

The Paleogeography of the Oligo-Miocene Carbonate Platforms of Moattama Basin: New Insights using new 3D Seismic Data

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Abstract

The M05-M06 blocks are located offshore Myanmar in the Moattama basin, southward of the Irrawaddy river delta, in a modern water depth not exceeding 100 m. The large Yadana gas field is located in these two blocks. The trap consists of a thick carbonate platform (over 600 m thick) of Late Oligocene-Early Miocene age, sealed by the Upper Miocene pro-delta shales. The demise of the platform is dated around 22 Ma with followed by a ~15 My depositional hiatus at its top. The interpretation of regional 2D seismic (various vintage) allows proposing five paleo-geographical maps, covering all the steps of development of the Yadana Platform, along with other carbonate platforms located in the study area, from the Late Oligocene (Chattian) to the Early Lower Miocene (Aquitanian). A new regional 3D seismic volume of 3140 km² (acquired in 2014) allows a more accurate interpretation towards the east of the area and permits the extension of the paleogeographical reconstruction to the Early-Middle Miocene. This seismic allows also dating relatively precisely the opening of the Moattama basin, to refine the proposed tectonic history and evidence a new rifting direction. The understanding of the tectonic events succession is important in term of petroleum exploration of the carbonate plays in the region (e.g. stratigraphic architecture, karstification process, depositional model).