



WATER RESOURCES RESEARCH GRANT PROPOSAL

Title: "Novel Molecular-Recognition-Based Sensors for Groundwater Quality Assessment"

Duration: Sept. 1. 1996 - Aug. 31. 1998

Federal funding. Year: 01 \$51,705

Non-Federal funding. Year 01:\$103,410

Investigator: Joseph T. Hupp

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Congressional District: Illinois Ninth

Statement of Problem/Explanation of Need: A compelling problem of substantial state and regional significance is groundwater contamination with heavy metals, nitroaromatics, heteroaromatics, polyhalogenated aromatics and chloroalkanes. Closely relate to this problem are issues of contaminant detection and water quality assurance. This proposal addresses the need low cost, high-reliability, remote sensors for groundwater quality assessment.

Anticipated Results: The feasibility of a novel "molecular recognition" approach to groundwater quality assessment will be demonstrated via the construction and evaluation of chemically tailored fiber optic and array sensors. Once the generality of the approach has been established, advanced devices and assemblies, designed for enhanced contaminant selectivity and sensitivity, will be developed and constructed.