AAPG Annual Meeting March 10-13, 2002 Houston, Texas

Marie D Cremer¹, John B. Aultmann¹ (1) Phillips Petroleum Company, Bartlesville, OK

Fresh Interpretation and Evolution of an Old Field

An earlier than expected decline of a recently producing field required a review of the existing geologic model. The field lies on an unstable marginal tertiary shelf delta. A fresh structural interpretation from 3D seismic and a more detailed reservoir distribution model from wells were incorporated to derive a new model for future field development. Extensive listric growth fault complexes dominate the delta and die out into the thick mobile marine shale at depth. Almost all traps in the delta are fault associated and hydrocarbons accumulate in both hanging wall and footwall traps. Collapsed crest anticlines in hanging wall rollover structures that are associated with the synthetic growth faulting play a major role in the trapping of hydrocarbons. Several stratigraphic intervals of stacked sands represent the hydrocarbon reservoirs within the structure. Fault timing was determined for its role in reservoir distributions and fault seal analyses for trap competencies.

Suggestions are made for future development opportunities within the field.