

Deepwater Offshore Southwest Palawan - a Major New Petroleum Province Beckoning (?)

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The deepwater (800 meters and greater) portion of the South China Sea immediately to the southwest of Palawan Island has promising potential to host significant hydrocarbon deposits. The area is located within an attenuated continental terrane that is widely believed to have separated from the Eurasian mainland as a result of the opening of the South China Sea oceanic basin. Integrated gravity, magnetic and seismic studies support the hypothesis that basement in the area is largely acidic or continental in composition. Exceptions occur in narrow structural depressions or troughs floored by dense and magnetic basement, which are interpreted to overlie basement fracture zones.

Seismic sections demonstrate that the area comprises a rifted terrane characterized by a series of fault blocks regionally tilted to the southeast, some of which are affected by recent folding and faulting, inversion and igneous intrusion. A Mesozoic to Tertiary stratigraphic succession is predicted from offset wells, sequence stratigraphy of regional seismic data, and regional correlation with basins peripheral to the South China Sea, consistent with an episodic marine rift basin model.

Potential source rocks with sufficient thermal maturity are expected to be present in Paleogene syn-rift clastics and carbonates, and in Mesozoic deposits similar to those inferred to occur in the west Palawan shelf, Reed Bank and other South China Sea rift basins. Charge modeling has delineated a number of potential generative basins which could have yielded or are still expelling hydrocarbons from potential source facies. There are a number of potential reservoirs from Late Triassic to Late Oligocene-Early Miocene age. The basal Middle Miocene deepwater shale interval - the regional seal in the west Palawan shelf - is anticipated to extend laterally to the area. Intercalated fine clastic lithologies may provide intraformational seals within the Paleogene and Mesozoic intervals.