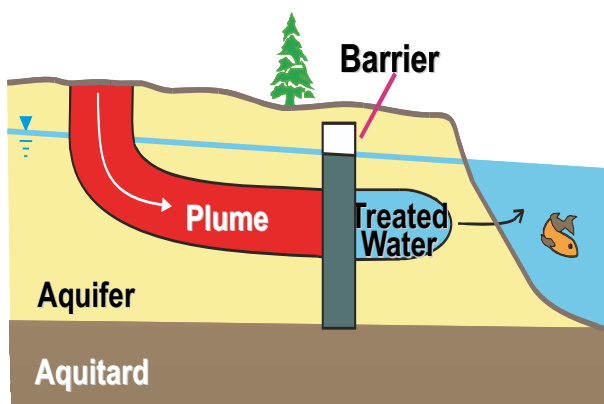




OVERVIEW

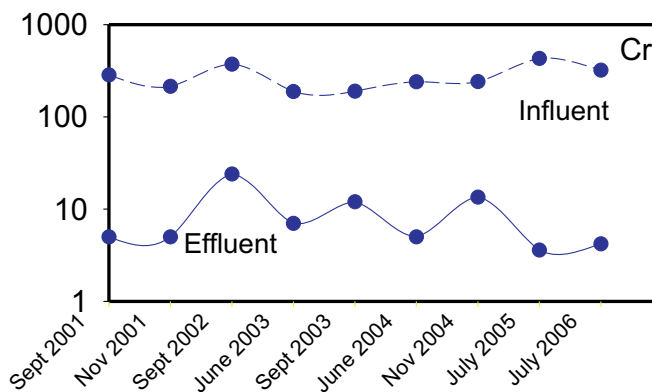
Vertex Environmental Inc. staff designed, constructed and maintained permeable reactive barrier (PRB) for the in-situ, passive treatment of a chromium (Cr) groundwater plume. The chromium plume represented an immediate risk to the surrounding environment as the groundwater was discharging to a wetland area as well as a lake. The PRB was designed to use inexpensive and readily available reactive material that had a hydraulic conductivity greater than 10^{-3} cm/sec. The PRB was installed in a remote area where power was not available and access was limited. The PRB represented a cost savings of greater than \$1 million over a 10 year life span.



PROGRAM

- Compound of Concern
 - Cr (III)
 - Cr (VI)
- Geology - Glaciofluvial deposits
- Reactive Mixture
 - Zero-valent iron
 - Organic carbon
- Method of Installation
 - Cut and Fill
 - Trench Box
- Treatment time frame
 - > 10 years

Over the first 5 years of treatment the chromium concentration influent was approximately 0.7 mg/L with the effluent concentration being less than 0.01 mg/L. Mineralogical analyses of the reactive media indicated that the chromium was being precipitated as a iron-chromium hydroxide. Measurements of hydraulic conductivity over time indicated no appreciable decrease in the conductivity.



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.