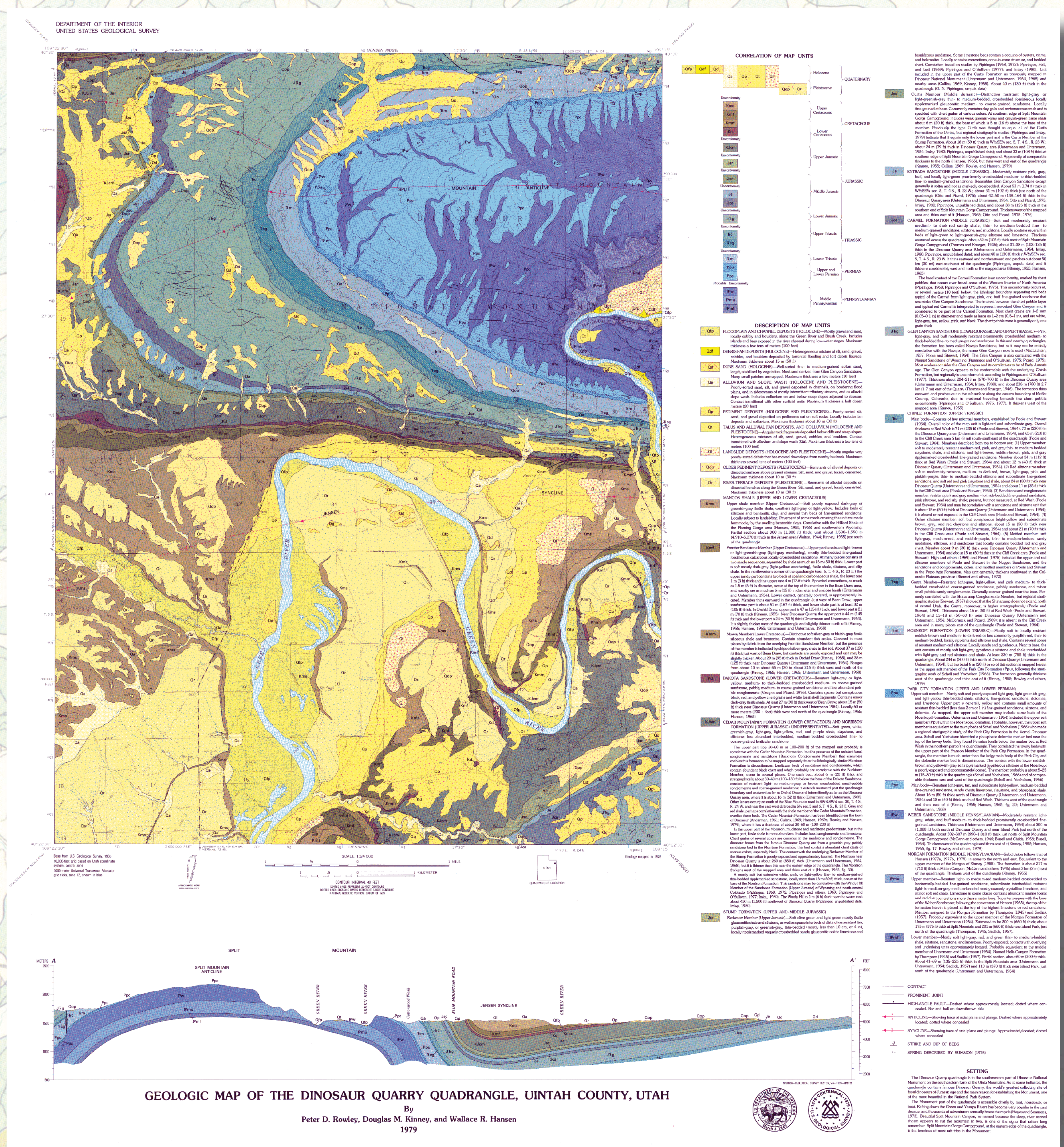


Digital Map Creation

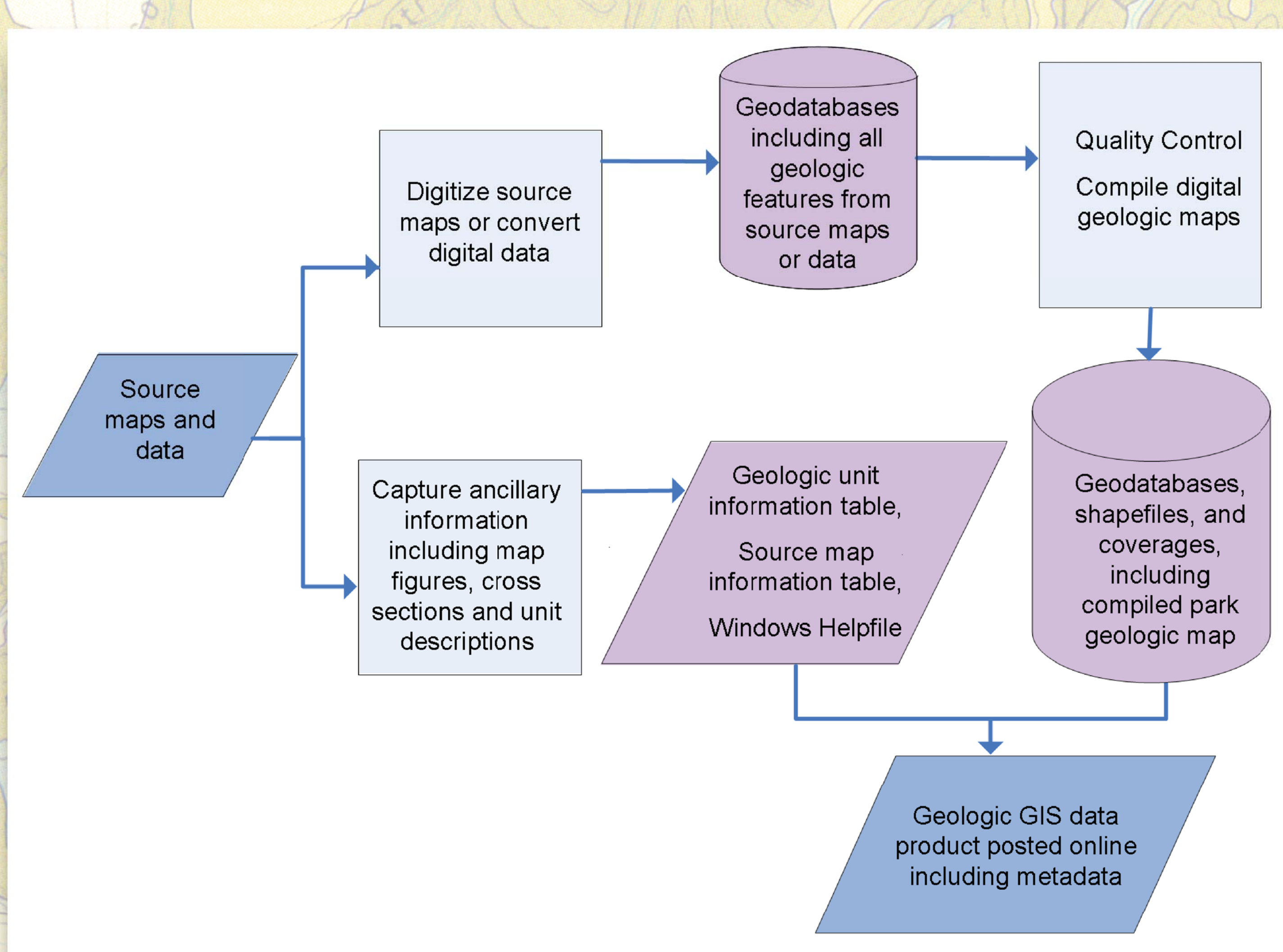
When geologic maps are identified for GRE Program use, hard copy maps are scanned, geo-referenced, and digitized. If source map data is available in a digital format, it is directly converted to the GRE GIS format.

The present GRE GIS format for digital geologic data is based on the ESRI personal geodatabase. The geodatabase format allows the NPS to store spatial data within a relational database management system. Geodatabases also allow attribute validation rules, relationship classes, and topological rules that maintain data integrity within and between data layers.



Source: Rowley, Peter D., Kinney, Douglas M. and Hansen, Wallace R., 1979, Geologic Map of the Dinosaur Quarry Quadrangle, Uintah County, Utah, USGS, GQ-1513, 1:24,000

A scan of the Dinosaur Quarry quadrangle source map, one of 17 quadrangle maps used to produce the compiled Digital Geologic Map of Dinosaur National Monument and Vicinity, Utah and Colorado.



GRE staff create digital geologic maps that have the look and feel of source maps, yet allow for digital presentation and GIS analysis. Published source maps often include useful ancillary information such as rock descriptions, cross section graphics, local and regional geology, and references. The GRE team captures this information in a Windows Helpfile that and displays additional source map information in a searchable format.

Creating digital geologic-GIS data requires manual digitization of source maps or conversion of existing digital data into the NPS GRE Geology-GIS Geodatabase Data Model using custom tools and existing ArcGIS functionality. Rigorous quality control methodology ensures the validity of output GIS data. When possible, digital geologic maps are compiled to create a single, park-wide digital geologic map.