

**NATURAL ATTENUATION MONITORING REPORT
DECEMBER 2009 SAMPLING
BUILDINGS 1231 & 1253
NYSDEC SITE #633046
VERONA RESEARCH FACILITY
TOWN OF VERONA, ONEIDA COUNTY, NEW YORK**



PREPARED FOR:

**AIR FORCE RESEARCH LABORATORY/ ROME RESEARCH SITE
ENVIRONMENTAL AND OCCUPATIONAL HEALTH OFFICE
150 ELECTRONIC PARKWAY
ROME, NEW YORK 14414-4516**



February 2010

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Prepared For:

Air Force Research Laboratory/ Rome Research Site
Environmental and Occupational Health Office
150 Electronic Parkway
Rome, New York 14414-4516

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February 2010

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VERONA RESEARCH FACILITY**

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1.0 Introduction

The Air Force Research Laboratory/Rome Research Site, Environmental Health Office (AFRL/RRS/RIOC) is continuing a surface and groundwater monitoring program at Buildings 1231 and 1253 located at the former RRS Verona Research Facility (VRF). These buildings are collectively listed as Inactive Hazardous Waste Site (IHWS) #633046 by the New York State Department of Environmental Conservation (NYSDEC). This monitoring program was initiated in May of 2002 to track natural attenuation of chlorinated solvent contamination identified in groundwater at Buildings 1231 and 1253.

1.1 Site Description and Location

The VRF comprises a total of 513 acres and was commissioned by the United States government in the early 1950s for radar and electronics research. The site location and layout are indicated on the Site Location Map included as Attachment 1.

The facility originally consisted of 35 buildings and associated structures predominantly located adjacent to Germany Road, a north/south aligned road situated on the eastern portion of the property. Building 1231, Brandy Brook and Building 1253 are the focus of this monitoring program.

Site topography is generally flat with an average grade elevation of approximately 447 feet above mean sea level. The property is traversed by two water courses including a small creek at the north end of the site and Brandy Brook, which flows westward toward Oneida Lake through the southern portion of the site. Oneida Lake is located approximately 6 miles west of the VRF. Surface water drains from developed areas in the southern portion of the site into Brandy Brook via roadside ditches that are generally aligned in a north/south orientation.

Previous environmental investigations indicate that site soils consist of silt, fine-grained sand and clay. The groundwater surface is typically observed within 5 feet of the ground surface throughout the study areas. Aquifer testing completed in 2002 revealed a hydraulic conductivity of 1.45×10^{-3} feet per minute on the single well (MW-1231C) tested. This hydraulic conductivity value is considered unusually high for fine-grained soils and may indicate significant heterogeneity within the saturated zone.

1.2 Background

Chlorinated volatile organic compounds (CVOCs) were first identified on the site during a preliminary site assessment conducted in 1997. The CVOCs identified included both cis and trans-1,2-dichloroethene (DCE), chlorobenzene and tetrachloroethene (PCE) in groundwater at Buildings 1231 and 1253. Based on these findings, a two-year monitoring program was implemented that included wells at both buildings and surface water sampling in Brandy Brook.

In January 2001, the NYSDEC designated the VRF site as a Class 4 IHWS, indicating that it is properly closed, but requires continuing management. In order to comply with NYSDEC requirements for on-going management, RRS implemented an Operations, Monitoring and

Maintenance (OM&M) Plan for monitored natural attenuation of site contaminants. This plan included quarterly sampling for volatile organics and natural attenuation indicator parameters. This program was conducted from May 2002 through March 2004 and involved groundwater sampling at a total of 11 monitoring wells and three surface water sample locations at Brandy Brook. Budgetary and contractual issues resulted in the discontinuation of quarterly monitoring for an 18-month period. The quarterly sampling schedule was resumed in September 2006. Third quarter 2009 sampling for the site was completed on September 29 and 30, 2009.

2.0 Methodology and Procedures

In addition to the sampling and testing conducted for this project, Lu Engineers has developed a geographic information system (GIS) to assist in the process of tracking contaminant concentrations and other site information over time. Site data from past OM&M sampling and testing was input into an Access[®] database that is linked to an ArcView[®] v.9 interface developed specifically for this project. Geospatial site data was collected with a Trimble, Inc. Geo XT[®] global positioning system in September 2006. This data was then loaded into the GIS to facilitate linking of geospatial and other site data. This GIS allows easy access to information that has been, and will continue to be collected during the OM&M process. RRS/IFOCV is being provided with the base GIS and periodic updates as data continues to be collected.

In August 2007, a sodium permanganate injection was performed at four of the on-site wells. The wells treated include MW1231-C, MW1231-E, MW1231-F, and MW1253-H. This injection was completed in order to promote the oxidation of the remaining chlorinated solvents present in groundwater at the site.

On March 19, 2008, RegenOx[®], a sodium percarbonate complex used to oxidize contaminants, was injected into one of the on-site wells. The well was MW-1231F, where the highest concentrations of dichlorobenzenes have been detected. The injection was completed to promote the oxidation of contaminants in addition to the catalytic component that generates a range of highly oxidizing free radicals that rapidly destroy a range of target contaminants. This method was used as an alternative to sodium permanganate, which appeared to have no affect in the reduction of dichlorobenzene concentrations.

On June 20, 2008 a vacuum truck was used to place the four contaminated wells under vacuum. The vacuum hose from the truck was attached to the top of each well casing and the vacuum engaged for approximately 30 minutes at each well. A vacuum of between -22" and -26" was achieved and between 20 and 40 gallons of water were removed from each well location. A headspace reading was taken off the water in the vacuum truck prior to discharging; the reading was 0.0 ppm and the water was discharged on site.

2.1 Groundwater Sampling

The 11 VRF groundwater monitoring wells were sampled on December 29 and 30, 2009. A Sample Location Map is provided in Attachment 2 that includes both Buildings 1231 and 1253.

Total well depth and depth to water measurements were obtained with a pre-cleaned Solinst® water level indicator. All well heads have been surveyed relative to a site datum (a painted bolt on top of the fire hydrants located at both buildings) to verify casing elevations.

A MiniRAE 2000® photoionization detector was used to detect volatile organic vapors that may have been present in the well head space. No detectable concentrations of organic vapor were observed.

Wells were purged and sampled by means of a Geopump® peristaltic pump connected to dedicated polyethylene and silicone tubing. Once a minimum of three well volumes was removed from each well, the flow rate was slowed to the lowest sustainable discharge rate for sampling.

Field parameters were obtained using a Horiba® U22 while purging and immediately prior to sampling. These and all available past field parameter (pre-sample) data are presented in Attachment 3. Field parameters include:

- groundwater elevations
- Eh
- salinity
- specific conductance
- pH
- turbidity
- dissolved oxygen (DO)
- temperature

Groundwater samples were collected and containerized as appropriate for the following parameters:

- Target Compound List (TCL) VOCs by EPA Method 624
- Total (unfiltered) iron and manganese by EPA Method 200.7
- Dissolved (filtered) iron and manganese by EPA Method 200.7
- Nitrate and sulfate by EPA Method 300.0
- Carbon dioxide by Standard Method 4500
- Total dissolved solids (TDS) and alkalinity by EPA Methods 160.1 and 310.1
- Ethene and ethane by GC analysis

All wells were closed and locked upon completion of sampling. Samples were immediately stored in clean coolers on ice for transport to the contract laboratory, Mitkem Laboratories.

2.2 Surface Water Sampling

The three locations where surface water sampling was conducted at Brandy Brook are indicated on the Sample Location Map provided as Attachment 2. Water samples were obtained by immersion of a Bel-Art® Long-Handled Dip Sampler, which was then used to fill all sample containers. Field parameters were also tested for the surface water sample locations during this round of sampling.

Surface water analytes included the following:

- Target Compound List (TCL) VOCs by EPA Method 624
- Total (unfiltered) iron and manganese by EPA Method 200.7
- Dissolved (filtered) iron and manganese by EPA Method 200.7
- Nitrate and sulfate by EPA Method 300.0
- Carbon dioxide by Standard Method 4500
- Total dissolved solids (TDS) and alkalinity by EPA Methods 160.1 and 310.1
- Ethene and ethane by GC analysis

Surface water samples were immediately packed in ice-filled coolers for transport to the contract laboratory with the groundwater samples.

3.0 Discussion of Results

The following sections discuss the findings of the December 2009 OM&M event with respect to historical site data.

3.1 Groundwater Elevations

Attachment 3 contains tabulated groundwater and well head elevations. Groundwater contour maps are provided in Attachment 4.

3.1.1 Building 1231

The apparent groundwater flow direction at Building 1231 is southeastward and is generally consistent with past groundwater elevation findings and past assumptions relating to overall site groundwater flow patterns. Overall groundwater elevations had an average increase of 0.01 feet since September 2009.

3.1.2 Building 1253

The apparent groundwater flow direction at Building 1253 is southeastward and is generally consistent with past groundwater elevation findings and past assumptions relating to overall site groundwater flow patterns. Groundwater elevations had an average increase of 0.4 feet in this area since September 2009.

3.2 Volatile Organics

All VOC data collected as part of the VRF OM&M is tabulated in Attachment 5. This data was used to develop contour maps of total VOC concentrations for both Building 1231 and 1253 for December 2009. Total VOC concentration maps are also included from previous quarters June and September 2009. All maps are located in Attachment 6.

3.2.1 Building 1231

The December 2009 data indicate a decrease in the concentration of total volatile organics at MW-1231C. The concentration of PCE (2.9 ug/l) at MW-1231E has decreased from the previous concentration of 4.5 ug/l and is below the NYSDEC groundwater standard.

The concentrations of volatile organics at MW-1231F decreased for all persistent contaminants for the December 2009 Quarterly Sampling. Concentration of chlorobenzene (3.9 ug/l) decreased from 30.0 ug/l for the previous sampling event and is below the NYSDEC groundwater standard of 5 ug/l, while 1,4- dichlorobenzene (1.3 ug/l) decreased from 7.0 ug/l for the previous sampling and is below the NYSDEC groundwater standard of 3 ug/l. The remaining persistent contaminants 1,2-dichlorobenzene, 1,3-dichlorobenzene, PCE, and trichloroethene (TCE) either decreased in concentration since the previous sampling event, or were non-detect, and remain below NYSDEC groundwater standards. The concentration of PCE at MW-1231C (4.0 ug/l) decreased from the September 2009 level (5.8 ug/l), and is below the NYSDEC groundwater standard of 5 ug/l.

The concentrations at MW-1231F (the well used as an injection point for RegenOx[®]) decreased for chlorobenzene (3.9 ug/l) and 1,4- dichlorobenzene (1.3 ug/l) since the previous sampling. These values are below the NYSDEC groundwater standards for both contaminants. The organic compound 1,3 dichlorobenzene (0.76 ug/l) was detected below the NYSDEC groundwater standard of 3 ug/l, and decreased from the previous sampling (3.0 ug/l). 1,2-dichlorobenzene was not detected during the current sampling event, and remains below the NYSDEC groundwater standard of 3 ug/l for the seventh consecutive sampling event. Both compounds were detected as persistent contaminants in the past and have been occasionally detected in recent events at levels below the groundwater standard. Tetrachloroethene (2.3 ug/l) was detected below the groundwater standard of 5 ug/l for the ninth consecutive sampling.

The compounds chlorobenzene and 1,4-dichlorobenzene were not detected at MW-1231E in the previous five samplings, and the current results again indicate non-detection for both contaminants. Both compounds have been persistent at this location, and had been steadily decreasing in concentration since initial detection. This is the fifth time that both compounds have not been detected in consecutive sampling events. Tetrachloroethene (2.9 ug/l) was detected at a level below the groundwater standard of 5 ug/l for this sampling event.

Trichloroethene at MW-1231C was detected in this sampling event at a level of 1.8 ug/l. It had been detected below the NYSDEC groundwater standard of 5 ug/l, for the previous twelve quarterly samplings.

The compound cis-1,2-DCE was detected at MW1231-H at a level of 1.1 ug/l during the March 2009 sampling event, which is below the groundwater standard of 5 ug/l. Cis-1,2-DCE was detected in the current sampling event at a level of 1.2 ug/l. This compound has shown a tendency to be sporadically detected at other well locations throughout the sampling history at the site. The intermittent detection may be explained the fact that 1,2-DCE is a breakdown product of TCE. As TCE is moving through the subsurface, it is degrading and may appear in wells were it has previously not been detected. This process is explained further in the Summary section of this report (Page 12).

Vinyl chloride (VC) was detected at a level of 1.5 ug/l, below the groundwater standard of 2 g/l. Vinyl chloride was detected in the previous three samplings, as well as two prior samplings, at levels below groundwater standards for this contaminant. The remaining wells at Building 1231 (MW1231-G, and MW1231-I) were free of contaminants for this sampling event. All wells at

Building 1231 are below NYSDEC groundwater standards for individual site contaminants for December 2009.

The Total VOC Concentration Contour Maps for Building 1231 (Attachment 6) do not illustrate a general decrease in the size of the affected area of the property that corresponds to the gradual decrease in total VOC concentrations as indicated in previous monitoring. Significant changes in the lateral distribution of chlorinated volatile organic contaminants are not indicated in this area of the Verona Research Site by the December 2009 sampling event.

3.2.2 Building 1253

Toluene was not detected at MW-1253F during this sampling event. This compound was detected twice (September 2008, March 2009) during previous sampling events at this monitoring well, and has been detected sporadically at other wells at this location.

Vinyl chloride was detected at MW-1253H at a level of 1.4 ug/l, which is below the NYSDEC groundwater standard of 2 ug/l. This compound has been a persistent contaminant at this location, but has been either non-detect or below the groundwater standard for five of the six previous sampling events. While the previous event resulted in detection of the compound at 2.0 ug/l, one recent sampling event (March 2009) detected VC above the groundwater standard at 4.9 ug/l. Further monitoring will be necessary to determine the extent of this contaminant.

1,1-dichloroethane was not detected at MW-1253H during this sampling event. The compound had been occasionally detected in previous sampling events, and has been non-detect or below the NYSDEC groundwater standard of 5 ug/l for all previous sampling events.

Trichloroethene was detected during this sampling event at MW-1253I at a level of 1.7 ug/l, below the NYSDEC groundwater standard of 5 ug/l. This compound was also detected during the previous sampling event. This contaminant has been persistent in prior events at the well location, but has been either non-detect or below the NYSDEC groundwater standard for the previous twelve sampling events.

Trans-1,2- DCE was not detected at MW-1253I during this sampling event. Trans-1,2-DCE has been either non-detect or below the NYSDEC groundwater standard for the previous eighteen sampling events. Cis-1,2- DCE was detected at a level of 1.6 ug/l for this sampling event. Cis-1,2- DCE has been either non-detect or below the NYSDEC groundwater standard of 5 ug/l for the previous fifteen sampling events.

Vinyl chloride was not detected at MW-1253E for this sampling event. VC was detected in September 2009 sampling at a concentration of 25 ug/l, which is above the NYSDEC groundwater standard of 2 ug/l. This is the highest VC concentration detected at this well. The compound has only been detected two other times in previous sampling: October 2007 (7.8 ug/l), and September 2008 (5.2 ug/l).

Cis-1,2 DCE was not detected at MW-1253E for this sampling event. Cis-1,2 DCE was detected at a level of 10 ug/l in September 2009, above the NYSDEC groundwater standard of 5 ug/l. This was the highest concentration of this compound detected at this location, as the compound

has been detected in only two other sampling events: October 2007 (3.1 ug/l), and September 2008 (3.0 ug/l)

Again, the sporadic detection of VC and cis-1,2 DCE may be explained through the breakdown process and migration of TCE in the subsurface affecting wells with no history of these compounds being detected.

No other VOCs were detected at any of the monitoring wells at Building 1253. This is a common occurrence at MW 1253-F and MW 1253-G. MW-1253E has had sporadic detection of VOCs, but no pattern of persistent contamination is evident at this location. The remaining two wells at Building 1253, MW-1253H and MW-1253I have shown evidence of persistent contaminants in previous samplings.

The Total VOC Concentration Contour Maps for Building 1253 (Attachment 6) do not illustrate a general decrease in the size of the affected area of the property that corresponds to the gradual decrease in total VOC concentrations as indicated in previous monitoring. Significant changes in the lateral distribution of chlorinated volatile organic contaminants are not indicated in this area of the Verona Research Site by the December 2009 sampling event.

3.2.3 Brandy Brook

Historically, no detectable VOCs have been identified in any of the three surface water samples obtained from Brandy Brook. Chloromethane is not a persistent contaminant at the Verona site, and is rarely detected in the monitoring wells. Analytical results from this sampling event have indicated that chloromethane was detected in two of the three surface water samples.

Chloromethane was detected at SW-1 (0.72 ug/l) and SW-3 (0.93 ug/l). Both concentrations are below the NYSDEC groundwater standard of 5 ug/l.

Based on the history of the analytical data from these two samples, it was suspected that the detection of this contaminant was the result of false-positive detection or laboratory contamination. The lab was contacted to determine if the detection could be positively identified as either false-positive detection, or laboratory contamination. The lab responded that determination of false positive detection is difficult due to the low concentration detected in the sample, but indicated that it is possible. The lab also indicated that laboratory contamination is unlikely, as no other samples were analyzed in conjunction with the Verona site samples. An explanation of possible sources of chloromethane is included in Attachment 9.

Based on the response from the lab and the history of the analytical data for these two sampling points as well as the entire site, it is unlikely that the low concentration of chloromethane is a result of contaminant migration from the Verona site to Brandy Brook. Further sampling will help to determine the source of contamination.

3.3 Inorganics

Analytical results for inorganic samples are provided in Attachment 7.

3.3.1 Building 1231

Concentrations of total (unfiltered) iron in the December 2009 event range from 3.12 to 0.082 milligrams per liter (mg/l). Previous data indicates a consistent exceedance of the NYSDEC groundwater standard of 0.3 mg/l at wells MW-1231H and MW-1231I. Dissolved (filtered) iron was detected at levels ranging from 0.956 mg/l to 0.082 mg/l. Dissolved (filtered) manganese was detected in all of the sampled wells at Building 1231. Concentrations of dissolved (filtered) manganese have remained at pre-sodium permanganate injection (9/07) levels at each well, after the October 2007 increase due to the injection of sodium permanganate at 3 of the 6 wells at Building 1231. This is discussed in section 4.1.

Nitrate was detected at 5 of 6 wells at Building 1231 for the current sampling event, with concentrations below 0.1 milligrams per liter (mg/l). These levels are well below the NYSDEC groundwater standard of 10 mg/l. After a spike in alkalinity and total dissolved solids in October 2007 concentrations have returned to pre-injection levels. Sulfate concentrations have stabilized to pre-injection levels, and are below the NYSDEC groundwater standards.

Dissolved oxygen was identified at detectable concentrations ranging from 4.56 to 5.45 parts per million (ppm), and is considered available for aerobic degradation of site contaminants. Carbon dioxide was detected in all of the wells at Building 1231 in a range of 11-78 mg/l, at levels similar to the September 2009 sampling. Carbon dioxide is a breakdown product of the TCE breakdown process. The carbon dioxide data suggests that aerobic degradation and dispersion remain the primary degradation mechanisms currently active with respect to Building 1231.

3.3.2 Building 1253

December 2009 concentrations of total (unfiltered) iron range from 0.499 to 0.082 mg/l. Most wells at this location consistently exceed the groundwater standard of 0.3 mg/l. Dissolved (filtered) iron was detected at levels ranging from 0.181 mg/l to 0.082 mg/l. Both total and dissolved manganese were detected in all of the sampled wells at Building 1253. Total manganese concentrations ranged from 2.52 mg/l (exceeding the NYSDEC standard of 0.3 mg/l) to 0.0871 mg/l.

Nitrates were identified at all monitoring wells at Building 1253, at concentrations below the groundwater standard of 10 mg/l. Alkalinity and total dissolved solids concentrations have returned to pre-injection levels. Sulfate was detected in all of the wells at Building 1253. This is consistent with previous sampling events.

Dissolved oxygen was identified at detectable concentrations ranging from 0.74 to 7.01 ppm and is considered available for aerobic degradation of site contaminants. Carbon dioxide was detected in all wells, with a concentration range of 100-310 mg/l.

3.4 Trends

Attachment 8 includes graphical representations of a trend analyses relating to all site wells yielding elevated CVOC concentrations. Selected analytes represent the contaminants detected in each well with consistent enough historical information to allow statistical analysis. The trend analyses were prepared using a sixth order polynomial regression.

Although there was a seasonal upward trend indicated in the October 2007 sampling concentration of chlorobenzenes at MW-1231F, the graphs indicate a clear overall downward trend in site contaminant concentrations. The December 2009 sampling results also demonstrated a continued general downward trend in Site contaminants.

The charts provided in Attachment 8 indicate a complex and inconsistent relationship between observed ground water levels and contaminant concentrations in wells.

4.0 In-Situ Chemical Oxidation

On August 21, 2007, a 20% sodium permanganate solution was injected into affected locations to promote the oxidation of remaining chlorinated solvent concentrations at the subject site. Wells used for injection included the following:

- B-1231 wells – C, E & F
- B-1253 wells - H

Lu Engineers used the following procedure for the injection process. Wells to be injected were bailed to remove accessible water from each well. The approximate water volume was determined and well water not needed for dilution was discharged directly to the ground surface.

Personnel handling the sodium permanganate (NaMnO_4) solution donned protective equipment including Tyvek, a face shield and nitrile gloves and handled this material in accordance with all precautions indicated on the MSDS.

The 40% solution was cut by 50% using containerized well water. A total of approximately 4 gallons at 20% were discharged by gravity into each well location. To accomplish this, one person held a large funnel on the top of the well to be used, while the other person slowly poured the 20% NaMnO_4 solution into the well via the funnel. Once the desired amount had been discharged into a given well, the well head was closed and locked.

On March 19, 2008 a 2.5% sodium percarbonate complex (RegenOx[®]) was injected into MW-1231F to promote the oxidation of remaining chlorinated solvent concentrations at the subject site.

Lu Engineers used the following procedure for the injection process. The well to be injected was bailed to remove accessible water. The approximate water volume was determined and well water was discharged directly to the ground surface.

Personnel handling the sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) solution donned protective equipment including Tyvek, a face shield and nitrile gloves and handled this material in accordance with all precautions indicated on the MSDS.

A total of approximately 4 gallons at 2.5% solution were discharged by gravity into MW-1231F. To accomplish this, one person held a large funnel on the top of the well to be used, while the other person slowly poured the 20% sodium permanganate solution into the well via the funnel. Once the desired amount had been discharged into the well, the well head was closed and locked.

4.1 In-Situ Chemical Oxidation Effectiveness

As the sodium permanganate was only applied to 4 of the 11 wells on site, the results from these wells were considered to see if the solution was promoting the oxidation of chlorinated solvents as planned. Total and Dissolved manganese concentrations have generally returned to pre-sodium permanganate injection levels at injected and surrounding wells.

MW1231C

Contaminant levels of PCE (4.0 ug/l) are below the NYSDEC groundwater standard for the December 2009 quarterly sampling. The September 2009 sampling event (5.8 ug/l) revealed levels above the groundwater standard of 5 ug/l, while the three prior to September 2009 revealed levels below the standard. Tetrachloroethene has been detected at this well at each of the sampling events, and had continually been above the NYSDEC groundwater standard until the December 2008 sampling event. Trichloroethene was detected in this sampling event at a level of 1.8 ug/l, but was not detected in the June 2009 sampling results. TCE is repeatedly detected at this well location, but has been non-detect or below the NYSDEC groundwater standard of 5 ug/l since December 2006 (13 consecutive sampling events). Cis-1,2-DCE was detected at a level of 1.1 ug/l. TCE has been detected in 6 of 11 previous events at levels below the NYSDEC groundwater standard of 5 ug/l. All compounds with a history of being persistent at this well location were either non-detect or below the NYSDEC groundwater standard for this sampling event.

MW1231E

1,4-dichlorobenzene and chlorobenzene were not detected in this sampling event, nor the previous five sampling events. Both compounds had been consistently detected from June 2003 until June 2008. It is noted that chlorobenzene was the compound with the highest concentration (9000 ug/l) when monitoring began. The levels from recent sampling events fluctuate slightly above the NYSDEC Groundwater standards (3ug/l and 5ug/l, respectively). Levels of both contaminants have been consistently lower than initial detection levels since the injection of sodium permanganate in September 2007. This is the sixth consecutive sampling event that both compounds have not been detected. Tetrachloroethene (2.9 ug/l) decreased slightly from the previous sampling event (4.5 ug/l) and remains below the groundwater standard of 5 ug/l.

The December 2008 and March 2009 sampling events indicated that all persistent contaminants at this well location were either non-detect, or below the NYSDEC groundwater standard. The June 2009 event resulted in the detection of the persistent contaminant PCE at levels above the groundwater standard. September and December 2009 sampling reveals all persistent contaminant levels below the groundwater standard or non-detect. Further sampling will help determine the extent of the contaminant at this location.

MW1231F

1,2-dichlorobenzene was not detected in this sampling event. 1,2-dichlorobenzene was detected at a level of 1.2 ug/l in September 2009, below the NYSDEC groundwater standard of 3 ug/l. 1,3-dichlorobenzene (0.76 ug/l) was not detected in this sampling event, after being detected in September 2009 at a level equal to the groundwater standard of 3 ug/l. Both compounds were below the NYSDEC groundwater standard for the three sampling events prior to September 2009. 1,2-dichlorobenzene had been identified as a persistent contaminant, having been detected at levels well above the groundwater standard in earlier samplings.

1,3-dichlorobenzene has been below the groundwater standard or non-detect in the four previous sampling events. Until December 2008, concentrations had been above the groundwater standard for 15 previous events. Concentrations for both compounds have been decreasing steadily toward the NYSDEC groundwater standard level of 3 ug/l, and are below the standard for this event.

1,4-dichlorobenzene was detected at a concentration of 1.3 ug/l for the December 2009 sampling event. Other detections below the groundwater standard for 1,4-dichlorobenzene include the December 2008, March 2009, June 2009 sampling events. Concentrations observed during the 15 sampling events prior to December 2008 have all been above the NYSDEC groundwater standard of 3 ug/l for 1,4-dichlorobenzene. The September 2009 concentration (7 ug/l) of 1,4-dichlorobenzene exceeded the groundwater standard.

Chlorobenzene (3.9 ug/l) decreased from the previous sampling event (30.0 ug/l), and is below the NYSDEC groundwater standard of 5 ug/l. It is noted that chlorobenzene was the compound with the highest concentration (4600ug/l) when monitoring began. The concentration detected in September 2009 is the highest concentration detected since September 2008, and concentrations between those dates were below the NYSDEC groundwater standard. Further sampling will determine the extent of the contaminant at this location.

Contaminant levels have been decreasing steadily after a substantial increase following the injection in September 2007, and the downward trend continues to be evident. There was a slight spike in chlorobenzene levels after the September 2007 injection, but levels have decreased in the following sampling events. It is noted that chlorobenzene is a breakdown product of the dichlorobenzene/RegenOx[®] reaction. The noticeable increase in concentrations for the September 2009 sampling event was not evident in the December

2009 sample results. Compounds with a history of being persistent at this well location were below the NYSDEC groundwater standard for all contaminants.

MW1253H

Vinyl chloride (1.4 ug/l) was detected at this location at a lower concentration than the previous sampling event (2.0 ug/l). Vinyl chloride is the most persistent contaminant at this location, and has been detected in 12 of 21 previous sampling events. It was detected at a level above the NYSDEC groundwater standard (2 ug/l) in the March 2009 event, but was either non-detect or below the standard in the three events prior. It is noted that VC is a breakdown product of TCE and may be the reason for TCE being below groundwater standard limits at Building 1253. TCE had been consistently above the standard in prior events. 1,1,1-trichloroethane was not detected for the seventh consecutive sampling event. 1,1-dichloroethane was not detected in this event. Prior sampling had indicated the presence of the compounds at levels below the NYSDEC groundwater standards at this well location.

5.0 Summary

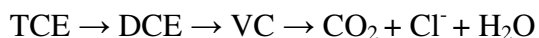
The findings of the December 2009 sampling event indicate that overall site contaminant levels have generally continued to be reduced by natural attenuation, augmented by in-situ chemical oxidation. Some increases in contaminant concentration have been observed in previous sampling events (September 2009). Results of the most recent sampling report indicate that all compounds detected are below the NYSDEC groundwater standards December 2009.

Persistent contaminants still appeared at each well that resulted in detections previously, but all concentrations were below required standards. The elevated levels of chlorobenzene and VC for the September 2009 sampling event are the highest concentrations observed recently, as no concentrations higher than 10 ug/l have been detected since September 2008 for any volatile organic compound. Chlorobenzene was detected in the current sampling (3.9 ug/l), but was at a much lower concentration than that detected in September 2009 (30.0 ug/l). Vinyl chloride was not detected in the current sampling after being detected at a concentration of 25 ug/l in September 2009.

The presence of VC may be explained by the reduced concentrations of TCE as it is a breakdown product from the natural attenuation process. The breakdown process of TCE to VC is described below, with biologic degradation processes as described in "Accelerated Bioremediation with Slow Release Electron Donors and Electron Acceptors" (see references).

Trichloroethylene is an organic solvent that is commonly used to remove grease from metal parts in industrial processes. Under anaerobic conditions in soil and groundwater, trichloroethylene is broken down through the process of microbial reductive dehalogenation into the product 1,2-dichloroethylene (1,2-DCE).

The product resulting from the degradation of 1,2-DCE is VC. Vinyl chloride can be degraded through oxidation, resulting in the products chloride and carbon dioxide. Generally as indicated in the following sequence:



Trans-1,2-DCE has been detected at MW-1253H in two sampling events (May and November 2002). Trans-1,2-DCE is consistently detected in low concentrations at MW-1253I, and has not been detected in any other well at Building 1253.

The May and November 2002 samples were taken in the initial phase of monitoring and the sampling protocol used is not known. Sampling methodology can have a substantial influence on the analytical findings from a given well. Cross contamination, or other quality control issues during the sampling process may have caused the detection of trans-1,2-DCE in this case.

It is also possible that elevated contaminant levels may be occurring at different depths with differing relative permeabilities. Groundwater samples will be comprised of relatively larger proportions of water from higher permeability zones. Groundwater entering the well during lower water level periods may be receiving groundwater with a relatively low or high contaminant concentration, depending on the depth of the highest contaminant concentrations.

Dichloroethene is also more soluble in water than other chemicals on site (DCE: 6,260 mg/l, TCE, VC: 1,100 mg/l). The relatively high solubility of DCE combined with the relatively high groundwater levels during the sampling events that this compound was detected, may have resulted in more widespread DCE distribution.

Vinyl chloride has been detected at MW-1253E in three sampling events (October 2007, September 2008, and September 2009). Vinyl chloride is consistently detected at MW-1253H, and has not been detected in any other well at Building 1253.

Trichloroethene is consistently detected at MW-1253I, while VC is not detected at this location. One possible explanation for the presence of VC only sporadically at this well could be influence of residual contamination affecting nearby wells MW-1253H and MW-1253I.

As TCE is moving through the subsurface, the compound is degrading. Higher concentrations of TCE degrading to DCE would be expected near the source area, while higher concentrations of DCE degrading to Vinyl Chloride would be expected down-gradient from source areas.

The fact that the site groundwater gradients are extremely shallow would tend to further complicate interpretations and predictions relative to the occurrence of the subject contaminants at the Verona site.

Based on the field parameters and analytical findings, it is inferred that the primary processes causing attenuation at both Building 1231 and 1253 continues to be aerobic degradation and dispersion. This attenuation may have been expedited by the previous additions of sodium permanganate, RegenOx[®] and vacuum extraction, particularly at the Building 1231 work area.

These tasks were completed in 2007-2008, and helped to expedite the natural attenuation process, but likely have little influence on current attenuation processes. Data does not support a confirmed causal relationship between the remedial activities to date and decreased concentrations of CVOCs.

Based on the results of the December 2009 groundwater sampling analysis, the site-specific contaminants present at buildings 1231 and 1253 are either at non-detectable levels or below the NYSDEC groundwater standard levels at all monitoring wells. The December 2008 sampling event had marked the first sampling event with contaminant concentrations below groundwater standards for all contaminants at each well. While this is the first recurrence of contaminant concentration below groundwater standards, further monitoring is recommended to determine the extent of contaminant level fluctuation and persistency.

The current trend analyses continue to support the conclusion that natural attenuation is occurring at both study areas at the VRF. The history of chlorinated solvents such as dichlorobenzene and chlorobenzene in high concentration at the site reveals levels up to three orders of magnitude above applicable groundwater standards when monitoring began. While current levels appear to be reduced to within one order of magnitude or lower for site-specific contaminants, the tendency for contaminants to reappear in groundwater samples after not being detected in previous sampling events is common. This has occurred at MW-1231E, F and H, and MW-1253E, F, and H. This indicates that attainment of target concentrations may require additional, long-term continuation of the OM&M program. Additional sampling events will likely be required to verify whether the contaminants have been fully attenuated from the site.

The trend analyses provided in Attachment 8 include projected time durations for attaining NYSDEC groundwater standards for selected wells. Future trends were evaluated by exponential regression for selected wells yielding the highest CVOC contaminant levels at the VRF. Based on the attenuation rates observed at the VRF to date, groundwater standards may be consistently attained between December 2010 and December 2017.

In an effort to simulate remediation by natural attenuation, the EPA model BIOCHLOR will be utilized to model the transport rate and compare it to the biotransformation rate occurring at the Verona MNA Site. BIOCHLOR is a screening model that simulates remediation by natural attenuation of dissolved solvents at chlorinated solvent release sites. This model can be used to simulate solute transport without decay and solute transport with biodegradation. BIOCHLOR is designed specifically for use with dissolved solvents at chlorinated solvent release sites.

The Air Force Research Laboratory/ Rome Research Site and Lu Engineers are currently in the process of initial data input to the model. Output from the model will be used to further support the trends observed at the Verona MNA Site.

6.0 Recommendations

Based on the findings of the VRF OM&M program to date, Lu Engineers makes the following recommendations:

- Consider discontinuing surface water sampling in Brandy Brook. If sampling will be required in the future, only sampling for VOCs should be conducted.
- Consider elimination of filtered metals and dissolved gas sampling and analysis.
- Establish target concentrations for site-specific contaminants.
- Consider introduction of additional oxidizers such as Fenton's Reagent or similar materials for in situ chemical oxidation technology, to enhance removal of residual chlorinated solvents from the subsurface if warranted by future sampling results.

References

Operations, Monitoring and Maintenance Plan Implementation, Monitoring Network Installation, Verona Research Facility, AFRL/RRS, November 2002.

(Quarterly) Natural Attenuation Monitoring Event Reports, Verona Research Facility, AFRL/RRS, March 2002 through September 2009.

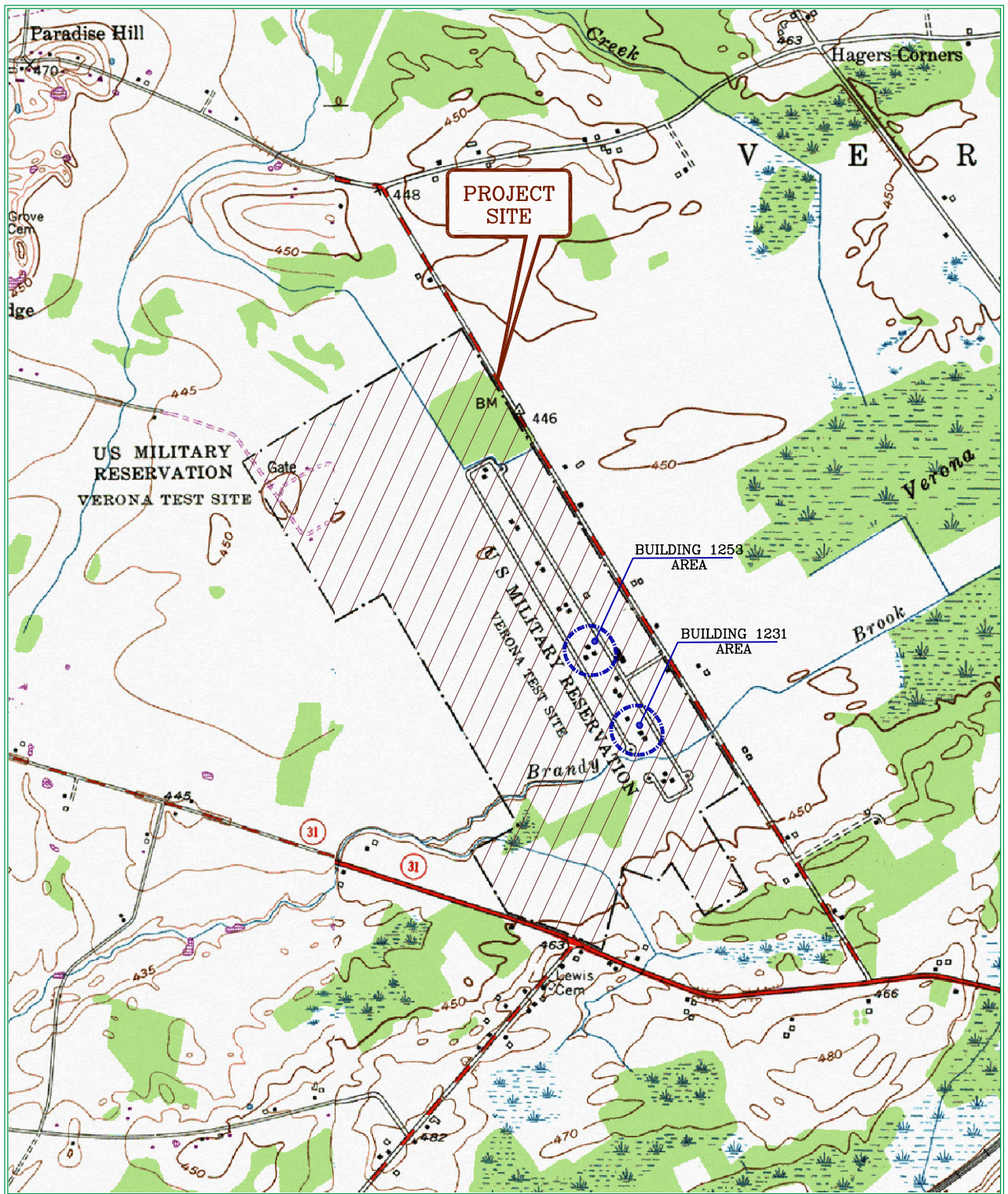
BIOCHLOR Natural Attenuation Decision Support System User's Manual Version 1.0. United States Environmental Protection Agency, Office of Research and Development, Washington DC. January 2000.

Accelerated Bioremediation with Slow Release Electron Donors and Electron Acceptors, Selected Battelle Conference Papers 2001-2002. Stephen S. Koenigsberg, 2002.

ATTACHMENT 1

Site Location Map

Verona Research Facility OM&M Update
December 2009 Sampling



SCALE: 1" = 2000'



NEW YORK
QUADRANGLE LOCATION



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

SITE LOCATION MAP VERONA RESEARCH FACILITY MNA STUDY VERONA, NEW YORK

DATE: JUNE 2009

SCALE: 1:24,000

DRAWN BY: DLS

MAP SOURCE: VERONA QUADRANGLE
NEW YORK - ONEIDA COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)
1955

ATTACHMENT 2

Sample Location Map

Verona Research Facility OM&M Update
December 2009 Sampling





Lu Engineers

2230 Penfield Road
Penfield, New York 14526
(585) 377-1450
Fax: (585) 377-1266
luengineers.com

SCALE: 1" = 120'			
Designer	GLA	Project Manager	RJE
Drafter	DS	Date	JUNE 2009
Project Number	13147		
Drawing Number	1.1	Facility Number	N/A

SAMPLE LOCATION MAP

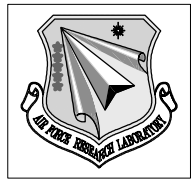
VERONA RESEARCH FACILITY

MNA STUDY

VERONA, NEW YORK

ROME RESEARCH SITE

ROME, NY



ATTACHMENT 3

Field Parameters

Verona Research Facility OM&M Update
December 2009 Sampling

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1231C									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	4.31	16.41	446.64	442.33	8.2	0.648	6.83	142	505	4.5	0.02
Aug-02	5.55	16.41	446.64	441.09	15.1	0.641	6.85	142	23	1.11	0.02
Nov-02	4.54	16.5	446.64	442.1	12.1	0.527	7.36	314.6	1073.6	0.05	0.34
Mar-03	4.32	16.5	446.64	442.32	5.88	0.42	7.58	173.5	175.6	0.05	0.32
Jun-03	4.67	16.5	446.64	441.97	9.71	0.524	7.23	211.6	439.1	3.44	0.36
Sep-03	4.97	16.5	446.64	441.67	14.19	0.61	7.37	330.9	146.3	11.47	0.36
Dec-03	3.96	16.5	446.64	442.68	8.79	0.448	7.81	202.1	22.1	12.26	0.32
Mar-04	4.47	16.5	446.64	442.17	5.47	0.409	7.35	248.6	9.6	5.62	0.32
Sep-06	4.94	16.47	446.23	441.29	15.6	0.655	7.02	47	42.7	2.47	0
Dec-06	4.62	16.47	446.23	441.61	9.4	0.659	7.41	26	10.2	1.68	0
Apr-07	4.65	16.5	446.23	441.58	6.51	0.716	7.63	67	0	0	0
Jun-07	6.1	16.46	446.23	440.13	12.7	0.621	7.22	-4	12.7	4.61	0
Oct-07	6.2	16.76	446.23	440.03	16.2	0.15	8.3	532	16	3.9	0.1
Dec-07	4.57	16.5	446.23	441.66	8	0.696	7.4	85	23	5.23	0
Mar-08	4.67	16.47	446.23	441.56	7.4	0.55	7.5	258	16.1	4.3	0
Jun-08	5.73	16.47	446.23	440.5	14	0.683	7.5	110	79	7.8	0
Sep-08	5.54	16.47	446.23	440.69	16	0.822	7.14	40	99.8	4.95	0
Dec-08	4.11	16.47	446.23	442.12	6.8	0.69	7.5	133	27	4.76	0
Mar-09	4.82	16.47	446.23	441.41	5.4	0.51	7.5	82	10	6.1	0
Jun-09	4.95	16.47	446.23	441.28		0.312	7.93	83	27	0.62	0
Sep-09	4.63	16.47	446.23	441.6	14.2	0.3	7.84	19	0	11.34	0
Dec-09	4.52	16.47	446.23	441.71	5.9	0.537	7.41	48	4.2	4.56	0.34

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		MW-1231E									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.43	13.68	445.71	442.28	9.1	0.653	6.74	137		3.68	0.02
Aug-02	4.77	13.68	445.71	440.94	19.9	0.592	6.7	-8		0.34	0.02
Nov-02	3.82	13.86	445.71	441.89	13.1	0.415	7.4	152.6	1304.5	0.16	0.26
Mar-03	3.47	13.86	445.71	442.24	5.49	0.352	7.62	107.8	276.4	0.03	0.27
June-03	3.84	13.86	445.71	441.87	12.7	0.496	7.47	169.6	150.3	9.22	0.32
Sep-03	4.17	13.86	445.71	441.54	17.75	0.583	7.34	167.1	274.3	9.58	0.33
Dec-03	3.31	13.86	445.71	442.4	7.78	0.436	7.8	207.4	119.5	11.52	0.32
Mar-04	3.55	13.86	445.71	442.16	4.84	0.393	7.33	244.1	191.8	5.64	0.31
Sep-06	4.12	13	445.41	441.29	19.36	0.568	7.06	-117	60.8	1.96	
Dec-06	3.85	13	445.41	441.56	9.3	0.482	7.6	-51	11.6	1.84	0
Apr-07	3.78	12.9	445.41	441.63	7.15	0.46	7.82	71	0.3	0	0
Jun-07	5.25	12.85	445.41	440.16	15.1	0.462	7.37	73	1.9	3.61	0
Oct-07	5.37	13.04	445.41	440.04	18.4	83	8.2	98	13	4.6	0
Dec-07	3.79	13.04	445.41	441.62	7.9	0.526	7.5	214	10.2	5.12	0
Mar-08	3.92	13	445.41	441.49	5.5	0.38	8	293	10	4.6	0
Jun-08	4.85	13	445.41	440.56	17.6	0.555	7.6	100	50	9	0
Sep-08	4.66	13	445.41	440.75	19.4	0.597	7.17	78	91.1	7.56	0
Dec-08	3.59	13	445.41	441.82	6.2	0.479	7.6	191	22	7.2	0
Mar-09	4.13	13	445.41	441.28	6.3	0.411	7.7	84	14	5.15	0
Jun-09	4.1	13	445.41	441.31		0.254	8	80	20.7	1.11	0
Sep-09	3.89	13	445.41	441.52	16.5	0.251	7.87	77	0	5.44	0
Dec-09	3.85	13	445.41	441.56	5.1	0.388	7.51	126	9.5	4.81	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		MW-1231F									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.68	13.37	445.9	442.22	9.7	0.658	6.9	123		4.66	0.02
Aug-02	4.88	13.37	445.9	441.02	20.3	0.599	6.74	71	607	0.22	0.02
Nov-02	3.99	14.43	445.9	441.91	14.1	0.467	7.37	286.5	1307.6	0.01	0.29
Mar-03	3.61	14.43	445.9	442.29	6.23	0.337	7.69	129.1	824.3	0	0.26
Jun-03	3.94	14.43	445.9	441.96	12.25	0.477	7.28	163.4	754.6	2.17	0.31
Sep-03	4.27	14.43	445.9	441.63	17.76	0.55	7.35	226.4	659.2	8.97	0.31
Dec-03	3.48	14.43	445.9	442.42	8.83	0.413	7.8	205.9	330	11.93	0.29
Mar-04	3.76	14.43	445.9	442.14	4.49	0.569	7.3	250.9	10.9	4.17	0.28
Sep-06	5.24	14.28	445.57	440.33	19.93	0.504	7.09	-102	77.7	6.66	
Dec-06	3.97	14.28	445.57	441.6	11	0.51	7.53	-25	67.4	1.18	
Apr-07	4.03	14.3	445.57	441.54	7.16	0.59	7.46	19	2	0	0
Jun-07	5.41	14.26	445.57	440.16	15.5	0.519	7.19	17	2.7	3.23	0
Oct-07	5.48	14.6	445.57	440.09	19.5	0.31	8.4	576	27	4.2	0.2
Dec-07	3.92	14.6	445.57	441.65	9.9	0.52	7.8	198	10.2	4.06	0
Mar-08	4.13	14.28	445.57	441.44	6.9	2.37	10.3	203	224	16.9	0.001
Jun-08	4.97	14.28	445.57	440.6	18.1	0.518	7.5	97	92	5.4	0
Sep-08	5.8	14.28	445.57	439.77	21.3	31.4	7.2	66	106	1.31	2.1
Dec-08	3.58	14.28	445.57	441.99	7.3	0.382	7.7	189	323	7.3	0
Mar-09	4.24	14.28	445.57	441.33	9.1	0.428	7.9	83	51.5	6	0
Jun-09	4.28	14.28	445.57	441.29		0.234	8.13	95	53.5	0.88	0
Sep-09	4.02	14.28	445.57	441.55	17.4	0.22	8.06	60	18.9	5.11	0
Dec-09	3.95	14.28	445.57	441.62	7.2	0.338	7.72	123	56.7	4.67	0.22

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1231G									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	2.96	9.56	444.43	441.47	9.3	0.745	6.49	139		208	0.03
Aug-02	4.47	9.56	444.43	439.96	16.8	0.95	6.61	176		4.68	0.04
Nov-02	3.58	13.79	444.43	440.85	11.8	0.574	7.43	257.8	556.8	0	0.37
Mar-03	3.38	13.79	444.43	441.05	6.91	0.485	7.28	147.8	480.6	0.08	0.36
Jun-03	3.53	13.79	444.43	440.9	11.28	0.65	7.41	152.3	840.6	12.01	0.43
Sep-03	3.27	13.79	444.43	441.16	14.68	0.751	7.33	238.6	101.4	18.71	0.46
Dec-03	2.92	13.79	444.43	441.51	8.12	0.576	7.82	203.8	173.6	17.45	0.42
Mar-04	3.34	13.79	444.43	441.09	5.65	0.508	7.16	106.2	486.2	8	0.39
Sep-06	3.67	13.8	445.08	441.41	16.19	0.733	6.91	-41	40	5.7	0
Dec-06	3.32	13.8	445.08	441.76	7	0.774	7.29	-5	0	2.96	0
Apr-07	3.44	14.3	445.08	441.64	7.4	0.939	7.24	30	0	0	0
Jun-07	4.97	13.74	445.08	440.11	13.4	0.742	7.22	-10	1.4	6.3	0
Oct-07	5.01	14.05	445.08	440.07	15.8	95	7.8	-37	19	4.9	0
Dec-07	3.38	14.05	445.08	441.7	7	0.808	7.3	19	11	9.3	0
Mar-08	3.43	13.8	445.08	441.65	6.1	0.78	7.3	81	25.1	4.8	0
Jun-08	4.32	13.8	445.08	440.76	16.2	0.763	7	-20	4	5.7	0
Sep-08	4.28	13.8	445.08	440.8	15.6	0.98	6.62	-71	98.5	10.71	0
Dec-08	3.13	13.8	445.08	441.95	7.9	0.98	6.9	6	40	2.46	0
Mar-09	3.85	13.8	445.08	441.23	6	0.78	7.3	71	27	5	0
Jun-09	3.69	13.8	445.08	441.39		0.37	7.73	-13	12.7	0.68	0
Sep-09	3.33	13.8	445.08	441.75	13.6	0.358	7.63	-46	0	4.83	0
Dec-09	3.4	13.8	445.08	441.68	5.2	0.673	7.18	33	20.5	5.08	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		MW-1231H									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	2.39	12.28	444.64	442.25	8.6	0.717	6.58	50	675	1.6	0.03
Aug-02	3.52	12.28	444.64	441.12	14.6	0.64	6.7	-39	25	1.01	0.02
Nov-02	2.63	12.24	444.64	442.01	12.3	0.45	7.32	96.6	1214.1	0.02	0.29
Mar-03	2.43	12.24	444.64	442.21	7.01	0.419	7.54	0	573.5	0.02	0.31
Jun-03	2.77	12.24	444.64	441.87	9.76	0.459	7.13	58.1	196.7	6.09	0.32
Sep-03	3.04	12.24	444.64	441.6	13.75	0.621	7.26	66	104.6	13.52	0.39
Dec-03	2.28	12.24	444.64	442.36	9.38	0.518	7.51	135.1	28.4	11.27	0.36
Mar-04	2.46	12.24	444.64	442.18	6.44	0.695	7.14	123.6	1088.1	4.5	0.34
Sep-06	2.85	12.17	444.06	441.21	15.57	0.645	6.95	-100	37.2	1.89	
Dec-06	2.67	12.17	444.06	441.39	8.8	0.659	7.37	-82	0	2.54	0
Apr-07	2.87	12.18	444.06	441.19	7.35	0.693	7.36	-85	0	0	0
Jun-07	3.92	12.2	444.06	440.14	11.5	0.671	7.26	-90	8.6	4.28	0
Oct-07	4.16	12.5	444.06	439.9	14.7	82	7.8	-118	18	3.4	0
Dec-07	2.7	12.5	444.06	441.36	9	0.67	7.3	-65	7.5	6.9	0
Mar-08	2.89	12.17	444.06	441.2	6.9	1.07	7.3	-16	15	3.3	0.001
Jun-08	3.59	12.17	444.06	440.47	11.5	0.692	6.9	-105	27	2.51	0
Sep-08	3.41	12.17	444.06	440.65	14	0.717	7.09	-137	92.2	4.38	0
Dec-08	2.57	12.17	444.06	441.49	8.3	0.88	6.9	-46	32	1.75	0
Mar-09	3.41	12.17	444.06	440.65	7.1	0.76	7.3	45	14.1	1.73	0
Jun-09	2.85	12.17	444.06	441.21		0.281	7.88	-77	27.2	0.76	0
Sep-09	2.79	12.17	444.06	441.27	13.5	0.298	7.58	-111	2.2	4.37	0
Dec-09	2.89	12.17	444.06	441.17	7.6	0.587	7.17	-45	9.1	5.45	0.38

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1231I									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	2.2	10.44	444.52	442.32	8.6	1	6.71	131		3.53	0.04
Aug-02	3.72	10.44	444.52	440.8	15.4	0.739	6.49	26		0.6	0.03
Nov-02	2.78	13.25	444.52	441.74	11.3	0.55	7.4	211.9	1297.3	0.07	0.37
Mar-03	2.53	13.25	444.52	441.99	6.01	0.485	7.6	184.3	527.4	0.1	0.37
Jun-03	2.79	13.25	444.52	441.71	9.98	0.611	7.19	231.2	472.3	7.71	0.42
Sep-03	3.14	13.25	444.52	441.38	13.55	0.681	7.37	309.8	865.4	9.87	0.43
Dec-03	2.24	13.25	444.52	442.28	8.14	0.597	7.41	211	133	10.01	0.43
Mar-04	2.58	13.25	444.52	441.94	6.76	0.851	6.99	249.1	21.2	1.91	0.42
Sep-06	2.93	13.25	444.1	441.17	15.31	0.762	6.85	-36	79.1	0.42	
Dec-06	2.67	13.25	444.1	441.43	9.5	0.783	7.37	-32	22.3	2.75	0
Apr-07	2.75	13.23	444.1	441.35	6.43	1.06	7.35	21	17.5	0	0
Jun-07	5.58	13.29	444.1	438.52	11.5	0.671	7.26	-90	8.6	4.28	0
Oct-07	4.15	13.55	444.1	439.95	15.4	0.11	8	-45	19	4.5	0
Dec-07	2.56	13.55	444.1	441.54	6.3	0.878	7.4	64	40.5	5.58	0
Mar-08	2.72	13.25	444.1	441.38	6	0.89	7.3	125	152	4.4	0
Jun-08	3.66	13.25	444.1	440.44	13.9	0.887	7.1	-48	28	4.6	0
Sep-08	3.48	13.25	444.1	440.62	15.9	0.95	7.03	-87	91.6	6.22	0
Dec-08	2.38	13.25	444.1	441.72	7.6	0.97	7.3	116	29	3.3	0
Mar-09	2.36	13.25	444.1	441.74	6.7	0.814	7.2	78	10.4	3.85	0
Jun-09	2.87	13.25	444.1	441.23		0.43	7.9	-25	29.3	1.03	0
Sep-09	2.64	13.25	444.1	441.46	13.4	0.392	7.95	-66	7.2	7.04	0
Dec-09	2.65	13.25	444.1	441.45	6.2	0.697	7.27	14	2.6	5.15	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1253E									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.34	14.4	448.36	445.02	9.4	0.711	6.82	55		2.53	0.02
Aug-02	6.18	14.4	448.36	442.18	15.9	0.773	6.86	8		1.41	0.03
Nov-02	3.94	14.71	448.36	444.42	11.9	0.523	7.2	93.9	1300.8	0.01	0.34
Mar-03	3.25	14.71	448.36	445.11	5.91	0.439	7.44	91.6	1277.4	0.1	0.34
Jun-03	3.94	14.71	448.36	444.42	11.18	0.573	7.08	86.4	1300.4	1.47	0.38
Sep-03	4.91	14.71	448.36	443.45	14.45	0.68	7.28	65.6	1210.5	15.18	0.042
Dec-03	3.04	14.71	448.36	445.32	7.32	0.543	7.52	137.2	1279.8	12.5	0.4
Mar-04	3.45	14.71	448.36	444.91	4.97	0.49	7.12	151.3	393.1	5.83	0.39
Sep-06	4.7	14.63	448.24	443.54	15.59	0.76	6.9	-60	73	0.8	
Dec-06	3.46	14.65	448.24	444.78	9	0.689	7.32	-39	9	2.9	
Apr-07	3.45	14.6	448.24	444.79	5.78	0.743	7.34	0	5.8	0	0
Jun-07	6	14.52	448.24	442.24	11.3	0.693	7.11	-31	4.7	4.27	0
Oct-07	5.55	14.85	448.24	442.69	15	87	7.9	-97	22	3.6	0
Dec-07	3.58	14.85	448.24	444.66	6.7	0.65	6.8	292	7.8	3.78	0
Mar-08	3.67	14.65	448.24	444.57	6.1	5.39	7.4	54	7.9	1.79	0.03
Jun-08	5.29	14.65	448.24	442.95	14.1	0.656	7.3	-54	25	6.2	0
Sep-08	5.34	14.65	448.24	442.9	15	0.82	7	-114	82.4	2.4	0
Dec-08	3.02	14.65	448.24	445.22	7	0.9	6.8	81	37	1.7	0
Mar-09	3.82	14.65	448.24	444.42	6.1	0.57	7.1	55	4.1	0.53	0
Jun-09	4.84	14.65	448.24	442.75		0.3	7.84	21	38.4	0.45	0
Sep-09	4.18	14.65	448.24	444.06	13.9	0.337	7.67	-88	0	2.42	0
Dec-09	3.53	14.65	448.24	444.71	4	0.616	7.11	35	1.4	0.74	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		MW-1253F									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.04	13.68	447.76	444.72	9.2	0.773	6.73	104		4.8	0.03
Aug-02	6.36	13.68	447.76	441.4	16.3	0.906	6.59	37		1.17	0.03
Nov-02	3.92	14.1	447.76	443.84	11.3	0.668	7.03	210.3	247.9	0	0.45
Mar-03	3.33	14.1	447.76	444.43	4.89	0.395	7.53	119.3	124.1	0.01	0.31
Jun-03	4.08	14.1	447.76	443.68	12.29	0.61	7	109.2	223.7	6.09	0.4
Sep-03	5.12	14.1	447.76	442.64	14.69	0.785	7.05	234.1	24.1	17.82	0.049
Dec-03	3.92	14.1	447.76	443.84	6.08	0.531	7.4	147.6	120.9	15.1	0.41
Mar-04	3.49	14.1	447.76	444.27	4.53	0.723	6.82	157.3	167.5	8.96	0.35
Sep-06	4.82	13.76	447.59	442.77	16.27	0.781	6.81	78	12.2	5.25	
Dec-06	3.39	13.76	447.59	444.2	8.7	0.724	7.21	41	2.6	2.09	
Apr-07	3.45	13.45	447.59	444.14	5.5	0.893	7.29	101	0	0	0
Jun-07	5.9	13.2	447.59	441.69	12.1	0.739	7.1	32	0.1	6.39	0
Oct-07	5.71	14.1	447.59	441.88	15.8	90	7.8	33	10	4.1	0
Dec-07	3.55	14.1	447.59	444.04	6.4	0.826	7.2	110	2.2	4.79	0
Mar-08	3.69	13.76	447.59	443.9	5.6	5.97	7.4	151	4.5	1.3	0.003
Jun-08	5.38	13.76	447.59	442.21	13.5	0.734	7	25	78	3.1	0
Sep-08	5.31	13.76	447.59	442.28	16.2	0.87	6.9	-36	85.8	8.3	0
Dec-08	3.02	13.76	447.59	444.57	6.9	1.11	6.8	129	10.3	1.93	0.001
Mar-09	3.61	13.76	447.59	443.98	5.5	0.62	7.22	78	1.7	1.43	0
Jun-09	4.84	13.76	447.59	443.4		0.308	7.9	118	52.2	0.53	0
Sep-09	4.38	13.76	447.59	443.21	14.2	0.335	7.59	-4	0	7.77	0
Dec-09	3.53	13.76	447.59	444.06	3.9	0.732	7.02	70	5.1	4.28	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1253G									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	2.79	13.05	448.01	445.22	8.6	0.668	6.82	60		2.1	0.02
Aug-02	4.78	13.05	448.01	443.23	17.8	0.815	6.32	125		0.67	0.03
Nov-02	3.47	12.65	448.01	444.54	11	0.503	7.25	112.8	1297.3	0.03	0.34
Mar-03	3.07	12.65	448.01	444.94	4.7	0.366	7.58	32	1269.7	0.05	0.29
Jun-03	3.63	12.65	448.01	444.38	11.52	0.53	7.19	28.2	817.6	2.49	0.35
Sep-03	3.88	12.65	448.01	444.13	14.16	0.621	7.26	60.3	982	12.28	0.39
Dec-03	2.81	12.65	448.01	445.2	6.89	0.445	7.61	99.4	1193.2	13.21	0.33
Mar-04	3.21	12.65	448.01	444.8	4.19	0.631	7.37	87.3	66.4	8.17	0.31
Sep-06	4.14	12.52	448.01	443.87	15.43	0.715	6.92	-59	28.2	3.68	
Dec-06	3.46	12.52	448.01	444.55	8.6	0.766	7.22	-27	3.1	0.36	0
Apr-07	2.45	12.54	448.01	445.56	6	0.95	7.28	16	0	0	0
Jun-07	5.26	16.05	448.01	442.75	12.2	0.78	7.05	0.78	9.3	2.72	0
Oct-07	4.56	12.8	448.01	443.45	16	97	7.8	26	9	3.6	0
Dec-07	3.31	12.8	448.01	444.7	6.3	0.791	7	48	4.6	1.65	0
Mar-08	3.79	12.52	448.01	444.22	5.7	1.4	7.3	117	51	4.4	0.001
Jun-08	4.56	12.52	448.01	443.45	14.8	0.756	6.9	-58	13	5.1	0
Sep-08	4.69	12.52	448.01	443.32	16.4	0.856	7.11	-129	89.2	9.95	0
Dec-08	2.98	12.52	448.01	445.03	6.1	0.96	6.9	43	13	3.02	0
Mar-09	3.81	12.52	448.01	444.2	5.7	0.75	7.3	61	4.1	1.9	0
Jun-09	4.48	12.52	448.01	444.51		0.415	7.9	-55	48.5	1.1	0
Sep-09	3.29	12.52	448.01	444.72	14.7	0.38	7.48	-74	0	0.01	0
Dec-09	3.32	12.52	448.01	444.69	5	0.709	7.21	-17	6.1	7.01	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		MW-1253H									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.54	16.43	448.89	445.35	10	0.772	6.74	-0.24		2.29	0.03
Aug-02	5.76	16.43	448.89	443.13	19	0.707	6.54	-78	0	0.59	0.03
Nov-02	4.24	16.25	448.89	444.65	13.1	0.599	7.3	-80.6	48.2	0.08	0.38
Mar-03	3.76	16.25	448.89	445.13	6.7	0.514	7.47	2.7	252.8	0.02	0.38
Jun-03	4.33	16.25	448.89	444.56	11.89	0.63	7.2	5.3	34.6	6.4	0.42
Sep-03	4.86	16.25	448.89	444.03	16.77	0.758	7.3	22.1	540.7	20.61	0.44
Dec-03	3.56	16.25	448.89	445.33	8.32	0.604	7.45	86.7	15.4	17.94	0.44
Mar-04	4	16.25	448.89	444.89	5.84	0.572	7.08	70.8	19	5.96	0.44
Sep-06	4.92	16.2	448.74	443.82	17.37	0.732	6.91	-112	19.4	2.63	
Dec-06	4.11	16.2	448.74	444.63	10.4	0.746	7.32	-99	8	1.71	
Apr-07	4.08	16.15	448.74	444.66	7.15	0.905	7.35	-88	3.6	0.14	0
Jun-07	5.92	16.05	448.74	442.82	14.8	0.809	7.04	-95	1	3.18	0
Oct-07	5.55	16.42	448.74	443.19	18.3	0.18	8.1	521	31	3.7	0.1
Dec-07	4.18	16.42	448.74	444.56	8.1	1.03	7.3	153	88.9	6.64	0
Mar-08	4.31	16.2	448.74	444.43	7.5	1.18	7.4	63	19	4.1	0.001
Jun-08	5.28	16.2	448.74	443.46	16.3	0.552	7.2	-28	11	4.8	0
Sep-08	5.51	16.2	448.74	443.23	17.5	0.686	7.28	-125	92.9	6.81	0
Dec-08	3.5	16.2	448.74	445.24	8.7	0.86	7.3	8	12	2.9	0
Mar-09	4.28	16.2	448.74	444.46	7.1	0.505	7.7	61	2.3	1.56	0
Jun-09	5.02	16.2	448.74	443.72		0.279	7.97	-73	17.9	0.67	0
Sep-09	4.21	16.2	448.74	444.53	15.5	0.284	7.71	-74	0	1.28	0
Dec-09	4.02	16.2	448.74	444.72	7.9	0.437	7.48	-53	4.3	2.07	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters May 2002 - December 2009

Location ID		MW-1253I									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02	3.71	16.23	448.86	445.15	10.8	0.832	6.65	105		1.74	0.03
Aug-02	6.04	16.23	448.86	442.82	21.6	0.845	6.57	76	0	1.3	0.03
Nov-02	4.28	16.31	448.86	444.58	14	0.684	7.09	102.6	402.9	0.01	0.43
Mar-03	3.83	16.31	448.86	445.03	6.09	0.537	7.31	67.3	271.4	0.03	0.4
Jun-03	4.45	16.31	448.86	444.41	13.79	0.75	6.95	68.2	573.4	1.76	0.47
Sep-03	4.99	16.31	448.86	443.87	19.01	0.858	7.05	137	210.6	17.49	0.48
Dec-03	3.49	16.31	448.86	445.37	7.23	0.596	7.45	132.9	107.4	9.7	0.45
Mar-04	4.09	16.31	448.86	444.77	5.59	0.842	7.25	159.9	54.9	4.99	0.41
Sep-06	5.13	16.2	448.99	443.86	20.26	0.694	6.78	-63	18	3.9	
Dec-06	4.28	16.2	448.99	444.71	10.4	0.694	7.31	-51	1.9	3	
Apr-07	4.33	16.21	448.99	444.66	7.28	0.872	7.36	-19	0	0	0
Jun-07	6.23	16.18	448.99	442.76	19.7	0.726	6.96	-8	0.3	2.45	0
Oct-07	5.85	16.48	448.99	443.14	20.4	94	7.8	42	11	3.7	0
Dec-07	4.42	16.48	448.99	444.57	8.4	0.755	7.2	35	3	3.71	0
Mar-08	4.57	16.2	448.99	444.42	7.2	2.95	7.4	73	43.1	3	0.002
Jun-08	5.66	16.2	448.99	443.33	18.2	0.709	6.9	-68	95	4.3	0
Sep-08	5.85	16.2	448.99	443.14	20.1	0.771	7.06	-107	87.3	6.49	0
Dec-08	3.79	16.2	448.99	445.2	8.1	0.82	7.2	12	26	4.8	0
Mar-09	4.64	16.2	448.99	444.35	7.4	0.69	7.3	58	2.3	1.5	0
Jun-09	5.41	16.2	448.99	442.6		0.575	7.68	-32	13.3	0.82	0
Sep-09	4.54	16.2	448.99	444.45	18	0.317	7.55	-72	0	1.21	0
Dec-09	4.36	16.2	448.99	444.63	6.8	0.6	7.17	-19	6.4	6.04	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		SW-1									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02					13	0.267	7.03	121	0	4.42	0.01
Aug-02					19.5	0.379	6.8	140	0	2.6	0.01
Nov-02					8.2	0.334	7.51	256.1	3	0	0.24
Mar-03					6.12	0.155	8.43	82.3	6.3	0.15	0.12
Jun-03					21.6	0.32	7.64	77.9	18.4	9.83	0.16
Sep-03					13.93	0.462	7.55	132.9	20.1	18.6	0.29
Dec-03					1.66	0.255	8.11	108.6	9.8	22.8	0.22
Mar-04					1.04	0.725	7.7	108.9	7.3	11.61	0.36
Sep-06											
Dec-06					2	0.304	7.73	75	0.7	9.6	0
Apr-07					4.66	0.337	7.7	162	0	0	0
Jun-07					17.8	0.481	7.64	109	14.7	6.1	0
Oct-07					18.1	59	8.2	312	14	5.6	0
Dec-07					0.2	0.563	7.8	182	43	12	0
Mar-08					4.9	0.22	8.3	295	51	9.9	0
Jun-08					21	0.497	7.6	26	11	7.7	0
Sep-08					13.9	0.719	5.62	87	92.2	11.2	0
Dec-08					0.8	0.27	7.9	168	32	11.8	0
Mar-09					6.9	0.23	8.1	84	44	5.5	0
Jun-09						0.153	8.02	149	25.3	1.13	0
Sep-09					12.1	0.173	8.5	111	12.1	11.28	0
Dec-09					0.1	0.32	7.02	91	-5	2.95	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

May 2002 - December 2009

Location ID		SW-2									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02					12.8	0.313	6.62	123	59	1.67	0.01
Aug-02					18.4	0.33	6.67	130	0	1.9	0.01
Nov-02					7	0.318	7.44	251.7	3.9	0	0.23
Mar-03					2.76	0.137	8.04	74.5	4	0.04	0.11
Jun-03					20.97	0.293	7.31	53	4.2	7.71	0.15
Sep-03					13.09	0.432	7.7	185.6	6.2	19.41	0.27
Dec-03					0.92	0.26	7.83	135.9	8.6	22.85	0.23
Mar-04					0.86	0.734	7.56	140.2	5	10.63	0.36
Sep-06											
Dec-06					1.9	0.316	7.88	-33	30.9	8.59	0
Apr-07					6.39	0.338	8.16	128	0	0	0
Jun-07					19.1	0.418	7.7	31	7.6	7.51	0
Oct-07					19.6	57	8.2	337	13	8	0
Dec-07					0.1	0.64	7.8	155	377	10.8	0
Mar-08					2.7	0.22	7.8	230	25	8.11	0
Jun-08					21.8	0.442	7.8	62	22.6	9.8	0
Sep-08					15.5	0.679	7.66	-145	418	5.48	0
Dec-08					0.6	0.29	7.8	147	110	12.6	0
Mar-09					5.4	0.25	8	84	36	6.7	0
Jun-09						0.172	8.3	30	182	1.33	0
Sep-09					12.4	0.18	8.24	94	10.2	10.68	0
Dec-09					0	3.99	7.5	70	154	3.03	0

Verona Research Site Monitored Natural Attenuation

Groundwater Field Parameters

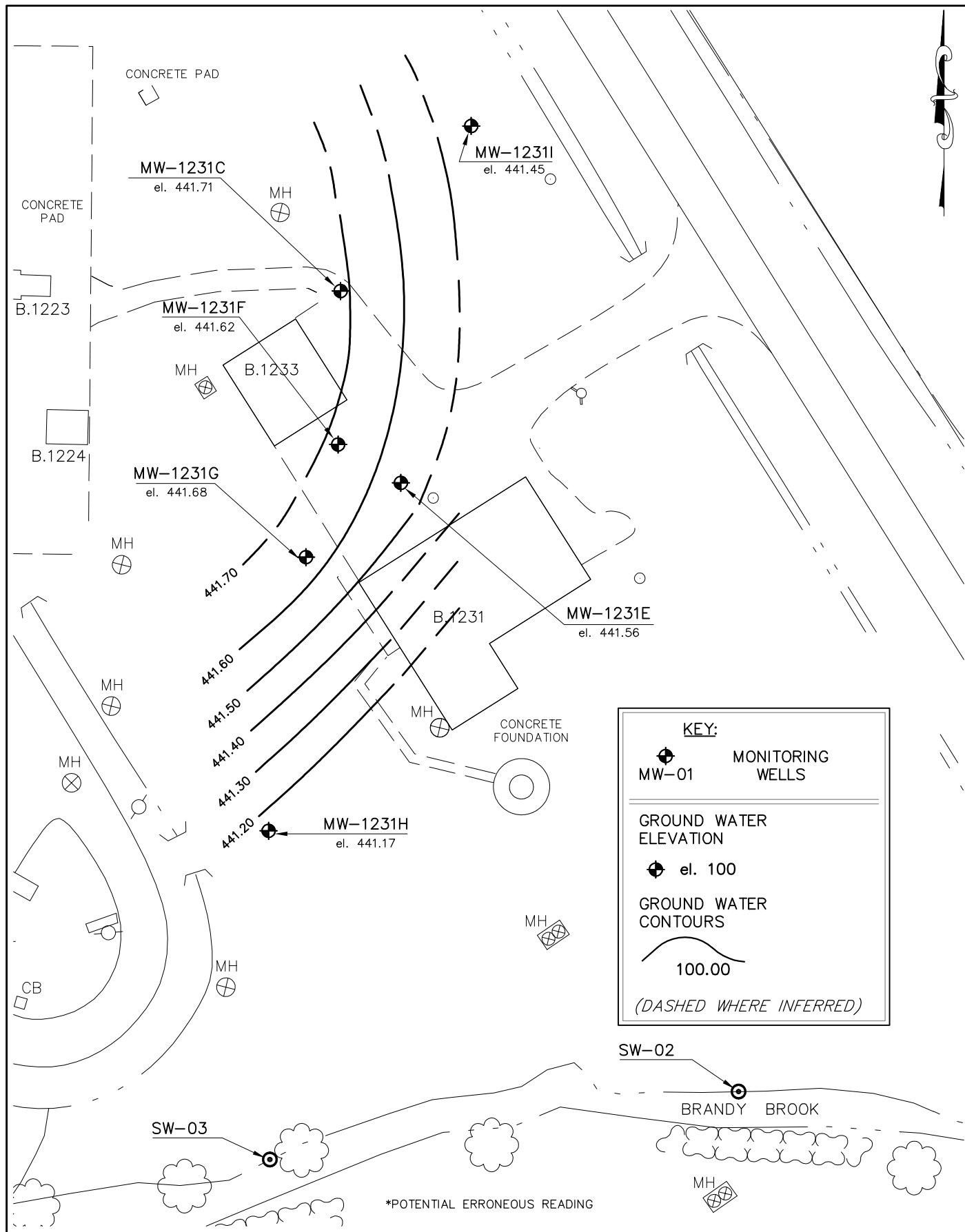
May 2002 - December 2009

Location ID		SW-3									
Date	Depth to Water (DTW)	Total Depth of Well (TDW)	Reference Elevation (ft)	Water Elevation (ft)	Temperature (C)	Conductivity (ms/cm)	pH	Eh (mV)	Turbidity	Dissolved Oxygen (ppm)	Salinity
May-02					13.2	0.279	6.66	108	15	1.3	0.01
Aug-02					19.4	0.36	6.72	150	0	1.3	0.01
Nov-02					6.8	0.316	7.44	257.4	7.5	0.01	0.23
Mar-03					3.22	0.147	8.19	66.8	4.1	0.07	0.12
Jun-03					20	0.295	7.32	45.9	2.6	7.23	0.16
Sep-03					13.85	0.455	7.72	149.3	9.2	19.04	0.28
Dec-03					1.18	0.27	7.94	133.6	6.1	21.4	0.24
Mar-04					1.59	0.798	7.68	144.8	58	9.51	0.39
Sep-06											
Dec-06					2.1	0.312	7.85	19	9.1	9.24	0
Apr-07					5.88	0.336	8.07	85	1.5	1.44	0
Jun-07					18	0.42	7.91	-8	9.3	8.67	0
Oct-07					19.1	58	7.9	379	12	6.7	0
Dec-07					0.5	0.634	8.2	75	219	12.34	0
Mar-08					2.7	0.22	7.8	63	18	9.5	0
Jun-08					19.9	0.43	7.5	12	7	8.6	0
Sep-08					14.2	0.673	7.61	-109	107	8.94	0
Dec-08					1	0.31	7.8	138	25	10.89	0
Mar-09					3.8	0.25	7.2	81	11.1	8.2	0
Jun-09						0.15	8.2	40	25	0.92	0
Sep-09					12.5	0.184	8.38	105	3.8	11.74	0
Dec-09					0	0.298	8.23	177	184	9.62	0

ATTACHMENT 4

Groundwater Contour Maps

Verona Research Facility OM&M Update
December 2009 Sampling



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

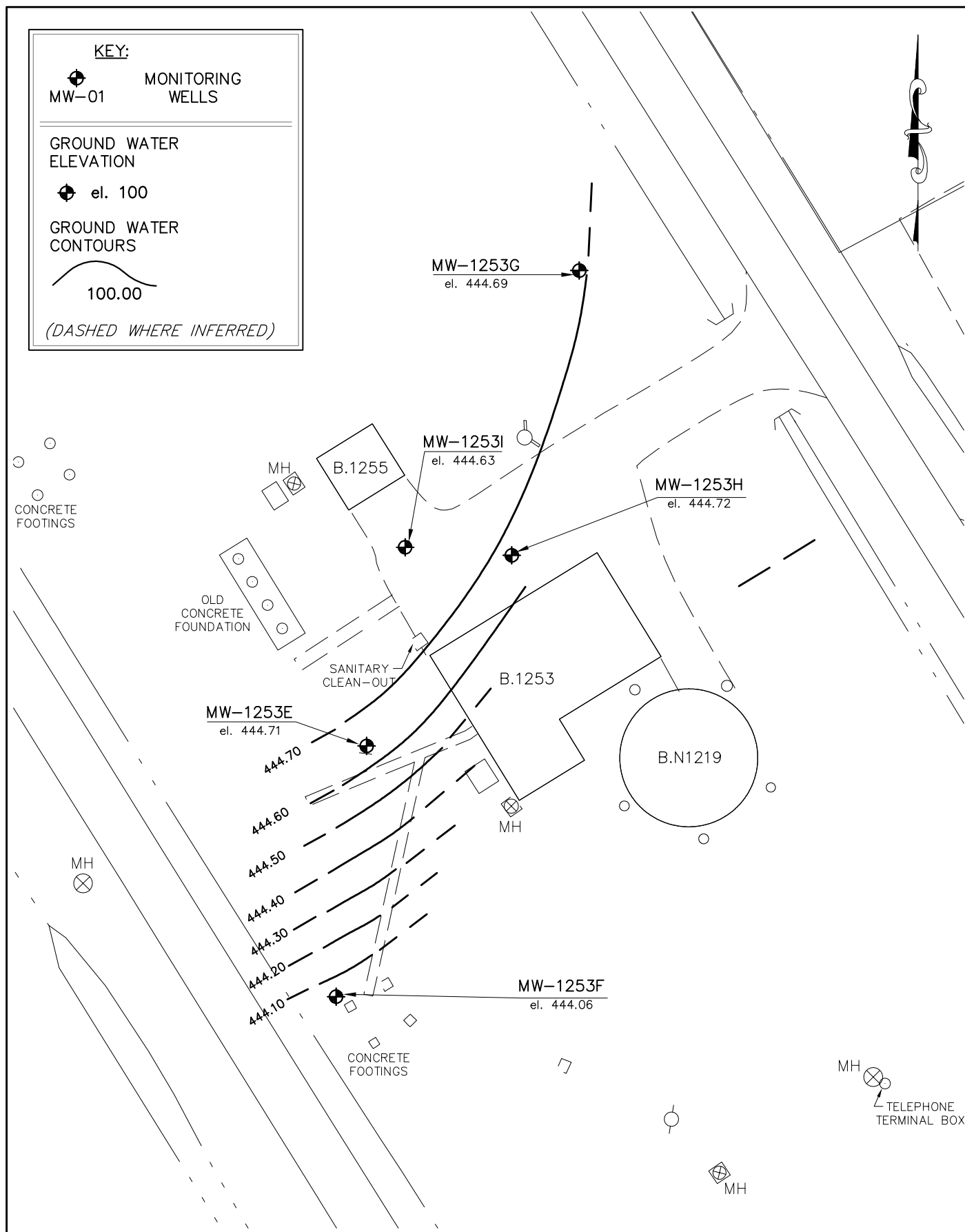
VERONA RESEARCH FACILITY

VERONA MNA STUDY

DECEMBER 2009 GROUNDWATER CONTOURS

VERONA, NEW YORK

DATE:	FEB. 2010
SCALE:	1" = 50'
DRAWN BY:	DLS
CHECKED BY:	GLA



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

VERONA RESEARCH FACILITY

VERONA MNA STUDY

DECEMBER 2009 GROUNDWATER CONTOURS

VERONA, NEW YORK

DATE: FEB. 2010

SCALE: 1" = 50'

DRAWN BY: DLS

CHECKED BY: GLA

ATTACHMENT 5

Volatile Organic Analytical Results

Verona Research Facility OM&M Update
December 2009 Sampling

Verona Research Site Monitored Natural Attenuation

Location ID	MW-1231C

Total VOCs Current Sampling Event: 6.9

[illegible]

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1231E

Total VOCs Current Sampling Event:		3.57																																							
Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride			
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	0.4	5	5	5	2		
May-02																				9000																					
Aug-02																				670																					
Nov-02																				450																					
Mar-03																				180																					
June-03										25										430																					
Sep-03										33										670																					
Dec-03																				230																					
Mar-04										19										120																					
Sep-06										3.9										78																					
Dec-06										8.4										9.5																					
Apr-07																																			4.3						
Jun-07										8.2										9.1																4.5					
Oct-07						2.1				2.4	16									16				1.1										1.9				1.1			
Dec-07										4.1										5.4															2.4						
Mar-08										1.7										1.9															2.6						
Jun-08						1.2					1.3	9.6								14				1.8										3.5				1.5			
Sep-08																																					7.3				
Dec-08																																				2.8					
Mar-09																																				3.7					
Jun-09																																			7.3			0.79			
Sep-09																																									
Dec-09																							0.67																		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1231F

Total VOCs Current Sampling Event:																																	8.99							
Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride		
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	0.4	5	5	2	
May-02												29								4600													7							
Aug-02												20								3200													7							
Nov-02						180			240	900										2100																				
Mar-03						160			250	900										1800																				
Jun-03						180			280	940										2000																				
Sep-03						200			320	1000										2000																				
Dec-03						110			160	480										1000																				
Mar-04						140			190	460										890																				
Sep-06						43			78	180										420																				
Dec-06						57			97	260										350																				
Apr-07						21			43	92										200																			3.1	
Jun-07						34			54	130										190																			3.1	
Oct-07						84			180	400										470																				
Dec-07						28			69	160										110															2.8					
Mar-08						5.9			18	37										130															2.4					
Jun-08									10	20																									4.4			1.2		
Sep-08						1.6			5.3	11										49				1.1										5				1.6		
Dec-08										1.3										2.6															2.2					
Mar-09										1.3										3.4															2.6					
Jun-09									0.64	1.6										3.2															3.3			1.3		
Sep-09						1.2			3	7										30															3.5			1.9		
Dec-09									0.76	1.3										3.9														2.3	0.73					

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1231G

Total VOCs Current Sampling Event: 0

Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride		
	GW Sds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	5	2
May-02																																								
Aug-02																																								
Nov-02																																								
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Apr-07		3.4								4																														
Jun-07																																								
Oct-07										2.2																														
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Sep-09																																								
Dec-09																																								

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Location ID	MW-1231H

Total VOCs Current Sampling Event: 2.7

Date	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-di-fluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride	
GW Sids	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	2

Jan 00	2.1

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-12311

Total VOCs Current Sampling Event: 0

Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride		
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	5	2
May-02																																								
Aug-02																																								
Nov-02																																								
Mar-03																																								
Jun-03																																								
Sep-03																																								
Dec-03																																								
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Dec-07																																								
Mar-08																																								
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Sep-08																																								
Dec-08																																								
Mar-09																																								
Jun-09																																								
Sep-09																																								
Dec-09																																								

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1253E

Total VOCs Current Sampling Event: 0

Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride		
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	5	2
May-02																																								
Aug-02																																								
Nov-02																																								
Mar-03																																								
Jun-03																																								
Sep-03																																								
Dec-03																																								
Mar-04																																								
Sep-06	3.4																																							
Dec-06	4.3																																							
Apr-07																																								
Jun-07																																								
Oct-07	3.1																																							
Dec-07	7.8																																							
	1.5																																							
Mar-08																																								
Jun-08																																								
Sep-08	8.9																																							
	3																																							
Dec-08	1.4																																							
Mar-09																																								
Jun-09																																								
Sep-09	6.3																																							
	10																																							
Dec-09	25																																							

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1253F

Total VOCs Current Sampling Event: 0

Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride	
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	2
May-02																																							
Aug-02																																							
Nov-02																																							
Mar-03																																							
Jun-03																																							
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Mar-04																																							
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Dec-06																																							
Apr-07																																							
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Oct-07																																							
Dec-07																																							
Mar-08																																							
Jun-08																																							
Sep-08																																				1.3			
Dec-08																																							
Mar-09																																				1.1			
Jun-09																																							
Sep-09																																							
Dec-09																																							

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the intergity of the database.

Verona Research Site Monitored Natural Attenuation

Location ID	MW-1253G

Total VOCs Current Sampling Event: 0.7

[illegible]

Sep-08	1.1

Dec-08

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1253H

Total VOCs Current Sampling Event:		1.4																																									
Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride					
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	0.4	5	5	5	2				
May-02																																				6							
Aug-02																																											
Nov-02																																				6				26			
Mar-03																																											
Jun-03													11																														
Sep-03																																											
Dec-03																																											
Mar-04																																									16		
Sep-06								3.8																																	27		
Dec-06																																										23	
Apr-07																																										22	
Jun-07																																										26	
Oct-07		6						4.2																																			
Dec-07		1.8						2.6																																		19	
Mar-08		1.7						2.8																																		27	
Jun-08																																											
Sep-08																																											1.3
Dec-08																																											
Mar-09																																											4.9
Jun-09								0.91																																		1.4	
Sep-09																																											2
Dec-09																																											1.4

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID MW-1253I

Total VOCs Current Sampling Event:										5.41																																	
Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloromethane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride					
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	0.4	5	5	2					
May-02																													33					25									
Aug-02																																											
Nov-02																													9														
Mar-03																																											
Jun-03																																		12									
Sep-03																									9.8										17								
Dec-03																																											
Mar-04																																		7.1									
Sep-06																																		5									
Dec-06																																											
Apr-07																																											
Jun-07																																											
Oct-07																									1.7					1.5					1.3								
Dec-07																									2					1.5					2.1								
Mar-08																													1.3					1.3									
Jun-08																									1.7					1					2.5								
Sep-08																									3										1	1.8			3.2				
Dec-08																																							1.2				
Mar-09																																											
Jun-09																									0.9					0.6					1.5								
Sep-09																									2										2								
Dec-09																							0.71	1.6										1.4			1.7						

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Location ID	SW-1

Total VOCs Current Sampling Event:	0.72

[illegible]

Mar-09

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location ID

SW-2

Total VOCs Current Sampling Event:

0

Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloro-methane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride			
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	5	0.4	5	5	5	2	
May-02																																									
Aug-02																																									
Nov-02																																									
Mar-03																																									
Jun-03																																									
Sep-03																																									
Dec-03																																									
Mar-04																																									
Sep-06																																									
Dec-06																																									
Apr-07																																									
Jun-07																																									
Oct-07																																									
Dec-07																																									
Mar-08																																									
Jun-08																																									
Sep-08																																									
Dec-08																																									
Mar-09																																									
Jun-09																																									
Sep-09																																									
Dec-09																																									

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Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the intergity of the database.

Verona Research Site Monitored Natural Attenuation

Analytical Results May 2002 through December 2009

Location

ID

SW-3

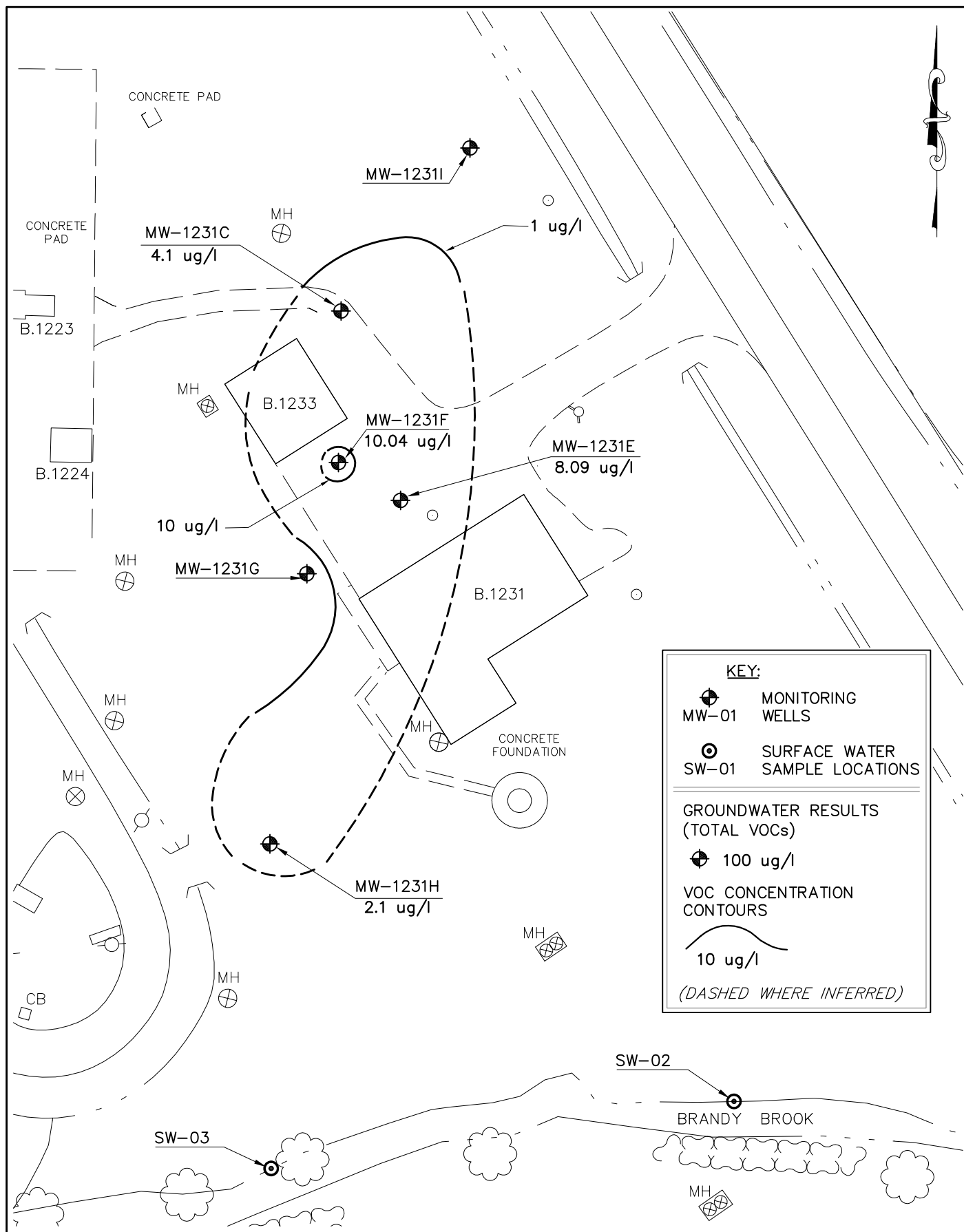
Total VOCs Current Sampling Event:		0.93																																				
Date	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chloroethyl vinyl ether	Acetone	Acrolein	Acrylonitrile	Benzene	Bromo-dichloromethane	Bromoform	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	m,p-Xylene	Methylene Chloride	o-Xylene	Tetrachloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Chloride
	GW Stds	5	5	1	5	5	3	0.6	1	3	3	1	50	5	5	1	5	50	5	5	5	7	5	5	0.4	50	5	5	5	5	5	5	5	5	0.4	5	5	2
May-02																																						
Aug-02																																						
Nov-02																																						
Mar-03																																						
Jun-03																																						
Sep-03																																						
Dec-03																																						
Mar-04																																						
Sep-06																																						
Dec-06																																						
Apr-07																																						
Jun-07																																						
Oct-07																																						
Dec-07																																						
Mar-08																																						
Jun-08																																						
Sep-08																																						
Dec-08																																						
Mar-09																																						
Jun-09																																						
Sep-09																																						
Dec-09																																						

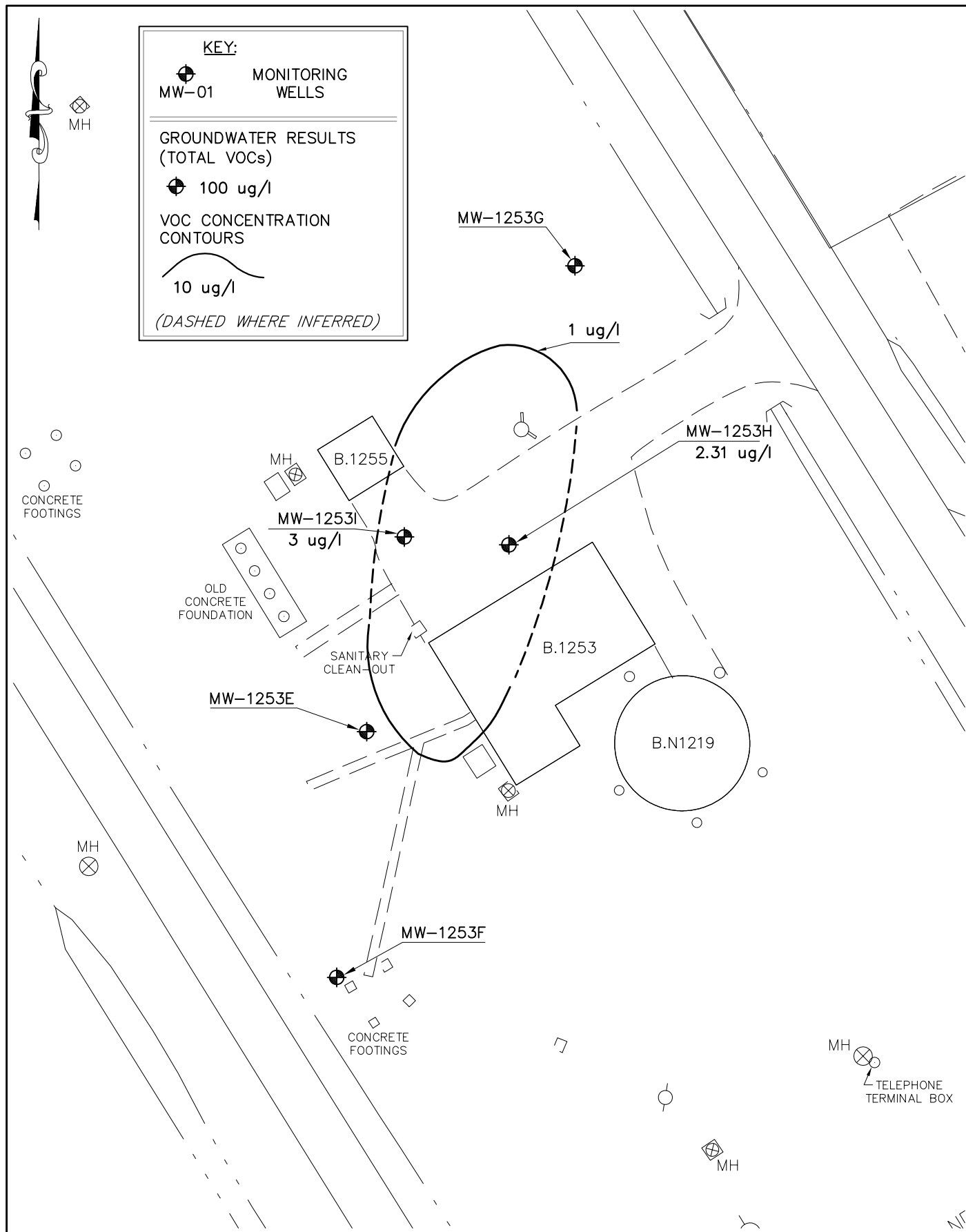
.....
Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

ATTACHMENT 6

Volatile Organic Contour Maps

Verona Research Facility OM&M Update
December 2009 Sampling





2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

VERONA RESEARCH FACILITY

VERONA MNA STUDY

JUNE 2009 GROUNDWATER TOTAL VOC CONCENTRATIONS

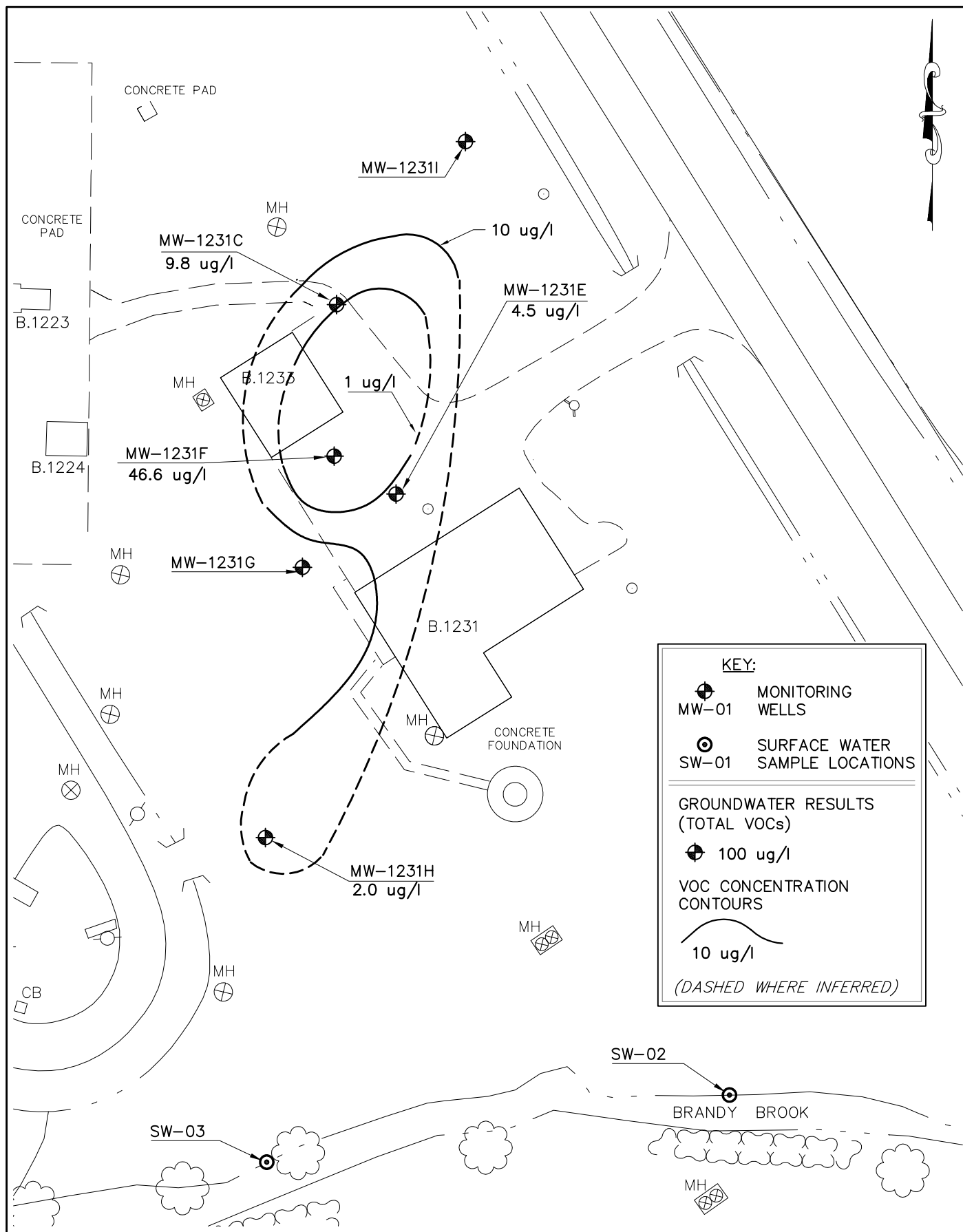
VERONA, NEW YORK

DATE: AUG. 2009

SCALE: 1" = 50'

DRAWN BY: BCB

CHECKED BY: GLA



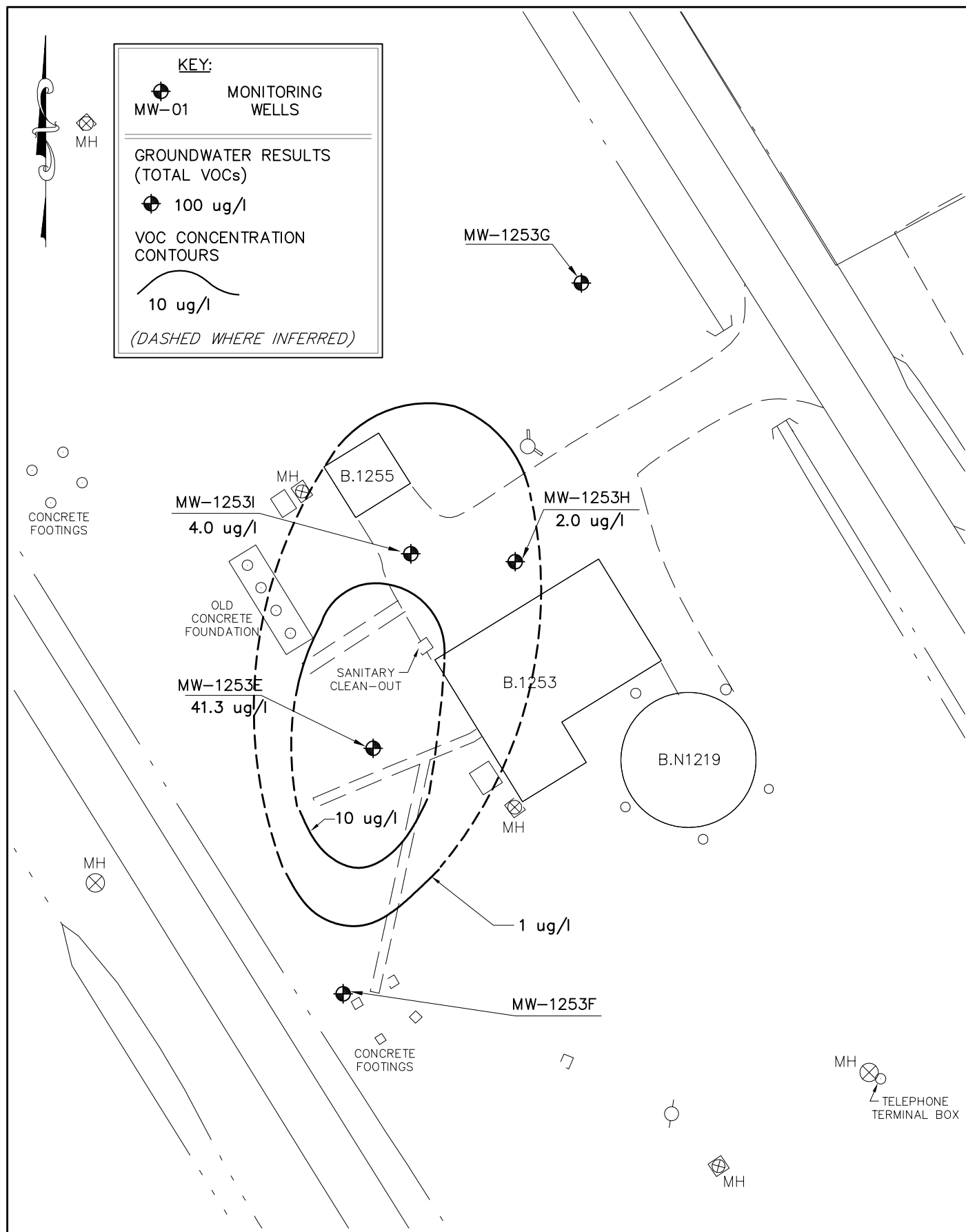
Lu Engineers

2230 Penfield Road
 Penfield, New York 14526
 Tel: (585) 377-1450
 Fax: (585) 377-1266

VERONA RESEARCH FACILITY

VERONA MNA STUDY
SEPT. 2009 GROUNDWATER TOTAL VOC CONCENTRATIONS
 VERONA, NEW YORK

DATE:	DECEMBER 2009
SCALE:	1" = 50'
DRAWN BY:	DLS
CHECKED BY:	GLA



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

VERONA RESEARCH FACILITY

VERONA MNA STUDY

SEPT. 2009 GROUNDWATER TOTAL VOC CONCENTRATIONS

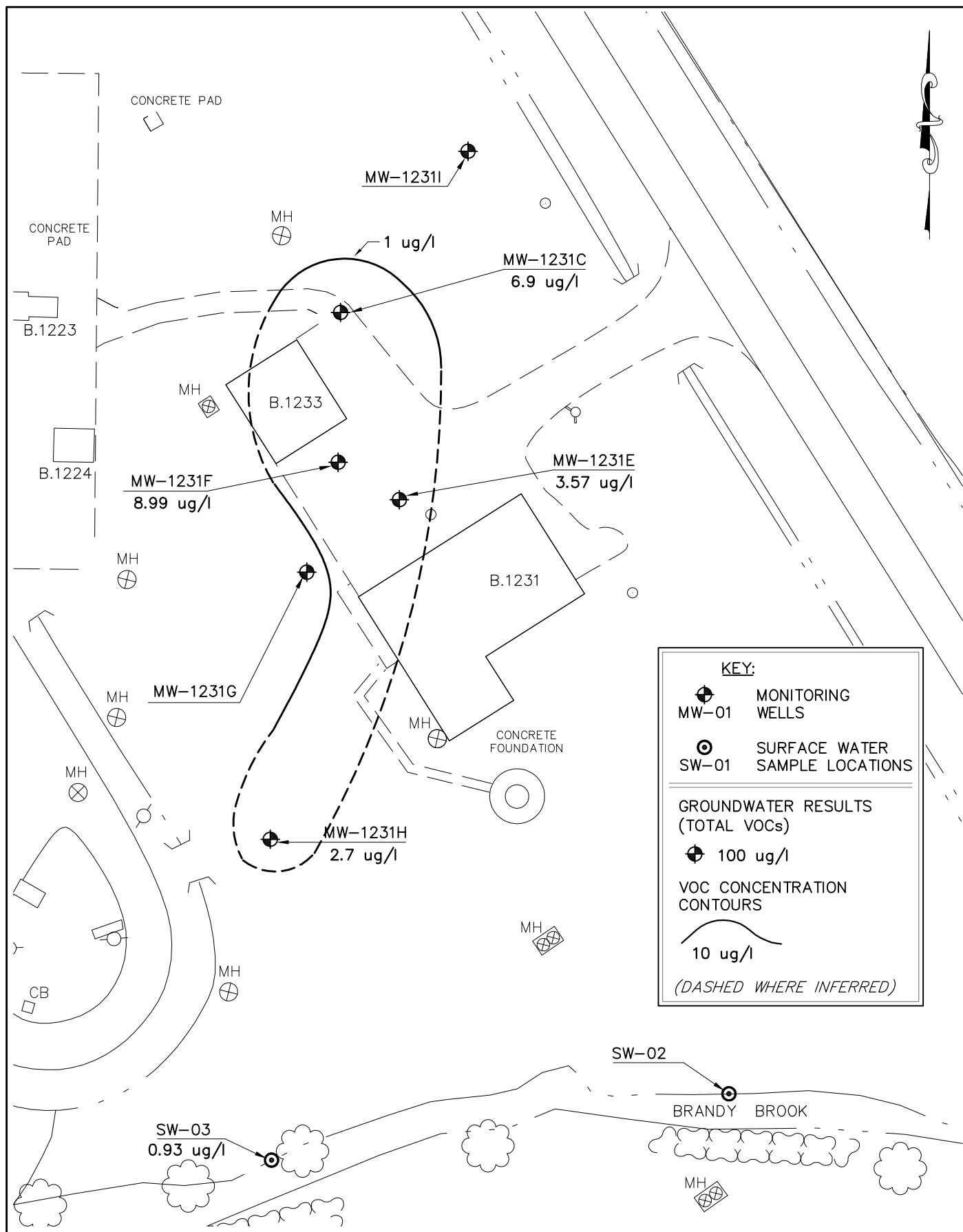
VERONA, NEW YORK

DATE: DECEMBER 2009

SCALE: 1" = 50'

DRAWN BY: DLS

CHECKED BY: GLA



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

VERONA RESEARCH FACILITY

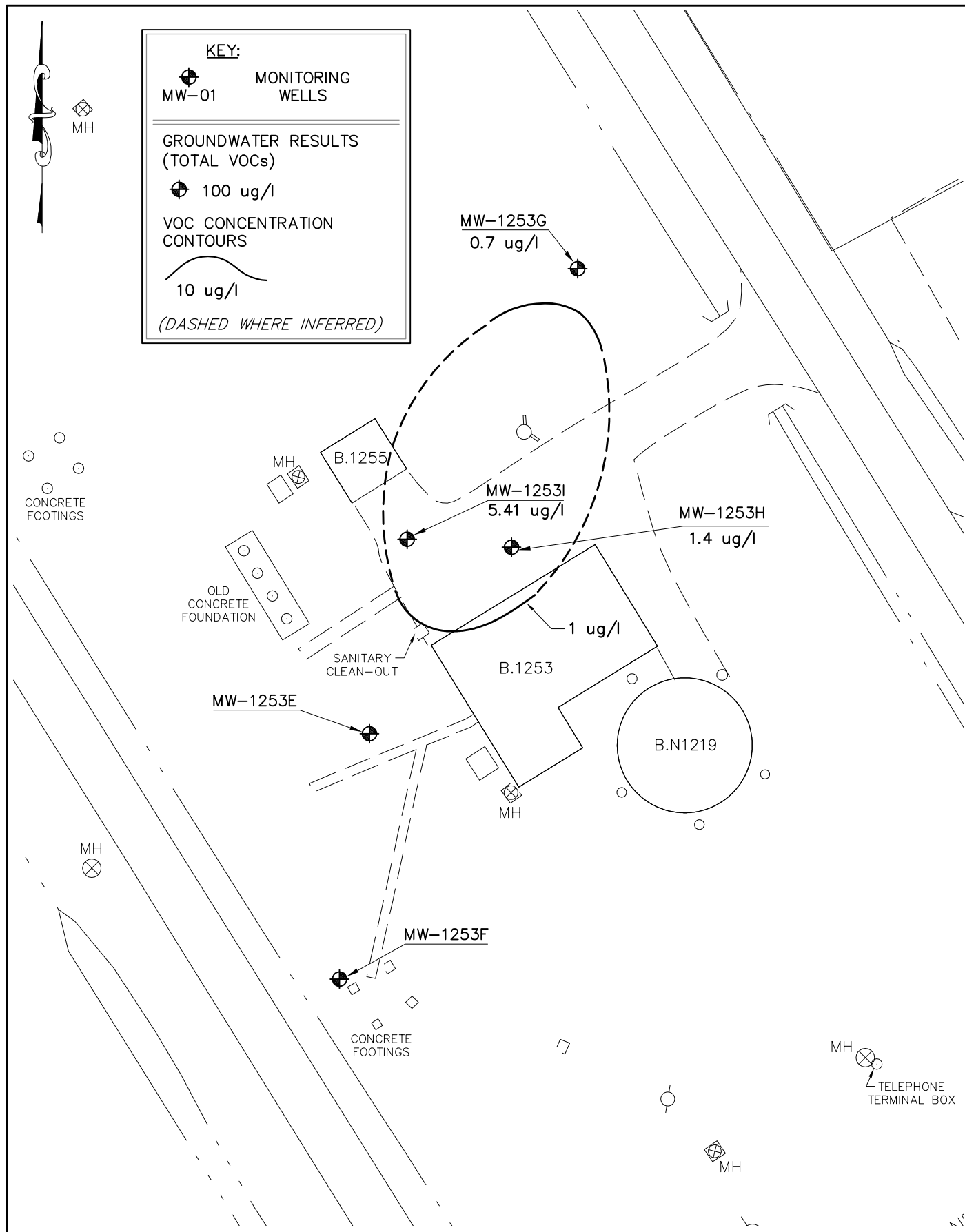
VERONA MNA STUDY
DEC. 2009 GROUNDWATER TOTAL VOC CONCENTRATIONS
VERONA, NEW YORK

DATE: FEBRUARY 2010

SCALE: 1" = 50'

DRAWN BY: DLS

CHECKED BY: GLA



2230 Penfield Road
Penfield, New York 14526
Tel: (585) 377-1450
Fax: (585) 377-1266

VERONA RESEARCH FACILITY

VERONA MNA STUDY

DEC. 2009 GROUNDWATER TOTAL VOC CONCENTRATIONS

VERONA, NEW YORK

DATE: FEBRUARY 2010

SCALE: 1" = 50'

DRAWN BY: DLS

CHECKED BY: GLA

ATTACHMENT 7

Inorganic Analytical Results

Verona Research Facility OM&M Update
December 2009 Sampling

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231C						
Date		Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
		GW Stds mg/L	10	250				
May-02		0.03	25	44	440	495		
Aug-02		0.19	21	86	430	402		
Nov-02		0.16	30	87	435	458		
Mar-03		0.22	24	44	360	512		
Jun-03		0.04	24	49	390	450		
Sep-03		0.04	26	63	500	415		
Dec-03			21	29	290	282		
Mar-04		0.04	21	32	320	322		
Sep-06			14.8		370	502		
Dec-06			14.4		450	357		
Apr-07			9.15		350	460		
Jun-07			9.59		340	300		
Oct-07			61	50	740	790		
Dec-07			16	49	400	390		
Mar-08		0.14	14	26	350	350		
Jun-08			17	44	420	390		
Sep-08			18	13	430	390		
Dec-08			14	110	380	290		
Mar-09		0.22	9.6	100	300	290		
Jun-09		0.021	10	97	300	360		
Sep-09		0.086	13	150	440	480		
Dec-09		0.1	15	48	380	370		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231E										
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene					
	<table><tr><td>GW Stds mg/L</td><td>10</td><td>250</td><td></td><td></td><td></td></tr></table>						GW Stds mg/L	10	250			
GW Stds mg/L	10	250										
May-02		38	47.7	400	542							
Aug-02		25	64	320	395							
Nov-02		22	63	340	582							
Mar-03	0.03	18	30	320	540							
June-03		16	40	400	448							
Sep-03		17	53	420	360							
Dec-03		19	32	320	295							
Mar-04		26	33	330	328							
Sep-06		11.9		320	388							
Dec-06		11		270	290							
Apr-07		11.3	13.7	200	455							
Jun-07		10.1		250	260							
Oct-07		32	64	410	420							
Dec-07		19	27	300	300							
Mar-08		12	10	290	240							
Jun-08		13	38	330	330							
Sep-08		19	22	310	330							
Dec-08		14	43	280	270							
Mar-09		13	33	200	220							
Jun-09	0.009	10	63	270	290							
Sep-09	0.036	24	120	350	270							
Dec-09	0.09	12.8	16	240	260							

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231F												
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene							
	<table><tr><td>GW Stds mg/L</td><td>10</td><td>250</td><td></td><td></td><td></td></tr></table>						GW Stds mg/L	10	250					
GW Stds mg/L	10	250												
May-02		42	33.4	420	490									
Aug-02	0.04	25	61	385	360									
Nov-02		21	46	380	535									
Mar-03	0.04	24	25	315	450									
Jun-03		25	40	400	422									
Sep-03		21	42	420	325									
Dec-03		19	25	320	252									
Mar-04		19	23	287	292									
Sep-06		7.31		280	587									
Dec-06		6.47		280	300									
Apr-07		7.94	43.3	270	415									
Jun-07		8.09		280	310									
Oct-07	0.29	91	63	1000	2000									
Dec-07		30	15	450	440									
Mar-08		97		1500	1900									
Jun-08		13	11	310	320									
Sep-08		13	13	300	270									
Dec-08	0.2	14	21	210	250									
Mar-09	0.2	11	20	170	190									
Jun-09	0.35	8.9	44	250	260									
Sep-09		11	65	290	330									
Dec-09	0.08	13.4	11	240	210									

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231G					
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02		44	41.2	480	725		
Aug-02		77	83	480	720		
Nov-02		39	82	480	732		
Mar-03	0.04	19	55	480	600		
Jun-03		15	53	440	540		
Sep-03		30	97	650	550		
Dec-03		14	57	450	405		
Mar-04		11	54	430	410		
Sep-06		8.41		400	460		
Dec-06				440	438		
Apr-07			41	420	505		
Jun-07				430	427		
Oct-07		17	71	480	460		
Dec-07		11	84	460	440		
Mar-08		7.1	98	480	420		
Jun-08		6.5	110	480	440		
Sep-08		7.1	44	490	440		
Dec-08		7.7	240	620	540		
Mar-09		7.2	200	390	420		
Jun-09	0.028	8.5	320	480	470		
Sep-09		8.6	300	480	500		
Dec-09		7.15	78	400	450		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231H												
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene							
	<table><tr><td>GW Strds mg/L</td><td>10</td><td>250</td><td></td><td></td><td></td></tr></table>						GW Strds mg/L	10	250					
GW Strds mg/L	10	250												
May-02		45	55.4	440	432									
Aug-02		21	72	390	395									
Nov-02		10	76	390	542									
Mar-03	0.04	12	44	360	520									
Jun-03		17	53	420	435									
Sep-03		17	81	510	420									
Dec-03		12	56	350	325									
Mar-04	0.09	12	52	330	350									
Sep-06		9.9		360	435									
Dec-06		5.89		350	410									
Apr-07			49.7	360	390									
Jun-07				360	390									
Oct-07		5.8	60	390	370									
Dec-07		6.5	57	360	360									
Mar-08		8.6	41	350	360									
Jun-08		7.3	55	420	66									
Sep-08		8.5	34	350	350									
Dec-08		8.1	210	710	410									
Mar-09		7.1	130	360	370									
Jun-09	0.053	8.4	220	380	390									
Sep-09		8.4	180	400	350									
Dec-09	0.05	6.48	63	380	380									

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1231I					
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02		198	65.5	480	722		
Aug-02	0.03	26	107	425	478		
Nov-02		54	85	472	608		
Mar-03	0.04	31	50	435	608		
Jun-03		18	71	460	505		
Sep-03		21	55	440	480		
Dec-03	0.06	30	55	440	415		
Mar-04		23	55	440	432		
Sep-06		7.57		430	500		
Dec-06		6		440	475		
Apr-07			25.1	480	528		
Jun-07		5.71		460	445		
Oct-07		6.8	89	470	470		
Dec-07		5.7	89	510	480		
Mar-08			80	580	510		
Jun-08		6.3	91	560	51		
Sep-08		6.5	14	520	480		
Dec-08			230	600	500		
Mar-09			190	430	470		
Jun-09	0.036	6.7	240	470	540		
Sep-09		3.6	190	460	460		
Dec-09	0.05	4.38	67	410	450		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1253E						
Date		Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
		GW Stds mg/L 10 250						
May-02			28	88.6	580	522		
Aug-02			25	165	1080	525		
Nov-02			28	75	420	622		
Mar-03			32	64	435	578		
Jun-03			28	67	450	548		
Sep-03			14	124	720	478		
Dec-03			20	67	420	327		
Mar-04			23	65	410	415		
Sep-06			5.17		380	402		
Dec-06					400	940		
Apr-07				61.5	390	405		
Jun-07					400	445		
Oct-07			10	92	440	400		
Dec-07			6.3	58	380	350		
Mar-08				43	350	300		
Jun-08			5.5	38	300	370		
Sep-08			7	160	410	410		
Dec-08			5	130	410	330		
Mar-09				130	310	370		
Jun-09		0.02	3.3	260	420	400		
Sep-09		0.0082	11	160	430	420		
Dec-09		0.05	3.3	33	450	400		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1253F					
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02		54	94.6	520	600		
Aug-02		43	154	660	575		
Nov-02		81	178	680	852		
Mar-03	0.04	26	61	405	538		
Jun-03		23	105	590	645		
Sep-03		38	148	620	540		
Dec-03		16	86	430	380		
Mar-04		16	78	390	378		
Sep-06		5.63		430	475		
Dec-06				420	42		
Apr-07			20.5	340	390		
Jun-07				420	558		
Oct-07		6.9	110	440	420		
Dec-07		9.9	120	480	440		
Mar-08		8.5	65	420	320		
Jun-08		8.6	69	380	440		
Sep-08		7.7	320	540	470		
Dec-08		5.7	730	420	340		
Mar-09	0.31	5.9	170	350	370		
Jun-09		5.1	250	390	380		
Sep-09		4.5	310	490	450		
Dec-09	0.06	4.56	110	520	520		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1253G					
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02		30	86.9	560	505		
Aug-02	0.05	44	122	500	518		
Nov-02		27	99	550	612		
Mar-03		23	46	370	502		
Jun-03		19	61	500	525		
Sep-03		25	103	650	472		
Dec-03		17	42	330	305		
Mar-04		14	42	330	315		
Sep-06				420	455		
Dec-06				370	410		
Apr-07			52.4	440	498		
Jun-07				450	445		
Oct-07		6	750	470	460		
Dec-07			86	450	430		
Mar-08			64	440	370		
Jun-08			54	410	420		
Sep-08			170	510	430		
Dec-08			82	470	380		
Mar-09			320	400	430		
Jun-09		2	340	570	460		
Sep-09	0.0068	2	250	470	480		
Dec-09	0.05	3.27	82	480	450		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID		MW-1253H					
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02		54	63.1	420	542		
Aug-02		28	60	375	492		
Nov-02		45	41	240	750		
Mar-03	0.03	31	60	430	668		
Jun-03		25	71	460	515		
Sep-03		51	70	640	682		
Dec-03		32	82	410	435		
Mar-04		39	82	410	492		
Sep-06		25.8		400	488		
Dec-06		21.9		390	472		
Apr-07		24.8	45.5	430	552		
Jun-07		35.4		420	472		
Oct-07		210	69	590	870		
Dec-07		140	48	340	610		
Mar-08		81	48	430	480		
Jun-08		13	22	270	310		
Sep-08		33	53	310	360		
Dec-08		25	26	270	240		
Mar-09		28	43	250	310		
Jun-09	0.058	11	90	290	340		
Sep-09		52	100	300	420		
Dec-09	0.05	26.2	25	310	300		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID	MW-1253I														
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene								
	<table><tr><td><i>GW Strds mg/L</i></td><td>10</td><td>250</td><td></td><td></td><td></td><td></td><td></td></tr></table>							<i>GW Strds mg/L</i>	10	250					
<i>GW Strds mg/L</i>	10	250													
May-02		72	96.5	540	632										
Aug-02		36	122	525	582										
Nov-02		40	134	620	732										
Mar-03	0.04	36	81	465	702										
Jun-03		39	79	440	615										
Sep-03		34	141	610	587										
Dec-03		35	92	460	412										
Mar-04		35	86	430	438										
Sep-06		20.5		390	443										
Dec-06		15.5		390	427										
Apr-07		11.9	18.2	400	525										
Jun-07		14.4		410	418										
Oct-07		16	110	400	450										
Dec-07		17	99	420	420										
Mar-08		15	64	440	390										
Jun-08		15	55	380	430										
Sep-08		14	150	460	390										
Dec-08		13	120	530	330										
Mar-09		14	140	370	410										
Jun-09	0.0064	17	150	300	400										
Sep-09		14	200	420	420										
Dec-09	0.2	16.2	84	520	380										

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID	SW-1						
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02	0.07	2.8	13	130	238		
Aug-02	1.1	67	12	116	390		
Nov-02	0.08	46	46	145	360		
Mar-03	0.21	6	19	75	208		
Jun-03	0.42	5	26	165	258		
Sep-03		6	38	300	430		
Dec-03	0.08	9	21	130	190		
Mar-04	0.09	11	15	150	345		
Sep-06				220	375		
Dec-06				130	228		
Apr-07			13.7	110	268		
Jun-07	0.222	19.5		160	318		
Oct-07		12	17	240	310		
Dec-07		17	35	150	360		
Mar-08	1		17	95	160		
Jun-08			13	190	370		
Sep-08			39	230	420		
Dec-08			26	120	98		
Mar-09			27	80	150		
Jun-09	0.049	0.67	75	230	270		
Sep-09	0.071	20	61	230	260		
Dec-09	0.06	4.58	43	230	230		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID	SW-2														
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene								
	<table><tr><td><i>GW Strds mg/L</i></td><td>10</td><td>250</td><td></td><td></td><td></td><td></td><td></td></tr></table>							<i>GW Strds mg/L</i>	10	250					
<i>GW Strds mg/L</i>	10	250													
May-02	0.2	2.2	20.2	160	312										
Aug-02	0.09	41	14	140	332										
Nov-02		44	34	135	368										
Mar-03	0.23	6	14	70	182										
Jun-03	0.62		20	125	260										
Sep-03		24	35	280	420										
Dec-03	0.08	9	19	120	198										
Mar-04	0.21	11	18	140	352										
Sep-06	2.5	8.35		160	355										
Dec-06				140	205										
Apr-07			11.4	110	215										
Jun-07	0.204	37.5		140	337										
Oct-07		25		240	290										
Dec-07		17	33	160	340										
Mar-08	0.19		12	84	160										
Jun-08				190	350										
Sep-08			20	240	420										
Dec-08			27	140	100										
Mar-09			40	110	150										
Jun-09	0.013	0.85	21	170	240										
Sep-09	0.036	20	58	200	240										
Dec-09	0.14	5.17	36	200	230										

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Natural Attenuation Parameters Analytical Results May 2002 - December 2009

Location ID	SW-3						
Date	Nitrate	Sulfate	Carbon Dioxide	Alkalinity (CaCO3)	Total Dissolved Solids	Ethane	Ethene
	<i>GW Strds mg/L</i>	10	250				
May-02	0.07	2.2	18.9	150	268		
Aug-02	0.1	43	15	150	312		
Nov-02	0.08	45	43	355	135		
Mar-03	0.21	6	14	70	210		
Jun-03	0.06		17	110	252		
Sep-03		11	43	340	410		
Dec-03	0.09	9	21	130	205		
Mar-04		11	24	150	385		
Sep-06	0.62	8.22		170	350		
Dec-06	0.593			130	222		
Apr-07			18.2	100	310		
Jun-07		22.7		150	260		
Oct-07		14	12	210	280		
Dec-07		15	41	170	340		
Mar-08				91	160		
Jun-08				210	330		
Sep-08			35	240	400		
Dec-08			26	150	110		
Mar-09			31	90	140		
Jun-09	0.008	0.61		140	240		
Sep-09	0.012	21	49	190	250		
Dec-09	0.17	5.27	33	190	190		

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231C

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	1.2	0.32
Aug-02	0.32	0.34
Nov-02	2.7	1.02
Mar-03	0.25	0.266
Jun-03	0.633	0.461
Sep-03	0.31	0.27
Dec-03	0.192	0.329
Mar-04	0.099	0.133
Sep-06	0.2	0.19
Dec-06	0.27	0.12
Apr-07	0.095	0.066
Jun-07	0.26	0.14
Oct-07	0.034	2.48
Dec-07	0.322	0.595
Mar-08	0.034	0.306
Jun-08	0.461	0.479
Sep-08	0.274	0.925
Dec-08	0.061	0.176
Mar-09	0.061	0.0828
Jun-09	0.061	0.184
Sep-09	0.082	0.603
Dec-09	0.082	0.228

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231E

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	8.07	1.37
Aug-02	17	2.9
Nov-02	19.4	1.72
Mar-03	2.72	1.01
June-03	5.58	1.47
Sep-03	1.94	0.884
Dec-03	7.92	1.69
Mar-04	7.19	2.32
Sep-06	1.6	0.64
Dec-06	0.39	0.2
Apr-07	0.079	
Jun-07	0.13	0.33
Oct-07	0.863	4.84
Dec-07	0.217	0.0352
Mar-08	0.047	0.042
Jun-08	0.341	0.093
Sep-08	3.18	2.07
Dec-08	0.061	0.0144
Mar-09	0.122	0.0542
Jun-09	0.061	0.011
Sep-09	0.082	0.0045
Dec-09	0.082	0.0188

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231F

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	3.21	1.2
Aug-02	0.3	0.73
Nov-02	3.91	0.86
Mar-03	0.962	0.75
Jun-03	8.02	1.26
Sep-03	2.62	0.879
Dec-03	1.51	0.808
Mar-04	3.55	0.984
Sep-06	0.69	0.64
Dec-06	0.58	0.54
Apr-07	0.12	0.56
Jun-07	0.13	0.55
Oct-07	0.352	422
Dec-07	0.181	0.119
Mar-08	3.05	0.48
Jun-08	2.06	0.27
Sep-08	1.4	0.22
Dec-08	1.22	0.215
Mar-09	2.72	0.175
Jun-09	0.555	0.0998
Sep-09	0.131	0.302
Dec-09	0.412	0.0394

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231G

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	9.37	2.28
Aug-02	0.57	1.1
Nov-02	18	1.65
Mar-03	2.65	0.772
Jun-03	1.3	0.733
Sep-03	0.77	0.557
Dec-03		0.257
Mar-04	2.93	1.23
Sep-06	1.3	0.37
Dec-06	0.3	0.13
Apr-07	0.23	0.13
Jun-07	0.47	0.27
Oct-07	0.555	0.285
Dec-07	0.561	0.164
Mar-08	0.721	0.193
Jun-08	0.259	0.22
Sep-08	0.688	0.285
Dec-08	0.53	0.187
Mar-09	0.519	0.204
Jun-09	0.48	0.248
Sep-09	0.468	0.284
Dec-09	0.305	0.142

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231H

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	8.26	0.83
Aug-02	2.62	0.19
Nov-02	16.2	0.77
Mar-03	8.64	0.269
Jun-03	5.34	0.256
Sep-03	4.11	0.262
Dec-03	9.33	0.169
Mar-04	8.9	0.742
Sep-06	3	0.24
Dec-06	2	0.22
Apr-07	2.8	0.18
Jun-07	3	0.17
Oct-07	8.36	0.327
Dec-07	12.9	0.197
Mar-08	3.46	0.213
Jun-08	4.12	0.202
Sep-08	3.56	0.175
Dec-08	3.02	0.269
Mar-09	3.79	0.213
Jun-09	5.13	0.223
Sep-09	3.9	0.192
Dec-09	3.12	0.282

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1231I

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	7.9	2.19
Aug-02	1.51	1.31
Nov-02	6.64	1.18
Mar-03	1.4	0.946
Jun-03	6.08	1.47
Sep-03	2.08	1.17
Dec-03	1.74	0.823
Mar-04	4.38	1.35
Sep-06	1.6	0.72
Dec-06	0.64	0.5
Apr-07	0.4	0.45
Jun-07	2.2	0.63
Oct-07	0.635	0.848
Dec-07	1.27	0.498
Mar-08	5.62	0.857
Jun-08	1.06	0.687
Sep-08	0.864	0.716
Dec-08	0.518	0.496
Mar-09	0.314	0.452
Jun-09	0.951	0.684
Sep-09	0.865	0.686
Dec-09	0.214	0.387

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1253E

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	37.9	3.02
Aug-02	30.3	2.73
Nov-02	50.1	2.18
Mar-03	28.4	1.99
Jun-03	52.3	5.22
Sep-03	20.8	1.68
Dec-03	26.4	2.07
Mar-04	21.2	1.95
Sep-06	1.1	0.33
Dec-06	0.47	0.25
Apr-07	0.48	0.27
Jun-07	0.63	0.49
Oct-07	1.28	0.595
Dec-07	0.906	0.17
Mar-08	0.428	0.153
Jun-08	0.498	0.279
Sep-08	0.721	0.373
Dec-08	0.336	0.133
Mar-09	0.359	0.194
Jun-09	0.445	0.281
Sep-09	0.956	0.407
Dec-09	0.267	0.127

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1253F

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	9.86	1.61
Aug-02	24.8	3.55
Nov-02	6.6	5.54
Mar-03	0.884	0.104
Jun-03	15.9	2.46
Sep-03	0.815	0.347
Dec-03	1.32	0.114
Mar-04	14.9	2.76
Sep-06	0.19	0.17
Dec-06	0.12	0.044
Apr-07	0.08	0.23
Jun-07	0.05	0.23
Oct-07	0.222	0.12
Dec-07	0.589	0.0792
Mar-08	0.059	0.03
Jun-08	0.061	0.088
Sep-08	0.061	0.095
Dec-08	0.061	0.0335
Mar-09	0.061	0.0427
Jun-09	0.061	0.0948
Sep-09	0.082	0.103
Dec-09	0.082	0.0871

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1253G

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	31.9	3.2
Aug-02	17	1.86
Nov-02	44.1	1.69
Mar-03	16.7	1.31
Jun-03	18.2	2.11
Sep-03	43.4	5.98
Dec-03	11.3	1.38
Mar-04	6.07	0.838
Sep-06	0.96	0.19
Dec-06	0.35	0.17
Apr-07	0.22	0.18
Jun-07	1.2	0.21
Oct-07	0.765	0.17
Dec-07	0.474	0.0967
Mar-08	0.284	0.134
Jun-08	0.611	0.253
Sep-08	1.46	0.299
Dec-08	0.399	0.331
Mar-09	0.419	0.366
Jun-09	1.24	0.36
Sep-09	1.57	0.396
Dec-09	0.472	0.358

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1253H

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	7.39	1.85
Aug-02	7.14	1.5
Nov-02	6.19	1.64
Mar-03	13.2	1.91
Jun-03	5.64	1.61
Sep-03	5.32	1.49
Dec-03	7.11	2.05
Mar-04	8.94	2.32
Sep-06	4.3	1.9
Dec-06	4.8	2.3
Apr-07	5.3	2.2
Jun-07	5.5	2.6
Oct-07	0.396	4.86
Dec-07	0.414	8.87
Mar-08	0.286	7.01
Jun-08	0.163	1.91
Sep-08	0.719	2.58
Dec-08	0.267	2.93
Mar-09	0.459	3.86
Jun-09	0.759	2.25
Sep-09	0.527	2.53
Dec-09	0.499	2.52

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID MW-1253I

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	20.6	2
Aug-02	0.48	0.45
Nov-02	14.3	1.02
Mar-03	2.97	0.84
Jun-03	5.06	0.923
Sep-03	1.96	0.813
Dec-03	1.56	0.591
Mar-04	2.79	0.765
Sep-06	0.93	0.97
Dec-06	0.49	0.44
Apr-07	0.39	0.75
Jun-07	0.3	0.59
Oct-07	2.03	3.02
Dec-07	0.919	0.52
Mar-08	0.799	1.11
Jun-08	0.459	0.865
Sep-08	0.702	1.22
Dec-08	0.43	1.02
Mar-09	0.326	1.31
Jun-09	0.453	1.03
Sep-09	0.465	0.745
Dec-09	0.401	0.649

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID	SW-1	
Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	0.91	0.13
Aug-02	0.51	0.08
Nov-02	0.51	0.08
Mar-03	0.272	0.022
Jun-03	1.39	0.379
Sep-03	3.7	1.1
Dec-03	0.37	0.047
Mar-04	0.243	
Sep-06	0.89	0.1
Dec-06	1.2	0.15
Apr-07	0.6	0.059
Jun-07	2.5	0.27
Oct-07	1.25	0.914
Dec-07	0.844	0.123
Mar-08	0.546	0.05
Jun-08	2.75	1.08
Sep-08	2.93	0.376
Dec-08	0.592	0.0576
Mar-09	0.692	0.0486
Jun-09	3.64	0.597
Sep-09	1.2	0.141
Dec-09	7.37	0.429

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID SW-2

Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	1.05	0.27
Aug-02	0.84	0.08
Nov-02	0.53	0.13
Mar-03	0.05	0.02
Jun-03	2.1	0.427
Sep-03	1.98	0.605
Dec-03	0.493	0.131
Mar-04	0.252	
Sep-06	1.3	0.2
Dec-06	1.1	0.13
Apr-07	0.42	0.031
Jun-07	1.8	0.071
Oct-07	0.485	0.0787
Dec-07	0.818	0.127
Mar-08	0.52	0.042
Jun-08	2.77	0.425
Sep-08	2.38	0.261
Dec-08	0.457	0.0481
Mar-09	0.685	0.0619
Jun-09	2.99	0.244
Sep-09	0.913	0.0579
Dec-09	8.15	1.17

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Total (Unfiltered) Metals Analytical Results May 2002 -December 2009

Location ID	SW-3	
Date	Unfiltered Iron (Fe)	Unfiltered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02	1.27	0.29
Aug-02	0.82	0.16
Nov-02	0.46	0.05
Mar-03	0.229	
Jun-03	1.75	0.171
Sep-03	2.55	0.75
Dec-03	0.508	0.119
Mar-04	2.55	0.499
Sep-06	1.4	0.27
Dec-06	1.2	0.18
Apr-07	0.49	0.034
Jun-07	1.7	0.13
Oct-07	0.997	0.443
Dec-07	12.8	3.29
Mar-08	0.533	0.046
Jun-08	2.8	0.148
Sep-08	3.95	0.572
Dec-08	0.648	0.114
Mar-09	0.759	0.0714
Jun-09	10.3	0.91
Sep-09	0.932	0.0419
Dec-09	3.75	1.11

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231C

Date **Filtered Iron (Fe)** **Filtered Manganese (Mn)**

*GW Stds
mg/L*

0.3

0.3

May-02

Aug-02

Nov-02

0.15

Mar-03

Jun-03

0.07

Sep-03

0.195

Dec-03

Mar-04

Sep-06

0.092

0.057

Dec-06

0.16

0.025

Apr-07

0.068

0.04

Jun-07

0.035

0.041

Oct-07

0.343

0.915

Dec-07

0.251

0.565

Mar-08

0.026

0.358

Jun-08

0.061

0.376

Sep-08

0.061

0.865

Dec-08

0.061

0.125

Mar-09

0.061

0.0471

Jun-09

0.061

0.163

Sep-09

0.082

0.534

Dec-09

0.082

0.149

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231E

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		0.54
Aug-02		0.59
Nov-02		0.75
Mar-03		0.72
June-03		0.787
Sep-03		0.745
Dec-03		0.624
Mar-04		0.784
Sep-06	0.046	0.56
Dec-06	0.051	0.06
Apr-07	0.078	
Jun-07		0.27
Oct-07	0.417	2.24
Dec-07	0.186	0.0362
Mar-08	0.019	0.011
Jun-08	0.061	0.069
Sep-08	0.061	0.009
Dec-08	0.061	0.0044
Mar-09	0.061	0.0014
Jun-09	0.061	0.0061
Sep-09	0.082	0.0116
Dec-09	0.082	0.0045

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231F

Date **Filtered Iron (Fe)** **Filtered Manganese (Mn)**

*GW Stds
mg/L*

0.3

0.3

May-02

0.87

Aug-02

0.67

Nov-02

Mar-03

0.65

Jun-03

0.639

Sep-03

0.691

Dec-03

0.581

Mar-04

0.603

Sep-06

0.045

0.61

Dec-06

0.045

0.48

Apr-07

0.047

0.42

Jun-07

0.49

Oct-07

0.365

904

Dec-07

0.158

0.0243

Mar-08

0.352

0.088

Jun-08

0.061

0.187

Sep-08

0.061

0.158

Dec-08

0.061

0.0051

Mar-09

0.061

0.007

Jun-09

0.061

0.0448

Sep-09

0.082

0.266

Dec-09

0.082

0.0056

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231G

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		0.93
Aug-02		0.98
Nov-02		0.52
Mar-03		0.306
Jun-03		0.55
Sep-03		0.518
Dec-03		0.257
Mar-04		0.273
Sep-06	0.29	
Dec-06	0.05	0.12
Apr-07	0.058	0.12
Jun-07		0.25
Oct-07	0.585	0.395
Dec-07	0.322	0.151
Mar-08	0.072	0.176
Jun-08	0.061	0.205
Sep-08	0.086	0.267
Dec-08	0.061	0.115
Mar-09	0.0635	0.193
Jun-09	0.0775	0.245
Sep-09	0.082	0.263
Dec-09	0.082	0.127

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231H

Date **Filtered Iron (Fe)** **Filtered Manganese (Mn)**

*GW Stds
mg/L*

0.3

0.3

May-02

0.19

Aug-02

Nov-02

0.18

Mar-03

0.136

Jun-03

0.118

Sep-03

0.183

Dec-03

Mar-04

0.14

Sep-06

0.22

Dec-06

0.046

0.23

Apr-07

0.052

0.17

Jun-07

0.032

0.16

Oct-07

0.584

0.244

Dec-07

1.22

0.149

Mar-08

0.863

0.198

Jun-08

0.217

0.182

Sep-08

0.418

0.171

Dec-08

0.814

0.204

Mar-09

0.72

0.184

Jun-09

0.405

0.176

Sep-09

0.158

0.171

Dec-09

0.956

0.261

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1231I

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		1.15
Aug-02		1.15
Nov-02		0.92
Mar-03		0.71
Jun-03		1.01
Sep-03		0.876
Dec-03		0.587
Mar-04		
Sep-06	0.034	0.74
Dec-06	0.061	0.46
Apr-07	0.056	0.47
Jun-07	0.052	0.49
Oct-07	0.606	0.879
Dec-07	0.291	0.41
Mar-08	0.082	0.513
Jun-08	0.061	0.55
Sep-08	0.061	0.645
Dec-08	0.061	0.398
Mar-09	0.0885	0.4
Jun-09	0.116	0.637
Sep-09	0.0967	0.615
Dec-09	0.0904	0.375

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1253E

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		0.34
Aug-02		0.37
Nov-02		0.23
Mar-03		0.12
Jun-03		0.23
Sep-03		0.241
Dec-03		0.227
Mar-04		0.286
Sep-06	0.043	0.33
Dec-06	0.09	0.2
Apr-07	0.11	0.26
Jun-07	0.15	0.4
Oct-07	0.523	0.59
Dec-07	0.251	0.131
Mar-08	0.119	0.142
Jun-08	0.061	0.242
Sep-08	0.201	0.147
Dec-08	0.178	0.12
Mar-09	0.105	0.189
Jun-09	0.0809	0.285
Sep-09	0.168	0.372
Dec-09	0.0993	0.12

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1253F

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		0.6
Aug-02		0.49
Nov-02		0.23
Mar-03		0.038
Jun-03		0.165
Sep-03		
Dec-03		0.027
Mar-04		0.152
Sep-06		0.16
Dec-06	0.075	0.029
Apr-07	0.087	0.03
Jun-07	0.074	0.22
Oct-07	0.502	0.093
Dec-07	0.332	0.037
Mar-08	0.045	0.025
Jun-08	0.061	0.081
Sep-08	0.061	0.352
Dec-08	0.061	0.0285
Mar-09	0.061	0.0399
Jun-09	0.061	0.0875
Sep-09	0.082	0.0728
Dec-09	0.082	0.0724

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1253G

Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		0.29
Aug-02		0.43
Nov-02		0.21
Mar-03		0.14
Jun-03		0.128
Sep-03		0.213
Dec-03		0.055
Mar-04		0.055
Sep-06		0.14
Dec-06	0.064	0.15
Apr-07	0.087	0.18
Jun-07	0.04	0.2
Oct-07	0.534	0.164
Dec-07	0.346	0.0961
Mar-08	0.092	0.123
Jun-08	0.071	0.263
Sep-08	0.301	0.309
Dec-08	0.175	0.298
Mar-09	0.116	0.368
Jun-09	0.213	0.32
Sep-09	0.238	0.356
Dec-09	0.181	0.333

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1253H

Date **Filtered Iron (Fe)** **Filtered Manganese (Mn)**

*GW Stds
mg/L*

0.3

0.3

May-02

1.47

Aug-02

Nov-02

Mar-03

1.57

Jun-03

Sep-03

1.4

Dec-03

Mar-04

Sep-06

0.088

1.8

Dec-06

0.33

2

Apr-07

0.072

2

Jun-07

0.055

2.3

Oct-07

0.343

1.3

Dec-07

0.206

5.83

Mar-08

0.111

6.94

Jun-08

0.061

1.82

Sep-08

0.196

2.27

Dec-08

0.061

2.12

Mar-09

0.061

3.57

Jun-09

0.0776

2.01

Sep-09

0.082

2.27

Dec-09

0.0929

2.32

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID MW-1253I

Date **Filtered Iron (Fe)** **Filtered Manganese (Mn)**

*GW Stds
mg/L*

0.3

0.3

May-02

0.58

Aug-02

Nov-02

0.69

Mar-03

0.71

Jun-03

0.703

Sep-03

0.137

0.725

Dec-03

0.578

Mar-04

0.617

Sep-06

0.9

Dec-06

0.14

0.45

Apr-07

0.073

0.84

Jun-07

0.035

0.56

Oct-07

0.485

0.754

Dec-07

0.534

0.592

Mar-08

0.153

0.928

Jun-08

0.061

0.999

Sep-08

0.2

1.18

Dec-08

0.111

0.875

Mar-09

0.103

1.26

Jun-09

0.0827

0.977

Sep-09

0.082

0.668

Dec-09

0.106

0.519

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID	SW-1	
Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		
Aug-02		
Nov-02		
Mar-03		
Jun-03		
Sep-03		
Dec-03		
Mar-04		
Sep-06	0.39	
Dec-06	1.6	0.072
Apr-07	0.37	0.033
Jun-07	1.6	0.17
Oct-07	0.359	0.0612
Dec-07	0.56	0.106
Mar-08	0.403	0.049
Jun-08	1.79	0.927
Sep-08	1.67	0.177
Dec-08	0.277	0.0413
Mar-09	0.357	0.0546
Jun-09	1.75	0.158
Sep-09	0.451	0.0293
Dec-09	0.494	0.0929

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID	SW-2	
Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		
Aug-02		
Nov-02		
Mar-03		
Jun-03		
Sep-03		
Dec-03		
Mar-04		
Sep-06	0.23	
Dec-06	0.8	0.04
Apr-07	0.36	0.032
Jun-07	0.49	
Oct-07	0.452	0.0585
Dec-07	0.528	0.0952
Mar-08	0.369	0.041
Jun-08	1.95	0.153
Sep-08	1.18	0.099
Dec-08	0.292	0.0419
Mar-09	0.398	0.0544
Jun-09	1.32	0.139
Sep-09	0.391	0.0125
Dec-09	0.314	0.228

Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

Verona Research Site Monitored Natural Attenuation

Dissolved (Filtered) Metals Analytical Results May 2002 - December 2009

Location ID	SW-3	
Date	Filtered Iron (Fe)	Filtered Manganese (Mn)
<i>GW Stds mg/L</i>	<i>0.3</i>	<i>0.3</i>
May-02		
Aug-02		
Nov-02		
Mar-03		
Jun-03		
Sep-03		
Dec-03		
Mar-04		
Sep-06	0.18	
Dec-06	0.65	0.035
Apr-07	0.38	0.032
Jun-07	0.61	
Oct-07	0.375	0.0568
Dec-07	0.402	0.0724
Mar-08	0.352	0.034
Jun-08	1.77	0.054
Sep-08	1.24	0.146
Dec-08	0.255	0.0486
Mar-09	0.405	0.0574
Jun-09	1.36	0.0339
Sep-09	0.409	0.0069
Dec-09	0.296	0.0194

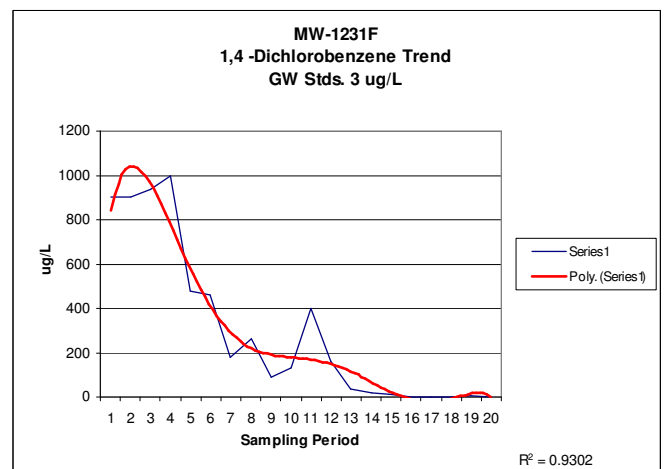
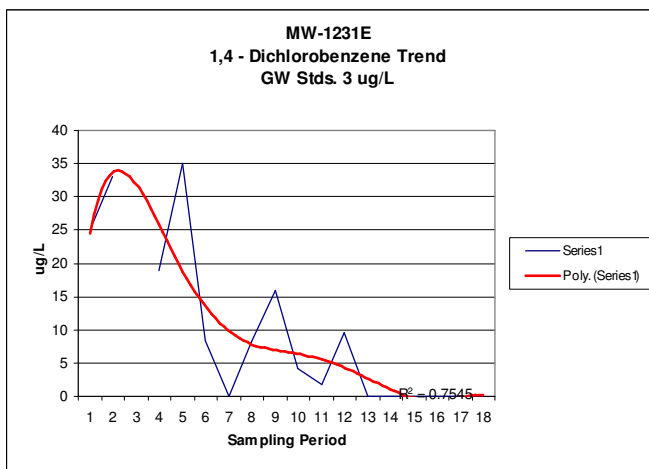
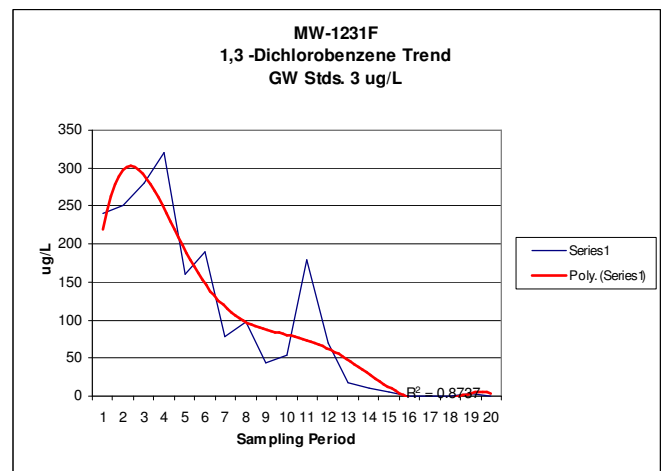
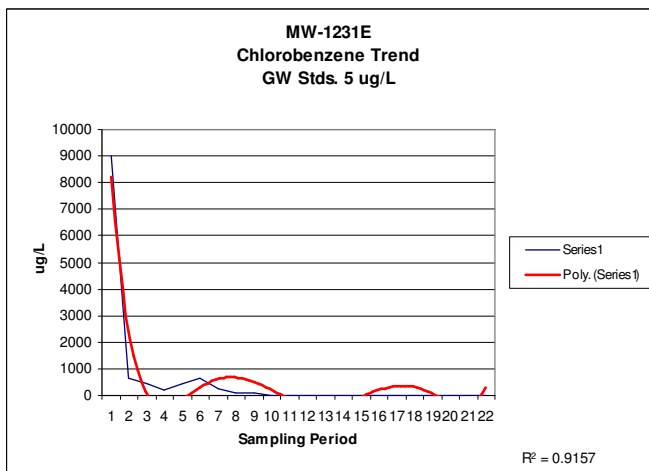
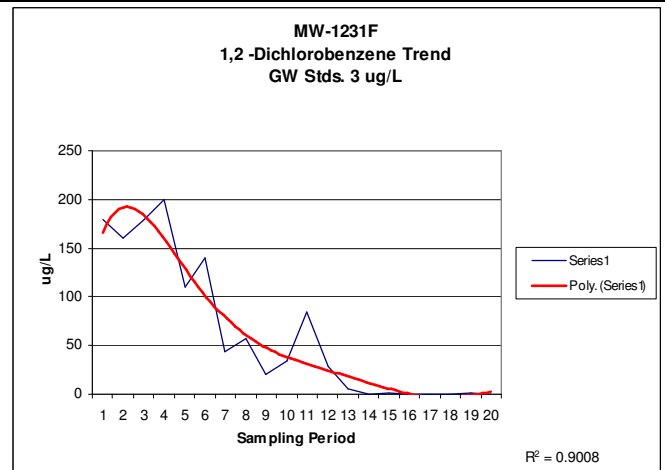
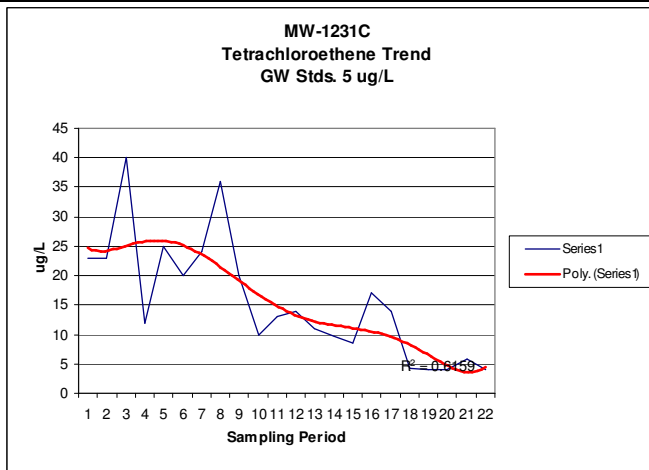
Analytical results with Non Detect (ND) or Below Detectable Limits (BDL) are recognized as null values to maintain the integrity of the database.

ATTACHMENT 8

Trend Analyses

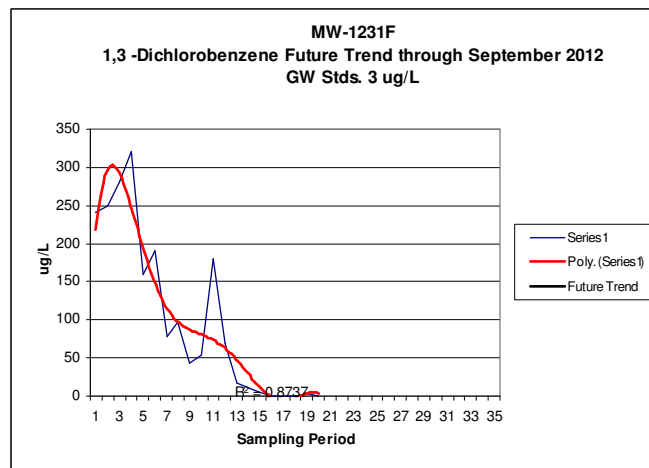
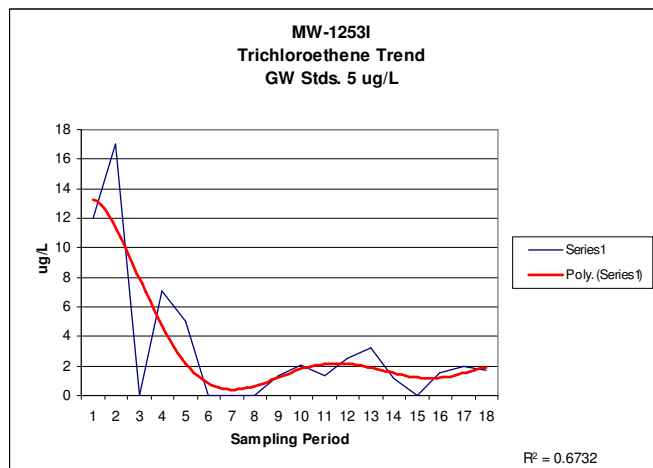
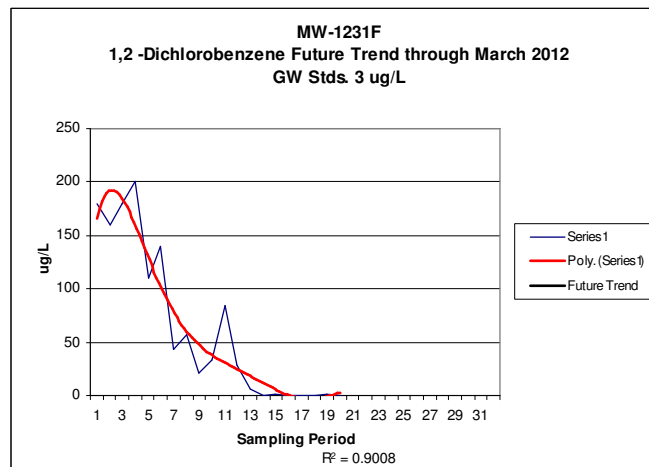
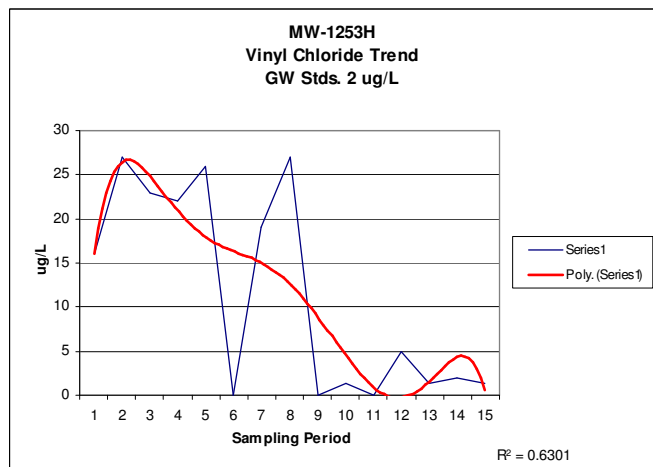
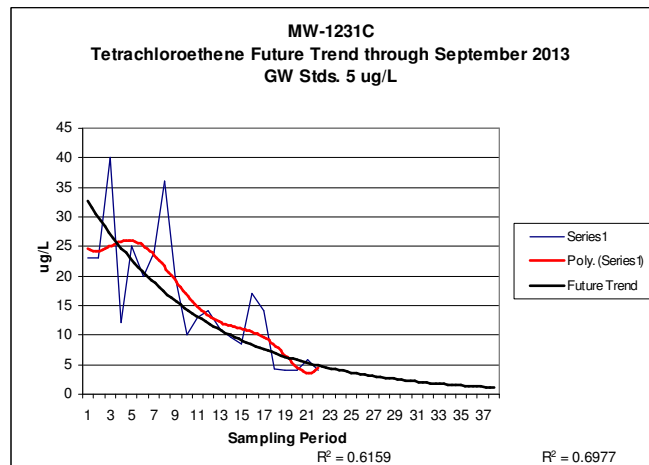
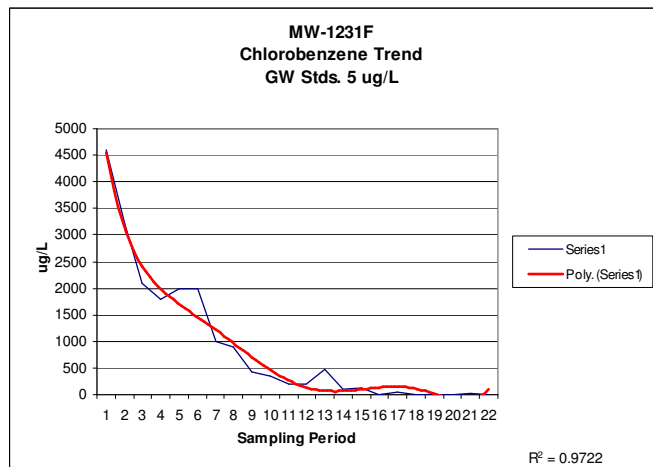
Verona Research Facility OM&M Update
December 2009 Sampling

Verona Research Site Monitored Natural Attenuation Trend Analyses December 2009 Sampling



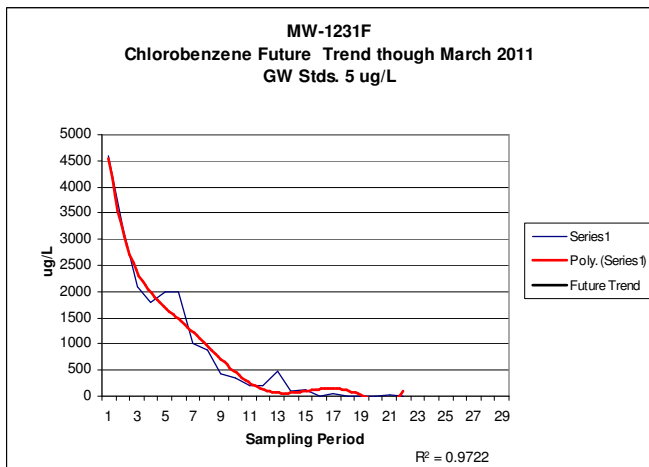
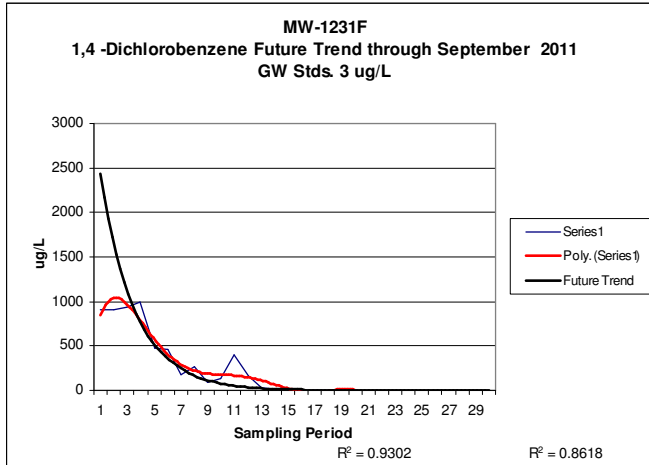
Verona Research Site Monitored Natural Attenuation Trend Analyses December 2009 Sampling

Select Future Trends

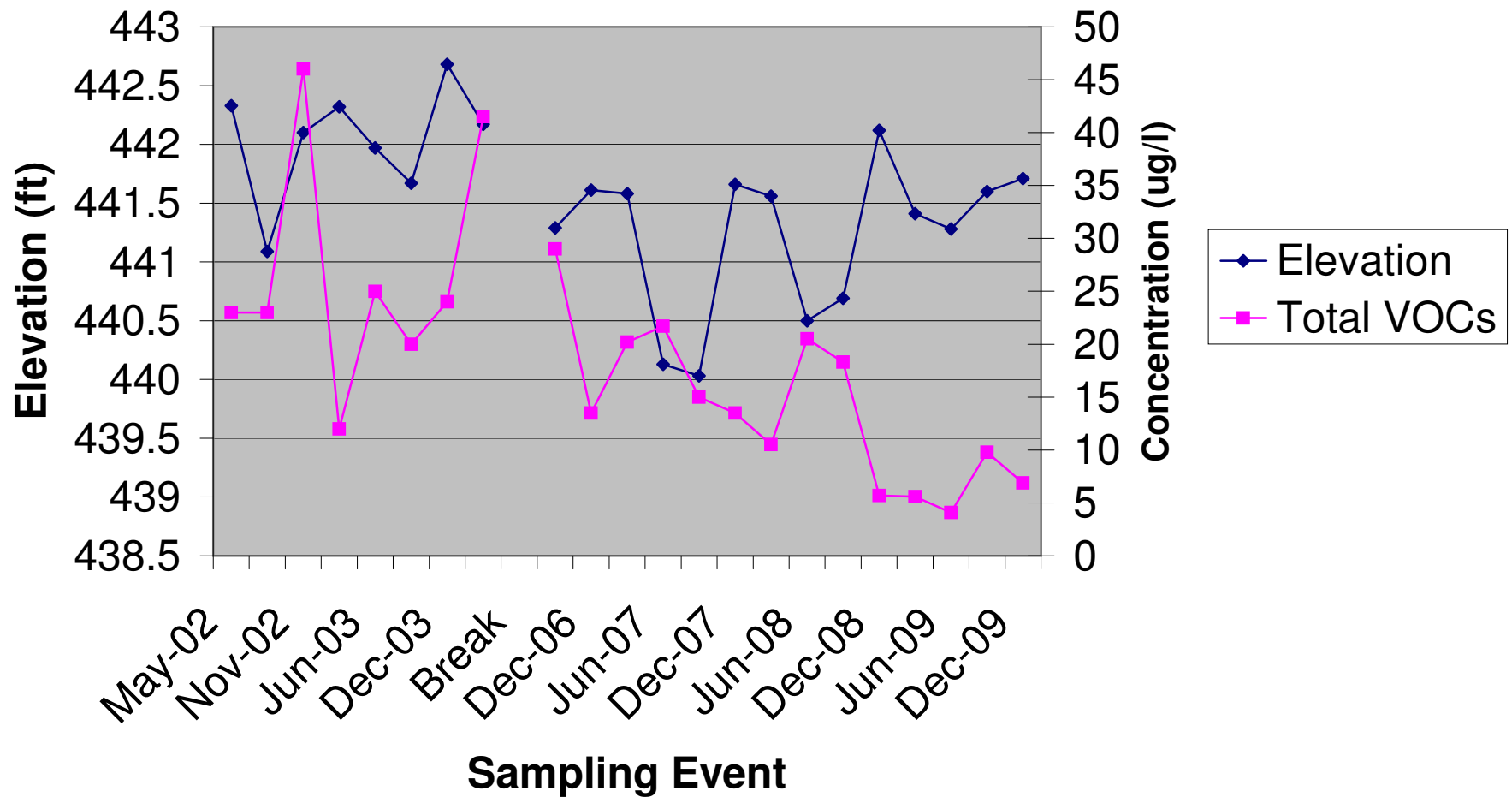


Verona Research Site Monitored Natural Attenuation Trend Analyses December 2009 Sampling

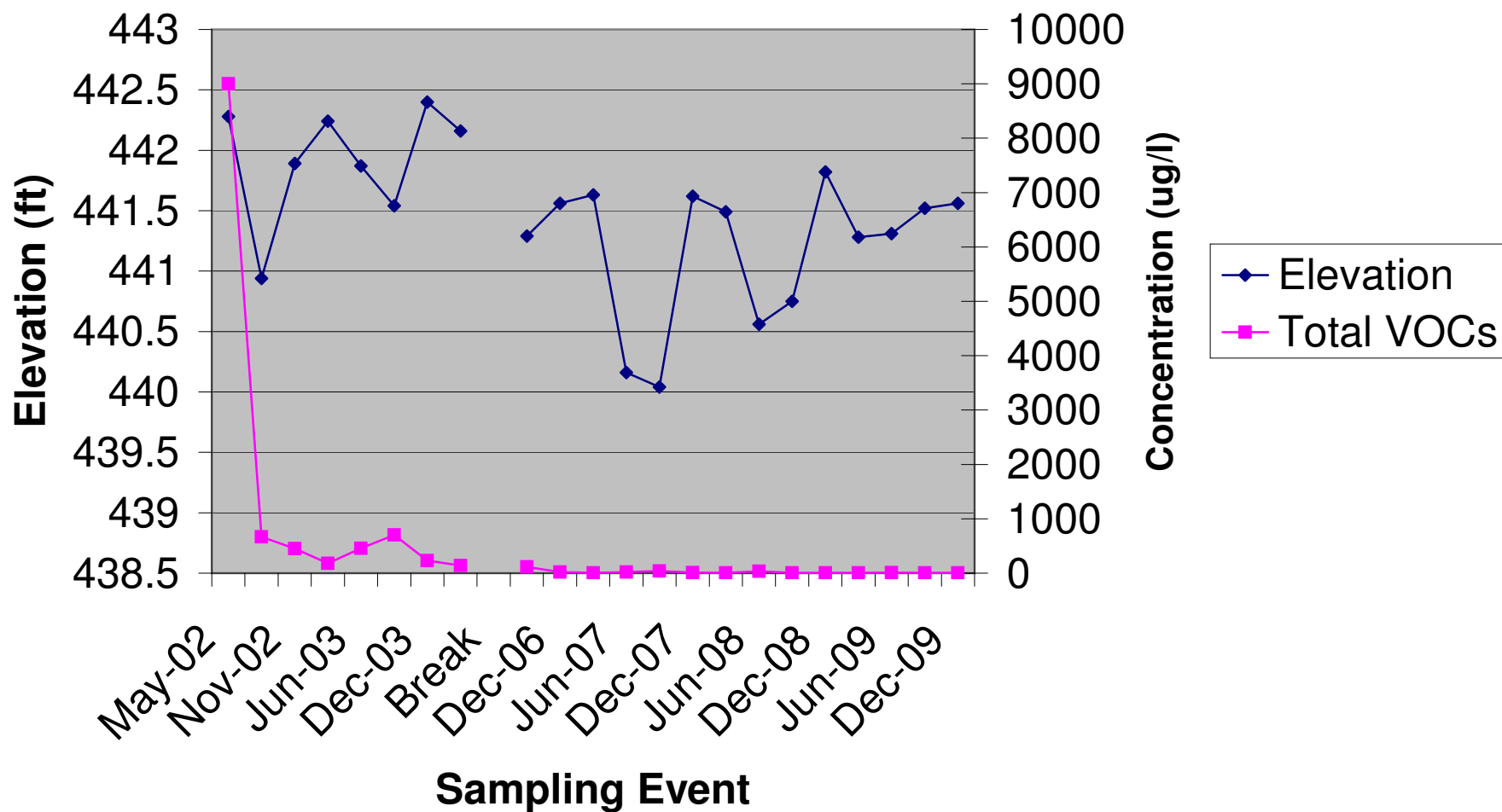
Select Future Trends cont.



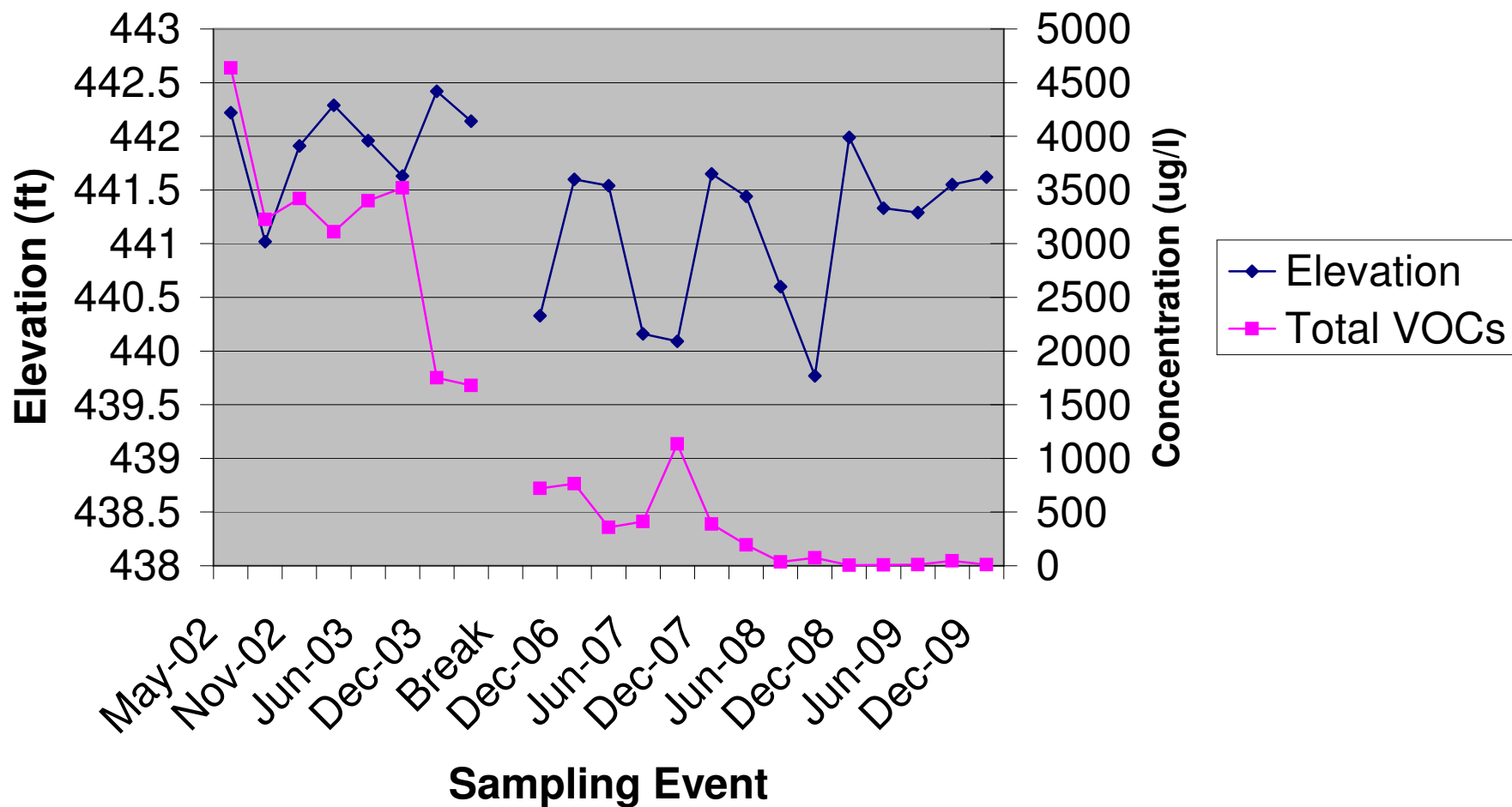
Groundwater Elevations and VOC Concentrations at MW 1231C



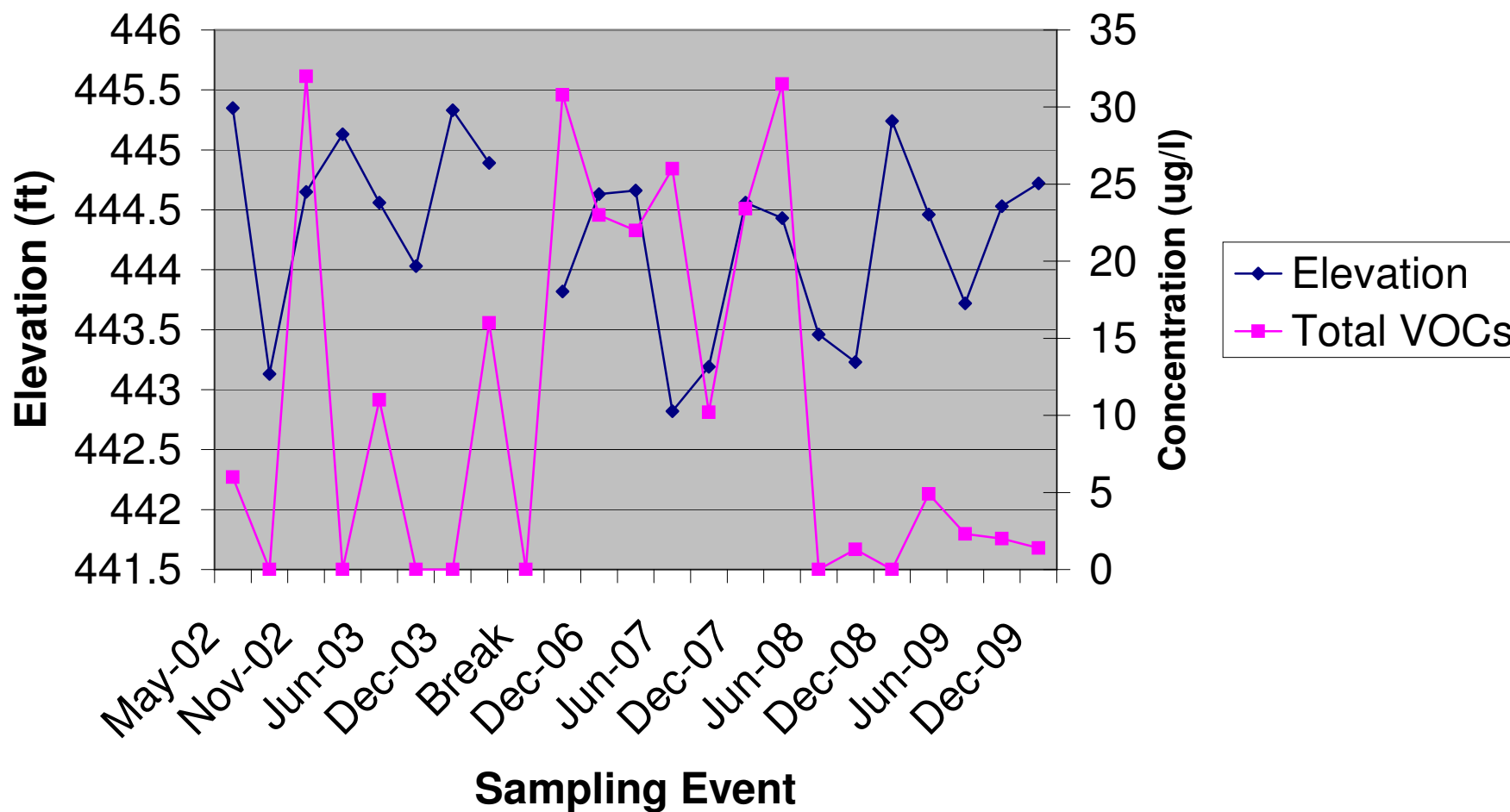
Groundwater Elevations and VOC Concentrations at MW 1231E



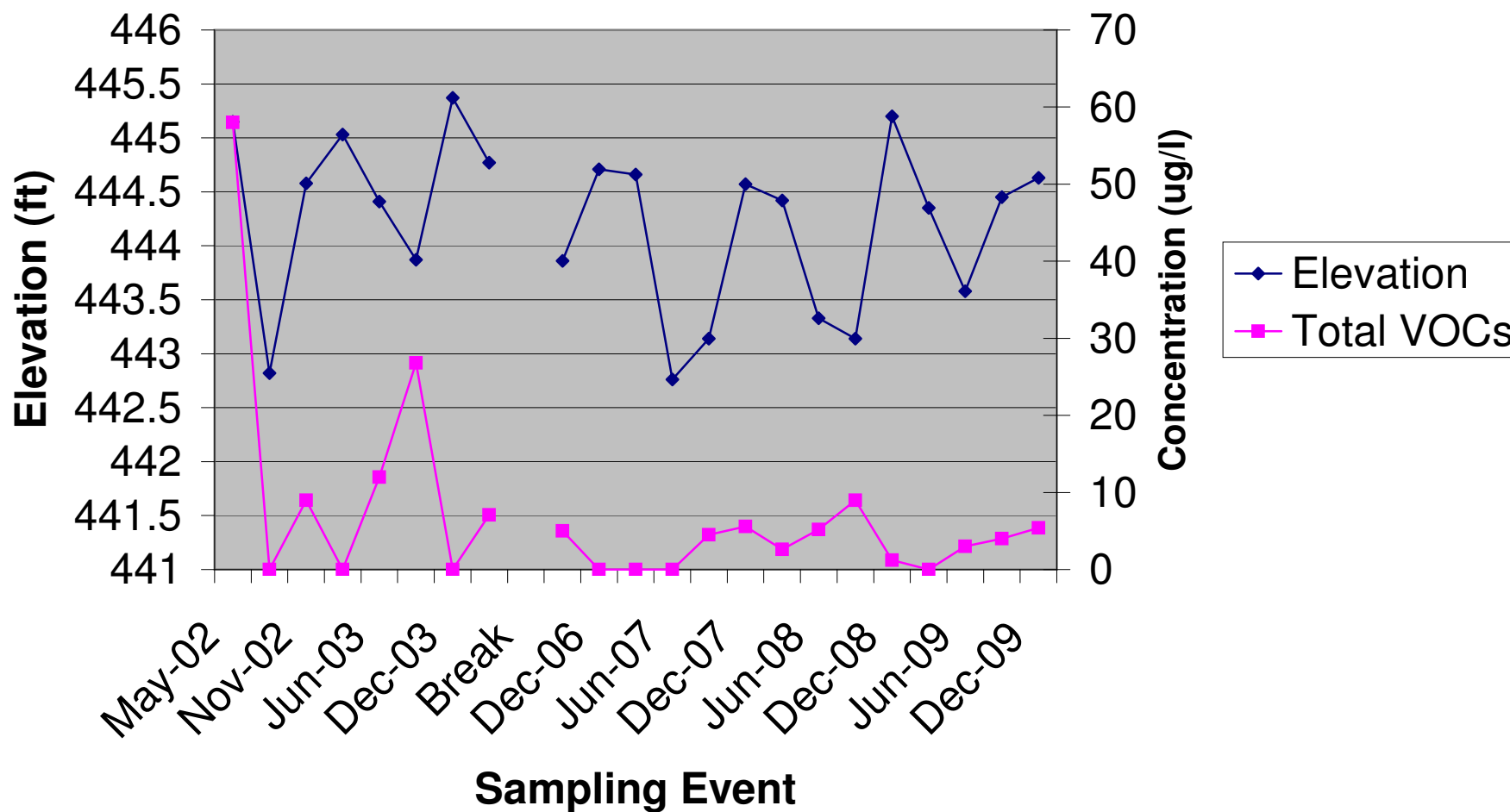
Groundwater Elevations and VOC Concentrations at MW 1231F



Groundwater Elevations and VOC Concentrations at MW 1253H



Groundwater Elevations and VOC Concentrations at MW 1253I



ATTACHMENT 9

Laboratory Analytical Report

Verona Research Facility OM&M Update
December 2009 Sampling

Report Date:
21-Jan-10 13:12



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

Laboratory Report

Lu Engineers
2230 Penfield Rd
Penfield, NY 14526
Attn: Greg Andrus

Work Order: H2645
Project : Verona NY LTM Site
Project #:

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
H2645-01	MW1253E	Aqueous	29-Dec-09 14:43	30-Dec-09 10:35
H2645-02	MW1253F	Aqueous	29-Dec-09 15:02	30-Dec-09 10:35
H2645-03	MW1253EXD	Aqueous	29-Dec-09 14:43	30-Dec-09 10:35
H2645-04	SW-01	Aqueous	29-Dec-09 15:40	30-Dec-09 10:35
H2645-05	SW-02	Aqueous	29-Dec-09 15:50	30-Dec-09 10:35
H2645-06	SW-03	Aqueous	29-Dec-09 16:10	30-Dec-09 10:35
H2645-07	MW1231C	Aqueous	30-Dec-09 10:47	30-Dec-09 10:35
H2645-08	MW1231E	Aqueous	30-Dec-09 12:14	30-Dec-09 10:35
H2645-09	MW1231F	Aqueous	30-Dec-09 12:29	30-Dec-09 10:35
H2645-10	MW1231G	Aqueous	30-Dec-09 09:00	30-Dec-09 10:35
H2645-11	MW1231H	Aqueous	30-Dec-09 09:03	30-Dec-09 10:35
H2645-12	MW1231I	Aqueous	30-Dec-09 10:41	30-Dec-09 10:35
H2645-13	MW1253G	Aqueous	30-Dec-09 14:05	30-Dec-09 10:35
H2645-14	MW1253H	Aqueous	30-Dec-09 15:15	30-Dec-09 10:35
H2645-15	MW1253I	Aqueous	30-Dec-09 14:10	30-Dec-09 10:35
H2645-16	TRIP BLANK	Aqueous	30-Dec-09 00:00	30-Dec-09 10:35

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received.

All applicable NELAC or USEPA CLP requirements have been met.

Mitkem Laboratories is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York - ASP/CLP	11522
New York - NPW	11522
New York - SW	11522
North Carolina	581
Pennsylvania	LAI00301
Texas	T104704422-08-TX
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-05-030



Authorized by:

Yihai Ding

Yihai Ding
Laboratory Director

Technical Reviewer's Initials: *LD*

Mitkem Laboratories

New York State Department of Environmental Conservation Sample Identification and Analytical Requirements Summary

Project Name : Verona NY LTM Site

SDG : H2645

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW1253E	H2645-01	E624			E200.7	SEE DATA
MW1253E	H2645-01				E200.7	
MW1253F	H2645-02	E624			E200.7	SEE DATA
MW1253F	H2645-02				E200.7	
MW1253EXD	H2645-03	E624			E200.7	SEE DATA
MW1253EXD	H2645-03				E200.7	
SW-01	H2645-04	E624			E200.7	SEE DATA
SW-01	H2645-04				E200.7	
SW-02	H2645-05	E624			E200.7	SEE DATA
SW-02	H2645-05				E200.7	
SW-03	H2645-06	E624			E200.7	SEE DATA
SW-03	H2645-06				E200.7	
MW1231C	H2645-07	E624			E200.7	SEE DATA
MW1231C	H2645-07				E200.7	
MW1231E	H2645-08	E624			E200.7	SEE DATA
MW1231E	H2645-08				E200.7	
MW1231F	H2645-09	E624			E200.7	SEE DATA
MW1231F	H2645-09				E200.7	
MW1231G	H2645-10	E624			E200.7	SEE DATA
MW1231G	H2645-10				E200.7	
MW1231H	H2645-11	E624			E200.7	SEE DATA
MW1231H	H2645-11				E200.7	
MW1231I	H2645-12	E624			E200.7	SEE DATA
MW1231I	H2645-12				E200.7	
MW1253G	H2645-13	E624			E200.7	SEE DATA
MW1253G	H2645-13				E200.7	
MW1253H	H2645-14	E624			E200.7	SEE DATA
MW1253H	H2645-14				E200.7	
MW1253I	H2645-15	E624			E200.7	SEE DATA
MW1253I	H2645-15				E200.7	
TRIP BLANK	H2645-16	E624				

Mitkem Laboratories

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSVOA

Project Name : Verona NY LTM Site

SDG : H2645

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
E624					
H2645-01A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-02A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-03A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-04A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-05A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-06A	AQ	12/29/2009	12/30/2009	NA	1/6/2010
H2645-07A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-08A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-09A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-09AMS	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-09AMSD	AQ	12/30/2009	12/30/2009	NA	1/7/2010
H2645-10A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-11A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-12A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-13A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-14A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-15A	AQ	12/30/2009	12/30/2009	NA	1/6/2010
H2645-16A	AQ	12/30/2009	12/30/2009	NA	1/6/2010

Mitkem Laboratories

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary MSVOA

Project Name : Verona NY LTM Site

SDG : H2645

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
E624					
H2645-01A	AQ	E624	NA	LOW	1
H2645-02A	AQ	E624	NA	LOW	1
H2645-03A	AQ	E624	NA	LOW	1
H2645-04A	AQ	E624	NA	LOW	1
H2645-05A	AQ	E624	NA	LOW	1
H2645-06A	AQ	E624	NA	LOW	1
H2645-07A	AQ	E624	NA	LOW	1
H2645-08A	AQ	E624	NA	LOW	1
H2645-09A	AQ	E624	NA	LOW	1
H2645-09AMS	AQ	E624	NA	LOW	1
H2645-09AMSD	AQ	E624	NA	LOW	1
H2645-10A	AQ	E624	NA	LOW	1
H2645-11A	AQ	E624	NA	LOW	1
H2645-12A	AQ	E624	NA	LOW	1
H2645-13A	AQ	E624	NA	LOW	1
H2645-14A	AQ	E624	NA	LOW	1
H2645-15A	AQ	E624	NA	LOW	1
H2645-16A	AQ	E624	NA	LOW	1

Mitkem Laboratories

New York State Department of Environmental Conservation Sample Preparation and Analysis Summary ME

Project Name : Verona NY LTM Site

SDG : H2645

Laboratory Sample ID	Matrix	Metals Requested	Date Received By Lab	Date Analyzed
E200.7				
H2645-01C	AQ	E200.7	12/30/2009	1/5/2010
H2645-01D	AQ	E200.7	12/30/2009	1/5/2010
H2645-02C	AQ	E200.7	12/30/2009	1/5/2010
H2645-02D	AQ	E200.7	12/30/2009	1/5/2010
H2645-03C	AQ	E200.7	12/30/2009	1/5/2010
H2645-03D	AQ	E200.7	12/30/2009	1/5/2010
H2645-04C	AQ	E200.7	12/30/2009	1/5/2010
H2645-04D	AQ	E200.7	12/30/2009	1/5/2010
H2645-05C	AQ	E200.7	12/30/2009	1/5/2010
H2645-05D	AQ	E200.7	12/30/2009	1/5/2010
H2645-06C	AQ	E200.7	12/30/2009	1/5/2010
H2645-06D	AQ	E200.7	12/30/2009	1/5/2010
H2645-07C	AQ	E200.7	12/30/2009	1/5/2010
H2645-07D	AQ	E200.7	12/30/2009	1/5/2010
H2645-08C	AQ	E200.7	12/30/2009	1/5/2010
H2645-08D	AQ	E200.7	12/30/2009	1/5/2010
H2645-09C	AQ	E200.7	12/30/2009	1/5/2010
H2645-09CDUP	AQ	E200.7	12/30/2009	1/5/2010
H2645-09CMS	AQ	E200.7	12/30/2009	1/5/2010
H2645-09D	AQ	E200.7	12/30/2009	1/5/2010
H2645-09DDUP	AQ	E200.7	12/30/2009	1/5/2010
H2645-09DMS	AQ	E200.7	12/30/2009	1/5/2010
H2645-10C	AQ	E200.7	12/30/2009	1/5/2010
H2645-10D	AQ	E200.7	12/30/2009	1/5/2010
H2645-11C	AQ	E200.7	12/30/2009	1/5/2010
H2645-11D	AQ	E200.7	12/30/2009	1/5/2010
H2645-12C	AQ	E200.7	12/30/2009	1/5/2010
H2645-12D	AQ	E200.7	12/30/2009	1/5/2010
H2645-13C	AQ	E200.7	12/30/2009	1/5/2010
H2645-13D	AQ	E200.7	12/30/2009	1/5/2010
H2645-14C	AQ	E200.7	12/30/2009	1/5/2010
H2645-14D	AQ	E200.7	12/30/2009	1/5/2010
H2645-15C	AQ	E200.7	12/30/2009	1/5/2010
H2645-15D	AQ	E200.7	12/30/2009	1/5/2010

Analytical Data Package for Lu Engineering and Land Surveying, P.C.

Client Project No.: Verona NY LTM Site

Mitkem Work Order ID: H2645

January 21, 2010

Prepared For: Lu Engineering and Land Surveying, P.C.
2230 Penfield Road
Penfield, NY 14526-1922
Attn: Mr. Greg Andrus

Prepared By: Mitkem Laboratories
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

SDG Narrative

Mitkem Laboratories submits the enclosed data package in response to Lu Engineering and Land Surveying, P.C.'s Verona NY LTM project. Under this deliverable, analysis results are presented for sixteen aqueous samples that were received on December 30, 2009. Analyses were performed per discussion with client and the chain of custody forms. Following the narrative is the Mitkem Work Order for cross-referencing full client sample ID and laboratory sample ID.

The analyses were performed and reported per NYSDEC ASP (2000 update) requirement for Category A deliverable with the exception of ethane, ethene, nitrate, sulfate, chloride, total dissolved solids, pH, alkalinity and free carbon dioxide calculation. The analysis results for methane, ethane, ethene, nitrate, sulfate, chloride, total dissolved solids, pH, alkalinity and free carbon dioxide calculation are presented in the standard Mitkem format.

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

1. Volatile Analysis:

Surrogate recovery: recoveries were within the QC limits.

Lab control sample/lab control sample duplicate: spike recoveries were within the QC limits with the exception of high recovery of acetone in LCS-48416 and LCS-48443. Replicate RPDs were within the QC limits.

Matrix spike/ matrix spike duplicate analysis: duplicate matrix spike analysis was performed on sample MW1231F. Spike recoveries were within the QC limits with the exception of high recovery of acrolein in both the matrix spike and matrix spike duplicate. Replicate RPDs were within the QC limits with the exception of 2-chloroethyl vinyl ether. Please note that 2-chloroethyl vinyl ether was not recovered in the matrix spike. 2-Chloroethyl vinyl ether is not stable in an acidic environment.

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

2. Dissolved Gasses Analysis (RSK-175):

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

Matrix spike analysis: duplicate matrix spike analysis was performed on sample MW1231F. Spike recoveries and replicate RPDs were within the QC limits.

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

3. Total Metals Analysis:

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

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

Matrix spike: matrix spike was performed on sample MW1231F. Spike recoveries were within the QC limits.

Duplicate: duplicate analysis was performed on sample MW1231F. Replicate RPDs were within the QC limits.

Sample analysis: serial dilution was performed on sample MW1231F. Percent differences were within the QC limits. No unusual observations were made during sample analysis.

4. Dissolved Metals Analysis:

Dissolved metals reporting forms can be differentiated from the total metals reporting forms by "SDG No.: SH2645DISS" on all the associated forms for the dissolved metals analysis.

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

Matrix spike: matrix spike was performed on sample MW1231F. Spike recoveries were within the QC limits.

Duplicate: duplicate analysis was performed on sample MW1231F. Replicate RPDs were within the QC limits.

Sample analysis: serial dilution was performed on sample MW1231F. Percent differences were within the QC limits. No unusual observations were made during sample analysis.

5. Wet Chemistry Analyses:

Lab control sample: spike recoveries were within the QC limits for alkalinity and total dissolved solids.

Matrix spike analysis: duplicate matrix spikes were performed on sample MW-1231F for alkalinity. Spike recovery was within the QC limits.

Duplicate: duplicate analysis was performed on sample MW1231F for alkalinity and samples SW-03 and MW1231F for total dissolved solids. Replicate RPD was within the QC limits for all analyses.

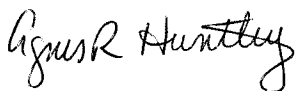
Sample analysis: no unusual observations were made during sample analysis.

6. Subbed Analyses:

The analyses for nitrate and sulfate by E300 and pH were performed by Spectrum Analytical, Inc. of Awagam, MA. The Spectrum Analytical, Inc. report is included following the wet chemistry results performed by Mitkem Laboratories.

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

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



Agnes Huntley
CLP Project Manager
01/21/10

WorkOrder: H2645**01/21/2010 12:49****Mitkem Laboratories**

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due: Special Program:

Fax Report: ☐ EDD: CLF

Report Level: ASP-A

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-01A	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,					Y VOA
H2645-01B	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	RSK175	/ Ethene and ethane					Y VOA
H2645-01C	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-01D	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-01E	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-01E	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-01E	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-01E	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-01E	MW1253E	12/29/2009 14:43	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-02A	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-02B	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-02C	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-02D	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-02E	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-02E	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-02E	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-02E	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-02E	MW1253F	12/29/2009 15:02	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-03A	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-03B	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitkem Laboratories

Client ID: LU

Case:

HC Due: 01/20/10

Report Level: ASP-A

Project: Verona NY LTM Site

SDG:

Fax Due:

Special Program:

WO Name: Verona NY LTM Site

Fax Report: ☐

EDD: CLF

Location: VERONA,

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-03C	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-03D	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-03E	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-03E	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-03E	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-03E	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-03E	MW1253EXD	12/29/2009 14:43	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-04A	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-04B	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-04C	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-04D	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-04E	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-04E	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-04E	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-04E	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-04E	SW-01	12/29/2009 15:40	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-05A	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-05B	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-05C	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-05D	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitek Laboratories

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due:

Fax Report: ☐

Report Level: ASP-A

Special Program:

EDD: CLF

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-05E	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-05E	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-05E	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-05E	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-05E	SW-02	12/29/2009 15:50	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-06A	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-06B	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-06C	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-06D	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-06E	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-06E	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-06E	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-06E	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-06E	SW-03	12/29/2009 16:10	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-07A	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-07B	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-07C	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-07D	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-07E	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-07E	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-07E	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	SM2540_TDS	/					D2

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitkem Laboratories

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due: Special Program:

Fax Report: ☐ EDD: CLF

Report Level: ASP-A

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-07E	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-07E	MW1231C	12/30/2009 10:47	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-08A	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-08B	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-08C	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-08D	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-08E	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-08E	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-08E	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-08E	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-08E	MW1231E	12/30/2009 12:14	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-09A	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-09B	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-09C	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-09D	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-09E	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-09E	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH				Y	D2
H2645-09E	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	SM2540_TDS	/				Y	D2
H2645-09E	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH				Y	D2
H2645-09E	MW1231F	12/30/2009 12:29	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM				Y	D2

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitkem Laboratories

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due:

Fax Report: ☐

Report Level: ASP-A

Special Program:

EDD: CLF

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-10A	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-10B	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-10C	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-10D	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-10E	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-10E	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-10E	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-10E	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-10E	MW1231G	12/30/2009 09:00	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-11A	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-11B	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-11C	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-11D	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-11E	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-11E	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-11E	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-11E	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-11E	MW1231H	12/30/2009 09:03	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-12A	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-12B	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitkem Laboratories

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due:

Fax Report: ☐

Report Level: ASP-A

Special Program:

EDD: CLF

PO: 13147-01

Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-12C	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-12D	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-12E	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-12E	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-12E	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-12E	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-12E	MW1231I	12/30/2009 10:41	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-13A	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-13B	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-13C	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-13D	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-13E	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-13E	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-13E	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-13E	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-13E	MW1253G	12/30/2009 14:05	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-14A	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-14B	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-14C	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-14D	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

WorkOrder: H2645

01/21/2010 12:49

Mitkem Laboratories

Client ID: LU

Project: Verona NY LTM Site

WO Name: Verona NY LTM Site

Location: VERONA,

Case:

SDG:

HC Due: 01/20/10

Fax Due: Special Program:

Fax Report: ☐ EDD: CLF

PO: 13147-01

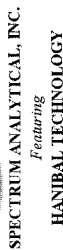
Comments: charging return shipping cost in invoice, provide return airbill with account #.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
H2645-14E	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-14E	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-14E	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-14E	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-14E	MW1253H	12/30/2009 15:15	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-15A	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA
H2645-15B	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	RSK175	/ Ethene and ethane				Y	VOA
H2645-15C	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	E200.7	TOTAL / Fe & Mn only				Y	M3
H2645-15D	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	E200.7	DISSOLVED / Fe & Mn only				Y	M3
H2645-15E	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	E300IC_W	/ SPECTRUM				Y	D2
H2645-15E	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	SM2320_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-15E	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	SM2540_TDS	/					D2
H2645-15E	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	SM4500_CALC_CO2_W	/ SM4500_CO2_W -- ALK, Free CO2, PH					D2
H2645-15E	MW1253I	12/30/2009 14:10	12/30/2009	Aqueous	SM4500_H+	/ SPECTRUM					D2
H2645-16A	TRIP BLANK	12/30/2009 00:00	12/30/2009	Aqueous	E624	/ 1ppb ICAL, Heather has special list,				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

Sample Transmittal Documentation

Page 1 of 1

Special Handling:

- ☒ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Lv Engineers
2230 Pentfield Rd
Pentfield NY 14526

Project Mgr.: _____
Telephone #: 585 377 1450

Invoice To: _____

SAME

P.O. No.: _____ RQN: _____

Project No.: 13147-03
Site Name: Verona MNA
Location: Verona NY State: _____
Sampler(s): BB, JB

1=Na ₂ S ₂ O ₃	2=HCl	3=H ₂ SO ₄	4=HNO ₃	5=NaOH	6=Ascorbic Acid	7=CH ₃ OH
8=NaHSO ₄	9=	10=	11=			

List preservative code below:				

QA/QC Reporting Notes:
(check as needed)

DW=Drinking Water GW=Groundwater WW=Wastewater
 OO=Oil SW= Surface Water SL=Sludge A=Air
 X1= X2= X3=

Containers:

Analyses:

☐ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report

QA/QC Reporting Level
☐ Standard ☐ No QC
☐ Other _____

State specific reporting standards:

100C (HCL)	
Metals (Percent)	
Metals (Non pers)	
	0.2 PH
	DS 1/16
	0.50%

of VOA Vials	of Amber Glass	of Clear Glass	of Plastic	

MatrixType

aler		
;Air		

ge A=

WW -	
L=Slud	
X3=	
e	

water	Soil S
	composites

Ground	SO=SE	
	C=C	

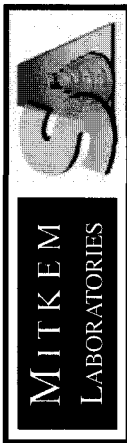
GW=	Water	X2=	Grab

Surface	G

SW=	5

DW=L
O=Oil
X1=

Lab Id:	Sample Id:	Date:	Time:	L	N	#	#	#	#	#	#	Received by:	Date:	Time:
01	MW1253E	12/29/09	14:43	G	GW	4	2	X	X	X	X	 12/29/09 5:20 12/30/09 14:20	12/29/09	5:20
02	MW1253F	15:02	15:02	G	GW	1	1	1	1	1				
03	MW1253EXD		14:43	G	GW									
04	SW-01		15:40	G	SW									
05	SW-02		15:50	G	SW									
06	SW-03		16:10	G	SW									
EDD Format _____ ☐ E-mail to _____ Condition upon receipt: ☒ Ice ☐ Ambient ☐ °C _____														



A DIVISION OF SPECTRUM ANALYTICAL, INC. FEATURING HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling: STD

TAT- Indicate Date Needed: STD
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Lv Engineers
2230 Penfield Rd
Penfield NY 14526

Invoice To: SAME

Project No.: 13147-03
Site Name: Verona MNA
Location: Verona State: NY
Sampler(s): BB, JB

Project Mgr.: Greg Andras/Bryan Bancroft

P.O. No.: RQN:

1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid 7=CH₃OH
8=NaHSO₄ 9= 10= 11=

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

List preservative code below:

Notes:

QA/QC Reporting Level

☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State specific reporting standards:

Analyses:

Containers:	Matrix	Type	Time
☐ VOC	☒ GW	☒ G	<u>10:47</u>
☒ Ethane/Ethane	☒ GW	☒ G	<u>12:14</u>
☒ Metals (Pres)	☒ GW	☒ G	<u>12:29</u>
☒ Metals (Vapors)	☒ GW	☒ G	<u>12:35</u>
☒ TOC/CO ₂	☒ GW	☒ G	<u>12:40</u>
☒ pH/Alk	☒ GW	☒ G	<u>9:00</u>
☒ VOA/50%	☒ GW	☒ G	<u>9:03</u>
☒ VOC	☒ GW	☒ G	<u>10:41</u>
☒ VOC	☒ GW	☒ G	<u>14:05</u>
☒ VOC	☒ GW	☒ G	<u>15:15</u>

Relinquished by:

Received by:

Date: 12/30/09 Time: 3:45

☐ E-mail to
EDD Format

Condition upon receipt: ☒ Iced ☐ Ambient 5 °C



A DIVISION OF SPECTRUM ANALYTICAL, INC. FEATURING HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling: STD
TAT- Indicate Date Needed: STD
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Lu Engineers
2230 Penfield Rd
Penfield NY 14526

Invoice To: SAME

Project No.: 13147-03
Site Name: Verona MNA
Location: Verona State: NY
Sampler(s): BB, JB

Project Mgr.: Greg Andrus / Bryan Bonafide

P.O. No.: _____ RQN: _____

1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid 7=CH₃OH
8= NaHSO₄ 9= _____ 10= _____ 11= _____

List preservative code below:

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

Containers:

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Analyses:

Metals (Pres) Metals (Upres) Metals (Pres) Metals (Upres)
Ethanol/Ethyl VOC

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

Matrix

Type

Date:

Time:

Sample Id:

Lab Id: 15 MW 1253 I 12/30/09 14:10
16 TRIP BLANK 12/30/09

G=Grab C=Composite

☐ E-mail to _____

EDD Format _____

Relinquished by:

Received by:

Date:

Time:

Bj-B57

[Signature]

12/30/09 3:45

12/31/09 12:10

Condition upon receipt: ☒ Iced ☐ Ambient 5 °C

MITKEM LABORATORIES
Sample Condition Form

Page 1 of 1

Received By: <u>SN</u>		Reviewed By: <u>AED</u>		Date: <u>12/3/19</u>		MITKEM Workorder #: <u>H2645</u>			
Client Project: <u>Verona</u>				Client: <u>Lu</u>			Soil Headspace or Air Bubbles ≥ 1/4"		
		Lab Sample ID		Preservation (pH)					VOA Matrix
				HNO ₃	H ₂ SO ₄	HCl	NaOH	H ₃ PO ₄	
1) Cooler Sealed	<u>Yes</u> / No	<u>H2645</u>	<u>01</u>	<u>2</u>					<u>H</u>
2) Custody Seal(s)	<u>Present</u> / Absent	<u>↓</u>	<u>02</u>	<u>↓</u>					<u>↓</u>
	<u>Coolers</u> / Bottles	<u>↓</u>	<u>03</u>	<u>↓</u>					<u>↓</u>
	<u>Intact</u> / Broken	<u>↓</u>	<u>04</u>	<u>↓</u>					<u>↓</u>
		<u>H2645</u>	<u>05</u>	<u>2</u>					<u>H</u>
3) Custody Seal Number(s)	<u>NA</u>	<u>06</u>							
4) Chain-of-Custody	<u>Present</u> / Absent								
5) Cooler Temperature	<u>5°C</u>								
Coolant Condition	<u>ICE</u>								
6) Airbill(s)	<u>Present</u> / <u>Absent</u>								
Airbill Number(s)	<u>A3719341217</u>								
	<u>UPS</u>								
7) Sample Bottles	Intact/Broken/Leaking								
8) Date Received	<u>12/30/19</u>								
9) Time Received	<u>14:00</u>								
Preservative Name/Lot No:									

VOA Matrix Key:

US = Unpreserved Soil	A = Air
UA = Unpreserved Aqu.	H = HCl
M = MeOH	E = Encore
N = NaHSO ₄	F = Freeze

See Sample Condition Notification/Corrective Action Form yes / no

Rad OK yes/ no

MITKEM LABORATORIES
Sample Condition Form

Page 1 of 1

Received By: <u>SN</u>		Reviewed By: <u>AED</u>		Date: <u>12/31/09</u>		MITKEM Workorder #: <u>H2645</u>	
Client Project: <u>Verona</u>				Client: <u>Lu</u>			Soil Headspace or Air Bubbles ≥ 1/4"
		Lab Sample ID		Preservation (pH)			
				HNO ₃	H ₂ SO ₄	HCl	NaOH
				H ₃ PO ₄	VOA Matrix		
1) Cooler Sealed	Yes <u>(No)</u>	<u>H2645</u>	<u>01</u>				
		<u>02</u>					
2) Custody Seal(s)	Present / <u>Absent</u>	<u>03</u>					
	Coolers / Bottles	<u>04</u>					
	Intact / Broken	<u>05</u>					
		<u>H2645</u>	<u>06</u>				
3) Custody Seal Number(s)	<u>NA</u>						
	<u>/</u>						
4) Chain-of-Custody	<u>Present</u> / <u>Absent</u> ^{SN 12/31/09}						
5) Cooler Temperature	<u>4 °C</u>						
Coolant Condition	<u>ICE</u>						
6) Airbill(s)	Present / <u>Absent</u>						
Airbill Number(s)	<u>COMM EX</u>						
	<u>/</u>						
7) Sample Bottles	Intact/Broken/Leaking						
8) Date Received	<u>12/31/09</u>						
9) Time Received	<u>13:00</u>						
Preservative Name/Lot No:							

VOA Matrix Key:

US = Unpreserved Soil	A = Air
UA = Unpreserved Aqu.	H = HCl
M = MeOH	E = Encore
N = NaHSO ₄	F = Freeze

See Sample Condition Notification/Corrective Action Form yes (no)

Rad OK yes/ no

* unpreserved sample transferred from Asaham MA.

MITKEM LABORATORIES
Sample Condition Form

Page 1 of 1

Received By: <u>SN</u>		Reviewed By: <u>AGD</u>		Date: <u>12/1/09</u>		MITKEM Workorder #: <u>H2645</u>		
Client Project: <u>Verona</u>				Client: <u>Lu</u>			Soil Headspace or Air Bubbles ≥ 1/4"	
				Preservation (pH)				
		Lab Sample ID	HNO ₃	H ₂ SO ₄	HCl	NaOH	H ₃ PO ₄	VOA Matrix
1) Cooler Sealed	<u>Yes</u> / No	<u>H2645</u> <u>07</u>	<u><2</u>					<u>H</u>
2) Custody Seal(s)	Present / <u>Absent</u> Coolers / Bottles Intact / Broken	<u>08</u>						
		<u>09</u>						
		<u>10</u>						
		<u>11</u>						
		<u>12</u>						
3) Custody Seal Number(s)	<u>NA</u>	<u>13</u>						
		<u>14</u>						
		<u>15</u>	<u><2</u>					
		<u>H2645</u> <u>16</u>						<u>H</u>
4) Chain-of-Custody	<u>Present</u> / Absent							
5) Cooler Temperature	<u>5°C</u>							
Coolant Condition	<u>IC</u>							
6) Airbill(s)	<u>Present</u> / Absent							
Airbill Number(s)	<u>A371934208</u>							
	<u>UPS</u>							
	<u>/</u>							
7) Sample Bottles	Intact/Broken/Leaking							
8) Date Received	<u>12/1/09</u>							
9) Time Received	<u>12:10</u>							
Preservative Name/Lot No:								

VOA Matrix Key:

US = Unpreserved Soil	A = Air
UA = Unpreserved Aqu.	H = HCl
M = MeOH	E = Encore
N = NaHSO ₄	F = Freeze

See Sample Condition Notification/Corrective Action Form yes no

Rad OK yes/ no

MITKEM LABORATORIES

Sample Condition Form

Page 1 of 1

Received By: <u>SN</u>		Reviewed By: <u>AEV</u>		Date: <u>1/4/2010</u>		MITKEM Workorder #: <u>H2645</u>	
Client Project: <u>Verona</u>				Client: <u>Lu</u>			Soil Headspace or Air Bubbles ≥ 1/4"
		Lab Sample ID		Preservation (pH)			
				HNO ₃	H ₂ SO ₄	HCl	NaOH
				H ₃ PO ₄	VOA Matrix		
1) Cooler Sealed	Yes / <u>No</u>	<u>H2645</u>	<u>07</u>				
		<u>08</u>					
2) Custody Seal(s)	Present / <u>Absent</u>	<u>09</u>					
	Coolers / Bottles	<u>10</u>					
	Intact / Broken	<u>11</u>					
		<u>12</u>					
3) Custody Seal Number(s)	<u>NA</u>	<u>13</u>					
	<u>/</u>	<u>14</u>					
	<u>/</u>	<u>H2645</u>	<u>15</u>				
4) Chain-of-Custody	<u>Present</u> / Absent						
5) Cooler Temperature	<u>4 °C</u>						
Coolant Condition	<u>Ice</u>						
6) Airbill(s)	Present / <u>Absent</u>						
Airbill Number(s)	<u>convey</u>						
	<u>/</u>						
7) Sample Bottles	Intact/Broken/Leaking						
8) Date Received	<u>1/4/2010</u>						
9) Time Received	<u>10:00</u>						
Preservative Name/Lot No:							

VOA Matrix Key:

US = Unpreserved Soil	A = Air
UA = Unpreserved Aqu.	H = HCl
M = MeOH	E = Encore
N = NaHSO ₄	F = Freeze

See Sample Condition Notification/Corrective Action Form yes / no

Rad OK yes/ no

* these samples were transferred from Spectrum Analytical Inc.



* Volatiles *

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

CLIENT SAMPLE NO.

MW1253E

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-01A

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

Lab File ID: V1L0128.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1253E

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-01A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0128.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µG/L	
95-50-1	1,2-Dichlorobenzene		3.0	U
110-75-8	2-Chloroethyl vinyl ether		1.0	U
107-02-8	Acrolein		5.0	U
107-13-1	Acrylonitrile		5.0	U

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

CLIENT SAMPLE NO.

MW1253F

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-02A

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

Lab File ID: V1L0129.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		5.0	U
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

MW1253F

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-02A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0129.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1253EXD

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-03A

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

Lab File ID: V1L0130.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1253EXD

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-03A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0130.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

SW-01

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-04A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0131.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		0.72	J
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

SW-01

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-04A

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

Lab File ID: VIL0131.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

SW-02

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-05A

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

Lab File ID: VIL0132.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
			Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

SW-02

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-05A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0132.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

SW-03

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0133.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µG/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		0.93	J
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

SW-03

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-06A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0133.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231C

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-07A

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

Lab File ID: V1L0134.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.1	J
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.8	J
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	4.0	J
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1231C

Lab Name: MITKEM LABORATORIES Contract: _____
 Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-07A
 Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0134.D
 Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
 % Moisture: not dec. Date Analyzed: 01/06/2010
 GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
 Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231E

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-08A

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

Lab File ID: V1L0135.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	0.67	J
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	2.9	J
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1231E

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-08A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0135.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231F

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-09A

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

Lab File ID: V1L0136.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µG/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		5.0	U
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		0.73	J
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		2.3	J
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		3.9	J
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		0.76	J
106-46-7	1,4-Dichlorobenzene		1.3	J

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

CLIENT SAMPLE NO.

MW1231F

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-09A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0136.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231FMS

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-09AMS

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

Lab File ID: VIL0143.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µg/L	
75-71-8	Dichlorodifluoromethane		33	
74-87-3	Chloromethane		42	
75-01-4	Vinyl chloride		41	
74-83-9	Bromomethane		42	
75-00-3	Chloroethane		45	
75-69-4	Trichlorofluoromethane		54	
75-35-4	1,1-Dichloroethene		49	
67-64-1	Acetone		47	J
75-09-2	Methylene chloride		45	
156-60-5	trans-1,2-Dichloroethene		50	
75-34-3	1,1-Dichloroethane		49	
156-59-2	cis-1,2-Dichloroethene		49	
67-66-3	Chloroform		51	
71-55-6	1,1,1-Trichloroethane		51	
56-23-5	Carbon tetrachloride		53	
107-06-2	1,2-Dichloroethane		50	
71-43-2	Benzene		49	
79-01-6	Trichloroethene		53	
78-87-5	1,2-Dichloropropane		50	
75-27-4	Bromodichloromethane		54	
10061-01-5	cis-1,3-Dichloropropene		51	
108-88-3	Toluene		50	
10061-02-6	trans-1,3-Dichloropropene		54	
79-00-5	1,1,2-Trichloroethane		52	
127-18-4	Tetrachloroethene		47	
124-48-1	Dibromochloromethane		51	
108-90-7	Chlorobenzene		49	
100-41-4	Ethylbenzene		47	
1330-20-7	m,p-Xylene		92	
95-47-6	o-Xylene		47	
1330-20-7	Xylene (Total)		140	
75-25-2	Bromoform		53	
79-34-5	1,1,2,2-Tetrachloroethane		40	
541-73-1	1,3-Dichlorobenzene		44	
106-46-7	1,4-Dichlorobenzene		42	

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

CLIENT SAMPLE NO.

MW1231FMS

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-09AMS
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0143.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
95-50-1	1,2-Dichlorobenzene		43
110-75-8	2-Chloroethyl vinyl ether		1.0
107-02-8	Acrolein		420
107-13-1	Acrylonitrile		49

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

CLIENT SAMPLE NO.

MW1231FMSD

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-09AMSD

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

Lab File ID: V1L0159.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/07/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µg/L	
75-71-8	Dichlorodifluoromethane		32	
74-87-3	Chloromethane		40	
75-01-4	Vinyl chloride		41	
74-83-9	Bromomethane		42	
75-00-3	Chloroethane		43	
75-69-4	Trichlorofluoromethane		54	
75-35-4	1,1-Dichloroethene		46	
67-64-1	Acetone		49	J
75-09-2	Methylene chloride		44	
156-60-5	trans-1,2-Dichloroethene		48	
75-34-3	1,1-Dichloroethane		47	
156-59-2	cis-1,2-Dichloroethene		50	
67-66-3	Chloroform		50	
71-55-6	1,1,1-Trichloroethane		50	
56-23-5	Carbon tetrachloride		52	
107-06-2	1,2-Dichloroethane		51	
71-43-2	Benzene		48	
79-01-6	Trichloroethene		52	
78-87-5	1,2-Dichloropropane		51	
75-27-4	Bromodichloromethane		52	
10061-01-5	cis-1,3-Dichloropropene		52	
108-88-3	Toluene		49	
10061-02-6	trans-1,3-Dichloropropene		54	
79-00-5	1,1,2-Trichloroethane		54	
127-18-4	Tetrachloroethene		48	
124-48-1	Dibromochloromethane		52	
108-90-7	Chlorobenzene		50	
100-41-4	Ethylbenzene		47	
1330-20-7	m,p-Xylene		93	
95-47-6	o-Xylene		47	
1330-20-7	Xylene (Total)		140	
75-25-2	Bromoform		53	
79-34-5	1,1,2,2-Tetrachloroethane		44	
541-73-1	1,3-Dichlorobenzene		46	
106-46-7	1,4-Dichlorobenzene		45	

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

CLIENT SAMPLE NO.

MW1231FMSD

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-09AMSD
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0159.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/07/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene		44
110-75-8	2-Chloroethyl vinyl ether		0.87 J
107-02-8	Acrolein		440
107-13-1	Acrylonitrile		47

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

CLIENT SAMPLE NO.

MW1231G

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0137.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1231G

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-10A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0137.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231H

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-11A

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

Lab File ID: V1L0138.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µG/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U	
74-87-3	Chloromethane	5.0	U	
75-01-4	Vinyl chloride	1.5	J	
74-83-9	Bromomethane	5.0	U	
75-00-3	Chloroethane	5.0	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
67-64-1	Acetone	50	U	
75-09-2	Methylene chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	1.2	J	
67-66-3	Chloroform	7.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon tetrachloride	5.0	U	
107-06-2	1,2-Dichloroethane	1.0	U	
71-43-2	Benzene	1.0	U	
79-01-6	Trichloroethene	5.0	U	
78-87-5	1,2-Dichloropropane	1.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	
108-88-3	Toluene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	
79-00-5	1,1,2-Trichloroethane	1.0	U	
127-18-4	Tetrachloroethene	5.0	U	
124-48-1	Dibromochloromethane	50	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
1330-20-7	m,p-Xylene	5.0	U	
95-47-6	o-Xylene	5.0	U	
1330-20-7	Xylene (Total)	5.0	U	
75-25-2	Bromoform	50	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
541-73-1	1,3-Dichlorobenzene	3.0	U	
106-46-7	1,4-Dichlorobenzene	3.0	U	

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

CLIENT SAMPLE NO.

MW1231H

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-11A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0138.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1231I

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-12A

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

Lab File ID: V1L0139.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MW1231I

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-12A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0139.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1253G

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-13A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0140.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		0.70	J
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

MW1253G

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-13A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0140.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MW1253H

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-14A

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

Lab File ID: V1L0141.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		5.0	U
75-01-4	Vinyl chloride		1.4	J
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		5.0	U
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		5.0	U
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		5.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

MW1253H

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-14A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0141.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µG/L	
95-50-1	1,2-Dichlorobenzene		3.0	U
110-75-8	2-Chloroethyl vinyl ether		1.0	U
107-02-8	Acrolein		5.0	U
107-13-1	Acrylonitrile		5.0	U

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

CLIENT SAMPLE NO.

MW1253I

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-15A

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

Lab File ID: V1L0142.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		5.0	U
74-87-3	Chloromethane		0.71	J
75-01-4	Vinyl chloride		2.0	U
74-83-9	Bromomethane		5.0	U
75-00-3	Chloroethane		5.0	U
75-69-4	Trichlorofluoromethane		5.0	U
75-35-4	1,1-Dichloroethene		5.0	U
67-64-1	Acetone		50	U
75-09-2	Methylene chloride		5.0	U
156-60-5	trans-1,2-Dichloroethene		1.4	J
75-34-3	1,1-Dichloroethane		5.0	U
156-59-2	cis-1,2-Dichloroethene		1.6	J
67-66-3	Chloroform		7.0	U
71-55-6	1,1,1-Trichloroethane		5.0	U
56-23-5	Carbon tetrachloride		5.0	U
107-06-2	1,2-Dichloroethane		1.0	U
71-43-2	Benzene		1.0	U
79-01-6	Trichloroethene		1.7	J
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
127-18-4	Tetrachloroethene		5.0	U
124-48-1	Dibromochloromethane		50	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
1330-20-7	m,p-Xylene		5.0	U
95-47-6	o-Xylene		5.0	U
1330-20-7	Xylene (Total)		5.0	U
75-25-2	Bromoform		50	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		3.0	U
106-46-7	1,4-Dichlorobenzene		3.0	U

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

CLIENT SAMPLE NO.

MW1253I

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-15A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0142.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

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Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: H2645-16A

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

Lab File ID: V1L0127.D

Level: (TRACE/LOW/MED) LOW

Date Received: 12/30/2009

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	0.79	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: H2645-16A
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0127.D
Level: (TRACE/LOW/MED) LOW Date Received: 12/30/2009
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

LCS-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: LCS-48416

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

Lab File ID: VIL0123.D

Level: (TRACE/LOW/MED) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/06/2010

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µG/L	
75-71-8	Dichlorodifluoromethane		44	
74-87-3	Chloromethane		51	
75-01-4	Vinyl chloride		51	
74-83-9	Bromomethane		53	
75-00-3	Chloroethane		55	
75-69-4	Trichlorofluoromethane		67	
75-35-4	1,1-Dichloroethene		58	
67-64-1	Acetone		84	
75-09-2	Methylene chloride		54	
156-60-5	trans-1,2-Dichloroethene		61	
75-34-3	1,1-Dichloroethane		58	
156-59-2	cis-1,2-Dichloroethene		60	
67-66-3	Chloroform		60	
71-55-6	1,1,1-Trichloroethane		61	
56-23-5	Carbon tetrachloride		63	
107-06-2	1,2-Dichloroethane		59	
71-43-2	Benzene		58	
79-01-6	Trichloroethene		61	
78-87-5	1,2-Dichloropropane		60	
75-27-4	Bromodichloromethane		60	
10061-01-5	cis-1,3-Dichloropropene		61	
108-88-3	Toluene		60	
10061-02-6	trans-1,3-Dichloropropene		62	
79-00-5	1,1,2-Trichloroethane		59	
127-18-4	Tetrachloroethene		53	
124-48-1	Dibromochloromethane		59	
108-90-7	Chlorobenzene		54	
100-41-4	Ethylbenzene		59	
1330-20-7	m,p-Xylene		110	
95-47-6	o-Xylene		57	
1330-20-7	Xylene (Total)		170	
75-25-2	Bromoform		61	
79-34-5	1,1,2,2-Tetrachloroethane		46	
541-73-1	1,3-Dichlorobenzene		53	
106-46-7	1,4-Dichlorobenzene		51	

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

CLIENT SAMPLE NO.

LCS-48416

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-48416
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0123.D
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene		52
110-75-8	2-Chloroethyl vinyl ether		58
107-02-8	Acrolein		300
107-13-1	Acrylonitrile		61

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

CLIENT SAMPLE NO.

LCS-48443

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: LCS-48443

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

Lab File ID: VIL0153.D

Level: (TRACE/LOW/MED) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/07/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	µg/L	Q
75-71-8	Dichlorodifluoromethane		36	
74-87-3	Chloromethane		46	
75-01-4	Vinyl chloride		47	
74-83-9	Bromomethane		48	
75-00-3	Chloroethane		49	
75-69-4	Trichlorofluoromethane		64	
75-35-4	1,1-Dichloroethene		54	
67-64-1	Acetone		85	
75-09-2	Methylene chloride		51	
156-60-5	trans-1,2-Dichloroethene		56	
75-34-3	1,1-Dichloroethane		55	
156-59-2	cis-1,2-Dichloroethene		55	
67-66-3	Chloroform		58	
71-55-6	1,1,1-Trichloroethane		57	
56-23-5	Carbon tetrachloride		59	
107-06-2	1,2-Dichloroethane		56	
71-43-2	Benzene		54	
79-01-6	Trichloroethene		56	
78-87-5	1,2-Dichloropropane		55	
75-27-4	Bromodichloromethane		59	
10061-01-5	cis-1,3-Dichloropropene		58	
108-88-3	Toluene		55	
10061-02-6	trans-1,3-Dichloropropene		60	
79-00-5	1,1,2-Trichloroethane		57	
127-18-4	Tetrachloroethene		49	
124-48-1	Dibromochloromethane		57	
108-90-7	Chlorobenzene		50	
100-41-4	Ethylbenzene		53	
1330-20-7	m,p-Xylene		100	
95-47-6	o-Xylene		52	
1330-20-7	Xylene (Total)		160	
75-25-2	Bromoform		59	
79-34-5	1,1,2,2-Tetrachloroethane		47	
541-73-1	1,3-Dichlorobenzene		49	
106-46-7	1,4-Dichlorobenzene		47	

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

CLIENT SAMPLE NO.

LCS-48443

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-48443
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0153.D
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. Date Analyzed: 01/07/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene		48
110-75-8	2-Chloroethyl vinyl ether		59
107-02-8	Acrolein		230
107-13-1	Acrylonitrile		56

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

CLIENT SAMPLE NO.

LCSD-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: LCSD-48416

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

Lab File ID: V1L0124.D

Level: (TRACE/LOW/MED) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/06/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µG/L	
75-71-8	Dichlorodifluoromethane		38	
74-87-3	Chloromethane		47	
75-01-4	Vinyl chloride		47	
74-83-9	Bromomethane		48	
75-00-3	Chloroethane		50	
75-69-4	Trichlorofluoromethane		64	
75-35-4	1,1-Dichloroethene		53	
67-64-1	Acetone		58	
75-09-2	Methylene chloride		50	
156-60-5	trans-1,2-Dichloroethene		55	
75-34-3	1,1-Dichloroethane		54	
156-59-2	cis-1,2-Dichloroethene		54	
67-66-3	Chloroform		57	
71-55-6	1,1,1-Trichloroethane		57	
56-23-5	Carbon tetrachloride		58	
107-06-2	1,2-Dichloroethane		54	
71-43-2	Benzene		54	
79-01-6	Trichloroethene		57	
78-87-5	1,2-Dichloropropane		55	
75-27-4	Bromodichloromethane		56	
10061-01-5	cis-1,3-Dichloropropene		58	
108-88-3	Toluene		56	
10061-02-6	trans-1,3-Dichloropropene		58	
79-00-5	1,1,2-Trichloroethane		55	
127-18-4	Tetrachloroethene		50	
124-48-1	Dibromochloromethane		57	
108-90-7	Chlorobenzene		50	
100-41-4	Ethylbenzene		54	
1330-20-7	m,p-Xylene		110	
95-47-6	o-Xylene		53	
1330-20-7	Xylene (Total)		160	
75-25-2	Bromoform		56	
79-34-5	1,1,2,2-Tetrachloroethane		43	
541-73-1	1,3-Dichlorobenzene		49	
106-46-7	1,4-Dichlorobenzene		47	

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

CLIENT SAMPLE NO.

LCSD-48416

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-48416
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: VIL0124.D
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	µG/L	
95-50-1	1,2-Dichlorobenzene		47	
110-75-8	2-Chloroethyl vinyl ether		55	
107-02-8	Acrolein		290	
107-13-1	Acrylonitrile		55	

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

CLIENT SAMPLE NO.

MB-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: MB-48416

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

Lab File ID: VIL0126.D

Level: (TRACE/LOW/MED) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/06/2010

GC Column: DB-624

ID: 0.25

(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Purge Volume: 5.0

(mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
			Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MB-48416

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-48416
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0126.D
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. Date Analyzed: 01/06/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	ug/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	5.0	U
107-13-1	Acrylonitrile	5.0	U

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

CLIENT SAMPLE NO.

MB-48443

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.: SDG No.: SH2645

Matrix: (SOIL/SED/WATER) WATER

Lab Sample ID: MB-48443

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

Lab File ID: VIL0155.D

Level: (TRACE/LOW/MED) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/07/2010

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

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

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µg/L
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
67-64-1	Acetone	50	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	5.0	U
124-48-1	Dibromochloromethane	50	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
1330-20-7	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylene (Total)	5.0	U
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	3.0	U
106-46-7	1,4-Dichlorobenzene	3.0	U

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

CLIENT SAMPLE NO.

MB-48443

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-48443
Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1L0155.D
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. Date Analyzed: 01/07/2010
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	µG/L
95-50-1	1,2-Dichlorobenzene	3.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
107-02-8	Acrolein	25	U
107-13-1	Acrylonitrile	5.0	U

2B - FORM II VOA-2
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-48416	105	98	93	104				0
02	LCSD-48416	106	103	95	103				0
03	MB-48416	107	98	95	104				0
04	TRIP BLANK	102	98	94	103				0
05	MW1253E	108	104	92	101				0
06	MW1253F	105	102	94	101				0
07	MW1253EXD	107	102	92	100				0
08	SW-01	110	104	94	101				0
09	SW-02	108	102	93	100				0
10	SW-03	109	99	92	99				0
11	MW1231C	109	102	93	100				0
12	MW1231E	108	104	93	98				0
13	MW1231F	106	103	92	100				0
14	MW1231G	108	99	93	101				0
15	MW1231H	108	104	93	102				0
16	MW1231I	107	101	92	100				0
17	MW1253G	106	104	91	98				0
18	MW1253H	108	102	91	97				0
19	MW1253I	107	108	89	100				0
20	MW1231FMS	108	105	89	100				0
21	LCS-48443	105	104	93	103				0
22	MB-48443	106	104	94	102				0
23	MW1231FMSD	107	99	93	101				0

VDMC1 (DBFM) Dibromofluoromethane
VDMC2 (DCE) = 1,2-Dichloroethane-d4
VDMC3 (TOL) = Toluene-d8
VDMC4 (BFB) = Bromofluorobenzene

QC LIMITS
(85-115)
(70-120)
(85-120)
(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

SOM_002

3A - FORM III VOA-1
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Matrix Spike - EPA Sample No.: MW1231F

Instrument ID: V1

GC Column : DB-624

ID: 0.25 (mm)

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	32.9044	66		48-135
Chloromethane	50.0000	0.0000	42.0587	84		60-118
Vinyl chloride	50.0000	0.0000	41.2206	82		65-113
Bromomethane	50.0000	0.0000	42.2404	84		73-122
Chloroethane	50.0000	0.0000	45.4941	91		72-118
Trichlorofluoromethane	50.0000	0.0000	54.0156	108		68-129
1,1-Dichloroethene	50.0000	0.0000	48.5867	97		67-121
Acetone	50.0000	0.0000	46.9965	94		38-161
Methylene chloride	50.0000	0.0000	45.4488	91		59-132
trans-1,2-Dichloroethene	50.0000	0.0000	50.3811	101		71-124
1,1-Dichloroethane	50.0000	0.0000	48.6910	97		83-116
cis-1,2-Dichloroethene	50.0000	0.0000	49.4742	99		83-120
Chloroform	50.0000	0.0000	51.0641	102		89-118
1,1,1-Trichloroethane	50.0000	0.0000	50.8523	102		81-122
Carbon tetrachloride	50.0000	0.0000	52.9352	106		79-125
1,2-Dichloroethane	50.0000	0.0000	50.4114	101		83-123
Benzene	50.0000	0.0000	49.1024	98		81-120
Trichloroethene	50.0000	0.0000	53.4228	107		77-121
1,2-Dichloropropane	50.0000	0.0000	49.7648	100		81-116
Bromodichloromethane	50.0000	0.0000	53.6137	107		90-114
cis-1,3-Dichloropropene	50.0000	0.0000	51.1914	102		78-119
Toluene	50.0000	0.7287	49.8550	98		81-121
trans-1,3-Dichloropropene	50.0000	0.0000	53.6494	107		85-118
1,1,2-Trichloroethane	50.0000	0.0000	52.0450	104		44-159
Tetrachloroethene	50.0000	2.3050	46.5370	88		73-121
Dibromochloromethane	50.0000	0.0000	51.0326	102		80-124
Chlorobenzene	50.0000	3.8718	48.5281	89		82-118
Ethylbenzene	50.0000	0.0000	47.3828	95		80-122
m,p-Xylene	100.0000	0.0000	91.6025	92		70-130
o-Xylene	50.0000	0.0000	46.7660	94		70-130
Xylene (Total)	150.0000	0.0000	138.3684	92		81-121
Bromoform	50.0000	0.0000	52.8043	106		77-130
1,1,2,2-Tetrachloroethane	50.0000	0.0000	40.1373	80		76-125
1,3-Dichlorobenzene	50.0000	0.7645	43.8169	86		80-116
1,4-Dichlorobenzene	50.0000	1.2596	42.1047	82		80-114
1,2-Dichlorobenzene	50.0000	0.0000	42.6050	85		81-116
2-Chloroethyl vinyl ether	50.0000	0.0000	0.0000	0		0-169
Acrolein	250.0000	0.0000	415.6565	166	*	12-133
Acrylonitrile	50.0000	0.0000	48.8597	98		45-172

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD %REC	#	%RPD #	QC LIMITS	
						RPD	REC.
Dichlorodifluoromethane	50.0000	32.2980	65		2	0-40	48-135

3A - FORM III VOA-1
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Matrix Spike - EPA Sample No.: MW1231F

Instrument ID: V1

GC Column : DB-624

ID: 0.25 (mm)

Chloromethane	50.0000	39.5331	79	6	0-40	60-118
Vinyl chloride	50.0000	40.7227	81	1	0-40	65-113
Bromomethane	50.0000	42.3569	85	0	0-40	73-122
Chloroethane	50.0000	43.1430	86	5	0-40	72-118
Trichlorofluoromethane	50.0000	53.7618	108	0	0-40	68-129
1,1-Dichloroethene	50.0000	46.4070	93	5	0-40	67-121
Acetone	50.0000	48.8787	98	4	0-40	38-161
Methylene chloride	50.0000	44.0704	88	3	0-40	59-132
trans-1,2-Dichloroethene	50.0000	47.8794	96	5	0-40	71-124
1,1-Dichloroethane	50.0000	47.3895	95	3	0-40	83-116
cis-1,2-Dichloroethene	50.0000	49.7896	100	1	0-40	83-120
Chloroform	50.0000	49.6631	99	3	0-40	89-118
1,1,1-Trichloroethane	50.0000	49.9974	100	2	0-40	81-122
Carbon tetrachloride	50.0000	52.4828	105	1	0-40	79-125
1,2-Dichloroethane	50.0000	51.4717	103	2	0-40	83-123
Benzene	50.0000	48.3362	97	2	0-40	81-120
Trichloroethene	50.0000	51.5429	103	4	0-40	77-121
1,2-Dichloropropane	50.0000	51.0988	102	3	0-40	81-116
Bromodichloromethane	50.0000	52.0556	104	3	0-40	90-114
cis-1,3-Dichloropropene	50.0000	52.1418	104	2	0-40	78-119
Toluene	50.0000	49.1978	97	1	0-40	81-121
trans-1,3-Dichloropropene	50.0000	53.8988	108	0	0-40	85-118
1,1,2-Trichloroethane	50.0000	54.0293	108	4	0-40	44-159
Tetrachloroethene	50.0000	47.5207	90	2	0-40	73-121
Dibromochloromethane	50.0000	51.5079	103	1	0-40	80-124
Chlorobenzene	50.0000	49.5448	91	2	0-40	82-118
Ethylbenzene	50.0000	46.8553	94	1	0-40	80-122
m,p-Xylene	100.0000	92.5435	93	1	0-40	70-130
o-Xylene	50.0000	46.7484	93	0	0-40	70-130
Xylene (Total)	150.0000	139.2919	93	1	0-40	81-121
Bromoform	50.0000	52.7170	105	0	0-40	77-130
1,1,2,2-Tetrachloroethane	50.0000	43.9205	88	9	0-40	76-125
1,3-Dichlorobenzene	50.0000	46.1844	91	5	0-40	80-116
1,4-Dichlorobenzene	50.0000	45.4061	88	8	0-40	80-114
1,2-Dichlorobenzene	50.0000	43.8026	88	3	0-40	81-116
2-Chloroethyl vinyl ether	50.0000	0.8722	2	200	*	0-40 0-169
Acrolein	250.0000	442.7174	177	*	6	0-40 12-133
Acrylonitrile	50.0000	46.8230	94	4	0-40	45-172

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 39 outside limits

Spike Recovery: 2 out of 78 outside limits

3A - FORM III VOA-1
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Matrix Spike - EPA Sample No.: MW1231F
Instrument ID: V1 GC Column : DB-624 ID: 0.25 (mm)
COMMENTS: _____

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCS-48416

LCS Lot No.:

Date Extracted: 01/06/2010

Date Analyzed (1): 01/06/2010

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	43.8000	88		48 - 135
Chloromethane	50.0000	0.0000	51.4428	103		1 - 273
Vinyl chloride	50.0000	0.0000	51.0792	102		1 - 251
Bromomethane	50.0000	0.0000	52.8847	106		1 - 242
Chloroethane	50.0000	0.0000	54.5216	109		14 - 230
Trichlorofluoromethane	50.0000	0.0000	66.8184	134		17 - 181
1,1-Dichloroethene	50.0000	0.0000	58.2440	116		1 - 234
Acetone	50.0000	0.0000	84.2749	169	*	38 - 161
Methylene chloride	50.0000	0.0000	54.1421	108		1 - 221
trans-1,2-Dichloroethene	50.0000	0.0000	61.3591	123		54 - 156
1,1-Dichloroethane	50.0000	0.0000	58.2974	117		59 - 155
cis-1,2-Dichloroethene	50.0000	0.0000	59.5183	119		83 - 120
Chloroform	50.0000	0.0000	60.0559	120		51 - 138
1,1,1-Trichloroethane	50.0000	0.0000	60.7101	121		52 - 162
Carbon tetrachloride	50.0000	0.0000	62.6044	125		70 - 140
1,2-Dichloroethane	50.0000	0.0000	59.4820	119		49 - 155
Benzene	50.0000	0.0000	57.5231	115		37 - 151
Trichloroethene	50.0000	0.0000	60.9685	122		71 - 157
1,2-Dichloropropane	50.0000	0.0000	59.9699	120		1 - 210
Bromodichloromethane	50.0000	0.0000	60.2780	121		35 - 155
cis-1,3-Dichloropropene	50.0000	0.0000	60.6417	121		1 - 227
Toluene	50.0000	0.0000	59.7715	120		47 - 150
trans-1,3-Dichloropropene	50.0000	0.0000	61.6079	123		17 - 183
1,1,2-Trichloroethane	50.0000	0.0000	58.7352	117		52 - 150
Tetrachloroethene	50.0000	0.0000	53.0578	106		64 - 148
Dibromochloromethane	50.0000	0.0000	59.3495	119		53 - 149
Chlorobenzene	50.0000	0.0000	54.3017	109		37 - 150
Ethylbenzene	50.0000	0.0000	58.8671	118		37 - 162
m,p-Xylene	100.0000	0.0000	111.5105	112		70 - 130
o-Xylene	50.0000	0.0000	57.2448	114		70 - 130
Xylene (Total)	150.0000	0.0000	168.7552	113		81 - 121
Bromoform	50.0000	0.0000	60.7085	121		45 - 169
1,1,2,2-Tetrachloroethane	50.0000	0.0000	45.6845	91		46 - 157
1,3-Dichlorobenzene	50.0000	0.0000	53.1312	106		59 - 156
1,4-Dichlorobenzene	50.0000	0.0000	50.6137	101		18 - 190
1,2-Dichlorobenzene	50.0000	0.0000	51.5725	103		18 - 190
2-Chloroethyl vinyl ether	50.0000	0.0000	57.5959	115		1 - 305
Acrolein	250.0000	0.0000	301.7109	121		12 - 133
Acrylonitrile	50.0000	0.0000	60.7467	121		45 - 172

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCS-48416

LCS Lot No.:

Date Extracted: 01/06/2010

Date Analyzed (1): 01/06/2010

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.

Spike Recovery: 1 out of 39 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCSD-48416

LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS	
							RPD	REC.
Dichlorodifluoromethane	50.0000	37.9541	76		15		40	48 - 135
Chloromethane	50.0000	47.1415	94		9		40	1 - 273
Vinyl chloride	50.0000	46.8267	94		8		40	1 - 251
Bromomethane	50.0000	48.0505	96		10		40	1 - 242
Chloroethane	50.0000	50.2909	101		8		40	14 - 230
Trichlorofluoromethane	50.0000	63.5761	127		5		40	17 - 181
1,1-Dichloroethene	50.0000	53.0382	106		9		40	1 - 234
Acetone	50.0000	58.2149	116		37		40	38 - 161
Methylene chloride	50.0000	50.4478	101		7		40	1 - 221
trans-1,2-Dichloroethene	50.0000	55.3683	111		10		40	54 - 156
1,1-Dichloroethane	50.0000	54.0767	108		8		40	59 - 155
cis-1,2-Dichloroethene	50.0000	54.0069	108		10		40	83 - 120
Chloroform	50.0000	56.5031	113		6		40	51 - 138
1,1,1-Trichloroethane	50.0000	57.3560	115		5		40	52 - 162
Carbon tetrachloride	50.0000	58.4747	117		7		40	70 - 140
1,2-Dichloroethane	50.0000	53.9589	108		10		40	49 - 155
Benzene	50.0000	53.7722	108		6		40	37 - 151
Trichloroethene	50.0000	57.3994	115		6		40	71 - 157
1,2-Dichloropropane	50.0000	54.8829	110		9		40	1 - 210
Bromodichloromethane	50.0000	56.2275	112		8		40	35 - 155
cis-1,3-Dichloropropene	50.0000	57.5523	115		5		40	1 - 227
Toluene	50.0000	55.7045	111		8		40	47 - 150
trans-1,3-Dichloropropene	50.0000	57.5017	115		7		40	17 - 183
1,1,2-Trichloroethane	50.0000	55.2511	111		5		40	52 - 150
Tetrachloroethene	50.0000	49.8307	100		6		40	64 - 148
Dibromochloromethane	50.0000	57.1619	114		4		40	53 - 149
Chlorobenzene	50.0000	50.4732	101		8		40	37 - 150
Ethylbenzene	50.0000	54.2509	109		8		40	37 - 162
m,p-Xylene	100.0000	105.1613	105		6		40	70 - 130
o-Xylene	50.0000	53.1281	106		7		40	70 - 130
Xylene (Total)	150.0000	158.2894	106		6		40	81 - 121
Bromoform	50.0000	55.7175	111		9		40	45 - 169
1,1,2,2-Tetrachloroethane	50.0000	42.7374	85		7		40	46 - 157
1,3-Dichlorobenzene	50.0000	48.6655	97		9		40	59 - 156
1,4-Dichlorobenzene	50.0000	46.5008	93		8		40	18 - 190
1,2-Dichlorobenzene	50.0000	46.9837	94		9		40	18 - 190
2-Chloroethyl vinyl ether	50.0000	54.7676	110		4		40	1 - 305
Acrolein	250.0000	292.6544	117		3		40	12 - 133
Acrylonitrile	50.0000	54.9508	110		10		40	45 - 172

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 39 outside limits

Spike Recovery: 0 out of 39 outside limits

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-48416

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCSD-48416

LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC #	%RPD #	QC LIMITS	
					RPD	REC.

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-48443

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCS-48443

LCS Lot No.:

Date Extracted: 01/07/2010

Date Analyzed (1): 01/07/2010

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	36.2060	72		48 - 135
Chloromethane	50.0000	0.0000	45.6300	91		1 - 273
Vinyl chloride	50.0000	0.0000	46.6450	93		1 - 251
Bromomethane	50.0000	0.0000	47.6026	95		1 - 242
Chloroethane	50.0000	0.0000	49.4261	99		14 - 230
Trichlorofluoromethane	50.0000	0.0000	64.1627	128		17 - 181
1,1-Dichloroethene	50.0000	0.0000	53.7338	107		1 - 234
Acetone	50.0000	0.0000	85.1639	170	*	38 - 161
Methylene chloride	50.0000	0.0000	50.9406	102		1 - 221
trans-1,2-Dichloroethene	50.0000	0.0000	55.8656	112		54 - 156
1,1-Dichloroethane	50.0000	0.0000	54.9720	110		59 - 155
cis-1,2-Dichloroethene	50.0000	0.0000	55.2360	110		83 - 120
Chloroform	50.0000	0.0000	57.9167	116		51 - 138
1,1,1-Trichloroethane	50.0000	0.0000	56.8903	114		52 - 162
Carbon tetrachloride	50.0000	0.0000	58.9596	118		70 - 140
1,2-Dichloroethane	50.0000	0.0000	56.3260	113		49 - 155
Benzene	50.0000	0.0000	54.2814	109		37 - 151
Trichloroethene	50.0000	0.0000	56.4271	113		71 - 157
1,2-Dichloropropane	50.0000	0.0000	54.9499	110		1 - 210
Bromodichloromethane	50.0000	0.0000	58.8316	118		35 - 155
cis-1,3-Dichloropropene	50.0000	0.0000	58.3418	117		1 - 227
Toluene	50.0000	0.0000	54.9170	110		47 - 150
trans-1,3-Dichloropropene	50.0000	0.0000	60.4138	121		17 - 183
1,1,2-Trichloroethane	50.0000	0.0000	57.3978	115		52 - 150
Tetrachloroethene	50.0000	0.0000	49.0767	98		64 - 148
Dibromochloromethane	50.0000	0.0000	56.9534	114		53 - 149
Chlorobenzene	50.0000	0.0000	50.3403	101		37 - 150
Ethylbenzene	50.0000	0.0000	52.6017	105		37 - 162
m,p-Xylene	100.0000	0.0000	104.6555	105		70 - 130
o-Xylene	50.0000	0.0000	52.3125	105		70 - 130
Xylene (Total)	150.0000	0.0000	156.9680	105		81 - 121
Bromoform	50.0000	0.0000	59.4281	119		45 - 169
1,1,2,2-Tetrachloroethane	50.0000	0.0000	46.6389	93		46 - 157
1,3-Dichlorobenzene	50.0000	0.0000	49.4830	99		59 - 156
1,4-Dichlorobenzene	50.0000	0.0000	47.3449	95		18 - 190
1,2-Dichlorobenzene	50.0000	0.0000	47.9626	96		18 - 190
2-Chloroethyl vinyl ether	50.0000	0.0000	59.3940	119		1 - 305
Acrolein	250.0000	0.0000	229.5117	92		12 - 133
Acrylonitrile	50.0000	0.0000	55.5790	111		45 - 172

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-48443

Lab Name: MITKEM LABORATORIES

Contract:

Lab Code: MITKEM

Case No.: H2645

Mod. Ref No.:

SDG No.: SH2645

Lab Sample ID: LCS-48443

LCS Lot No.:

Date Extracted: 01/07/2010

Date Analyzed (1): 01/07/2010

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.

Spike Recovery: 1 out of 39 outside limits

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-48416

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Lab File ID: V1L0126.D Lab Sample ID: MB-48416
Instrument ID: V1
Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 01/06/2010
Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:29
GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-48416	LCS-48416	V1L0123.D	9:09
02	LCSD-48416	LCSD-48416	V1L0124.D	9:36
03	TRIP BLANK	H2645-16A	V1L0127.D	10:56
04	MW1253E	H2645-01A	V1L0128.D	11:23
05	MW1253F	H2645-02A	V1L0129.D	11:50
06	MW1253EXD	H2645-03A	V1L0130.D	12:17
07	SW-01	H2645-04A	V1L0131.D	12:44
08	SW-02	H2645-05A	V1L0132.D	13:11
09	SW-03	H2645-06A	V1L0133.D	13:39
10	MW1231C	H2645-07A	V1L0134.D	14:06
11	MW1231E	H2645-08A	V1L0135.D	14:33
12	MW1231F	H2645-09A	V1L0136.D	15:00
13	MW1231G	H2645-10A	V1L0137.D	15:27
14	MW1231H	H2645-11A	V1L0138.D	15:53
15	MW1231I	H2645-12A	V1L0139.D	16:21
16	MW1253G	H2645-13A	V1L0140.D	16:48
17	MW1253H	H2645-14A	V1L0141.D	17:15
18	MW1253I	H2645-15A	V1L0142.D	17:42
19	MW1231FMS	H2645-09AMS	V1L0143.D	18:09

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-48443

Lab Name: MITKEM LABORATORIES Contract: _____
Lab Code: MITKEM Case No.: H2645 Mod. Ref No.: _____ SDG No.: SH2645
Lab File ID: V1L0155.D Lab Sample ID: MB-48443
Instrument ID: V1
Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 01/07/2010
Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:40
GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-48443	LCS-48443	V1L0153.D	9:36
02	MW1231FMSD	H2645-09AMSD	V1L0159.D	12:28

COMMENTS: _____



*** Volatiles ***

Dissolved
Gasses

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253E

Lab ID: H2645-01

Project: Verona NY LTM Site

Collection Date: 12/29/09 14:43

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 9:40	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 9:40	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253F

Lab ID: H2645-02

Project: Verona NY LTM Site

Collection Date: 12/29/09 15:02

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 9:47	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 9:47	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253EXD

Lab ID: H2645-03

Project: Verona NY LTM Site

Collection Date: 12/29/09 14:43

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 9:54	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 9:54	48544

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

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

0085

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: SW-01

Lab ID: H2645-04

Project: Verona NY LTM Site

Collection Date: 12/29/09 15:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 10:00	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 10:00	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: SW-02

Lab ID: H2645-05

Project: Verona NY LTM Site

Collection Date: 12/29/09 15:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 10:09	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 10:09	48544

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

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

0087

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: SW-03

Lab ID: H2645-06

Project: Verona NY LTM Site

Collection Date: 12/29/09 16:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 10:20	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 10:20	48544

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

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

0088

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231C

Lab ID: H2645-07

Project: Verona NY LTM Site

Collection Date: 12/30/09 10:47

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 10:30	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 10:30	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231E

Lab ID: H2645-08

Project: Verona NY LTM Site

Collection Date: 12/30/09 12:14

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 10:39	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 10:39	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231F

Lab ID: H2645-09

Project: Verona NY LTM Site

Collection Date: 12/30/09 12:29

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 10:49	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 10:49	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231G

Lab ID: H2645-10

Project: Verona NY LTM Site

Collection Date: 12/30/09 9:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 11:22	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 11:22	48544

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

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

0092

Mitkem Laboratories**Date:** 14-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1231H**Lab ID:** H2645-11**Project:** Verona NY LTM Site**Collection Date:** 12/30/09 9:03

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 11:41	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 11:41	48544

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

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

0093

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231I

Lab ID: H2645-12

Project: Verona NY LTM Site

Collection Date: 12/30/09 10:41

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 11:48	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 11:48	48544

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

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

0094

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253G

Lab ID: H2645-13

Project: Verona NY LTM Site

Collection Date: 12/30/09 14:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.3	µg/L	1	01/12/2010 11:55	48544
Ethene	ND		1.6	µg/L	1	01/12/2010 11:55	48544

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

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

0095

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253H

Lab ID: H2645-14

Project: Verona NY LTM Site

Collection Date: 12/30/09 15:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 12:05	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 12:05	48544

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

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

Mitkem Laboratories

Date: 14-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253I

Lab ID: H2645-15

Project: Verona NY LTM Site

Collection Date: 12/30/09 14:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
RSK175 -- Dissolved Gases by GC-FID							RSK175
Ethane	ND		1.2	µg/L	1	01/12/2010 12:17	48544
Ethene	ND		1.5	µg/L	1	01/12/2010 12:17	48544

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

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

0097

ANALYTICAL QC SUMMARY REPORT

CLIENT: Lu Engineers

Work Order: H2645

RSK175

Project: Verona NY LTM Site

RSK175 -- Dissolved Gases by GC-FID

Sample ID: MB-48544	SampType: MBLK	TestCode: RSK175	Prep Date: 1/12/2010	Run ID: V7_100112A			
Client ID: MB-48544	Batch ID: 48544	Units: µg/L	Analysis Date: 1/12/2010	SeqNo: 1189367			
Analyte	Result	PQL	SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Ethane	ND	1.3					
Ethane	ND	1.6					

Sample ID: LCS-48544	SampType: LCS	TestCode: RSK175	Prep Date: 1/12/2010	Run ID: V7_100112A				
Client ID: LCS-48544	Batch ID: 48544	Units: µg/L	Analysis Date: 1/12/2010	SeqNo: 1189368				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Ethane	79.71	1.2	85.00	0	93.8	75	125	0
Ethane	84.69	1.5	79.00	0	107	75	125	0

Sample ID: H2645-09BMS	SampType: MS	TestCode: RSK175	Prep Date: 1/12/2010	Run ID: V7_100112A					
Client ID: MW1231F	Batch ID: 48544	Units: µg/L	Analysis Date: 1/12/2010	SeqNo: 1189378					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Ethane	90.24	1.3	85.00	0	106	75	125	0	
Ethane	95.06	1.6	79.00	0	120	75	125	0	

Sample ID: H2645-09BMSD		SampType: MSD	TestCode: RSK175	Prep Date: 1/12/2010	Run ID: V7_100112A			
Client ID: MW1231F		Batch ID: 48544	Units: µg/L	Analysis Date: 1/12/2010	SeqNo: 1189379			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Ethane	90.18	1.2	85.00	0	106	75	125	40
Ethane	96.50	1.5	79.00	0	122	75	125	40

0000

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



*** Metals ***

Total

U.S.EPA - CLP
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

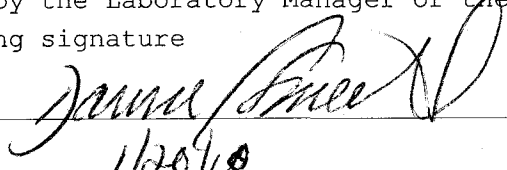
Lab Name: Mitkem Laboratories Contract: 13147-01
Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: SH2645
SOW No.: MCAWW

EPA Sample No.	Lab Sample ID
<u>MW1231C</u>	<u>H2645-07</u>
<u>MW1231E</u>	<u>H2645-08</u>
<u>MW1231F</u>	<u>H2645-09</u>
<u>MW1231FD</u>	<u>H2645-09DUP</u>
<u>MW1231FS</u>	<u>H2645-09MS</u>
<u>MW1231G</u>	<u>H2645-10</u>
<u>MW1231H</u>	<u>H2645-11</u>
<u>MW1231I</u>	<u>H2645-12</u>
<u>MW1253E</u>	<u>H2645-01</u>
<u>MW1253EXD</u>	<u>H2645-03</u>
<u>MW1253F</u>	<u>H2645-02</u>
<u>MW1253G</u>	<u>H2645-13</u>
<u>MW1253H</u>	<u>H2645-14</u>
<u>MW1253I</u>	<u>H2645-15</u>
<u>SW-01</u>	<u>H2645-04</u>
<u>SW-02</u>	<u>H2645-05</u>
<u>SW-03</u>	<u>H2645-06</u>

Were ICP interelement corrections applied?	Yes/No	<u>Yes</u>
Were background corrections applied?	Yes/No	<u>Yes</u>
If yes-were raw data generated before application of background corrections?	Yes/No	<u>No</u>

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature

Signature:  Name: Dawn E. Smart
Date: 1/20/00 Title: _____

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231C

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-07

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	228			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231E

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-08

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	18.8	B		P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-09

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	412			P
7439-96-5	Manganese	39.4	B		P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231G

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-10

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	305			P
7439-96-5	Manganese	142			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231H

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-11

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	3120			P
7439-96-5	Manganese	282			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231I

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-12

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	214			P
7439-96-5	Manganese	387			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253E

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-01

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	267			P
7439-96-5	Manganese	127			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253EXD

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-03

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	261			P
7439-96-5	Manganese	157			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-02

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	87.1			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253G

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-13

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	472			P
7439-96-5	Manganese	358			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253H

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-14

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	499			P
7439-96-5	Manganese	2520			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253I

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-15

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	401			P
7439-96-5	Manganese	649			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SW-01

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-04

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	7370			P
7439-96-5	Manganese	429			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SW-02

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-05

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	8150			P
7439-96-5	Manganese	1170			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SW-03

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Lab Sample ID: H2645-06

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	3750			P
7439-96-5	Manganese	1110			P

Comments:

U.S. EPA - CLP

3

BLANKS

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Preparation Blank Matrix (soil/water): WATER

Method Blank ID:

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

MB-48373

OPTIMA2_100105A

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Iron	82.0	U	82.0	U	82.0	U	82.0	U	82.000	U	P
Manganese	4.5	U	4.5	U	4.5	U	4.5	U	5.788	B	P

3

Lab Name: Mitkem Laboratories Contract: 13147-01

Lab Code: MITKEM Case No.: SAS No.: SDG No.: SH2645

Preparation Blank Matrix (soil/water): Method Blank ID:

Preparation Blank Concentration Units (ug/L or mg/kg): OPTIMA2 100105A

Analyte	Initial Calibration		Continuing Calibration						Preparation		
	Blank (ug/L)		Blank (ug/L)						Blank		
		C	1	C	2	C	3	C		C	M
Iron			82.0	U							P
Manganese			4.5	U							P

U.S. EPA - CLP

5A

EPA SAMPLE NO.

SPIKE SAMPLE RECOVERY

MW1231FS

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Iron	75-125	1620	412	1000	120		P
Manganese	75-125	570	39.4 B	500	106		P

Comments:

U.S. EPA - CLP

6

EPA SAMPLE NO.

DUPLICATES

MW1231FD

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S) C	Duplicate (D) C	RPD	Q	M
Iron	200.0	411.8399	516.5673	22.6		P
Manganese		39.4039 B	41.6049 B	5.4		P

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: Mitkem LaboratoriesContract: 13147-01Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: SH2645

Solid LCS Source: _____

LCS(D) ID:

Aqueous LCS Source: _____

LCS-48373

Analyte	Aqueous (ug/L)			Solid (mg/Kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Iron	1000.0	1117.29	111.7						
Manganese	500.0	551.06	110.2						

U.S. EPA - CLP

9

EPA SAMPLE NO.

ICP SERIAL DILUTIONS

MW1231F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645

Matrix (soil/water): WATER

Level (low/med): LOW

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

Analyte	Initial Sample		Serial Dilution		% Difference	Q	M
	Result (I)	C	Result (S)	C			
Iron	411.84		416.60		1		P
Manganese	39.40	B	37.80	B	4		P



*** Metals ***

Dissolved

U.S.EPA - CLP
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

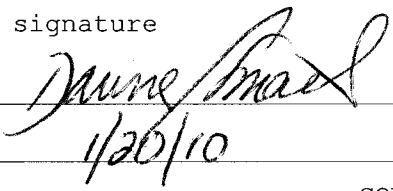
Lab Name: Mitkem Laboratories Contract: 13147-01
Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: SH2645DISS
SOW No.: MCAWW

EPA Sample No.	Lab Sample ID
<u>MW1231C</u>	<u>H2645-07</u>
<u>MW1231E</u>	<u>H2645-08</u>
<u>MW1231F</u>	<u>H2645-09</u>
<u>MW1231FD</u>	<u>H2645-09DUP</u>
<u>MW1231FS</u>	<u>H2645-09MS</u>
<u>MW1231G</u>	<u>H2645-10</u>
<u>MW1231H</u>	<u>H2645-11</u>
<u>MW1231I</u>	<u>H2645-12</u>
<u>MW1253E</u>	<u>H2645-01</u>
<u>MW1253EXD</u>	<u>H2645-03</u>
<u>MW1253F</u>	<u>H2645-02</u>
<u>MW1253G</u>	<u>H2645-13</u>
<u>MW1253H</u>	<u>H2645-14</u>
<u>MW1253I</u>	<u>H2645-15</u>
<u>SW-01</u>	<u>H2645-04</u>
<u>SW-02</u>	<u>H2645-05</u>
<u>SW-03</u>	<u>H2645-06</u>

Were ICP interelement corrections applied?	Yes/No	<u>Yes</u>
Were background corrections applied?	Yes/No	<u>Yes</u>
If yes-were raw data generated before application of background corrections?	Yes/No	<u>No</u>

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature

Signature:  Name: Dawn E. Smart
Date: 1/20/10 Title: _____

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231C

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-07

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	149			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231E

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-08

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	4.5	U		P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-09

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	5.6	B		P

Comments:

1

INORGANIC ANALYSIS DATA SHEET

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231H

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-11

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	956			P
7439-96-5	Manganese	261			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1231I

Lab Name: Mitkem LaboratoriesContract: 13147-01Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: SH2645DISSMatrix (soil/water): WATERLab Sample ID: H2645-12Level (low/med): LOWDate Received: 12/30/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	90.4	B		P
7439-96-5	Manganese	375			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253E

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-01

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	99.3	B		P
7439-96-5	Manganese	120			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253EXD

Lab Name: Mitkem LaboratoriesContract: 13147-01Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: SH2645DISSMatrix (soil/water): WATERLab Sample ID: H2645-03Level (low/med): LOWDate Received: 12/30/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	130	B		P
7439-96-5	Manganese	132			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-02

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	82.0	U		P
7439-96-5	Manganese	72.4			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253G

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-13

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	181	B		P
7439-96-5	Manganese	333			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253H

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-14

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	92.9	B		P
7439-96-5	Manganese	2320			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MW1253I

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-15

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	106	B		P
7439-96-5	Manganese	519			P

Comments:

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SW-01

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Lab Sample ID: H2645-04

Level (low/med): LOW

Date Received: 12/30/2009

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	494			P
7439-96-5	Manganese	92.9			P

Comments:

1

INORGANIC ANALYSIS DATA SHEET

SW-02

Contract: 13147-01

SAS No.:

SDG No.: SH2645DISS

Lab Sample ID: H2645-05

Date Received: 12/30/2009

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

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

SW-03

Lab Name: Mitkem LaboratoriesContract: 13147-01Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: SH2645DISSMatrix (soil/water): WATERLab Sample ID: H2645-06Level (low/med): LOWDate Received: 12/30/2009% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	296			P
7439-96-5	Manganese	19.4	B		P

Comments:

U.S. EPA - CLP

3

BLANKS

Lab Name: Mitkem Laboratories

Contract:

13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.:

SH2645DISS

Preparation Blank Matrix (soil/water): WATER

Method Blank ID:

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

MB-48351

OPTIMA2_100105A

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Iron	82.0	U	82.0	U	82.0	U	82.0	U	82.000	U	P
Manganese	4.5	U	4.5	U	4.5	U	4.5	U	4.500	U	P

U.S. EPA - CLP

3

BLANKS

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Preparation Blank Matrix (soil/water): WATER

Method Blank ID:

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

MB-48338

OPTIMA2_100105A

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Iron			82.0	U	82.0	U	82.0	U	82.000	U	P
Manganese			4.5	U	4.5	U	4.5	U	4.500	U	P

U.S. EPA - CLP

3

BLANKS

Lab Name: Mitkem Laboratories

Contract:

13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.:

SH2645DISS

Preparation Blank Matrix (soil/water): WATER

Method Blank ID:

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

MB-48374

OPTIMA2_100105A

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Iron									82.000	U	P
Manganese									4.500	U	P

U.S. EPA - CLP

5A

EPA SAMPLE NO.

SPIKE SAMPLE RECOVERY

MW1231FS

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Iron	75-125	1070	200 U	1000	107		P
Manganese	75-125	533	5.6 B	500	106		P

Comments:

U.S. EPA - CLP

6

EPA SAMPLE NO.

DUPLICATES

MW1231FD

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Iron		200.0000	U	82.0000	U			P
Manganese		5.6480	B	6.4250	B	12.9		P

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: Mitkem LaboratoriesContract: 13147-01Lab Code: MITKEM

Case No.: _____

SAS No.: _____

SDG No.: SH2645DISS

Solid LCS Source: _____

LCS(D) ID:

Aqueous LCS Source: _____

LCS-48374

Analyte	Aqueous (ug/L)			Solid (mg/Kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Iron	1000.0	1093.32	109.3						
Manganese	500.0	540.55	108.1						

U.S. EPA - CLP

9

EPA SAMPLE NO.

ICP SERIAL DILUTIONS

MW1231F

Lab Name: Mitkem Laboratories

Contract: 13147-01

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: SH2645DISS

Matrix (soil/water): WATER

Level (low/med): LOW

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

Analyte	Initial Sample		Serial Dilution		% Difference	Q	M
	Result (I)	C	Result (S)	C			
Iron	82.00	U	410.00	U			P
Manganese	5.65	B	22.50	U	100		P



* Wet Chemistry *

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers
Client Sample ID: MW1253E
Lab ID: H2645-01

Project: Verona NY LTM Site
Collection Date: 12/29/09 14:43

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	450		20	mg/L CaCO3	1	01/04/2010 17:09	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	400		10	mg/L	1	01/04/2010 8:48	48348
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	33		10	mg/L	1	01/04/2010 16:00	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1253F**Lab ID:** H2645-02**Project:** Verona NY LTM Site**Collection Date:** 12/29/09 15:02

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	520		20	mg/L CaCO3	1	01/04/2010 17:12	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	520		10	mg/L	1	01/04/2010 8:54	48348
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	110		10	mg/L	1	01/04/2010 16:04	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers
Client Sample ID: MW1253EXD
Lab ID: H2645-03

Project: Verona NY LTM Site
Collection Date: 12/29/09 14:43

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	450		20	mg/L CaCO3	1	01/04/2010 17:15	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	410		10	mg/L	1	01/04/2010 9:00	48348
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	67		10	mg/L	1	01/04/2010 16:08	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers
Client Sample ID: SW-01
Lab ID: H2645-04

Project: Verona NY LTM Site
Collection Date: 12/29/09 15:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO ₃)	230		20	mg/L CaCO ₃		1 01/04/2010 17:18	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	230		10	mg/L		1 01/04/2010 9:06	48348
SM 4500 CO₂ -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO₂_W
Carbon dioxide, Free	43		10	mg/L		1 01/04/2010 16:12	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** SW-02**Lab ID:** H2645-05**Project:** Verona NY LTM Site**Collection Date:** 12/29/09 15:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	200		20	mg/L CaCO3	1	01/04/2010 17:21	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	230		10	mg/L	1	01/04/2010 9:12	48348
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	36		10	mg/L	1	01/04/2010 16:16	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: SW-03

Lab ID: H2645-06

Project: Verona NY LTM Site

Collection Date: 12/29/09 16:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	190		20	mg/L CaCO3		1 01/04/2010 17:24	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	190		10	mg/L		1 01/04/2010 9:18	48348
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	33		10	mg/L		1 01/04/2010 16:20	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1231C**Lab ID:** H2645-07**Project:** Verona NY LTM Site**Collection Date:** 12/30/09 10:47

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	380		20	mg/L CaCO3	1	01/04/2010 17:27	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	370		10	mg/L	1	01/06/2010 8:38	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	48		10	mg/L	1	01/04/2010 16:24	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231E

Lab ID: H2645-08

Project: Verona NY LTM Site

Collection Date: 12/30/09 12:14

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	240		20	mg/L CaCO3	1	01/04/2010 17:30	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	260		10	mg/L	1	01/06/2010 8:42	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	16		10	mg/L	1	01/04/2010 16:28	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231F

Lab ID: H2645-09

Project: Verona NY LTM Site

Collection Date: 12/30/09 12:29

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO ₃)	240		20	mg/L CaCO ₃		1 01/04/2010 17:33	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	210		10	mg/L		1 01/06/2010 8:47	48409
SM 4500 CO₂ -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO₂_W
Carbon dioxide, Free	11		10	mg/L		1 01/04/2010 16:32	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1231G**Lab ID:** H2645-10**Project:** Verona NY LTM Site**Collection Date:** 12/30/09 9:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	400		20	mg/L CaCO3	1	01/04/2010 17:42	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	450		10	mg/L	1	01/06/2010 8:55	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	78		10	mg/L	1	01/04/2010 16:36	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: MW1231H

Lab ID: H2645-11

Project: Verona NY LTM Site

Collection Date: 12/30/09 9:03

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	380		20	mg/L CaCO3	1	01/04/2010 17:45	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	380		10	mg/L	1	01/06/2010 8:59	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	63		10	mg/L	1	01/04/2010 16:40	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1231I**Lab ID:** H2645-12**Project:** Verona NY LTM Site**Collection Date:** 12/30/09 10:41

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	410		20	mg/L CaCO3	1	01/04/2010 17:48	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	450		10	mg/L	1	01/06/2010 9:04	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	67		10	mg/L	1	01/04/2010 16:44	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253G

Lab ID: H2645-13

Project: Verona NY LTM Site

Collection Date: 12/30/09 14:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	480		20	mg/L CaCO3	1	01/04/2010 17:51	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	450		10	mg/L	1	01/06/2010 9:08	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	82		10	mg/L	1	01/04/2010 16:48	R45292

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

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

Mitkem Laboratories

Date: 20-Jan-10

Client: Lu Engineers

Client Sample ID: MW1253H

Lab ID: H2645-14

Project: Verona NY LTM Site

Collection Date: 12/30/09 15:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	310		20	mg/L CaCO3	1	01/04/2010 17:54	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	300		10	mg/L	1	01/06/2010 9:12	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	25		10	mg/L	1	01/04/2010 16:52	R45292

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

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

Mitkem Laboratories**Date:** 20-Jan-10**Client:** Lu Engineers**Client Sample ID:** MW1253I**Lab ID:** H2645-15**Project:** Verona NY LTM Site**Collection Date:** 12/30/09 14:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2320 -- ALKALINITY (Total)							SM2320_W
Alkalinity, Total (As CaCO3)	520		20	mg/L CaCO3	1	01/04/2010 17:57	48384
SM 2540C -- TOTAL DISSOLVED SOLIDS							SM2540_TDS
Total Dissolved Solids	380		10	mg/L	1	01/06/2010 9:17	48409
SM 4500 CO2 -- FREE CARBON DIOXIDE by Calculation							SM4500_CALC_CO2_W
Carbon dioxide, Free	84		10	mg/L	1	01/04/2010 16:56	R45292

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

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

ANALYTICAL QC SUMMARY REPORT

CLIENT: Lu Engineers

Work Order: H2645

SM2320_W

Project: Verona NY LTM Site

SM 2320 -- ALKALINITY (Total)

Sample ID: MB-48384	SampType: MBLK	TestCode: SM2320_W	Prep Date: 1/4/2010	Run ID: MANUAL_100104A	
Client ID: MB-48384	Batch ID: 48384	Units: mg/L CaCO3	Analysis Date: 1/4/2010	SeqNo: 1185253	
Analyte		Result	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)		ND	20		
Sample ID: LCS-48384	SampType: LCS	TestCode: SM2320_W	Prep Date: 1/4/2010	Run ID: MANUAL_100104A	
Client ID: LCS-48384	Batch ID: 48384	Units: mg/L CaCO3	Analysis Date: 1/4/2010	SeqNo: 1185254	
Analyte		Result	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)		100.0	20	102.0	0 98.0 80 120 0
Sample ID: H2645-09EDUP	SampType: DUP	TestCode: SM2320_W	Prep Date: 1/4/2010	Run ID: MANUAL_100104A	
Client ID: MW1231F	Batch ID: 48384	Units: mg/L CaCO3	Analysis Date: 1/4/2010	SeqNo: 1185265	
Analyte		Result	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)		240.0	20	0	0 0 0 240.0 0 20
Sample ID: H2645-09EMS	SampType: MS	TestCode: SM2320_W	Prep Date: 1/4/2010	Run ID: MANUAL_100104A	
Client ID: MW1231F	Batch ID: 48384	Units: mg/L CaCO3	Analysis Date: 1/4/2010	SeqNo: 1185266	
Analyte		Result	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)		290.0	20	53.00	240.0 94.3 75 125 0

Qualifiers:

ND - Not Detected at the Reporting Limit

mLIMS-001 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Verona NY LTM Site

SM 2540C -- TOTAL DISSOLVED SOLIDS

Sample ID: MB-48348	SampType: MBLK	TestCode: SM2540_TDS	Prep Date: 12/31/2009	Run ID: MANUAL_091231A
Client ID: MB-48348	Batch ID: 48348	Units: mg/L	Analysis Date: 1/4/2010	SeqNo: 1185069
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		ND 10		
Sample ID: MB-48409	SampType: MBLK	TestCode: SM2540_TDS	Prep Date: 1/5/2010	Run ID: MANUAL_100105A
Client ID: MB-48409	Batch ID: 48409	Units: mg/L	Analysis Date: 1/6/2010	SeqNo: 1186394
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		ND 10		
Sample ID: LCS-48348	SampType: LCS	TestCode: SM2540_TDS	Prep Date: 12/31/2009	Run ID: MANUAL_091231A
Client ID: LCS-48348	Batch ID: 48348	Units: mg/L	Analysis Date: 1/4/2010	SeqNo: 1185070
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		218.0 10	110 80 120 0	
Sample ID: LCS-48409	SampType: LCS	TestCode: SM2540_TDS	Prep Date: 1/5/2010	Run ID: MANUAL_100105A
Client ID: LCS-48409	Batch ID: 48409	Units: mg/L	Analysis Date: 1/6/2010	SeqNo: 1186395
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		492.0 10	109 80 120 0	
Sample ID: H2645-06EDUP	SampType: DUP	TestCode: SM2540_TDS	Prep Date: 12/31/2009	Run ID: MANUAL_091231A
Client ID: SW-03	Batch ID: 48348	Units: mg/L	Analysis Date: 1/4/2010	SeqNo: 1185078
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		216.0 10	0 0 0 0	189.0 13.3 20
Sample ID: H2645-09EDUP	SampType: DUP	TestCode: SM2540_TDS	Prep Date: 1/5/2010	Run ID: MANUAL_100105A
Client ID: MW1231F	Batch ID: 48409	Units: mg/L	Analysis Date: 1/6/2010	SeqNo: 1186399
Analyte		Result PQL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids		228.0 10	0 0 0 0	213.0 6.8 20

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

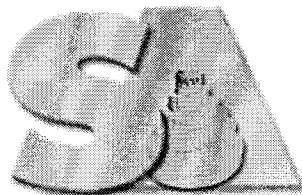
mLIMS-001



*** Wet Chemistry ***

Sub Analyses

Report Date:
20-Jan-10 12:23



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY

Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Mitkem Laboratories
175 Metro Center Boulevard
Warwick, RI 02886-1755
Attn: Shirley Ng

Project: See Chain of Custody
Project #: H2645

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB06242-01	MW1253E	Aqueous	29-Dec-09 14:43	30-Dec-09 10:00
SB06242-02	MW1253F	Aqueous	29-Dec-09 15:02	30-Dec-09 10:00
SB06242-03	MW1253EXD	Aqueous	29-Dec-09 14:43	30-Dec-09 10:00
SB06242-04	SW-01	Aqueous	29-Dec-09 15:40	30-Dec-09 10:00
SB06242-05	SW-02	Aqueous	29-Dec-09 15:50	30-Dec-09 10:00
SB06242-06	SW-03	Aqueous	29-Dec-09 16:10	30-Dec-09 10:00

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393



Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.
Please note that this report contains 7 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 1.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 300.0

Spikes:

9122088-MS1 *Source: SB06242-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Nitrate as N

9122088-MSD1 *Source: SB06242-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Nitrate as N

Sample Identification
MW1253E
SB06242-01

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
29-Dec-09 14:43

Received
30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0500	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 09:57	9122088	X
	pH	7.43	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	3.30		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

Sample Identification
MW1253F
SB06242-02

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
29-Dec-09 15:02

Received
30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0600	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 11:07	9122088	X
	pH	6.97	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	4.56		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

Sample Identification
MW1253EXD
SB06242-03

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
29-Dec-09 14:43

Received
30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0700	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 11:24	9122088	X
	pH	7.13	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	3.38		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

Sample Identification
SW-01
SB06242-04

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
29-Dec-09 15:40

Received
30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0600	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 11:41	9122088	X
	pH	7.03	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	4.58		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

Page 3 of 7

0167

Sample Identification

SW-02

SB06242-05

Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

29-Dec-09 15:50

Received

30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.140		mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 11:59	9122088	X
	pH	7.04	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	5.17		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

Sample Identification

SW-03

SB06242-06

Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

29-Dec-09 16:10

Received

30-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.170		mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 12:51	9122088	X
	pH	7.06	pH	pH Units			1	ASTM D 1293-99B	30-Dec-09 13:00	30-Dec-09 14:49	9122090	X
14808-79-8	Sulfate as SO4	5.27		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9122088 - General Preparation										
<u>Blank (9122088-BLK1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	BRL	U	mg/l	1.00						
Nitrate as N	BRL	U	mg/l	0.100						
<u>Calibration Blank (9122088-CCB1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.360	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB2)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.260	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB3)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.370	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB4)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.110	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB5)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.340	U	mg/l							
Nitrate as N	0.0600	J	mg/l							
<u>Calibration Check (9122088-CCV1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.9		mg/l		20.0		100	90-110		
Nitrate as N	1.94		mg/l		2.00		97	90-110		
<u>Calibration Check (9122088-CCV2)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.1		mg/l		20.0		96	90-110		
Nitrate as N	1.91		mg/l		2.00		96	90-110		
<u>Calibration Check (9122088-CCV3)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.3		mg/l		20.0		96	90-110		
Nitrate as N	1.95		mg/l		2.00		98	90-110		
<u>Calibration Check (9122088-CCV4)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.6		mg/l		20.0		98	90-110		
Nitrate as N	1.91		mg/l		2.00		96	90-110		
<u>Calibration Check (9122088-CCV5)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.5		mg/l		20.0		97	90-110		
Nitrate as N	1.93		mg/l		2.00		96	90-110		
<u>Duplicate (9122088-DUP1)</u>										
Source: SB06242-01										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	3.35		mg/l	1.00		3.30			2	20

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0169

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9122088 - General Preparation										
Duplicate (9122088-DUP1) Source: SB06242-01										
Prepared & Analyzed: 31-Dec-09										
Nitrate as N	0.0500	J	mg/l	0.100		0.0500			0	20
Matrix Spike (9122088-MS1) Source: SB06242-01										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	7.39		mg/l	1.00	4.00	3.30	102	90-110		
Nitrate as N	0.380	QM7	mg/l	0.100	0.400	0.0500	82	90-110		
Matrix Spike Dup (9122088-MSD1) Source: SB06242-01										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	7.42		mg/l	1.00	4.00	3.30	103	90-110	0.4	20
Nitrate as N	0.370	QM7	mg/l	0.100	0.400	0.0500	80	90-110	3	20
Reference (9122088-SRM1)										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	24.3		mg/l	1.00	25.0		97	90-110		
Nitrate as N	2.40		mg/l	0.100	2.50		96	90-110		
Reference (9122088-SRM2)										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	23.7		mg/l	1.00	25.0		95	90-110		
Nitrate as N	2.40		mg/l	0.100	2.50		96	90-110		
Batch 9122090 - General Preparation										
Reference (9122090-SRM1)										
Prepared & Analyzed: 30-Dec-09										
pH	6.03		pH Units		6.00		100	97.5-102.5		
Reference (9122090-SRM2)										
Prepared & Analyzed: 30-Dec-09										
pH	6.01		pH Units		6.00		100	97.5-102.5		

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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Notes and Definitions

J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
U	Analyte included in the analysis, but not detected
BDL	Below Detection Limit - Analyte NOT DETECTED at or above the minimum detection limit
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

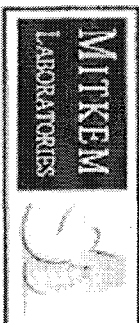
Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk



175 Metro Center Blvd
Warwick, RI 02886-1755
Phone : (401) 732-3400
Fax : (401) 732-3409

CHAIN-OF-CUSTODY RECORD

SB06242-EN

Subcontractor:

Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

ECMS Facility Code: N/A

WorkOrder : H2645
Report Type : ASP-A

Due Date : 1/20/2010

FAX Due Date :

Report To : Shirley S Ng

Purchase Order : H2645

EDD Type : CLP

Requested Test

E300IC W
SM4500 H+

Client Sample ID	Collection Date	Matrix	DUP/MMS/MSD	Mitkem Sample ID										
MW1253E	06/24/01	12/29/2009 2:43:00 PM	Aqueous	H2645-01E	X	X								
MW1253F		12/29/2009 3:02:00 PM	Aqueous	H2645-02E	X	X								
MW1253END		12/29/2009 2:43:00 PM	Aqueous	H2645-03E	X	X								
SW-Q1		12/29/2009 3:40:00 PM	Aqueous	H2645-04E	X	X								
SW-Q2		12/29/2009 3:50:00 PM	Aqueous	H2645-05E	X	X								
SW-Q3		12/29/2009 4:10:00 PM	Aqueous	H2645-06E	X	X								

1) E300IC W, ION CHROMATOGRAPHY (LOW)
2) SM4500 H+, PH VALUE

Use 'Client Sample ID' when reporting data. If needed, truncate 'Client Sample ID' to fit on reports. Use full 'Client Sample ID' when generating EDD.

Comments:

Please analyze these samples as quickly as possible. After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please analyze NO3 and SO4 by method E300.

Relinquished by:

Date/Time

Received by:

Date/Time

12/30/2009
Page 1 of 1

VS

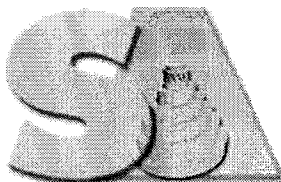
Katy Wilkerson

11/30

10:00

1.3% red

Report Date:
13-Jan-10 16:47



☒ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

Mitkem Laboratories
175 Metro Center Boulevard
Warwick, RI 02886-1755
Attn: Shirley Ng

Project: See Chain of Custody
Project #: H2645

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB06287-01	MW1231C	Aqueous	30-Dec-09 10:47	31-Dec-09 12:27
SB06287-02	MW1231E	Aqueous	30-Dec-09 12:14	31-Dec-09 12:27
SB06287-03	MW1231F	Aqueous	30-Dec-09 12:29	31-Dec-09 12:27
SB06287-04	MW1231G	Aqueous	30-Dec-09 09:00	31-Dec-09 12:27
SB06287-05	MW1231H	Aqueous	30-Dec-09 09:03	31-Dec-09 12:27
SB06287-06	MW1231I	Aqueous	30-Dec-09 10:41	31-Dec-09 12:27
SB06287-07	MW1253G	Aqueous	30-Dec-09 14:05	31-Dec-09 12:27
SB06287-08	MW1253H	Aqueous	30-Dec-09 15:15	31-Dec-09 12:27
SB06287-09	MW1253I	Aqueous	30-Dec-09 14:10	31-Dec-09 12:27

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393



Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.

Please note that this report contains 14 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 3.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 300.0**Spikes:**

9122088-MS2 *Source: SB06287-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Nitrate as N

9122088-MSD2 *Source: SB06287-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Nitrate as N

Duplicates:

9122088-DUP2 *Source: SB06287-03*

RPD out of acceptance range.

Nitrate as N

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0174

Sample Identification

MW1231C

SB06287-01

Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

30-Dec-09 10:47

Received

31-Dec-09

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Batch</i>	<i>Cert.</i>
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.100		mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 14:36	9122088	X
	pH	7.20	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	15.0		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0175

Sample Identification
MW1231E
SB06287-02

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
30-Dec-09 12:14

Received
31-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0900	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 14:53	9122088	X
	pH	7.47	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	12.8		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0176

Sample Identification

MW1231F

SB06287-03

Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

30-Dec-09 12:29

Received

31-Dec-09

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Batch</i>	<i>Cert.</i>
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0800	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 15:10	9122088	X
	pH	7.65	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	13.4		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0177

Sample IdentificationMW1231G
SB06287-04Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

30-Dec-09 09:00

Received

31-Dec-09

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Batch</i>	<i>Cert.</i>
General Chemistry Parameters												
14797-55-8	Nitrate as N	BDL	U	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 16:20	9122088	X
	pH	7.01	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	7.15		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0178

Sample Identification
MW1231H
SB06287-05

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
30-Dec-09 09:03

Received
31-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0500	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 16:37	9122088	X
	pH	7.08	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	6.48		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0179

Sample Identification

MW12311

SB06287-06

Client Project #

H2645

Matrix

Aqueous

Collection Date/Time

30-Dec-09 10:41

Received

31-Dec-09

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Batch</i>	<i>Cert.</i>
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0500	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 17:30	9122088	X
	pH	7.09	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	4.38		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0180

Sample Identification
MW1253G
SB06287-07

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
30-Dec-09 14:05

Received
31-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0500	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 17:47	9122088	X
	pH	7.07	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	3.27		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0181

Sample Identification
MW1253H
SB06287-08

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
30-Dec-09 15:15

Received
31-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.0500	J	mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 18:04	9122088	X
	pH	7.40	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	26.2		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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0182

Sample Identification
MW1253I
SB06287-09

Client Project #
H2645

Matrix
Aqueous

Collection Date/Time
30-Dec-09 14:10

Received
31-Dec-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
General Chemistry Parameters												
14797-55-8	Nitrate as N	0.200		mg/l	0.100	0.0282	1	EPA 300.0	31-Dec-09 08:00	31-Dec-09 18:22	9122088	X
	pH	7.09	pH	pH Units			1	ASTM D 1293-99B	31-Dec-09 13:37	31-Dec-09 13:37	9122158	X
14808-79-8	Sulfate as SO4	16.2		mg/l	1.00	0.297	1	EPA 300.0	31-Dec-09	31-Dec-09	9122088	X

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9122088 - General Preparation										
<u>Blank (9122088-BLK1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	BRL	U	mg/l	1.00						
Nitrate as N	BRL	U	mg/l	0.100						
<u>Calibration Blank (9122088-CCB1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.360	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB2)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.260	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB3)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.370	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB4)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.110	U	mg/l							
Nitrate as N	0.00	U	mg/l							
<u>Calibration Blank (9122088-CCB5)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	-0.340	U	mg/l							
Nitrate as N	0.0600	J	mg/l							
<u>Calibration Check (9122088-CCV1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.9		mg/l		20.0		100	90-110		
Nitrate as N	1.94		mg/l		2.00		97	90-110		
<u>Calibration Check (9122088-CCV2)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.1		mg/l		20.0		96	90-110		
Nitrate as N	1.91		mg/l		2.00		96	90-110		
<u>Calibration Check (9122088-CCV3)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.3		mg/l		20.0		96	90-110		
Nitrate as N	1.95		mg/l		2.00		98	90-110		
<u>Calibration Check (9122088-CCV4)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.6		mg/l		20.0		98	90-110		
Nitrate as N	1.91		mg/l		2.00		96	90-110		
<u>Calibration Check (9122088-CCV5)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	19.5		mg/l		20.0		97	90-110		
Nitrate as N	1.93		mg/l		2.00		96	90-110		
<u>Duplicate (9122088-DUP2)</u>										
Source: SB06287-03										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	13.8		mg/l	1.00		13.4			2	20

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* Reportable Detection Limit

BDL = Below Detection Limit

BRL = Below Reporting Limit

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9122088 - General Preparation										
<u>Duplicate (9122088-DUP2)</u> Source: SB06287-03										
Prepared & Analyzed: 31-Dec-09										
Nitrate as N	0.100	QR5	mg/l	0.100		0.0800			22	20
<u>Matrix Spike (9122088-MS2)</u> Source: SB06287-03										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	17.6		mg/l	1.00	4.00	13.4	104	90-110		
Nitrate as N	0.420	QM7	mg/l	0.100	0.400	0.0800	85	90-110		
<u>Matrix Spike Dup (9122088-MSD2)</u> Source: SB06287-03										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	17.1		mg/l	1.00	4.00	13.4	92	90-110	3	20
Nitrate as N	0.400	QM7	mg/l	0.100	0.400	0.0800	80	90-110	5	20
<u>Reference (9122088-SRM1)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	24.3		mg/l	1.00	25.0		97	90-110		
Nitrate as N	2.40		mg/l	0.100	2.50		96	90-110		
<u>Reference (9122088-SRM2)</u>										
Prepared & Analyzed: 31-Dec-09										
Sulfate as SO4	23.7		mg/l	1.00	25.0		95	90-110		
Nitrate as N	2.40		mg/l	0.100	2.50		96	90-110		
Batch 9122158 - General Preparation										
<u>Reference (9122158-SRM1)</u>										
Prepared & Analyzed: 31-Dec-09										
pH	6.07		pH Units		6.00		101	97.5-102.5		

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* Reportable Detection Limit

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Notes and Definitions

J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR5	RPD out of acceptance range.
U	Analyte included in the analysis, but not detected
BDL	Below Detection Limit - Analyte NOT DETECTED at or above the minimum detection limit
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
June O'Connor
Nicole Leja

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* Reportable Detection Limit

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CHAIN-OF-CUSTODY RECORD

SB 06287

[illegible]

Spectrum Analytical, Inc.

11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 769-9018

CONFIDENTIAL

Workorder : H2645

Report Type: ASP.NET

Due Date : 1/20/2010

Fax Due Date:

Report To : Shirley S Ng

Purchase Order: H2645

EDD Type: CLF

[illegible]

1) E300C W. ION CHROMATOGRAPHY (LCW)
2) SM4500 H+. PH VALUE

Comments: Please analyze these samples as quickly as possible. After analysis, the samples do not need to be returned and can be disposed of.

Please analyze these samples as quickly as possible. After analysis, the sample do not need to be returned and can be disposed per your standard laboratory practices. Please analyze NO₃ and SO₄ by method E300.

Relinquished by:

08

Date/TIME

Received by

[Handwritten signature]

Date/Time

12/31/05

12/31/2009
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Last Page of Data Report