

PROSPECTIVITY REVIEW CASE STUDY

Senex Energy Energy - PRL-109 & PRL-110
Cooper Basin, Australia

AWT DISCIPLINES

Geology
Geophysics
Reservoir Engineering
Petrophysics
Resource Assessment
Prospect Risking

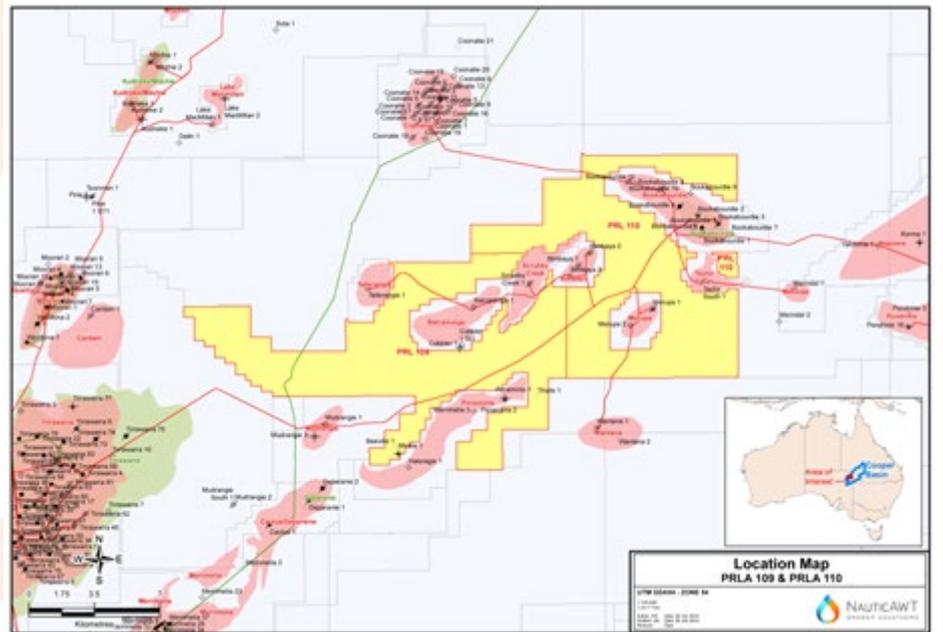
PROJECT BACKGROUND

AWT International (AWT) was contracted by Senex Energy Ltd (Senex) to complete a review of the remaining conventional hydrocarbon prospectivity of the Birkhead Formation and Permian section of permits PRL-109 and PRL-110. Wells and vintage seismic data were evaluated and interpreted in an attempt to identify channel sandstones and other stratigraphic plays and potential structural traps.

The Study Area was located within the South Australia Cooper Basin. A number of gas discoveries (eg Bookabourdie) had been made around the permits and oil has been found in multiple reservoirs within the neighbouring fields.

Location:
Cooper Basin,
Australia

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AWT WORKSCOPE

As well as identifying possible areas for an upcoming drilling program, a review of reservoir parameters based on the gamma ray and sonic log was undertaken. Detailed petrophysical analysis of wireline logs was not initially part of this review. Primary reservoir intervals were evaluated in order to provide an estimate of gross sand interval, net sand and average porosity. Production data, hydrocarbon shows and DST information have been tabulated and posted on cross-sections to assist with reality checking of the petrophysical evaluation. The geological and seismic interpretation was carried out in parallel rather than in series.

AWT VALUE ADDED

A sequence concept was applied to a well cross-section, including all wells. This identified flooding surfaces and sequence boundaries. This study would be improved if the PELs had been part of a basin-wide framework with sequences extending from the Eromanga and Cooper basin depocentres.

It was generally able to determine depositional timelines and lateral (facies) relationships for the Birkhead Formation, Toolachee Formation, Upper and Lower Patchawarra Formation and the Tirrawarra Sandstone.

