EXPLOITATION OF FOREST AND CRUSE HIGHSTAND DELTAIC RESERVOIRS IN THE EASTERN GUAPO FIELD AREA, TRINIDAD

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ABSTRACT

The Cruse deltaic reservoirs have been some of the most prolific heavy oil reservoirs in the Guapo, Vessigny and Parrylands Fields since 1912. These mature fields have been developed from varied exploitation strategies which targeted mainly channel/bar complexes within SW plunging anticlines and synclines. Additionally, both reverse and normal fault sets from post-Miocene transpressional tectonism have defined reservoir blocks that show varied reservoir characteristics across the field.

With the advent of a new merged national company and the consolidation of lease areas, the increased acreage across lease boundaries allowed for better reservoir management strategies. Recent exploitation studies involving the integration of data from a sequence stratigraphy framework of Pliocene sediments, seismic interpretation, and well log interpretation have defined attractive prospective acreage in the up-plunge area of the Guapo Syncline. Cruse and Forest highstand reservoirs in both the syncline and anticline transcend across the lease boundaries as connected channel/bar deltaic cycles that mirror each other spatially in the NE Guapo Field area.

The application of the sequence stratigraphy technique to mapping combined with seismic data and well log interpretation, have decreased exploitation risk, and improved drilling accuracy to within 99% for predicting targets in the newer wells.