

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF GEOLOGY  
OPEN-FILE REPORT 249  
**GEOLOGIC MAP**  
of the  
**HOUSE QUADRANGLE**

Neshoba and Kemper Counties,  
Mississippi



Geology by David E. Thompson, RPG

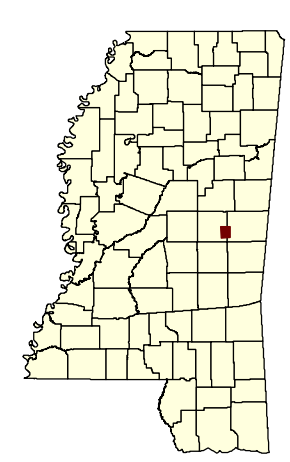
2012

**DESCRIPTION OF MAP UNITS**

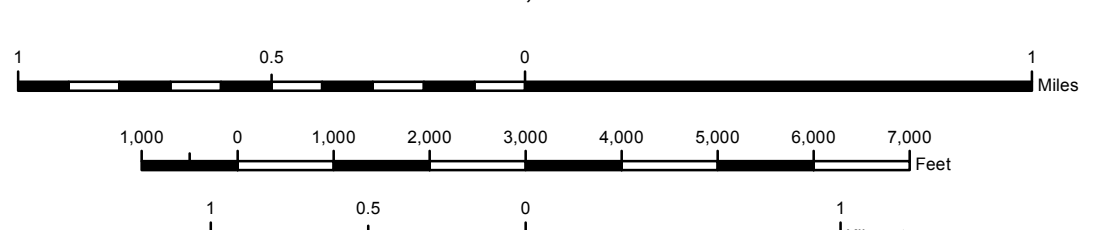
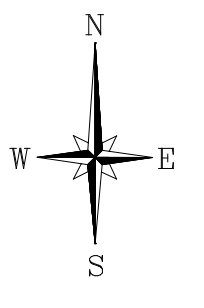
- QUATERNARY HOLOCENE**
- Qal** ALLUVIUM  
Sand, flood plain sands, and silts.
- TERTIARY EOCENE CLAIBORNE GROUP**
- Tt** TALLAHATTA FORMATION  
Basic City Member  
Clay, silt, claystone, and quartzitic siltstone and sandstone, olive gray to brownish gray, weathers yellowish gray to very light gray or white, carbonaceous with leaf and plant impressions, facoidal structures are common, locally exhibits marine fossil prints, near surface exposures may exhibit jointing with limonite infilling; claystones typically weather to lightweight and brittle rock with a subconchoidal fracture; interbedded to interlamated with sand, gray to very light gray, weathers pale yellowish orange to reddish orange, very fine- to medium-grained, unconsolidated, massive to cross-bedded, quartzose, micaceous, carbonaceous, pyritic; also greenish yellow to buff, fine-grained, semi-consolidated, siliceous, glauconitic, and silty. The base is marked by a sandy interval, approximately 20 feet thick, which in outcrop exposures may exhibit quartzitic sandstone characteristics. Unconsolidated sands in the upper 30 to 60 feet are termed the Neshoba Sand Member. The total thickness is approximately 220 feet; however, only the lower 60 feet or so are exposed in the southwestern portion of the quadrangle.
  - 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 and/or glauconitic, pyritic, interbedded to interlamated with silt, siltstone, and clay, dark gray to white, carbonaceous, the upper beds are typically silty or argillaceous. The maximum thickness is approximately 100 feet. Unconformity at base. The Meridian Sand constitutes the upper portion of the Meridian/Upper Wilcox Aquifer.
- TERTIARY EOCENE WILCOX GROUP**
- 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, 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 40 feet or so represent a non-marine equivalent to the fossiliferous, marine, Basho 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, locally exhibits fossil prints, commonly exhibits clay clast conglomerate with coarser-grained facies. The thickness is approximately 220 feet. The Hatchetigbee Formation constitutes the basal portion of the Meridian/Upper Wilcox Aquifer.
  - Ttu** TUSAHOMA FORMATION  
Sand, dark greenish gray to light gray, weathers reddish orange to pale yellowish orange, very fine- to coarse-grained, quartzose, micaceous, carbonaceous, slightly glauconitic. Interbedded to interlamated with clay and silt, light olive gray to brownish black, weathers to various shades of red, gray, brown, or white; lignitic, contains Red Hills Mine equivalent lignite seams H through L along with several stratigraphically higher upper Tusahoma lignite seams. Total thickness is approximately 430 feet; however, only the upper 230 feet are exposed northeastern region of the quadrangle.
- PALEOCENE WILCOX GROUP**
- Ttu** TUSAHOMA FORMATION (continued)

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

**PCL House #1** Drill-hole locality and identification number



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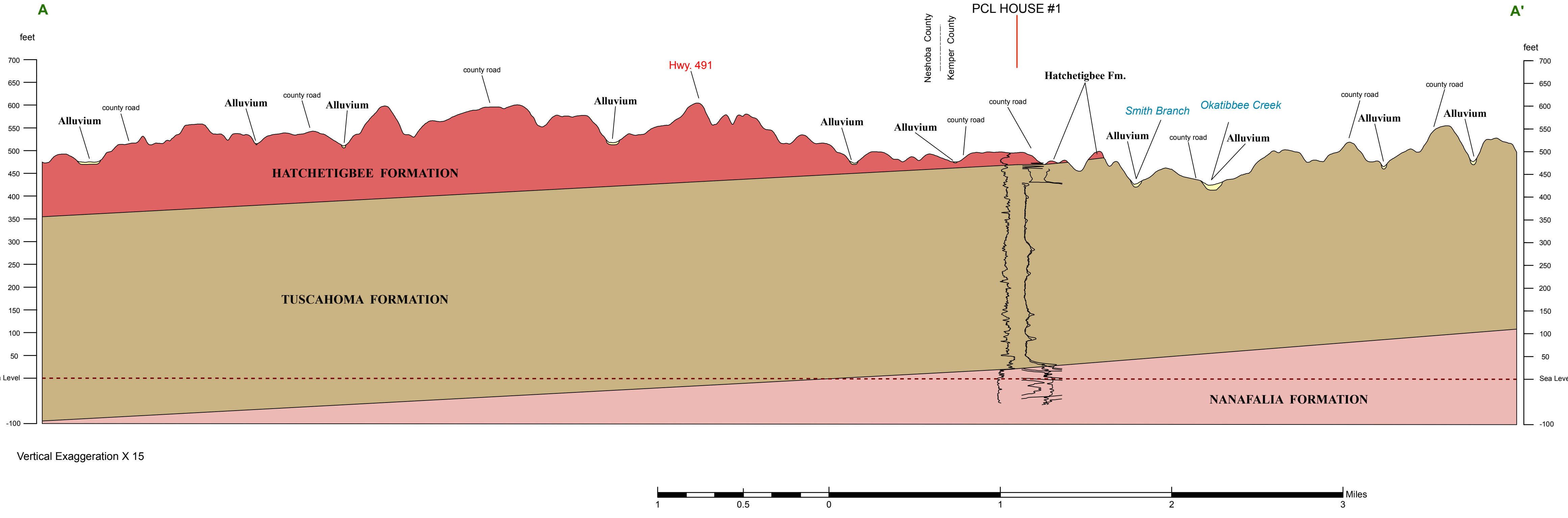
Geology field checked in 2012 using the 1962, PHOTOREVISED 1985, U.S. Geological Survey 7.5-minute topographic quadrangle, 1983 North American datum, contour interval 20 feet, 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red; January 2011, magnetic north declination in quadrangle center is 1° 16' 53" west of true north.

Sources: The base map is derived from the Digital 2012 USTOPO of the USGS topographic quadrangle map, Decatur, 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 W11AC20265.

**Structural Cross-Section of the House 7.5-Minute Geologic Quadrangle**



Vertical Exaggeration X 15

