

Exploration Opportunity

The Rowley Sub-basin in the Roebuck Basin is under-explored with only two wells drilled in the 2010 acreage release frontier areas.

Plays

To summarize the petroleum potential in the Rowley Sub-basin, as described by Geoscience Australia (www.petroleum-acreage.gov.au), the plays consist of fluviodeltaic-shallow marine Permian, Triassic and Jurassic reservoirs, sealed by intra-formational shales and regionally by Lower Cretaceous claystones, and charged mainly from Early-Middle Triassic Locker Shale – marine shales containing potential gas-prone source rocks and interpreted as source for gas in Phoenix-1 and -2 wells drilled in the adjacent Bedout Sub-basin. Additional potential source rocks may exist in the Ordovician, Pennsylvanian-Permian, Early-Middle Jurassic successions.

The Triassic play is proven in the southern Roebuck Basin and in the recent significant discoveries made in the adjacent Carnarvon Basin.

Trap Styles

Structural trap styles across the Rowley Sub-basin consist of:

- 4-way anticlinal closure
- Footwall traps along antithetic faults
- Hangingwall traps

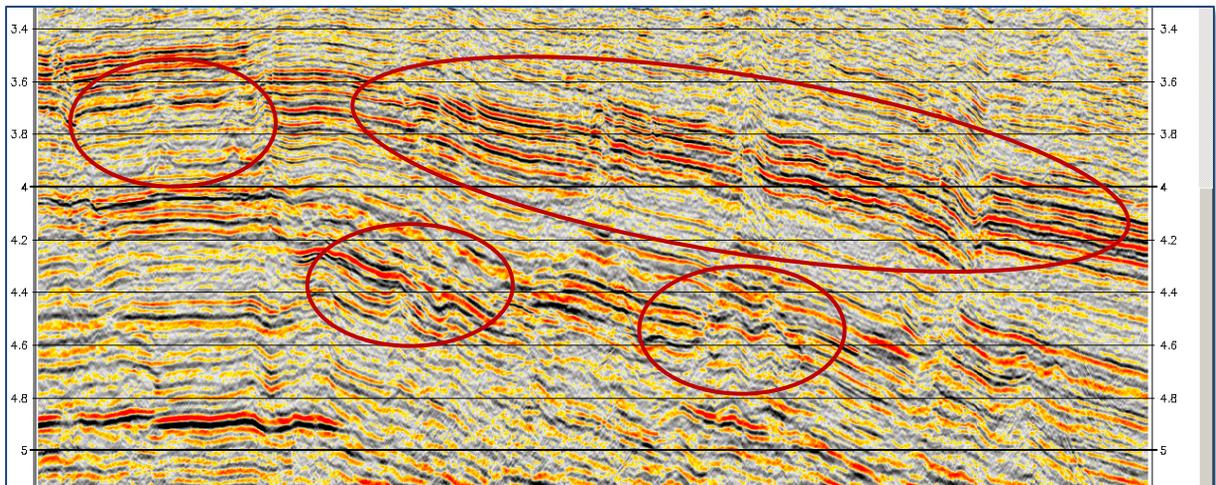
Traps are expected to contain stacked reservoir targets at Permian, Triassic and Jurassic levels. The primary target is most likely Upper Triassic Keraudren Fm sandstone reservoirs since these are favourable for getting charge from underlying Triassic Locker Shale source rocks.

Faulted 4-way closures at Triassic and older levels underneath the two wells drilled in the 2010 release areas remain untested. Another undrilled 4-way closure at Triassic level has also been identified in the release areas covered by the 2D seismic survey, which is currently being reprocessed.

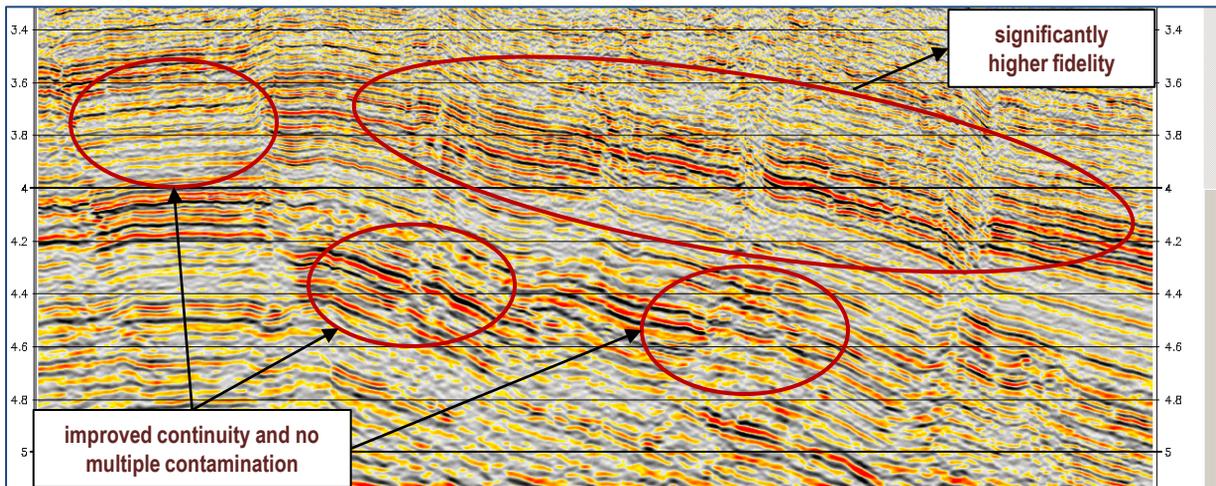
Risks and Uncertainties

Based on the results of regional evaluation and analysis of failure wells in the Roebuck Basin, a key technical risk is on trap integrity (i.e. hydrocarbon retention). This is indicated by the lack of commercial accumulation despite widespread petroleum migration observed from fluid inclusion studies (www.petroleum-acreage.gov.au). In the release areas, there is uncertainty on reservoir presence/quality since the fluvio-deltaic depositional models, particularly for the Triassic, suggest reservoirs penetrated by wells inboard pass laterally into more shale-prone sequences basinward. The facies change is unconstrained.

The reprocessing of Tarantula 2D seismic will provide the appropriate datasets for a thorough prospectivity assessment, and to address key risks/uncertainties with the application of advanced technologies in the Rowley Sub-basin 2010 release areas W10-4, W10-5 and W10-6.



Original



Reprocessed 2010 (preliminary)

- Deliverables – True Amplitude PSTM processed stack and offset datasets ready by November 2010. Regional exploration opportunity screening database will also be available.
- Early participation preferential rate is available upon request

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