# WS10 C02

# The 2014 North Carnarvon Basin License Round – a real-world example of the application of modern play tools and techniques in a competitive mature basin exploration arena.

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## Summary

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The 2014 Australian offshore gazettal round was announced in May 2013 with thirteen of the 31 blocks in the North Carnarvon Basin, Australia's premier oil and gas offshore basin. 12 bids were subsequently received on 6 blocks, which were later awarded with firm and contingent total work program commitments of $33 million and $150 million, respectively.

By compiling open file data an evaluation of 15 play intervals was completed over the basin prior to the bid submissions. This included the interpretation and integration of data from 400 wells and 140 fields with 30,000km of 2D seismic data. Numeric chance estimate maps were made for each play level for 5 play elements (Reservoir Presence etc), which were convolved to produce play stacks for each interval. Six charge source intervals were evaluated and migration from these into the different play intervals was evaluated by splitting and evaluating the source presence, source maturity, timing, and migration elements. The composite maps for the 15 play intervals were then convolved to produce basin "money" maps that highlighted the prospectivity of the whole basin, and which were then used to qualitatively rank the 13 bid blocks.

To produce an indicative quantitative ranking and evaluation of the gazettal blocks, prospects identified by previous operators and in open file reports were integrated with the play maps. Volumetric estimates and trap configuration and structural timing risks were evaluated for each feature and this analysis, when combined with estimates of drilling costs and unit values value ($/bbl for oil, condensate and gas separately) made it possible to rank the portfolio of plays and blocks by both risked volumes and value. This permitted a quantitative ranking of the bid blocks which was provided to customer oil companies, who then purchased modern 3D data and mapped their own prospects to underpin their own more detailed bid evaluations and bid submissions. While these company evaluations remain confidential, it is instructive and informative to see after the event how the evaluation based on public domain data compares to the bids subsequently submitted by the industry. The highly ranked blocks in the quantitative play evaluation correlates strongly with those that subsequently received competitive bids, thus validating the usefulness of this form of play analysis methodology in competitive mature basin exploration arenas.