

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGY
OPEN-FILE REPORT 208

GEOLOGIC MAP
of the
LOUISVILLE SW QUADRANGLE

Winston and Choctaw
Counties, Mississippi



Geology by David E. Thompson, RPG

2006

DESCRIPTION OF MAP UNITS

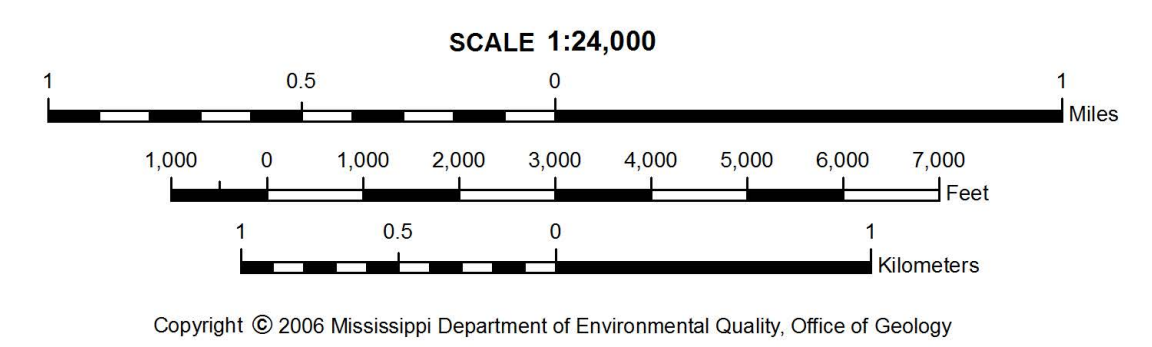
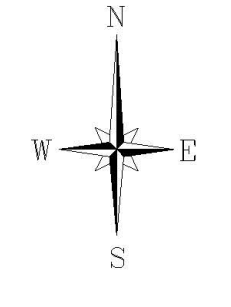
QUATERNARY HOLOCENE	Qal	ALLUVIUM Sand, flood plain sands and silts.
	Tmr	MERIDIAN SAND Sand, gray to very light gray, weathers yellowish gray to reddish orange, very fine- to very coarse-grained, typically fining upward, quartzose, micaceous, locally carbonaceous or slightly glauconitic, pyritic, interbedded to interlamated with silt, siltstone, and clay, dark gray to white, carbonaceous; the upper beds are typically silty or argillaceous. Locally, the basal portion of the Meridian Sand may be predominantly argillaceous with typical Tallahatta siltstone lithologies overlying sand and clay of the Hatchetigbee Formation. This scenario led previous investigators to omit the Meridian Sand completely or to incorrectly assign the Meridian Sand to the underlying Hatchetigbee Formation. The thickness is approximately 100 feet; however, only the basal 60 feet or so are present as outcrops in the southwestern portion of the quadrangle. Unconformity at base. The Meridian Sand constitutes the upper portion of the Meridian/Upper Wilcox Aquifer.
TERTIARY EOCENE	Th	HATCHETIGBEE FORMATION Sand, gray to light gray, weathers reddish orange to pale yellowish orange, very fine- to very coarse-grained, quartzose, micaceous, pyritic, clay clast conglomerate, especially sandy and coarse-grained at base; interbedded to interlamated with clay, gray to brownish gray, weathers very light gray to white, silty, carbonaceous to lignitic, especially argillaceous in the upper beds of the formation; lignite. The basal 50 feet or so represent a non-marine equivalent to the fossiliferous, marine, Dashi Formation of east-central Mississippi, mark the Paleocene/Eocene unconformity, and consist of sand, gray to light gray, weathers reddish orange to pale yellowish orange, very fine- to very coarse-grained, quartzose, micaceous, carbonaceous, slightly pyritic, clay clast conglomerate. The thickness is approximately 220 feet. The Hatchetigbee Formation constitutes the basal portion of the Meridian/Upper Wilcox Aquifer.
	Ttu	TUSCAHOMA FORMATION Sand, dark greenish gray to light gray, weathers reddish orange to pale yellowish orange, very fine- to coarse-grained, quartzose, micaceous, carbonaceous, glauconitic. Interbedded to interlamated with clay and silt, light olive gray to brownish black, weathers various shades of red, gray, brown, or white; lignite, contains Red Hills Mine equivalent lignite seams II through L along with several stratigraphically higher upper Tuscahoma lignite seams. Total thickness is approximately 430 feet; however, only the upper 200 feet are exposed in the quadrangle. The basal sandy interval constitutes the Middle Wilcox Aquifer.

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An informal boundary which divides the clays and silts at the top of the middle Tuscahoma beds from the overlying basal sands of the upper Tuscahoma Formation. The upper Tuscahoma, which may be predominantly sandy locally, is approximately 140 feet thick. Argillaceous beds generally persist at the top.

J - 010
● Drill-hole locality and identification number



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Geology field checked in 2005 using the 1972, photorevised 1982, U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 20 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. January 2006, estimated magnetic north declination in quadrangle center is 0°26' 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 #05HQAG0021.

Structural Cross-Section of the Louisville SW 7.5-Minute Quadrangle

