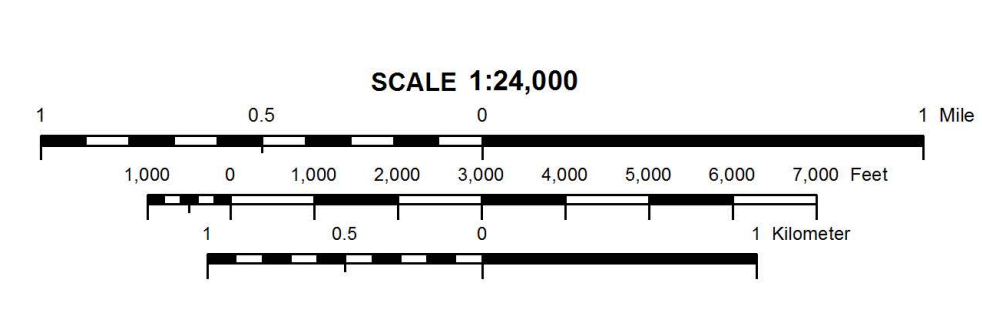
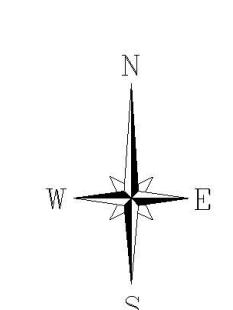


MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGY
OPEN-FILE REPORT 215
GEOLOGIC MAP
of the
GRAND GULF QUADRANGLE
Claiborne and Warren Counties,
Mississippi,
Tensas and Madison Parishes,
Louisiana
Geology by D. Kenneth Davis
and James E. Starnes, GIT
2007

- DESCRIPTION OF MAP UNITS**
- ALLUVIUM**
- Qal
Flood plain sands, silts, gravels, and clays.
- LOESS**
- Lo
Silt, buff to tan, pale yellow, red, or gray, sandy to clayey, quartzose to feldspathic. Loess is typically calcareous with dolomite and calcite; however, the upper portion of the loess is highly weathered, leached / noncalcareous, very clayey, and has been referred to as "brown loam." Loess is an eolian deposit derived from glacial outwash. Loess deposits unconformably blanket the pre-loess topography with substantial local variations in thickness. In places, weathered loess contains secondary deposits of small calcareous concretions (caliche, loess dolls). The basal few feet of loess grade into the sands and gravels of the Pre-loess terrace deposits. Loess can be locally sparingly fossiliferous, commonly containing tests or stickens of pulmonate gastropods and less commonly containing fossils of Pleistocene vertebrates.
- HATTIESBURG FORMATION**
- Tha
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 and orthoquartzites at surface, predominantly quartzose with lesser amounts of chert, metquartzite, 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, locally lignitic. The base of the Hattiesburg Formation is designated at the base of a sand unit of regional extent that occurs at the approximate horizon of the base of the Fleming Formation in Louisiana and the middle-Miocene Amos Sand in Alabama. The base of the Hattiesburg Formation is also equivalent to the sandstone of the abandoned Grand Gulf Formation type locality.
- CATAHOULA FORMATION**
- Tca
Clay, green, gray, brown, weathers white to brown exhibiting a "popcorn" appearance, silty to sandy, lignitic common in basal clays. Sand, gray, pale-yellow to white, fine- to coarse-grained, sandy, lignitic common in basal clays. Sand, gray, pale-yellow to white, fine- to coarse-grained, cross-bedded to massive, often indurated to sandstones at the surface, sands are predominantly quartzose with lesser amounts of chert, metquartzite, mica, and heavy minerals, slightly glauconitic in places, silicified wood and fossil palm common.
- F-68**
- Drill-hole locality and identification number



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GRAND GULF QUADRANGLE
Claiborne and Warren Counties,
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Geology field checked in 2007 using the 1963, 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 15; 1983 datum shown in red.
January 2007, magnetic north declination in quadrangle center is 0°52' east of true north.
Sources: The base map, a 2010 map update, 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 #06HQAG0022.

Structural Cross-Section of the Grand Gulf 7.5-Minute Geologic Quadrangle

