

ASX:EEG

Carpentaria-2H Interim Drilling Report

1 December 2021



Level 19, 20 Bond Street
Sydney NSW 2000

Carpentaria-2H pilot confirms Velkerri B target

- The drilling of the Carpentaria-2 vertical section by Silver City Rig 40 has been completed safely and efficiently to a total depth of 1,835 metres
- The well has encountered thick liquids rich gas shales across the four stacked Velkerri Formation pay zones with strong gas shows across the target formations and live gas bleeding from core samples
- Well log interpretation indicates a strong correlation in thickness and rock characteristics of the four stacked shale targets to the Carpentaria-1 location
- Target shales are ~240m deeper than Carpentaria-1 consistent with pre-drill seismic interpretation
- Infill 2D seismic acquisition in EP187 has been completed safely with processing and interpretation to commence soon
- Empire has commenced drilling the Carpentaria-2H horizontal section targeting the Middle Velkerri B shale
- An updated independent resource report will be prepared by Netherland, Sewell and Associates incorporating the results of the Carpentaria-2 log and core data

Comments from Managing Director Alex Underwood:

“Empire’s management team is delighted with the interim results of the drilling and formation evaluation of the Carpentaria-2 vertical section. Results reinforce our modelling of strong continuity of the Velkerri’s liquids rich gas target shales with a strong match with the Carpentaria-1 location 11km away, albeit 240m deeper at Carpentaria-2. Increased depth is likely to support increased flow rates while maintaining a cost advantage over deeper drilling. Live gas bleeds witnessed in sidewall core samples we cut from the target shales further enhance our view that strong production rates may be achieved once we commence flow testing.

We have commenced drilling the horizontal section of Carpentaria-2H, our first ever horizontal well, targeting the Velkerri B shale, which was the strongest contributor to gas production of the four target formations in the Carpentaria-1 vertical flow test.

Activity is strong across the basin. Origin and its JV partner Falcon Oil & Gas recently reported encouraging results in their Velkerri-76 well targeting the same liquids rich gas window of the Velkerri shale present in the EP187. Santos and its JV partner Tamboran have recently completed drilling two horizontal wells in the block adjacent to EP187 and fracture stimulation has commenced, with initial flow test results expected by the end of calendar 2021.

The recent release of the Federal Government’s National Gas Infrastructure Plan and the Future Gas Infrastructure Investment Framework demonstrate the importance of the Beetaloo Basin in providing energy security for Australia in the years ahead.”

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Carpentaria-2 Vertical Section Drilling Summary

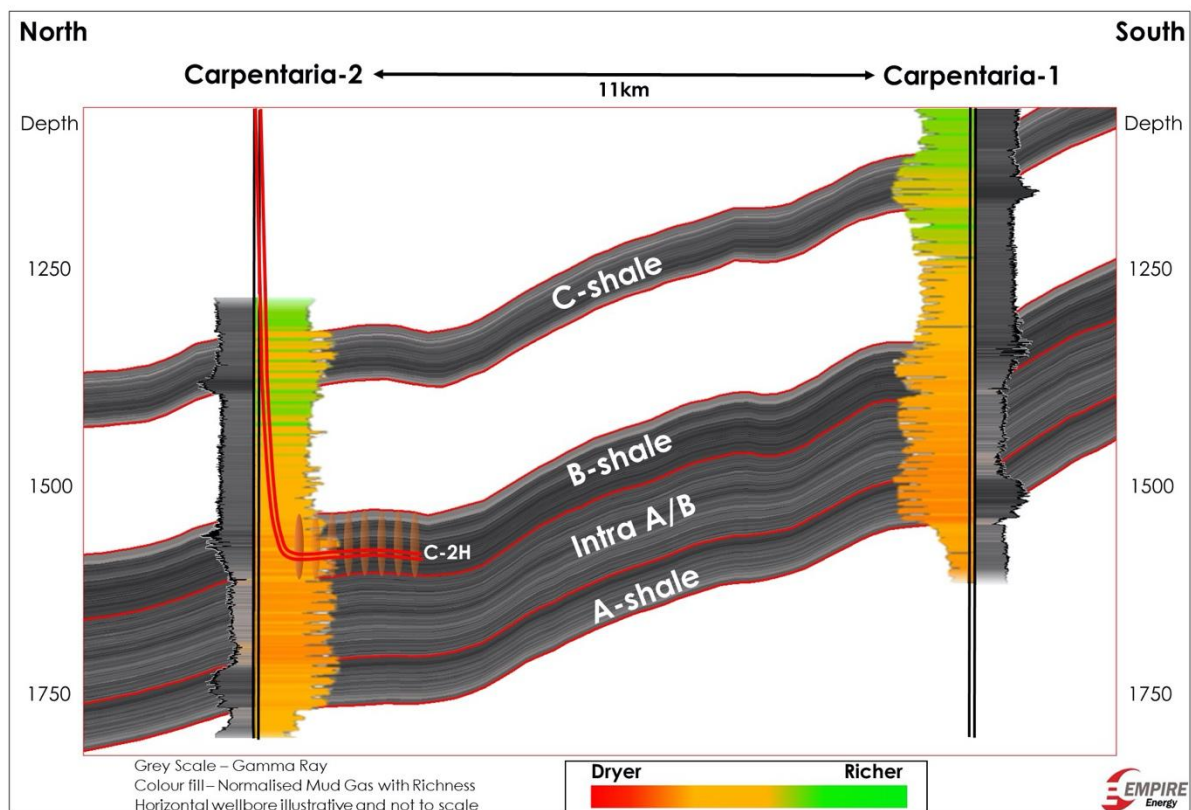
Downhole logging has confirmed that the depth and thickness of the Carpentaria-2 vertical well stratigraphy are as modelled.

Mudlogs show elevated gas and gas chromatograph readings indicate wet gas composition consistent with the Carpentaria-1 vertical well 11 km away.

An extensive wireline program was successfully run including 50 rotary sidewall cores which are being sent to W.D. von Gonten & Co for petrophysical analysis. Gas was observed bleeding from sidewall core samples immersed in water when they reached surface, a positive sign for the productivity of the target shales. A video of this observation is available on the Empire website.

Drilling penetration rates were amongst the fastest seen in the Beetaloo Sub-basin to date, with only one drill bit used in each section. This bodes well for expected drilling pace and cost in future development scenarios.

The log and core data collected during formation evaluation will be analysed by Empire's technical experts, following which an updated independent resource assessment will be commissioned by Netherland, Sewell and Associates. We expect to share the results of their assessment in Q1 2022.



Simplified log section demonstrating consistency of Velkerri shale pay zones across key Beetaloo Basin wells and between Carpentaria-1 and Carpentaria-2

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Carpentaria-2H Horizontal Target Selection

Empire will now drill the horizontal section of the Carpentaria-2H targeting the middle Velkerri B Shale.

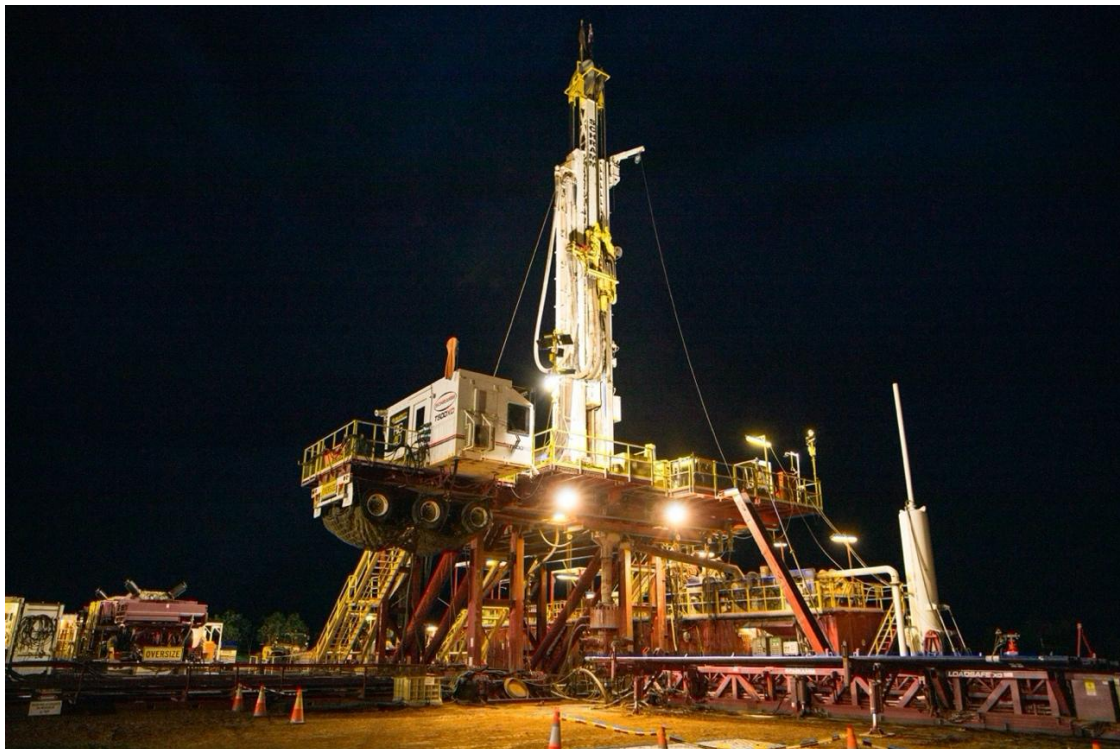
All four of the prospective Velkerri shale target zones, the Velkerri A, Intra A/B, B and C shales, produced gas to surface during the vertical flow testing of the Carpentaria-1 well.

The B Shale provided the highest proportion of gas production during the flow test, and a relatively low contribution of flow back water.

The consistency of the shales between Carpentaria-1 and Carpentaria-2H, combined with increased depth, has given Empire's technical team the confidence to select the B Shale as the first target of horizontal appraisal drilling.

Following the drilling, casing and cementing of the horizontal section in the coming weeks, Empire will suspend the well over the Wet Season.

Preparations for fracture stimulation and flow testing of the horizontal section will proceed over the Wet Season, with operations expected to recommence in early Q2 2022. Empire will update shareholders as the horizontal drilling phase proceeds.

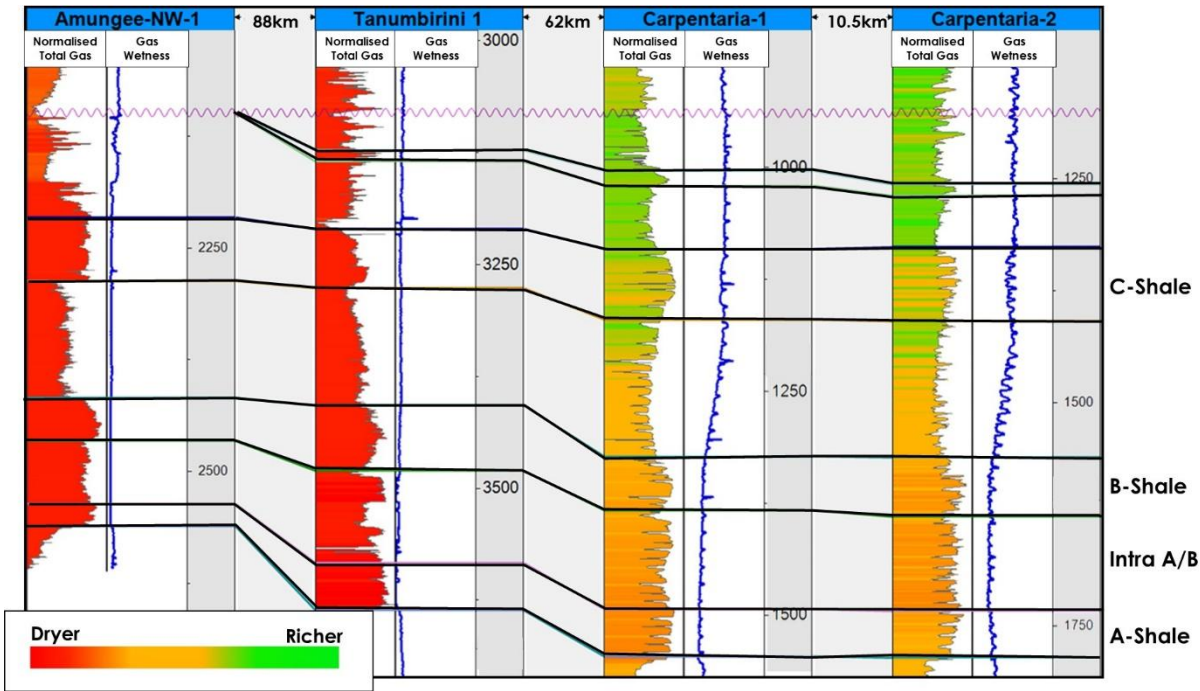


Silver City Drilling Rig 40 in operation at Carpentaria-2H in EP187

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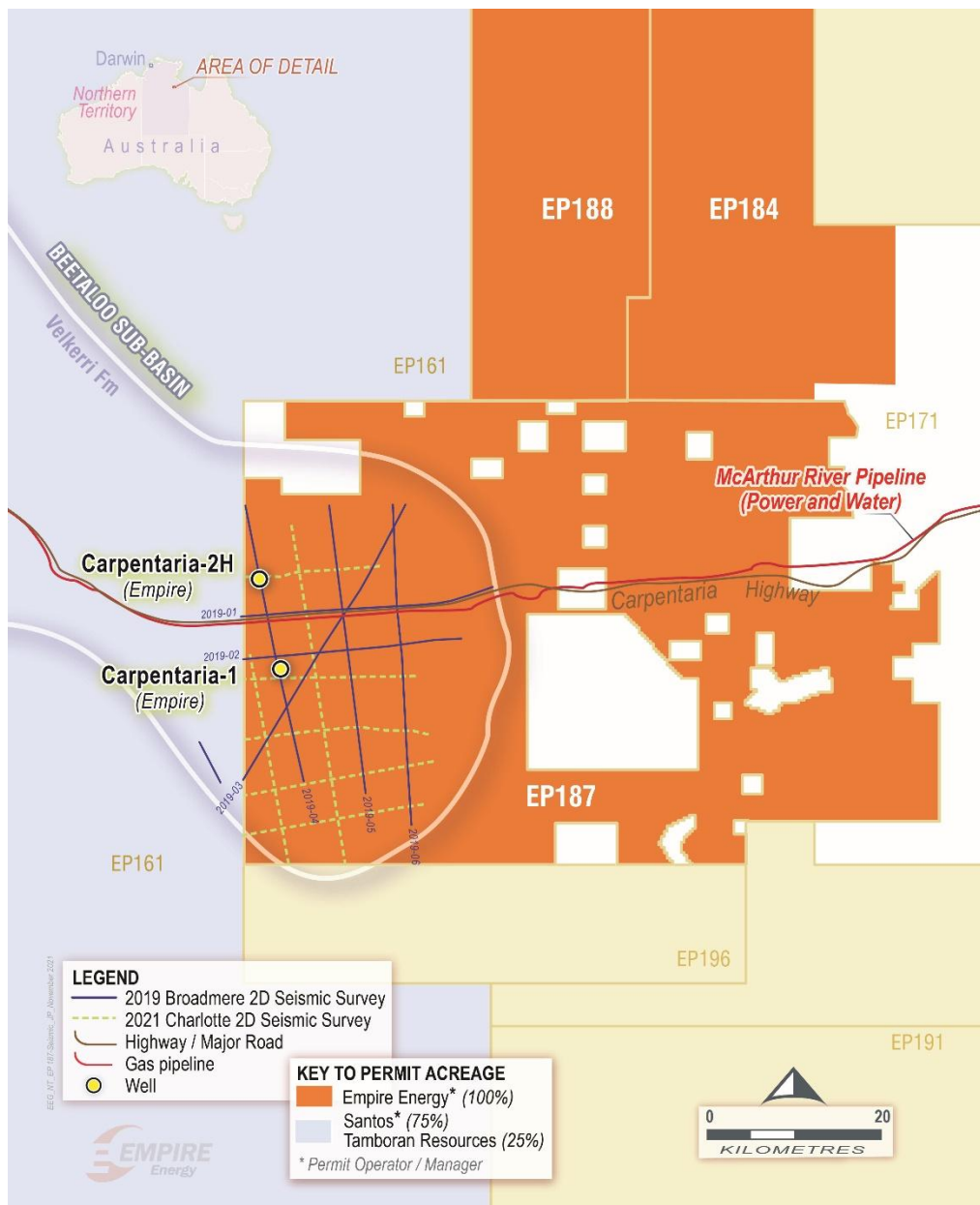


Carpentaria-2H well pad



This diagrammatic section of well logs across the Beetaloo spans 160km and shows the extraordinary lateral continuity of the specific shale target units within the Velkerri Formation

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EP187 map highlighting Carpentaria-1 and Carpentaria-2H wells and their proximity to McArthur River gas pipeline and Carpentaria Highway.

This ASX release has been authorised by the Managing Director.

For queries about this release, please contact:

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