MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF GEOLOGY

OPEN-FILE REPORT 46

GEOLOGIC MAP

of the

MASHULAVILLE QUADRANGLE

Noxubee County, Mississippi

Geology by David E. Thompson, RPG

2001

DESCRIPTION OF MAP UNITS

QUATERNARY — HOLOCENE

Qal — ALLUVIUM

Sand, flood plain sands, and silts.

QUATERNARY — PLEISTOCENE

Qt — TERRACE DEPOSITS

Sand, reddish orange to red, fine- to very coarse-grained, typically poorly sorted, quartzose, associated with present stream courses, yet positioned above flood plain alluvial deposits.

TERTIARY — PALEOCENE — MIDWAY GROUP

Toh — NAHEOLA FORMATION

□Oak Hill Member

Clay, brownish black to medium gray, weathers grayish brown to white, silty, carbonaceous, lignitic, kaolinitic to bauxitic; interbedded to interlaminated with sand, dark gray to greenish gray, weathers reddish orange to light yellowish orange, fine- to coarse-grained, quartzose, very micaceous, carbonaceous, locally glauconitic. The Oak Hill is locally predominantly sandy. The thickness is approximately 100 feet; however, only the lower 50 feet or so are exposed as badly weathered outliers in the southwestern region of the quadrangle.

Tpc — PORTERS CREEK FORMATION

Clay, grayish black, weathers dusky yellow brown to brownish gray, blocky, typically exhibits conchoidal fracture; upper beds are interbedded with sand, pale yellow to light brown, fine- to very fine-grained, highly micaceous, and often containing sideritic concretions and nodules. Matthews Landing Member at top consists of light brown to olive green, glauconitic, micaceous, clayey sand with limonite, siderite, and occasional prints of fossil marine mollusks. The total thickness is approximately 550 feet.

Tcl — CLAYTON FORMATION

Clay, gray to tan, weathers buff to white, chalky, calcareous, 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.

TERTIARY — CRETACEOUS — UPPER CRETACEOUS — SELMA GROUP

Kpb — PRAIRIE BLUFF FORMATION

Chalk, bluish gray to gray, weathers light gray 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.

Kr — RIPLEY FORMATION

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.

Kb — DEMOPOLIS FORMATION

□Bluffport Marl Member

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; however, only the upper 15 feet or so are exposed in the northeastern region of the quadrangle.

GEOLOGIC MAP

MASHULAVILLE QUADRANGLE

Noxubee County, Mississippi

N W E S

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; October 2012, magnetic north declination in quadrangle center is 1° 35' west of true north, changing by 0° 6' west per year .

Sources: The base map is derived from the Digital 2012 USTOPO of the USGS topographic quadrangle map. Public Land Survey System, Mississippi Automated Resource Information System (MARIS), 1:24,000 scale. 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 in cooperation with the U.S. Geological Survey, National Geologic Mapping Program, under STATEMAP grant #00HQAG0053.