

**CONTROLS ON SHALLOW MARINE RESERVOIR DEVELOPMENT,
JANSZ-IO FIELD, NORTHERN CARNARVON BASIN**

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Abstract

The Jansz-Io field is a gas-bearing sandstone reservoir in the Northern Carnarvon basin off the North West Shelf of Australia. The field is part of the prolific Greater Gorgon gas field and has an exploration history dating back to 1953. The aim of this study is to log the available core and integrate other datasets such as wireline and biostratigraphy to establish geological and stratigraphic models that can give fresh perspectives and insights into this field and develop these learnings to apply to other shallow marine clastic reservoirs. The results of the study show a coarsening upwards package of siltstones and sandstones that indicate an increase in energy and shallowing water depths. The WAVE classification was used to define the respective wave, tidal and fluvial influences, in combination with ichnology, to produce a range of possible depositional environment outputs. The proposed model for the deposition of the Jansz sandstone reservoir is an offshore transition at the most distal, above storm wave base (50-75 meters) and below fair-weather wave base (5-15 meters). The most proximal deposition was in the upper shoreface to foreshore where waves broke on the beach in water depths less than 5 meters. The level of uncertainty associated with the geologic model for the reservoir has implications for future development and production.

Keywords: Jansz-Io, Jurassic, Heterogeneity, Bioturbation, Breakup
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