

**Hydrocarbon potential of the Northern Australian Continental Margin –Arc Collision Zone:
Insights from a new regional 2D survey**

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Long offset regional 2D seismic surveys recently acquired by PGS across the Timor/Tanimbar Trough have provided previously unseen detailed imaging of the continent/arc collision zone between northern Australia and Indonesia. New broadband seismic data with up to 12s record length provides almost continuous coverage of the convergent margin across the Australia/Indonesia political boundary allowing better understanding of the regional structure and its significance for hydrocarbon exploration. The new data from the Timor and Tanimbar Troughs, and the Semai Trough in eastern Indonesia shows significant variation in the style of structural deformation within the autochthonous Australian continental margin sequences extending beneath the collision complex/accretionary wedge. The improved imaging of Mesozoic sequences (with their untested potential source and reservoir rocks of Australian continental margin affinity) will greatly assist in the evaluation of new play types within the tectonic collision zone. Also, to the south and southeast of the Tanimbar Trough, new regional 2D lines over the Arafura Shelf have indicated the presence of Palaeozoic depocentres which are virtually unexplored. With sediment thicknesses exceeding 10km and evidence of active petroleum systems, this Palaeozoic potential should not be overlooked.