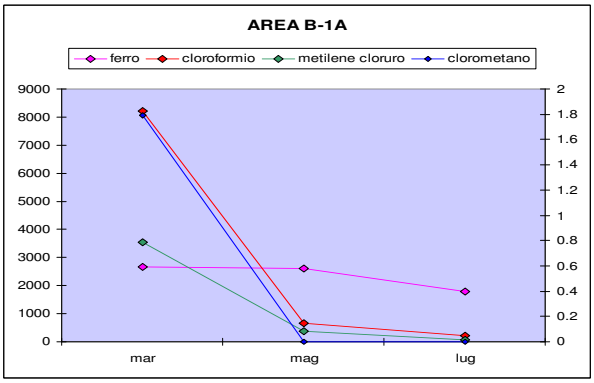
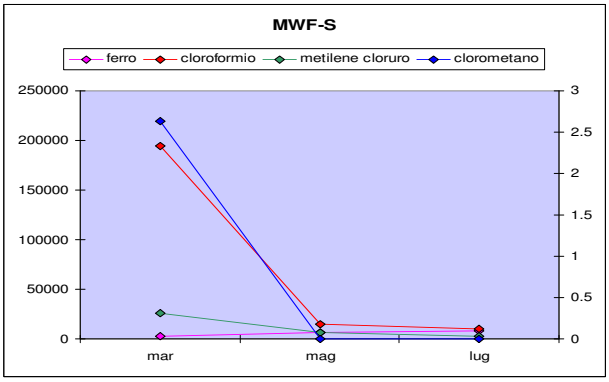
# Site Case History
# Chloroform/Methelyene Chloride

MWH S.p.A. (MWH) conducted a pilot test of the Accelerated Remediation Technologies, LLC (ART) in-situ remediation system at a pharmaceutical manufacturing facility near Milan, Italy. The objective of the pilot test was to evaluate whether the ART Technology could effectively remove chloroform and methylene chloride from groundwater. The ART Technology was installed in a single six inch diameter well within the source area and operated from April through July, 2006. Several monitoring points were positioned in different directions relative to the ART Well to evaluate the performance of the ART Technology.

***Site Description:*** A pharmaceutical manufacturing facility is currently operating at the site. The source of contamination is historical spills and leaks at the site. The soil consists of mostly silty and clayey sands. Groundwater was encountered at approximately 10 feet below grade. One monitoring well and three piezometers were installed to monitor groundwater concentrations and elevations within approximately 9-meters of the ART well. Groundwater samples were analyzed for contaminants of concern (COCs) including chloroform, methelyene chloride, iron, and chloromethane. Analyses for COCs were also performed on extracted vapor samples to determine removal efficiency.

***Contaminant Concentrations in Groundwater:*** The ART system began operation in April 2006. By July 2006, chloroform and methleyene chloride concentrations were reduced by an average of 98% in the source area. In addition, in a downgradient monitoring well (MWF-5), approximately 10 meters from the ART well, chloroform concentrations decreased from 194,000 micrograms per liter (µg/L) to 9,780 µg/L and methelyene chloride decreased from 26,100 µg/L to 2,930 µg/L in just four months.




***Summary:*** During the four month demonstration at a pharmaceutical manufacturing site near Milan, Italy a single ART system reduced chloroform and methelyene chloride concentrations in groundwater by more than 98%. As a result of monitoring contaminant concentrations in groundwater it was determined the radius of influence of the ART system was greater than 9 meters.

For additional information, please contact: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