

## ABSTRACT

The Eocene Cocoa Sand Member of Yazoo Formation is fine grained, moderately to well sorted, poorly cemented, quartz arenite. Surface exposures are poor, but it has been mapped from west Choctaw County, Alabama to eastern Jasper County, Mississippi. In the subsurface, the Cocoa Sand Member is identified by obvious protrusion both in Spontaneous and Resistivity Logs. Northeast to southwest cross-sections (perpendicular to the paleo-shoreline) and northwest to southeast cross-sections (parallel to the paleo-shoreline) are being developed, along with isopach maps, to determine the sequence stratigraphic setting and a depositional model of the Cocoa Sand Member. Previous work has interpreted the Cocoa Sand Member as a shelf margin sand deposited as part of a lowstand systems tract or as a transgressive sand. The presence of rip-up clasts at the base of the Cocoa Sand Member supports the presence of a transgressive surface at the contact with the North Twistwood Creek. Grain size analysis indicates that the sand coarsens upward and there is evidence in core that the upper contact of the Cocoa Sand with the Pachuta Marl is sharp, representing an upper erosion surface. Based on an isopach map of the Cocoa sand member in Wayne County, Mississippi, in general, the sand thickens towards the south-east and is thickest near the Alabama border. Continuation of the isopach map into Alabama is pending acquisition of additional logs from the geological survey of Alabama. However, initial review of the isopach map indicates the possible development of sand ridges. Further study is required to confirm a depositional model for the Eocene Cocoa Sand Member of the Yazoo Formation.



### **STUDY AREA**

The Yazoo Formation is part of the Jackson Group, which extends in outcrop from southwest Alabama, northwest to Yazoo County, Mississippi. The Cocoa Sand Member is mainly distributed in Wayne County, Mississippi. Southeast to northwest cross section line and northeast to southwest cross section line are highlighted with red colors. The red points on the map are the location of the wells

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# Subsurface Stratigraphy of the Eocene Cocoa Sand Member in Mississippi and Alabama

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