

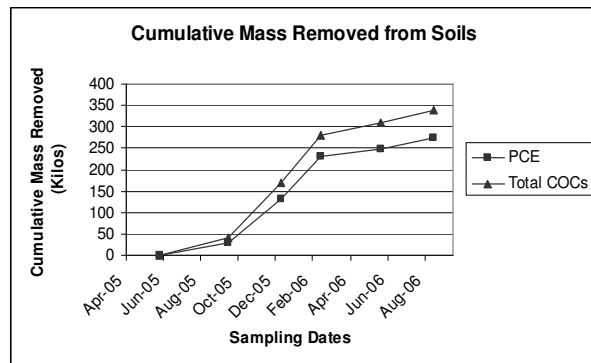
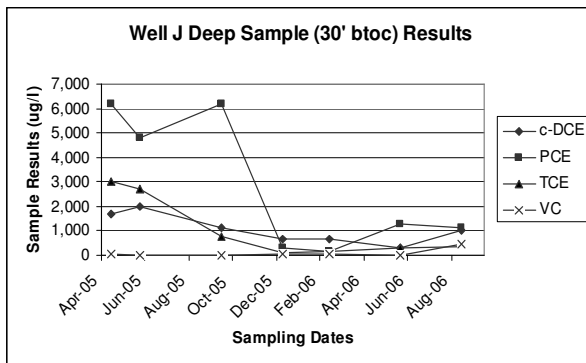
Superfund Site Case History

Accelerated Remediation Technologies, LLC (ART) in-situ remediation system was selected by Black & Veatch for installation at a superfund site in Region VII. The objective of the ART Technology implementation was to remedy soils and groundwater impacted with Tetrachloroethylene (PCE). ART provided a turn-key system, under the supervision of Black & Veatch. The ART technology was installed in a single six inch well within the source area. An extensive monitoring program was implemented to evaluate the performance of the ART system in different directions from the ART well and at different elevations in the subsurface.

Site Description: A metal working business, a metal tent pole fabrication facility, and an automotive fabrication and repair shop have operated at the site since the 1950s. The soil consists of mostly silty and clayey sands. Groundwater was encountered at approximately 13 to 20 feet below grade. The ART well screens were designed to accommodate groundwater elevation changes which may be as deep as 25 feet in dry conditions when the river water levels are low. Monitoring wells were installed by the USGS to monitor the groundwater contamination plume and the effectiveness of the ART system. Piezometers were also installed near the ART well to study changes in groundwater head pressure at different elevations. PCE and by-products were monitored in the extracted vapor, and monitoring wells.

PCE Concentrations in Groundwater: The ART system began operation in summer 2005. By August 2006, PCE concentrations in the piezometers were reduced by more than 98%. In addition, in a monitoring well that is downgradient and approximately two to three years travel time from the ART well, PCE concentrations had a decreased from 6,000 µg/L in September 2005 to 1,000 µg/L in August 2006.

PCE Mass Removal: While the ART system was in operation, air samples were collected from the ART system and analyzed for PCE and other contaminants. Based on analytical results, Black & Veatch calculated that the ART system removed **more than 700 lbs of contaminants of concern.**



Summary: In one year, a single ART system reduced contaminant concentrations in groundwater by more than 98% in the vicinity of the ART treatment well and removed over 700 lbs of COC's from the subsurface at a superfund site in the vicinity of St. Louis, Missouri.

For additional information, please contact:

Marco M. Odah Ph.D, P.E.
Accelerated Remediation Technologies
(913) 438-4384
MOdah@artinwell.com

Robert E. Blake, P.E.
Black & Veatch Special Projects
(913) 458-6681
blakeRE@bv.com

