MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF GEOLOGY

OPEN-FILE REPORT 245

GEOLOGIC MAP

of the

MOSS QUADRANGLE

Jasper and Jones Counties, Mississippi

Geology by James E. Starnes, RPG

2011

DESCRIPTION OF MAP UNITS

QUATERNARY — HOLOCENE

Qal — ALLUVIUM

Flood plain sands, silts, gravels, and clays.

TERTIARY — MIOCENE

Tha — HATTIESBURG FORMATION

Clay, green, gray, brown, weathers white to brown and contains opaline concretions in places, silty to sandy (silts commonly weather to mottled reddish-purple and gray, dense, ferruginous concretionary masses), locally lignitic; sand, gray, pale yellow to white, fine- to coarse- grained, cross-bedded to massive, containing pea gravel in basal portion, often indurated to sandstones and siltstones at the surface, predominantly quartzose with lesser amounts of chert, metaquartzite, mica, and heavy minerals, silicified and coalified wood common; gravel, well-rounded quartz (white, yellow, brown, pink, and clear), agate (gray, yellow, white, banded, quartz druse or chalcedony), and subangular to well-rounded chert (white, gray, black). Some chert clasts are oolitic, banded, or contain marine Paleozoic fossils such as crinoids, brachiopods, bryozoans, rugose and tabulate corals, and gastropods. 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.

OLIGOCENE-

Tca — 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-19 — Drill-hole locality and identification number

GEOLOGIC MAP

MOSS QUADRANGLE

Jasper and Jones Counties, Mississippi

SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

Geology field checked in 2010 using the 1964, PHOTOREVISED 1982, U.S. Geological Survey 7.5-minute topographic quadrangle, 1983 North American datum, contour interval 10 feet. 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red; January 2011, magnetic north declination in quadrangle center is 0°53' 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 #G10AC00294.

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