

Mesozoic Stratigraphy of Near Shelf-Edge Deposits, Southern Mississippi, Adjacent State and Federal Waters

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Extended Abstract

Onshore southern Mississippi and adjacent State and Federal waters were part of a region where basinward shelf-edge migration occurred during the Jurassic. This migration provided a wide range of environments of deposition and did not become stable until the Late Cretaceous, when more widespread environments of deposition were prevalent.

Jurassic sediments attain a thickness of more than 6,000 ft and consist of evaporites, clastics, and carbonates. Jurassic sedimentary rocks are thickest in Viosca Knoll Block 117, which represents the basinward facies of these rocks, and correlations are difficult in the Norphlet and Smackover Formations. A thin Norphlet clastic section is present in Mobile Block 991 and Mississippi Sound Block 57 and extends this facies of the Norphlet farther to the west offshore than previously thought.

In Viosca Knoll Block 117, Haynesville sediments are isolated by a Gilmer-aged ramp, whereas in Mississippi Sound Block 57 a clean white quartzose sandstone extends the presence of the Frisco City Formation into State waters 20 mi southwest of the Wiggins Arch. Onshore west of the Wiggins Arch, the Haynesville is open-marine carbonates.

Cretaceous sediments are 10,000 ft thick and consist of carbonates, clastics, and anhydrites. Lower Cretaceous lithologies are less diverse than Jurassic lithologies because of stabilization of the shelf edge and are more easily correlated from onshore to offshore with clastic Hosston, Rodessa, and Eutaw Formations interfingering with carbonates along the shelf edge. The Selma, Tuscaloosa, Washita/Fredericksburg, Paluxy, and Mooringsport Formations all maintain consistent lithologies geographically.

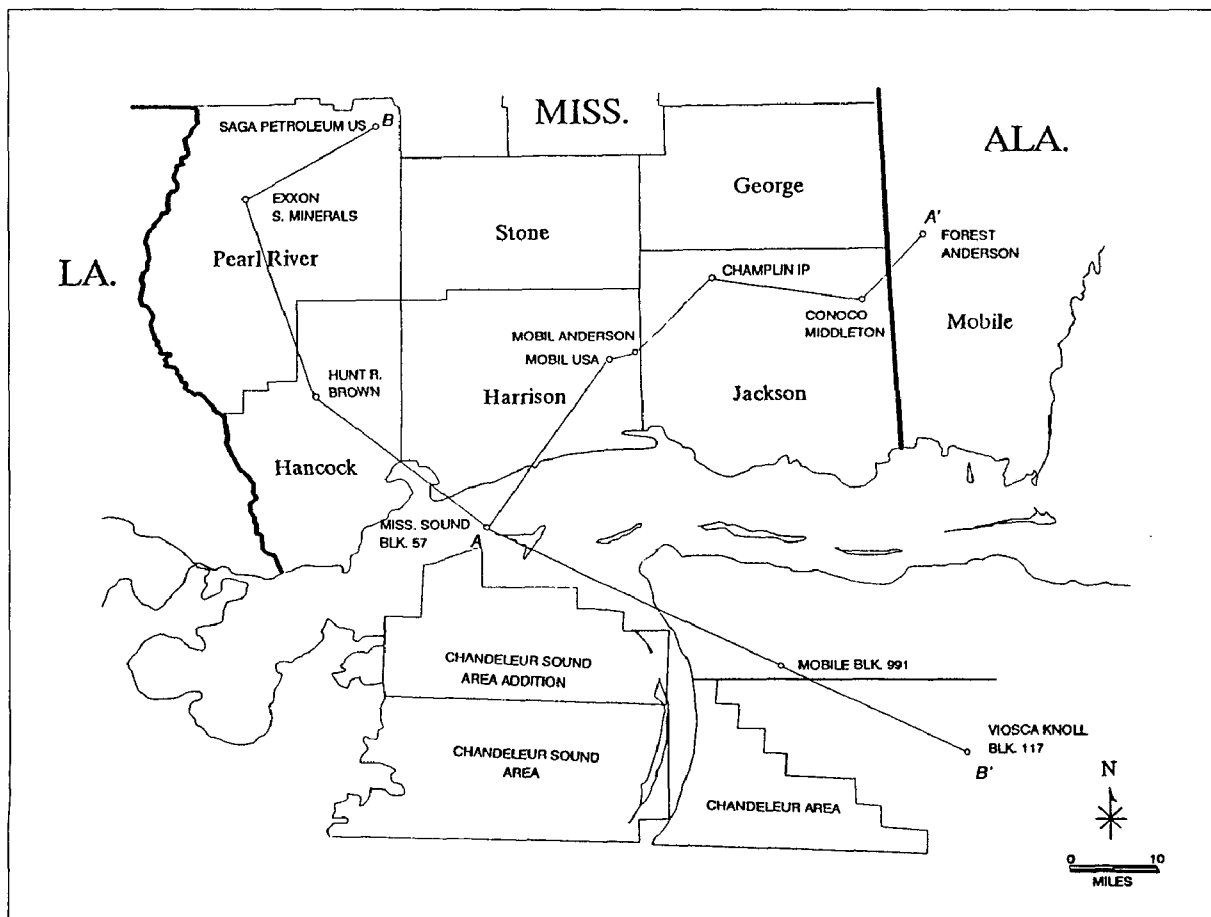


Figure 1. Index map of Mesozoic shelf-edge deposits.