

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF GEOLOGY
 OPEN-FILE REPORT 338
GEOLOGIC MAP
 of the
BALDWIN QUADRANGLE
 Prentiss, Lee, Union, and Tippah Counties, Mississippi
 Geology by Darrel W. Schmitz, RPG, Ernest E. Russell, PhD, and Jonathan R. Leard, RPG
 2022

DESCRIPTION OF MAP UNITS

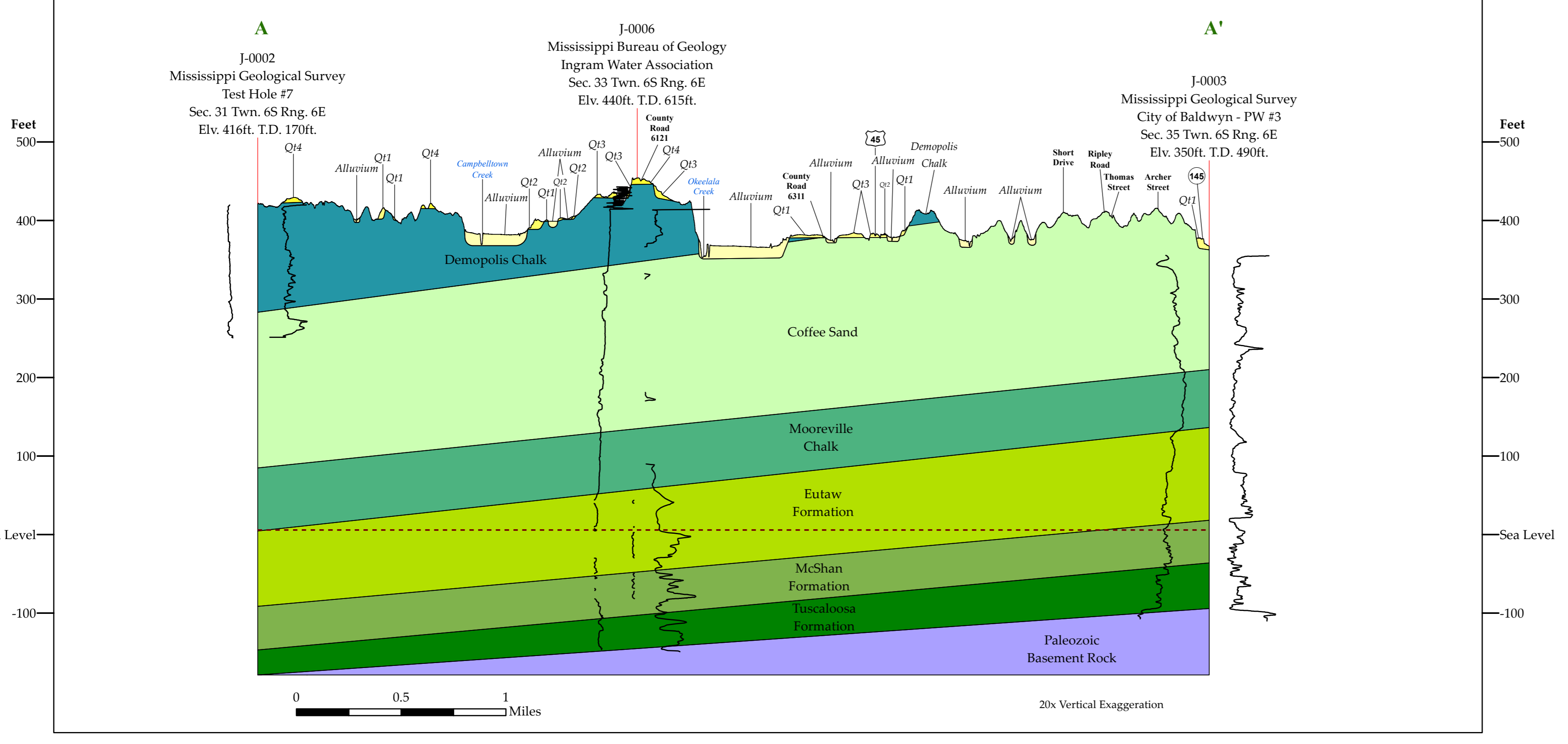
Geologic Unit	Age Group	Description
Fill	HOLOCENE	ARTIFICIAL FILL Anthropogenic fill including earthen, stone, and manufactured materials such as concrete and steel.
Qa1	PLEISTOCENE	ALLUVIUM Sand, medium- to brownish-gray, very fine- to very coarse-grained, subangular to subrounded quartz, silty, clayey; lower portions contain layers and lenses of flattened quartzite and quartz pebbles interspersed with rounded chert pebbles; iron staining common on pebbles. Qa1 - youngest and lowest in elevation of Terrace alluvium deposits. Qa2 - second youngest in age and elevation of Terrace alluvium deposits. Qa3 - third youngest in age and elevation of Terrace alluvium deposits. Qa4 - fourth youngest in age and elevation of Terrace alluvium deposits. Qa5 - fifth youngest in age and elevation of Terrace alluvium deposits. The older in age and higher in elevation Terrace alluvium deposits become increasingly eroded and discontinuous.
Qt1		
Qt2		
Qt3		
Qt4		
Qt5		
Kr	UPPER CRETACEOUS	RIPLEY FORMATION Clay in lower portion conformably transitioning from underlying Demopolis Chalk. Sand, chalk and limestone above the transitional clay. Transitional clay is laminated to thin bedded, dark greenish gray, medium gray and reddish tan where highly weathered; locally sandy; and fossiliferous. Sand, chalk and limestone are interbedded lenses of sand, chalky sand, silty chalk or chalky limestone. Sands are tan to red where weathered; fine grained; micaceous; calcareous; and fossiliferous. Chalks are gray to tan; often silty and sandy; and fossiliferous. Limestones are light gray to nearly white where weathered; often sandy; and fossiliferous. Thickness ranges up to approximately 285 feet.
Kd		DEMOPOLIS CHALK Massive-bedded chalk and marly chalk. Medium to light gray and bluish-gray, weathers to tan. Contains subordinate amounts of pyrite, glauconite, and mica. Fossiliferous in many locations. Thickness ranges up to approximately 135 feet.
Kc		COFFEE SAND Sand, buff, yellow, red-brown, light to dark gray, fine to medium-grained, glauconitic, with zones of silty sand and clay and occasional thin beds of concretionary sandstone layers. Fossiliferous in certain parts. The base of the Coffee Formation is questionably disconformable, almost impossible to differentiate on the basis of lithology from the underlying Tombigbee Member sands. The only evidence are phosphatic molds and general fossils in the basal Coffee not common to the Tombigbee. Thickness ranges up to 225 feet.

GEOLOGIC MAP BALDWIN QUADRANGLE
 Prentiss, Lee, Union, and Tippah Counties, Mississippi

Scale 1:24,000
 Contour Interval 20 Feet

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Structural Cross-Section of the Baldwin 7.5-Minute Geologic Quadrangle



Geology field checked in 1975, 1992, and 2021 using the 1973, U.S. Geological Survey 7.5-minute topographic quadrangle, Universal Transverse Mercator projection, 1927 North American datum, contour interval 20 feet; Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator 1983 datum grid ticks, zone 16, shown in red. June 2022 magnetic declination 2.54° W ± 0.36° changing by 0.08° W per year.

Sources: Contours obtained from Mississippi Automated Resource Information System (MARIS), Public Land Survey System, 1:24,000 scale, railroad features, highway features, and hydrologic information from MARIS. We thank the National Park Service and Mississippi State University for their cooperation and for facilitating the data collection and fieldwork necessary for this mapping project. Litar from Brad Segrest & Barbara Yassin of the Mississippi Department of Environmental Quality (MDEQ), Natural Resources Conservation Service, National Oceanic and Atmospheric Administration, United States Army Corps of Engineers, and MARIS. Building Footprint data is licensed by Microsoft under the Open Data Commons Open Database License (ODbL).

Geographic Information System by Darrel W. Schmitz, RPG, Mississippi State University, and Jonathan R. Leard, RPG, MDEQ Office of Geology-Surface Mapping Division. MDEQ does not warrant the accuracy or completeness of the source data. Geologic maps are only a guide to current understanding and do not eliminate the need for detailed investigations of specific sites for specific purposes.

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