

WRI-55: Hydraulic Connections and Impacts on Water Supply in the Great Valley Karst Aquifer. A Case Study in Martinsburg, WV

FINAL REPORT

D.J. Vesper and J.J. Donovan

1. Synopsis of Accomplishments

This project includes two main types of data collection activities – continuous electronic logging and water quality sampling. Thus far the following has been accomplished:

- Data logging equipment for stage, conductivity and temperature was installed in Big Spring. The data loggers in this location, as well as Water Street Spring (also known as Martinsburg Water Supply Spring) and Kilmer Spring, are continuous operating.
- Discharge has been measured at Water Street Spring 6 times since the program began. These data allow the stage data to be converted into flow discharges.
- A total of 10 rounds of water samples have been collected and analyzed since November 2003. Seven of those rounds have been conducted since the last progress report.

2. Publications.

- RACHEL V. GRAND and DOROTHY J. VESPER Controls, characterization and small scale chemical variation of Tuscarora Creek watershed, Berkeley County, West Virginia. Poster presentation at the WV Academy of Sciences, April 2005.

3. Information transfer activities

- Hydrogeochemistry of Karst Aquifers and Springs: Case Studies from Three WV Aquifers Talk presented by Dorothy Vesper at the 3rd Annual West Virginia Water Conference, 10/29/04, Stonewall Jackson Resort WV, regional meeting

4. Student Worker Summary as follows:

Rachel Grand is conducting her M.S. Research on this and related work. The WRI Grant is paid for her summer research stipend. She is expected to graduate in August 2005.

5. NIWR-USGS Student Interns (if any) – None.

6. Notable achievements and awards