

Miocene Gas Trend of the Eastern Gulf Coast Province: Mississippi and Alabama State Offshore Waters

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Abstract

The Miocene Gas Trend in the Mississippi and Alabama offshore consists of sediment deposition controlled by eustatic sealevel oscillations across the passive margin of the Eastern Gulf Coast Miocene Shelf. These oscillations represent third and fourth order cycles that appear to have equivalents in the outcrop and offshore continental shelf. Duration of third order cycles are estimated at .7-2.5 million years with sealevel changes varying between 50-100 m (~ 160-325 ft). Coastal plain to middle shelf depositional environments are present. Middle and Lower Miocene producing intervals (*Discorbis* 12-*Amphistegina* B) are comprised of prograding shoreline deltas with associated erosional channels/scours and shallow marine bars. Producing reservoirs are comprised of coarse-to-fine-grained sediments bounded by stratigraphic pinchout and capped by clay or marl.

Currently there are 8 active offshore and 8 active onshore Miocene gas fields in operation in the Mississippi Sound and adjacent coastal counties. Cumulative Alabama Miocene production exceeds 106 BCFG to date. Onshore Miocene production was established in Mississippi in 2002, leaving the Miocene potential of the Mississippi State Waters essentially un-tested. Interpretation of regional seismic data suggests significant gas accumulations are present in the Mississippi offshore water bottoms. Improvements in data acquisition, interpretation, and drilling/production techniques over the past 20 years make this domestic hydrocarbon province an attractive shallow gas exploration objective.