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Sequence Stratigraphy of the Tertiary Section of the Tacat Region, Northern Anzoategui and Monagas States, Eastern Venezuela

Sequence stratigraphic analysis of twenty (20) wells were carried out. The wells intersected a Tertiary autochthonous section which comprises sediments from the Oligocene to the Pleistocene. The section of exploratory interest is confined to Oligocene deposits of the Naricual Fm. and Lower Miocene deposits of the Capaya and Oficina Formations.

Structurally the area is complex with the presence of reactivated reverse faults and transverse faults of low angle with associated folding. A para-autochthonous unit of Cretaceous age, corresponding to the Tala Thrust, overlaps the autochthonous section of Lower Oligocene to Pliocene age in part of the area.

Ten system tracts for the Lower Oligocene to the Middle Miocene section are defined in this study. These correspond closely to 5 eustatic third-order cycles. Biostratigraphy, sedimentology and electrofacies analyses, were used to distinguish maximum flooding surfaces (MFS) and sequence boundaries (SB) candidates of third-order cycles between 36.0 Ma and 16.0 Ma.

The sequences of the Oligocene section towards the East correspond to gray shales and sandstones with coal, deposited as distributary channels and coastal bars of a deltaic system of the Naricual Fm. (lowstand and transgressive system tracts)

Most of the Lower Miocene sequences in the western part, bear gray shales and sandstones corresponding to coastal bars, tidal and distributary channel deposits of the Oficina and the Capaya fms (lowstand, transgressive and highstand system tracts) Toward the East, a change of facies to bathyal black shales of the Carapita Fm. takes place.

Three notable transgressions occurred (MFS 24.5 Ma, MFS 16.0 Ma, MFS 13.4 Ma)

The overlapping upper section comprises the unconformably littoral to continental deposits of Pliocene /Pleistocene Age of the Mesa/Las Piedras Fms.

This work is basic to establish a chronostratigraphic framework for the area of Tacat in order to locate reservoirs, seals, and stratigraphic traps.