Permeable Reactive Barrier to Treat Trichloroethene Plume

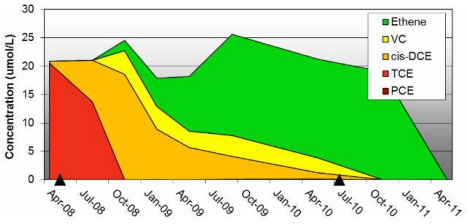
This case study demonstrates the effective use of permeable reactive barrier (PRB) technology with EOS® emulsified oil substrate injections to cut off TCE migration for enhanced bioremediation.

PROBLEM

A large manufacturer in Indiana needed to remediate a long plume of TCE-contaminated groundwater, threatening a river almost 2 miles down-gradient of the source.

PROJECT GOAL

Cut off TCE migration and reduce plume size in an economical, efficient and sustainable manner.



METHODOLOGY

Installation of six permeable reactive barriers (PRBs) along the plume transect using EOS® emulsified oil substrates.

RESULTS

To date, the PRBs have effectively cut off the downgradient migration of TCE and continue to reduce overall plume size.

EOS® substrate injection resulted in

- Rapid establishment of reducing conditions within each PRB
- Rapid transformation of TCE
- Formation of TCE daughter products and ethene down-gradient of PRBs
- A growing community of dechlorinating bacteria

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