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

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Final
February 2009

G3799H

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FEBRUARY 2009

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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 EOS™ 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 EOS™ 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 (HRC™) manufactured by Regenesis Bioremediation Products.
- Edible Oil Substrate (EOS™) 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, EOS™ was determined to be more suitable for the pilot study for the following reasons:

- EOS™ has a lower viscosity than HRC™ and may spread more completely into bedrock fractures and joints since a lower viscosity means it can move more readily in the bedrock aquifer.
- EOS™ is a slower release compound than HRC™. A slow release compound is more appropriate for the site because of the relatively flat gradient and lower concentrations in the downgradient area.
- EOS™ 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 ⅞-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

EOS™ was injected over a one-week period that took place between May 25 and May 30, 2005. EOS™ 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 x 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 E-2 cm/second in well EX-01 to 2.2 E –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 to14 ft^2/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 ± 0.10 SU

- Specific conductivity ± 3% of full scale
- Temperature ± 0.2° 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 EOS^{TM} 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 EOS^{TM} 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 EOS^{TM} 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 EOS^{TM} 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	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	2.49E-04	5.19E-04	4	3.21E-04
IWB-1	2.50E-04	2.51E-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	3.39E-04	3.69E-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.

(oval) 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 SO4)	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.

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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.

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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.

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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 SO4)	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.

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(oval) 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			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.

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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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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-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 SO4)	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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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-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.

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-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.

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-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 SO4)	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.

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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.

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***					
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.

(oval) 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.

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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 SO4)	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.

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***					
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 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		
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

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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-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.

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.

Advanced Selection: JJL080807
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Printed: 8/8/2007 3:47:18 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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

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-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 SO4)	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.

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-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.

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***				
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

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***				
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 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	
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

WELL	LOCATION	BASELINE	120 Days	220 Days	317 days	485 Days
PCE (ug/L)						
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

WELL	LOCATION	BASELINE	120 Days	220 Days	317 days	485 Days
Sulfate (mg/L)						
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

N:\11173519.00000\DB\GIS\ArcMap\SITE LOCATION.mxd 8/6/2007 3:55:01 PM Lumb, M

N

BLACK ROCK CANAL

1 STY. BRICK BUILDING

W. DELAVAN AVE.

MW-05

2 STY BRICK AND CONC. BLOCK BUILDING

MW-01S

MW-01D

MW-02

MW-04D

MW-04S

MW-10

PZ-1

MW-06

FORMERLY PENN-CENTRAL/NEW YORK CENTRAL RAILROAD

FORMER CHEM CORE FACILITY (SOURCE AREA)

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

MW-09

SUMP (TYP.)

MW-14

MW-07

(SOUTHBOUND LANE)

(NORTHBOUND LANE)

FORMERLY MENTHOLATUM INC. (BRICK BUILDING)

MW-03

NIAGARA ST.

MW-11

NYS THRUWAY (I-190)

GARRETT LEATHER CORP.

PENFIELD ST.

MW-19

PARKING LOT

MW-08S

MW-08D

IW-D1 IW-C1 IW-B1

MW-15

IW-D2 IW-C2 IW-B2 IW-A1

MW-16 IW-C3 IW-B3

IW-D3 IW-A2

IW-D4 IW-B4

IW-C4 IW-A3

IW-D5 IW-A4

IW-C5 IW-B5

IW-D6 IW-A5

MW-12 IW-B6

IW-C6 IW-A6

MW-17

MW-18

PILOT STUDY AREA

MW-13S & MW-13D
~545 FT. SOUTH OF MW-18

Legend

- Bioremediation Injection Location
- Monitoring Well
- Piezometer

60 0 60 Feet

URS	CHEM CORE SITE LOCATION	FIGURE 1-1

N:\11173519.00000\DB\GIS\geology.apr 09/10/04 GROUNDWATER ELEVATIONS 8/6/2007 Lumb, M

N

BLACK ROCK CANAL

NYS THRUWAY (I-190)

(SOUTHBOUND LANE)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/NEW YORK CENTRAL RAILROAD

WEST DELAVAN AVENUE

NIAGARA STREET

1 STY. BRICK BUILDING

2 STY BRICK AND CONC. BLOCK BUILDING

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

SUMP (TYP.)

FORMERLY MENTHOLATUM INC. (BRICK BUILDING)

GARRETT LEATHER CORP.

PARKING LOT

MW-01S, 572.66

MW-02, 572.73

MW-03, 573.28

MW-04S, 573.24

MW-05, 572.68

MW-06, 572.71

MW-08S, 575.60

MW-09, 572.38

MW-10, 571.11

MW-11, 572.52

MW-12, 576.03

MW-14, 572.79

MW-15, 574.46

MW-16, 575.73

MW-17, 575.16

571.50

572.00

572.50

573.00

573.50

574.00

574.50

575.00

575.50

Legend

Monitoring Well

570.20 Groundwater Elevation Contour

MW-12, 576.03

Location ID

Groundwater Elevation (ft amsl)

60 0 60 Feet

URS

CHEM CORE
GROUNDWATER POTENTIOMETRIC SURFACE MAP (SEPTEMBER 10, 2004)

FIGURE 2-1

N:\11173519.00000\DB\GIS\geology.apr 12/06/04 GROUNDWATER ELEVATIONS 8/6/2007 Lumb, M

N

BLACK ROCK CANAL

NYS THRUWAY (I-190)

(SOUTHBOUND LANE)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/NEW YORK CENTRAL RAILROAD

WEST DELAVAN AVENUE

NIAGARA STREET

1 STY. BRICK BUILDING

2 STY BRICK AND CONC. BLOCK BUILDING

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

SUMP (TYP.)

FORMERLY MENTHOLATUM INC. (BRICK BUILDING)

GARRETT LEATHER CORP.

PARKING LOT

MW-01S, 569.97

MW-02, 569.99

MW-03, 570.19

MW-04S, 571.54

MW-05, 569.95

MW-06, 569.99

MW-07, 570.22

MW-08S, 571.19

MW-09, 570.92

MW-10, 569.59

MW-11, 569.89

MW-12, 571.33

MW-14, 570.05

MW-15, 571.29

MW-16, 571.26

MW-17, 571.13

MW-18, 571.40

EX-01, 570.41

569.80

570.00

570.20

570.40

570.60

570.80

571.00

571.20

571.40

Legend

- Monitoring Well
- 570.20 Groundwater Elevation Contour
- MW-12, 571.33 (Location ID; Groundwater Elevation (ft amsl))

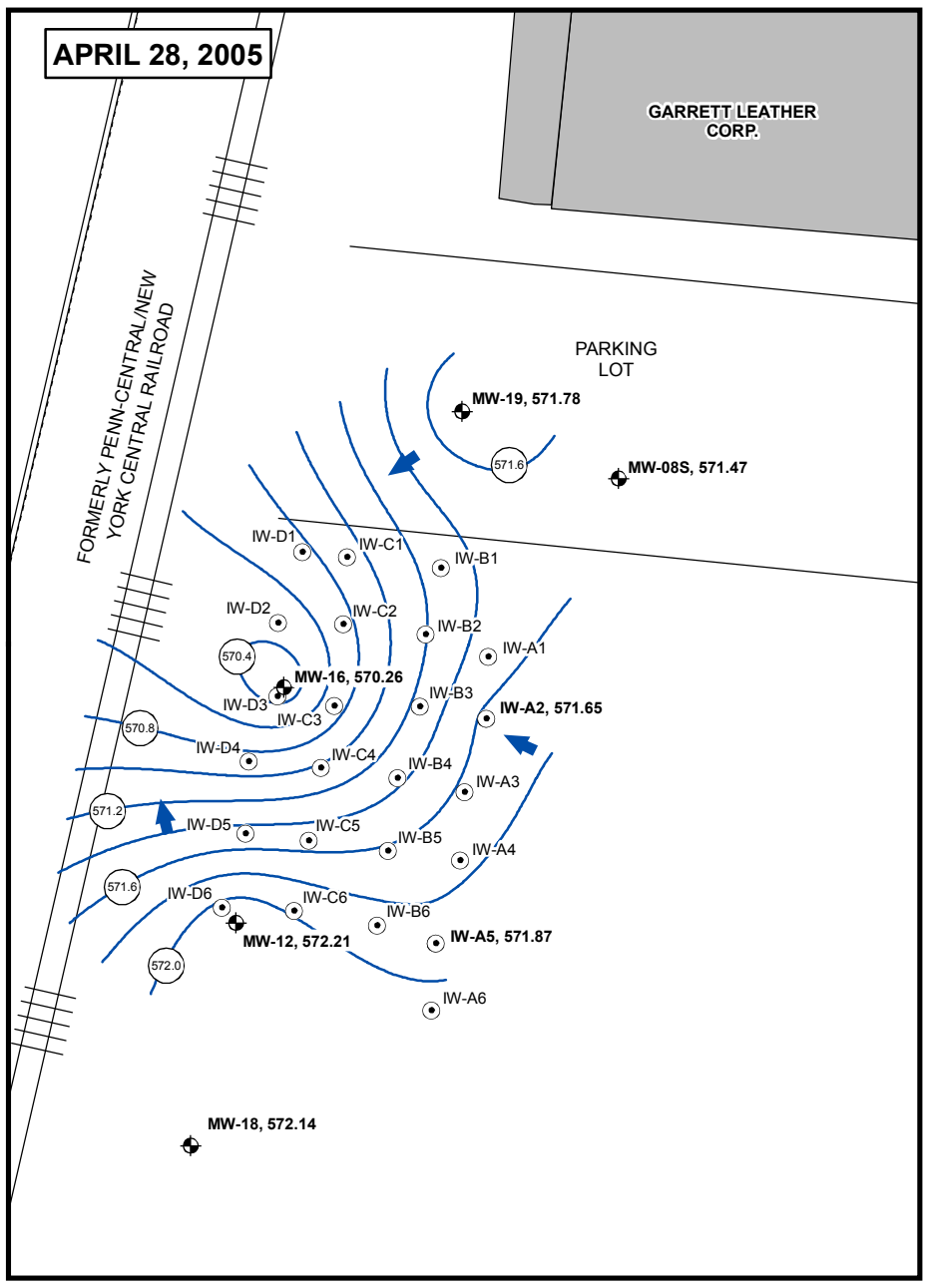
60 0 60 Feet

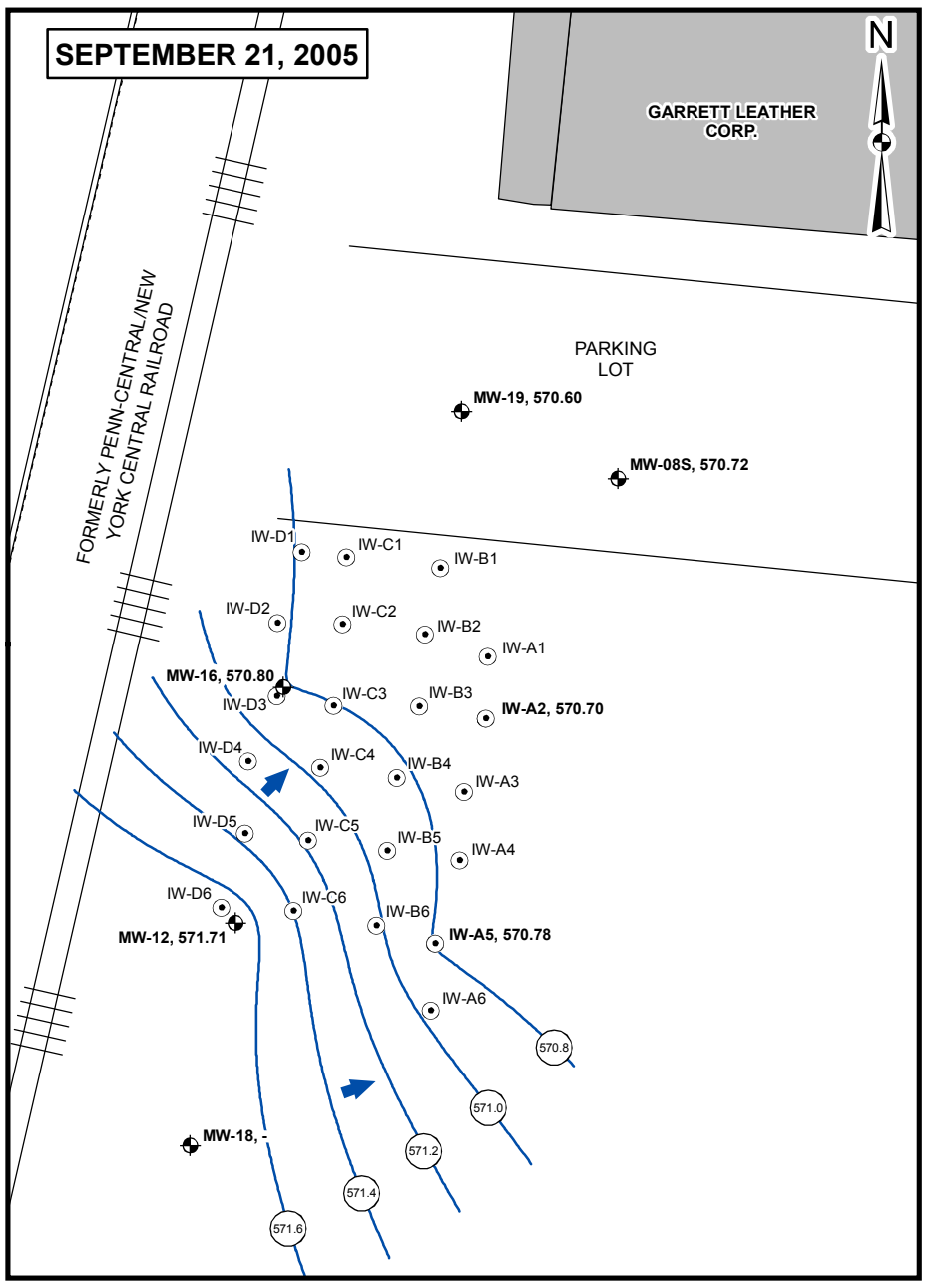
URS

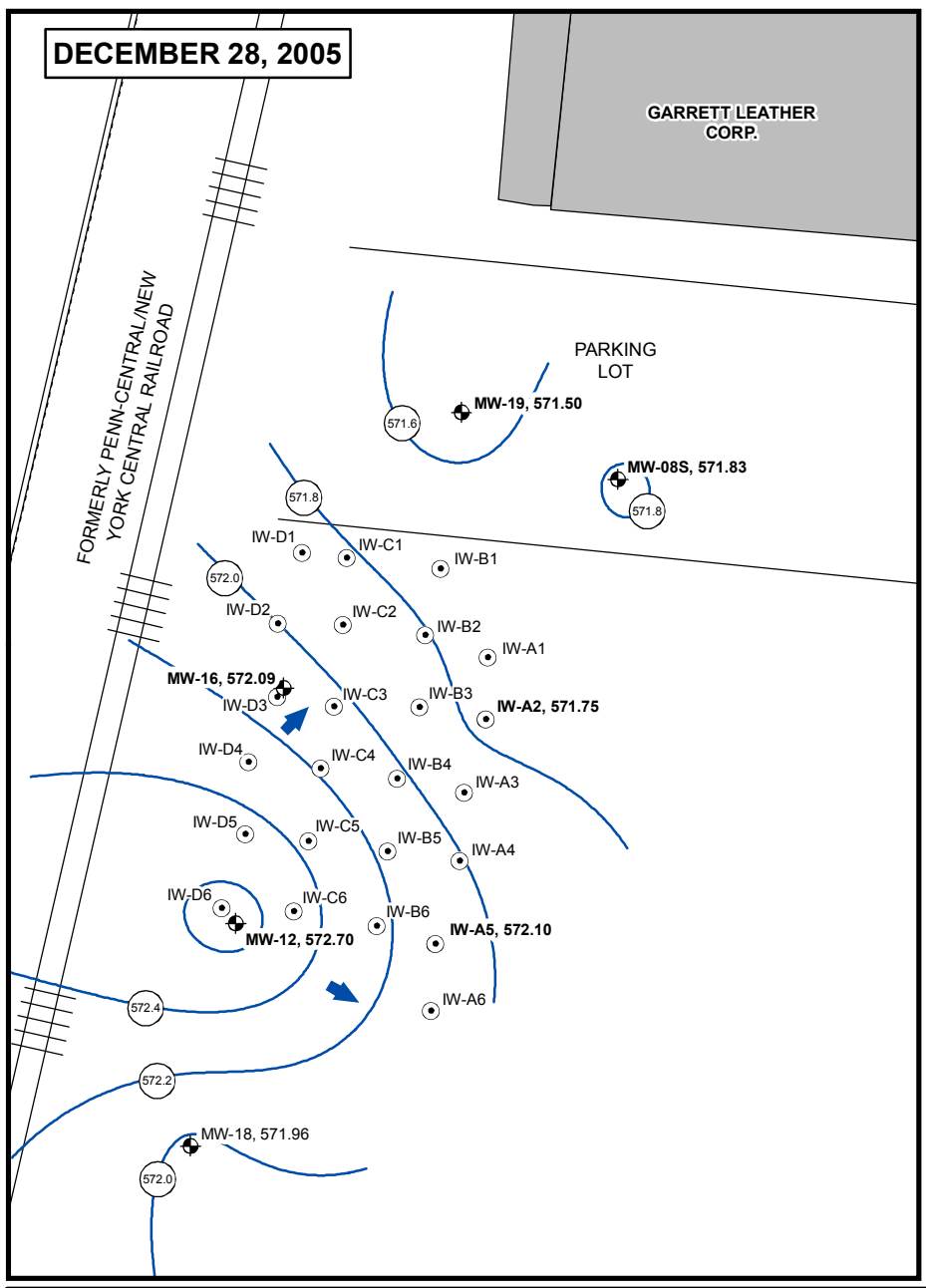
CHEM CORE
GROUNDWATER POTENTIOMETRIC SURFACE MAP (DECEMBER 6, 2004)

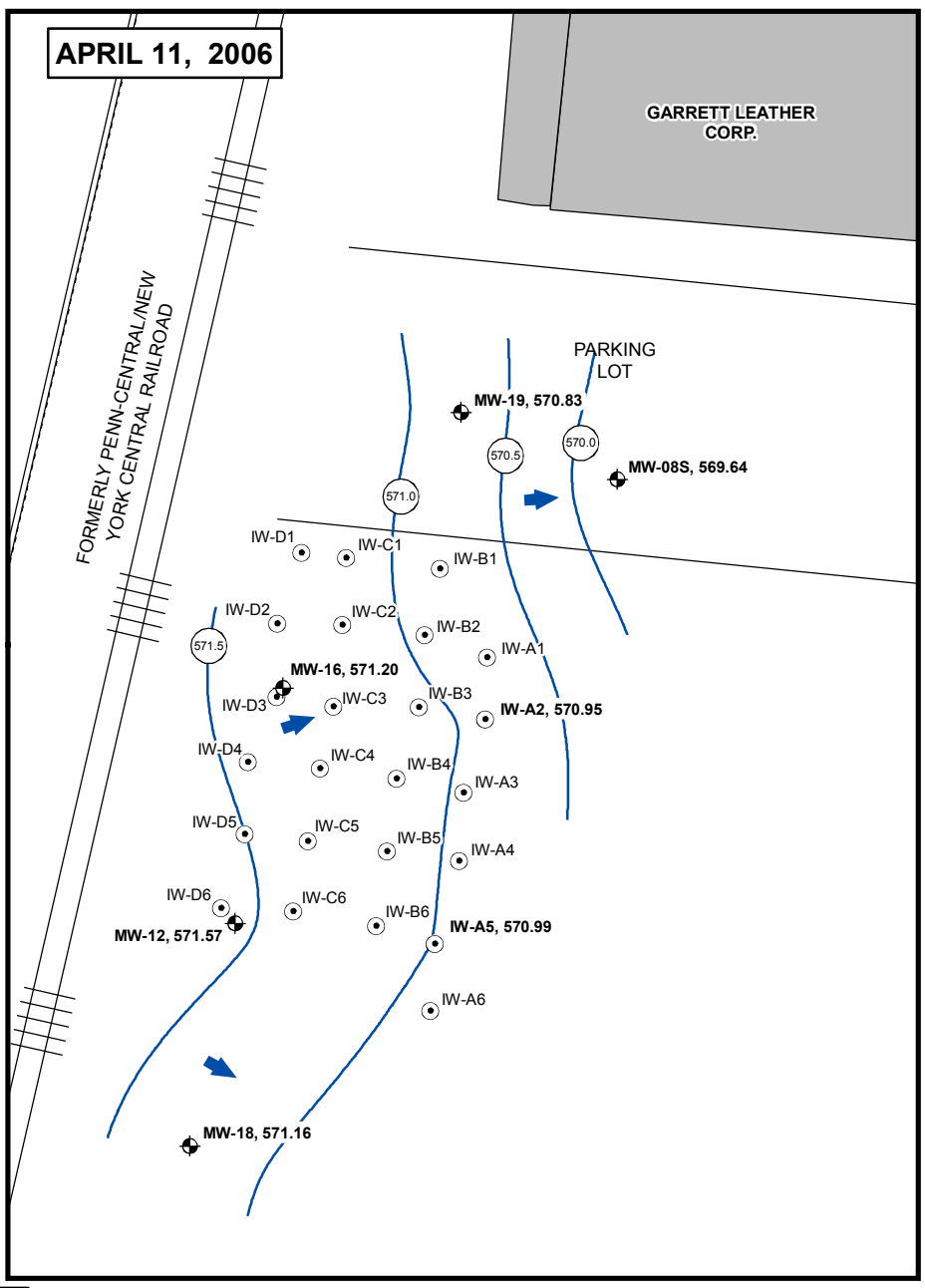
FIGURE 2-2

N:\11173519.00000\DB\GIS\ArcMap\0405-0406_Groundwater Elevations.mxd 8/6/2007 4:16:35 PM Lumb, M









Legend

- Monitoring Well
- Injection Well
- Groundwater Flow Direction
- Groundwater Elevation Contour (572.0)
- MW-19, 570.83 (Location ID; Groundwater Elevation (ft AMSL))

40 0 40 Feet

URS

CHEM CORE
GROUNDWATER POTENTIOMETRIC SURFACE COMPARISON
(APRIL 2005 - APRIL 2006)

FIGURE 2-3

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
VOCs:
cis-1,2-Dichloroethene, 120
Tetrachloroethene, 370
Trichloroethene, 37
Vinyl chloride, 5

MW-08D
VOCs:
cis-1,2-Dichloroethene, 110
Tetrachloroethene, 310
Trichloroethene, 31
Vinyl chloride, 7

MW-08S
VOCs:
cis-1,2-Dichloroethene, 94
Tetrachloroethene, 130
Trichloroethene, 21
Vinyl chloride, 3

MW-16
VOCs:
cis-1,2-Dichloroethene, 390
Tetrachloroethene, 1000
Trichloroethene, 140

IW-A2
VOCs:
cis-1,2-Dichloroethene, 150
Tetrachloroethene, 560
Trichloroethene, 65

IW-A5
VOCs:
cis-1,2-Dichloroethene, 66
Tetrachloroethene, 230
Trichloroethene, 27

MW-12
VOCs:
cis-1,2-Dichloroethene, 280
Tetrachloroethene, 750
trans-1,2-Dichloroethene, 6
Trichloroethene, 120

MW-18
VOCs:
cis-1,2-Dichloroethene, 38
Tetrachloroethene, 12

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6

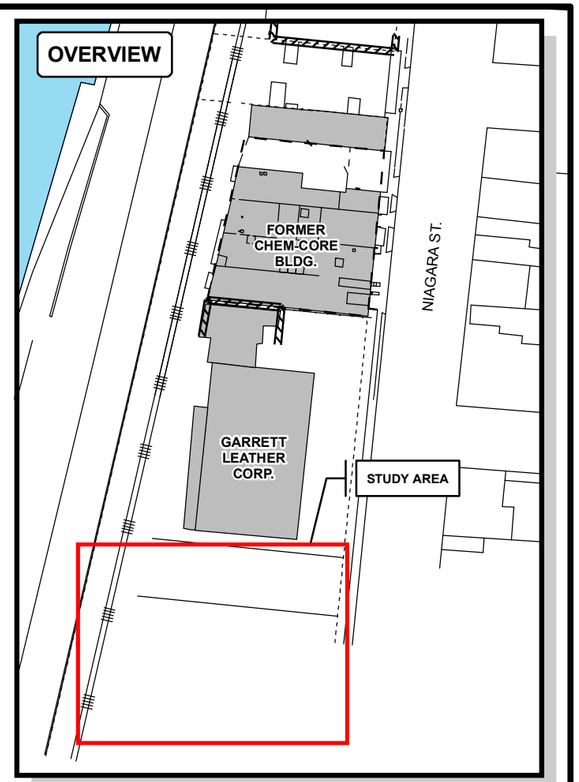
Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-18
Tetrachloroethene, 12
Location ID
Compound Exceeding Criteria
Concentration (UG/L)

30 0 30
Feet

OVERVIEW



CHEM-CORE
GROUNDWATER CONTAMINANTS ABOVE SCGs (APRIL 2005)

URS

FIGURE 3-1

N:\11173519.00000\DB\GIS\ArcMap\wgres_0405.mxd 8/7/2007 8:23:01 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
Sulfate (as SO4), 137
Ferrous Iron, ND
TOC, 4
ORP, -113
Methane, ND

MW-08D
Sulfate (as SO4), 220
Ferrous Iron, 0.02
TOC, 9.34
ORP, -194
Methane, 20

MW-08S
Sulfate (as SO4), 306
Ferrous Iron, 0.05
TOC, 6.8
ORP, 71
Methane, ND

MW-16
Sulfate (as SO4), 108
Ferrous Iron, 0.05
TOC, 3.43
ORP, 18
Methane, 8

IW-A2
Sulfate (as SO4), 213
Ferrous Iron, ND
TOC, 10.1
ORP, 72
Methane, ND

IW-A5
Sulfate (as SO4), 181
Ferrous Iron, 0.01
TOC, 21.2
ORP, 39
Methane, ND

MW-12
Sulfate (as SO4), 122
Ferrous Iron, 0.03
TOC, 3.08
ORP, 68
Methane, 10

MW-18
Sulfate (as SO4), 105
Ferrous Iron, 0.26
TOC, 4.06
ORP, -124
Methane, 70

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6

OVERVIEW

FORMER CHEM-CORE BLDG.

GARRETT LEATHER CORP.

STUDY AREA

NIAGARA ST.

Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Methane, 10
Location ID
Geochemical Indicator
Concentration

NOTE:
1) ND - Not Detected
2) Sulfate (as SO4), concentration in mg/L
3) Ferrous Iron, concentration in mg/L
4) Total Organic Carbon (TOC), concentration in mg/L
5) Oxidation Reduction Potential (ORP), concentration in mV
6) Methane, concentration in ug/L

30 0 30 Feet

CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(APRIL 2005)

URS

FIGURE 3-2

N:\11173519.00000\DB\GIS\ArcMap\GW Geochemical Indicator Parameters_0405.mxd 8/7/2007 10:07:45 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19

VOCs:
cis-1,2-Dichloroethene, 190
trans-1,2-Dichloroethene, 6
Vinyl chloride, 220

MW-08D

VOCs:
1,1-Dichloroethane, 35

MW-16

VOCs:
1,2-Dichlorobenzene, 7
Chlorobenzene, 9
Chloroform, 8
cis-1,2-Dichloroethene, 1,200
Methylene chloride, 13
Toluene, 7
trans-1,2-Dichloroethene, 21
Vinyl chloride, 420

MW-08S

VOCs:
cis-1,2-Dichloroethene, 260
Vinyl chloride, 47

IW-A2

VOCs:
cis-1,2-Dichloroethene, 2,200
trans-1,2-Dichloroethene, 21
Vinyl chloride, 490

MW-12

VOCs:
cis-1,2-Dichloroethene, 1,300
Methylene chloride, 7
Tetrachloroethene, 35
Trichloroethene, 12
Vinyl chloride, 20

IW-A5

VOCs:
cis-1,2-Dichloroethene, 910
trans-1,2-Dichloroethene, 8
Vinyl chloride, 110

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6
IW-A6

Legend

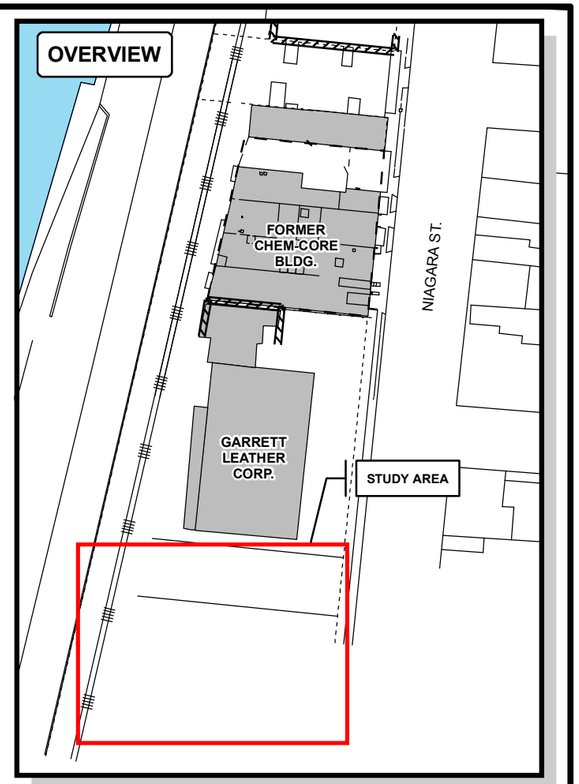
- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Tetrachloroethene, 35

Location ID
Compound Exceeding Criteria
Concentration (UG/L)

30 0 30
Feet

OVERVIEW



CHEM-CORE
GROUNDWATER CONTAMINANTS ABOVE SCGs (SEPTEMBER 2005)

URS

FIGURE 3-3

N:\11173519.00000\DB\GIS\ArcMap\wgres_0905.mxd 8/7/2007 8:40:28 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
VOCs:
cis-1,2-Dichloroethene, 11

MW-08D
VOCs:
1,1,1-Trichloroethane, 7
1,1-Dichloroethane, 55
Vinyl chloride, 8

MW-08S
VOCs:
cis-1,2-Dichloroethene, 6
Vinyl chloride, 10

MW-16
VOCs:
cis-1,2-Dichloroethene, 230
Tetrachloroethene, 11
trans-1,2-Dichloroethene, 6
Trichloroethene, 16
Vinyl chloride, 52

IW-A2
VOCs:
cis-1,2-Dichloroethene, 16
trans-1,2-Dichloroethene, 6
Vinyl chloride, 13

IW-A5
VOCs:
cis-1,2-Dichloroethene, 120
Tetrachloroethene, 9
trans-1,2-Dichloroethene, 9
Vinyl chloride, 58

MW-12
VOCs:
cis-1,2-Dichloroethene, 1,500
Tetrachloroethene, 990
trans-1,2-Dichloroethene, 13
Trichloroethene, 200
Vinyl chloride, 100

MW-18
VOCs:
cis-1,2-Dichloroethene, 270
Vinyl chloride, 10

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6
IW-A6

Legend

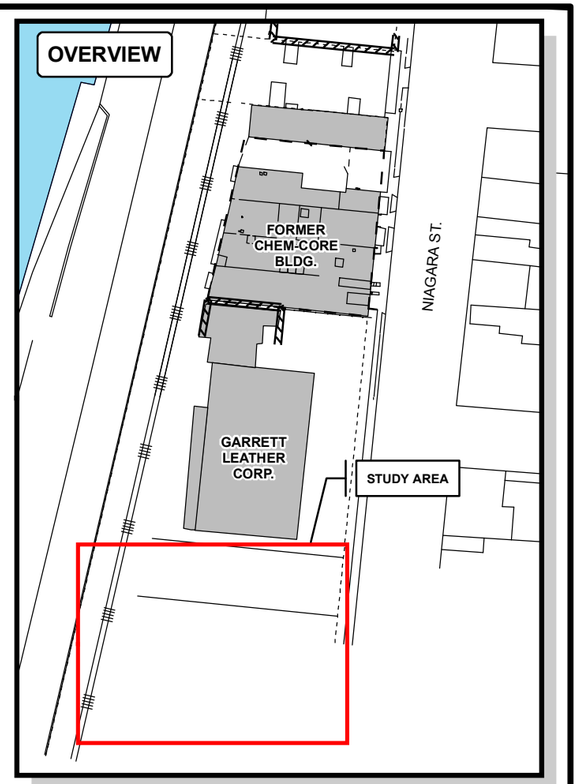
- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Tetrachloroethene, 990

Location ID
Compound Exceeding Criteria
Concentration (UG/L)

30 0 30
Feet

OVERVIEW



CHEM-CORE
GROUNDWATER CONTAMINANTS ABOVE SCGs (DECEMBER 2005)

URS

FIGURE 3-4

N:\11173519.00000\DB\GIS\ArcMap\wgres_1205.mxd 8/7/2007 8:49:00 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
VOCs:
cis-1,2-Dichloroethene, 14
Vinyl chloride, 11

MW-08D
VOCs:
1,1,1-Trichloroethane, 16
1,1-Dichloroethane, 93
1,2-Dichloroethane, 2
cis-1,2-Dichloroethene, 11
Vinyl chloride, 35

MW-08S

MW-16
VOCs:
cis-1,2-Dichloroethene, 57
Vinyl chloride, 32

IW-A2
VOCs:
Vinyl chloride, 4

MW-12
VOCs:
Acetone, 65
cis-1,2-Dichloroethene, 1,500
Tetrachloroethene, 16
trans-1,2-Dichloroethene, 11
Trichloroethene, 15
Vinyl chloride, 370

IW-A5
VOCs:
cis-1,2-Dichloroethene, 25
Vinyl chloride, 24

MW-18
VOCs:
cis-1,2-Dichloroethene, 280
Tetrachloroethene, 13
Trichloroethene, 10
Vinyl chloride, 12

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6

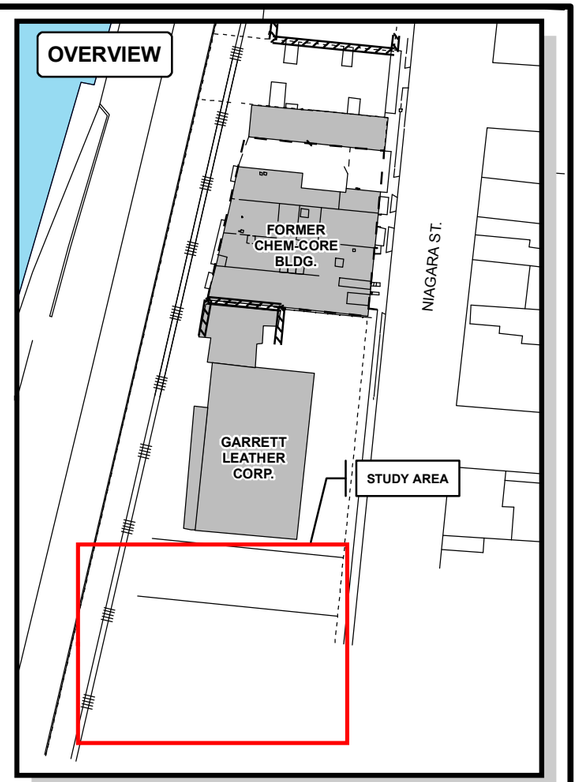
Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12 Tetrachloroethene, 16
Location ID; Compound Exceeding Criteria; Concentration (UG/L)

30 0 30 Feet

OVERVIEW



CHEM-CORE
GROUNDWATER CONTAMINANTS ABOVE SCGs (APRIL 2006)

URS

FIGURE 3-5

N:\11173519.00000\DB\GIS\ArcMap\wgres_0406.mxd 8/7/2007 9:02:17 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
VOCs:
cis-1,2-Dichloroethene, 49
Tetrachloroethene, 13
Vinyl chloride, 13

MW-08D
VOCs:
1,1-Dichloroethane, 23
Benzene, 5
cis-1,2-Dichloroethene, 7
Vinyl chloride, 18

MW-08S

MW-16
VOCs:
cis-1,2-Dichloroethene, 190
Tetrachloroethene, 15
Trichloroethene, 10
Vinyl chloride, 84

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6

IW-A2
VOCs:
cis-1,2-Dichloroethene, 10
Vinyl chloride, 5

IW-A5
VOCs:
cis-1,2-Dichloroethene, 26
Vinyl chloride, 12

MW-12
VOCs:
cis-1,2-Dichloroethene, 290
Tetrachloroethene, 1,300
Trichloroethene, 140

MW-18
VOCs:
cis-1,2-Dichloroethene, 320
Tetrachloroethene, 33
Trichloroethene, 15
Vinyl chloride, 16

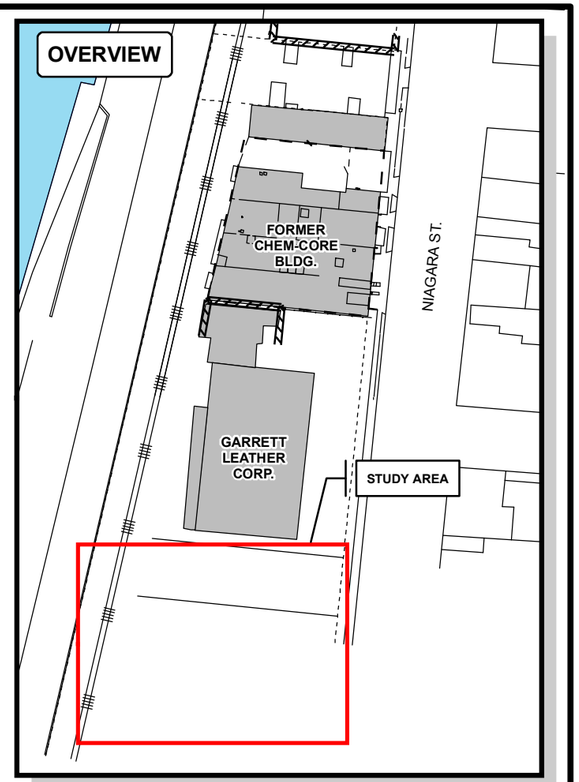
Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Tetrachloroethene, 16
Location ID
Compound Exceeding Criteria
Concentration (UG/L)

30 0 30 Feet

OVERVIEW



CHEM-CORE
GROUNDWATER CONTAMINANTS ABOVE SCGs (SEPTEMBER 2006)

URS

FIGURE 3-6

N:\11173519.00000\DB\GIS\ArcMap\wgres_0906.mxd 8/7/2007 9:30:39 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
Sulfate (as SO4), 9.55
Ferrous Iron, 14.1
TOC, 53
ORP, -408
Methane, 66

MW-08D
Sulfate (as SO4), 258
Ferrous Iron, 0.86
TOC, 36.6
ORP, -354
Methane, 240

MW-08S
Sulfate (as SO4), 134
Ferrous Iron, 0.82
TOC, 12.6
ORP, -269
Methane, 13

MW-16
Sulfate (as SO4), 9.26
Ferrous Iron, 16.4
TOC, 60.4
ORP, -316
Methane, 87

IW-A2
Sulfate (as SO4), 19.7
Ferrous Iron, 19
TOC, 86.7
ORP, -470
Methane, 250

IW-A5
Sulfate (as SO4), 8.85
Ferrous Iron, 16.3
TOC, 84.1
ORP, -459
Methane, 260

MW-12
Sulfate (as SO4), 12.7
Ferrous Iron, 3.19
TOC, 70.6
ORP, -331
Methane, 20

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3 IW-A2
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A5 IW-A6

OVERVIEW

FORMER CHEM-CORE BLDG.

GARRETT LEATHER CORP.

STUDY AREA

NIAGARA ST.

Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Methane, 10
Location ID
Geochemical Indicator
Concentration

NOTE:
1) ND - Not Detected
2) Sulfate (as SO4), concentration in mg/L
3) Ferrous Iron, concentration in mg/L
4) Total Organic Carbon (TOC), concentration in mg/L
5) Oxidation Reduction Potential (ORP), concentration in mV
6) Methane, concentration in ug/L

30 0 30 Feet

CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(SEPTEMBER 2005)

URS

FIGURE 3-7

N:\11173519.00000\DB\GIS\ArcMap\GW Geochemical Indicator Parameters_0905.mxd 8/7/2007 10:24:35 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
Sulfate (as SO4), 15.4
Ferrous Iron, 9.6
TOC, 66.8
ORP, -326
Methane, 570

MW-08D
Sulfate (as SO4), 171
Ferrous Iron, 0.36
TOC, 32.1
ORP, -312
Methane, 420

MW-08S
Sulfate (as SO4), 186
Ferrous Iron, 0.18
TOC, 5.65
ORP, -84
Methane, 6

MW-16
Sulfate (as SO4), 27.5
Ferrous Iron, 7.4
TOC, 17.7
ORP, -345
Methane, 500

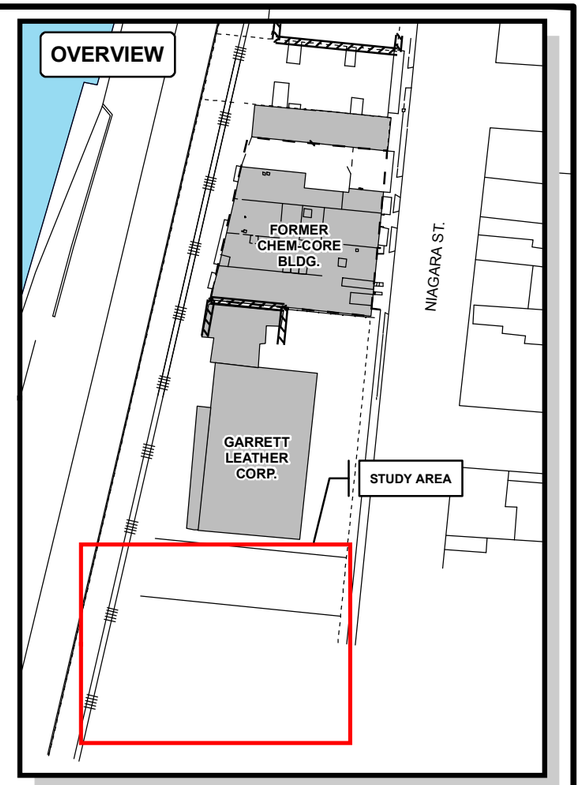
IW-A2
Sulfate (as SO4), 40.3
Ferrous Iron, 16.1
TOC, 84.7
ORP, -461
Methane, 720

IW-A5
Sulfate (as SO4), 80
Ferrous Iron, 1.02
TOC, 48.7
ORP, -373
Methane, 510

MW-12
Sulfate (as SO4), 32.4
Ferrous Iron, 7.9
TOC, 21.6
ORP, -307
Methane, 120

MW-18
Sulfate (as SO4), 81.6
Ferrous Iron, 0.56
TOC, 2.97
ORP, -216
Methane, 24

IW-D1 IW-C1 IW-B1 IW-A1
IW-D2 IW-C2 IW-B2
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6



Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Methane, 10
Location ID
Geochemical Indicator
Concentration

NOTE:
1) ND - Not Detected
2) Sulfate (as SO4), concentration in mg/L
3) Ferrous Iron, concentration in mg/L
4) Total Organic Carbon (TOC), concentration in mg/L
5) Oxidation Reduction Potential (ORP), concentration in mV
6) Methane, concentration in ug/L

30 0 30 Feet

CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(DECEMBER 2005)

URS

FIGURE 3-8

N:\11173519.00000\DB\GIS\ArcMap\GW Geochemical Indicator Parameters_1205.mxd 8/7/2007 10:26:17 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
Sulfate (as SO4), 17.3
Ferrous Iron, 10.6
TOC, 42.2
ORP, -216
Methane, 1400

MW-08D
Sulfate (as SO4), 374
Ferrous Iron, 0.01
TOC, 4.81
ORP, -276
Methane, 250

MW-08S
Sulfate (as SO4), 355
Ferrous Iron, ND
TOC, 5.66
ORP, -7
Methane, ND

MW-16
Sulfate (as SO4), 38.6
Ferrous Iron, 11
TOC, 53
ORP, -343
Methane, 1100

IW-A2
Sulfate (as SO4), 35.2
Ferrous Iron, 19.4
TOC, 128
ORP, -445
Methane, 1800

IW-A5
Sulfate (as SO4), 32.9
Ferrous Iron, 2.31
TOC, 57.8
ORP, -380
Methane, 1600

MW-12
Sulfate (as SO4), 22.5
Ferrous Iron, 0.62
TOC, 18.7
ORP, -326
Methane, 550

MW-18
Sulfate (as SO4), 102
Ferrous Iron, 1.27
TOC, 3.15
ORP, -128
Methane, 6

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6 IW-A6

Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Methane, 10
Location ID
Geochemical Indicator
Concentration

NOTE:
1) ND - Not Detected
2) Sulfate (as SO4), concentration in mg/L
3) Ferrous Iron, concentration in mg/L
4) Total Organic Carbon (TOC), concentration in mg/L
5) Oxidation Reduction Potential (ORP), concentration in mV
6) Methane, concentration in ug/L

30 0 30 Feet

OVERVIEW

FORMER CHEM-CORE BLDG.

GARRETT LEATHER CORP.

NIAGARA ST.

STUDY AREA

CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(APRIL 2006)

URS

FIGURE 3-9

N:\11173519.00000\DB\GIS\ArcMap\GW Geochemical Indicator Parameters_0406.mxd 8/7/2007 10:46:57 AM Lumb, M

N

NYS THRUWAY (I-190)

(NORTHBOUND LANE)

FORMERLY PENN-CENTRAL/ NEW YORK CENTRAL RAILROAD

GARRETT LEATHER CORP.

PARKING LOT

NIAGARA ST.

MW-19
Sulfate (as SO4), 97
Ferrous Iron, 3
TOC, 4.5
ORP, -183
Methane, 3100

MW-08D
Sulfate (as SO4), 74
Ferrous Iron, 0.7
TOC, 3.6
ORP, -211
Methane, 5500

MW-08S
Sulfate (as SO4), 350
Ferrous Iron, ND
TOC, 3.5
ORP, 20
Methane, 21

MW-16
Sulfate (as SO4), 47
Ferrous Iron, 16.1
TOC, 5
ORP, -253
Methane, 5800

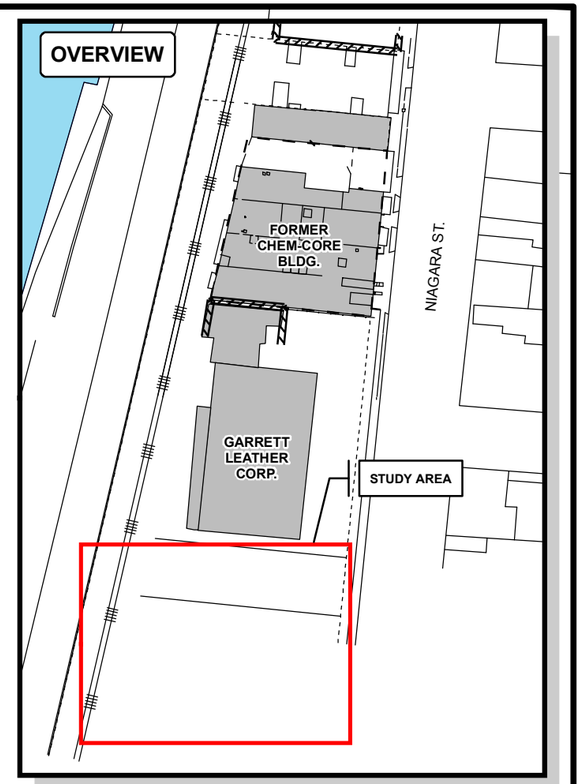
IW-A2
Sulfate (as SO4), 90
Ferrous Iron, 12.1
TOC, 11
ORP, -202
Methane, 9800

IW-A5
Sulfate (as SO4), 80
Ferrous Iron, 2.7
TOC, 4.7
ORP, -253
Methane, 10000

MW-12
Sulfate (as SO4), 37
Ferrous Iron, 0.15
TOC, 1.9
ORP, -155
Methane, 360

MW-18
Sulfate (as SO4), 93
Ferrous Iron, 1.19
TOC, 1.7
ORP, -105
Methane, 94

IW-D1 IW-C1 IW-B1
IW-D2 IW-C2 IW-B2 IW-A1
IW-D3 IW-C3 IW-B3
IW-D4 IW-C4 IW-B4 IW-A3
IW-D5 IW-C5 IW-B5 IW-A4
IW-D6 IW-C6 IW-B6
IW-A6



Legend

- Injection Well Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Methane, 10

Location ID — Geochemical Indicator — Concentration

NOTE:
1) ND - Not Detected
2) Sulfate (as SO4), concentration in mg/L
3) Ferrous Iron, concentration in mg/L
4) Total Organic Carbon (TOC), concentration in mg/L
5) Oxidation Reduction Potential (ORP), concentration in mV
6) Methane, concentration in ug/L

30 0 30 Feet

CHEM-CORE
GROUNDWATER GEOCHEMICAL INDICATOR PARAMETERS
(SEPTEMBER 2006)

URS

FIGURE 3-10

N:\11173519.00000\DB\GIS\ArcMap\GW Geochemical Indicator Parameters_0906.mxd 8/7/2007 11:03:24 AM Lumb, M

APPENDICES

APPENDIX A

WELL CONSTRUCTION LOGS

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

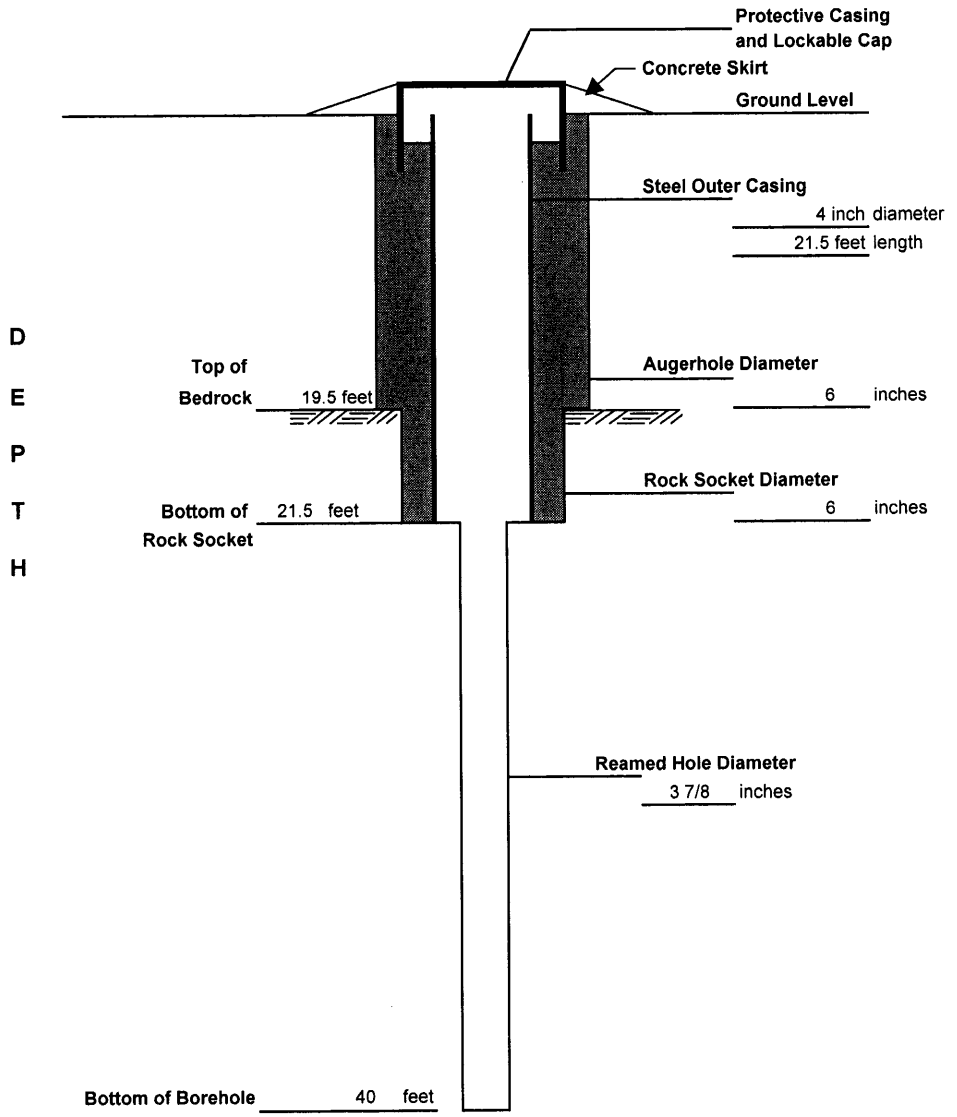
Model: Versa Drill 2000

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



CASING MATERIAL

Surface: 12" Steel protective cover (Flush Mount)

Monitor: 4" Carbon Steel

SCREEN MATERIAL

Type: Open Hole

Slot Size:

FILTER MATERIAL

Type:

Setting:

SEAL MATERIAL

Type 1:

Setting:

Type 1:

Setting:

COMMENTS:

ROCK CORING

Cored Interval: None

Core Diameter:

Reamed Diameter: 3 7/8"

LEGEND

Cement/Bentonite Grout

Client: NYSDEC

Location: Chem Core

Project No.: 11173755.84000

URS Corporation

BEDROCK MONITORING WELL CONSTRUCTION DETAILS

Well No.: IW-A1

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

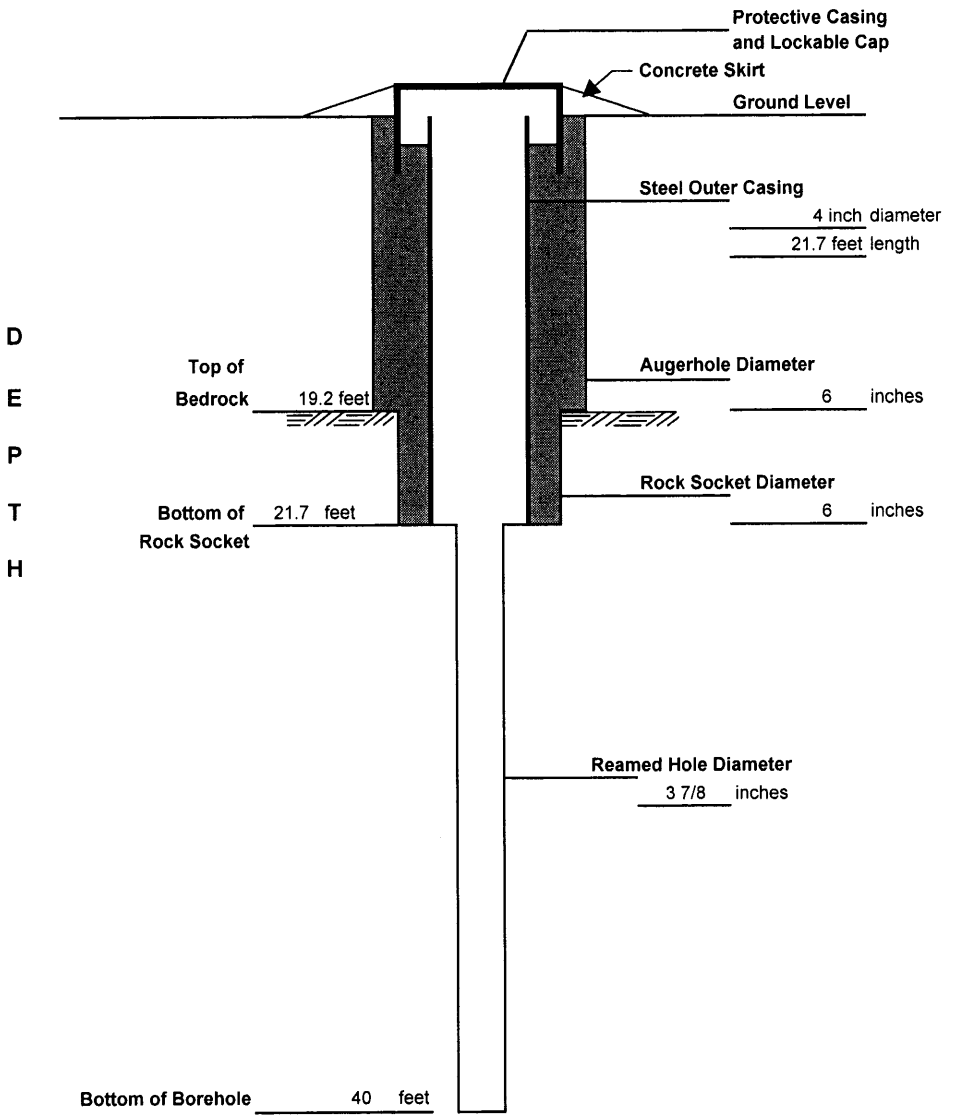
Model: Versa Drill 2000

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



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-A2

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

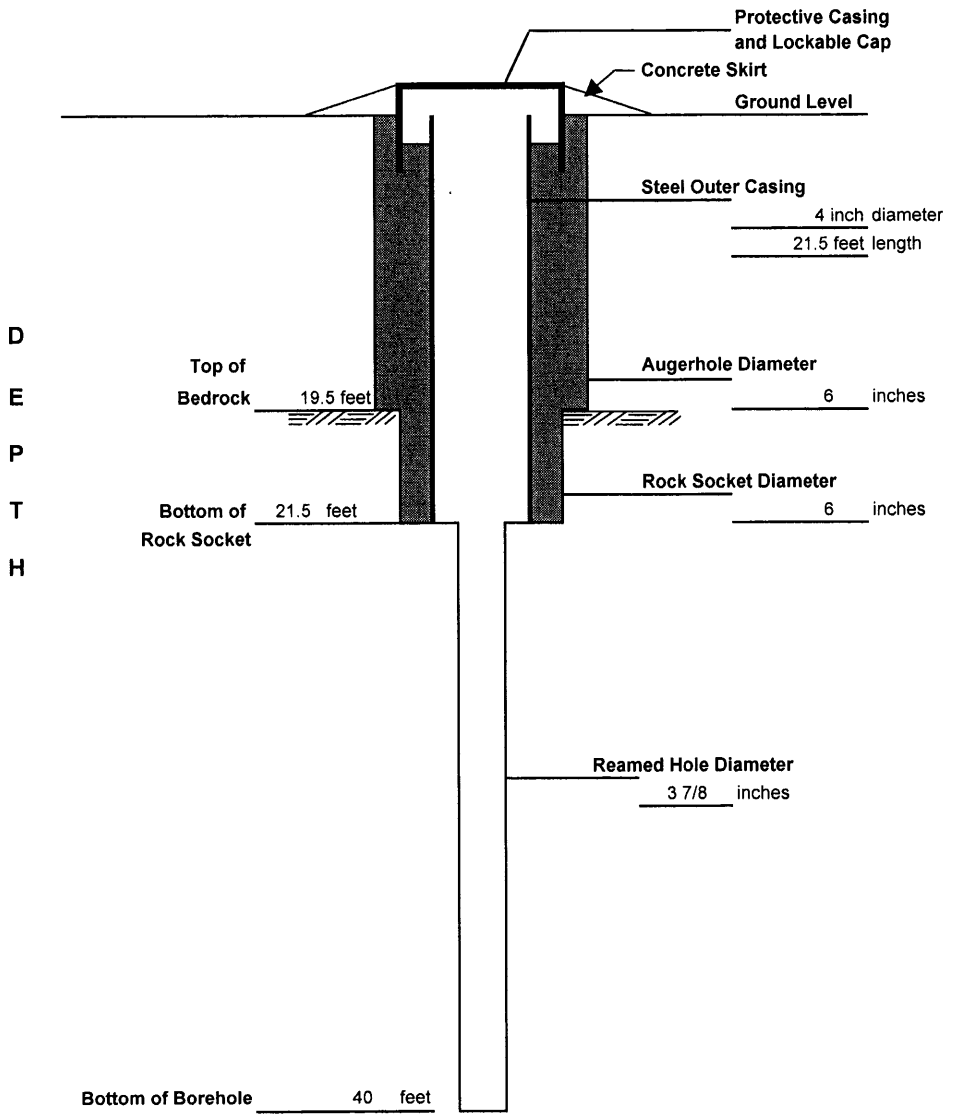
Model: Versa Drill 2000

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



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-A3

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

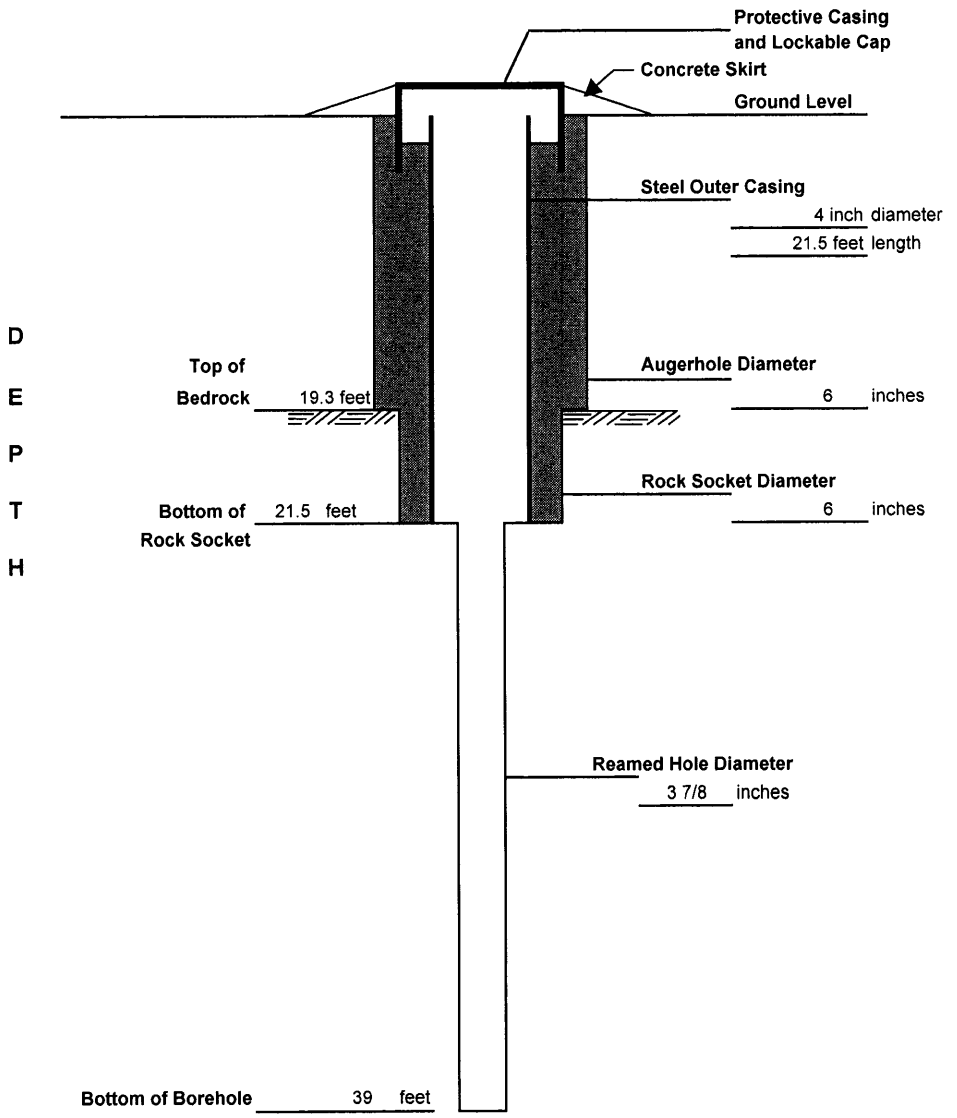
Model: Versa Drill 2000

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



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-A4

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

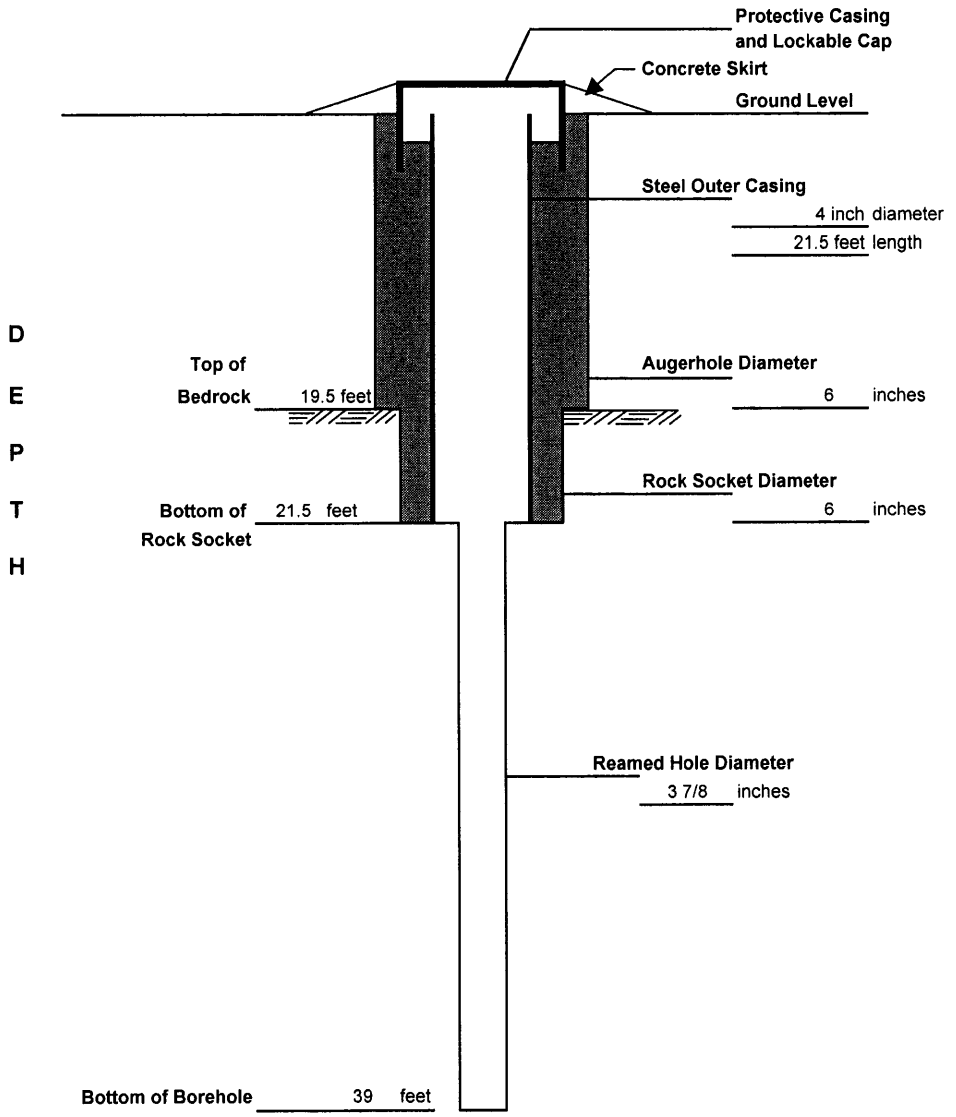
Model: Versa Drill 2000

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



CASING MATERIAL

Surface: 12" Steel protective cover (Flush Mount)

Monitor: 4" Carbon Steel

SCREEN MATERIAL

Type: Open Hole

Slot Size:

FILTER MATERIAL

Type:

Setting:

SEAL MATERIAL

Type 1:

Setting:

Type 1:

Setting:

COMMENTS:

ROCK CORING

Cored Interval: None

Core Diameter:

Reamed Diameter: 3 7/8"

LEGEND

Cement/Bentonite Grout

Client: NYSDEC

URS Corporation

Location: Chem Core

BEDROCK MONITORING WELL CONSTRUCTION DETAILS

Project No.: 11173755.84000

Well No.: IW-A5

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

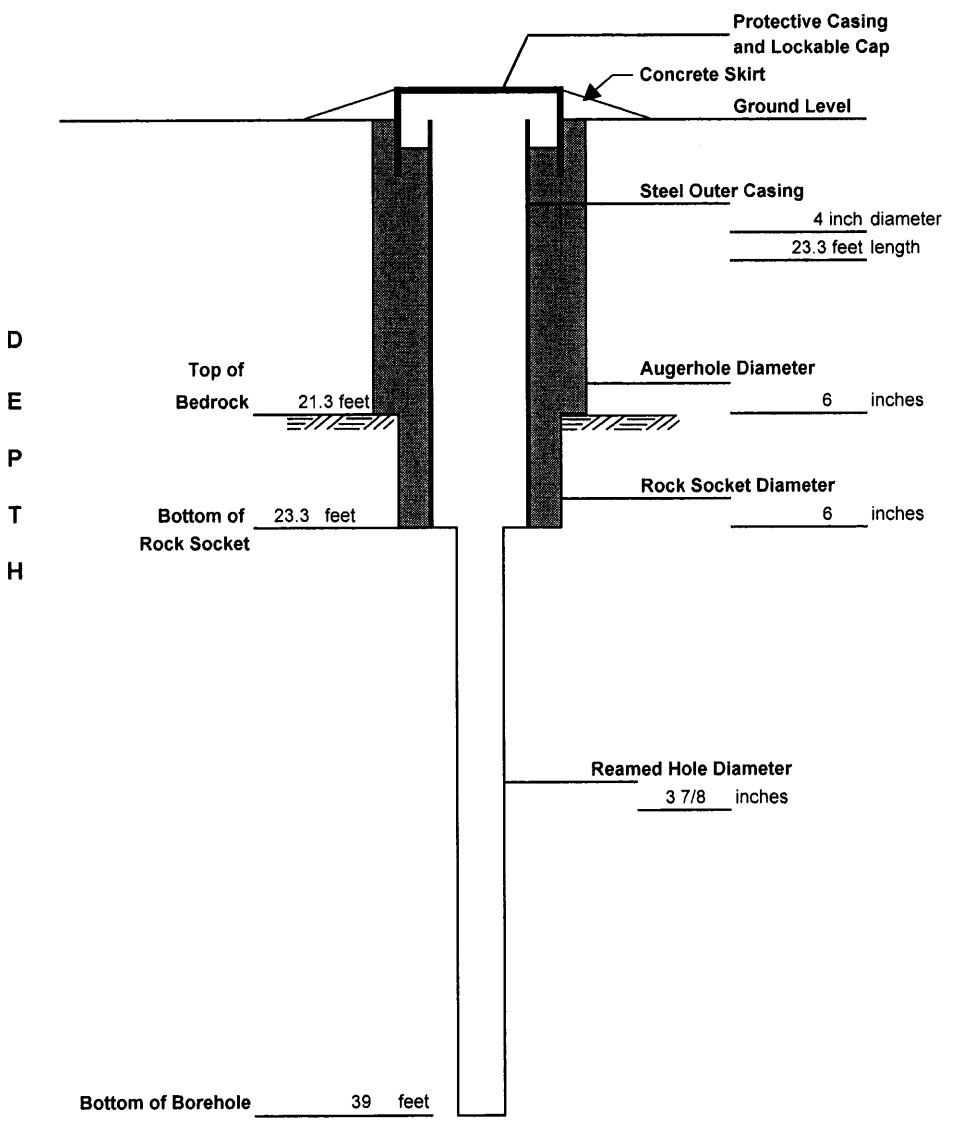
Model: Versa Drill 2000

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



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-A6

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

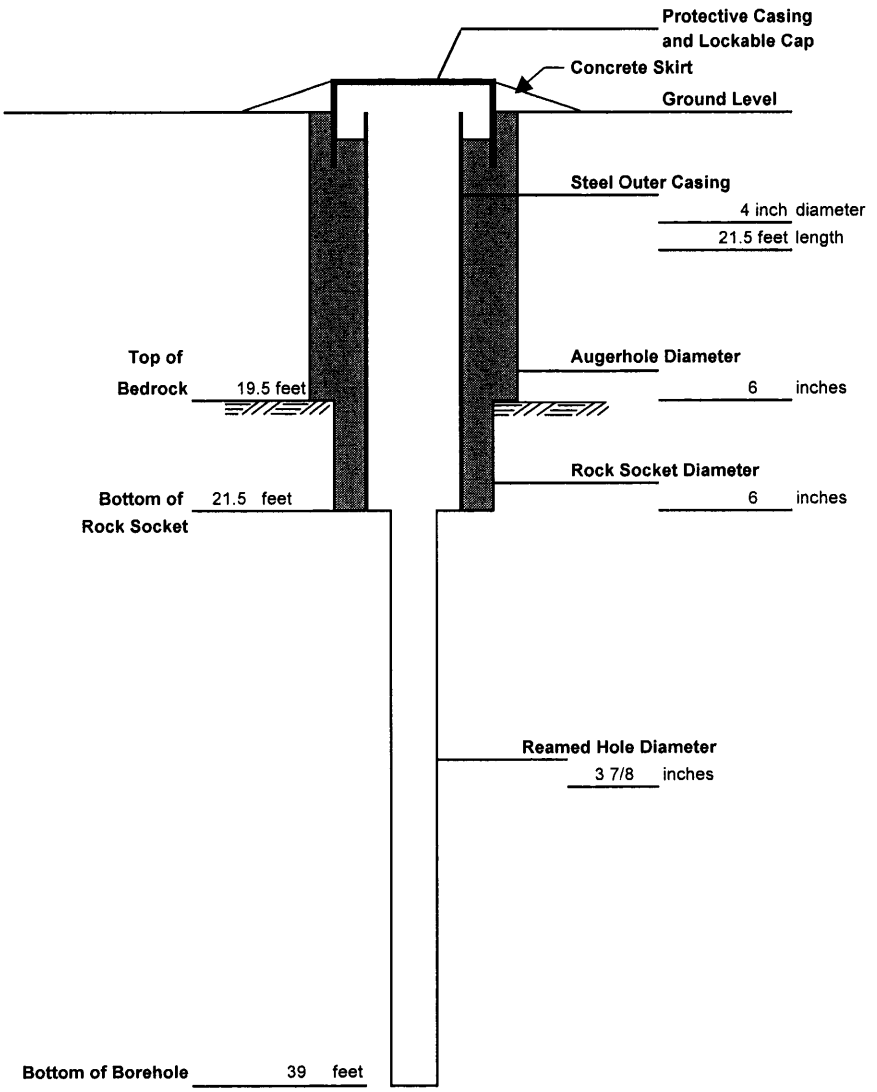
Model: Versa Drill 2000

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

DEPTH



WELL DESIGN

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-B1

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

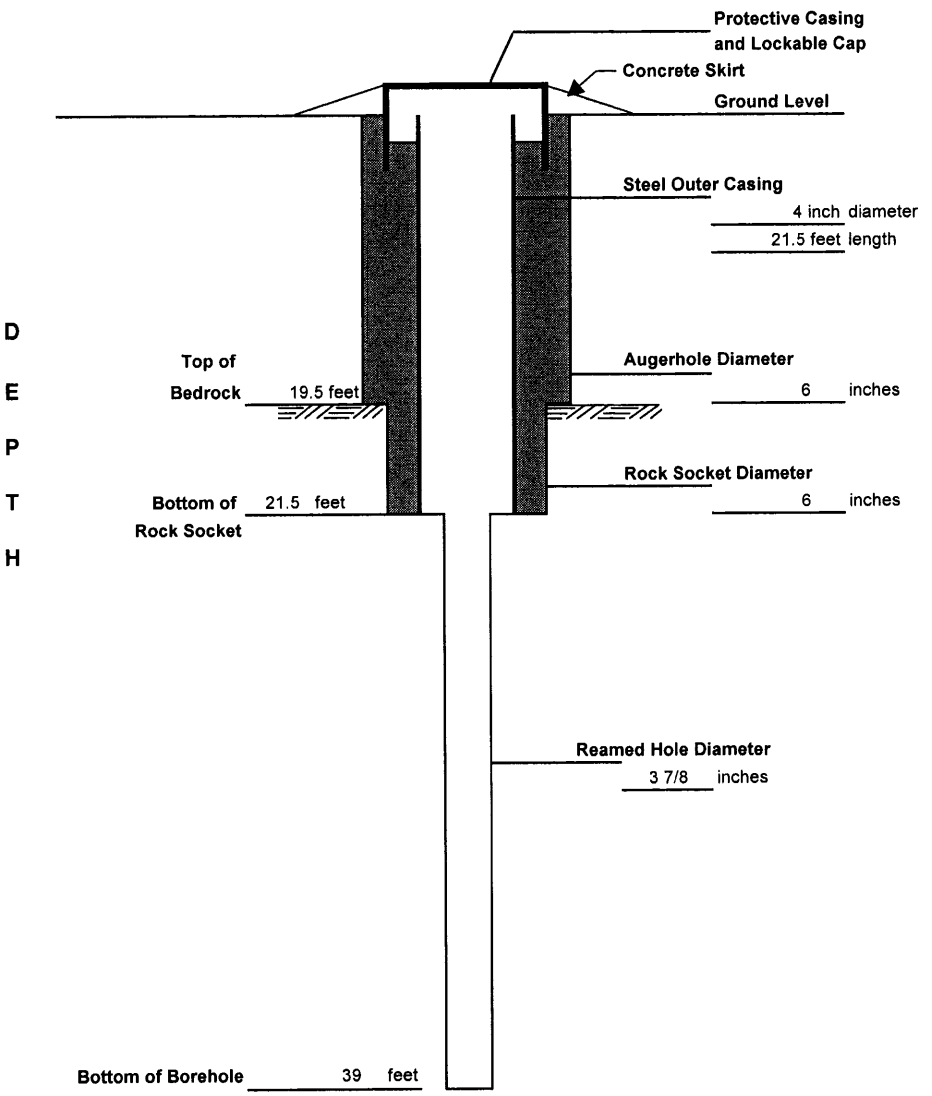
Model: Versa Drill 2000

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



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-B2

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

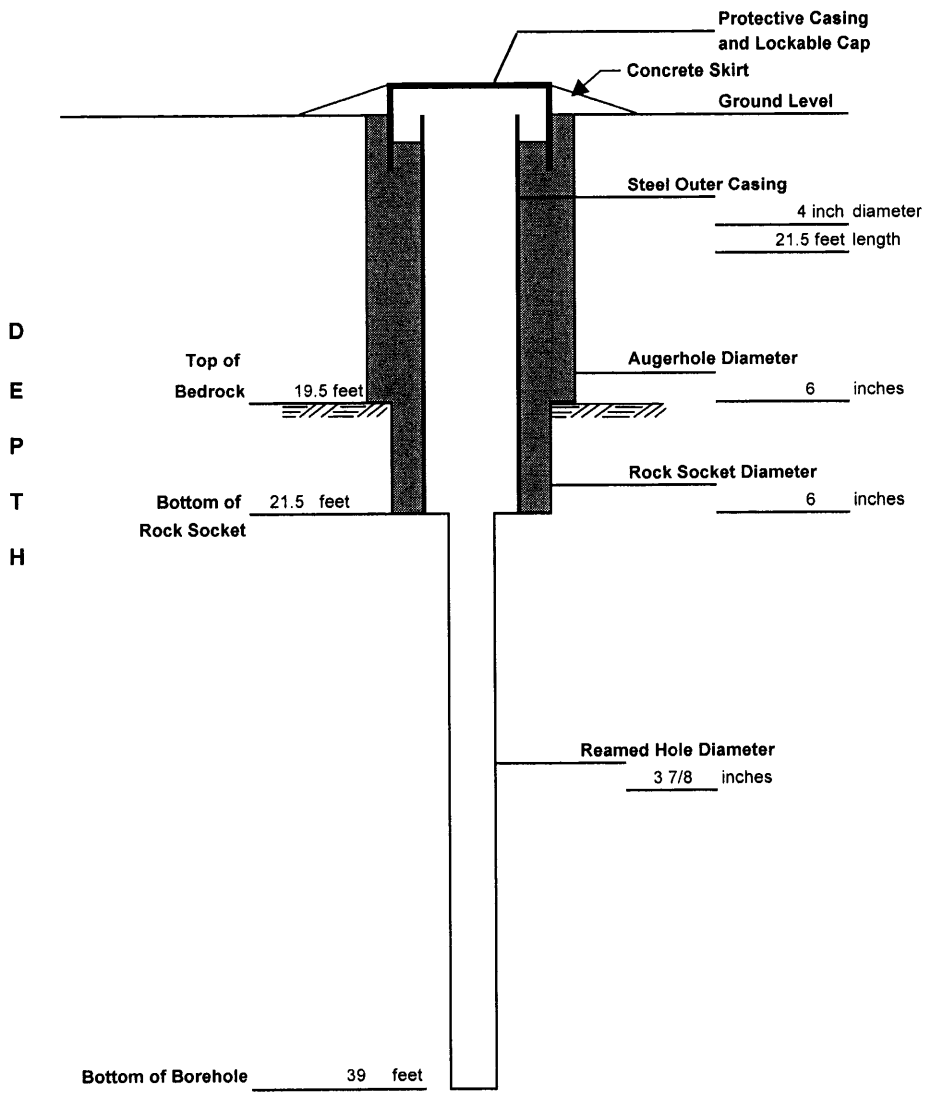
Model: Versa Drill 2000

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



CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**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-B3

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

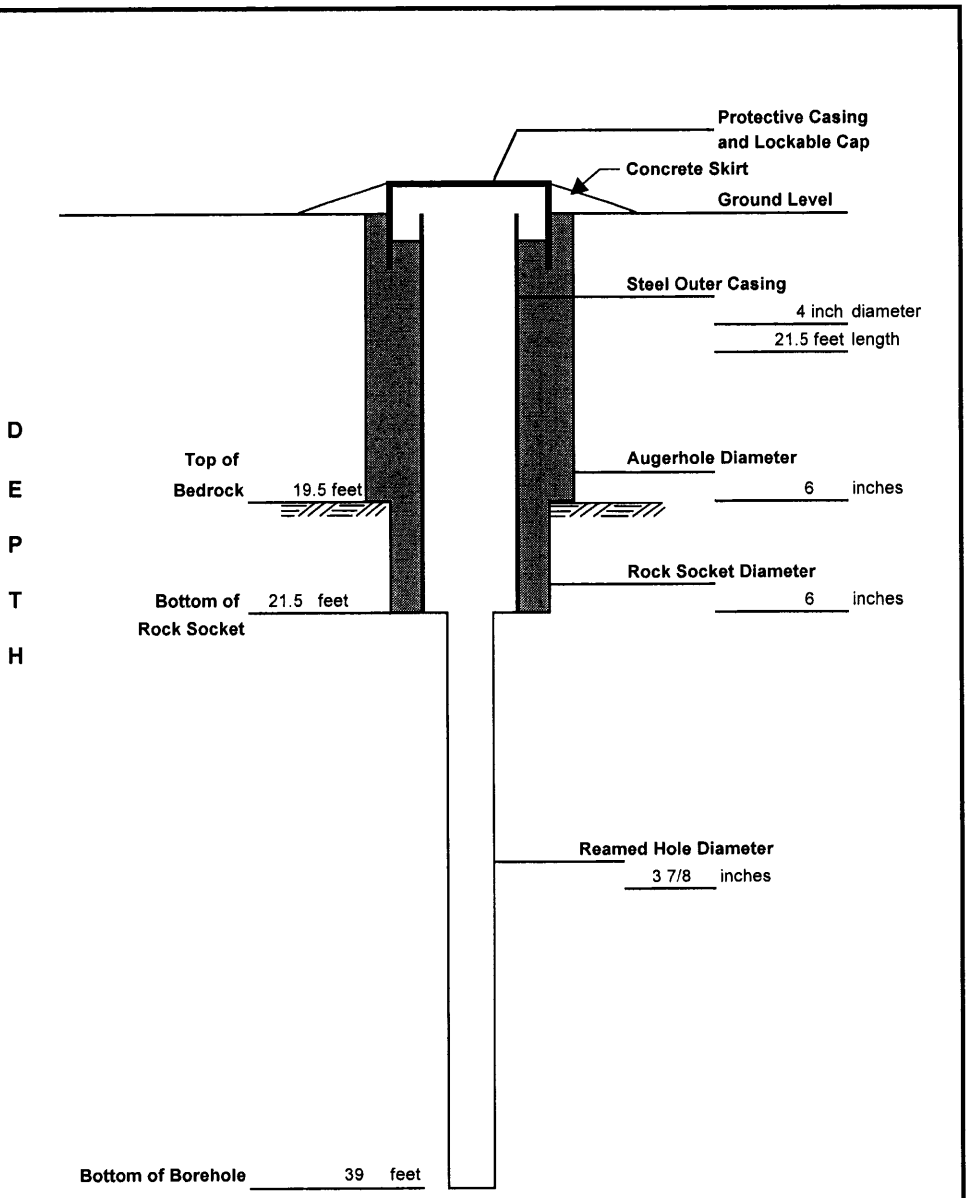
Model: Versa Drill 2000

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



CASING MATERIAL

Surface: 12" Steel protective cover (Flush Mount)

Monitor: 4" Carbon Steel

SCREEN MATERIAL

Type: Open Hole

Slot Size:

FILTER MATERIAL

Type:

Setting:

SEAL MATERIAL

Type 1:

Setting:

Type 1:

Setting:

COMMENTS:

ROCK CORING

Cored Interval: None

Core Diameter:

Reamed Diameter: 3 7/8"

LEGEND

Cement/Bentonite Grout

Client: NYSDEC

Location: Chem Core

Project No.: 11173755.84000

URS Corporation

BEDROCK MONITORING WELL CONSTRUCTION DETAILS

Well No.: IW-B4

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

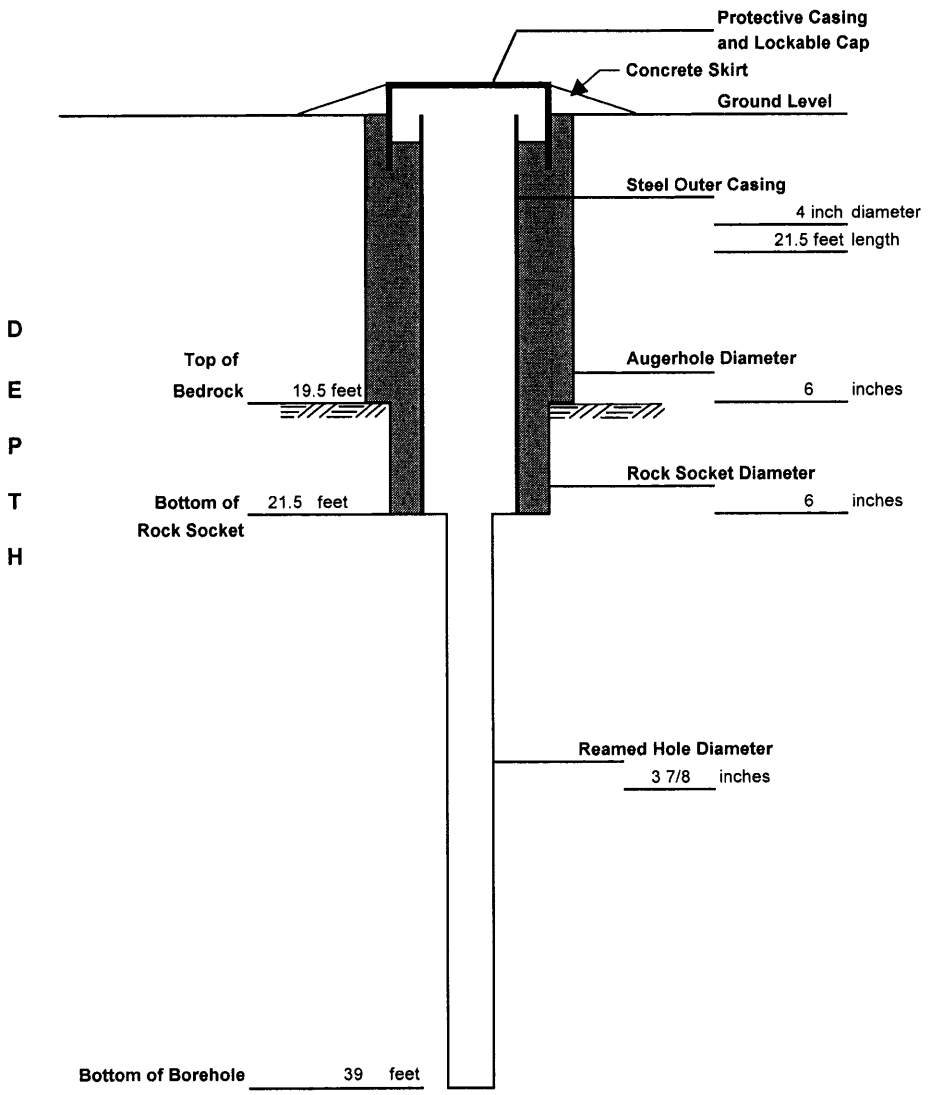
Model: Versa Drill 2000

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



CASING MATERIAL

Surface: 12" Steel protective cover (Flush Mount)

Monitor: 4" Carbon Steel

SCREEN MATERIAL

Type: Open Hole

Slot Size:

FILTER MATERIAL

Type:

Setting:

SEAL MATERIAL

Type 1:

Setting:

Type 1:

Setting:

COMMENTS:

ROCK CORING

Cored Interval: None

Core Diameter:

Reamed Diameter: 3 7/8"

LEGEND

Cement/Bentonite Grout

Client: NYSDEC

Location: Chem Core

Project No.: 11173755.84000

URS Corporation

BEDROCK MONITORING WELL CONSTRUCTION DETAILS

Well No.: IW-B5

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

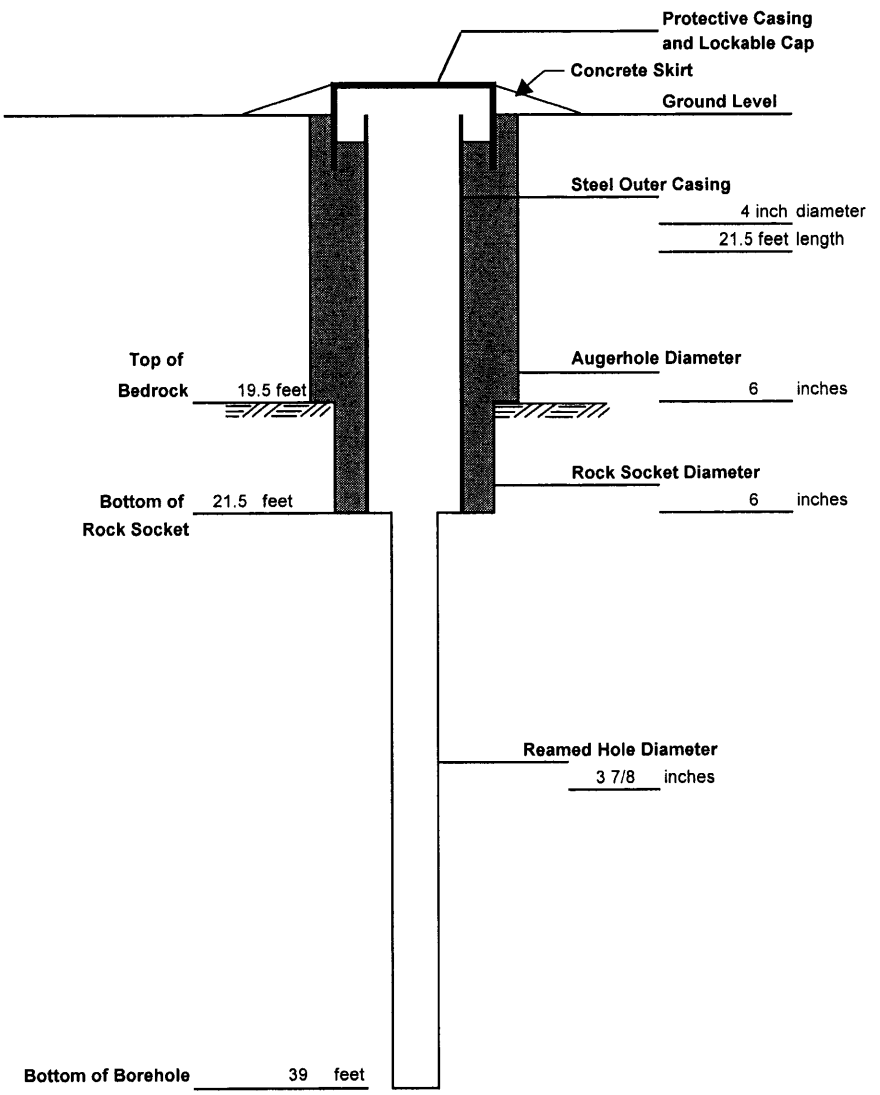
Model: Versa Drill 2000

Date: 4/21/2005

GEOLOGIC LOG*

Depth (ft.)	Description
0-19.5	See boring log for MW-12 and MW-16 for overburden description
19.5-39.0	Dolostone Bedrock

DEPTH



WELL DESIGN

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**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-B6

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

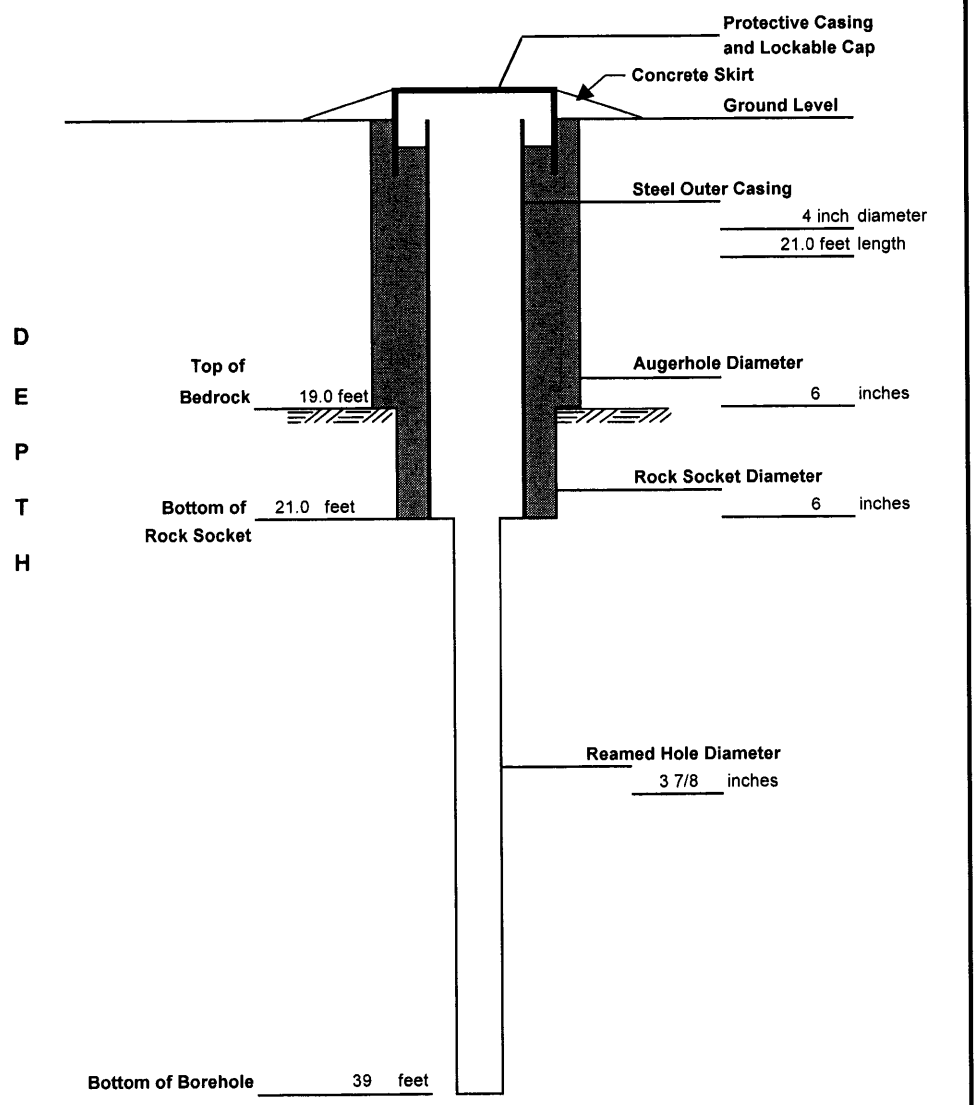
Model: Versa Drill 2000

Date: 4/21/2005

GEOLOGIC LOG*

Depth (ft.)	Description
0-19.0	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)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**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-C1

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

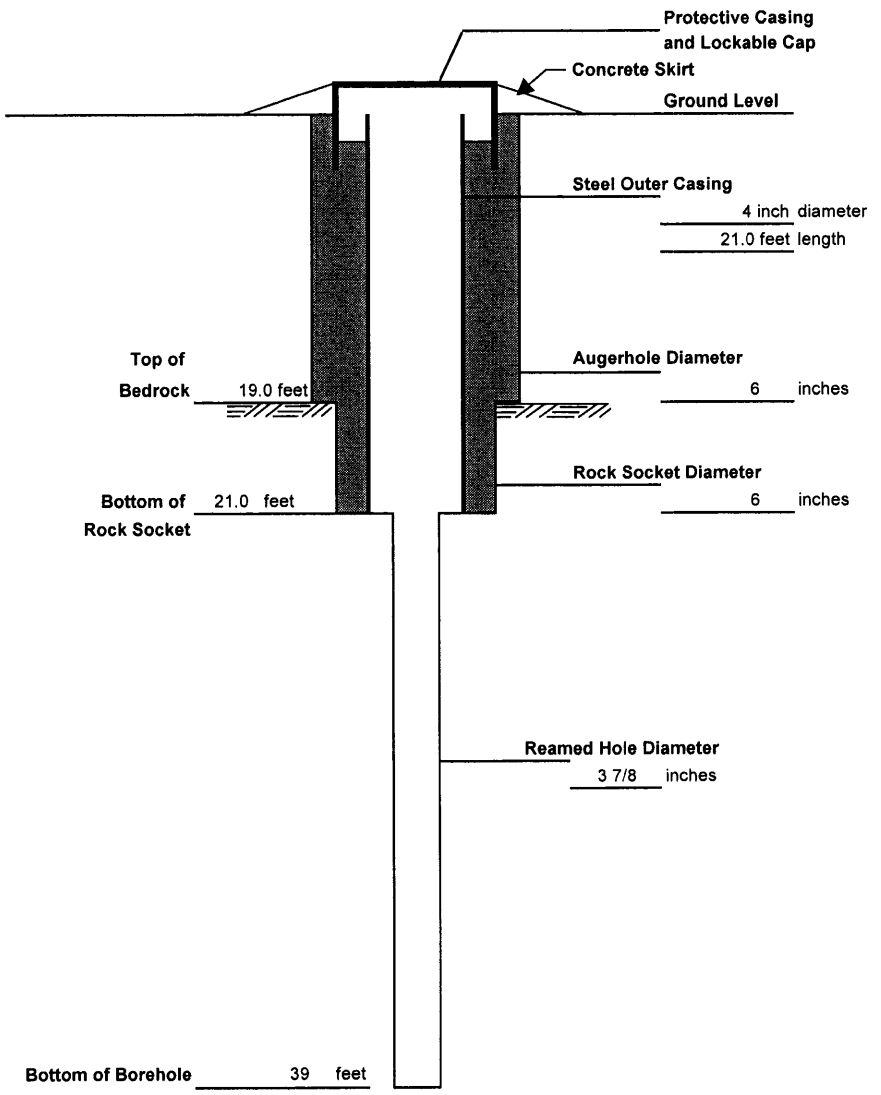
Model: Versa Drill 2000

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

DEPTH



WELL DESIGN

CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**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-C2

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

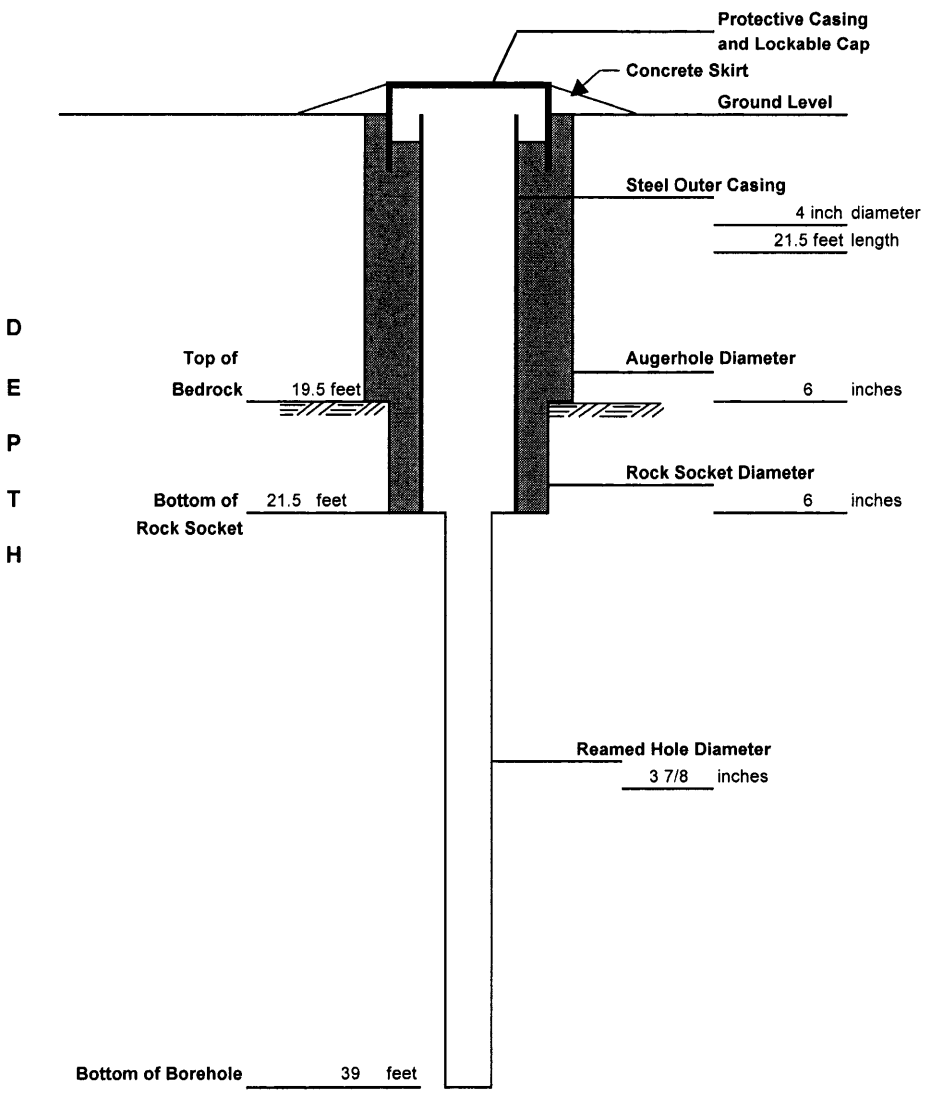
Model: Versa Drill 2000

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



CASING MATERIAL

Surface: 12" Steel protective cover (Flush Mount)

Monitor: 4" Carbon Steel

SCREEN MATERIAL

Type: Open Hole

Slot Size:

FILTER MATERIAL

Type:

Setting:

SEAL MATERIAL

Type 1:

Setting:

Type 1:

Setting:

COMMENTS:

ROCK CORING

Cored Interval: None

Core Diameter:

Reamed Diameter: 3 7/8"

LEGEND

Cement/Bentonite Grout

Client: NYSDEC

URS Corporation

Location: Chem Core

BEDROCK MONITORING WELL CONSTRUCTION DETAILS

Project No.: 11173755.84000

Well No.: IW-C3

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

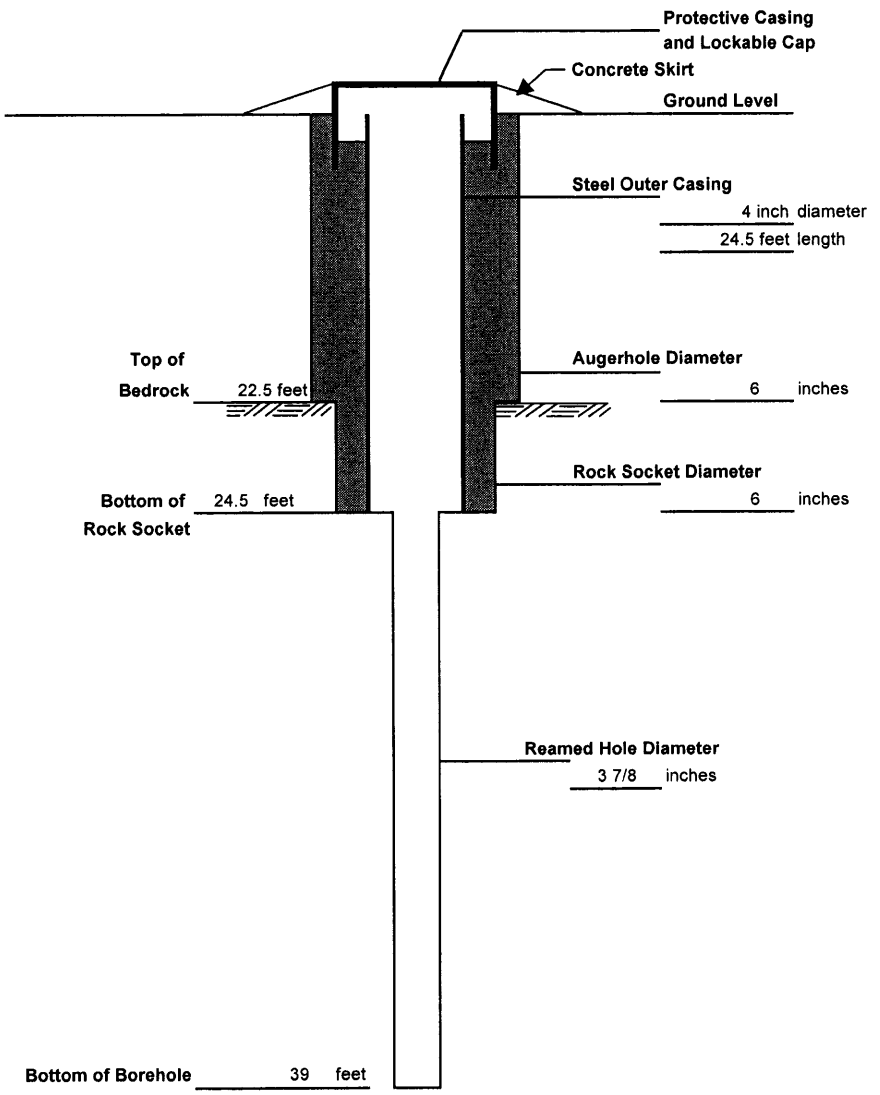
Model: Versa Drill 2000

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

DEPTH



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-C4

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

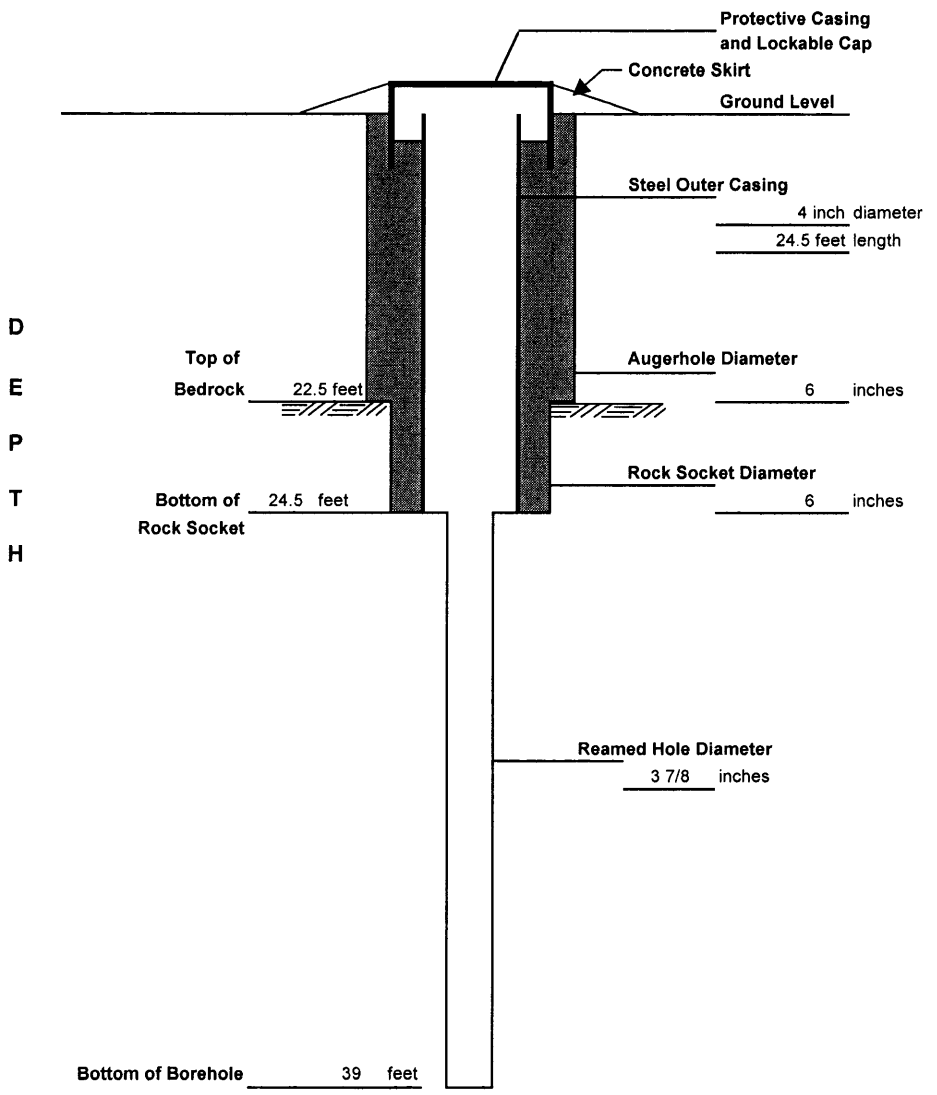
Model: Versa Drill 2000

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



CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 12" Steel protective cover (Flush Mount)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**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-C5

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

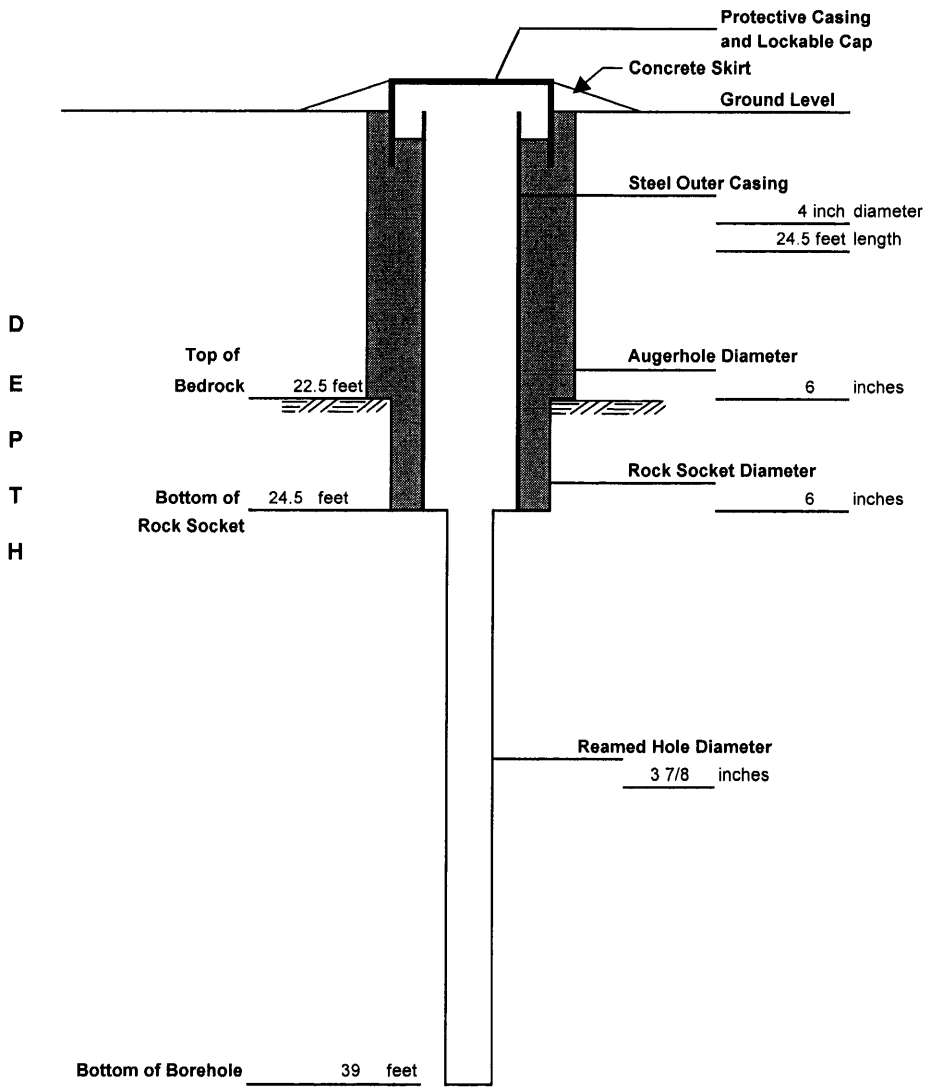
Model: Versa Drill 2000

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



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-C6

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

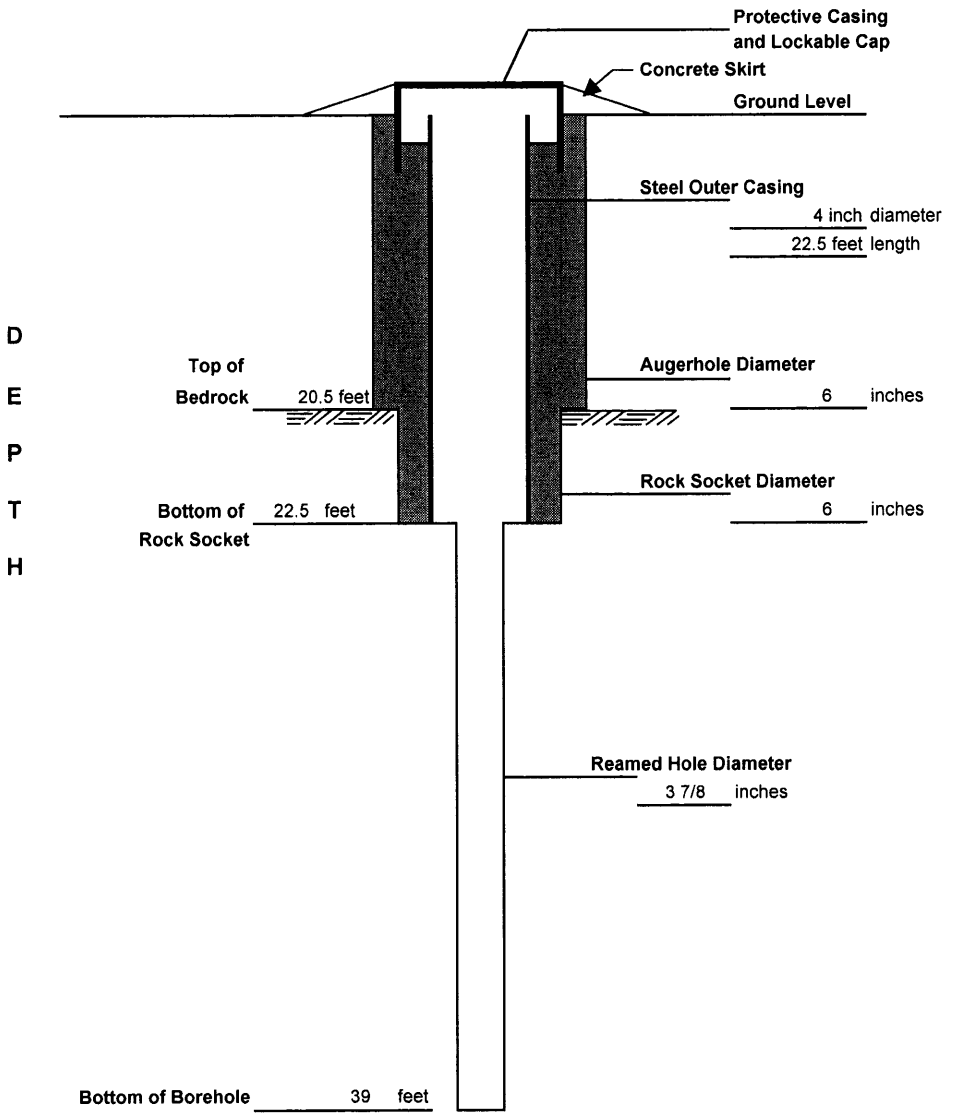
Model: Versa Drill 2000

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



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-D1

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

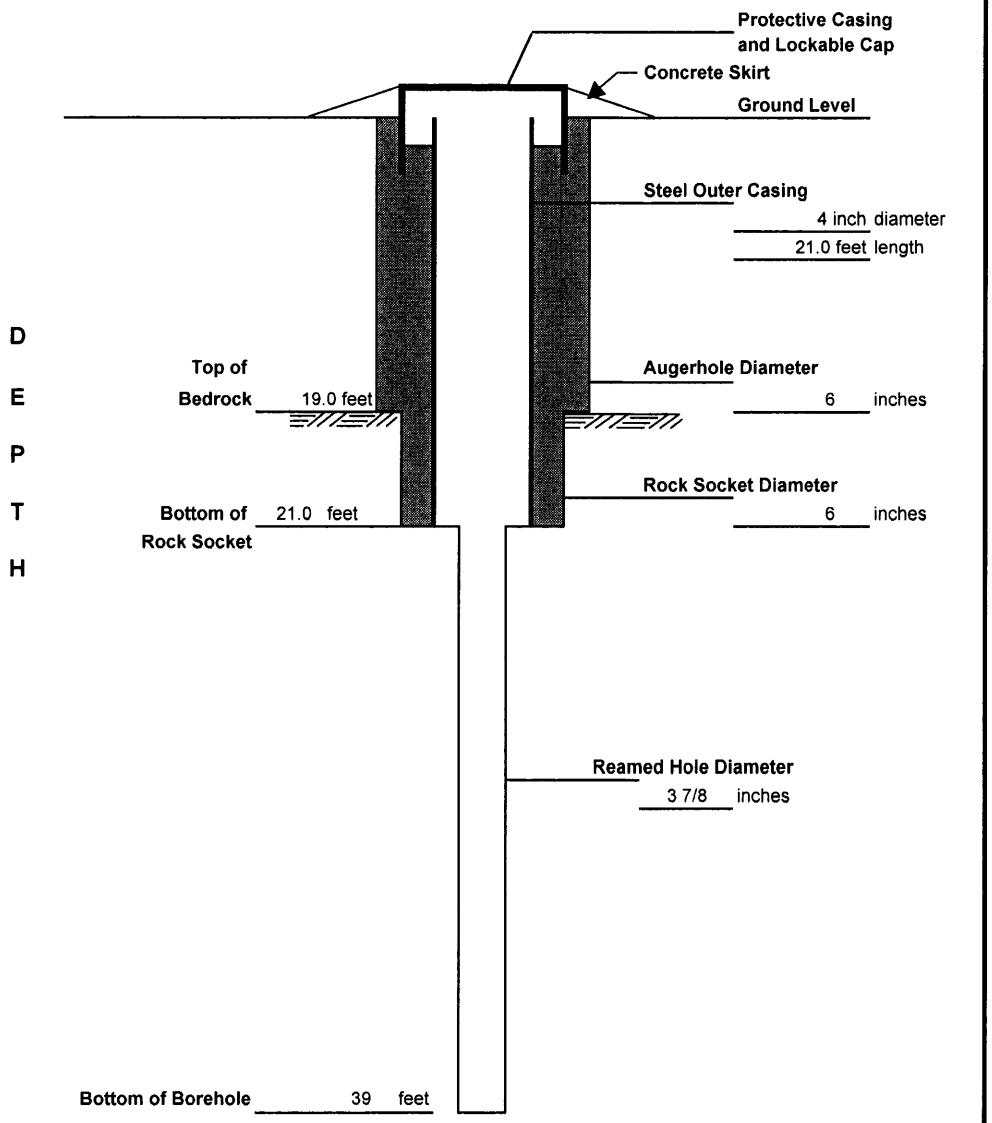
Model: Versa Drill 2000

Date: 4/19/2005

GEOLOGIC LOG*

Depth (ft.)	Description
0-19.0	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)	**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-D2

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

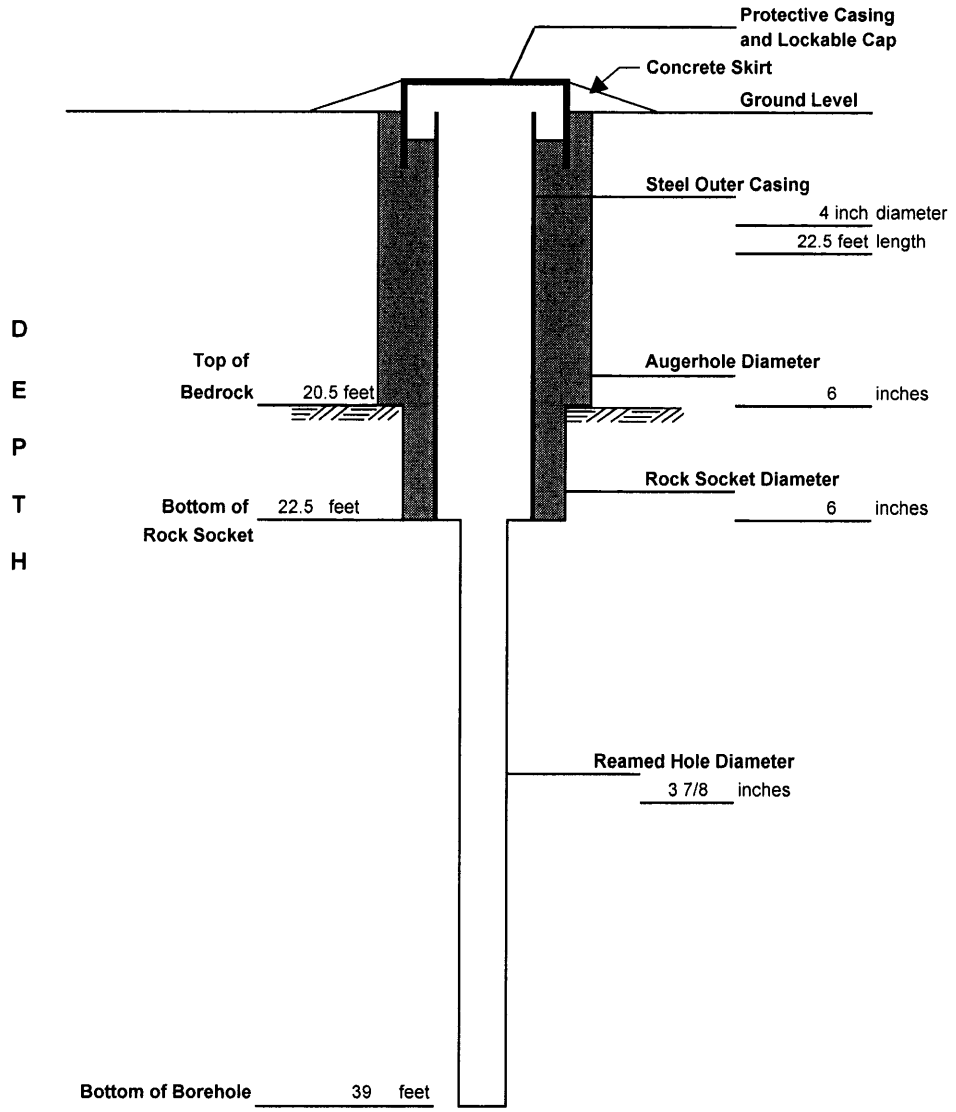
Model: Versa Drill 2000

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



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

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

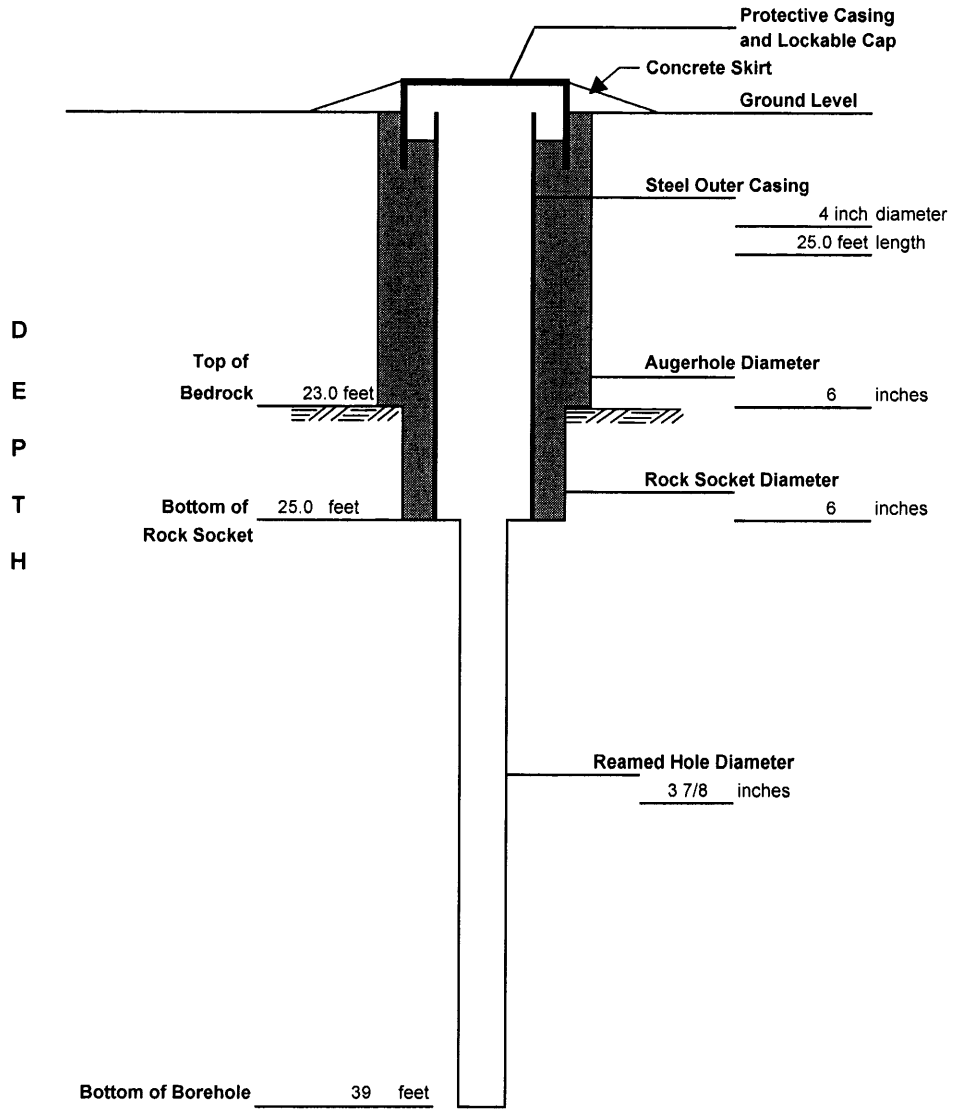
Model: Versa Drill 2000

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



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

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

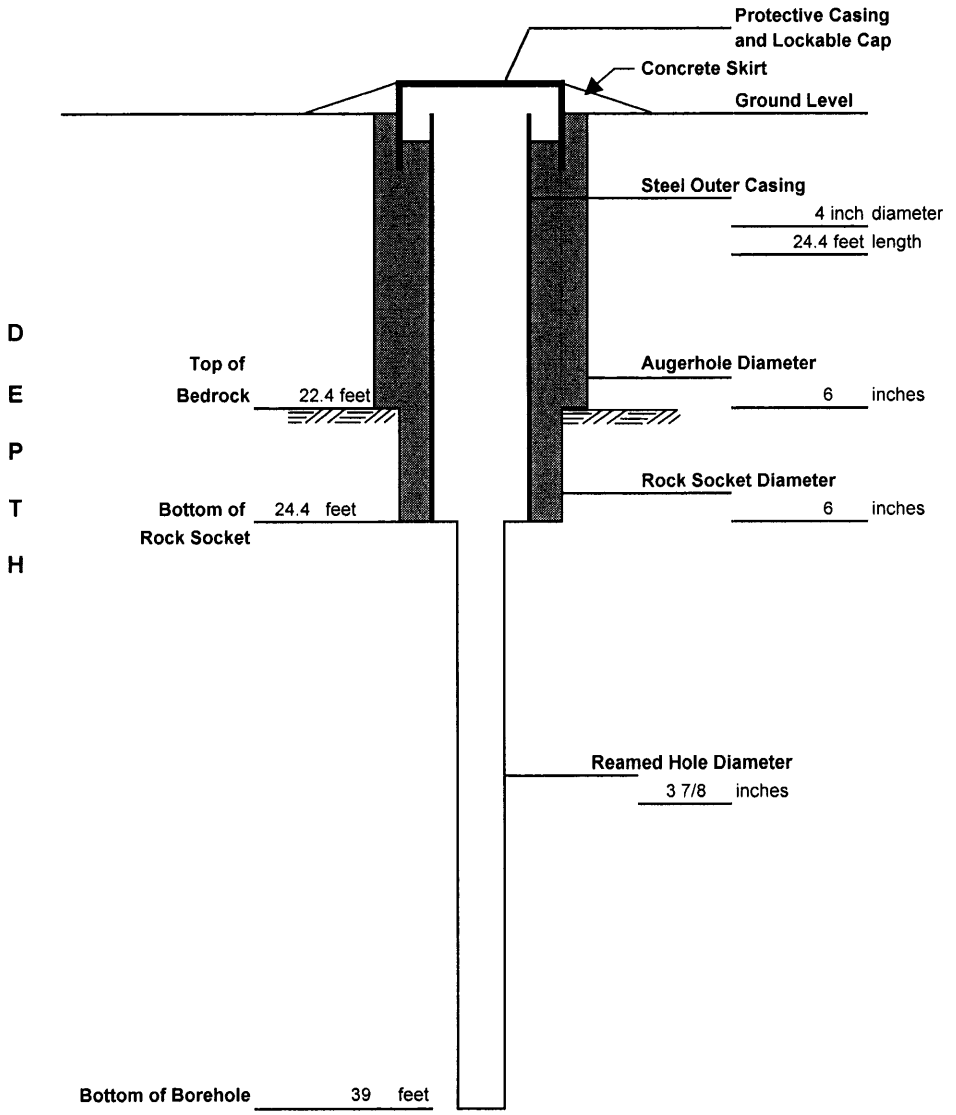
Model: Versa Drill 2000

Date: 4/19/2005

GEOLOGIC LOG*

Depth (ft.)	Description
0-22.4	See boring log for MW-12 and MW-16 for overburden description
22.4-39.0	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 **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-D5

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DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

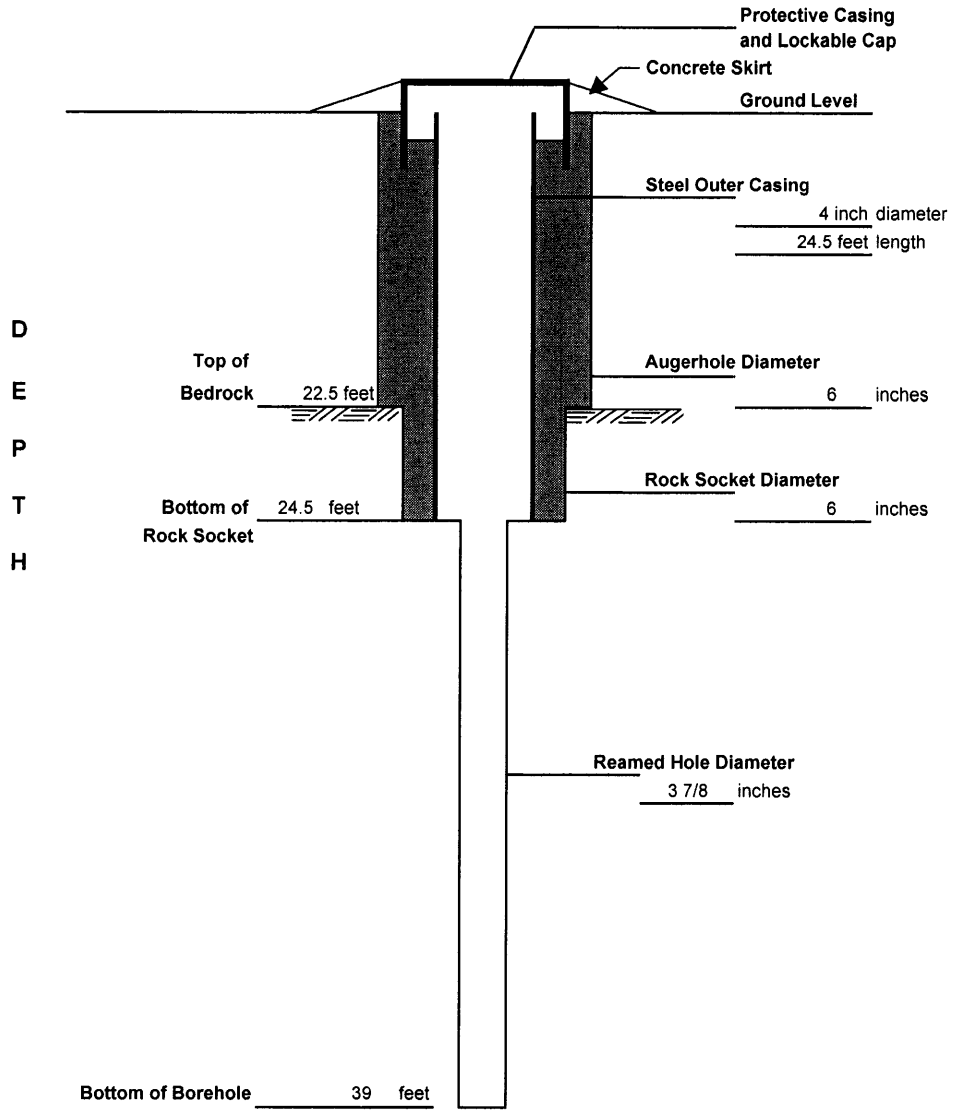
Model: Versa Drill 2000

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



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

N:\11173519.00000\EXCEL\[IW well construction.xls]iw-d6

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. Nothnagle Drilling Inc.

Operator: K. Busch

Model: BK-81

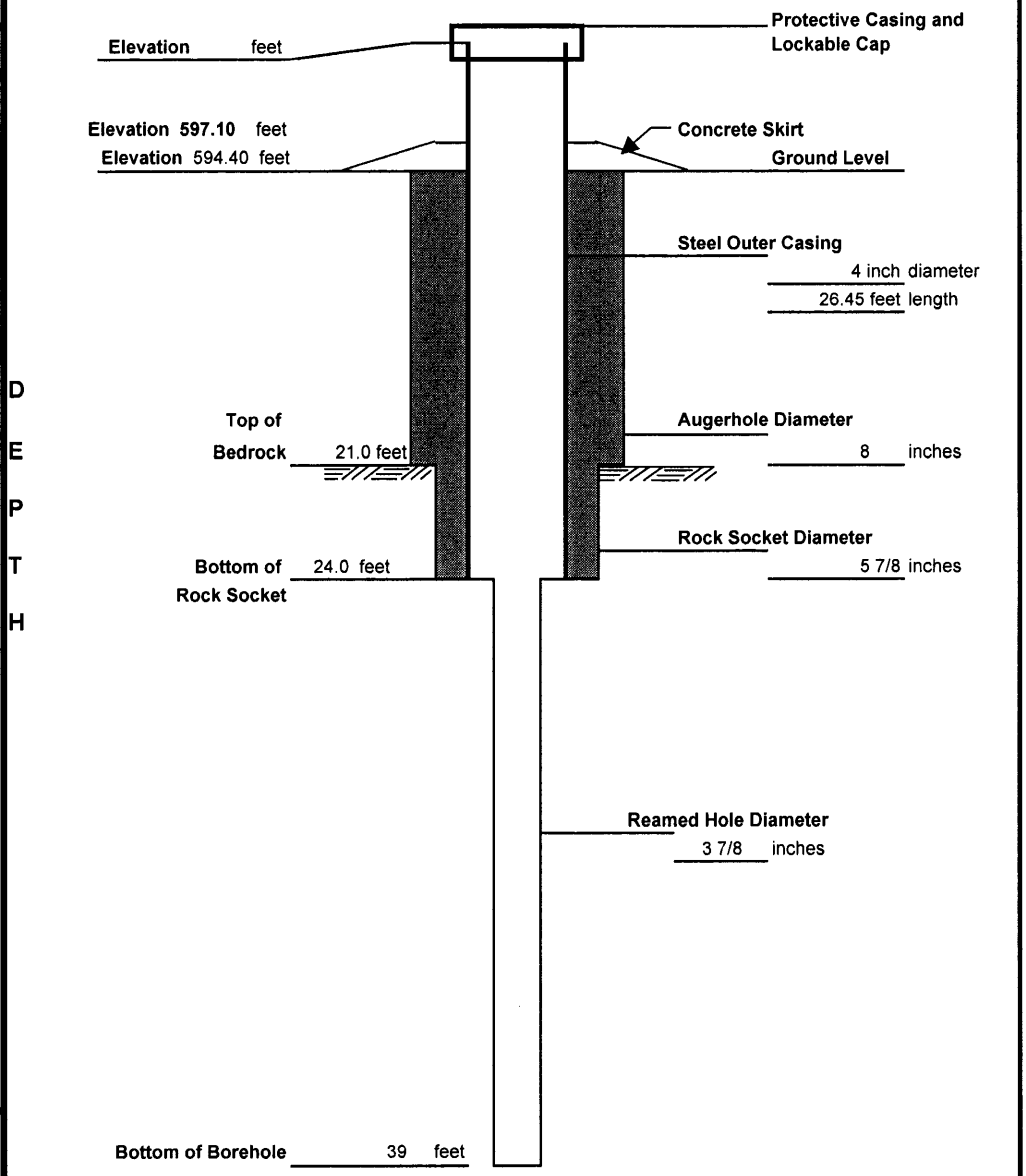
Date: 7/26/2004

GEOLOGIC LOG*

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.

DEPTH

WELL DESIGN



CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: 4" Steel protective cover (Stick-up)	**Type:** Open Hole	**Type:**
		Setting:
		SEAL MATERIAL
Monitor: 4" Carbon Steel	**Slot Size:**	**Type 1:**
		Setting:
		Type 1:
		Setting:

COMMENTS:	ROCK CORING	LEGEND
	Cored Interval: 21.0'-39.0'	Cement/Bentonite Grout
	Core Diameter: NX	
* - Detailed Geologic Description in Corresponding Well Boring Log	**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

N:\11173519.00000\EXCEL\[Chem Core Well Construction.xls]EX-01

DRILLING SUMMARY

Geologist: Scott McCabe

Drilling Co. American Auger

Operator: Rocky Baye

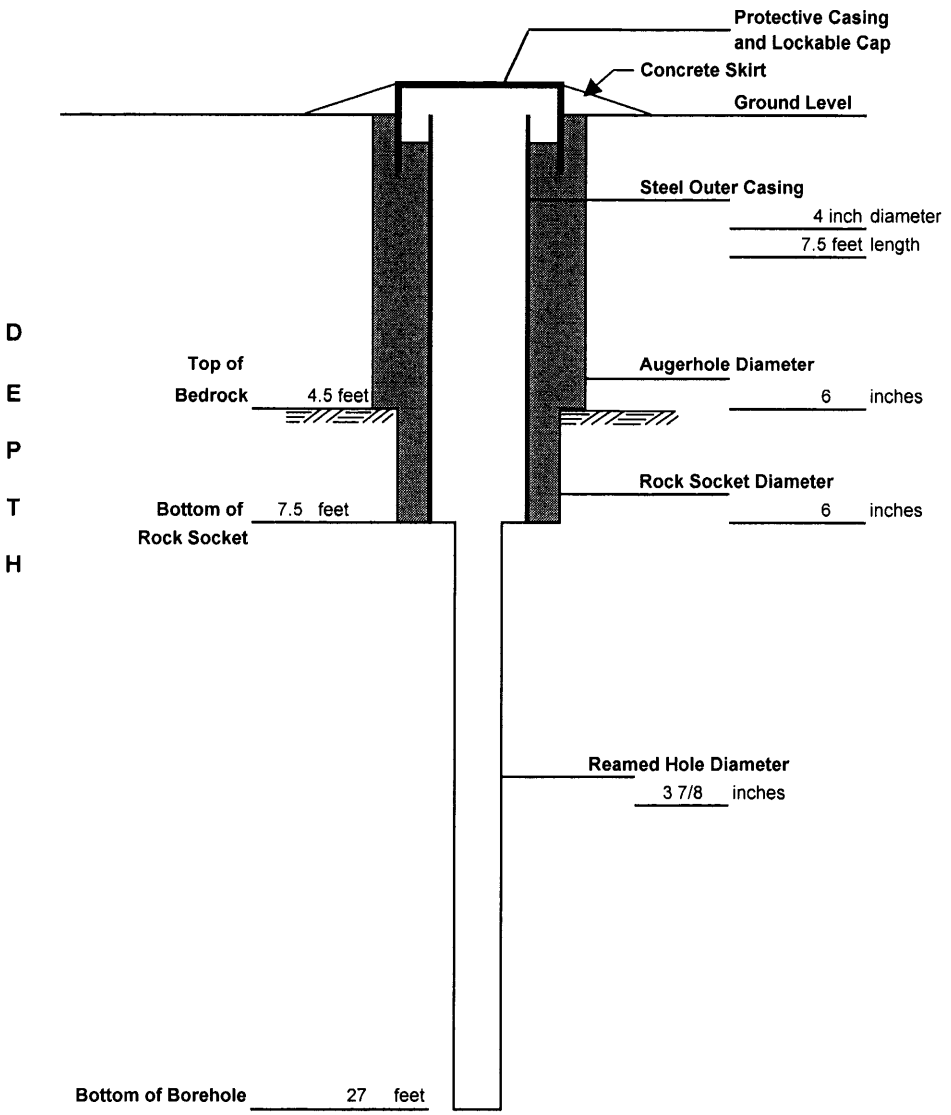
Model: Versa Drill 2000

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



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

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URS Corporation

WELL BORING LOG

PROJECT:	Chem Core PDI
CLIENT:	NYSDEC
BORING CONTRACTOR:	Nothnagle Drilling Inc.
GROUNDWATER:	

DATE	TIME	LEVEL	TYPE

	CAS.	SAMPLER	CORE	TUBE
TYPE	HSA	SS	NX	
DIA.	4.25"	2"	~2"	
WT.		140#		
FALL		30"		

* FIELD SCREENING VIA PID (PPM)

BORING NO:	MW-16
SHEET:	1 of 2
JOB NO.:	11173754.84000
BORING LOCATION:	1064399.70N 1063670.89E
GROUND ELEVATION:	597.00
DATE STARTED:	07/21/04
DATE FINISHED:	07/27/04
DRILLER:	K. Busch
GEOLOGIST:	S. McCabe
REVIEWED BY:	C. Taylor

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	REC% / RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	PID	REMARKS
1		1	SS	3 3 / 4 3	50.0%	D. Brown to black	M. Stiff	(0-3" Asphalt and concrete) 0.3-3.8: FILL; Clayey Silt, some sand, trace brick, cinder, coal.		0	Moist
		2	SS	4 3 / 5 3	50.0%	R. Brown		3.8'-4.0: FILL; Silty Clay trace coarse sand		0	
5		3	SS	2 2 / 3 6	75.0%	D. Brown Black	Soft	4'-4.5': FILL; Clayey Silt trace cinder/ash 4.5-5.5':FILL; Cinder, trace slag.		0	
		4	SS	4 5 / 5 3	50.0%	R. Brown	M. Stiff	5.5'-8.0': FILL; Silty Clay, trace wood, cinder, slag.		0	
		5	SS	3 2 / 3 5	75.0%	D. Brown	Soft	8-9': FILL; Clayey Silt, tr. Sand & cinder.		0	
10		6	SS	2 4 / 6 8	100.0%	Br. Gray R. Brown	M. Stiff	9-12': CL; Silty Clay tr. f. sand & organics. trace coarse sand.	CL	0	
		7	SS	4 8 / 11 15	100.0%		Stiff	12-18': ML; Clayey Silt, trace coarse sand and fine to medium gravel. (SA-SR)	ML	0	
15		8	SS	4 9 / 10 20	100.0%					0	
		9	SS	10 17 / 22 30	100.0%	Olive Green Brown	V. Stiff	-some f. sand, few wet silty sand lenses		0	
		10	SS	12 29 / 28 30	100.0%		Hard	18-20.25': ML; F. Sandy Silt, trace clay and fine to med. Gravel wet seams of f. sand		0	
20		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 styolites, most breaks at styolites/partings.	Broken		Not water loss
25		C2	NX (23.5'-33.5')	10.0 10.0	NR / NR						125 gallons water loss
30											
35		C3	NX (33.5-38.5')	5.0 5.0	100.0% / 83.0%						

Comments: Boring Advanced w/ a BK-81 rig.

ND= Not Detected Above Background Levels

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

PROJECT NO.	11173754.84000
BORING NO.	MW-16

URS Corporation									WELL BORING LOG		
									BORING NO:	MW-16	
PROJECT:	Chem Core PDI								SHEET:	2 of 2	
CLIENT:	NYSDEC								JOB NO.:	11173754.84000	
BORING CONTRACTOR:	Nothnagle Drilling Inc.								BORING LOCATION:	1064399.70N 1063670.89E	
GROUNDWATER:					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	597.00	
DATE	TIME	LEVEL	TYPE	TYPE	HSA	SS	NX		DATE STARTED:	07/21/04	
				DIA.	4.25"	2"	~2"		DATE FINISHED:	07/27/04	
				WT.		140#			DRILLER:	K. Busch	
				FALL		30"			GEOLOGIST:	S. McCabe	
				* FIELD SCREENING VIA PID (PPM)					REVIEWED BY:	C. Taylor	

DEPTH FEET	SAMPLE STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% / RQD%	COLOR	CONSISTENCY HARDNESS	DESCRIPTION MATERIAL DESCRIPTION	USCS	PID	REMARKS
		C3	NX (33.5'-38.5')	5.0	5.0	100.0% / 83.0%	Dk Gray Brn	M. Hard	35.7'-37.5': Shaley/Argilaceous 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.

ND= Not Detected Above Background Levels

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

PROJECT NO. 11173754.84000

BORING NO. MW-16

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URS Corporation

WELL BORING LOG

PROJECT:	Chem Core PDI
CLIENT:	NYSDEC
BORING CONTRACTOR:	Nothnagle Drilling Inc.
GROUNDWATER:	

DATE	TIME	LEVEL	TYPE

	CAS.	SAMPLER	CORE	TUBE
TYPE	HSA	SS	NX	
DIA.	4.25"	2"	~2"	
WT.		140#		
FALL		30"		

* FIELD SCREENING VIA PID (PPM)

BORING NO:	MW-18
SHEET:	1 of 2
JOB NO.:	11173754.84000
BORING LOCATION:	1064303.98N 1063651.44E
GROUND ELEVATION:	594.40
DATE STARTED:	07/21/04
DATE FINISHED:	07/26/04
DRILLER:	K. Busch
GEOLOGIST:	S. McCabe
REVIEWED BY:	C. Taylor

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"	REC% / RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	PID	REMARKS
1		1	SS	3 49 / 9 5	50.0%	R. Brown	M. Stiff	FILL: Silty Clay to 0.5' then concrete to1'		0	Moist
		2	SS	4 4 / 7 5	75.0%	Black gry/wh R. Brown		1-4': FILL; Ash, cinder, slag brick and wood.		0	
5		3	SS	5 2 / 4 4	75.0%			4-7': FILL; Silty Clay, trace wood, fine gravel.		0	
		4	SS	7 10 / 15 12	100.0%					0	
		5	SS	6 7 / 9 11	100.0%	R. Brown	Stiff	7-9':CL; Silty CLAY, thickly laminated, trace fine gravel.	CL	0	
10		6	SS	2 17 / 15 12	100.0%	R. Brown	Stiff V. Stiff	9-16.5': ML: Clayey SILT, massive, trace fine gravel.	ML	0	
		7	SS	12 9 / 50/2" -	100.0%			-trace fine sand -trace f-m angular to subrounded gravel.		0	
15		8	SS	7 12 / 14 17	75.0%	Lt. Brown	Stiff	15.8-16' Fine sand, trace silt.		0	
		9	SS	11 19 / 48 44	100.0%	Lt. Brown	Hard	16.5-20.5: ML; Fine sandy silt/silty fine sand, trace angular-subrounded gravel.		0	moist to very moist
		10	SS	10 12 / 31 27	75.0%		V. Stiff			0	
20		11	SS	27 100/6"	50.0%			20.5-21': Bedrock fragments		0	
		C1	NX (21.0'-24.0')	2.8 3	93.3% / 61.7%	Lt. Brown	Hard	21.0-33.8': Fine grained dolomite, most breaks at styolitic contacts, black carbonaceous partings. Typ. 2-4".	Broken	ND	Lost 20 gallons
25						Lt. Brown to Brown					Lost 15 gallons
		C2	NX (24.0'-34.0')	9.5 10.0	95.0% / 71.0%			- approx. 6" void at 29.0'			Very broken 28.9-29.35'
30											
						M. to Dk	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
35		C3	NX (34.0-39.0')	5.0 5.0	100.0% / 80.0%	Gray					

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	
									BORING NO:	MW-18
PROJECT:	Chem Core PDI								SHEET:	2 of 2
CLIENT:	NYSDEC								JOB NO.:	11173754.84000
BORING CONTRACTOR:	Nothnagle Drilling Inc.								BORING LOCATION:	1064303.98N 1063651.44E
GROUNDWATER:					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 STRATA	NO.	TYPE	BLOWS PER 6"		REC% / RQD%	COLOR	CONSISTENCY HARDNESS	DESCRIPTION MATERIAL DESCRIPTION	USCS	PID	REMARKS
		C3	NX (34.0'-39.0')	5.0	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.

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

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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.)	=	39.50	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.52	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.98	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)	=	9.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	50	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	0	10	20	30	40	50						
pH	8.97	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"	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.)	=	39.60	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.61	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.99	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)	=	9.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	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	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.)	=	38.40	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	24.65	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.75	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)	=	9.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	70	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.)	=	38.74	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	23.95	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.79	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)	=	9.8	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	50	8"	2.60
			OR	
			$V=0.0408 \times (\text{CASING DIAMETER})^2$	

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	0	10	20	30	40	50						
pH	8.21	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.)	=	38.93	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	23.19	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	15.74	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)	=	10.4	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	50	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.)	=	35.47	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.13	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	9.34	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)	=	6.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.95	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.34	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.61	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)	=	8.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.72	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.69	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.03	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)	=	8.6	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.71	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	24.70	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.01	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)	=	9.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	38.85	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	23.75	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	15.10	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)	=	10.0	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	38.55	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	23.84	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.71	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)	=	9.7	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.10	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.25	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.85	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)	=	8.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.15	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.22	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.93	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)	=	9.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	38.90	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	27.20	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	11.70	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)	=	7.7	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.95	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.41	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.54	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)	=	8.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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.)	=	38.78	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.30	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.48	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)	=	8.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	30	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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.)	=	38.60	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.20	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.40	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)	=	8.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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.)	=	38.78	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.40	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.38	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)	=	8.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.62	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.15	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.47	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)	=	8.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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.)	=	38.90	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	26.30	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.60	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)	=	8.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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.)	=	38.55	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.31	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.24	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)	=	8.7	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	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	7.54	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.)	=	38.80	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.40	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.40	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)	=	8.8	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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.)	=	39.00	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	25.05	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.95	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)	=	9.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.10	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	13.25	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	25.85	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)	=	17.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	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	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	5.36	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.)	=	27.71	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	13.28	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.43	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)	=	9.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)												
PARAMETERS	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

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	27.71	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	13.28	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	14.43	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)	=	9.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	-	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	40	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	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 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 = 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 $_{cyl} = \pi r^2 h$)

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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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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: 24.90 Depth to Well Bottom: 39.19 Well Diameter: 4" Screen Length:

Casing Type: Steel Volume in 1 Well Casing (liters): 35.3 Estimated Purge Volume (liters):

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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

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 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 = 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 $_{cyl} = \pi r^2 h$)

N:\11173519.00000\EXCEL\[December 2005 purge.xls]MW-8S

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 Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

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 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 = 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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 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 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 = 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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

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 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 = 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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 9/21/05 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: 24.00 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 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 = 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 $_{cyl} = \pi r^2 h$)

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LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 9/21/05 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: 24.00 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing 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: Steel Volume in 1 Well Casing (liters): 0.0 Estimated Purge Volume (liters):

Sample ID: Sample Time: QA/QC:

Sample Paramaters: 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

TIME	pH	TEMP (°C)	COND. (µmhos)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing 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 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 =14.1mg/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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing 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: Steel Volume in 1 Well Casing (liters): 35.3 Estimated Purge Volume (liters):

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 $_{cyl} = \pi r^2 h$)

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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 Tubing Type: High Density Polyethylene Pump/Tubing 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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 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 = 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 ($vol_{cyl} = \pi r^2 h$)

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 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 = 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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing Inlet Location: ~1-2 feet off bottom

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 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 = 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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing 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 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 = 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 $_{cyl} = \pi r^2 h$)

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 Tubing Type: High Density Polyethylene Pump/Tubing 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: Steel Volume in 1 Well Casing (liters): 37.9 Estimated Purge Volume (liters):

Sample ID: MW-19-WG Sample Time: 18:00 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 = 0.01mg/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)
1730	6.94	12.20	1180	4.94	187	77	1000	
1735	6.69	12.10	1170	4.03	94	102	1000	
1740	6.90	12.10	1170	3.87	61	79	1000	
1745	6.88	12.00	1180	3.21	38	63	1000	
1750	6.87	12.00	1180	2.89	34	53	1000	
1755	6.87	12.00	1180	2.81	31	44	1000	
1800	6.87	12.00	1180	2.76	24	39	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 $_{cyl} = \pi r^2 h$)

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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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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 SO4)	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.

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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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Detection Limits shown are PQL

Advanced Selection: JJL080807
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Printed: 8/8/2007 3:50:43 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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							
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.

Flags assigned during chemistry validation are shown.

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D - Result reported from a secondary dilution analysis.

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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							
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 SO4)	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.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

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

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Detection Limits shown are PQL

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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Detection Limits shown are PQL

Advanced Selection: JJL080807
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Printed: 8/8/2007 3:50:44 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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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Detection Limits shown are PQL

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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Detection Limits shown are PQL

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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 SO4)	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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Detection Limits shown are PQL

Advanced Selection: JJL080607
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Detection Limits shown are PQL

Advanced Selection: JJL060807
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Printed: 8/8/2007 3:50:44 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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							
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.

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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 SO4)	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.

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Concentration Exceeds Criteria

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Detection Limits shown are PQL

Advanced Selection: JJL080807
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Printed: 8/8/2007 3:50:44 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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			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.

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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Detection Limits shown are PQL

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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 SO4)	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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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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

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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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

Advanced Selection: JJL080807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND (MATRIX) = 'WG'

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.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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Detection Limits shown are PQL

Advanced Selection: JJL080807
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Printed: 6/8/2007 3:50:45 PM
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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Detection Limits shown are PQL

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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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

*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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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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.

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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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-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

*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-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 SO4)	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

*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

Advanced Selection: JJL060807
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([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

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

*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						
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.

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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						
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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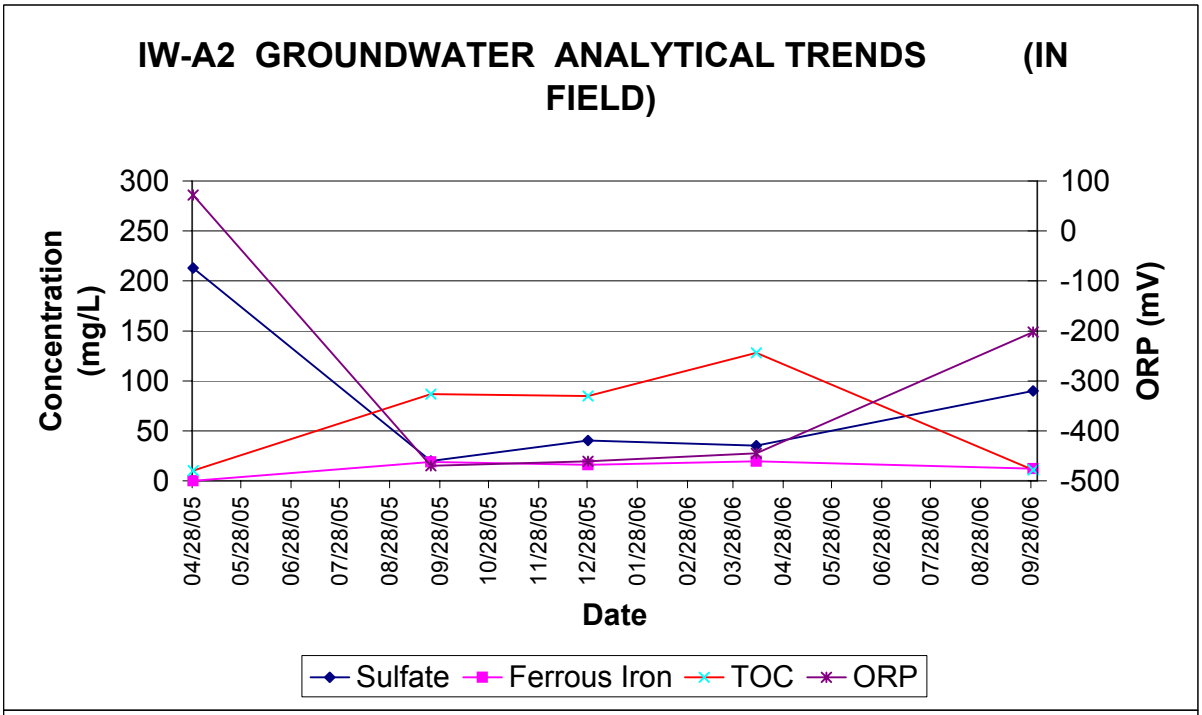
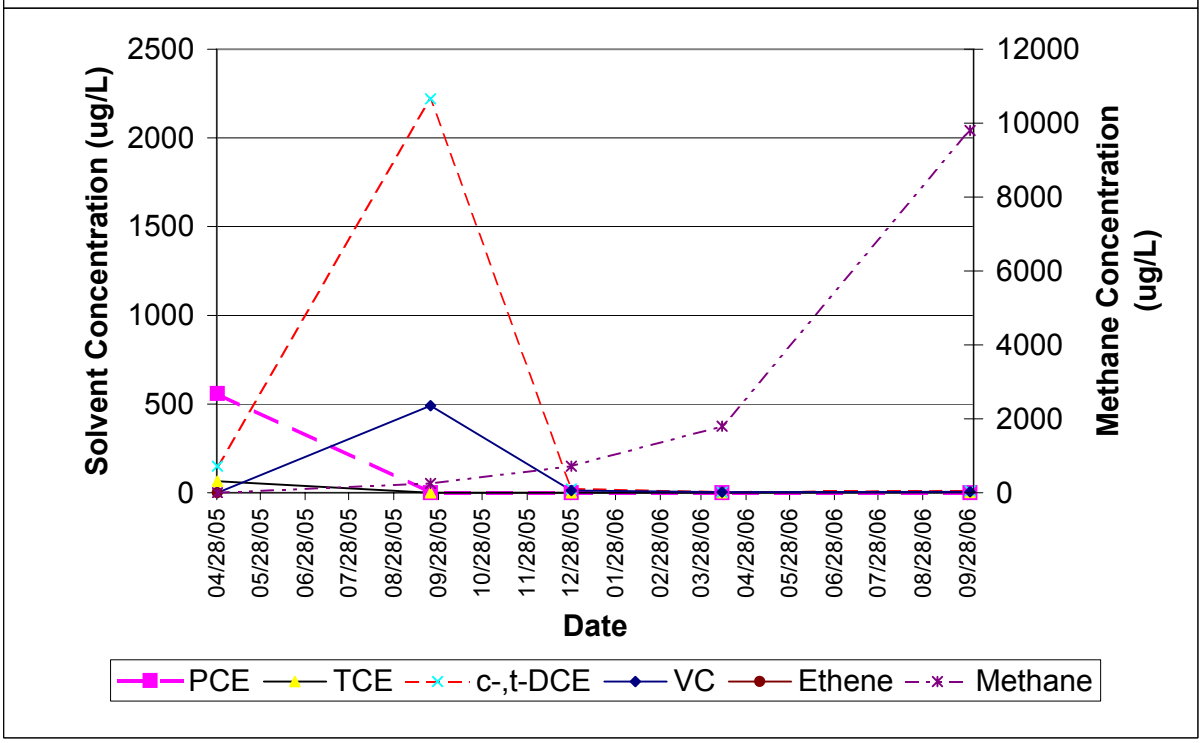
([LOGDATE] >= #4/1/2005# AND [LOGDATE] <= #9/29/2006# AND [LOGDATE] <> #11/3/2005# AND [LOCID] NOT LIKE 'PEB-*') AND [MATRIX] = 'WG'

APPENDIX E

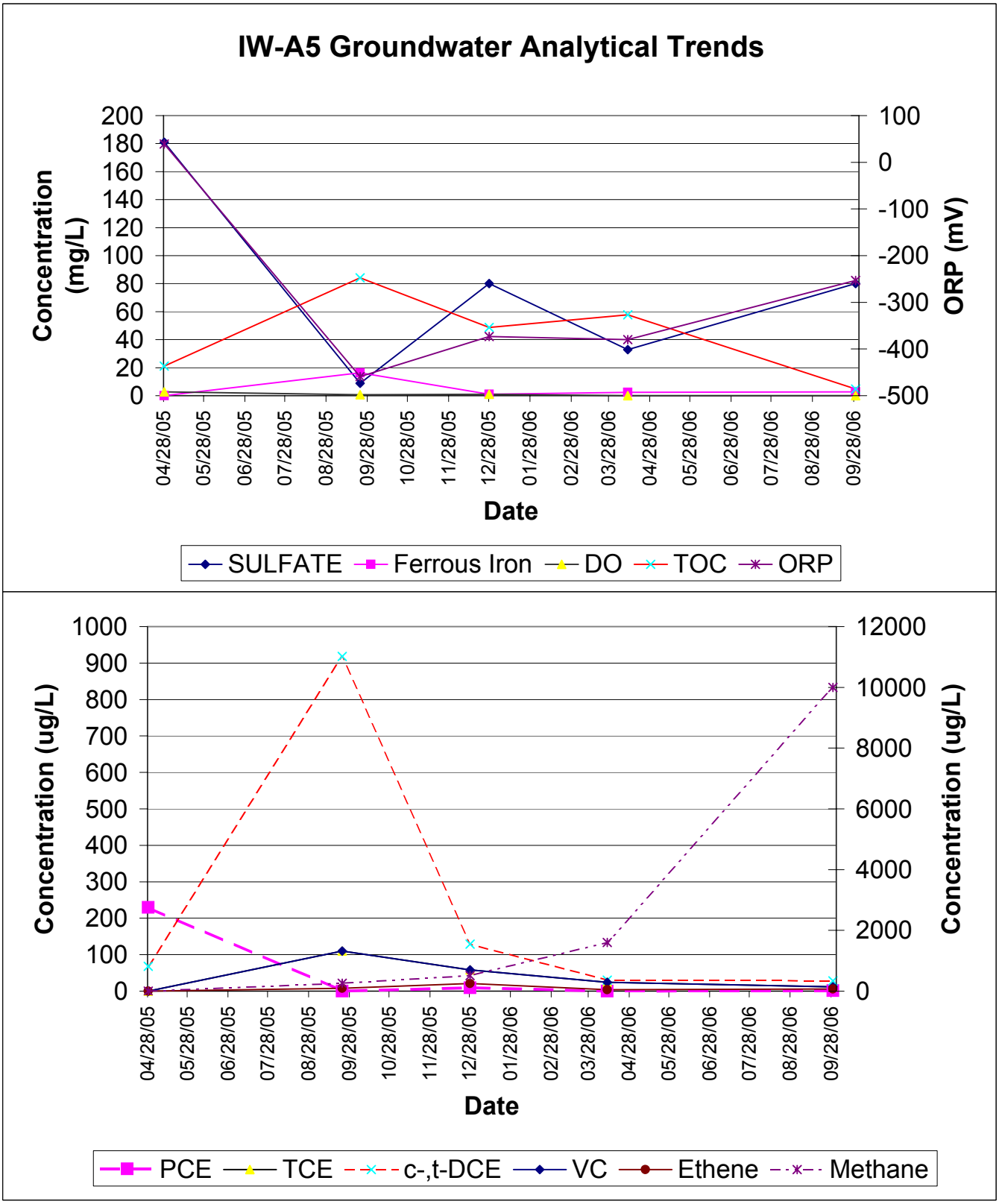
ANALYTICAL DATA TRENDS

IW-A2
Groundwater Analytical Trends

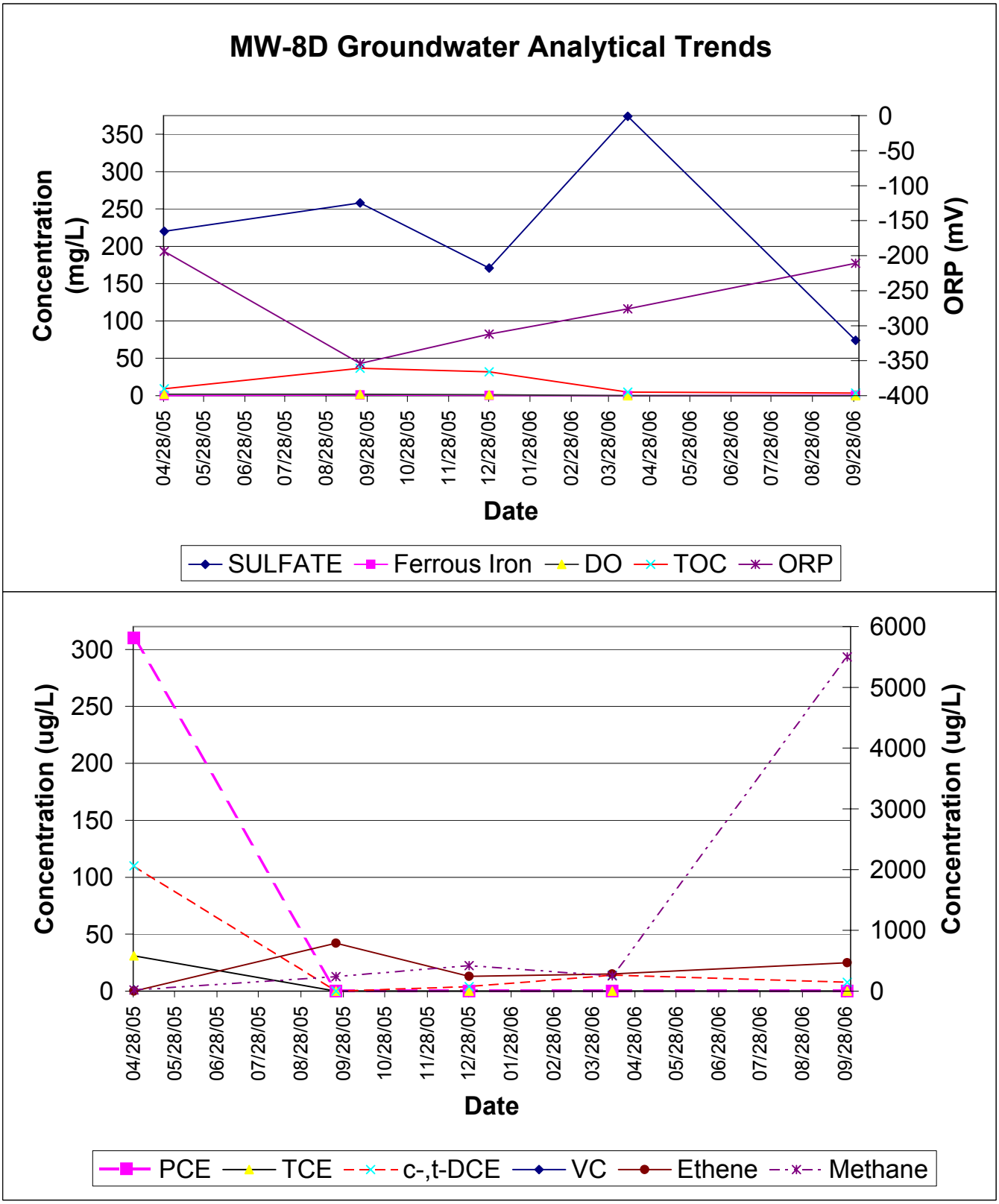




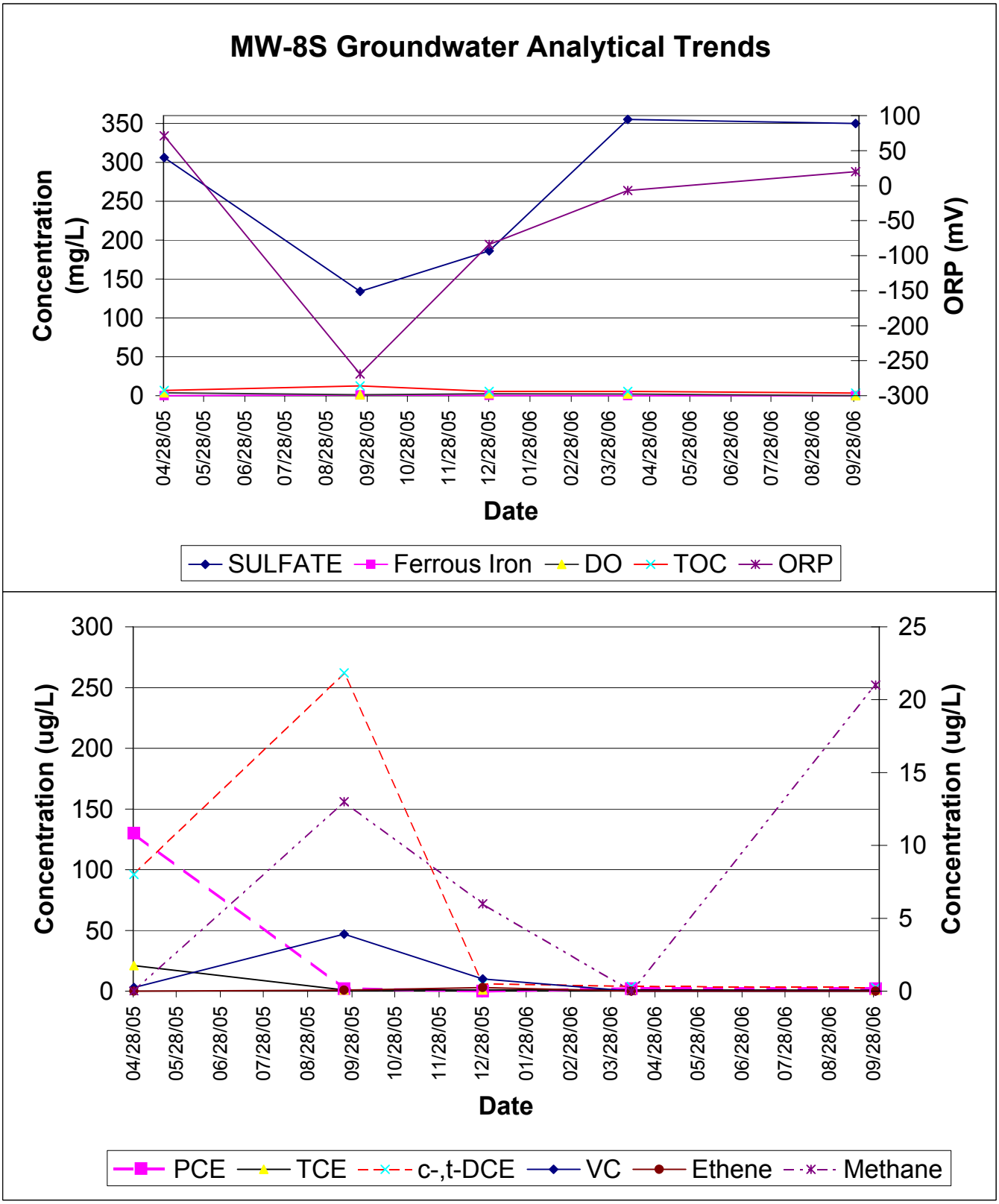
IW-A5
Groundwater Analytical Trends



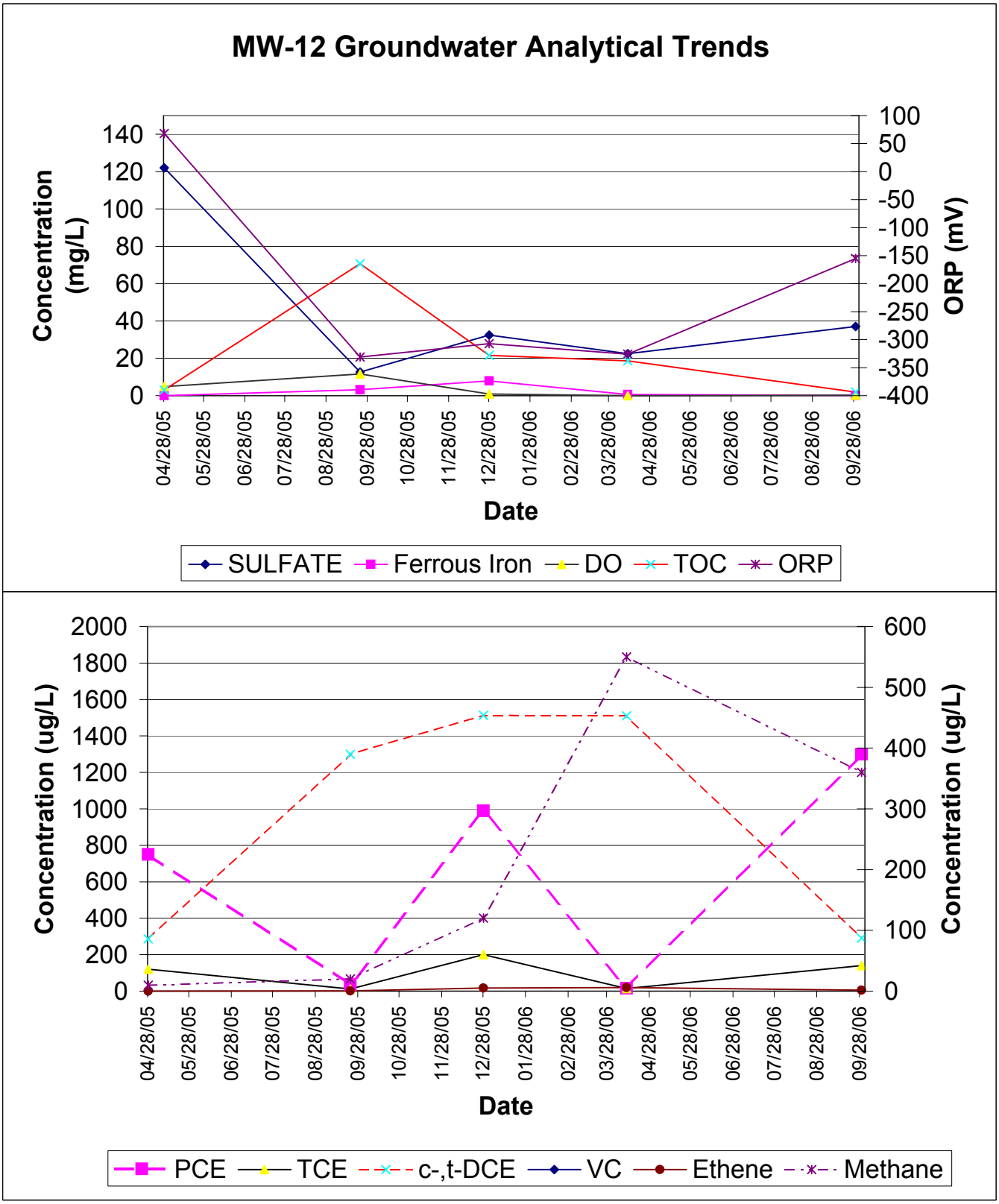
MW-8D
Groundwater Analytical Trends



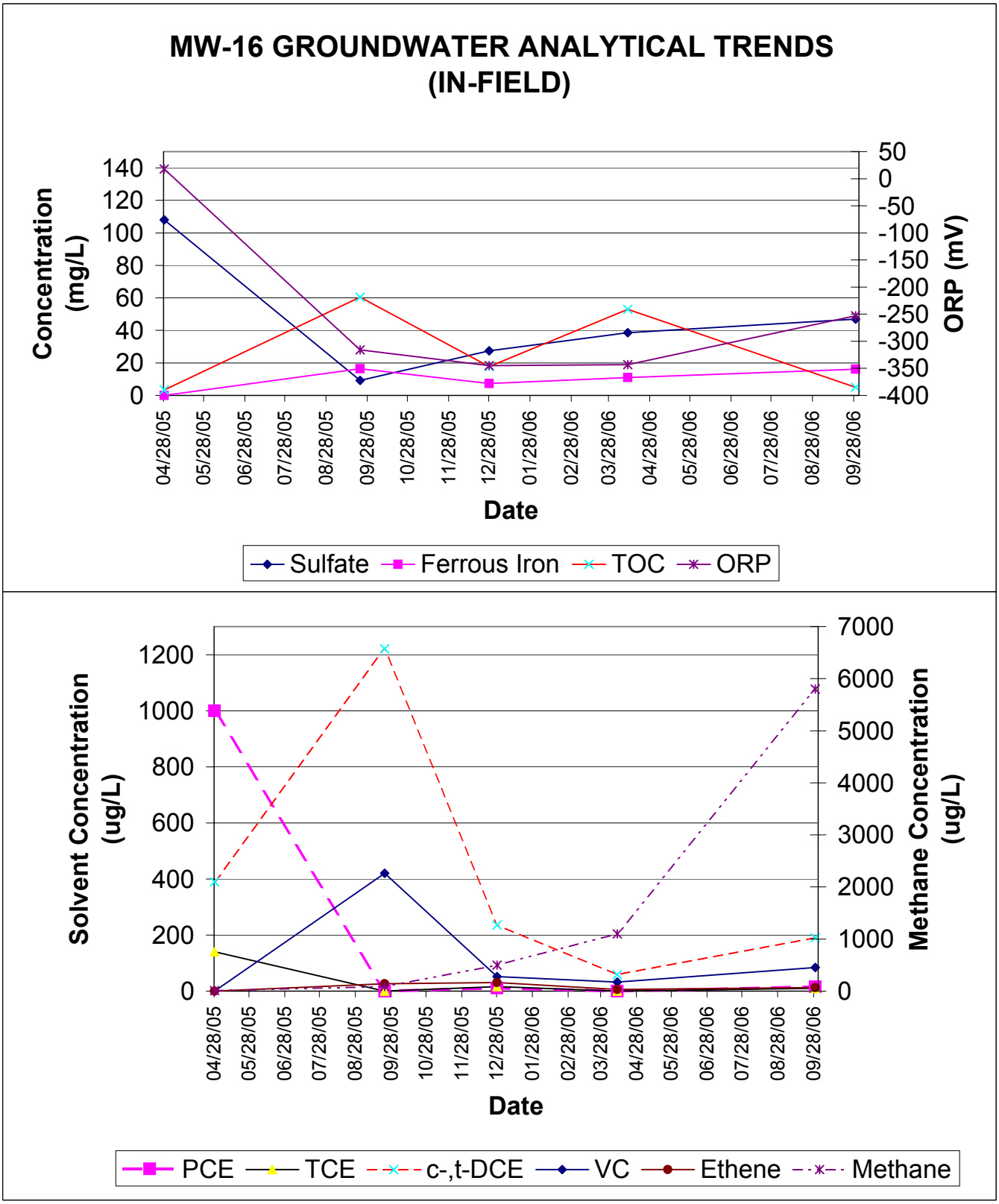
MW-8S
Groundwater Analytical Trends



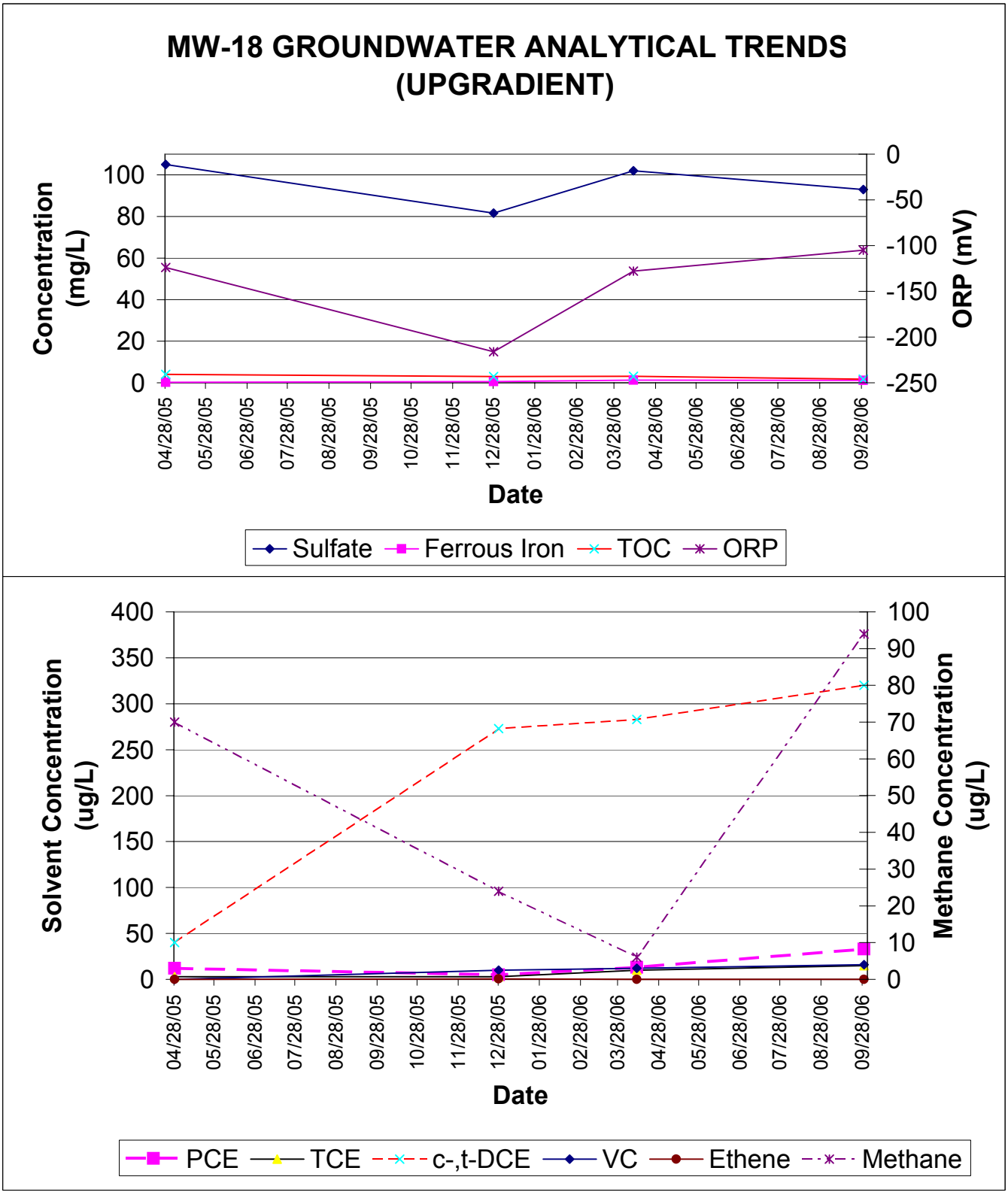
MW-12
Groundwater Analytical Trends



MW-16
Groundwater Analytical Trends



MW-18
Groundwater Analytical Trends



MW-19
Groundwater Analytical Trends