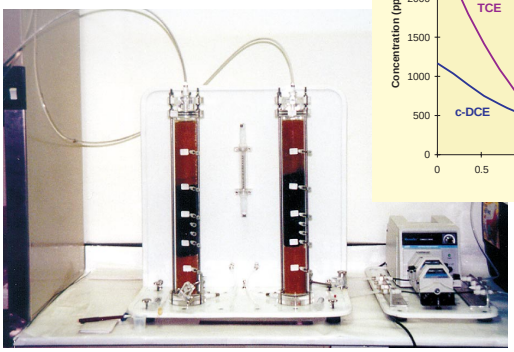
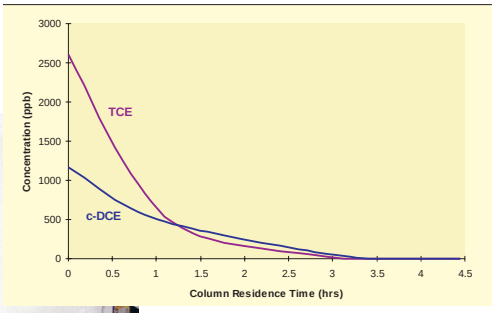
Column Reactivity Tests

Laboratory column reactivity tests performed on site specific groundwater quantify degradation rates of the contaminants. The column tests determine the applicability of a particular reactive barrier system for a site. Column tests conducted both in house and at UW/ETI and AFCEE have determined that the gel, hydroxypropylguar (HPG)—a natural polymer used in the food industry as a thickener, has minimal impact on barrier reactivity and upon degradation leaves an extremely low residue with no measured impact on barrier permeability.

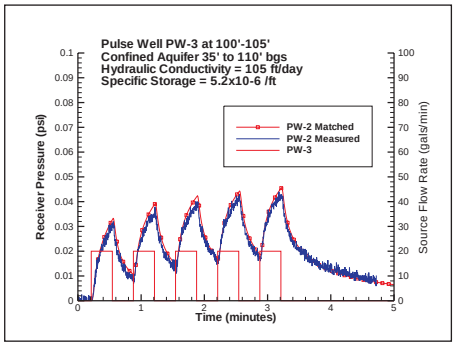


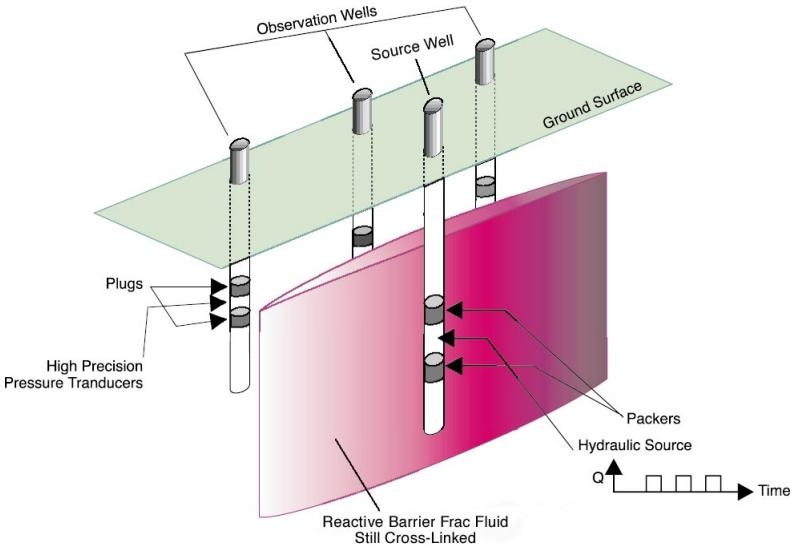


Pulse Interference Tests

The hydraulic continuity of the reactive barrier is quantified by pulse interference tests, with pulse source wells on one side of the wall and high precision receiver transducers installed in wells on the opposite side. The test involves a cyclic injection of fluid into the source well and high precision measurement of the pressure pulse in a neighboring well. The time delay and attenuation of the hydraulic pulse enables the hydraulic effectiveness and continuity of the wall to be assessed.

The pulse interference test is also ideal for the hydraulic characterization of complex flow systems, such as fractured bedrock, braided stream and esker deposits. Being a transient hydraulic test, transmissivity and storativity can be determined, and hydraulic flow regimes can be clearly delineated.





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