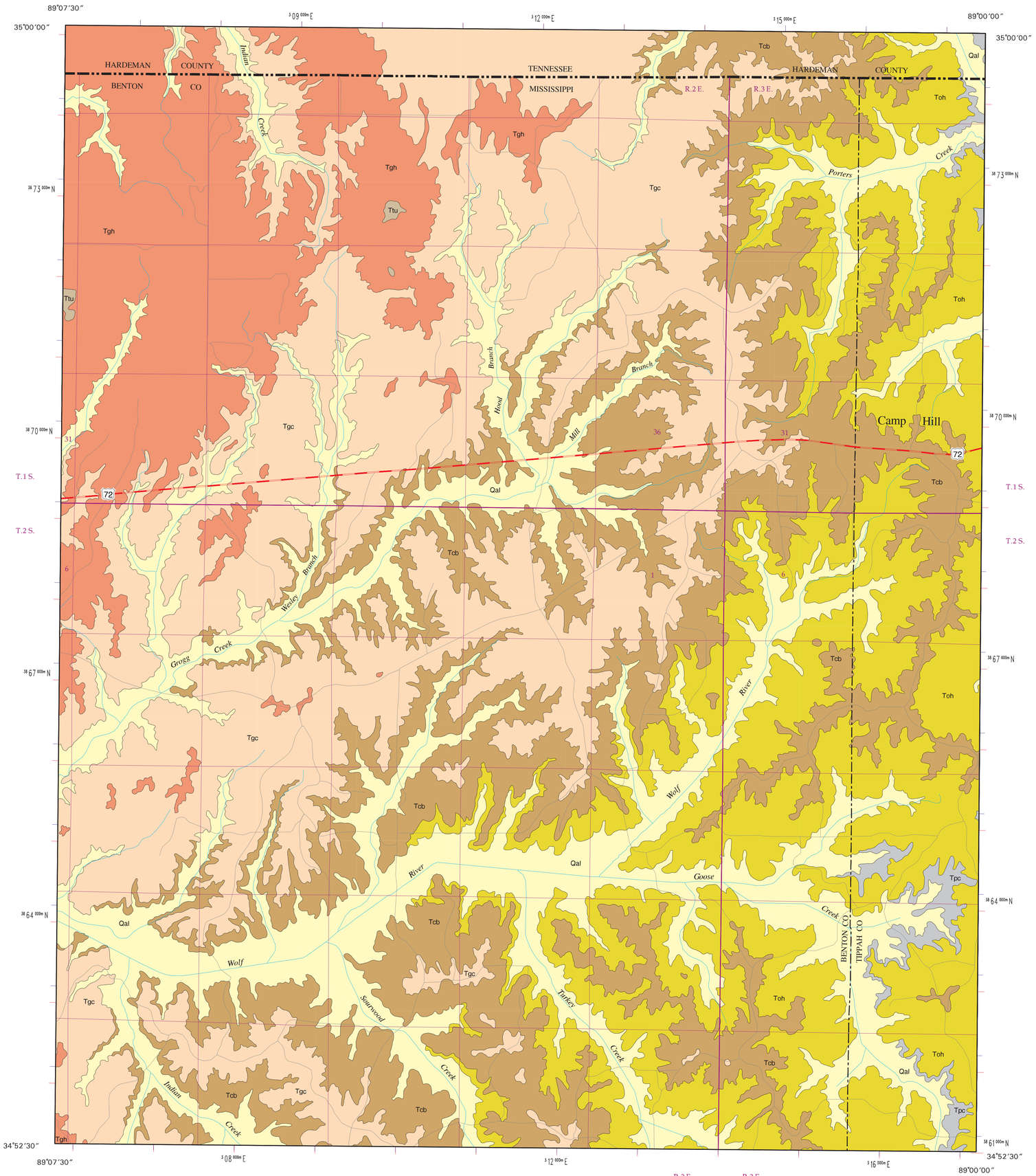

MISSISSIPPI OFFICE OF GEOLOGY
OPEN–FILE REPORT 95

GEOLOGIC MAP
of the
CAMP HILL QUADRANGLE
Benton and Tippah Counties, Mississippi, and Hardeman County, Tennessee

Geology by David E. Thompson

2000

DESCRIPTION OF MAP UNITS

QUATERNARY
HOLOCENE

ALLUVIUM

Qal

Sand, flood plain sands and silts.

TERTIARY
PALEOCENE

WILCOX GROUP

TUSCAHOMA FORMATION

Ttu

Sand, dark greenish gray to light gray, weathers reddish orange to pale yellowish orange, very fine- to coarse-grained, quartzose, micaceous, carbonaceous, glauconitic. Interbedded to interlaminated with clay and silt, light olive gray to brownish black, weathers to various shades of red, gray, brown, or white; contains correlative Red Hills Mine lignite seams H through L. Total thickness is 470 feet; however, the maximum thickness present in the quadrangle is approximately 40 feet from an outlier in the northwestern portion. Basal sandy interval constitutes the Middle Wilcox Aquifer.

NANAFALIA FORMATION

Grampian Hills Member

Tgh

Sand, dark greenish gray to medium gray, weathers reddish orange to pale yellowish orange, very fine- to coarse-grained, quartzose, micaceous, carbonaceous, and slightly glauconitic; interbedded to interlaminated with clay and silt, medium gray to pale green, weathers to various shades of red, brown, and gray, carbonaceous; occassional thin lignite seams which are correlative to Red Hills Mine lignite seams C through G. Basal portion is especially sandy. Total 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, with clay clast conglomerate; upper portion consists of clay, dark gray to light gray, typically dense, occasionally silty, carbonaceous to lignitic. Contains correlative Red Hills Mine 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, with clay clast conglomerate; interbedded to interlaminated with clay and silt, dark gray to light gray, carbonaceous, lignitic, especially argillaceous near top. Contains characteristic kaolinitic to bauxitic clay clasts and beds. The thickness is 70 to 80 feet. Unconformity at base. Along with the overlying Gravel Creek sand, constitutes the Lower Wilcox Aquifer.

Oak Hill Member

Toh

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, occasionally glauconitic. Locally, may be predominantly sandy where the typical clay facies changes laterally and abruptly into apparent fluvial channels. The thickness is approximately 100 feet.

PORTERS CREEK FORMATION

Tpc

Clay, grayish black, weathers dusky yellow brown to brownish gray, blocky, typically exhibits conchoidal fracture; upper beds, correlative with the Matthews Landing Member, are interlaminated to thinly interbedded with sand, pale yellow to greenish gray, fine- to very fine-grained, highly micaceous, glauconitic, and often containing sideritic concretions and nodules. The total thickness is approximately 220 feet; however, only the upper 30 feet or so is exposed at lower elevations adjacent to streams in the eastern region of the quadrangle.

GEOLOGIC MAP

CAMP HILL QUADRANGLE

Benton and Tippah Counties, Mississippi, and Hardeman County, Tennessee

N W E S

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 2000 using the 1982 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: Public Land Survey System, Mississippi Automated Resource Information System (MARIS), 1:24,000 scale.

Geographic Information System by Daniel W. Morse.