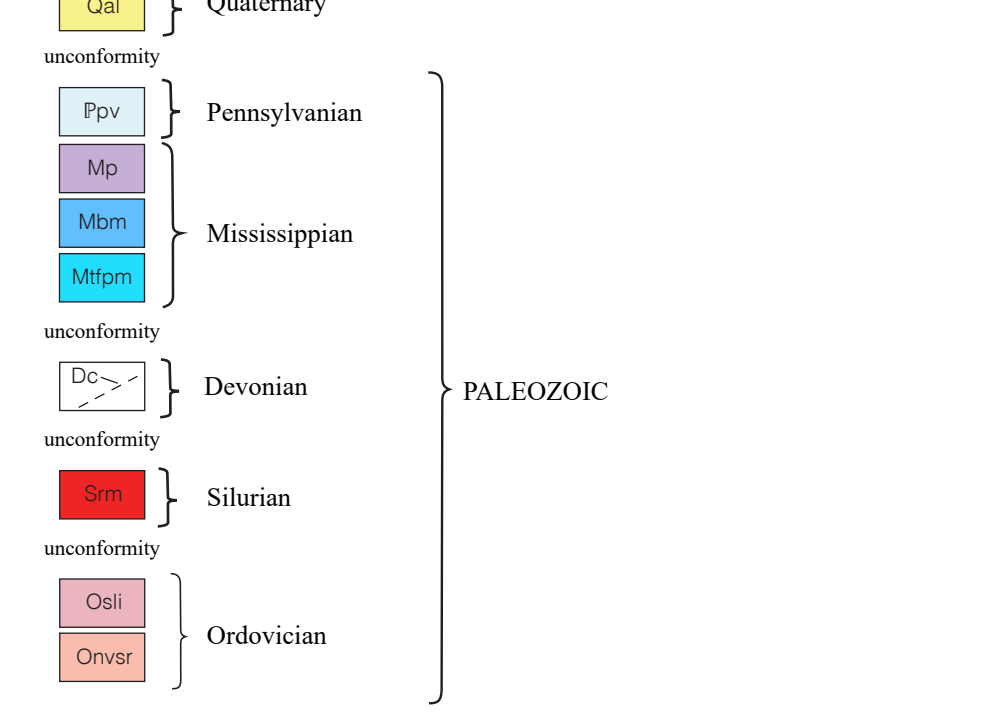


CORRELATION OF GEOLOGIC MAP UNITS



DESCRIPTION OF MAP UNITS

- af** Artificial fill—Construction material.
- Qal** Alluvium (Quaternary)—Unconsolidated sand, silt, clay, and gravel derived from local bedrock.
- Ppv** Pottsville Formation (Lower Pennsylvanian)—Very light gray to pinkish-gray, fine- to coarse-grained, thin- to massive-bedded, quartzose sandstone locally containing scattered to abundant, well-rounded quartz pebbles; very light gray quartz pebble conglomerate locally present (quartz pebbles up to 2 inches in diameter).
- Mpm** Pennington Formation (Upper Mississippian)—Lower part contains light-gray, thin- to medium-bedded, conchoidally fractured dolomite and dolomudstone that may locally contain black chert nodules. Above the basal dolomite is grayish-orange shale and blocky mudstone containing interbeds of yellowish-gray siltstone. Locally, mineralized zones containing limonitic crusts, and botryoidal iron concretions are common. Upper part is dominantly laminated maroon, light-gray, yellowish-brown, and grayish-brown shale, mudstone and siltstone containing thin interbeds of fine-grained, locally crossbedded micaceous sandstone.
- Mm** Bangor and Monticello Limestones undifferentiated (Upper Mississippian)—Bangor Limestone: Predominantly light- to dark-gray, bioclastic and oolitic limestone. Lower part contains medium- to medium-dark-gray, thin- to massive-bedded, skeletal wackestone/packstone that grades locally to skeletal grainstone. Irregular nodules and thin beds of black, dense chert occur near the base. Uppermost part contains light- to dark-gray, thin- to thick-bedded, locally crossbedded skeletal packstone/grainstone and oolitic grainstone. Grayish-green, fissile shale beds are locally present. Monticello Limestone: Predominantly light- to medium-dark-gray, thin- to massive-bedded, oolitic and fossiliferous, locally crossbedded limestone.
- MtMn** Tuscumbia Limestone, Fort Payne Chert, and Maury Formation undifferentiated (Lower and Upper Mississippian)—Tuscumbia Limestone: Medium- to bluish-gray, thin- to massive-bedded, locally crossbedded, skeletal grainstone containing light-gray to bluish-black nodules, stringers, and thin beds of chert. Fort Payne Chert: Dark- to very dark gray lime mudstone and white- to grayish-orange, dense, irregularly bedded, locally fossiliferous chert interbedded with very pale orange to light-brown, silty clay. Maury Formation: Dark-yellowish-orange, blocky mudstone and pale-purple to greenish-gray silty claystone.
- Dc** Chattanooga Shale (Upper Devonian)—Reddish-brown to black, laminated, fissile, carbonaceous shale containing interbeds of light-brown, very fine to fine-grained sandstone.
- Sl** Red Mountain Formation (lower and upper Silurian)—Medium-gray, olive-green, pale-yellowish-brown, to light-olive-brown silty clay shale with interbeds of yellowish-gray to grayish-green, fossiliferous limestone, and thin beds of moderate-yellowish-brown to pale-yellowish-brown, fine-grained sandstone/siltstone.
- Orv** Sequatchie Formation, Leipers Limestone, and Inman Formation undifferentiated (Upper Ordovician)—Sequatchie Formation: Lower part is dominantly red to greenish-gray shale with thin interbeds of limestone. The middle part of the section is composed of dark-gray to light-green limestone that is locally argillaceous, glauconitic, and burrowed. The shale is olive green to maroon, fissile to blocky and is locally burrowed. The upper part is maroon to red, medium- to coarse-grained, ferruginous limestone containing bioclastic lenses. Leipers Limestone: Lower part is dark-gray to grayish-blue, thin-bedded, thinly-laminated skeletal packstone. Some bed tops are locally burrowed and contain desiccation cracks. The upper part consists of silty limestone and limestone interbedded with shale. The silty limestone is light gray, fine grained, and thin to massive bedded. The limestone is dark gray, fine to medium grained, partly bioclastic, and interbedded with dark-gray shale. The shale interbeds are light gray and fissile.
- Orv** Nashville and Stones River Groups undifferentiated (Middle Ordovician)—Nashville Group: Light- to medium-gray, greenish-gray, and bluish-gray, thin- to flaggy-bedded to thick-bedded, partly argillaceous skeletal wackestone/packstone locally containing thin beds and nodules of dark-gray chert and light-gray to greenish-gray shale. Stones River Group: Lower part is light- to medium-gray, thin- to medium-bedded, lime mudstone and skeletal wackestone/packstone. Locally, medium-gray, finely crystalline, crudely laminated dolomite is present. Upper part is light-gray and thin-bedded fossiliferous limestone. Light-greenish-gray, laminated benticonic shale is near the upper contact.

SYMBOLS FOR GEOLOGIC MAP

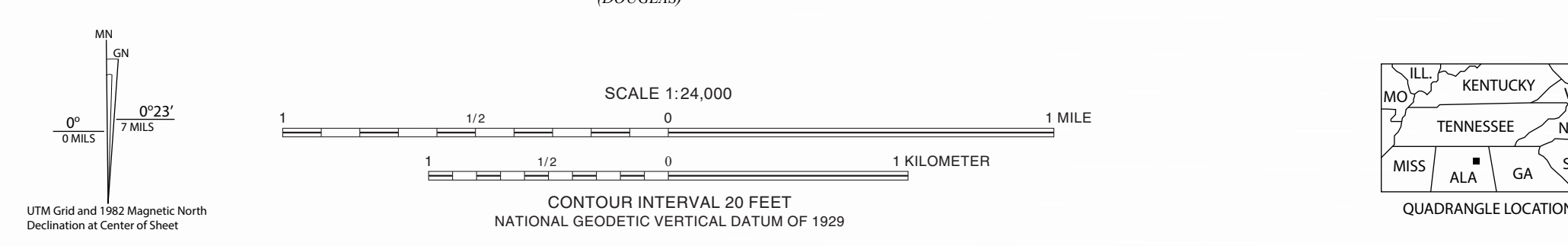
- X--- Contact, dashed where located very approximately, showing location of control point (contact exposed or closely located)
- ?--- Contact, dashed where located very approximately, queried where uncertain
- Contact, concealed beneath mapped units
- Trace of anticline axis, located approximately
- Water boundary
- Strike and dip of bedding

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

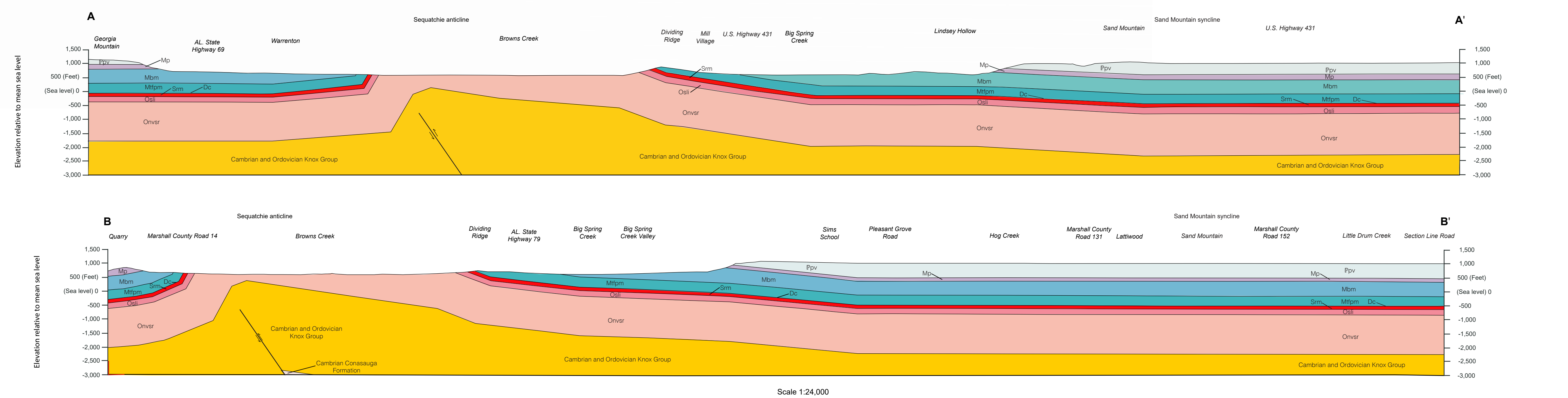
- Stratigraphic contact
- Fault, showing relative movement

For additional geologic information (including detailed rock descriptions and outcrop photos, etc.), please refer to the accompanying report.
 Irvin, G. D., Osborne, W. E., and Cook, B. S., 2024. Geology of the Guntersville 7.5-minute quadrangle, Marshall County, Alabama: Alabama Geological Survey Quadrangle Series 76, 41 p.
 A copy of this map and report is available from the GSA Publications office (<https://www.gsa.state.al.us/ogb/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. Year field mapping was completed: 2009.

Base topographic map USGS 1948, photorevised 1983. This topographic map (and an updated version) 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 08HQAG0109, 2008.
 Spatial Reference: Universal Transverse Mercator Projection (UTM), Zone 16N, North American Datum of 1927 (NAD27), Clarke spheroid of 1866.
 Map rotated -0.387 degrees for display.



Digital database by G. Daniel Irvin



GEOLOGIC MAP OF THE GUNTERSVILLE 7.5-MINUTE QUADRANGLE, MARSHALL COUNTY, ALABAMA

by G. Daniel Irvin, W. Edward Osborne, and Philip A. Dinterman 2022



Berry H. (Nick) Tew, Jr. State Geologist