



All Roads Lead to the Gulf of Mexico: The Search for New Ideas, Plays, and Technology

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ABSTRACT

The Gulf of Mexico Basin is perhaps the most extensively explored hydrocarbon basin in the world. There are hundreds of thousands of well penetrations into the stratigraphic section and extensive 2D and 3D seismic data sets both onshore and offshore. Yet, as time passes the industry continues to find new hydrocarbon accumulations in a basin that accounts for 17% of total U.S. production. While geoscientists have unraveled many geologic questions about the structural and stratigraphic evolution of the basin, many questions remain; the extent of oceanic crust, nature of the sub-salt section, rift models related to basin opening, timing of salt deposition in relation to basement tectonics, early subsidence history, denudation history of clastic source areas in Mexico, and some pertinent aspects of Jurassic and Cretaceous depositional history.

Several factors influence the continued successes in the Gulf of Mexico. The commercial aspects of lease terms and free market data acquisition have created an unparalleled database in the U.S. sector. The changes in Mexico promoting private investment has led to the discovery of giant fields. New acquisition and analytical technologies with regard to sub-salt imaging continue to be developed and tested in the Gulf of Mexico. However, the most critical aspect to future success will be the development of new ideas. Ideas generated from new insights of the basin history, ideas challenging many accepted models that have fettered innovation and their implications for an undiscovered play type, petroleum system, or basin models. We present data and new ideas to raise new questions and create new dialogue to re-focus of our understanding and find more roads (ideas) that leads from the Gulf of Mexico to basins around the world.