

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF GEOLOGY
 OPEN-FILE REPORT 224
GEOLOGIC MAP
 of the
NORTH CARROLLTON QUADRANGLE

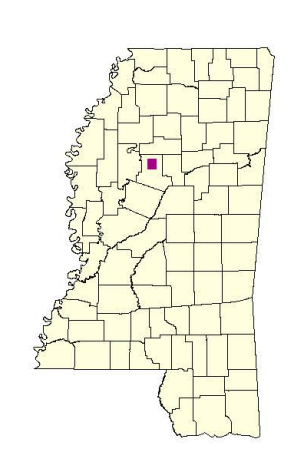


Geology by David E. Thompson, RPG

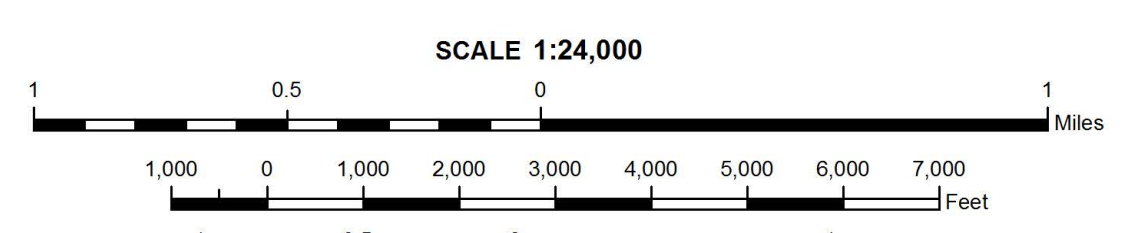
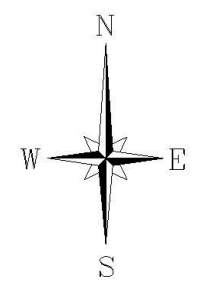
2009

DESCRIPTION OF MAP UNITS

- | | | | |
|------------|---------------------------|--|---|
| QUATERNARY | HOLOCENE | | ALLUVIUM
Flood plain sands, silts, gravels, and clays. |
| | 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 5 to 15 feet. In places, weathered loess contains secondary deposits of small calcareous concretions (caliche, loess dolls). |
| TERTIARY | Eocene
CLAIBORNE GROUP | | PRE-LOESS TERRACE DEPOSITS
Sand, dark red, reddish orange, pink, bright yellowish brown, brown, and occasionally white, fine- to very coarse-grained, predominantly quartzose, locally micaceous, poorly sorted and massive to well sorted and cross-bedded; typically graveliferous with quartz and chert pebbles, especially at base. Commonly exhibits clay clast conglomerate with purplish red to white, kaolinitic, rip-up clasts. Locally interbedded with clay, light gray to purplish red to white, kaolinitic, plastic. Locally contains regular layers of hematitic to limonitic sandstone. Unconformity at base, with an irregular, undulating surface. Roughly corresponds to the Lafayette Formation, Brown (1907); the Citronelle Formation, Priddy (1942); the Bentley Terrace, Fisk et al. (1949); and the Upland Complex, Saucier (1994). The thickness in the quadrangle is estimated at a few feet up to 50 feet. |
| | | | 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 upper third of the formation. Locally, the basal Kosciusko contains layers of quartzitic, siliceous siltstone and sandstone as thick as 5 feet, often occurring as large boulders along hill tops and slopes. Unconformity at base. The thickness is estimated to be 300 feet; however, only the lower 180 feet or so are exposed in the quadrangle. Constitutes the Sparta Aquifer. |
| | | | CATAHOULA FORMATION
Sand, gray, pale yellow to white, fine- to coarse-grained, cross-bedded to massive with rare thinly-bedded pea gravels (gravels consist of black chert and milky quartz, are highly polished, subangular to well rounded), often indurated to sandstones at surface, predominantly quartzose with lesser amounts of chert, metaquartzite, mica, and heavy minerals, slightly glauconitic in places, silicified wood and fossil palm common; clay, green, gray, brown, weathers white to brown, silty to sandy, lignite common in basal clays. |
- B - 009 Drill-hole locality and identification number



GEOLOGIC MAP
NORTH CARROLLTON QUADRANGLE
 Carroll County, Mississippi

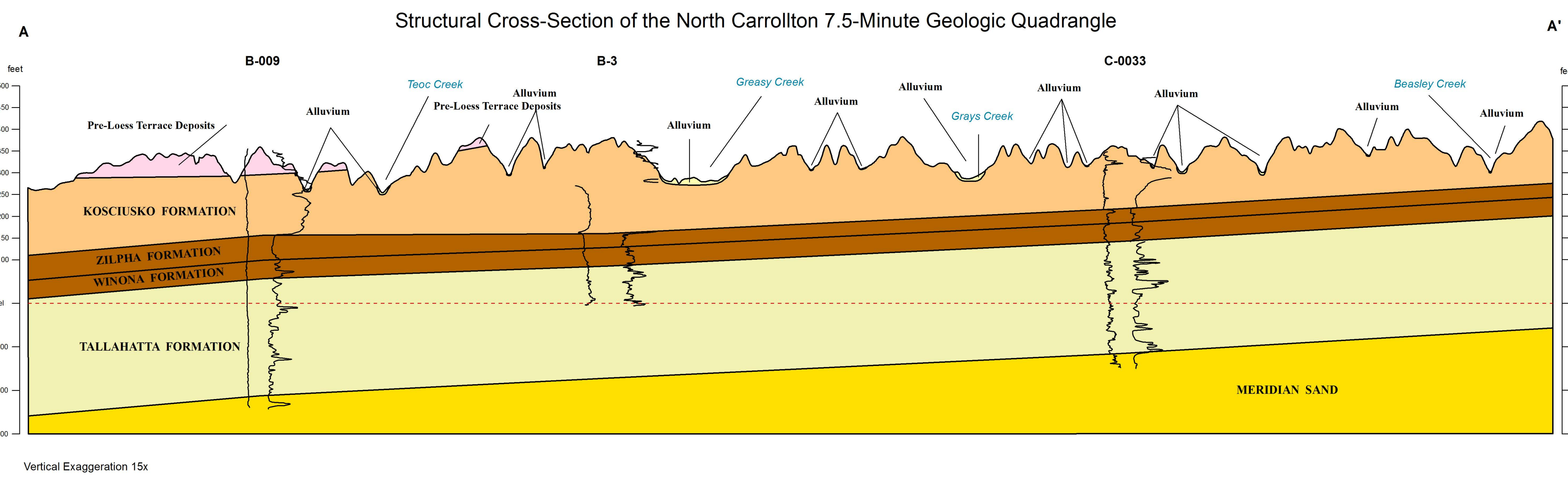


Geology field checked in 2009 using the PROVISIONAL EDITION 1983, U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 20 feet, Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red, 1927 datum shown in blue. January 2009, magnetic north declination in quadrangle center is 0°17' west of true north.

Sources: The base map is derived from a Digital Raster Graphic of the USGS topographic quadrangle map. 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 #08HGAG0101.



Vertical Exaggeration 15x

