MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF GEOLOGY

OPEN-FILE REPORT 48

GEOLOGIC MAP

of the

MACON QUADRANGLE

Noxubee County, Mississippi

Geology by David E. Thompson, RPG

2012

DESCRIPTION OF MAP UNITS

QUATERNARY — HOLOCENE

ALLUVIUM

Qal

Sand, flood plain sands, and silts.

TERTIARY — PALEOCENE — MIDWAY GROUP

PORTERS CREEK FORMATION

Tpc

Clay, grayish black, weathers dusky yellow brown to brownish gray, blocky, typically exhibits conchoidal fracture, numerous joints containing platy limonite, siderite nodules common, occasional prints of fossil marine mollusks; basal portion may be slightly calcareous; upper beds are sandy with the Matthews Landing Member at top, but are not present in the quadrangle. The total thickness is approximately 550 feet; however, only the basal 50 feet or so are exposed in the southwest portion of the quadrangle.

CLAYTON FORMATION

Tcl

Clay, gray to tan, weathers buff to white, chalky, calcereous, silty; interbedded to interlaminated with sand and sandstone, typically amber colored, fine- to medium-grained, glauconitic, typically massive at base; fossiliferous with *Ostrea pulaskensis* as a marker species. Unconformity at base. Thickness is approximately 25 feet.

CRETACEOUS — UPPER CRETACEOUS — MAASTRICHTIAN

PRAIRIE BLUFF FORMATION

Kpb

Chalk, bluish gray to gray, weathers light gray to white, to white, dense, massive, silty; grading to calcareous clay or marl; interlaminated to thinly interbedded with sand, white to light gray, fine- to coarse-grained, quartzose, frosted, glauconitic; fossiliferous with *Exogyra costata* restricted to the Prairie Bluff and underlying Ripley formations; contains secondary pyrite nodules; phosphatic nodules and steinkerns may be locally abundant, especially near the base. The thickness is 40 to 60 feet.

RIPLEY FORMATION

Kr

Marl, bluish gray to medium greenish gray, weathers light gray to tan, fossiliferous with *Exogyra costata* restricted to the Ripley and overlying Prairie Bluff formations; interbedded to interlaminated with sand, very fine- to fine-grained, glauconitic, micaceous; noted to possess an irregular bedded appearance on outcrop. The total thickness is approximately 30 feet.

DEMOPOLIS FORMATION

□Bluffport Marl Member

Kb

Marl, bluish gray to gray, weathers buff to tan, silty, fossiliferous with *Exogyra cancellata* restricted to this member and to the uppermost portion of the underlying Middle Chalk Member; upper beds may be interlaminated to thinly interbedded with very fine- to fine-grained sand. The total thickness is approximately 50 feet.

CAMPANIAN

DEMOPOLIS FORMATION

□Middle Chalk Member

Kmm

Chalk, bluish gray to gray, weathers light gray to white, dense, brittle; grading to calcareous clay and marl; slightly interlaminated with very fine-grained sand or silt; fossiliferous with *Exogyra ponderosa* occurring in the Middle Chalk Member and underlying Selma Group units; secondary pyrite nodules common, joints common. The lower third of the member contains a zone of relatively pure, indurated chalk equivalent to the Annona Chalk of Texas and Louisiana, and contains a hard chalk layer known as the Coonewah Bed. The total thickness is approximately 220 feet; however, the lower 20 feet or so are not exposed in the quadrangle.

GEOLOGIC MAP

MACON QUADRANGLE

Noxubee County, Mississippi

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 2001 using the 1973, PHOTOREVISED 1982, U.S. Geological Survey 7.5-minute topographic quadrangle, 1983 North American datum, contour interval 10 feet, dotted lines represent 5-foot contours.
1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red.
September 2012, magnetic north declination in quadrangle center is 1° 39' west of true north, changing by 0° 6' west per year .

Sources: The base map is derived from the 1973 Digital Raster Graph of the USGS topographic quadrangle map. Macon city roads and contours updated from 2012 USTOPO.
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 MDEQ - Mississippi Office of Geology.