

LOWER CRETACEOUS CARBONATES OF CENTRAL SOUTH TEXAS: A SHELF-MARGIN STUDY

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ABSTRACT

Recent research on the Albian and lower Cenomanian Edwards shelf margin along the Gulf of Mexico has disclosed a narrow band of biogenic growth consisting of reefs, banks, bars, and islands. For the purpose of this paper, in light of evidence obtained from Sligo tests within the study area, the shelf-margin theory derived from this research is assumed to apply to the Aptian Sligo shelf margin as well.

The objectives of this paper are to show the application of the shelf margin exploration model in light of new information obtained from the recent surge of drilling activity. We have attempted to exemplify the major facies and structural components of the shelf-margin model and to demonstrate the effect that these have on accumulation of hydrocarbons.

Utilizing good quality modern CDP seismic data in areas of adequate well control, we can relate the major facies and structural components of the model to certain geophysical criteria common to several hundred miles of seismic dip control. Selected seismic sections demonstrate the validity of these criteria in defining the shelf, shelf margin, and shelf slope of each formation, as well as their relationship to one another. Through the correlation of these geophysical criteria with existing well control, we obtain a detailed structural configuration and facies distribution as well as a prime fairway for hydrocarbon accumulation for both the Edwards and Sligo.

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MIDDLE CRETACEOUS ROCKS OF MEXICO AND TEXAS

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ABSTRACT

Middle Cretaceous (late Albian to Turonian) rocks in Texas are mostly terrigenous or nodular and micritic. To the south in Mexico the terrigenous deposits are replaced by limestones, which in turn are more reefoid to the south than to the north. South into Jalisco and Colima there are many reefoid outcrops, and thence east into Queretaro and Guerrero similar rocks intertongue with marls and terrigenous rocks.

The Belton high, San Marcos platform, Del Carmen trend, Sierra de la Pa ra, Coahuila peninsula, and Miquihuana platform all contribute to facies changes around their margins and the thinning of non-reefoid rocks over these structurally higher areas.

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