

LAUREL GAS PLAY, CANNING BASIN - RECENT STRATIGRAPHIC LEARNINGS

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Well, core and seismic data from the Lennard Shelf and Fitzroy Trough were integrated to produce a predictive sequence stratigraphic framework of the Laurel Formation consisting of Lower, Middle and Upper depositional sequences.

Significant encouragement for potentially commercial flow rates was achieved by the hydraulic stimulation of the Middle Laurel in the Eastern Gas Province (Valhalla North 1 and Asgard 1 wells) in late 2015 and in the Western Gas Province (Yulleroo) in 2010. The Laurel tight gas play extends over a 20,000km² area developed within a 2000m thick succession of marine clastics and carbonates. Condensate rich wet gas associated with overpressure is encountered regionally within low porosity and permeability sands at depths below 2000m. This was correlated across the basin from Yulleroo to the Meda Embayment and Northern Gas Province where a number of prospective plays were identified.

Upper Laurel shallow marine sandstones commonly possess good oil and gas shows and have potential for tight gas where overpressured. A prominent Middle Laurel lowstand prograding shelf slope wedge supported by the presence of conglomerates in updip wells suggest better clastic sediment supply and the potential for the development of conventional lowstand topset sandstone reservoirs in the Northern Province.

The Middle Laurel interval in the Northern Gas Province likely consists of a similar and potentially better tight gas reservoir than the interval stimulated in the Eastern Gas Province. Further drilling is required to confirm this and also to prove the viability of the tight gas play in the Northern Gas Province.