estimated Purge Volume (liters):	
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Sample ID: _____ Sample Time: _____ QA/QC: _____

Sample Parameters: Obstruction in well casing at 26.12' bgs. Water was not encountered above the obstruction.

Other Information: The lockable cap was broken off and a pile of bricks was setting next to the well.

PURGE PARAMETERS

[illegible]

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft;
4 inch diameter well = 2470 ml/ft (vol $\text{cm}^3 = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-19
 Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 14.10 Depth to Well
Bottom: 27.76 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 33.8 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 10:50 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colorimetric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 14.1 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has petroleum odor and sheen.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:15	7.59	16.04	1800	4.12	44	-226	1000	
10:20	7.70	16.03	1780	1.67	26	-280	1000	
10:25	7.73	16.17	1530	0.99	11	-298	1000	
10:30	7.74	16.14	1510	0.90	8	-308	1000	
10:35	7.76	16.13	1510	0.84	6	-320	1000	
10:40	7.84	16.11	1520	0.77	4	-354	1000	
10:45	7.93	16.13	1530	0.70	4	-395	1000	
10:50	8.00	16.15	1550	0.68	4	-408	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A2

Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring Point: Top of Riser Initial Depth to Water: 25.15 Depth to Well Bottom: 39.45 Well Diameter: 4" Screen Length: _____

Casing Type:	<u>Steel</u>	Volume in 1 Well Casing (liters):	<u>35.3</u>	Estimated Purge Volume (liters):	
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Sample ID: MW-19-WG Sample Time: 15:30 QA/QC: _____

Sample Paramaters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 19.0 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:45	8.16	12.28	2340	1.93	684	-362	1000	
14:50	8.23	12.30	1700	1.43	298	-365	1000	
14:55	8.13	13.19	1220	1.91	106	-384	1000	
15:00	7.98	13.21	970	1.94	76	-391	1000	
15:05	8.10	13.05	878	1.71	65	-422	1000	
15:10	8.20	13.09	877	1.10	58	-456	1000	
15:15	8.25	13.05	874	0.95	43	-463	1000	
15:20	8.30	13.06	876	0.77	39	-470	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A5
 Date: 9/21/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.44 Depth to Well
Bottom: 38.81 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 35.5 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 16:25 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 16.3 mg/L

Ferrous Iron sample was diluted by a factor of 10 to get results. Purge water has strong hydrogen sulfide odor.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:45	8.07	11.90	1580	3.29	>1000	-361	1000	
15:50	8.08	11.88	1440	1.90	821	-371	1000	
15:55	8.14	11.89	902	1.25	379	-442	1000	
16:00	8.37	11.90	838	1.09	187	-458	1000	
16:05	8.33	11.90	813	0.97	124	-465	1000	
16:10	8.37	11.90	791	0.89	97	-464	1000	
16:15	8.39	11.91	784	0.79	72	-463	1000	
16:20	8.35	11.94	778	0.72	53	-461	1000	
16:25	8.33	11.96	773	0.69	47	-459	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8S
 Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 15.98 Depth to Well
Bottom: 24.42 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 46.9 Estimated
Purge Volume
(liters):

Sample ID: MW-08S-WG Sample Time: 10:30 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.05 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:30	6.43	10.30	1380	9.48	247	158	1000	
9:35	6.82	10.40	1390	9.04	161	125	1000	
9:40	6.96	10.40	1380	5.16	133	113	1000	
9:45	6.98	10.40	1380	4.25	116	105	1000	
9:50	7.00	10.40	1411	3.97	82	100	1000	
9:55	7.00	10.40	1380	3.93	68	99	1000	
10:00	7.02	10.50	1380	3.80	54	95	1000	
10:05	7.06	10.50	1380	3.70	46	88	1000	
10:10	7.03	10.50	1370	3.71	45	81	1000	
10:15	7.08	10.60	1360	3.78	43	74	1000	
10:20	7.05	10.50	1350	3.69	41	71	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-8D

Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 15.50 Depth to Well
Bottom: 44.55 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 71.8 Estimated
Purge Volume
(liters):

Sample ID: MW-08D-WG Sample Time: 12:30 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.02 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1050	7.25	11.70	3120	7.51	83	-208	1000	
1100	6.98	11.90	3050	2.58	70	-228	1000	
1110	6.93	11.60	2070	2.52	23	-206	1000	
1120	6.92	11.60	1990	2.37	60	-197	1000	
1130	6.91	11.50	1900	2.29	18	-196	1000	
1140	6.91	11.70	1880	2.25	19	-194	1000	
1150	6.91	11.40	1850	2.14	22	-194	1000	
1200	6.91	11.40	1840	2.03	31	-196	1000	
1210	6.91	11.40	1840	1.97	33	-195	1000	
1220	6.91	11.40	1830	1.95	34	-194	1000	
1230	6.90	11.40	1820	1.94	28	-194	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-12
 Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 23.50 Depth to Well
Bottom: 35.90 Well
Diameter: 6" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 69.0 Estimated
Purge Volume
(liters):

Sample ID: MW-12-WG Sample Time: 15:30 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.03 mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1430	7.16	11.70	791	9.64	538	79	1000	
1440	6.92	11.70	798	6.80	360	79	1000	
1450	6.91	11.70	802	5.80	184	80	1000	
1500	6.92	11.90	982	7.40	76	66	1000	
1510	6.91	11.90	983	6.80	53	67	1000	
1520	6.91	11.90	974	6.40	48	68	1000	
1530	6.89	11.90	972	6.30	46	67	1000	
1540	6.87	11.90	970	5.90	33	69	1000	
1550	6.87	11.90	969	4.80	27	68	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-16

Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 26.34 Depth to Well
Bottom: 38.50 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 30.1 Estimated
Purge Volume
(liters):

Sample ID: MW-16-WG Sample Time: 16:40 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.05mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1600	6.99	12.40	1110	5.30	531	32	1000	
1605	6.98	12.40	1130	5.20	125	32	1000	
1610	6.95	12.40	1130	5.10	112	28	1000	
1615	6.91	12.40	1120	5.00	65	23	1000	
1620	6.90	12.40	1120	4.80	50	23	1000	
1625	6.91	12.40	1110	4.80	61	21	1000	
1630	6.90	12.40	1110	4.60	47	20	1000	
1635	6.88	12.40	1110	4.50	40	18	1000	
1640	6.89	12.40	1110	4.50	38	18	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-18
 Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Tubing Type: High Density Polyethylene Pump/Tubing
Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.60 Depth to Well
Bottom: 41.50 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 41.8 Estimated
Purge Volume
(liters):

Sample ID: MW-18-WG Sample Time: 14:15 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.26mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1345	6.92	11.80	1270	4.52	321	-120	1000	
1350	6.91	11.80	1270	4.25	129	-125	1000	
1355	6.90	11.80	1270	3.33	91	-133	1000	
1400	6.89	11.70	1240	2.73	48	-131	1000	
1405	6.89	11.80	1230	2.67	26	-127	1000	
1410	6.89	11.70	1230	2.61	19	-125	1000	
1415	6.89	11.70	1220	2.52	15	-124	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: MW-19

Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Inlet Location: ~1-2 feet off bottom
Tubing Type: High Density Polyethylene

Measuring
Point: Top of Riser Initial Depth
to Water: 12.92 Depth to Well
Bottom: 27.70 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 36.5 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 13:30 QA/QC: MS and MSD samples

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.00mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1250	6.97	9.80	1740	5.73	2	-79	1000	
1255	6.92	9.80	1740	4.51	1	-95	1000	
1300	6.91	9.80	1740	3.93	1	-102	1000	
1305	6.90	9.80	1730	3.65	1	-105	1000	
1310	6.90	9.80	1720	3.50	2	-108	1000	
1320	6.90	9.80	1730	3.30	2	-111	1000	
1325	6.89	9.80	1730	3.22	2	-112	1000	
1330	6.90	9.80	1730	3.17	2	-113	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A2
 Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring
Point: Top of Riser Initial Depth
to Water: 24.20 Depth to Well
Bottom: 39.45 Well
Diameter: 4" Screen
Length:

Casing
Type: Steel Volume in 1
Well Casing
(liters): 37.7 Estimated
Purge Volume
(liters):

Sample ID: MW-19-WG Sample Time: 17:20 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.00mg/L

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O ₂ (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
1650	7.01	12.20	1190	4.35	74	100	1000	
1655	7.00	12.20	1190	3.43	67	93	1000	
1700	6.99	12.20	1180	2.93	53	81	1000	
1705	6.99	12.20	1180	2.78	49	79	1000	
1710	6.99	12.20	1180	2.70	47	77	1000	
1715	6.99	12.20	1180	2.63	31	73	1000	
1720	6.99	12.20	1180	2.55	25	72	1000	
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Chem-Core Site: Chem-Core Well I.D.: IW-A5

Date: 4/28/05 Sampling Personnel: Scott McCabe Company: URS Corporation

Purging/
Sampling
Device: Whale submersible pump Pump/Tubing
Tubing Type: High Density Polyethylene Inlet Location: ~1-2 feet off bottom

Measuring Point: Top of Riser Initial Depth to Water: 23.35 Depth to Well Bottom: 38.70 Well Diameter: 4" Screen Length: _____

Casing Type:	<u>Steel</u>	Volume in 1 Well Casing (liters):	<u>37.9</u>	Estimated Purge Volume (liters):	
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Sample ID: MW-19-WG Sample Time: 18:00 QA/QC:

Sample Parameters: TCL VOCs, nitrate, nitrite, TKN, ammonia, TOC, total and dissolved iron, m/e/e, alkalinity, sulfate, chloride

Other Information: Use Hach colometric meter to determine Ferrous Iron concentration in sample. Ferrous iron = 0.01mg/L

PURGE PARAMETERS

[illegible]

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

APPENDIX D

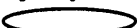
VALIDATION SUMMARY TABLES

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	42 U	42 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	42 U	42 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	42 U	42 U	10 U	10 UJ	10 U
1,1,2-Trichloroethane	UG/L	1	42 U	42 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	42 U	42 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	42 U	42 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	42 U	42 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	42 U	42 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	42 U	42 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	42 U	42 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	42 U	42 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	42 U	42 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	3	42 U	42 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	42 U	42 U	10 U	10 U	10 U
2-Butanone	UG/L	50	42 UJ	42 U	10 U	10 U	10 U
2-Hexanone	UG/L	50	42 UJ	42 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	42 UJ	42 U	10 U	10 U	10 U
Acetone	UG/L	50	42 UJ	42 U	16	24 UJ	3 J
Benzene	UG/L	1	42 U	42 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	50	42 U	42 U	10 U	10 U	10 U
Bromoform	UG/L	50	42 U	42 UJ	10 U	10 U	10 U
Bromomethane	UG/L	5	42 U	42 U	10 U	10 UJ	10 U
Carbon disulfide	UG/L	60	42 U	42 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

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

D - Result reported from a secondary dilution analysis.

U - The analyte was not detected above the reported quantitation or detection limit.

UJ - The analyte was not detected above the reported quantitation or detection limit, which is an estimated value.

Detection Limits shown are PQL

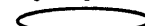
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	42 U	42 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	42 U	42 U	10 U	10 U	10 U
Chloroethane	UG/L	5	42 U	42 U	10 U	10 U	10 U
Chloroform	UG/L	7	42 U	42 U	10 U	10 U	10 U
Chloromethane	UG/L	5	42 UJ	42 U	10 U	10 U	1 J
cis-1,2-Dichloroethene	UG/L	5	150	2,200 D	16	3 J	10
cis-1,3-Dichloropropene	UG/L	0.4	42 U	42 U	10 U	10 U	10 U
Cyclohexane	UG/L	50	42 U	42 U	10 U	1 J	10 U
Dibromochloromethane	UG/L	50	42 U	42 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	42 U	42 U	10 U	10 U	10 U
Ethylbenzene	UG/L	5	42 U	42 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	5	42 U	42 U	10 U	10 U	10 U
Methyl acetate	UG/L	50	42 UJ	42 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	42 U	42 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	50	42 U	42 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	42 U	42 U	10 U	10 U	10 U
Styrene	UG/L	5	42 U	42 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	560	42 U	10 U	10 U	10 U
Toluene	UG/L	5	42 U	42 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	42 U	21 J	6 J	1 J	10 U
trans-1,3-Dichloropropene	UG/L	0.4	42 U	42 U	10 U	10 U	10 U
Trichloroethene	UG/L	5	65	42 U	10 U	10 U	1 J
Trichlorofluoromethane	UG/L	5	42 U	42 U	10 U	10 UJ	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

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

D - Result reported from a secondary dilution analysis.

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UJ - The analyte was not detected above the reported quantitation or detection limit, which is an estimated value.

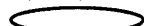
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	42 U	490	13	4 J	5 J
Xylene (Total)	UG/L	5	42 U	42 U	10 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	100 U	27,500	18,300	28,000	14,600
Total Metals							
Iron	UG/L	300	137	27,000	23,400	29,800	24,400
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.905	0.178	0.130	0.42
Chloride	MG/L	250	43.9	33.2	35.1	53.6	31
pH	S.U.	6.5-8.5	6.99	8.3	7.51	6.71	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.05 U
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.430	0.0500 U	0.0500 U	0.0500 U	NA
Sulfate (as SO ₄)	MG/L	250	213	19.7 J	40.3	35.2	90
Total Alkalinity	MG/L	-	344	478	465	639	450
Total Kjeldahl Nitrogen	MG/L	-	3.22	1.20	1.41	0.536	0.83
Total Organic Carbon (TOC)	MG/L	-	10.1	86.7	84.7 J	128	11
Ferrous Iron	MG/L	-	0 U	19	16.1	19.40	12.1
Temperature	DEG C	-	12.20	13.06	13.0	13.84	12.7
Specific Conductance	UMHOS	-	1,180	876	1,150	810	1,260
Dissolved Oxygen	MG/L	-	2.55	0.77	1.07	0 U	0 U
Oxidation Reduction Potential	mV	-	72	-470	-461	-445	-202
Turbidity	NTU	-	25	39	31	44	47

*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

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

D - Result reported from a secondary dilution analysis.

U - The analyte was not detected above the reported quantitation or detection limit.

UJ - The analyte was not detected above the reported quantitation or detection limit, which is an estimated value.

Detection Limits shown are PQL

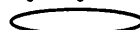
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Sample ID			IW-A2	IW-A2	IW-A2	IW-A2	IW-A2
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	26 DJ	32 J	4.2 U
Ethene	UG/L	-	2 U	18	44	5 J	2.4 J
Methane	UG/L	-	1 U	250 D	720 D	1,800 J	9,800 D

*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

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

D - Result reported from a secondary dilution analysis.

U - The analyte was not detected above the reported quantitation or detection limit.

UJ - The analyte was not detected above the reported quantitation or detection limit, which is an estimated value.

Detection Limits shown are PQL

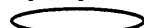
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	1	20 U	20 U	20 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	20 U	20 U	20 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	20 U	20 U	20 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	20 U	20 U	20 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	20 U	20 U	20 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	20 U	20 U	20 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	20 U	20 U	20 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	3	20 U	20 U	20 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	20 U	20 U	20 U	10 U	10 U
2-Butanone	UG/L	50	20 UJ	20 U	20 UJ	10 U	10 U
2-Hexanone	UG/L	50	20 UJ	20 U	20 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	20 UJ	20 U	20 UJ	10 U	10 U
Acetone	UG/L	50	20 UJ	10 J	14 J	12 UJ	10 UJ
Benzene	UG/L	1	20 U	20 U	20 U	10 U	10 U
Bromodichloromethane	UG/L	50	20 U	20 U	20 U	10 U	10 U
Bromoform	UG/L	50	20 U	20 UJ	20 U	10 U	10 U
Bromomethane	UG/L	5	20 U	20 U	20 U	10 UJ	10 U
Carbon disulfide	UG/L	60	20 U	20 U	20 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.



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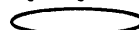
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	20 U	20 U	20 U	10 U	10 U
Chlorobenzene	UG/L	5	20 U	20 U	20 U	10 U	10 U
Chloroethane	UG/L	5	20 U	20 U	20 U	10 U	10 U
Chloroform	UG/L	7	20 U	20 U	20 U	10 U	10 U
Chloromethane	UG/L	5	20 UJ	20 U	20 U	10 UJ	10 U
cis-1,2-Dichloroethene	UG/L	5	66	910 D	120	25	26
cis-1,3-Dichloropropene	UG/L	0.4	20 U	20 U	20 U	10 U	10 U
Cyclohexane	UG/L	50	20 U	20 U	20 U	10 U	10 U
Dibromochloromethane	UG/L	50	20 U	20 U	20 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	20 U	20 U	20 U	10 UJ	10 U
Ethylbenzene	UG/L	5	20 U	20 U	20 U	10 U	10 U
Isopropylbenzene	UG/L	5	20 U	20 U	20 U	10 U	10 U
Methyl acetate	UG/L	50	20 UJ	20 U	20 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	20 U	20 U	20 U	10 U	10 U
Methylcyclohexane	UG/L	50	20 U	20 U	20 U	10 U	10 U
Methylene chloride	UG/L	5	20 U	20 U	20 U	10 U	10 U
Styrene	UG/L	5	20 U	20 U	20 U	10 U	10 U
Tetrachloroethene	UG/L	5	230	20 U	9 J	10 U	1 J
Toluene	UG/L	5	20 U	20 U	20 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	2 J	8 J	9 J	5 J	2 J
trans-1,3-Dichloropropene	UG/L	0.4	20 U	20 U	20 U	10 U	10 U
Trichloroethene	UG/L	5	27	20 U	3 J	10 U	0.9 J
Trichlorofluoromethane	UG/L	5	20 U	20 U	20 U	10 UJ	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.

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	20 U	110	58	24	12
Xylene (Total)	UG/L	5	20 U	20 U	20 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	100 U	17,900	400	2,940	1,760
Total Metals							
Iron	UG/L	300	100 U	18,000	1,600	3,780	3,210
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.534	0.107	0.136	0.26
Chloride	MG/L	250	67.1	21.3	18.4	31.7	20
pH	S.U.	6.5-8.5	6.87	8.33	7.46	6.7	6.5
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.036 J
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	1.03	0.0500 U	0.0500 U	0.0500 U	NA
Sulfate (as SO ₄)	MG/L	250	181	8.85 J	80.0	32.9	80
Total Alkalinity	MG/L	-	344	474	450	640	450
Total Kjeldahl Nitrogen	MG/L	-	2.55	0.693	2.96	0.686	0.78
Total Organic Carbon (TOC)	MG/L	-	21.2	84.1	48.7 J	57.8	4.7
Ferrous Iron	MG/L	-	0.01	16.3	1.02	2.31	2.7
Temperature	DEG C	-	12.00	11.96	12.9	13.69	12.4
Specific Conductance	UMHOS	-	1,180	773	1,050	730	990
Dissolved Oxygen	MG/L	-	2.76	0.69	1.07	0 U	0 U
Oxidation Reduction Potential	mV	-	39	-459	-373	-380	-253
Turbidity	NTU	-	24	47	24	32	32

*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.

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Detection Limits shown are PQL

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Sample ID			IW-A5	IW-A5	IW-A5	IW-A5	IW-A5
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	8	14 J	4.2 U
Ethene	UG/L	-	2 U	8	21	4 J	6.0
Methane	UG/L	-	1 U	260 D	510 D	1,600 J	10,000 D

*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.

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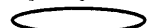
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	25 U	5 J	7 J	16	2 J
1,1,2,2-Tetrachloroethane	UG/L	5	25 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	25 U	10 U	10 U	10 UJ	10 U
1,1,2-Trichloroethane	UG/L	1	25 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	3 J	35	55	93	23
1,1-Dichloroethene	UG/L	5	25 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	25 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	25 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	25 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	25 U	10 U	10 U	2 J	10 U
1,2-Dichloropropane	UG/L	1	25 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U	10 U
2-Butanone	UG/L	50	25 UJ	10 UJ	10 U	10 U	10 U
2-Hexanone	UG/L	50	25 UJ	10 UJ	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	25 UJ	10 U	10 U	10 U	10 U
Acetone	UG/L	50	25 UJ	9 J	5 J	10 UJ	10 UJ
Benzene	UG/L	1	25 U	10 U	10 U	10 U	5 J
Bromodichloromethane	UG/L	50	25 U	10 U	10 U	10 U	10 U
Bromoform	UG/L	50	25 U	10 UJ	10 U	10 U	10 U
Bromomethane	UG/L	5	25 U	10 U	10 U	10 UJ	10 U
Carbon disulfide	UG/L	60	25 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.

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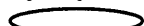
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	25 U	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	25 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	5	25 U	10 U	10 U	10 U	2 J
Chloroform	UG/L	7	25 U	10 U	10 U	10 U	10 U
Chloromethane	UG/L	5	25 UJ	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	5	110	10 U	2 J	11	7 J
cis-1,3-Dichloropropene	UG/L	0.4	25 U	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	50	25 U	10 U	10 U	1 J	10 U
Dibromochloromethane	UG/L	50	25 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	25 U	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	5	25 U	10 U	0.9 J	10 U	10 U
Isopropylbenzene	UG/L	5	25 U	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	50	25 UJ	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	25 U	10 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	50	25 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	25 U	10 U	10 U	1 J	10 U
Styrene	UG/L	5	25 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	310	10 U	10 U	10 U	10 U
Toluene	UG/L	5	25 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	25 U	10 U	2 J	3 J	0.7 J
trans-1,3-Dichloropropene	UG/L	0.4	25 U	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	5	31	10 U	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	5	25 U	10 U	10 U	10 UJ	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.

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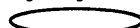
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	7 J	1 J	8 J	35	18
Xylene (Total)	UG/L	5	25 U	10 U	10 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	100 U	721	12.2 U	10.1 U	71.4 B
Total Metals							
Iron	UG/L	300	100 U	871	138	200	93.4 B
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.325	1.45	1.23	1.92	0.97
Chloride	MG/L	250	268	404	371 D	452	260
pH	S.U.	6.5-8.5	6.9	7.91	7.62	7.48	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.05 U
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.255	0.0500 U	0.270	0.0500 U	NA
Sulfate (as SO ₄)	MG/L	250	220	258 J	171	374	74
Total Alkalinity	MG/L	-	283	337	346	239	400
Total Kjeldahl Nitrogen	MG/L	-	2.36	1.26	1.76	2.03	1.9
Total Organic Carbon (TOC)	MG/L	-	9.34	36.6	32.1 J	4.81 B	3.6
Ferrous Iron	MG/L	-	0.02	0.86	0.36	0.01	0.7
Temperature	DEG C	-	11.4	15.00	14.2	13.21	14.4
Specific Conductance	UMHOS	-	1,820	1,930	2,040	2,110	1,760
Dissolved Oxygen	MG/L	-	1.94	1.97	1.21	0 U	0 U
Oxidation Reduction Potential	mV	-	-194	-354	-312	-276	-211
Turbidity	NTU	-	28	9	11	7	1

*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.

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Detection Limits shown are PQL

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08D	MW-08D	MW-08D	MW-08D	MW-08D
Sample ID			MW-8D	MW-8D	MW-8D	MW-8D	MW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	13	1 J	4.2 U
Ethene	UG/L	-	2 U	42	13	15 J	25
Methane	UG/L	-	20 D	240 D	420 D	250 J	5,500 D

*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.

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Detection Limits shown are PQL

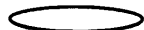
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	10 U	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 UJ	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	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	10 U	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
1,3-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
2-Butanone	UG/L	50	10 UJ	10 U	10 UJ	10 U	10 U
2-Hexanone	UG/L	50	10 UJ	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	10 UJ	10 U	10 UJ	10 U	10 U
Acetone	UG/L	50	10 UJ	7 J	10 U	10 U	10 UJ
Benzene	UG/L	1	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	50	10 U	10 U	10 U	10 U	10 U
Bromoform	UG/L	50	10 U	10 UJ	10 U	10 U	10 U
Bromomethane	UG/L	5	10 U	10 U	10 U	10 UJ	10 U
Carbon disulfide	UG/L	60	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

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

D - Result reported from a secondary dilution analysis.

U - The analyte was not detected above the reported quantitation or detection limit.

UJ - The analyte was not detected above the reported quantitation or detection limit, which is an estimated value.

Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	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	10 U	10 U	10 U	10 U	10 U
Chloromethane	UG/L	5	10 UJ	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	5	94	260 D	6 J	4 J	3 J
cis-1,3-Dichloropropene	UG/L	0.4	10 U	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	50	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	50	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	50	10 UJ	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
Methylcyclohexane	UG/L	50	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	10 U	10 U	10 U	1 J	10 U
Styrene	UG/L	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	130	2 J	10 U	2 J	2 J
Toluene	UG/L	5	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	2 J	2 J	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	0.4	10 U	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	5	21	1 J	1 J	1.0 J	0.7 J
Trichlorofluoromethane	UG/L	5	10 U	10 U	10 U	10 UJ	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.

94 Concentration Exceeds Criteria

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Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	3 J	47	10	10 U	10 U
Xylene (Total)	UG/L	5	10 U	10 U	10 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	100 U	783	120	82.1	145
Total Metals							
Iron	UG/L	300	910	1,690	1,770	5,690	8,240
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.203	0.100 U	0.100 U	0.047 J
Chloride	MG/L	250	75.6	100	99.6	135	130
pH	S.U.	6.5-8.5	7.05	7.93	7.59	7.55	6.6
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.032 J
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.450	0.0750	0.0500 U	0.0500 U	NA
Sulfate (as SO ₄)	MG/L	250	306	134 J	186	355	350
Total Alkalinity	MG/L	-	298	315	323	241	250
Total Kjeldahl Nitrogen	MG/L	-	2.77	0.197 B	1.06	0.250 U	0.58
Total Organic Carbon (TOC)	MG/L	-	6.80	12.6	5.65 J	5.66	3.5
Ferrous Iron	MG/L	-	0.05	0.82	0.18	0 U	0 U
Temperature	DEG C	-	10.5	15.35	14.6	12.22	15.6
Specific Conductance	UMHOS	-	1,350	961	1,320	887	1,710
Dissolved Oxygen	MG/L	-	3.69	1.11	2.45	2.03	0 U
Oxidation Reduction Potential	mV	-	71	-269	-84	-7	20
Turbidity	NTU	-	41	15	6	11	4

*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.

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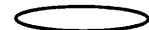
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-08S	MW-08S	MW-08S	MW-08S	MW-08S
Sample ID			MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	0.2 J	1.5 U	6.8
Ethene	UG/L	-	2 U	0.8 J	3	1.5 U	4.2 U
Methane	UG/L	-	2 U	13	6	1 U	21

*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.

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Detection Limits shown are PQL

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	67 U	67 U	67 U	130 U	200 U
1,1,2,2-Tetrachloroethane	UG/L	5	67 U	67 U	67 U	130 U	200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	67 U	67 U	67 U	130 UJ	200 U
1,1,2-Trichloroethane	UG/L	1	67 U	67 U	67 U	130 U	200 U
1,1-Dichloroethane	UG/L	5	67 U	67 U	67 U	130 U	200 U
1,1-Dichloroethene	UG/L	5	67 U	67 U	67 U	130 U	200 U
1,2,4-Trichlorobenzene	UG/L	5	67 U	67 U	67 U	130 U	200 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	67 U	67 U	67 U	130 U	200 U
1,2-Dibromoethane	UG/L	6.00E-04	67 U	67 U	67 U	130 U	200 U
1,2-Dichlorobenzene	UG/L	3	67 U	67 U	67 U	130 U	200 U
1,2-Dichloroethane	UG/L	0.6	67 U	67 U	67 U	130 U	200 U
1,2-Dichloropropane	UG/L	1	67 U	67 U	67 U	130 U	200 U
1,3-Dichlorobenzene	UG/L	3	67 U	67 U	67 U	130 U	200 U
1,4-Dichlorobenzene	UG/L	3	67 U	67 U	67 U	130 U	200 U
2-Butanone	UG/L	50	67 UJ	67 U	67 UJ	130 U	200 U
2-Hexanone	UG/L	50	67 UJ	67 U	67 U	130 U	200 U
4-Methyl-2-pentanone	UG/L	50	67 UJ	67 U	67 UJ	130 U	200 U
Acetone	UG/L	50	67 UJ	67 U	67 U	65 J	200 UJ
Benzene	UG/L	1	67 U	67 U	67 U	130 U	200 U
Bromodichloromethane	UG/L	50	67 U	67 U	67 U	130 U	200 U
Bromoform	UG/L	50	67 U	67 UJ	67 U	130 U	200 U
Bromomethane	UG/L	5	67 U	67 U	67 U	130 UJ	200 U
Carbon disulfide	UG/L	60	67 U	67 U	67 U	130 U	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.

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Detection Limits shown are PQL

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	67 U	67 U	67 U	130 U	200 U
Chlorobenzene	UG/L	5	67 U	67 U	67 U	130 U	200 U
Chloroethane	UG/L	5	67 U	67 U	67 U	130 U	200 U
Chloroform	UG/L	7	67 U	67 U	67 U	130 U	200 U
Chloromethane	UG/L	5	67 UJ	67 U	67 U	130 U	200 U
cis-1,2-Dichloroethene	UG/L	5	280	1,300	1,500 D	1,500	290
cis-1,3-Dichloropropene	UG/L	0.4	67 U	67 U	67 U	130 U	200 U
Cyclohexane	UG/L	50	67 U	67 U	67 U	130 U	200 U
Dibromochloromethane	UG/L	50	67 U	67 U	67 U	130 U	200 U
Dichlorodifluoromethane	UG/L	5	67 U	67 U	67 U	130 U	200 U
Ethylbenzene	UG/L	5	67 U	67 U	67 U	130 U	200 U
Isopropylbenzene	UG/L	5	67 U	67 U	67 U	130 U	200 U
Methyl acetate	UG/L	50	67 UJ	67 U	67 U	130 U	200 U
Methyl tert-butyl ether	UG/L	10	67 U	67 U	67 U	130 U	200 U
Methylcyclohexane	UG/L	50	67 U	67 U	67 U	130 U	200 U
Methylene chloride	UG/L	5	67 U	7 J	67 U	130 U	200 U
Styrene	UG/L	5	67 U	67 U	67 U	130 U	200 U
Tetrachloroethene	UG/L	5	750	35 J	990	16 J	1,300
Toluene	UG/L	5	67 U	67 U	67 U	130 U	200 U
trans-1,2-Dichloroethene	UG/L	5	6 J	67 U	13 J	11 J	200 U
trans-1,3-Dichloropropene	UG/L	0.4	67 U	67 U	67 U	130 U	200 U
Trichloroethene	UG/L	5	120	12 J	200	15 J	140 J
Trichlorofluoromethane	UG/L	5	67 U	67 U	67 U	130 UJ	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.

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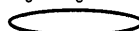
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	67 U	20 J	100	370	200 U
Xylene (Total)	UG/L	5	67 U	67 U	67 U	130 U	200 U
Filtered Metals							
Iron	UG/L	300	100 U	3,270	1,230	847	173
Total Metals							
Iron	UG/L	300	786	20,300	3,000	5,240	788
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.998	0.281	0.100 U	0.047 J
Chloride	MG/L	250	51.4	18.4	14.3	32.7	10
pH	S.U.	6.5-8.5	6.87	7.68	7.52	7.36	6.5
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.68
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.580	0.0500 U	0.215	0.0500 U	NA
Sulfate (as SO ₄)	MG/L	250	122	12.7 J	32.4	22.5	37
Total Alkalinity	MG/L	-	351	450	365	440	320
Total Kjeldahl Nitrogen	MG/L	-	4.76	0.866	0.415	0.246 B	0.099 J
Total Organic Carbon (TOC)	MG/L	-	3.08 B	70.6	21.6 J	18.7	1.9
Ferrous Iron	MG/L	-	0.03	3.19	7.9	0.62	0.15
Temperature	DEG C	-	11.90	13.14	13.0	14.03	12.6
Specific Conductance	UMHOS	-	969	714	845	536	605
Dissolved Oxygen	MG/L	-	4.80	11.63	0.95	0 U	0.24
Oxidation Reduction Potential	mV	-	68	-331	-307	-326	-155
Turbidity	NTU	-	27	19	15	32	11

*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.

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Detection Limits shown are PQL

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-12	MW-12	MW-12	MW-12	MW-12
Sample ID			MW-12	MW-12	MW-12	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	10	11 J	4.1 U
Ethene	UG/L	-	2 U	1 J	17	19 J	5.2
Methane	UG/L	-	10	20	120 D	550 J	360 D

*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.

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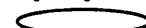
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	1	83 U	83 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	83 U	83 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	83 U	83 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	83 U	83 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	83 U	7 J	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	83 U	83 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	83 U	83 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	3	83 U	83 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	83 U	83 U	10 U	10 U	10 U
2-Butanone	UG/L	50	83 UJ	83 U	10 U	10 U	10 U
2-Hexanone	UG/L	50	83 UJ	83 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	83 UJ	83 U	10 U	10 U	10 U
Acetone	UG/L	50	83 UJ	83 U	10 U	10 UJ	10 UJ
Benzene	UG/L	1	83 U	83 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	50	83 U	9 J	10 U	10 U	10 U
Bromoform	UG/L	50	83 U	83 UJ	10 U	10 U	10 U
Bromomethane	UG/L	5	83 U	83 U	10 U	10 UJ	10 U
Carbon disulfide	UG/L	60	83 U	83 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.

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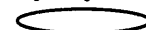
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	83 U	83 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	83 U	9 J	10 U	10 U	10 U
Chloroethane	UG/L	5	83 U	83 U	10 U	10 U	10 U
Chloroform	UG/L	7	83 U	8 J	1 J	10 U	10 U
Chloromethane	UG/L	5	83 UJ	83 U	10 U	10 UJ	10 U
cis-1,2-Dichloroethene	UG/L	5	390	1,200	230 D	57	190
cis-1,3-Dichloropropene	UG/L	0.4	83 U	83 U	10 U	10 U	10 U
Cyclohexane	UG/L	50	83 U	83 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	50	83 U	83 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	83 U	83 U	10 U	10 UJ	10 U
Ethylbenzene	UG/L	5	83 U	83 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	5	83 U	83 U	10 U	10 U	10 U
Methyl acetate	UG/L	50	83 UJ	83 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	83 U	9 J	10 U	10 U	10 U
Methylcyclohexane	UG/L	50	83 U	83 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	83 U	13 J	10 U	10 U	10 U
Styrene	UG/L	5	83 U	83 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	1,000	83 U	11	10 U	15
Toluene	UG/L	5	83 U	7 J	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	83 U	21 J	6 J	2 J	1 J
trans-1,3-Dichloropropene	UG/L	0.4	83 U	83 U	10 U	10 U	10 U
Trichloroethene	UG/L	5	140	83 U	16	10 U	10
Trichlorofluoromethane	UG/L	5	83 U	83 U	10 U	10 UJ	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.

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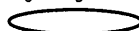
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	83 U	420	52	32	84
Xylene (Total)	UG/L	5	83 U	83 U	10 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	100 U	25,600	7,420	19,700	15,100
Total Metals							
Iron	UG/L	300	672	26,100	17,900	27,500	16,000
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.629	0.179	0.148	0.56
Chloride	MG/L	250	63.6	54.0	37.3	108	35
pH	S.U.	6.5-8.5	6.89	7.6	7.55	7.10	6.4
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	NA	0.05 U
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.345	0.685	0.0500 U	0.0500 U	NA
Sulfate (as SO4)	MG/L	250	108	9.26 J	27.5	38.6	47
Total Alkalinity	MG/L	-	371	460	424	569	420
Total Kjeldahl Nitrogen	MG/L	-	3.08	1.08	0.815	0.434	0.72
Total Organic Carbon (TOC)	MG/L	-	3.43 B	60.4	17.7 J	53.0	5.0
Ferrous Iron	MG/L	-	0.05	16.4	7.4	11	16.1
Temperature	DEG C	-	12.40	12.89	13.4	14.12	12.9
Specific Conductance	UMHOS	-	1,110	853	1,030	777	853
Dissolved Oxygen	MG/L	-	4.50	0.49	1.33	0 U	0 U
Oxidation Reduction Potential	mV	-	18	-316	-345	-343	-253
Turbidity	NTU	-	38	43	21	43	1

*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.

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Detection Limits shown are PQL

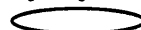
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID			MW-16	MW-16	MW-16	MW-16	MW-16
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	2 U	10	17 J	4.4 U
Ethene	UG/L	-	2 U	26	31	6 J	13
Methane	UG/L	-	8	87 D	500 D	1,100 J	5,800 D

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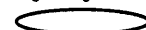
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	10 U	10 U	20 U	50 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	10 U	10 U	20 U	50 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	10 U	10 U	20 UJ	50 U	10 U
1,1,2-Trichloroethane	UG/L	1	10 U	10 U	20 U	50 U	10 U
1,1-Dichloroethane	UG/L	5	10 U	10 U	20 U	50 U	10 U
1,1-Dichloroethene	UG/L	5	10 U	10 U	20 U	50 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	10 U	10 U	20 U	50 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	10 U	10 U	20 U	50 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	10 U	10 U	20 U	50 U	10 U
1,2-Dichlorobenzene	UG/L	3	10 U	10 U	20 U	50 U	10 U
1,2-Dichloroethane	UG/L	0.6	10 U	10 U	20 U	50 U	10 U
1,2-Dichloropropane	UG/L	1	10 U	10 U	20 U	50 U	10 U
1,3-Dichlorobenzene	UG/L	3	10 U	10 U	20 U	50 U	10 U
1,4-Dichlorobenzene	UG/L	3	10 U	10 U	20 U	50 U	10 U
2-Butanone	UG/L	50	10 UJ	10 UJ	20 U	50 U	10 U
2-Hexanone	UG/L	50	10 UJ	10 U	20 U	50 U	10 U
4-Methyl-2-pentanone	UG/L	50	10 UJ	10 UJ	20 U	50 U	10 U
Acetone	UG/L	50	10 UJ	10 U	20 UJ	50 UJ	10 U
Benzene	UG/L	1	10 U	10 U	20 U	50 U	10 U
Bromodichloromethane	UG/L	50	10 U	10 U	20 U	50 U	10 U
Bromoform	UG/L	50	10 U	10 U	20 U	50 U	10 U
Bromomethane	UG/L	5	10 U	10 U	20 UJ	50 U	10 U
Carbon disulfide	UG/L	60	10 U	10 U	20 U	50 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.

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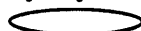
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Volatiles							
Carbon tetrachloride	UG/L	5	10 U	10 U	20 U	50 U	10 U
Chlorobenzene	UG/L	5	10 U	10 U	20 U	50 U	10 U
Chloroethane	UG/L	5	10 U	10 U	20 U	50 U	10 U
Chloroform	UG/L	7	10 U	10 U	20 U	50 U	1 J
Chloromethane	UG/L	5	10 UJ	10 U	20 U	50 U	10 U
cis-1,2-Dichloroethene	UG/L	5	38	270 D	280	320	120
cis-1,3-Dichloropropene	UG/L	0.4	10 U	10 U	20 U	50 U	10 U
Cyclohexane	UG/L	50	10 U	10 U	20 U	50 U	10 U
Dibromochloromethane	UG/L	50	10 U	10 U	20 U	50 U	10 U
Dichlorodifluoromethane	UG/L	5	10 U	10 U	20 U	50 U	10 U
Ethylbenzene	UG/L	5	10 U	10 U	20 U	50 U	10 U
Isopropylbenzene	UG/L	5	10 U	10 U	20 U	50 U	10 U
Methyl acetate	UG/L	50	10 UJ	10 U	20 U	50 U	10 U
Methyl tert-butyl ether	UG/L	10	10 U	10 U	20 U	50 U	10 U
Methylcyclohexane	UG/L	50	10 U	10 U	20 U	50 U	10 U
Methylene chloride	UG/L	5	10 U	10 U	20 U	50 U	10 U
Styrene	UG/L	5	10 U	10 U	20 U	50 U	10 U
Tetrachloroethene	UG/L	5	12	5 J	13 J	33 J	370 D
Toluene	UG/L	5	10 U	10 U	20 U	50 U	10 U
trans-1,2-Dichloroethene	UG/L	5	2 J	3 J	3 J	50 U	1 J
trans-1,3-Dichloropropene	UG/L	0.4	10 U	10 U	20 U	50 U	10 U
Trichloroethene	UG/L	5	3 J	3 J	10 J	15 J	37
Trichlorofluoromethane	UG/L	5	10 U	10 U	20 UJ	50 U	10 U

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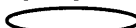
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Volatiles							
Vinyl chloride	UG/L	2	10 U	10	12 J	16 J	5 J
Xylene (Total)	UG/L	5	10 U	10 U	20 U	10 U	10 U
Filtered Metals							
Iron	UG/L	300	58.3 B	2,780	1,220	1,160	100 U
Total Metals							
Iron	UG/L	300	261	2,940	1,460	1,460	100 U
Miscellaneous Parameters							
Ammonia, Nitrogen (As N)	MG/L	2	0.100 U	0.207	0.100 U	0.075	0.100 U
Chloride	MG/L	250	125	30.8	48.8	64	268
pH	S.U.	6.5-8.5	6.89	7.49	7.13	6.5	6.9
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	0.027 J	NA
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	0.05 U	NA
Nitrate-Nitrite	MG/L	10	0.0500 U	0.0500 U	0.0500 U	NA	0.715
Sulfate (as SO ₄)	MG/L	250	105	81.6	102	93	137
Total Alkalinity	MG/L	-	353	379	396	360	281
Total Kjeldahl Nitrogen	MG/L	-	2.40	0.726	0.250 U	0.31 J	2.21
Total Organic Carbon (TOC)	MG/L	-	4.06 B	2.97 BJ	3.15 B	1.7	4.00 B
Ferrous Iron	MG/L	-	0.26	0.56	1.27	1.19	0 U
Temperature	DEG C	-	11.70	12.0	13.02	11.5	9.8
Specific Conductance	UMHOS	-	1,220	980	582	924	1,730
Dissolved Oxygen	MG/L	-	2.52	1.80	0 U	0 U	3.17
Oxidation Reduction Potential	mV	-	-124	-216	-128	-105	-113
Turbidity	NTU	-	15	0 U	3	14	2

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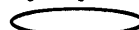
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-18	MW-18	MW-18	MW-18	MW-19
Sample ID			MW-18	MW-18	MW-18	MW-18	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			04/28/05	12/28/05	04/11/06	09/29/06	04/28/05
Parameter	Units	Criteria*					
Dissolved Gases							
Ethane	UG/L	-	2 U	0.09 J	1.5 UJ	4.2 U	2 U
Ethene	UG/L	-	2 U	0.5 J	1.5 UJ	4.2 U	2 U
Methane	UG/L	-	70 D	24	6 J	94	3 U

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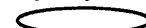
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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/L	5	25 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	5	25 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	25 U	10 U	10 UJ	10 U
1,1,2-Trichloroethane	UG/L	1	25 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	5	25 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	5	25 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	5	25 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	25 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	6.00E-04	25 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0.6	25 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	1	25 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	25 U	10 U	10 U	10 U
2-Butanone	UG/L	50	25 U	10 UJ	10 U	10 U
2-Hexanone	UG/L	50	25 U	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	50	25 U	10 UJ	10 U	10 U
Acetone	UG/L	50	11 J	8 J	10 UJ	10 UJ
Benzene	UG/L	1	25 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	50	25 U	10 U	10 U	10 U
Bromoform	UG/L	50	25 UJ	10 U	10 U	10 U
Bromomethane	UG/L	5	25 U	10 U	10 UJ	10 U
Carbon disulfide	UG/L	60	25 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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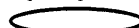
Detection Limits shown are PQL

SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Volatiles						
Carbon tetrachloride	UG/L	5	25 U	10 U	10 U	10 U
Chlorobenzene	UG/L	5	25 U	10 U	10 U	10 U
Chloroethane	UG/L	5	25 U	10 U	10 U	10 U
Chloroform	UG/L	7	25 U	10 U	10 U	10 U
Chloromethane	UG/L	5	25 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	5	190	11	14	49
cis-1,3-Dichloropropene	UG/L	0.4	25 U	10 U	10 U	10 U
Cyclohexane	UG/L	50	25 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	50	25 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	5	25 U	10 U	10 U	10 U
Ethylbenzene	UG/L	5	25 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	5	25 U	10 U	10 U	10 U
Methyl acetate	UG/L	50	25 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10	25 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	50	25 U	10 U	10 U	10 U
Methylene chloride	UG/L	5	25 U	10 U	10 U	10 U
Styrene	UG/L	5	25 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	5	25 U	3 J	10 U	13
Toluene	UG/L	5	25 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	5	6 J	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	0.4	25 U	10 U	10 U	10 U
Trichloroethene	UG/L	5	25 U	1 J	10 U	3 J
Trichlorofluoromethane	UG/L	5	25 U	10 U	10 UJ	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.

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Volatiles						
Vinyl chloride	UG/L	2	220	10 U	11	13
Xylene (Total)	UG/L	5	25 U	10 U	10 U	10 U
Filtered Metals						
Iron	UG/L	300	10,100	7,270	11,200	4,680
Total Metals						
Iron	UG/L	300	10,900	8,400	12,000	5,710
Miscellaneous Parameters						
Ammonia, Nitrogen (As N)	MG/L	2	0.414	0.137	0.100 U	0.29
Chloride	MG/L	250	387	332 D	222	85
pH	S.U.	6.5-8.5	8	7.43	6.95	6.4
Nitrate-Nitrogen	MG/L	10	NA	NA	NA	0.31
Nitrite-Nitrogen	MG/L	1	NA	NA	NA	0.05 U
Nitrate-Nitrite	MG/L	10	0.0500 U	0.0700	0.0500 U	NA
Sulfate (as SO4)	MG/L	250	9.55 UJ	15.4	17.3	97
Total Alkalinity	MG/L	-	430	417	484	380
Total Kjeldahl Nitrogen	MG/L	-	0.372	0.657	0.172 B	0.77
Total Organic Carbon (TOC)	MG/L	-	53.0	66.8 J	42.2	4.5
Ferrous Iron	MG/L	-	14.1	9.6	10.60	3.0
Temperature	DEG C	-	16.15	13.4	10.32	16.8
Specific Conductance	UMHOS	-	1,550	1,810	853	1,210
Dissolved Oxygen	MG/L	-	0.68	1.36	1.46	0 U
Oxidation Reduction Potential	mV	-	-408	-326	-216	-183
Turbidity	NTU	-	4	24	25	27

*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.

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SUMMARY OF VALIDATED GROUNDWATER ANALYTICAL RESULTS CHEM-CORE PILOT STUDY

Location ID			MW-19	MW-19	MW-19	MW-19
Sample ID			MW-19	MW-19	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			09/22/05	12/28/05	04/11/06	09/29/06
Parameter	Units	Criteria*				
Dissolved Gases						
Ethane	UG/L	-	2 U	31	18 J	4.2 U
Ethene	UG/L	-	21	22	1 J	4.2 U
Methane	UG/L	-	66 D	570 D	1,400 J	3,100 D

*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.

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Detection Limits shown are PQL

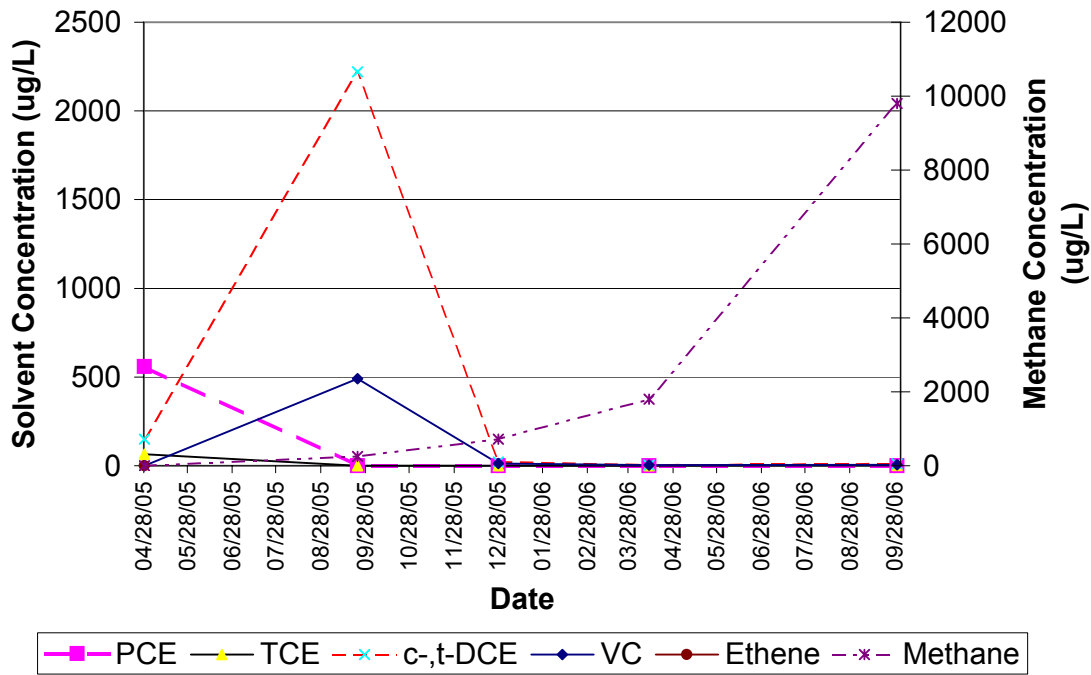
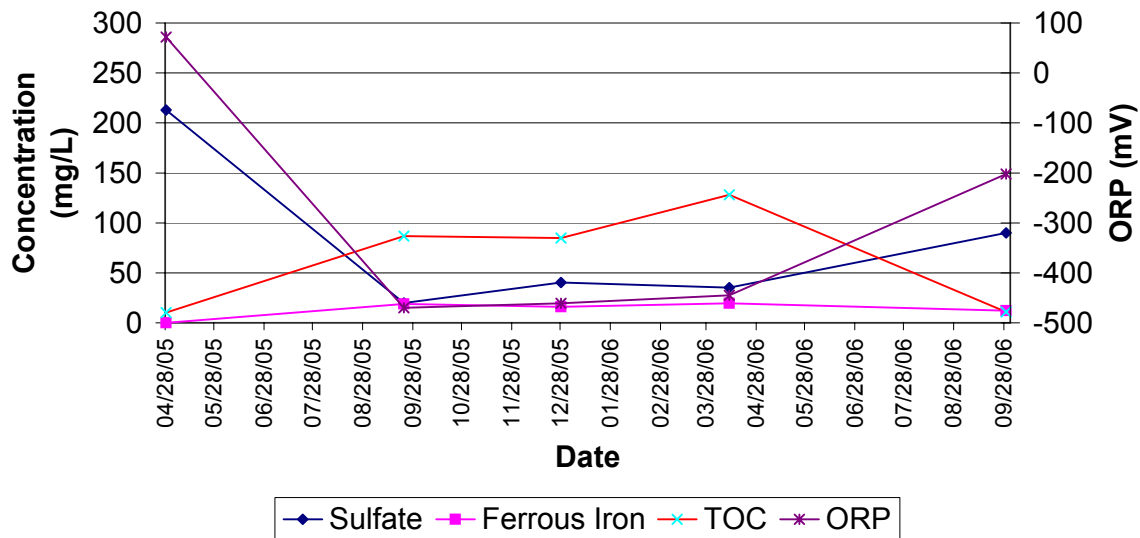
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APPENDIX E

ANALYTICAL DATA TRENDS

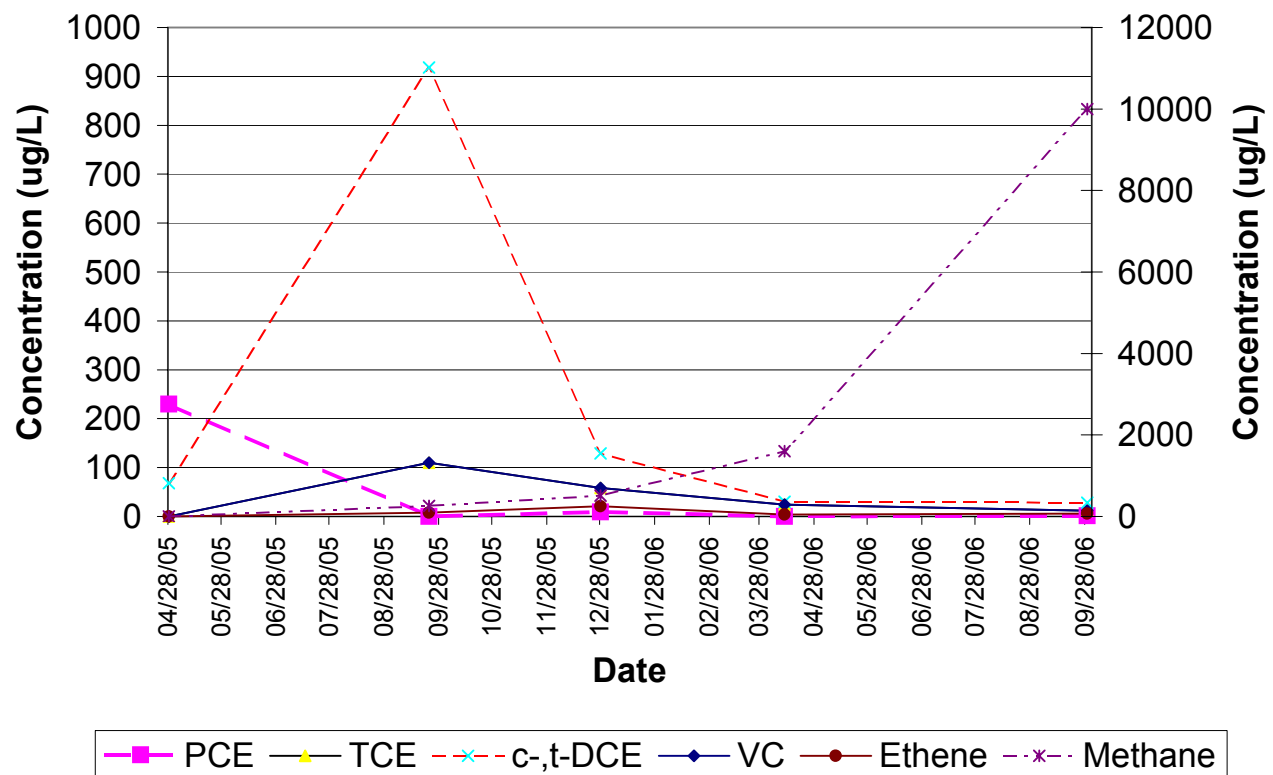
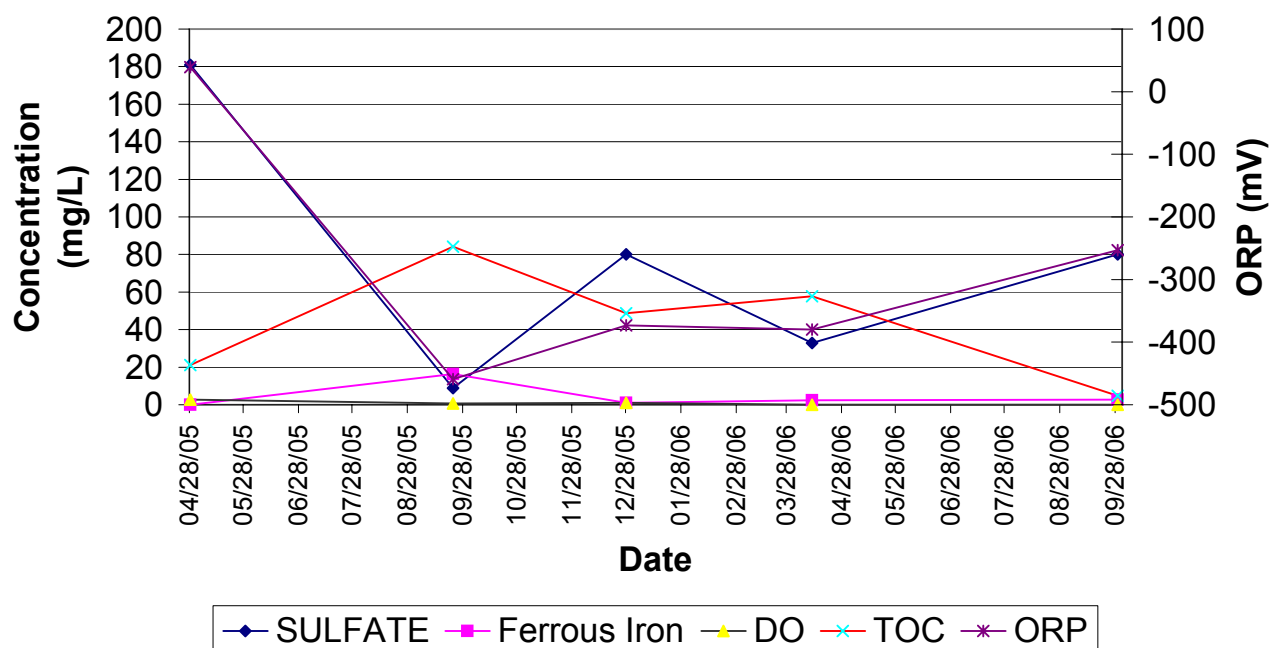
IW-A2
Groundwater Analytical Trends

IW-A2 GROUNDWATER ANALYTICAL TRENDS (IN FIELD)



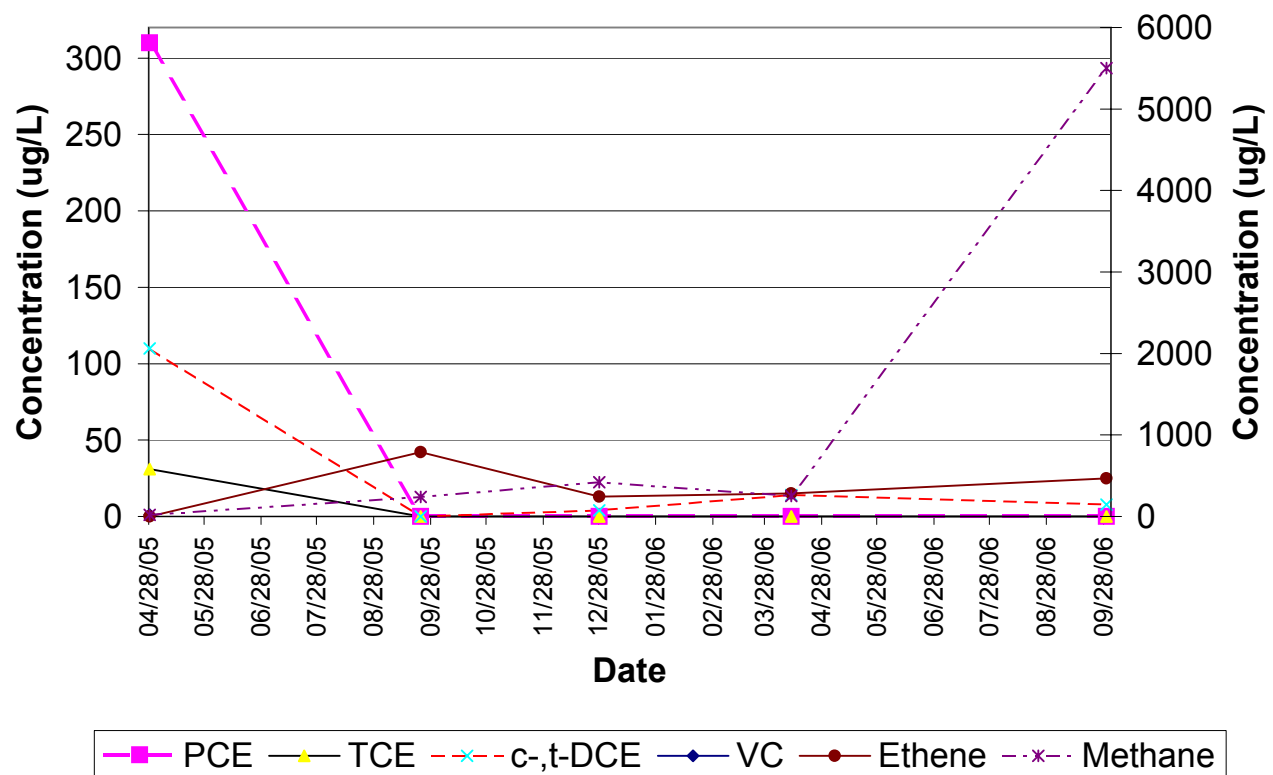
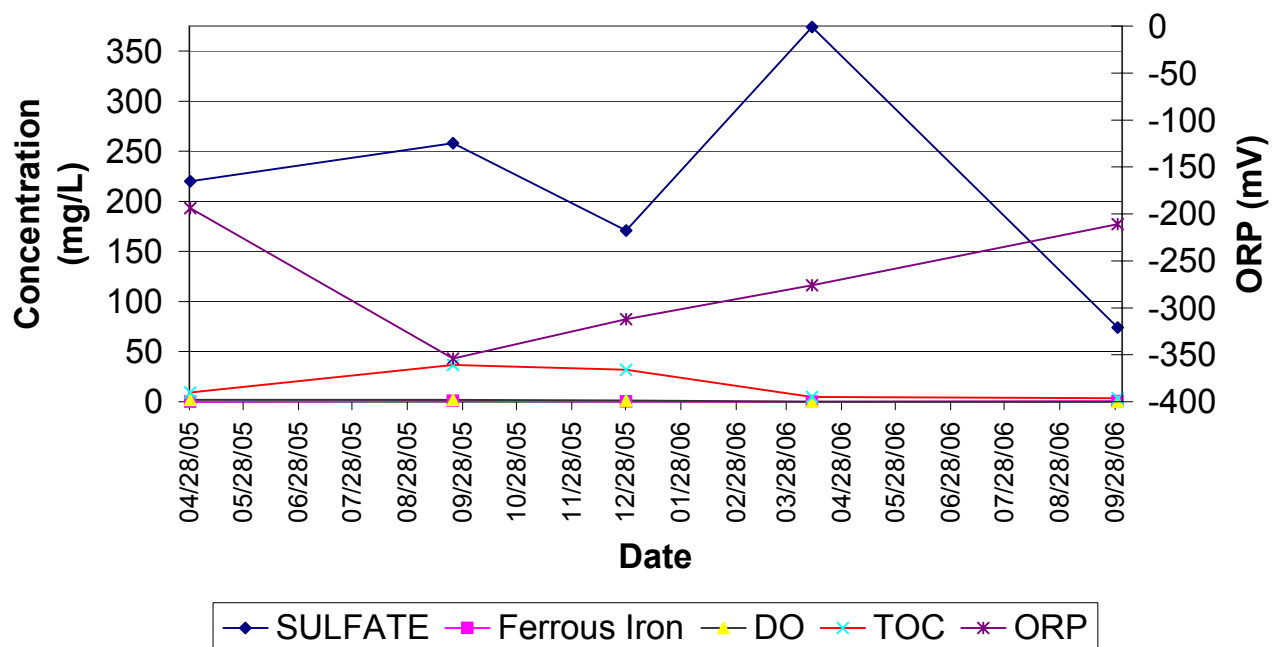
IW-A5
Groundwater Analytical Trends

IW-A5 Groundwater Analytical Trends



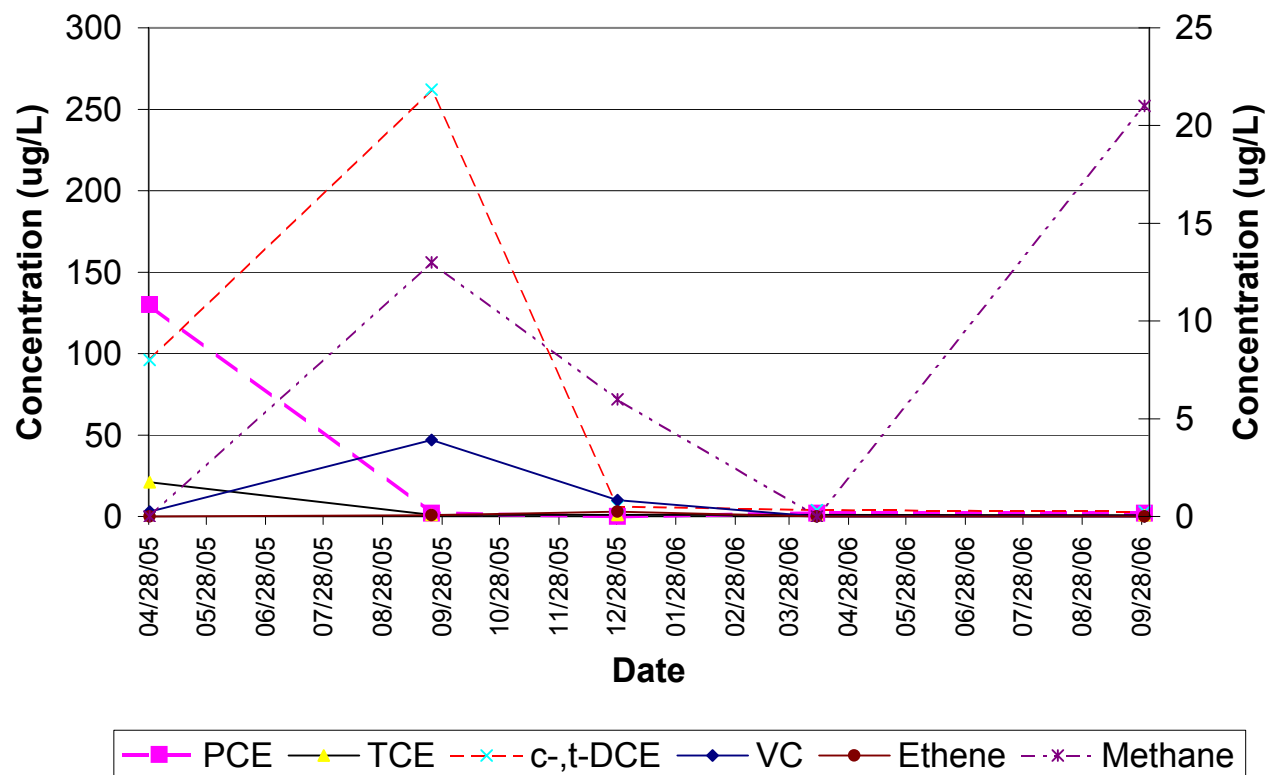
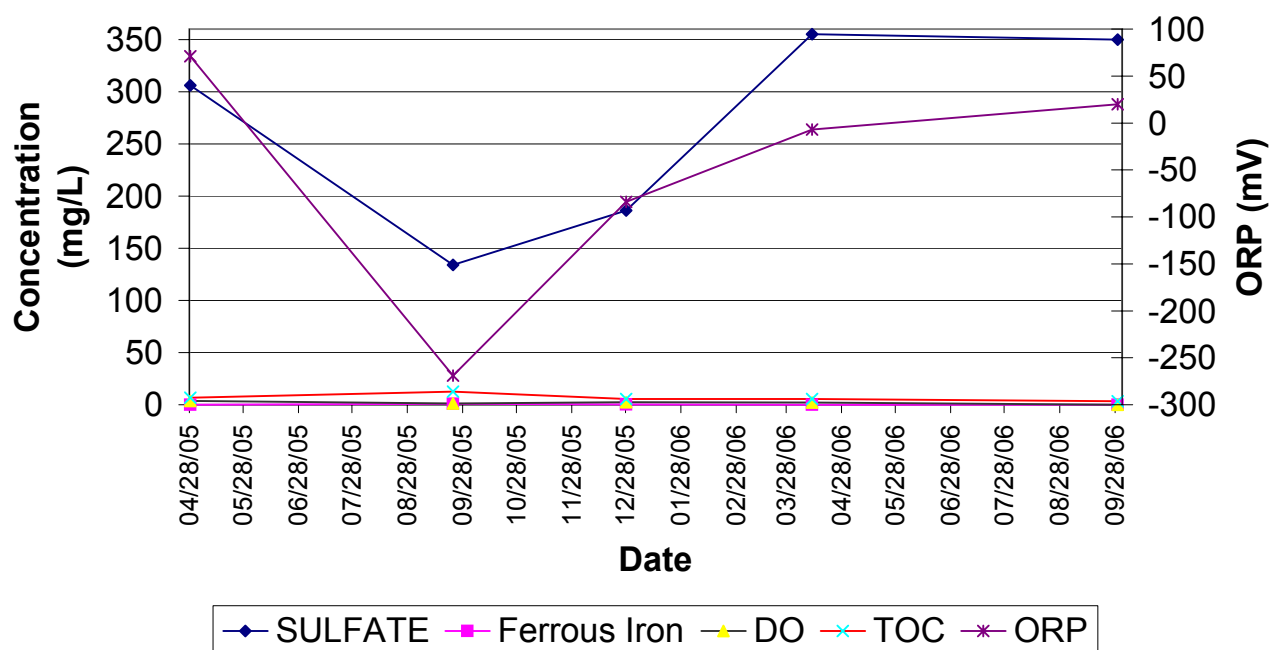
MW-8D
Groundwater Analytical Trends

MW-8D Groundwater Analytical Trends



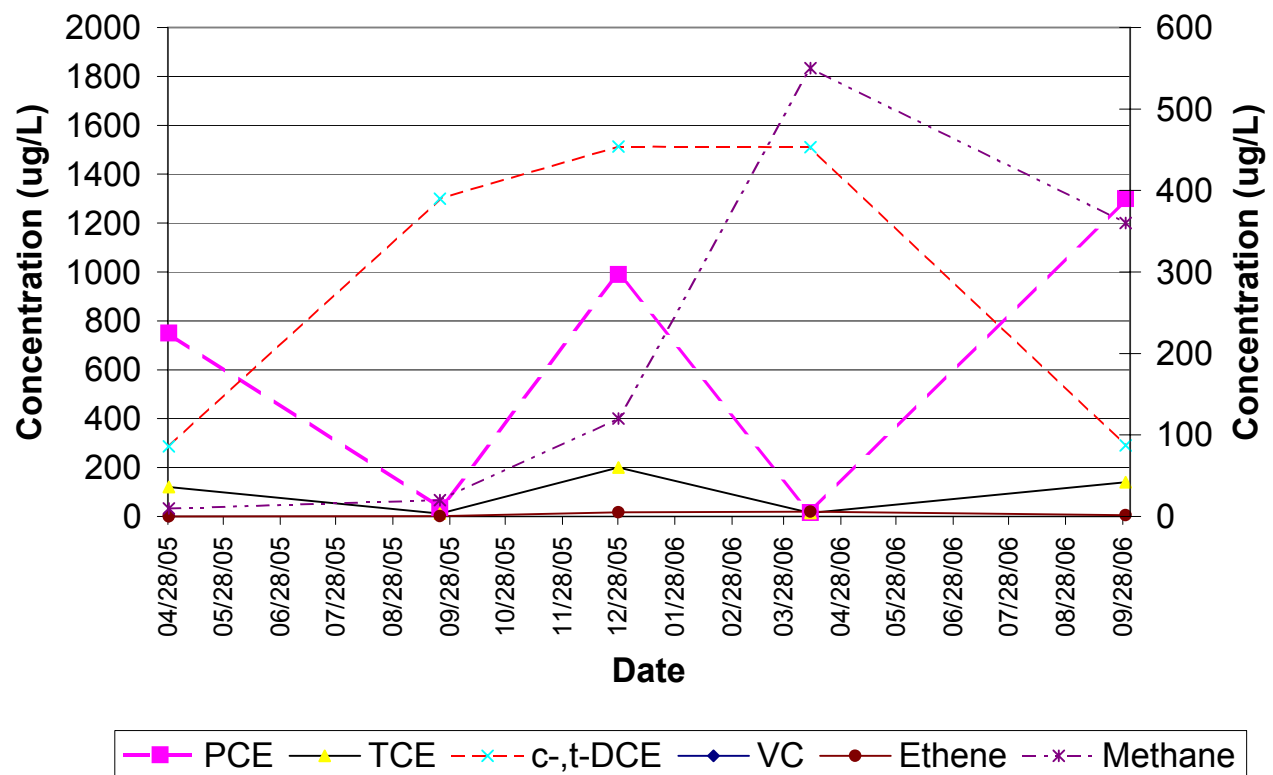
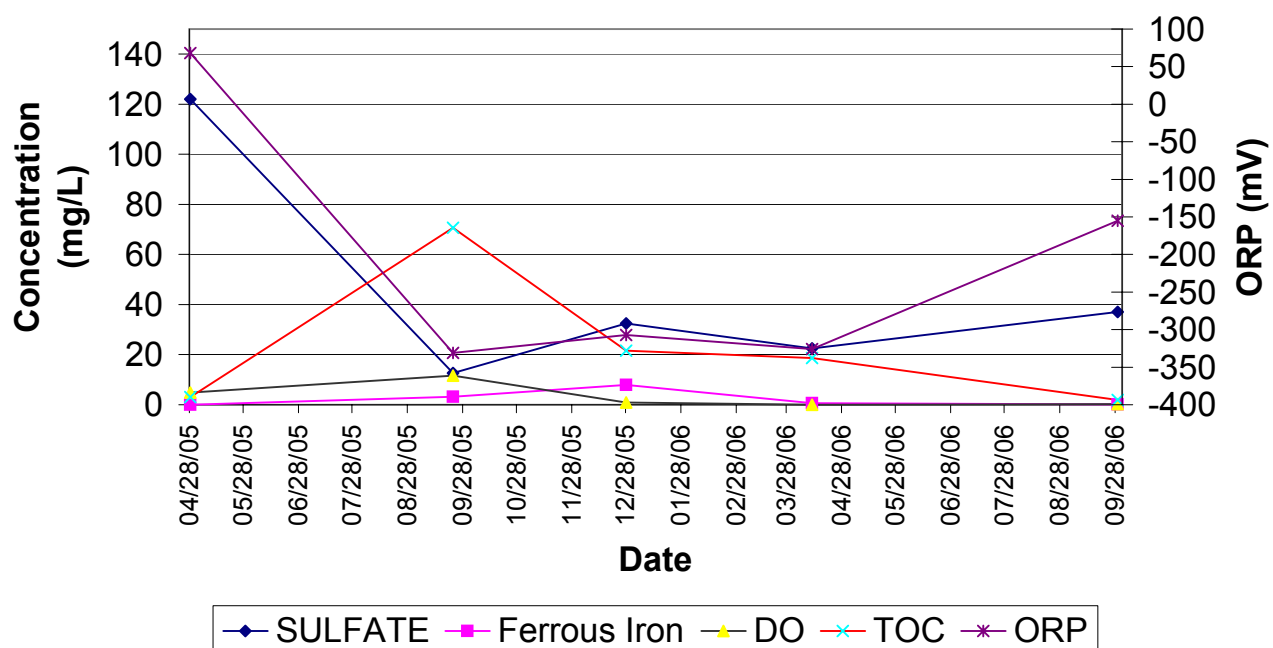
MW-8S
Groundwater Analytical Trends

MW-8S Groundwater Analytical Trends



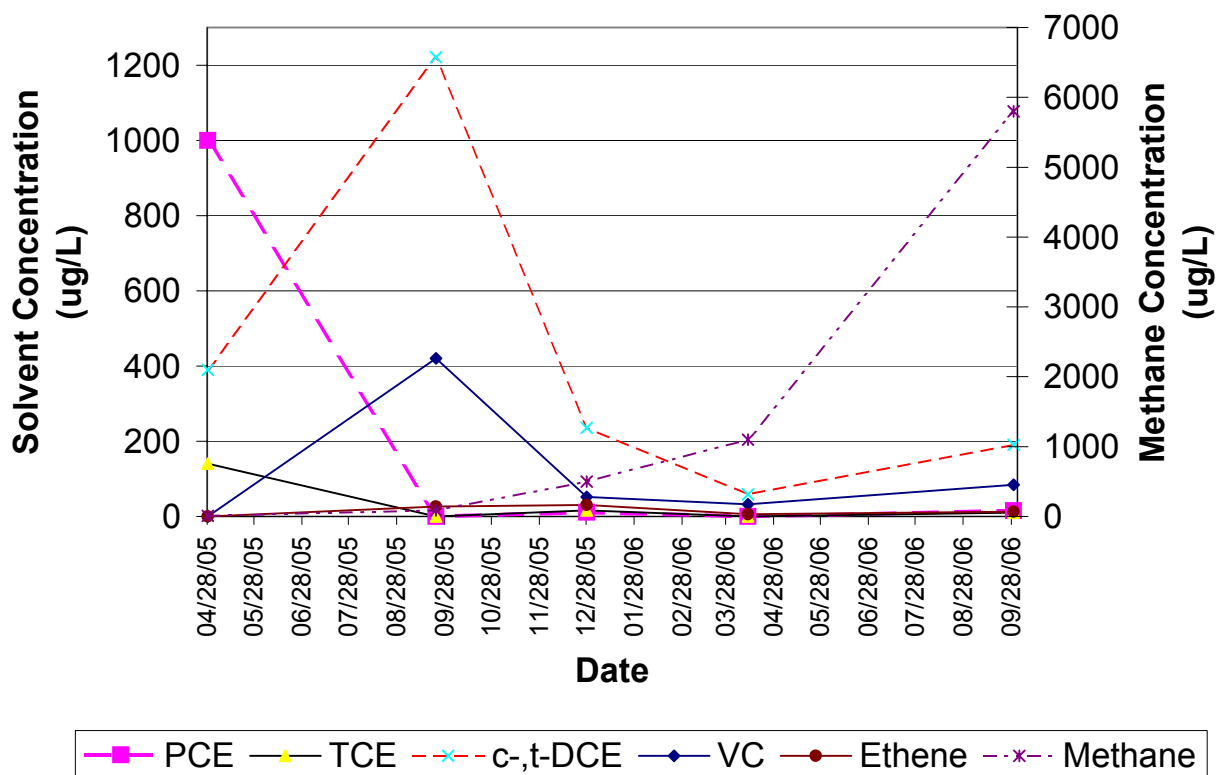
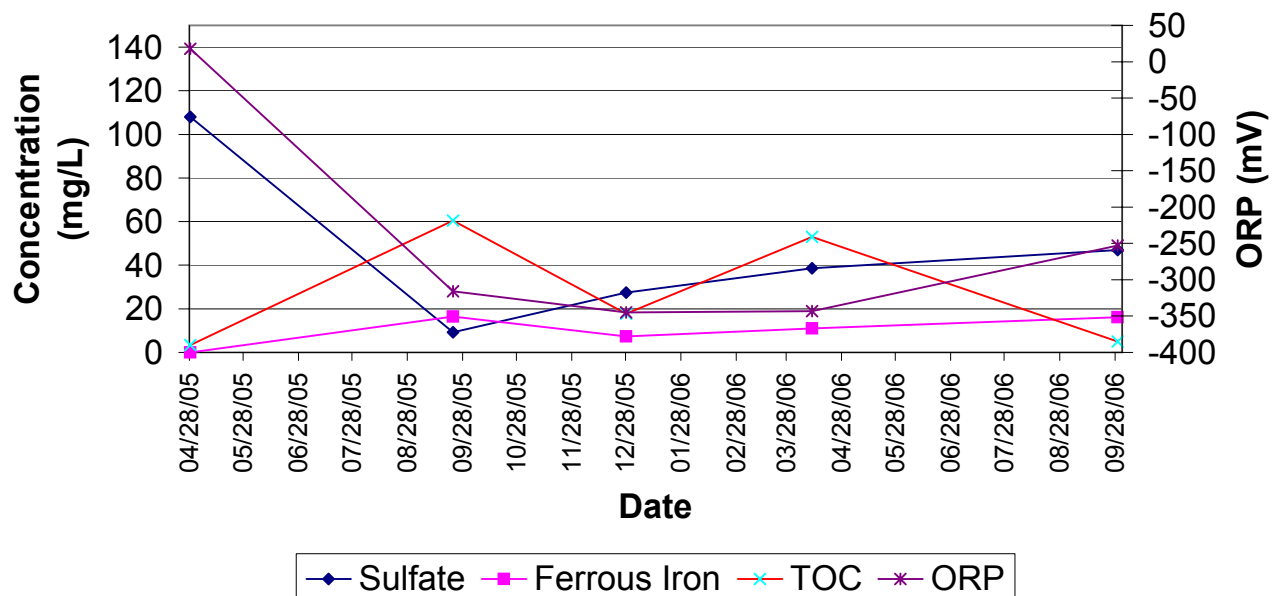
MW-12
Groundwater Analytical Trends

MW-12 Groundwater Analytical Trends



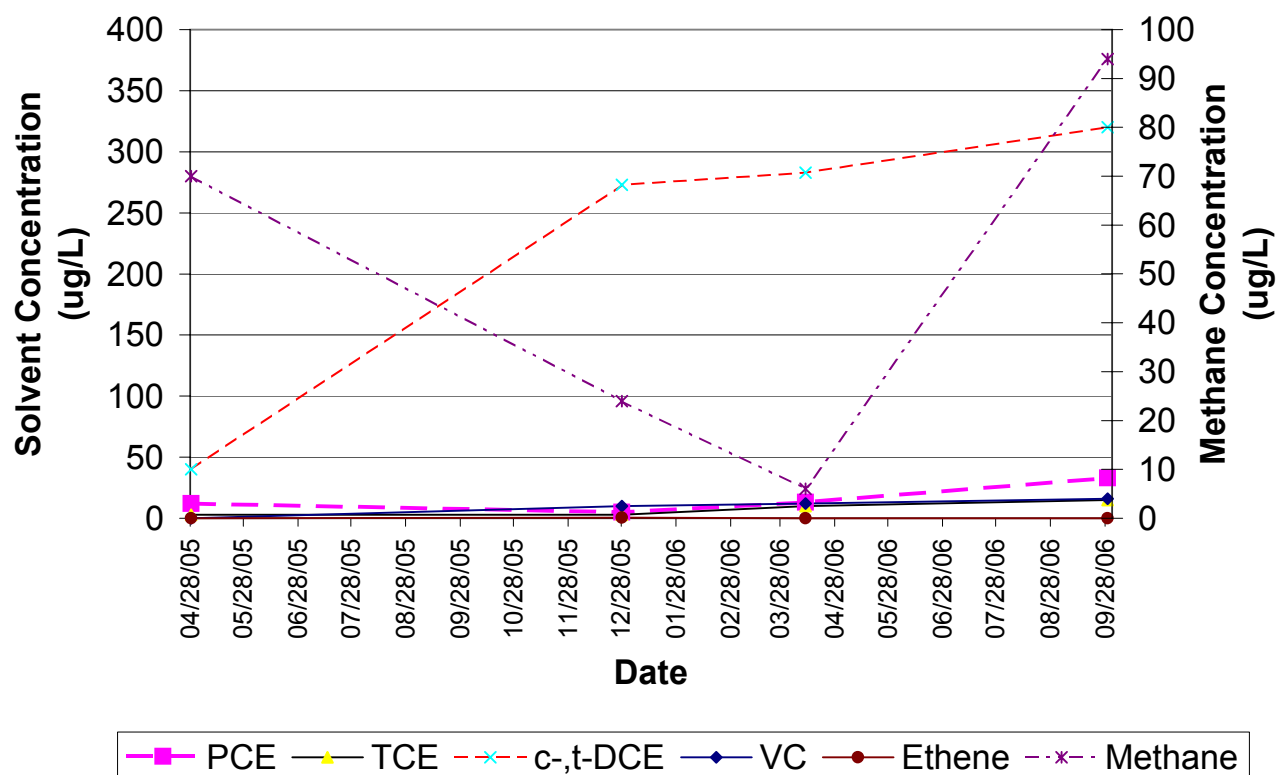
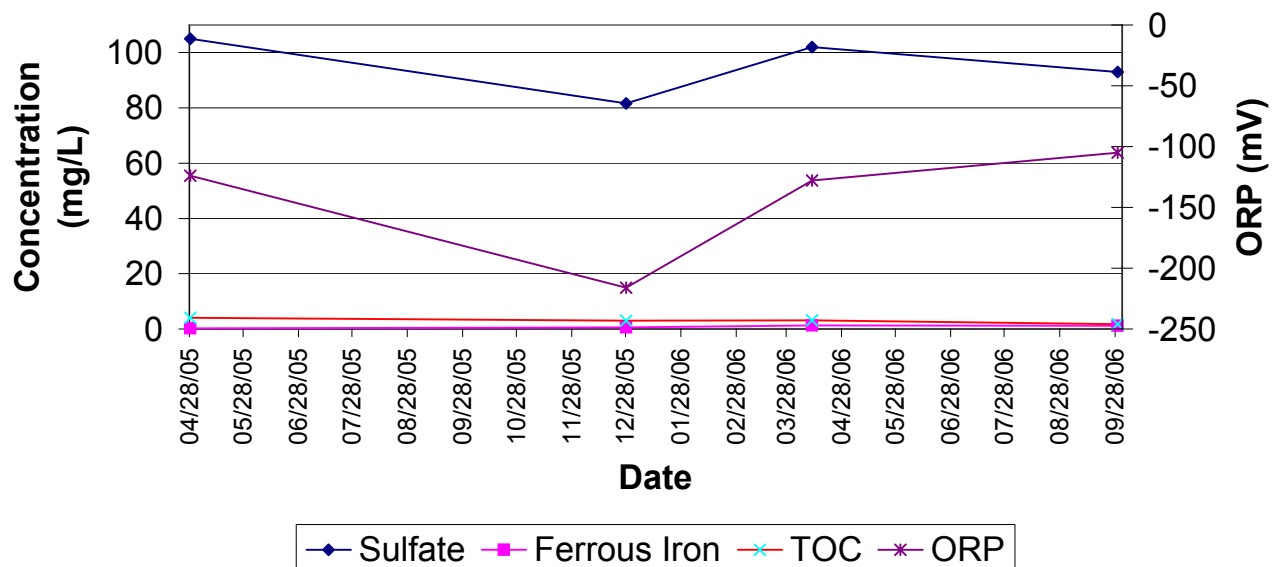
MW-16
Groundwater Analytical Trends

MW-16 GROUNDWATER ANALYTICAL TRENDS (IN-FIELD)



MW-18
Groundwater Analytical Trends

MW-18 GROUNDWATER ANALYTICAL TRENDS (UPGRADIENT)



MW-19
Groundwater Analytical Trends

MW-19 GROUNDWATER ANALYTICAL TRENDS (DOWNGRADIENT)

