



MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGY
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GEOLOGIC MAP of the MURDOCK LAKE QUADRANGLE

Carroll and Holmes
Counties, Mississippi



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DESCRIPTION OF MAP UNITS

QUATERNARY	HOLOCENE	ALLUVIUM
	Qal	Sand, flood plain sands and silts.
QUATERNARY	PLEISTOCENE	LOESS
	Tk	Silt, buff to tan, pale yellow, red, or gray, sandy to clayey, quartzose, feldspathic. Unweathered loess is typically calcareous with dolomite and calcite; however, loess in this quadrangle is highly weathered, leached/noncalcareous, very clayey, and has been referred to as a brown or yellow loam. Loess is an eolian deposit derived from glacial outwash. Loess deposits blanket the pre-loess topography of the quadrangle area, with greater quantities developed along ridge crests than in valleys, creating local variation in thickness. The thickness in the quadrangle is estimated at 5 to 15 feet; loess is present east of the mapped area, but coverage is discontinuous and the average thickness is less than 5 feet. In places, weathered loess contains secondary deposits of small calcareous concretions (caliche, loess dolls).
TERTIARY	EOCENE CLAIBORNE GROUP	KOSCIUSKO FORMATION
		Sand, gray to light olive gray, weathers reddish orange to pale yellowish brown, very fine- to very coarse-grained, quartzose, micaceous; interbedded to interlaminated with silt and clay, light olive gray to brownish gray, carbonaceous to lignitic, especially argillaceous in the upper third of the formation. Locally, the basal Kosciusko contains layers of quartzitic, siliceous siltstone and sandstone as thick as 5 feet, in places occurring as large boulders along hill tops and slopes. Unconformity at base. Thickness is estimated to be 300 feet; however, only the middle part of the formation is exposed in the quadrangle, where it is generally covered by a loess mantle of thin to moderate thickness, with the thickest loess cover in the western areas of the quadrangle. Sands in the Kosciusko Formation constitute the Sparta Aquifer.

M - 500 Drill-hole locality and identification number

Geology field checked in 2007 using the 1975, photorevised 1982, U.S. Geological Survey 7.5-minute topographic quadrangle, 1927 North American datum, contour interval 20 feet. Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator grid ticks, zone 16; 1983 datum shown in red. January 2007, magnetic north declination in quadrangle center is 0°2' west of true north.

Sources: Road features, USGS Digital Line Graph data, 1:100,000 scale. Water features, USGS National Hydrography Dataset, 1:24,000 scale. Public Land Survey System and contours, 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.

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Structural Cross-Section of the Murdock Lake 7.5-Minute Geologic Quadrangle

