



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003TX96B

Title: Spatial and Temporal Characterization of the Radon Distribution in a Region of the Hickory Aquifer in Central Texas: Assessment of Stratigraphy and Groundwater Dynamics on Radon Concentrations

Project Type: Research

Focus Categories: Radioactive Substances, Groundwater, Water Quality

Keywords: radon, groundwater, lithologic control

Start Date: 03/01/2003

End Date: 02/28/2004

Federal Funds: \$4182.00

Matching Funds: \$10000.00

Congressional District: 21

Principal Investigators: Randolph, Leslie; Hebert, Bruce

Abstract: The scope of this project is to conduct a preliminary assessment of radionuclides in the groundwaters of the Hickory Aquifer in Central Texas. The study will provide insights into the mechanisms that control the distribution of radon concentrations in the region. The major component of this study is to systematically assess the spatial and temporal distribution of Radon-222 throughout this aquifer. Tasks associated with this project include collecting groundwater samples from various zones of the aquifer, gathering groundwater samples during the summer irrigation season and other dates, and collecting and analyzing samples for radon gas. Groundwater samples will also be analyzed for parameters that might influence dissolved radium concentrations, including pH, dissolved oxygen, carbonates, iron, and phosphate. Field studies that examine how the stratigraphy of native rock formations influences radon levels will also be carried out. The study should improve the understanding of causes of high radon levels in Texas groundwaters.

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