

Deep Water Seismic Surveys in Southeast Asia : Frontier Hydrocarbon Plays

by

Roberto Fainstein, Geological Advisor,

Geco Prackla

POSTER ABSTRACT

The upper continental margin basins off Southeast Asia have been mapped in detail by the interpretation of seismic reflection grids. The search for high reward exploratory plays in most of these basins is now particular as producing areas have entered the maturity stage. By contrast, recent advances in drilling and production technology have substantially reduced the exploration and production costs in deepwater thus enabling a renewed search for hydrocarbons in large frontier areas. The methodical deepwater seismic exploration off Southeast Asia has identified distinctive plays, these yielded in instances substantial hydrocarbon reserves.

Modern seismic investigations off Southeast Asia have been led by massive 2-D and 3-D non-exclusive seismic surveys. These ongoing seismic programs are undertaken with continuously evolving seismic technology. Regional and prospect orientated datasets have been gathered both along the Tertiary Basins of Southeast Asia's Sunda Shelf, and in the pre-Tertiary Basins of Eastern Indonesia and Australia. Seismic reflection data along the Sunda Tertiary basins includes the Palawan Area, Gulf of Tonkin, Andaman Sea, Natuna Sea and East Java Sea. In the pre-Tertiary basins, modern seismic data has been acquired in the Timor Sea, Arafura Sea and Seram Sea.

This paper briefly reviews the deepwater exploratory history of Southeast Asia and the potential of future deepwater exploitation. The paper focuses on the geological interpretation of regional seismic profiles along the deepwater basins. These are situated in a wide variety of tectonic and stratigraphic environments underlain by continental, transitional or oceanic crust. The interpretation of the modern suites of deepwater seismic data provide comparative insight into the prospectivity of the outer shelves, slopes and rises off Southeast Asia.