

GEOLOGIC MAP
of the
STURGIS QUADRANGLE
Choctaw, Oktibbeha, and Winston
Counties, Mississippi

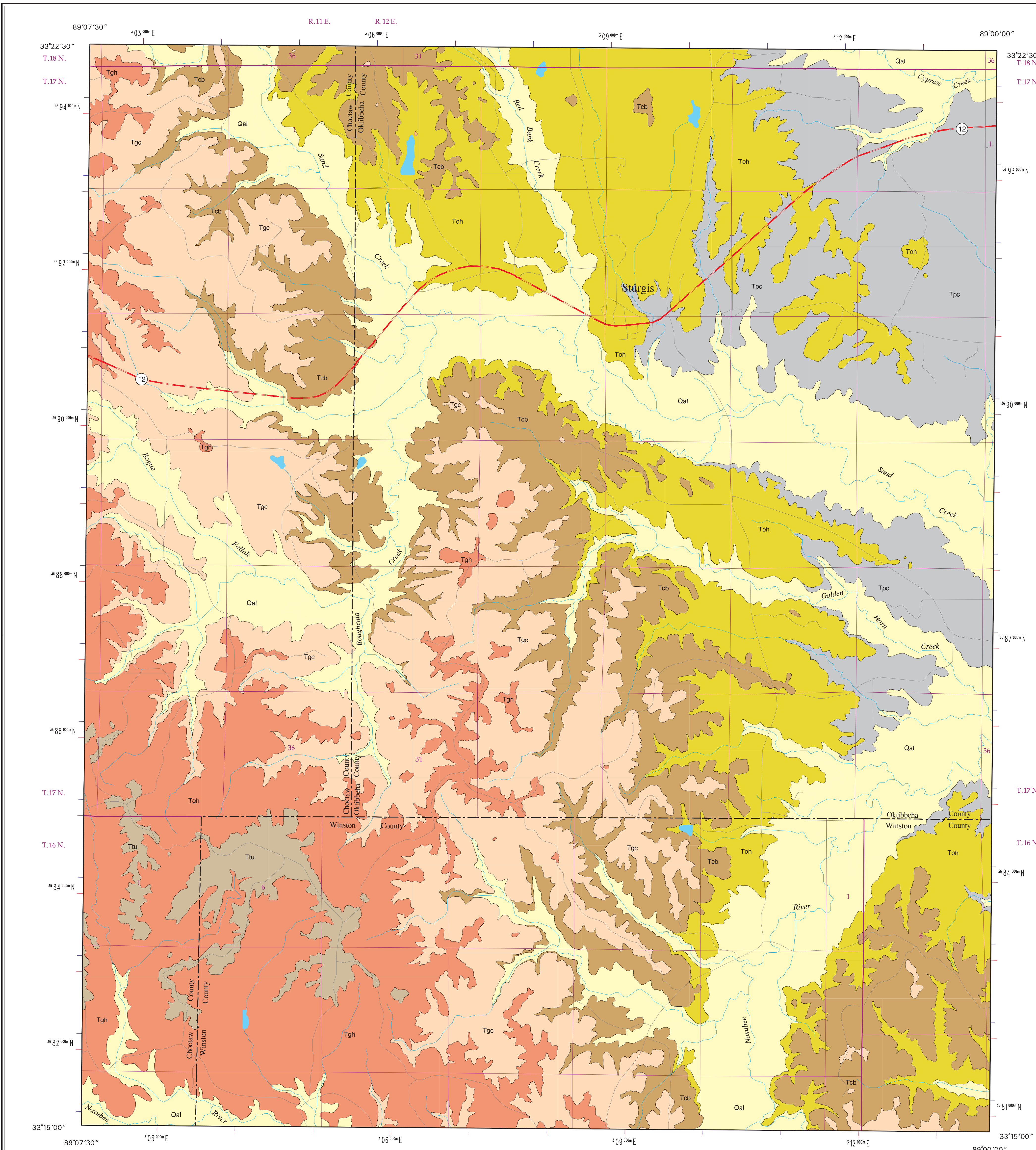


Geology by David E. Thompson

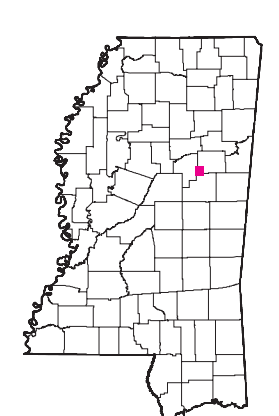
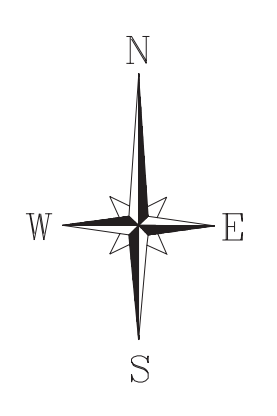
1997

DESCRIPTION OF MAP UNITS

QUATERNARY HOLOCENE	Qal	ALLUVIUM Sand, flood plain sands and silts.
	Ttu	TUSCAHOMA FORMATION 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; numerous lignite horizons. Total thickness is 400 feet; only outliers of the basal 30 feet exist in the extreme southwestern portion of the quadrangle.
TERTIARY PALEOCENE	WILCOX GROUP	
	Tgh	NANAFALIA FORMATION Grampian Hills Member Clay and silt, medium gray to pale green, weathers to various shades of red, brown, and gray, carbonaceous, lignitic; 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, locally glauconitic, with prints of fossil marine mollusks. Basal portion is typically sandy. Thickness is 130 feet.
	Tgc	Gravel Creek Sand Member 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. Thickness is 80 to 110 feet. Unconformity at base.
TERTIARY MIDWAY GROUP	Tcb	NAHEOLA FORMATION Coal Bluff Member 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.
	Toh	Oak Hill Member 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.
	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 500 feet; only the upper 200 feet are exposed in the northeastern region of the quadrangle.



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Geology field checked in 1996 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.