



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: RI2181

Title: Contaminant Transport at the Picillo Superfund Site, Coventry, Rhode Island

Focus Categories: Solute Transport, Water Quality

Keywords: diffusion coefficients, organic contaminants, superfund, matrix diffusion

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Congressional District: RI 2

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Abstract

Contaminant transport by diffusion is an important process that contributes to the dispersion of toxic substances in the environment. Rock diffusion coefficients are used to describe that phenomenon. Because little is known about diffusion coefficients of typical organic contaminants in solid rocks, the objective of this project is to determine this parameter for a selection of chlorinated solvents. The rock material to be tested will be from the Picillo Farm Superfund site in Coventry, RI. The measurement of this parameter for many organic contaminants is difficult at best and requires special laboratory tools. For this purpose, a prototype stainless steel diffusion cell has been designed to fit the specific requirements of the experiment to be conducted.