

## **Using ArcGIS to Build Water Quality Geodatabases for Tennessee's Coalfield**

Under the Surface Mining Control and Reclamation Act of 1977 (SMCRA), a coal mining permit requires review and approval by the Regulatory Agency (RA). Background environmental data, such as geology and water quality analyses, supplied by the applicant of the permit is a very expensive element of the permit review process and is vital to understanding the potential environmental impacts of the proposed coal mining operation. Until recently, all data was submitted on paper. To conserve this data for possible reuse in computer software during analysis of nearby proposed mining operations and other important watershed studies, the Office of Surface Mining in Knoxville, Tennessee implemented an ArcSDE Geodatabase using Microsoft SQL Server. This paper describes the successful conversion of this legacy data from paper to digital format and shares lessons learned.