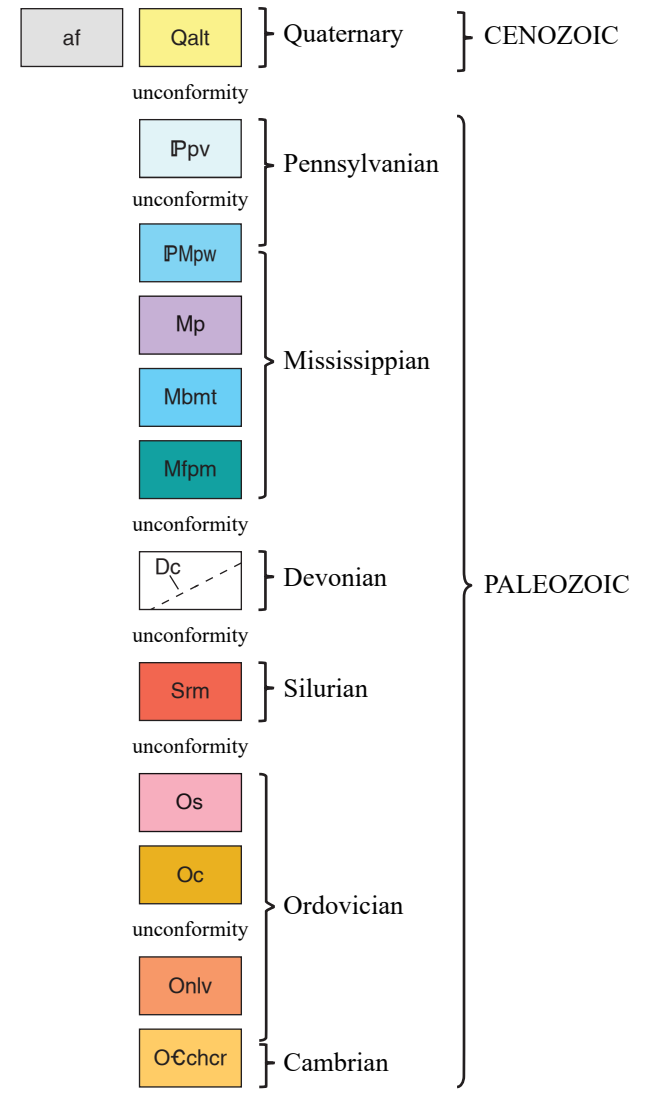


CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- af** Artificial fill (Quaternary)—Unconsolidated artificial deposits of clay, gravel, and boulders.
- Qalt** Alluvium and terrace deposits (Quaternary)—Unconsolidated fluvial deposits of clay, silt, sand, gravel, and cobbles including clasts of local bedrock.
- Ppv** Pottsville Formation (Lower Pennsylvanian)—Light-gray to light-brown, medium- to very coarse-grained, thin- to massive-bedded, well-cemented to friable quartzarenite and quartz-pebble (< 1 in.) conglomerate, commonly cross-bedded. Interbedded with intervals of light-gray to gray shaly siltstone and mudstone, locally contains coal seams.
- Ppww** Parkwood Formation (Upper Mississippian to Lower Pennsylvanian)—An upper part composed of tan to light-brown, fine- to medium-grained, thin- to medium-bedded, cross-bedded and rippled, argillaceous sandstone with a basal 1- to 3-foot-thick cross-bedded, clay-rich and silty siderite nodule conglomerate. A lower part composed of light-gray to brown flaser and cross-bedded, fine- to medium-grained sandstone interbedded with light-gray shale.
- Mp** Pennington Formation (Upper Mississippian)—Light-gray to gray and maroonish-gray, fissile claystone and siltstone. Poorly exposed at surface.
- Mbmt** Bangor, Montague, and Tusculmia Limestones undifferentiated (Upper to Middle Mississippian)—Bangor Limestone: Light- to medium-gray, thin- to massive-bedded limestone interbedded with thin beds of gray, silty limestone and isolated thin beds of nodular medium-gray chert, locally oolitic and cross-bedded. Montague Limestone: Light-gray, medium- to massive-bedded oolitic and bioclastic limestone, locally interbedded with thin calcareous siltstone and shaly limestone. Tusculmia Limestone: Light-gray, thick-bedded micritic limestone interbedded with horizons of chert, chert nodules, and bioclastic storm beds. Poorly exposed.
- Mjmm** Fort Payne Chert and Maury Formation undifferentiated (Middle to Lower Mississippian)—Fort Payne Chert: Light-gray to gray and yellowish-tan, thin- to medium-bedded, fossiliferous chert interbedded with thin shaly mudstone partings. Maury Formation: Light greenish-gray to gray and grayish yellow-green, laminated, highly fissile shale and blocky mudstone.
- Dc** Chattanooga Shale (Upper Devonian)—Grayish-black to jet-black, thinly laminated, organic rich, fissile, carbonaceous shale.
- Sim** Red Mountain Formation (Silurian)—Brown to dark reddish-brown and olive-gray, very fine- to medium-grained, locally hematitic and calcite cemented sandstone, siltstone, and shale, containing minor thin interbeds of limestone.
- Os** Sequatchee Formation (Upper Ordovician)—Reddish-gray to grayish-green, thinly laminated siltstone and mudstone containing interbeds of limestone, and fine- to very coarse-grained calcite and hematite-cemented sandstone.
- Oc** Chickamauga Limestone (Middle Ordovician)—Medium- to dark-gray, thin- to medium-bedded, partly argillaceous and locally silty, micritic to medium-grained, fossiliferous limestone locally containing shale interbeds, as well as several prominent bentonite units.
- Orlv** Newala and Longview Limestones undifferentiated (Lower Ordovician)—Newala Limestone: Light-gray, thin- to medium-bedded, cherty, finely crystalline limestone interbedded with very finely crystalline dolostone. Longview Limestone: Medium- to thick-bedded, light-gray to gray, micritic, very finely crystalline, cherty limestone interbedded with dolostone beds.
- Occhr** Chepultepec and Copper Ridge Dolomites undifferentiated (upper Cambrian and Lower Ordovician)—Chepultepec Dolomite: Light- to dark-gray, fine- to coarse-crystalline, thin- to medium-bedded, cherty dolomite interbedded with light- to medium-gray, thin- to thick-bedded, locally stromatolitic and micritic limestone, cavernous and fossiliferous chert, and minor mudstone and shale. Copper Ridge Dolomite: Light- to medium-gray, thick-bedded, medium- to coarse-crystalline siliceous dolomite that contains white to yellowish-gray, stromatolitic chert.

SYMBOLS FOR GEOLOGIC MAP

- Contact, location approximate
- Contact, location concealed beneath mapped units
- Contact, identity or existence questionable, location approximate
- Contact observed or closely located
- Thrust fault, location inferred, sawtooth on upper plate
- Thrust fault, location concealed beneath mapped units, sawtooth on upper plate
- Strike and dip of bedding
- Strike and dip of bedding, measurement approximate
- Strike and dip of overturned bedding
- Vertical bedding where top direction is known
- Chert borrow pit

For additional geologic information (including detailed rock descriptions and outcrop photos, etc.), please refer to the accompanying report: Whitmore, J. P., 2025. Geology of the Chavies 7.5-minute quadrangle, DeKalb County, Alabama: Alabama Geological Survey Quadrangle Series 85, 52 p.

A copy of this map and report is available from the GSA Publications office (<https://www.gsa.state.al.us/ogbi/publications/>).

This map was compiled for 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 data files may be updated in future years.

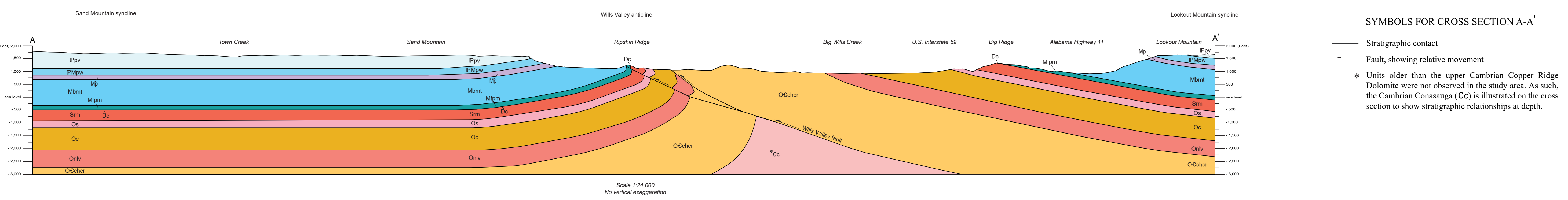
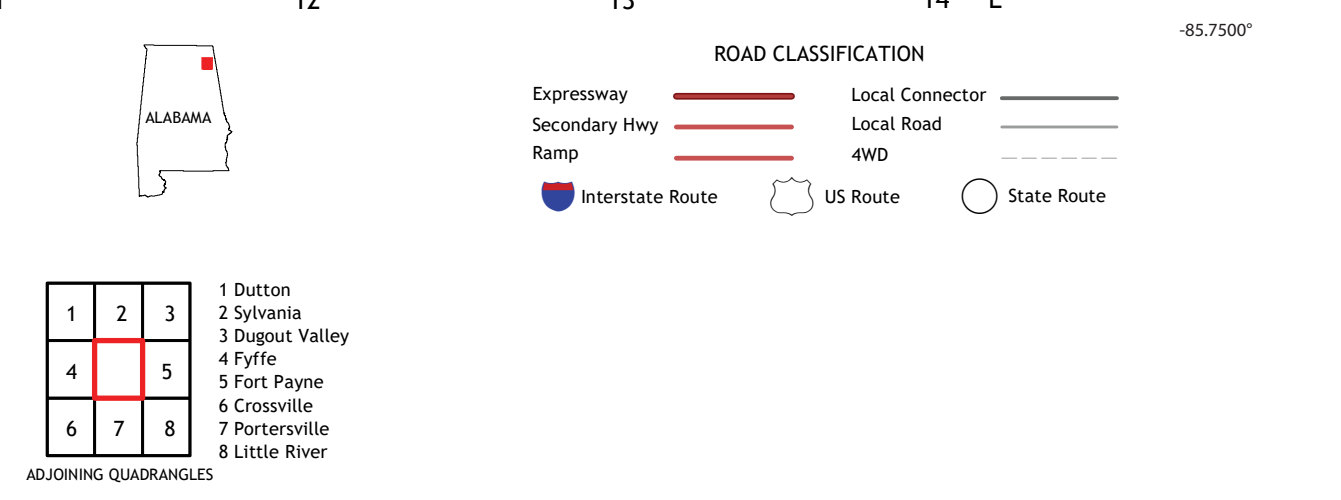
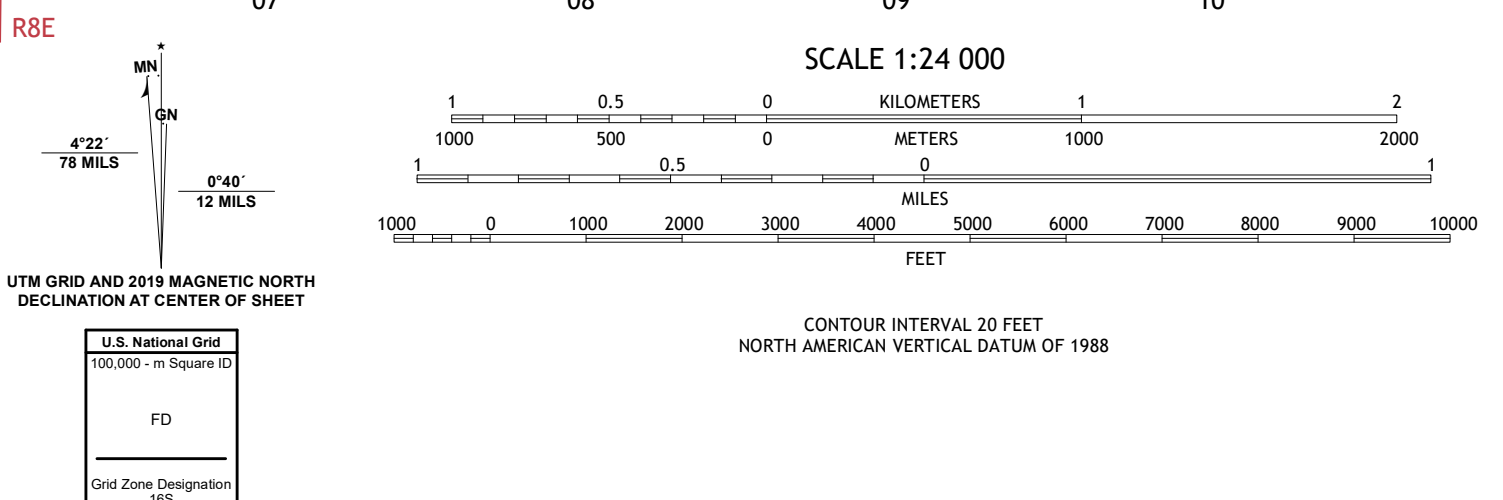
Map files are version dated, and users are responsible for obtaining the latest version of the map and associated data. Geologic map information was collected and recorded in the field by the Geological Survey of Alabama mapping staff, and this map reflects an interpretation of the geology based on that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

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G22AC00571, 2022.

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

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

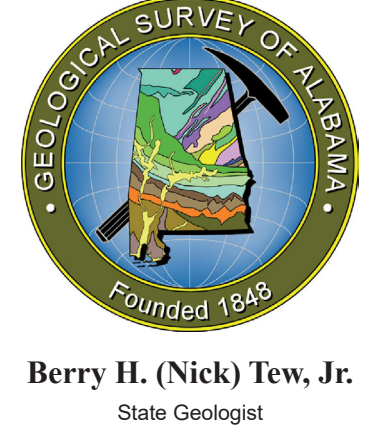
Map rotated -0.67 degrees for display



- SYMBOLS FOR CROSS SECTION A-A'
- Stratigraphic contact
 - Fault, showing relative movement
- * Units older than the upper Cambrian Copper Ridge Dolomite were not observed in the study area. As such, the Cambrian Conasauga (Cc) is illustrated on the cross section to show stratigraphic relationships at depth.

GEOLOGIC MAP AND CROSS SECTION OF THE CHAVIES 7.5-MINUTE QUADRANGLE, DEKALB COUNTY, ALABAMA

by
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2025



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