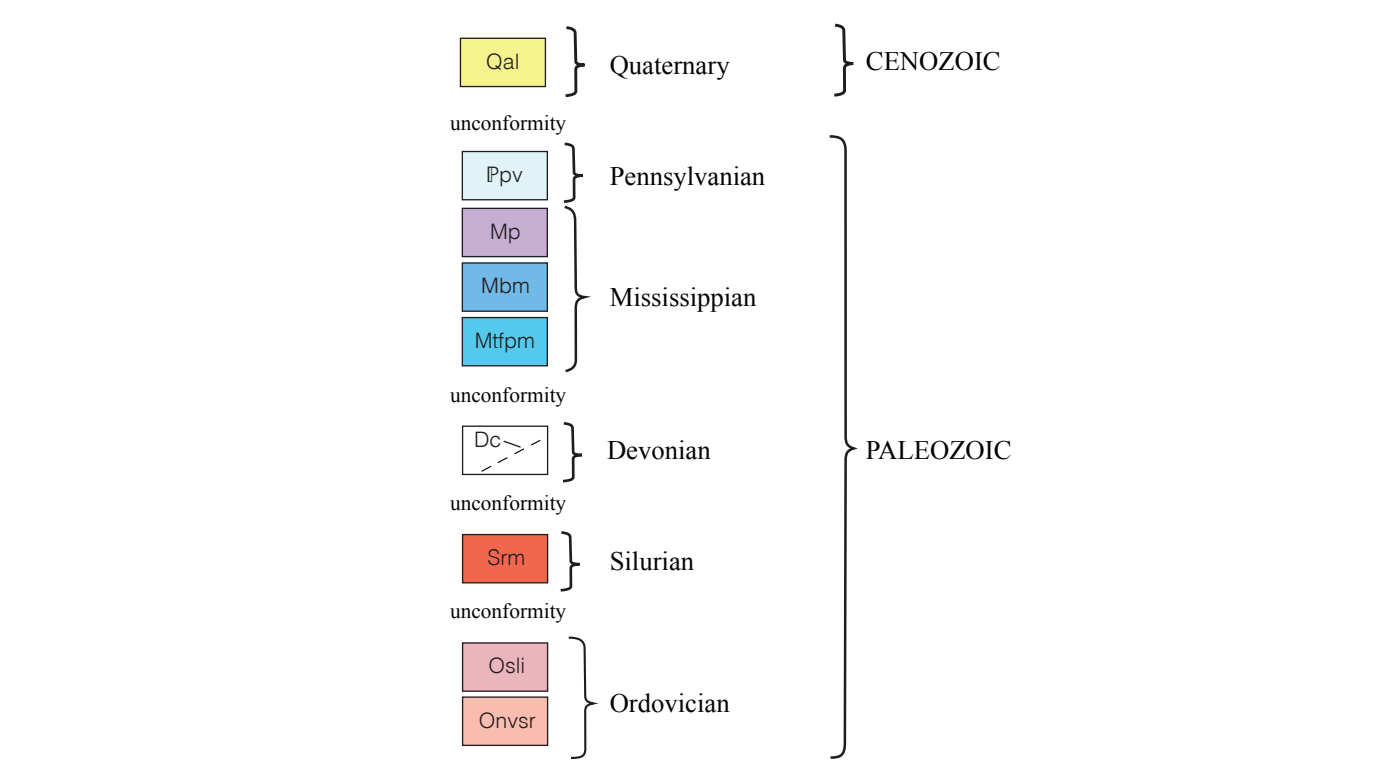


CORRELATION OF GEOLOGIC MAP UNITS



DESCRIPTION OF MAP UNITS

- af** Artificial fill—Construction material.
- Qal** Alluvium (Quaternary)—Unconsolidated sand, silt, clay, and gravel derived from local bedrock. Uncommon unconsolidated terrace gravels.
- Ppv** Pottsville Formation (Lower Pennsylvanian)—Light gray, fine- to coarse-grained, thin- to massive-bedded, quartzose sandstone locally containing scattered to abundant, well-rounded quartz pebbles; quartz pebble conglomerate locally present. Commonly crossbedded, locally rippled, and horizontally laminated. Dark-gray shale interbeds are locally present. Common plant fragments and molds.
- Mp** Pennington Formation (Upper Mississippian)—Contains a basal, light-gray to very dark gray, thin- to thick-bedded, dense, crystalline, conchoidally fractured dolomite and dolomudstone that contains shale partings and black chert nodules. Above the basal dolomite is bioclastic limestone containing common nodules and beds of dark-gray to black, dense chert. Lower and middle part is dominantly light-gray to dark-gray, thin- to medium-bedded bioclastic and micritic limestone with some medium- to dark-gray dolomite beds, oolitic, crossbedded, and laminated intervals, light- to dark-gray argillaceous limestone, and gray shale. Contains thick intervals of red and green shales. Upper part is dominantly olive-green shale and/or light-gray to dark-gray, thin- to medium-bedded fossiliferous limestone with some medium- to dark-gray dolomite beds.
- Mb** Bangor Limestone (Upper Mississippian)—Predominantly light-gray to dark-gray, thin-bedded to massive, bioclastic and oolitic limestone. Oolitic and peloidal limestones are commonly crossbedded. Irregular nodules and thin beds of black, dense chert are common in upper part. Upper part contains thin beds of light- to dark-gray dolomite. Beds of black chert and medium-gray fissile shale are common.
- Mm** Montagle Limestone (Upper Mississippian)—Predominantly light- to dark-gray, thin- to massive-bedded, oolitic and fossiliferous limestone.
- Mtptm** Tuscumbia Limestone, Fort Payne Chert, and Maury Formation undifferentiated (Lower and Upper Mississippian)—Tuscumbia Limestone: Medium-gray, thin- to massive-bedded, micritic and bioclastic limestone and light-bluish-gray to white thin- to medium-bedded fossiliferous chert. Fort Payne Chert: Grayish-tan and yellowish-orange, irregularly bedded, locally fossiliferous limestone. Maury Formation: Light-greenish-gray shale.
- Dc** Chattanooga Shale (Upper Devonian)—Black to dark-gray, laminated, fissile, carbonaceous shale containing interbeds of pale-brown, very fine to fine-grained, quartzose sandstone at the base.
- Sm** Red Mountain Formation (Lower and Upper Silurian)—Greenish-gray, fissile shale and mudstone and light-olive-gray to grayish-orange siltstone and thin beds of grayish-orange, ferruginous fine-grained sandstone and siltstone.
- Oal** Sequatchie Formation, Leipers Limestone, and Inman Formation undifferentiated (Upper Ordovician)—Sequatchie Formation: Pale-red to purplish-brown, coarse-grained, massive, crystalline, iron-cemented limestone and limey sandstone containing scattered coarse sand grains and grayish-purple to very dark red, poorly sorted, friable sandstone. Commonly crossbedded and occasionally hummocky and ripple bedded. Leipers Limestone: Light- to medium-dark-gray, medium- to massive-bedded, fossiliferous limestone. Common argillaceous and bioturbated intervals. Inman Formation: Greenish-gray and maroon-gray interbedded thin-bedded limestone with shale partings. Commonly laminated.
- Onvr** Nashville and Stones River Groups undifferentiated (Middle Ordovician)—Nashville Group: Light- to dark-gray, thin- to medium-bedded, argillaceous limestone with interbedded lime mudstone and fossiliferous limestone with uncommon shale interbeds. Stones River Group: Light- to dark-gray, thin- to medium-bedded, fossiliferous limestone with interbeds of argillaceous limestone and greenish-gray calcareous shale. Upper part is commonly bioturbated and laminated.

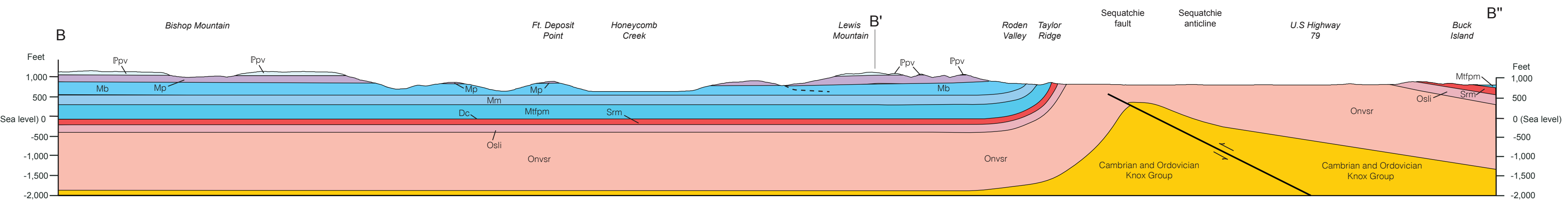
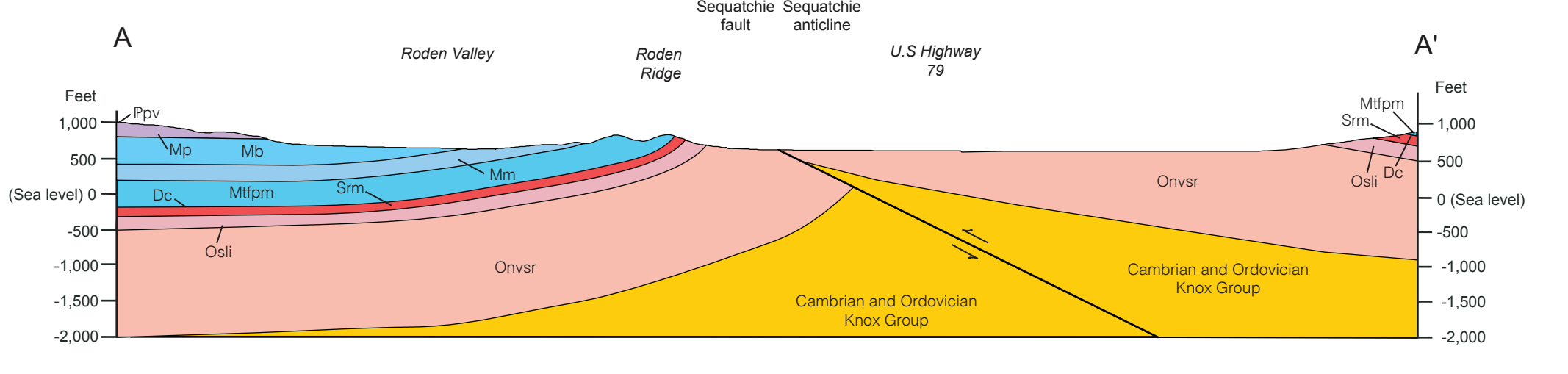
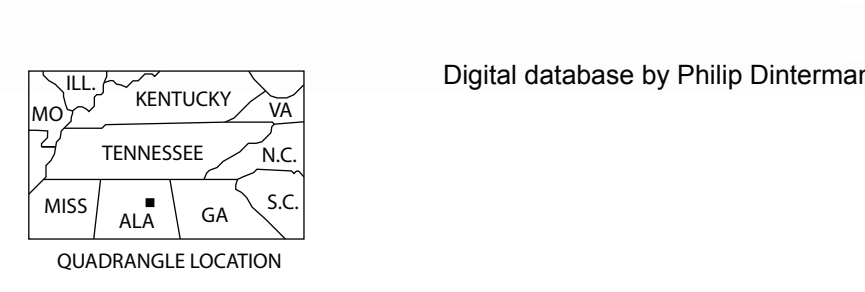
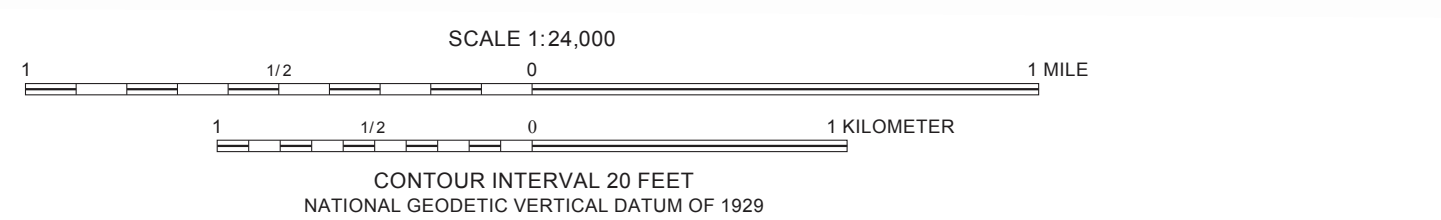
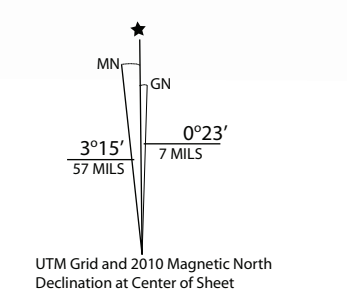
SYMBOLS FOR GEOLOGIC MAP

- X--- Contact, dashed where located approximately, showing location of control point (contact exposed or closely located)
- Contact, dashed where located very approximately
- Contact, short dashed where inferred
- Contact, concealed beneath mapped units
- .-.-.-.- Thrust fault, located very approximately, sawtooth on upper plate
- Fault, approximately located, type of displacement unknown
- Trace of anticline axis, located approximately
- Water boundary
- Strike and dip of bedding
- Strike of vertical bedding
- Location of horizontal bedding
- Strike and dip of joint
- Strike of vertical joint

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

- Stratigraphic contact
- Fault, showing relative movement
- Inferred fault, type of displacement unknown

Base topographic map U.S. Geological Survey 1948 (Photorevised 1983)
 Produced in cooperation with the U.S. Geological Survey, National Cooperative Geologic Mapping Program, Cooperative Agreement 08HQAG0109
 Polyconic projection, 1927 North American datum 10,000-foot grid based on Alabama (East) rectangular coordinate system
 Map rotated 0.35 degrees clockwise for display



GEOLOGIC MAP OF THE MT. CARMEL 7.5-MINUTE QUADRANGLE,
 MARSHALL COUNTY, ALABAMA

by
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 2010



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