

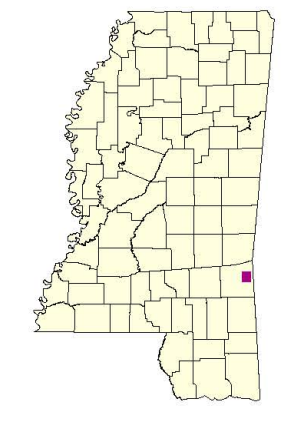
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF GEOLOGY
 OPEN-FILE REPORT 219
GEOLOGIC MAP
 of the
DENHAM QUADRANGLE
 Wayne County, Mississippi

Geology by D. Kenneth Davis and James E. Starnes, GIT
 2008

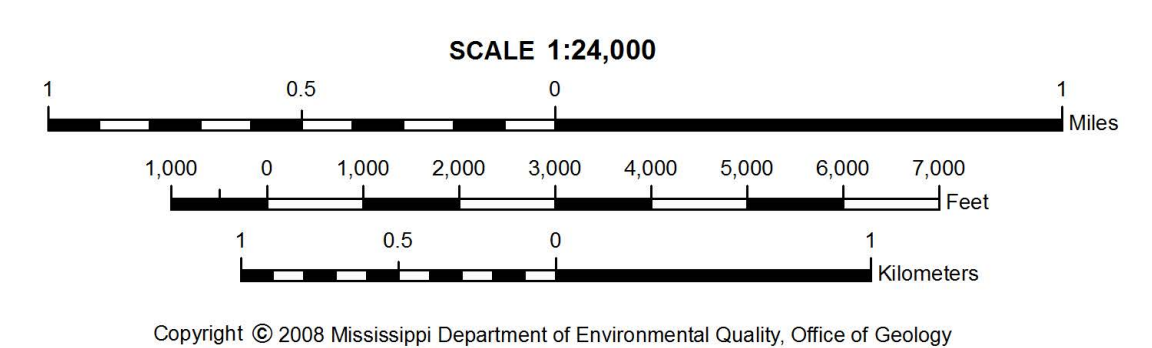
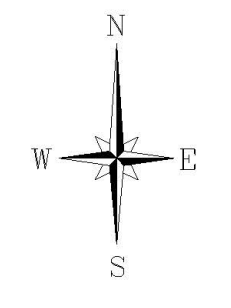
DESCRIPTION OF MAP UNITS

HOLOCENE	ALLUVIUM	Qal	Flood plain sands, silts, gravels, and clays.
QUATERNARY	TERRACE DEPOSITS	Qt	Sand, yellow, orange, purple, red, pink, fine- to coarse-grained, predominantly quartzose, sparingly graveliferous, pea- to small cobble-size, predominantly quartz with lesser amounts of chert. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the terrace, which unconformably overlies the Catahoula Formation. These terrace deposits cap the flat-topped divide between the Chickasaw River and Buckatunna Creek.
	CITRONELLE FORMATION	Qtc	Sand, yellow, orange, purple, red, pink, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive, graveliferous, pea- to cobble-size, predominantly chert with lesser amounts of vein quartz, metaquartzite, agate, and sandstone. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the formation, which unconformably overlies the Catahoula and Chickasawhay/Paynes Hammock Formations. The Citronelle Formation occurs at elevations above 350 feet MSL along Highway 84.
OLIGOCENE - MIOCENE	CATAHOULA FORMATION	Tca	Sand, gray, pale yellow to white, fine- to coarse-grained, cross-bedded to massive, with rare thinly-bedded pea gravels (consisting of highly polished, subangular- to well-rounded, black chert and milky quartz), predominantly quartzose with lesser amounts of chert, metaquartzite, mica, and dark grains indicative of heavy minerals, slightly glauconitic in places, silicified wood and fossil palm common; sandstone, lithology same as for sand above, occurs as indurated ledges near the surface; clay, green, gray, brown, weathers white to brown, silty to sandy, lignite common in basal clays.
	CHICKASAWHAY and PAYNES HAMMOCK FORMATIONS	Tch - Tph	Marl, green to gray, indurated, silty to sandy, fossiliferous, glauconitic, weathers to a white moldic limestone. Sand, quartzose, subangular, medium- to coarse-grained, clean to calcareous-cemented. Clay, green to gray, calcareous. The Chickasawhay and Paynes Hammock formations were mapped together due to the similarity of their diverse lithologies. The Paynes Hammock Formation is characterized by the presence of the giant oyster, <i>Ostrea blanchi</i> , and the abundance of regular echinoid spines along bedding planes in calcareous clay facies. The two formations can be differentiated from the limestones of the Vicksburg Group by the presence of the bivalves <i>Pecten howei</i> and <i>Kuphus incrassatus</i> , the echinoid <i>Echinolampas aldrichi</i> , and the large Foraminifera <i>Leptocyclus undosa</i> .
EARLY OLIGOCENE	VICKSBURG GROUP		
	BUCATUNNA FORMATION	Tbu	Clay, dark brown to dark gray, weathers light brown to light gray, carbonaceous, silty to sandy, micaceous, laminated to massive, sparingly fossiliferous.
LATE OLIGOCENE	MARIANNA and GLENDON FORMATIONS	Tma - Tg	Glendon Limestone is white to gray, commonly indurated to semi-crystalline bioclastic limestone, either massive or with alternating ledges separated by thinly-bedded glauconitic marl. The Glendon Limestone commonly contains solution cavities at or near outcrop. Larger cavities usually form at the contact with the underlying Marianna Limestone. The Marianna Limestone is white to pale-yellow, soft to indurated, glauconitic marl, containing an admixture of fine-grained sands and clays in places. The Glendon and Marianna limestones can be differentiated from the Paynes Hammock/Chickasawhay limestones by the abundance of the large Foraminifera <i>Leptocyclus mantelli</i> (in the Marianna) and <i>Leptocyclus supra</i> (in the Glendon) and the echinoid <i>Clypeaster rogersi</i> .
	JACKSON GROUP		

O - 11 Drill-hole locality and identification number



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Geology field checked in 2008 using the 1964, photorevised 1982, U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 10 feet. Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red; 1927 datum shown in blue. January 2008, magnetic north declination in quadrangle center is 0°55' west of true north.

Sources: Road features, USGS Digital Line Graph data, 1:100,000 scale. Water features, USGS National Hydrography Dataset, 1:24,000 scale. Public Land Survey System and contours, Mississippi Automated Resource Information System (MARIS), 1:24,000 scale. Declination, National Oceanic and Atmospheric Administration (NOAA).

Geographic Information System by Daniel W. Morse, 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.

This map was produced by the Mississippi Office of Geology in cooperation with the United States Geological Survey, National Geologic Mapping Program, under STATEMAP grant #07HQAG0066.

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

