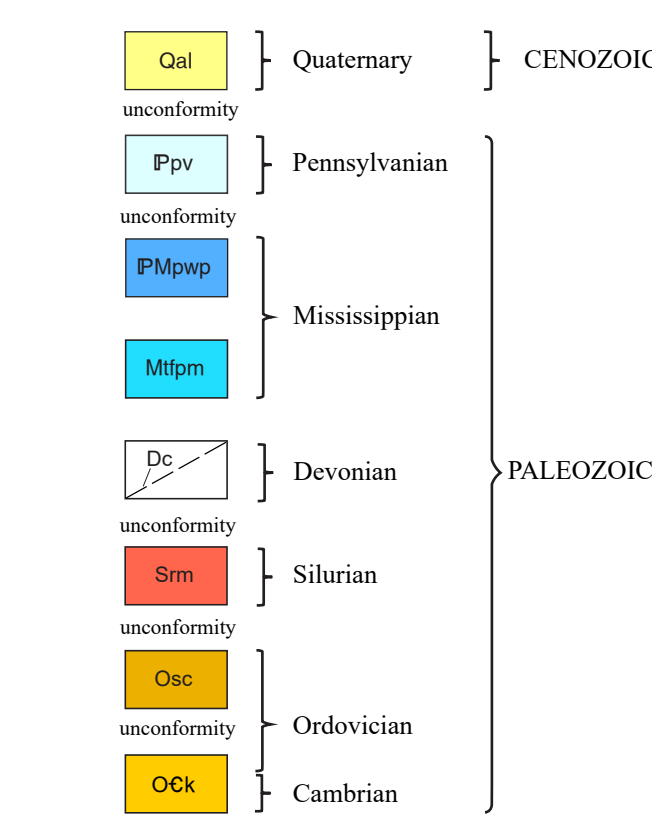


CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- Qal** Alluvium (Quaternary)—Unconsolidated fluvial deposits of clay, silt, sand, gravel, and cobbles containing clasts of local bedrock. Mapped only along larger streams. Not shown on the cross sections.
- Ppv** **Potsville Formation (Lower Pennsylvanian)**—Light- to medium-gray, medium- to coarse-grained, quartzose sandstone locally containing scattered to abundant, well-rounded quartz pebbles. Sandstone weathers to moderate yellowish brown. Sideritic welding of pebbles is common. Thin beds of light-gray, fine-grained siltstone separate medium-bedded to massively bedded sandstones. Cross bedding is common.
- PMmp** **Parkwood and Pennington Formations undifferentiated (Upper Mississippian and Lower Pennsylvanian)**—**Parkwood Formation:** Grayish-orange, thin- to medium-bedded, partly rippled sandstone and pale green to dark yellowish-orange mudstone and macaceous siltstone containing thin, flat, medium light-gray clay pebbles. **Pennington Formation:** Moderate red and light-olive gray mudstones with yellowish-gray, thin-bedded, partly rippled shale with interbeds of dark yellowish-orange, medium-bedded sandstones.
- Mtjm** **Tuscumbia Limestone, Fort Payne Chert, and Maury Formation undifferentiated (Lower and Middle Mississippian)**—**Tuscumbia Limestone:** Light- to medium-gray, medium- to thick-bedded, bioclastic limestone locally containing light- to dark-gray chert nodules. **Fort Payne Chert:** Light- to medium-gray, partially translucent chert containing thin shale partings and beds of light-gray limestone. Weathers to light-gray vugular chert. Locally contains, light-gray, medium-bedded microcrystalline chert (tripoli) with thin, very light-gray calcite veins. **Maury Formation:** Moderate yellowish-green, fissile, phosphatic, glauconitic clay shale.
- Dc** **Chattanooga Shale (Upper Devonian)**—Brownish-black, laminated, fissile, carbonaceous, pyritic, phosphatic, micaceous, organic shale.
- Sm** **Red Mountain Formation (Silurian)**—Grayish-orange to light-olive gray shale, siltstone, and sandstone containing thin ore beds consisting of dark reddish-brown, medium- to coarse-grained, friable sandstone and metallic (silvery) hematite ooids.
- Ock** **Sequatchie Formation and Chickamauga Limestone undifferentiated (Middle and Upper Ordovician)**—**Sequatchie Formation:** Greenish-gray fossiliferous, argillaceous, partly dolomitic limestone containing moderate red mudstone and calcareous siltstone. Upper part contains poorly sorted, friable sandstone. **Chickamauga Limestone:** Light-olive gray to medium gray, thin- to thick-bedded limestone containing dark-gray chert nodules in lower part and medium-gray shale interbeds in the upper part.
- Ock** **Knox Group undifferentiated (upper Cambrian and Lower Ordovician)**—Light- to dark-gray, fine- to coarse-crystalline, thin- to massive-bedded, dolomitic siltstone containing nodules, stringers, and thin beds of massive light-gray chert; weathers to very pale orange, angular, porous, pebble- to boulder-sized chert and dark reddish-brown, dolomitic, silty clay matrix. Minor light-brown, thin-bedded, medium-grained sandstone.

SYMBOLS FOR GEOLOGIC MAP

- Contact, location approximate
- Contact, location concealed beneath Qal
- Normal fault, location approximate, ball and bar on downthrown block
- Thrust fault, location approximate, sawtooth on upper plate
- Thrust fault, concealed beneath Qal, sawtooth on upper plate
- Trace of anticline axis, location approximate, arrow showing direction of plunge
- Strike and dip of bedding
- Horizontal bedding
- Strike and dip of overturned bedding

SYMBOLS FOR CROSS SECTIONS A-A' AND B-B'

- Stratigraphic contact
- Fault showing relative movement
- Upper Mississippian Bangor Limestone and Monteagle Limestone undifferentiated (Mbm) and middle and upper Cambrian Conasauga Formation (Cc) were not observed at surface in the study area. These units are illustrated on the cross section to show stratigraphic relationships at depth.

For additional geologic information (including detailed rock descriptions and outcrop photos, etc.), please refer to the accompanying report: Byerly, B. E., 2025, Geology of the Rodentown 7.5-minute quadrangle, DeKalb, Etowah, and Marshall Counties, Alabama. Alabama Geological Survey Quadrangle Series 82, 37 p. A copy of this map and report is available from the Geological Survey of Alabama Publications Office (<https://www.gsa.state.al.us/ogb/publications/>).

This map was compiled at a scale of 1:24,000 and any digital enlargement of the map to scales greater than 1:24,000 will not increase accuracy and can cause misrepresentation. Map and associated digital files may be updated in future years.

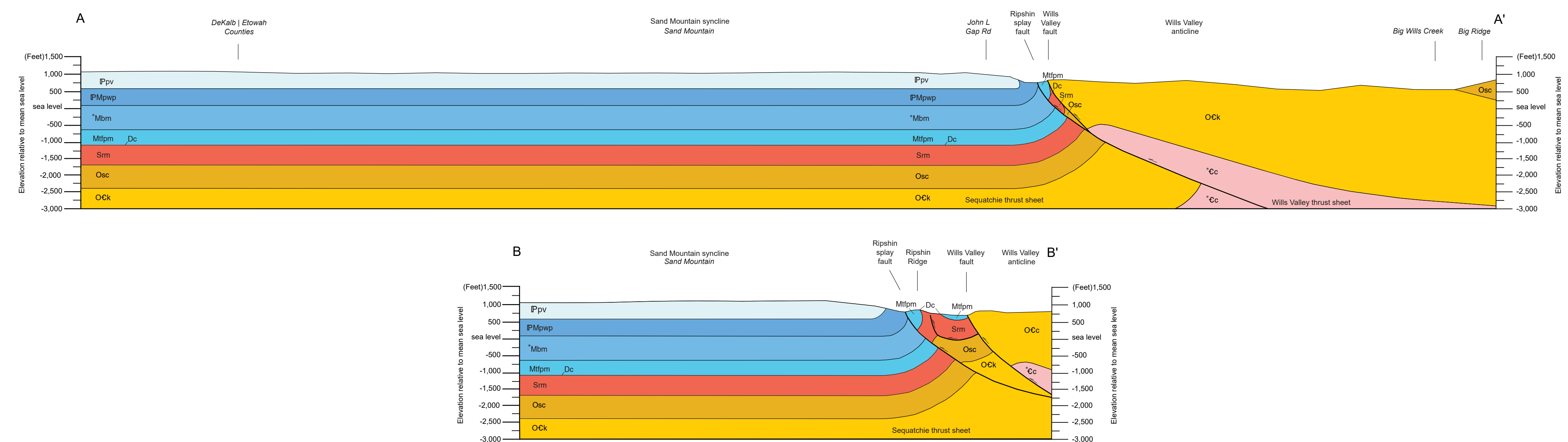
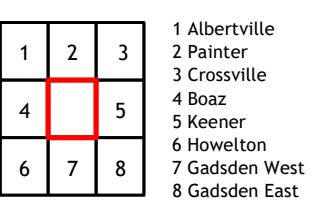
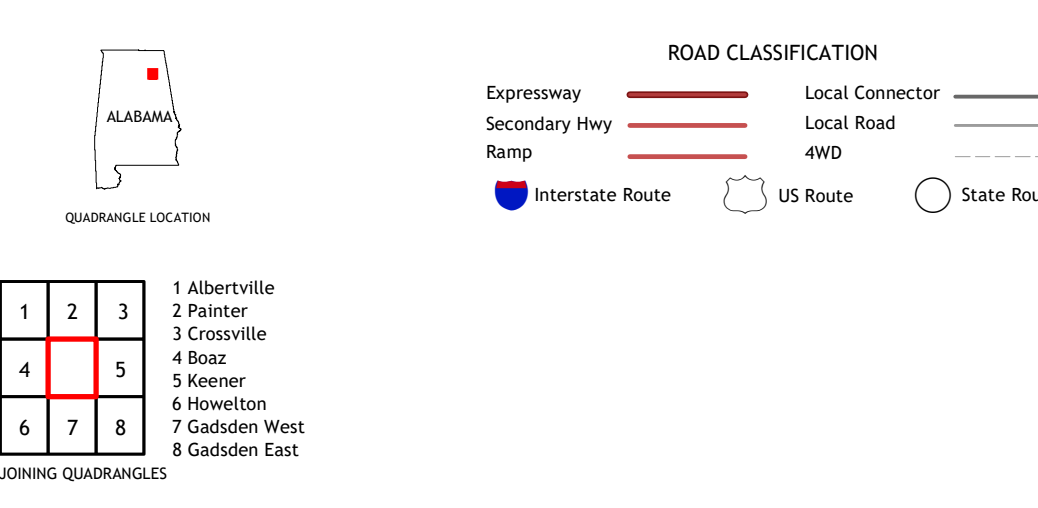
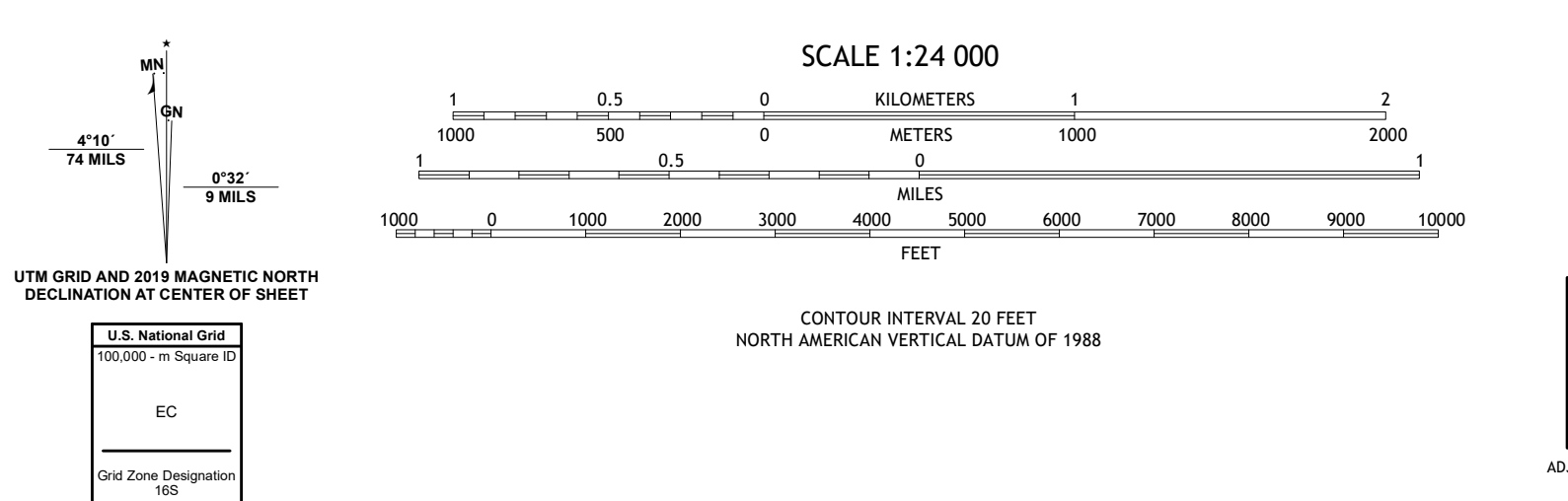
Map files are version dated, and users are responsible for obtaining the latest version of the map and associated data. Geologic map information was collected and recorded in the field by the Geological Survey of Alabama mapping staff, and this map reflects an interpretation of the geology based on that data collected at the time of field mapping. Year field mapping was completed: 2024.

Base topographic map USGS 2020. This topographic map is available on the USGS webpage "TopoView" (<https://www.ngmdb.usgs.gov/topoview/>).

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G22AC0571, 2022.

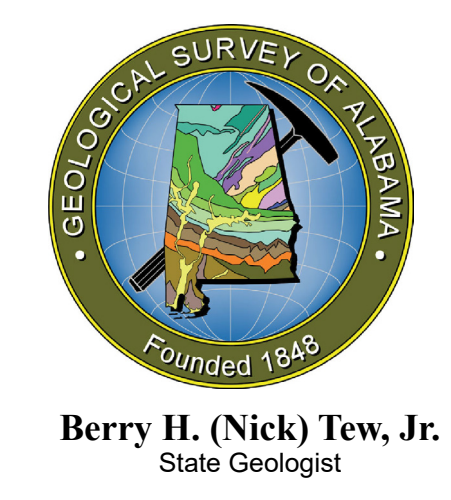
Spatial Reference: Universal Transverse Mercator Projection (UTM), Zone 16N, North American Datum of 1983 (NAD83), Geoidetic Reference System of 1980 (GRS 1980).

Map rotated -0.526 degrees for display.



GEOLOGIC MAP AND CROSS SECTIONS OF THE RODENTOWN 7.5-MINUTE QUADRANGLE, DEKALB, ETOWAH, AND MARSHALL COUNTIES, ALABAMA

by Benjamin E. Byerly 2025



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