

West Dakota Water Development District

1602 Mt. View Road, Suite 104 • P.O. Box 9633 • Rapid City, South Dakota 57709-9633

June 28, 2005

Mr. Dirk Jablonski, Director
 Rapid City Public Works Department
 City of Rapid City
 300 Sixth Street
 Rapid City, South Dakota 57701-2724



Dear Mr. Jablonski;

EPA has pre-awarded a grant to the West Dakota Water Development District for a project to develop enhanced hydrologic information that will be useful in protecting water supplies for the Rapid City area. This project involves a pledged contribution of \$23,000 from the City of Rapid City. The purpose of this letter is to request the City to proceed with arrangements to provide this funding to West Dakota.

A summary of proposed funding components is shown in the following table. Funding provided to West Dakota by EPA (\$40,000) and the City (\$23,000) will be matched by \$63,000 from the USGS, which will perform most of the project activities. In-kind services totaling \$24,000 also will be provided by West Dakota and South Dakota DENR. Thus, we are able to leverage \$103,000 in Federal funds through this partnership.

Funds Requested: U.S. Environmental Protection Agency	\$40,000
Matching Funds:	
Rapid City Public Works Department	\$23,000
U.S. Geological Survey	\$63,000
South Dakota DENR (Anticipated Partner Contributions, In-Kind)	\$19,000
West Dakota Water Development District	\$5,000
Total funding	\$150,000

A primary goal of the project is to enhance existing source water assessments by obtaining information to develop a better understanding of complex flowpaths, mixing conditions, and residence times for wells completed in the Madison aquifer. The project will involve collection of water samples from up to 40 wells completed in the Madison aquifer. Samples will be analyzed for stable isotopes for tracing of source waters, chlorofluorocarbons and tritium for age dating, and low-level nutrients to indicate anthropogenic influence. A general characterization of source waters and ground-water flow conditions for wells will be documented from the data.

The Madison aquifer is a primary source of water for about 100,000 users in the Rapid City area, and is a major component of Rapid City's municipal water supply. Recent studies indicate that the Madison aquifer is especially vulnerable to potential contamination because of numerous large voids that reduce the aquifer's capability for filtration, and also allow extremely rapid movement of ground-water in many locations. In addition, area streams generally lose most or all of their flow as recharge to the Madison aquifer in crossing "loss zones" in the aquifer outcrop. This creates vulnerability to catastrophic contamination that could result from accidental or intentional spills that could occur within large watersheds upstream from these loss zones.

This new study will be an important contribution to a variety of efforts by a number of agencies to obtain additional critical information regarding this important water supply, and will continue to build on a foundation of previous efforts. I greatly appreciate Rapid City's consideration of this request.

Sincerely

A handwritten signature in black ink, appearing to read 'Van A. Lindquist', with a large, stylized flourish at the end.

Van A. Lindquist
Administrative Manager

cc: Dan Driscoll, USGS
Foster Sawyer, DENR - Rapid City
Anita Yan, DENR - Pierre