MISSISSIPPI OFFICE OF GEOLOGY
OPEN–FILE REPORT 58

GEOLOGIC MAP
of the
SAPA QUADRANGLE
Webster and Choctaw Counties,
Mississippi

Geology by David E. Thompson

1998

DESCRIPTION OF MAP UNITS

QUATERNARY
HOLOCENE

ALLUVIUM

Qal

Sand, flood plain sands and silts.

TERTIARY
PALEOCENE

WILCOX GROUP

NANAFALIA FORMATION

Grampian Hills Member

Tgh

Clay and silt, medium gray to pale green, weathers to various shades of red, brown, and gray, carbonaceous, lignitic, contains Red Hills Mine equivalent lignite seams C through G; interbedded to interlaminated with sand, dark greenish gray to medium gray, weathers reddish orange to pale yellowish orange, very fine- to medium-grained, quartzose, micaceous, carbonaceous, and glauconitic. Basal portion is typically sandy. Thickness is 130 feet.

Gravel Creek Sand Member

Tgc

Sand, medium gray to very light gray, weathers reddish orange to pale yellowish orange, very coarse- to fine-grained, typically fining upward, quartzose, micaceous, clay clast conglomerate; upper portion consists of clay, dark gray to light gray, typically dense, occasionally silty, carbonaceous to lignitic. Contains Red Hills Mine equivalent lignite seams A and B. Thickness is 80 to 110 feet. Unconformity at base. Basal sandy interval (along with the underlying Coal Bluff sand) constitutes the Lower Wilcox Aquifer.

MIDWAY GROUP

NAHEOLA FORMATION

Coal Bluff Member

Tcb

Sand, dark gray to light gray, weathers pale yellowish orange to reddish orange, very fine- to very coarse-grained, sometimes pebbly, typically fining upward, quartzose, very micaceous, carbonaceous, clay clast conglomerate; interbedded to interlaminated with clay and silt, dark gray to light gray, carbonaceous, lignitic, especially argillaceous at the top. The lower sands may contain kaolinitic to bauxitic clay clasts or beds. The thickness is 70 to 80 feet. Unconformity at base. Along with overlying Gravel Creek sand, constitutes the

Oak Hill Member

Toh

Clay, brownish black to medium gray, weathers grayish brown to white, silty, carbonaceous, lignitic, kaolinitic to bauxitic; interbedded or 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 100 feet.

PORTERS CREEK FORMATION

Tpc

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 500 feet; only the upper 10 feet are exposed along the north-facing slope of the Big Black River flood plain, in the extreme eastern portion of the quadrangle.

GEOLOGIC MAP

SAPA QUADRANGLE

Webster and Choctaw Counties, Mississippi

SCALE 1:24 000

1 .5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Geology field checked in 1997 using the 1972 U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 20 feet.

Mississippi Transverse Mercator projection. 1983 North American datum. GRS80 spheroid. 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red, 1927 datum shown in blue.

Sources: Road and water features, USGS Digital Line Graph data, 1:100,000 scale. Public Land Survey System, Mississippi Automated Resource Information System (MARIS), 1:24,000 scale.

Geographic Information System by Daniel W. Morse.