

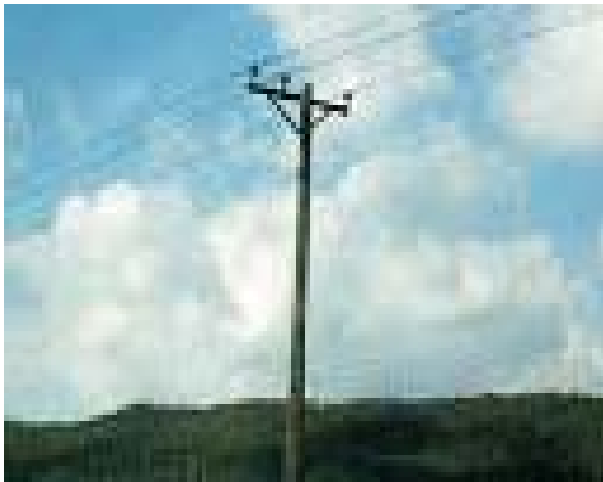


OVERVIEW

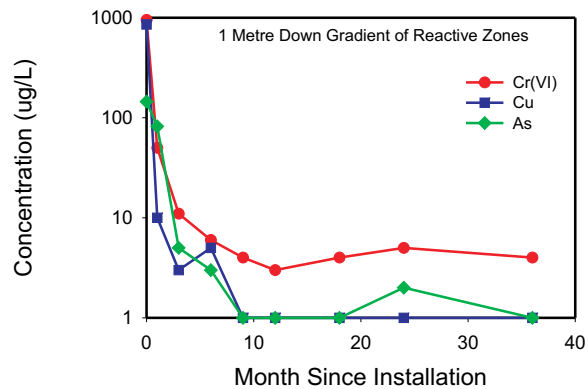
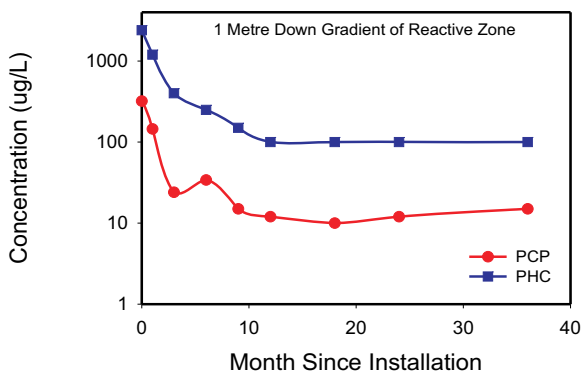
Vertex Environmental Inc. staff conducted a remedial program for groundwater impacted by pentachlorophenol (PCP) and copper, chromium and arsenic (CCA) at a site in central Canada. Historical use of the wood treatment compounds including PCP and CCA resulted in groundwater impacts to a shallow unconfined aquifer. The plume covered an area of approximately 2,000 m² and represented a threat to the ecology of the area. A remedial system based on sequential in-situ chemical reduction and in-situ enhanced bioremediation was implemented to address the plume.

PROGRAM

- Compounds of Concern
 - Pentachlorophenol
 - Petroleum Hydrocarbons
 - Chromium (VI), Copper and Arsenic
- Geology - Fill & Glacial Till
- Sequential Treatment Zone
 - Chemical Reduction for CCA
 - Zero-Valent Iron & Organic Carbon
 - Enhanced Bioremediation
 - Oxygen Releasing Devices
- Treatment time frame
 - > 10 years



Within 3 months of installation of the sequential reactive zones installation, PCP, CCA and PHC concentrations at down gradient wells decreased to below the applicable drinking water standards and were maintained for the 7 year monitoring period. The system was designed and installed for less than \$500,000 which represented a savings of over \$300,000 compared to traditional pump and treat. Operation and maintenance costs were estimated to be 8% of the cost of pump and treat.



Vertex combines strong theoretical understanding with practical experience to properly plan and implement the right remedial program for your site. Selecting Vertex to undertake your remediation project allows you to access a wealth of experience and knowledge.