



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF GEOLOGY
 OPEN-FILE REPORT 214
GEOLOGIC MAP
 of the
PEACHAHALA CREEK QUADRANGLE

Carroll County, Mississippi



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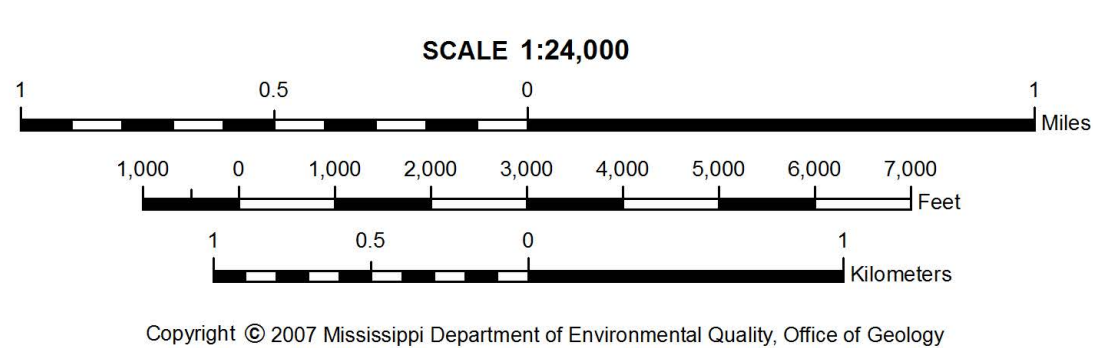
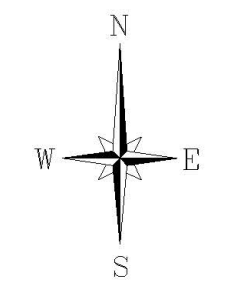
2007

DESCRIPTION OF MAP UNITS

- | | | | |
|------------|-----------------|--|---|
| QUATERNARY | HOLOCENE | | ALLUVIUM
Sand, flood plain sands and silts. |
| | PLEISTOCENE | | LOESS
Silt, buff to tan, pale yellow, red, or gray, sandy to clayey, quartzose, feldspathic. Unweathered loess is typically calcareous with dolomite and calcite; however, loess in this quadrangle is highly weathered, leached/noncalcareous, very clayey, and has been referred to as a brown or yellow loam. Loess is an eolian deposit derived from glacial outwash. Loess deposits blanket the pre-loess topography of the quadrangle area, with greater quantities developed along ridge crests than in valleys, creating local variation in thickness. The thickness in the quadrangle is estimated at 2 to 7 feet; loess is present east of the mapped area, but coverage is discontinuous and the average thickness is less than 5 feet. In places, weathered loess contains secondary deposits of small calcareous concretions (caliche, loess dolls). |
| TERTIARY | Eocene | | KOSCIUSKO FORMATION
Sand, gray to light olive gray, weathers reddish orange to pale yellowish brown, very fine- to very coarse-grained, quartzose, micaceous; interbedded to interlaminated with silt and clay, light olive gray to brownish gray, carbonaceous to lignitic; especially argillaceous in the upper third of the formation. Locally, the basal Kosciusko contains layers of quartzitic, siliceous siltstone and sandstone as thick as 5 feet, in places occurring as large boulders along hill tops and slopes. Unconformity at base. Thickness is estimated to be 300 feet; however, only the lower half of the formation is exposed in the central and western portions of the quadrangle and on hilltops in the eastern portion of the quadrangle. Constitutes the Sparta Aquifer. |
| | CLAIBORNE GROUP | | ZILPHA FORMATION
Clay, gray to brownish black, carbonaceous to lignitic, weathers light gray to reddish pink to white, massive and homogeneous or interbedded to interlaminated with silt and sand; gray to light olive gray, quartzose, micaceous, carbonaceous, locally glauconitic; concretionary siderite and limonite; near surface exposures may exhibit jointing with selenite or limonite in filling. The thickness is variable from a few feet to 60 feet. Only the upper part is exposed in the low elevations of the eastern quarter of the quadrangle, where it is a weathered, silty, white clay. Much of the Zilpha outcrop belt is covered by alluvium at lower elevations and by a colluvium of red sand and sandstone boulders from the basal Kosciusko Formation at higher elevations along hill slopes. |
- N-001 Drill-hole locality and identification number



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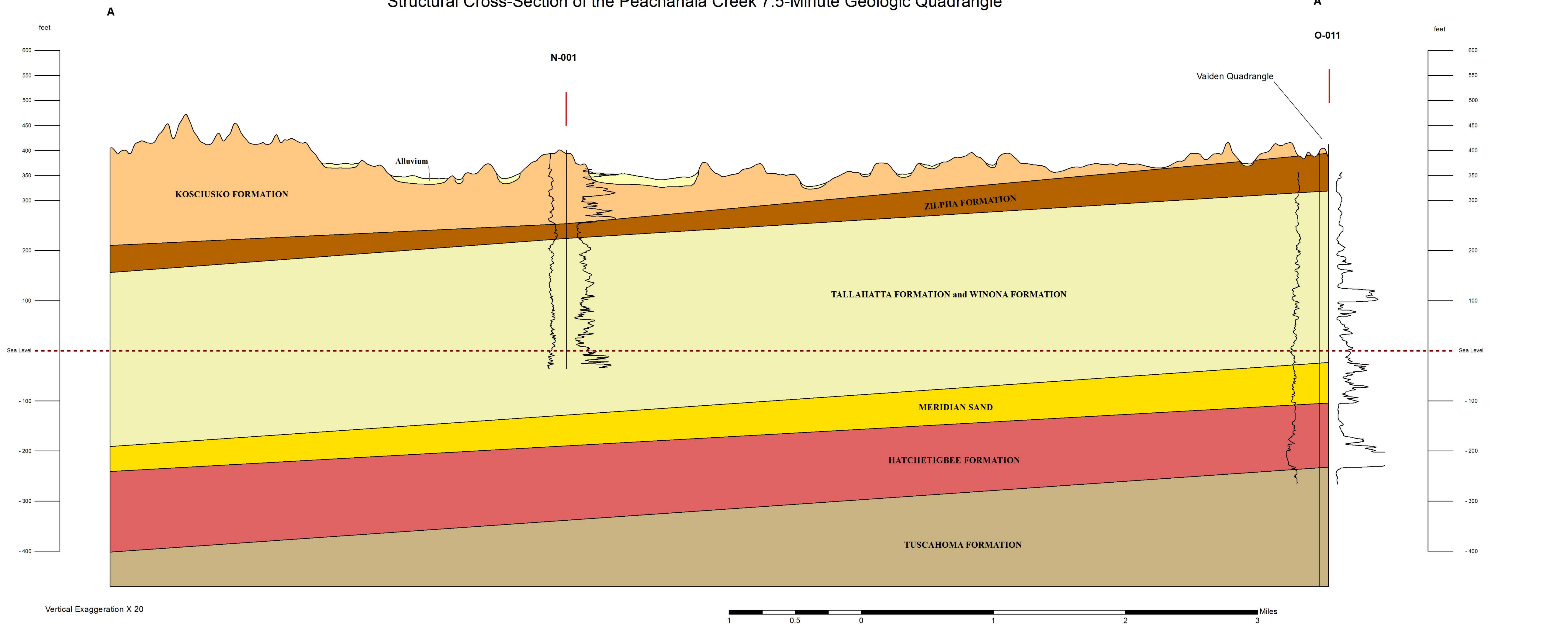
Geology field checked in 2007 using the 1975, U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 20 feet. Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red. January 2007, magnetic north declination in quadrangle center is 0°17' 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 #06HQAG002.

Structural Cross-Section of the Peachahala Creek 7.5-Minute Geologic Quadrangle



Vertical Exaggeration X 20

