



GEOLOGIC MAP
of the
MARIETTA QUADRANGLE
Prentiss County, Mississippi



Geology by Ernest E. Russell, PhD
and Darrel Schmitz, RPG
Cross-Section by Darrel Schmitz, RPG
and Jonathan R. Leard, GIT

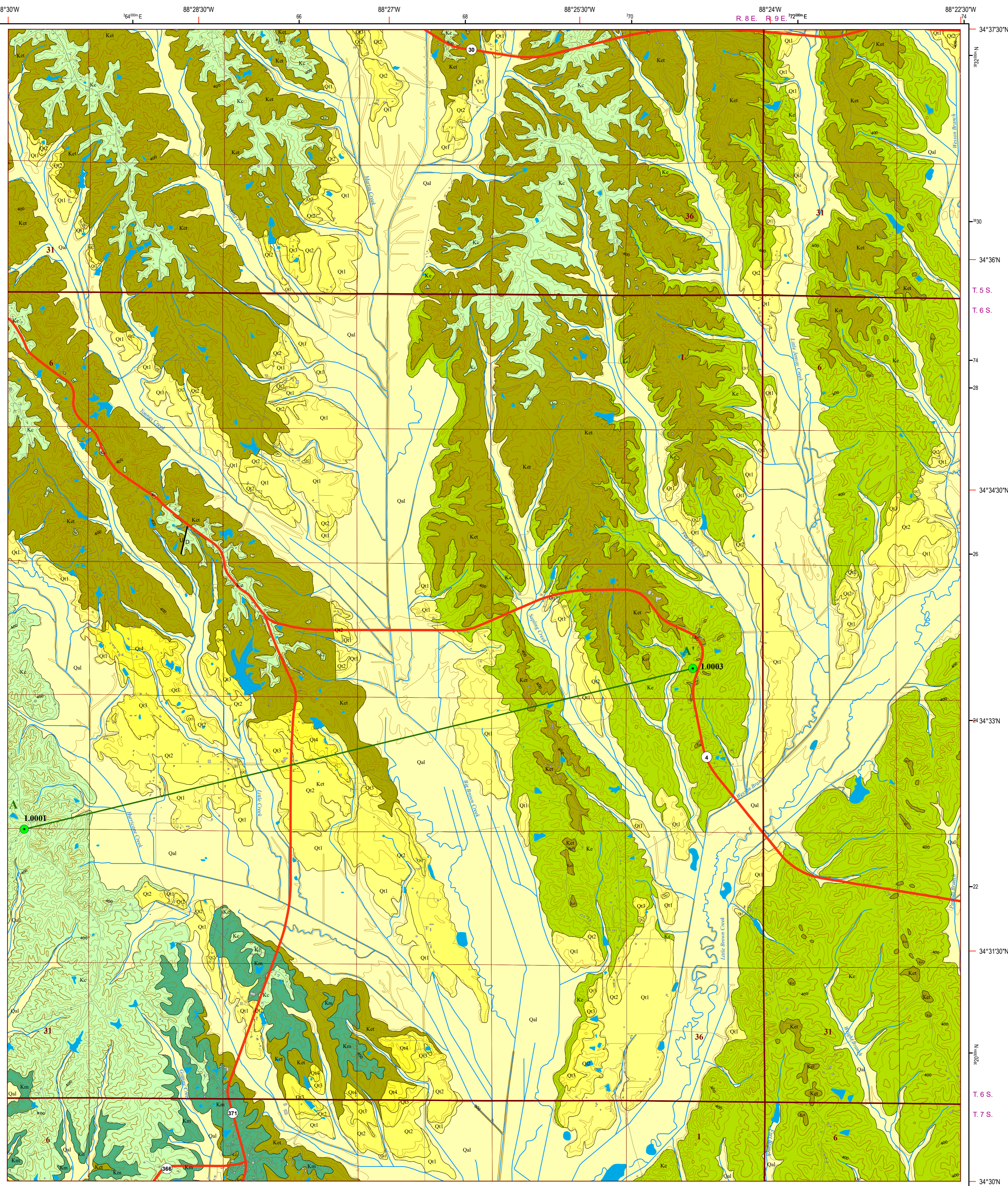
2019

DESCRIPTION OF MAP UNITS

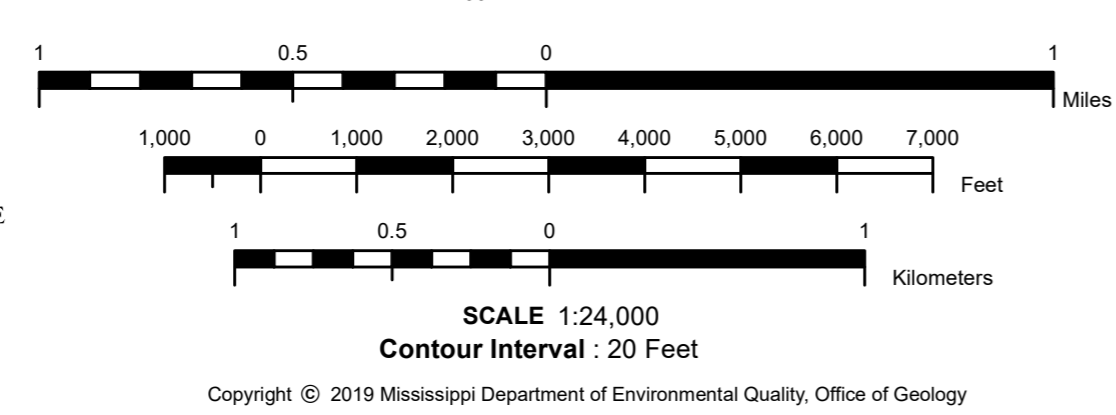
QUATERNARY	HOLOCENE	Qal	ALLUVIUM	
			Floodplain deposits of clay, silt, and sand. Generally gray, yellowish-orange, orange, and tan. Approximately 25 feet thick along larger streams, thinning up tributaries.	
PLEISTOCENE		Qt1	TERRACE ALLUVIUM Abandoned floodplain deposits of clay, silt, and sand generally yellowish-orange, orange, and tan. Approximately 25 feet thick adjacent to larger stream Alluvium or younger terrace deposits, thinning or non-existent up tributaries. Qt1 - youngest and lowest in elevation of Terrace alluvium deposits. Qt2 - second youngest in age and elevation of Terrace alluvium deposits. Qt3 - third youngest in age and elevation of Terrace alluvium deposits. Qt4 - fourth youngest in age and elevation of Terrace alluvium deposits that is more eroded and discontinuous.	
		Qt2		
		Qt3		
		Qt4		
CRETACEOUS	UPPER CRETACEOUS	SELMA GROUP	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 questionable 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 about 140 feet.
		Km	MOOREVILLE CHALK Massive-bedded marly chalk and calcareous silt. Medium to light gray, and bluish-gray, weathers to tan. Locally sandy and contains subordinate amounts of glauconite. Fossiliferous in many locations. Conformable contact with overlying Coffee Sand. Thickness ranges from approximately 115 to 160 feet.	
	EUTAW GROUP	Ket	EUTAW FORMATION Ket Tombigbee Member, Sand, olive drab to light- to reddish-brown, light to dark gray, greenish-gray, fine-grained, massive, glauconitic, in part argillaceous, micaceous, somewhat calcareous, and fossiliferous. The base is conformable with the underlying portion of the Eutaw Formation. Thickness ranges up to 55 feet.	
	Ke	Sand, tan, yellow, brown, reddish-brown light to dark gray, greenish gray, glauconitic, fine to coarse grained, cross-bedded, with laminae of dark gray flaky clay, and stringers of small chert gravel, locally carbonaceous and locally fossiliferous. The Eutaw Formation disconformably overlies the McShan Formation. Thickness ranges up to about 200 feet.		

L0001 Drill Hole Locality and Identifier

U Fault



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Prentiss County, Mississippi



Geology field checked in 1992, 2014, 2015, and 2017 using the 1971, 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. September 2019 magnetic declination 2.48° W ± 0.34° changing by 0.07° 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. Public Land Survey System from MARIS, 1:24,000 scale. Lidar from Brad Segrest & Barbara Yasson 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 Kate Grala, and Darrel W. Schmitz, Mississippi State University, and Jonathan R. Leard, GIT, 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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2009-2018 Mississippi Statewide LIDAR-Generated DEM and Hill Shade

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

L-0001
Mississippi Geological Survey
A.J. Sample
Sec.30 - T.6S - R.8E
Elev.460ft. T.D.451ft.

L-0003
Mississippi Bureau of Geology
New Site Water Association
Sec.13 - T.6S - R.8E
Elev.370ft. T.D. 272ft.

