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 Requested: $21,200.00

Matching Funds: $43,774.00

Congressional District: SD First

Principal Investigator: James A. Rice

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.