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ORAL PRESENTATION

The Hydrocarbon Potential of the Frontier Cape Vogel Basin, Papua New Guinea (PNG)

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The predominantly offshore Cape Vogel Basin, north of the Papuan Peninsula, is thought to be underlain by Late Paleocene-Eocene oceanic crust and overlain by Cenozoic sediments. Two exploration wells were drilled in the basin in the early 1970s (Goodenough-1 and Nubiam-1) that chased Miocene reef plays that were thought to be analogous with the recent discoveries in the Gulf of Papua (GoP). No Miocene reefs were encountered in either well, with both wells TDing in volcanics. The wells encountered minor hydrocarbon traces with Goodenough-1 encountering good-to-marginal source material, although the enigma remains that both wells were "not valid tests" to assess the extent of the Basin's hydrocarbon potential.

Reassessment of the open file 2D seismic data, as well as the integration of modern long-offset PSDM 2D seismic data and shipborne gravity and magnetics data, has resulted in a significant improvement in subsurface imaging and understanding of the petroleum prospectivity of the Basin. The data has demonstrated the existence of a significant sedimentary section with the potential for Mesozoic section at depth and that the volcanics within the Basin are not laterally continuous but are a product of short periods of volcanism in the Cenozoic. The data also suggests the presence of various play types in the Basin (e.g. turbidite fans, pinch outs, compressional features and carbonate reefs / build-ups). Repeatable sea surface slicks identified on satellite imagery together with observable BSRs and DHIs also provide important clues regarding the existence of a working petroleum system and source rock in the area.

These observations have been integrated into a model that hypothesises that the area has affinities with the GoP, with the continuation of continental crust existing north of the Papuan Peninsula, with widespread deposition in the Mesozoic and Cenozoic, and with source rocks estimated to be within the hydrocarbon generative window.

SPEAKER BIOGRAPHY

Andrew holds a PhD in geology and computer science from the University of South Wales, UK. After a stint as a postdoctoral researcher at ETH Zurich, Switzerland, he joined the industry where he has over 10 years' experience with several service providers. Andrew is currently employed as a Geoscientist and Sales Manager at Searcher Seismic assessing the prospectivity of several regions including PNG, Australia and the Philippines.