

Evaluating the production and reserves potential for wells in a Miocene Reservoir

Client: Houston-based Independent

Location: Matagorda Island

Objective: Provide geological modeling and reservoir simulation for a Miocene Reservoir

A Houston-based Independent contracted Knowledge Reservoir to provide a reservoir modeling study in the Matagorda Island field, located in the western part of the Gulf of Mexico. Production from the reservoir commenced in 1982 with three wells. By early 2006, 12 completions were producing from the reservoir.

The main objectives of this study were to:

- Develop a geological model of the reservoir in Petrel and upscale it for simulation in Eclipse.
- Create a reservoir simulation model in Eclipse to evaluate the production and reserves potential for recent and planned wells in the reservoir.

The geological model included variable facies and rock properties tied to well log data. The simulation model incorporated the results of recent drilling and provided a history match of prior production and pressure performance. The modeling confirmed original gas in-place (OGIP) and forecasted gas rates and ultimate recovery for several recent and planned wells. The forecasting incorporated measurements of drawdown and rates from production logging to determine base case skin factors and maximum drawdowns.

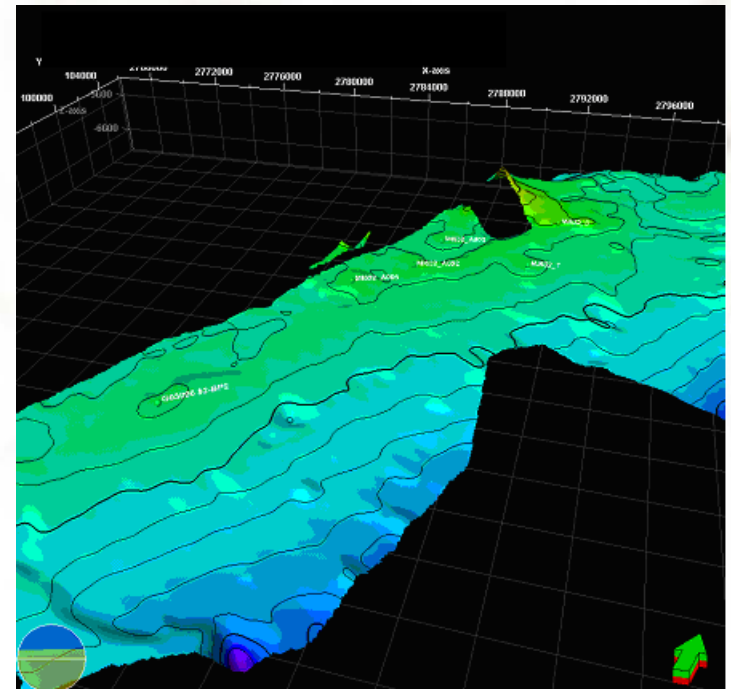


Figure 1: 3-D view of structure model