

Structure and Hydrocarbon Prospectivity of the Waukarlycarly Graben, West Australia

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The Waukarlycarly Graben on the southern edge of the Canning Basin in Western Australia was first recognised in 1993 on the basis of regional gravity and magnetic data, and confirmed by seismic profiles in 1995. Underlying an inlier of Pleistocene sand dunes in the Pilbara Craton and previously considered a shallow trough of Permian glacial sediment, the basin contains over 3000 m of sediments of undetermined age of either Palaeozoic or Proterozoic age. Both sequences have potential for source and reservoir development.

The three isolated seismic lines provide good strike and dip profiles of the basin and can be integrated with the gravity and magnetic data to define the basin framework. The basin was mapped initially using gravity data with 11 km station spacing and aeromagnetic surveys at 1600 metre line spacing. Gravity stations at 2.5 km spacing and aero magnetic lines at 400 metre spacing have recently become available from Australian government surveys. The more detailed interpretation possible from these new data, integrated with the seismic data, provide better definition of this unexplored basin.