ABSTRACTS OF POSTERS

Poster 1

Southern Sandakan sub-basin – 7th oil province for Borneo

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The Sandakan Basin is the largest and southernmost of the three basins in the southwest Sulu Sea. The basin covers at least 40 000 km^2, mostly offshore, and possesses up to 6–8 km of mainly Lower Miocene to Recent sedimentary section.

The southern portion of the basin has a complex history involving Palaeogene arc-associated tectonism and sub-basin formation punctuated by obduction and transpressional events. Deltaic sedimentation with outer shelf reef growth characterized Neogene deposition; reservoir and intraformational seals are ubiquitous. Reactivation of northeast-trending structural arches which were, initially associated with volcanic edges, has resulted in polycyclic, northeast-southwest, anticlinal structuring. Wrench faulting and northwest-southeast oriented growth faulting in the Neogene modified existing, and created further structures.

Source rocks are deltaic, dominantly terrestrial in origin, are essentially confined to the Neogene, and are similar to those in the Baram and Mahakam deltas elsewhere in Borneo. They are believed to be both oil and gas prone. There are at least three prospective source kitchens in the basin, the largest and most prospective lying east and northeast of Sandakan.

Exploration has been confined to 15 wells. Poor seismic data quality at the time of drilling (predominantly 1970–1975) resulted in at least 10 of these wells being invalid tests. Modern seismic data reveals a host of new play types including large stratigraphic features basinward of the Neogene delta front. Gas, condensate and light oil flowed from 2 wells in the Malaysian sector and oil and gas/condensate shows have been noted in most other wells.

Strong affinities in stratigraphic and structural style are observed between the Baram Delta and the southern Sandakan Basin, particularly the presence of structures at the intersection of growth faults and folds, where most Baram delta oil fields are located. This, and the fact that the equivalent section which is oil productive throughout Borneo is yet to be tested in a valid trap, suggests that the southern Sandakan Basin could become a significant hydrocarbon producing province.

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