



## **RECORD-BREAKING CARPENTARIA-3H (“C-3H”) DRILLED ON TIME AND UNDER BUDGET**

### **FRACTURE STIMULATION AND FLOW TESTING OF C-3H, AND CARPENTARIA-4V (“C-4V”) DRILLING TO COMMENCE IMMINENTLY**

- C-3H drilled to total depth of 4,460 metres on time and under budget
- Total horizontal section length of 2,632 metres drilled, of which 2,374 metres was successfully placed within the target Velkerri-B shale formation, with strong gas shows throughout the target shale zone. This represents by far the longest horizontal section drilled in the Beetaloo to date
- Forecast total cost for C-3H drilling of <\$11 million compares favourably to Carpentaria-2H and is a small fraction of the cost of drilling deeper Beetaloo wells
- Fracture stimulation operations and production testing of C-3H, fully funded from existing cash at bank, scheduled to commence in early December 2022
- C-3H fracture stimulation design will benefit from cutting edge technological learnings from Empire’s recent C-2H fracture stimulation and flow testing program, which is likely to enhance well productivity, particularly flow rates
- Drilling of C-4V scheduled to commence in the coming weeks following mobilisation of the rig from the C-3H location
- Empire has received a Research and Development Tax Offset of \$7.8 million in cash and a GST refund of \$1.6 million in cash following processing of its September Business Activity Statement
- Incredibly tight Australian gas market conditions are driving significant commercial interest from potential customers for Empire’s low CO2 gas which is likely to facilitate the company’s rapid commercialisation strategy
- Current cash at bank is \$33.5 million

### **Comments from Managing Director Alex Underwood:**

“The successful drilling of Carpentaria-3H, on time and below budget, and without any recordable health and safety or environmental incidents, demonstrates that the Empire team continues to lead the development of the Beetaloo Basin. The final cost of drilling and casing this well is likely to be lower than the cost of Empire’s first horizontal well, Carpentaria-2H, despite having double the length of horizontal section within the target Velkerri-B shale section, and lower than the cost of Empire’s first vertical well, Carpentaria-1. This clearly demonstrates the rapid learning curve we are progressing along, and further enhances the team’s confidence that we may be able to commercially extract very large volumes of gas from EP187.

The Empire team believes that our shallower acreage provides a development cost advantage. This has been reinforced by our Carpentaria-3H horizontal well that was drilled for less than a third of the cost of the Maverick-1V vertical well recently drilled in the deepest part of the basin.

Our technical team is analysing critical data from the recent successful Carpentaria-2H flow test, which is steering us towards further optimization of the fracture stimulation and perforation design for the upcoming Carpentaria-3H stimulation and flow testing program. We will soon re-enter Carpentaria-2H to run a Production Logging Tool (“PLT”) which will give us highly granular data about the relative contribution to flow rates from each fracture stimulation stage and each cluster within those stages in the Carpentaria-2H horizontal well section. These data, combined with tracer data collected during the initial C-2H flow testing program, will provide critical insights into the optimal way to fracture stimulate and flow test the Velkerri B shale.

We anticipate that our data-driven process of fracture stimulation and perforation design optimization, utilizing industry best practice technology and expertise, will drive continuous productivity improvements.

In the success case, this may result in Empire’s Beetaloo Basin gas being one of the lowest cost sources of large-scale gas supply into Australia’s critically short East Coast gas market and ultimately into the Asian LNG market, which will require responsibly sourced gas supply for many decades to support the energy transition.

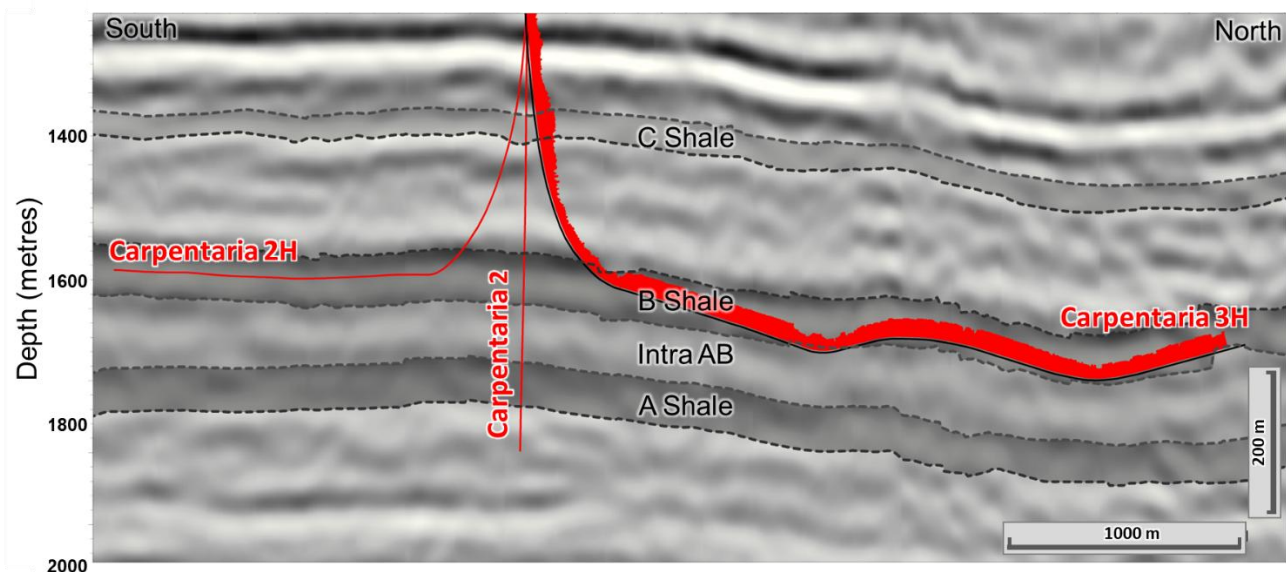
Many thanks to our dedicated team for your hard work and professional approach, which has driven this excellent result. I look forward to sharing further news with shareholders in the coming weeks as we continue to execute the most active work program in the history of the Beetaloo Basin.”

## Beetaloo Operations Update

### Carpentaria-3H Update

The C-3H well, targeting the Velkerri-B shale formation, reached a total length of 4,460 metres on 16 November 2022. C-3H was drilled on time and within budget. The well was drilled in 34 days, including 12 days for the 2,632 metre horizontal section. This represents a significant productivity improvement compared to horizontal wells previously drilled across the basin, including Empire’s Carpentaria-2H (“C-2H”) well drilled in 2021.

The 2,632 metre horizontal section in C-3H is by far the longest horizontal well section drilled in the Beetaloo to date. Over 90% of the horizontal wellbore was drilled within the B Shale and, as anticipated, strong gas shows were observed throughout. The well is now being prepared for installation of production casing.



Schematic of C-3H wellbore path

C-3H was drilled from the same well pad as the C-2H well, but in the opposite direction. The horizontal section of the C-3H well was placed in the Velkerri B shale approximately 150 metres deeper than the C-2H horizontal section. The additional depth may drive higher production rates given increased reservoir pressure.

C-2H is currently undergoing pressure build up following a successful Extended Production Test (“EPT”). This was done to maximise technical knowledge for future development planning. C-3H will further refine selection of the horizontal target window within the B Shale and build upon the hydraulic stimulation and flowback learning curve initiated during the successful C-2H operations.

The forecast total cost for the drilling of C-3H is under \$11 million which includes drilling, casing, cementing and suspending the well in preparation for fracture stimulation. This is a further significant improvement from C-2H which was drilled for a total cost of ~\$11.1 million and took 39 days from spud to rig release for 1,345 metres of horizontal length. Empire continues to be the undisputed Beetaloo cost leader when compared to analogue wells drilled by other operators in the basin.

Empire is confident that further drilling and well completion optimization can be achieved to materially reduce future drilling costs. This aligns with the Queensland coal seam gas experience, which Empire's operating team at InGauge Energy played a leading role in, where drilling and completion costs have reduced ~80%<sup>1</sup> over time.

C-3H will be fracture stimulated following the installation of production casing. Fracture stages will be optimally placed along the B Shale based on drilling data and stratigraphic depth, and with offsets from any faults to minimize operational risk. Following hydraulic stimulation, C-3H will be placed on an EPT, which is scheduled to commence during December 2022, with flow rates expected in Q1 2023.

Both C-2H and C-3H have been drilled to not only test the deliverability of the Velkerri-B shale in EP187 but can also be used as future production wells in accordance with Empire's rapid commercialisation strategy.

### **Carpentaria-4V Update**

Following release from C-3H, the rig will be moved to drill the vertical Carpentaria-4V ("C-4V") appraisal well in the adjoining Carpentaria East Area. Empire expects to commence drilling C-4V in the coming weeks.

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<sup>1</sup> Santos 2022 Investor Briefing Day dated 8 November 2022, slide 26



## Funding Update

Empire has received a refundable tax offset in the amount of \$7.8 million in cash under the Australian Government's Research and Development ("R&D") Tax Incentive Scheme for eligible R&D activities undertaken during the financial year ended 31 December 2021.

Deloitte Tax Services advised Empire in relation to the preparation of the R&D Tax Incentive application.

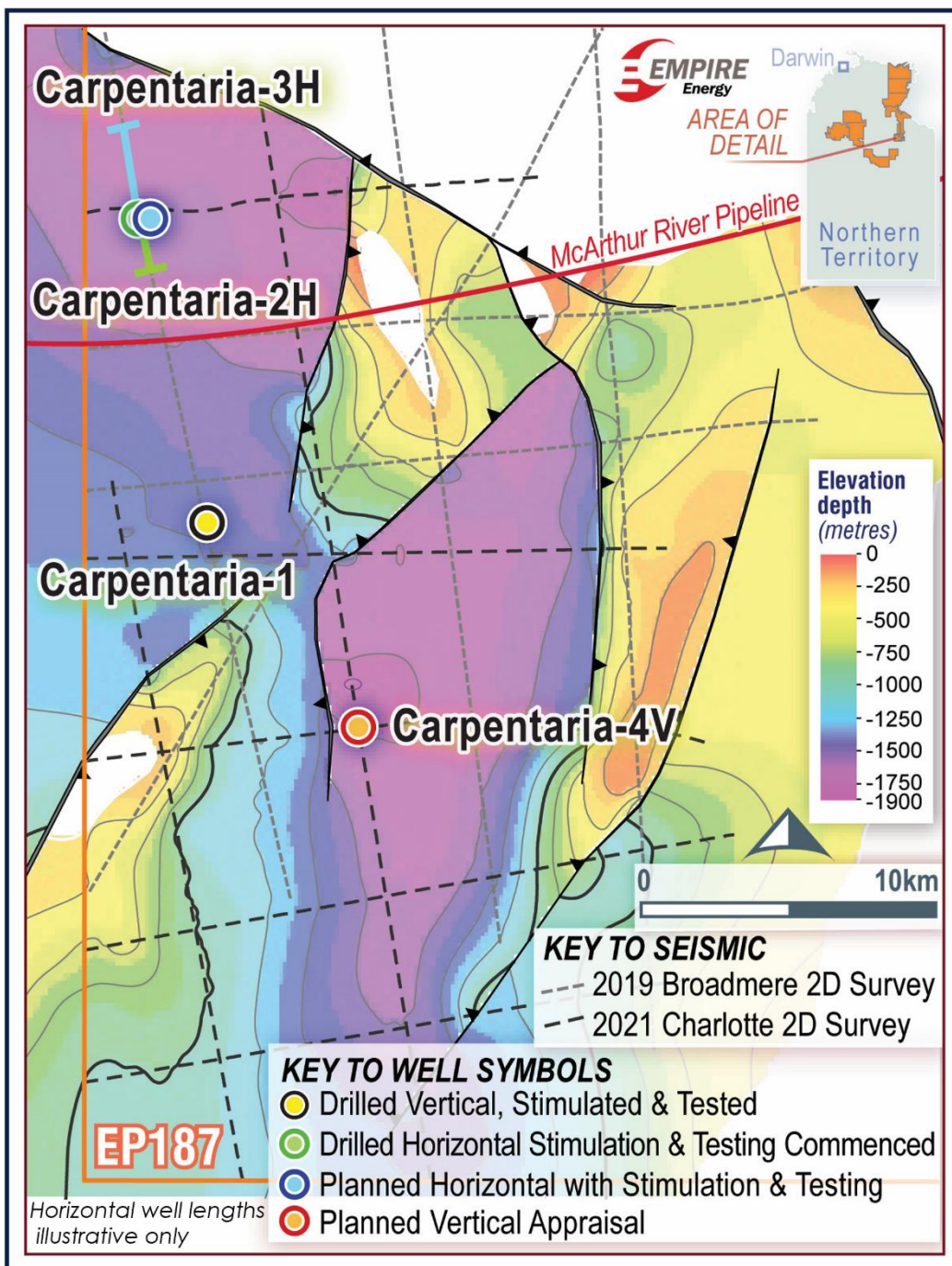
The R&D Tax Incentive Scheme is separate to the *Beetaloo Cooperative Drilling Program* grant agreements between the Australian Government and Empire's wholly owned subsidiary, Imperial Oil & Gas Pty Limited ("Imperial"). Imperial continues to receive payments in accordance with the terms of the grant agreements and anticipates a further ~\$10 million of grant payments early in 2023 once the relevant work program activities have been completed.

Separately, Empire has also received a GST refund of \$1.6 million in cash following processing of its September Business Activity Statement.

Empire's current cash balance is approximately \$33.5 million.



Schlumberger Land Rigs 185 Rig drilling Carpentaria-3H in EP187



EP187 location map illustrating drilling locations and depth to B Shale

This ASX release has been authorised by the Managing Director

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