

MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGY
OPEN-FILE REPORT 165
GEOLOGIC MAP
of the
UTICA WEST QUADRANGLE

Hinds, Copiah, and Claiborne
Counties, Mississippi



Geology by D. Kenneth Davis
and James E. Starnes, GIT

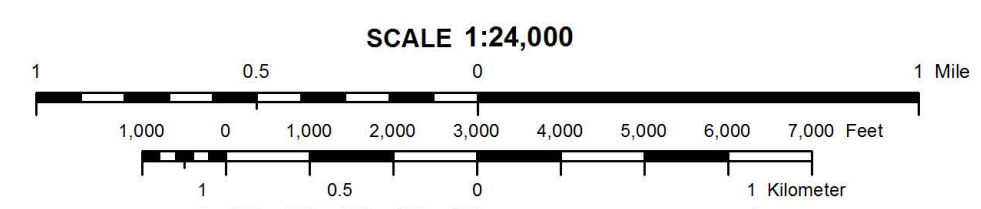
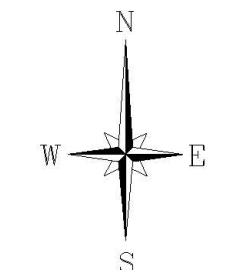
Revised 2010

DESCRIPTION OF MAP UNITS

QUATERNARY	HOLOCENE		ALLUVIUM Flood plain sands, silts, gravels, and clays.
			LOESS 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 stinkerns of pulmonate gastropods and less commonly containing fossils of Pleistocene vertebrates.
	PLEISTOCENE		TERRACE DEPOSITS Sand, yellow, orange, purple, red, pink, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; graveliferous, pea to large cobble size clasts, clasts of sandstone up to boulder size not uncommon. Gravels are predominantly chert with lesser amounts of vein quartz, metaquartzite, agate, sandstone, and rare rhyolite clasts; clay, pink to white, generally occurring as discontinuous lenses and as rip-up clasts, clasts may be boulder size. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the deposits, which overlies the Catahoula and Hattiesburg formations unconformably.
TERTIARY	PLIO- PLEISTOCENE		CITRONELLE FORMATION Sand, yellow, orange, purple, red, pink, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; graveliferous, pea to cobble size, predominantly chert with lesser amounts of vein quartz, metaquartzite, agate, and sandstone; clay, pink to white, generally occurring as discontinuous lenses and as rip-up clasts, clasts may be boulder size. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the formation, which overlies the Catahoula and Hattiesburg Formation unconformably. "Head-of-hollow." Citronelle-derived valley fill deposits are common at lower elevations and are isolated to valley walls. These small deposits are of such limited extent as to not warrant representation on this map.
			HATTIESBURG 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 and orthoquartzites 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, 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.
	MIocene		CATAHOULA FORMATION Clay, green, gray, brown, weathers white to brown exhibiting a "peppercorn" appearance, silty to sandy, lignite common in basal clays. Sand, gray, pale-yellow to white, fine- to coarse-grained, sandy, lignite 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, metaquartzite, mica, and heavy minerals, slightly glauconitic in places, silicified wood and fossil palm common.



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Geology field checked in 2010 using the 1962, U.S. Geological Survey 7.5-minute topographic quadrangle, 1983 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. July 2010, magnetic north declination in quadrangle center is 0°10' east 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.

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