

## Depositional Systems and Traps of Shallow and Deep Water Central Gulf of Mexico

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Regional shallow-deep water geologic framework at central Veracruz is integrated from two join PEMEX-BEG AND PEMEX-SHELL regional studies, based on 2D and 3D seismic and well data.

Geological province presents a structural control of basement-blocks and magmatic-uplift from north to south. Thin-skin and thick-skin deformation are represented by growth-fault systems in which progradational shelf and basin floor-fan successions are present in both terrains.

Lankahuasa thin-skin extensional-listric sector is formed by a relayed and amalgamated multiple-fault system, limited by the Lankahuasa lateral-extensional ramp, that separates the Santa Ana thick-skin planar fault system. Mexican Ridges Contractual Fold-Belt (MRFB) is a thin-skin terrain, formed mainly by large symmetric to asymmetric detachment folds, commonly break-thrust detachment folds.

Quetzalcoatl Extensional Fault-Belt (QEFB) at the shelf and the MRFB at deep water are two linked N-S structural systems, driven by gravity sliding of the continental platform where the clinoformal succession of the Neogene stratigraphy present common rotated progradational shelf geometries.

Dynamic growth sedimentation processes in both shelf and basin controlled sand-accumulators depositional systems grouped as follow: 1) Pliocene-Miocene platform sandstones, 2) Pliocene-Miocene canyon-complex sandstones, 3) Pliocene-Miocene channel-to lobe transition sandstones and 4) Pliocene-Miocene basin floor-fan sandstones.

A rich-sand platform-basin floor fan succession is recognized around Lankahuasa trends. Detailed 2D-3D depositional systems and structural maps at central Veracruz show multiple hydrocarbon traps and reservoir rocks in the QEFB and MRFB at shallow and deep water regions.

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