



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2002SD2B

**Title:** Lipid Geochemistry of Waters and Sediments in a Prairie Pothole Hydrologic System

**Project Type:** Research

**Focus Categories:** Groundwater, Water Quality, Hydrogeochemistry

**Keywords:** Groundwater, Big Sioux aquifer, dissolved organic carbon, lipids, organic

**Start Date:** 03/01/2003

**End Date:** 02/28/2004

**Federal Funds:** \$21200.00

**Matching Funds:** \$43774.00

**Congressional District:** First

**Principal Investigators:** Rice, James A.

**Abstract:** A study is proposed to describe the organic geochemistry of the lipid components of the dissolved organic carbon (DOC) of the Big Sioux Aquifer in eastern South Dakota. Previous studies have shown that selective sorption of DOC components to mineral surfaces as surface water percolates down into groundwater significantly alters the chemical characteristics of the DOC.. The proposed study would identify qualitatively and quantitatively, the lipids components of the surface- and ground-water DOC using gas chromatography mass spectrometry. Experiments would be performed to assess the sorption behavior of lipids identified.

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*Last Modified: Wed June 11, 2003 11:59 AM*

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