

"G₂" CHANNEL SANDSTONE MAIN PASS BLOCK 35 FIELD

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ABSTRACT²

Main Pass Block 35 Field is located in the Gulf of Mexico about 50 miles southeast of New Orleans in 10 feet of water. The general structure of the field is that of a rollover anticline in the downthrown block of a south-dipping contemporaneous fault which at the "G₂" level has about 200 feet of displacement. The Miocene "G₂" sandstone, the largest single reservoir in the field, is a classic example of oil production from a stream channel. The channel has a maximum width of about one-half mile, and its edges are closely defined by dense well control. The gas-oil contact is at 6636 feet subsea and the oil-water contact at 6690 feet subsea. Nineteen wells or sidetracks have been completed in this sand, and ultimate recovery will exceed 12 million barrels of oil.

The "G₂" channel sandstone consists of a clean, well-sorted, fine-grained quartz sandstone with up to twenty percent feldspars and minor amounts of clay and carbonate. Average porosity is about 34 percent, and average permeability is in excess of three darcies. Bottom-hole pressure data indicate that continuity within the channel is excellent. In contrast to the channel sandstone, the associated natural levee and backslope deposits are very fine-grained sandstone or siltstone. Average porosity is about 26 percent, and average permeability is about 75 millidarcies. The "G₂" sandstone series is part of a delta system which was advancing from the northeast towards the southwest. Following deposition of the "G₂" channel sand, the delta abandoned this channel and the entire area subsided. The overlying shales were then deposited in a marine environment.

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