

MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

OFFICE OF GEOLOGY

OPEN-FILE REPORT 295

GEOLOGIC MAP

of the

RODNEY QUADRANGLE

Jefferson and Claiborne Counties,
Mississippi

2019

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CORRELATION
OF
MAP UNITS

DESCRIPTION
OF
MAP UNITS

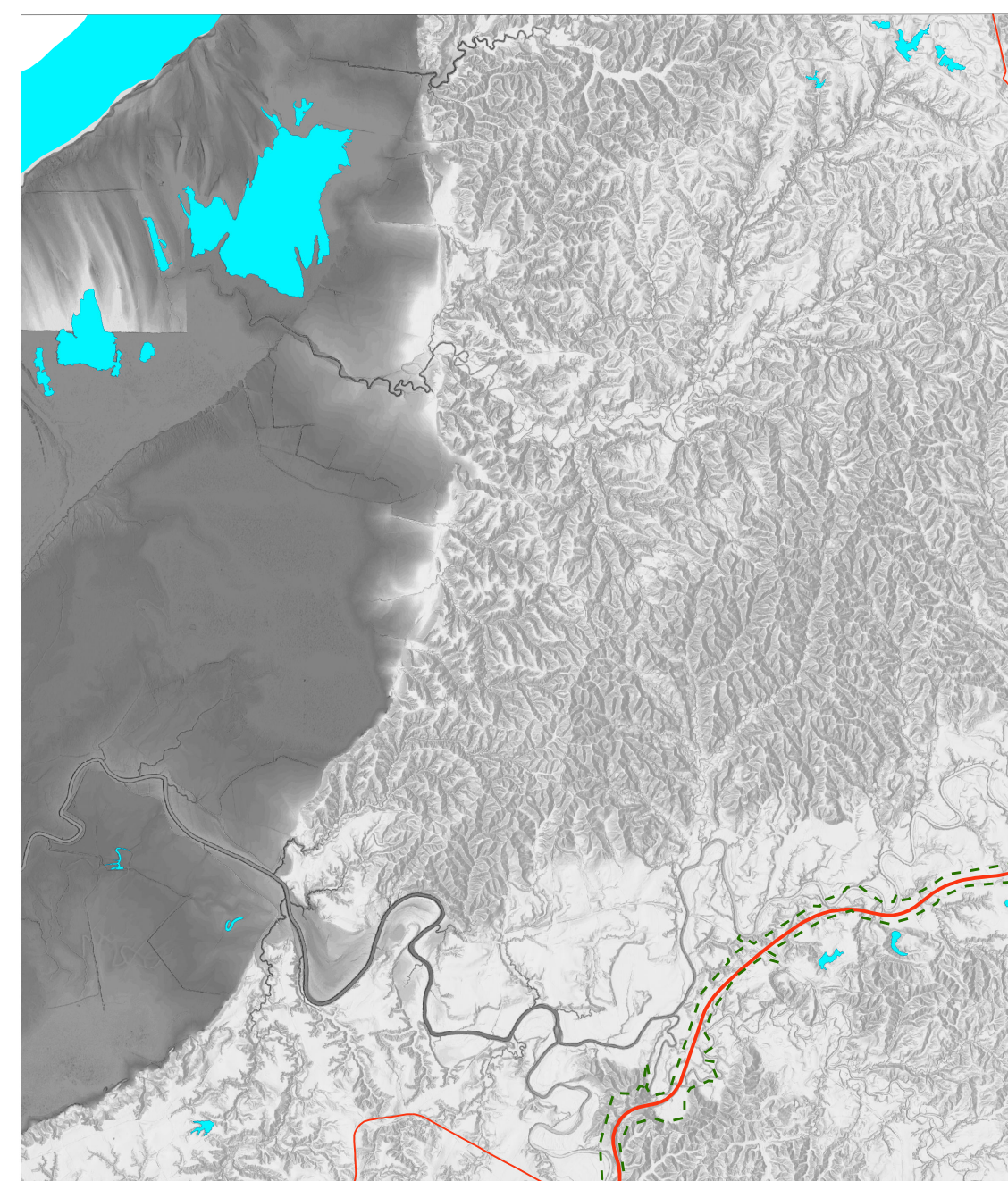
HOLOCENE

QUATERNARY

PLEISTOCENE

TERTIARY
MIOCENE

- ALLUVIUM**
- Qal**
- Flood plain sands, silts, gravels, and clays.
- ALLUVIAL FAN**
- Qaf**
- Alternating silts, sands, and gravels. Coarsest at the apex of the fan, fining laterally (radially) from the apex of the fan. The basal sand gravels of the Mississippi River alluvium were encountered in test hole drilling that penetrated beneath the alluvial fan and were recognized by the presence of numerous granite and metamorphic rock clasts.
- LOESS**
- Qlp**
- Silt, buff to tan, pale yellow, red, gray to gray-green wherein anoxic conditions, quartzose to feldspathic. Loess is an eolian deposit derived from glacial outwash. 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 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). Loess can be locally and sparingly fossiliferous, commonly containing tests or steinkerns of pulmonate gastropods and less commonly containing fossils of Pleistocene vertebrates.
- PRE- LOESS TERRACE DEPOSITS**
- Qpt**
- 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, metagranite, agate, sandstone, and rare rhyolite clasts; clay, pink to white, generally occurring as discontinuous lenses and as rip-up clasts up to boulder-size. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the deposits, which overlies the Hattiesburg Formation unconformably. Two distinct terraces are identified: one heavily eroded terrace perched approximately 300 feet above MSL in elevation and younger, completely preserved terrace beneath the loess adjacent to the Mississippi River alluvium with a base perched between 20-40 feet above MSL with relic alluvial plain surface at approximately 135 feet above MSL. The escarpment between the lower Pre-loess terrace and the adjacent uplands is approximated due to it being masked by a thick mantle of loess. "Head-of-hollow", terrace-derived valley fill deposits are common at lower elevations and are isolated to valley walls adjacent to the erosional remnants of the higher of the two terrace deposits. These small deposits are of such limited extent as not to warrant representation on this map.
- HATTIESBURG FORMATION**
- Tha**
- Clay, green, gray, brown, weathers white to brown, silty to sandy, locally lignitic; 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, sub-angular to well rounded), often indurated to sandstones and siltstones at surface, predominantly quartzose with lesser amounts of chert, calcite, mica, and heavy minerals, slightly glauconitic in places, silicified and coalified wood common. 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.
- G-0041**
- Drill-hole locality and identification number
- Indeterminate Boundary



Bare Earth Southwest MS 2016 LIDAR Hillshade of the Rodney Quadrangle

Structural Cross-Section of the Rodney 7.5-Minute Geologic Quadrangle

