

## **Biozonation and stratigraphy of the Canning Basin: updated to the 2012 timescale**

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The Canning Basin in northwestern Australia covers an area of over 506,000 sq. km, of which 430,000 sq. km are onshore. The maximum sediment thickness is over 15,000 m, concentrated in two north-west trending depocentres: the Fitzroy Trough – Gregory Sub-basin complex and the Willara Sub-basin – Kidson Sub-basin complex. Onshore sediments range in age from the Early Ordovician to Early Cretaceous while those in the offshore portion of the basin are mostly Triassic to Neogene.

Though it is largely covered by onshore petroleum tenements, much of the basin is underexplored. Conventional hydrocarbons have been produced from Devonian carbonates (Blina) and Carboniferous sandstones (Boundary, Lloyd, Point Torment, Sundown, West Kora and West Terrace), with many shows in Ordovician to Permian rocks. The recent Ungani-1 well flowed oil from the Laurel Formation, while in 1967 Yulleroo-1 flowed gas from the same unit. The basin's source rocks have recently been attracting exploration attention for their unconventional hydrocarbon resources. Prospective units include the Ordovician Goldwyer and Bongabinni formations, and the Mississippian Laurel Formation.

A new International Geological Timescale (Gradstein et al. 2012) has resulted in changes to the age and duration of most chronological stages. This has implications for the interpreted ages and durations of Canning Basin sedimentary units, with potential ramifications for petroleum modelling. This poster presents an updated biozonation and stratigraphy chart for the Canning Basin, reflecting the 2012 timescale. This provides a baseline for an assessment by Geoscience Australia, of the unconventional hydrocarbon potential of the basin, for likely completion in 2014.

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