

Reconstructing South West Gondwana: The India, Australia and Antarctica Jigsaw From the Permian to the Late Cretaceous

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ABSTRACT

Various plate models have been published on the reconstruction of Eastern Gondwana, each with their own subtle differences. In exploration, having a good understanding of the correct plate model is essential in understanding your basin framework and depositional environments. The main petroleum reservoirs of Australia and many of those in eastern India can be traced back directly or indirectly to the melting of the Gondwanan ice cap in the Permian and the subsequent reworking of these sediments during the break up of Gondwana through the Mesozoic. The deposition and preservation of potential reservoir and source sediment are influenced not only by climatic and sedimentological controls but also by the interplay of regional and local structural events. Improvements in dating and provenance, plus new data from recent exploration activity across the region, have enabled us to integrate onshore and offshore, surface and subsurface data into a series of reconstructed maps from the Permian to the Late Cretaceous. These maps have since provided an integrated regional understanding to assist in prediction of source and reservoir facies, plus possibly the odd new play in some regions. Following on from the success of this work, BP have been collating and integrating maps and data from across the world in order to provide a similar regional tectonic and depositional environment background for other regions worldwide.