Relief is defined as the difference between the maximum and minimum elevations in topography within a geographic area. It does not depict absolute elevation; instead, relief represents the local variation in elevation. A shaded relief map depicts an artificially illuminated topographic surface. For this map, the simulated light source used to shade the surface was positioned at an azimuth of 315 degrees (northwest) and an inclination of 45 degrees. Gentle slopes are represented with gradual color changes and steeper slopes with abrupt color changes. A relief shaded map also shows the direction of the sloping of the surface; landforms are shaded darker in one direction and lighter in the opposite direction.

In areas where there was no ice during the last glaciation, the bedrock topography closely mimics the surface topography. Familiar landforms such as the crests of ridges between Scales Mound and Galena and well-defined, incised valleys such as those of the Galena and Apple rivers are easily identified. However, in the eastern portion of the county the bedrock surface has been eroded by glacial ice, resulting in some muting of the topography. Although the surface topography may be nearly flat in the eastern portion of the county, the bedrock surface in the same area may be more deeply incised and have steeper slopes. Such is the case in the bedrock valley northeast of Stockton.

Prior to glaciation, the Apple River flowed southeast along the courses of the South Fork of the Apple River and Mud Run, eventually reaching the Yellow Creek drainage. As the eastern portion of the county underwent glaciation, the glacial ice dammed the flow of the ancestral Apple River, forming a lake and, in the process, carving the gorge (Trowbridge and Shaw, 1916; Willman and Frye, 1989). The area inside the solid blue line still contains lake sediments recording this event.

Data used to create this map were compiled from ISGS well logs, Illinois Department of Transportation bridge data, Illinois Department of Natural Resources topographic quadrangle maps, Illinois Department of Natural Resources environmental data, Illinois Department of Natural Resources vegetation data, and exploratory drilling conducted specifically for the Jo Daviess County project.

For additional information, contact Illinois State Geological Survey, Natural Resources Building, 615 East Peabody Drive, Champaign, Illinois 61820, (217) 333-4747, or visit our website at http://www.isgs.uiuc.edu.

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REFERENCE: