



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** NJ1361

**Title:** Pilot Study on the Use of Hydrogen Release Compounds for PCE Enhanced Biodegradation in Fractured Rock Aquifers

**Focus Categories:** Groundwater, Toxic Substances

**Keywords:** TCE, dichloroethene, trichloroethene, tetrachloroethene, PCE, DCE, DNAPL, dehalogenating microorganisms, anaerobic microbes, redevelopment, Brownfield, remediation, fractured rock aquifer, hydrogen release compound, HRC, carcinogen, drinking water, groundwater, chlorinated solvents

**Start Date:** 03/01/2001

**End Date:** 02/28/2002

**Federal Funds:** \$30,000

**Non-Federal Matching Funds:** \$110,234

**Congressional District:** 6

**Principal Investigators:**

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**Abstract**

New Jersey experiences a problem of chlorinated solvents migrating into bedrock, and a survey of US water supplies listed tetrachloroethene (PCE), trichloroethene (TCE) and the three dichloroethene isomers (DCE) as the five most frequently found contaminants, other than trihalomethanes. Based on research suggesting use of hydrogen as an electron donor for dehalogenation of these contaminants, several sites in NJ are undergoing pilot tests using a hydrogen release compound (HRC®) in sandy aquifers.

This proposal pursues developing a commercially viable cost-effective and timely remediation of contaminants such as PCE and controlling DNAPLs in a fractured rock aquifer on a test site on Rutgers Busch Campus. A 300-foot core hole and several wells will be installed to better model the system and monitor the results of the remediation strategy. NJWRRI Support would initiate development of the use of HRC® as tracer material to the contaminated zone source area to increase understanding of flow patterns in this fractured rock aquifer and aid in decision making for full scale injection of HRC®.