

## **Carpentaria-2H – Successfully Drilled, Cased and Suspended**

- **Empire has successfully drilled, cased, and suspended Carpentaria-2H (“C-2H”) - its first horizontal well located within 100% owned and operated EP187**
- **192 metres of liquids-rich shale gas net pay intersected across the four middle Velkerri pay zones (Velkerri A, B, Intra A/B and C) in Carpentaria-2 vertical hole**
- **C-2H was drilled to a total measured depth of 3,150 metres with the horizontal section length being 1,345 metres and wholly placed within the Velkerri B Shale target window**
- **C-2H is the longest horizontal section drilled to date in the Velkerri shale sequence**
- **The Silver City Rig 40 has been released**
- **Results from Carpentaria-2 vertical, C-2H drilling and the Charlotte 2D Seismic Survey will be incorporated into an updated NSAI Contingent and Prospective Resource report expected to be released in Q1 2022**
- **Sidewall cores from the Carpentaria-2 vertical hole are being transported to WDVG in Houston for shale characterisation and fracture stimulation planning**
- **C-2H completed on time and on budget. Empire is demonstrating improving operating efficiency, with the vertical and horizontal section of C-2H being completed for similar cost as the 2020 vertical-only Carpentaria-1 well**
- **Planning has commenced for fracture stimulation and flow testing of C-2H scheduled to start in Q2 2022**

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

“The successful drilling of Carpentaria-2H, on time and on budget, is an outstanding result and a testament to the quality of our team and contractors.

Empire continues to demonstrate that it is the Beetaloo Sub-basin’s cost leader. C-2H, the longest horizontal well targeting the Velkerri formation drilled to date, had a similar cost to our first vertical well, Carpentaria-1, substantially less than peers across the basin.

The Velkerri shales intersected at C-2H are highly consistent and contiguous with those intersected at Carpentaria-1, albeit ~240m deeper, with a corresponding increase in pressure which is likely to drive flow rates. Live gas bleeds from core samples taken during the drilling of C-2H reinforce this view.

We have commissioned Netherland, Sewell and Associates to prepare an updated independent resource report, and anticipate a material increase in contingent resources, with results expected early in Q1.

We are incorporating the log and core data collected during the drilling of C-2H into our fracture stimulation models to optimise the design for the 2022 fracture stimulation and flow test of C-2H.

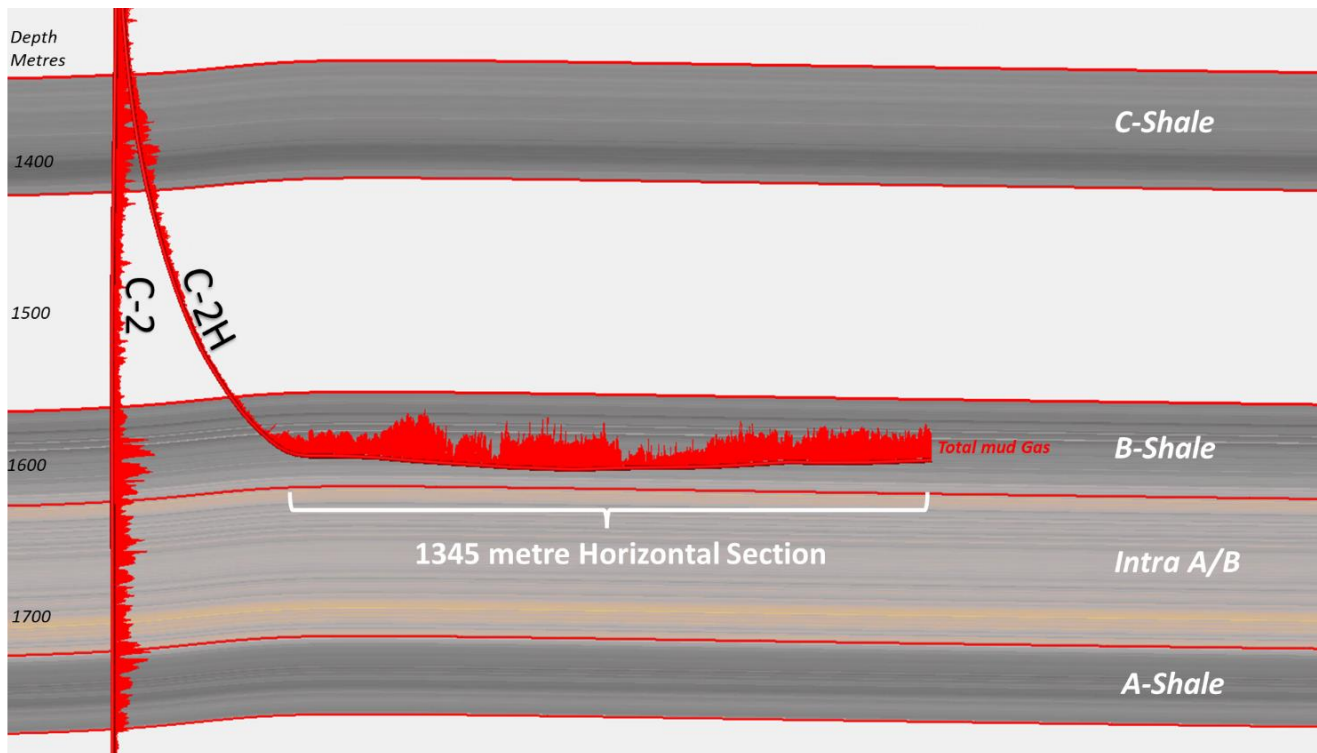
Thank you to all of our stakeholders for your support during 2021. We have continued to drive towards commercialisation and look forward to another big year in 2022.”

## Carpentaria-2H Successfully Drilled, Cased and Suspended

Empire Energy Group Limited (“Empire”) is pleased to announce that it has successfully drilled, cased, and suspended the C-2H well in Empire’s 100% owned and operated EP187, located in the Beetaloo Sub-basin, Northern Territory. C-2H is now awaiting fracture stimulation and production testing to start in Q2 2022.

The Carpentaria-2 vertical hole intersected liquids-rich shale gas intervals, with gas compositions nearly identical to Carpentaria-1, across the four middle Velkerri pay zones (Velkerri A, B, Intra A/B and C), representing a net pay thickness of 192 metres. The Carpentaria-2 vertical hole has proven the continuous extension of the Velkerri shales from the Carpentaria-1 well located ~11 kilometres to the south. The consistency of shale thickness between the two wells, coupled with the available 2D seismic grid confirms the lateral extension and regularity of shale targets throughout the mapped EP187 resource.

The C-2H horizontal section was drilled in the Velkerri B Shale. This target zone was selected using Carpentaria-1 production testing results, as well as petrophysical analysis of the C-2H vertical hole undertaken by Houston-based W.D. Von Gonten Laboratories (“WDVG”) using the advanced wireline log data acquired by Schlumberger.



### Legend

1. Not to scale
2. Mud log simplified, histogram above shows total mud gas

C-2H reached 3,150 metres total measured depth (TD) on 13 December 2021. C-2H was drilled to a total measured depth of 3,150 metres with the horizontal section length being 1,345 metres and wholly placed within the Velkerri B Shale target window. This is the longest horizontal section drilled to date in the Velkerri shale sequence. Strong gas shows throughout the drilling of the horizontal section were recorded; and the core samples from the vertical hole showed encouraging signs of hydrocarbon bubbling representing live gas.

Empire is demonstrating improved operating efficiency as we enhance our knowledge and continue to refine drilling techniques to suit the unique geological environment of the Beetaloo Sub-basin. Further operational improvements have been identified for future drilling campaigns. The Silver City Rig 40 was released on 16 December 2021, 39 days after spud and the horizontal section itself took only five days to drill, validating strong time and cost performance compared to all other wells in the Beetaloo Sub-basin.

C-2H was completed on time and on budget. The total cost of the C-2H drilling campaign including well pad construction, water monitoring bores, formation evaluation, drilling, casing, cementing, and suspending the well in preparation for fracture stimulation is expected to be approximately \$11.5 million. This compares favourably with our vertical-only Carpentaria-1 drilled in 2020 which cost of \$11.3 million and with other wells drilled in the Beetaloo Sub-basin to date. Empire expects to further reduce costs in future wells as drilling techniques are refined.

Petrophysics from the Carpentaria-2 vertical hole along with revised mapping from the Q4 2021 Charlotte 2D Seismic Survey and 2019 Broadmere Survey will be provided to Netherland, Sewell & Associates Inc (“NSAI”) to update Empire’s EP187 Contingent and Prospective Resources report. Empire expects to release the updated NSAI certified Contingent and Prospective Resources report during Q1 2022.

The Empire technical team and inGauge Energy Pty Ltd operating team have commenced planning for the fracture stimulation and extended production testing of C2-H scheduled to start in Q2 2022 after end of the wet season. WDVG core analysis will be incorporated into Empire’s planning.

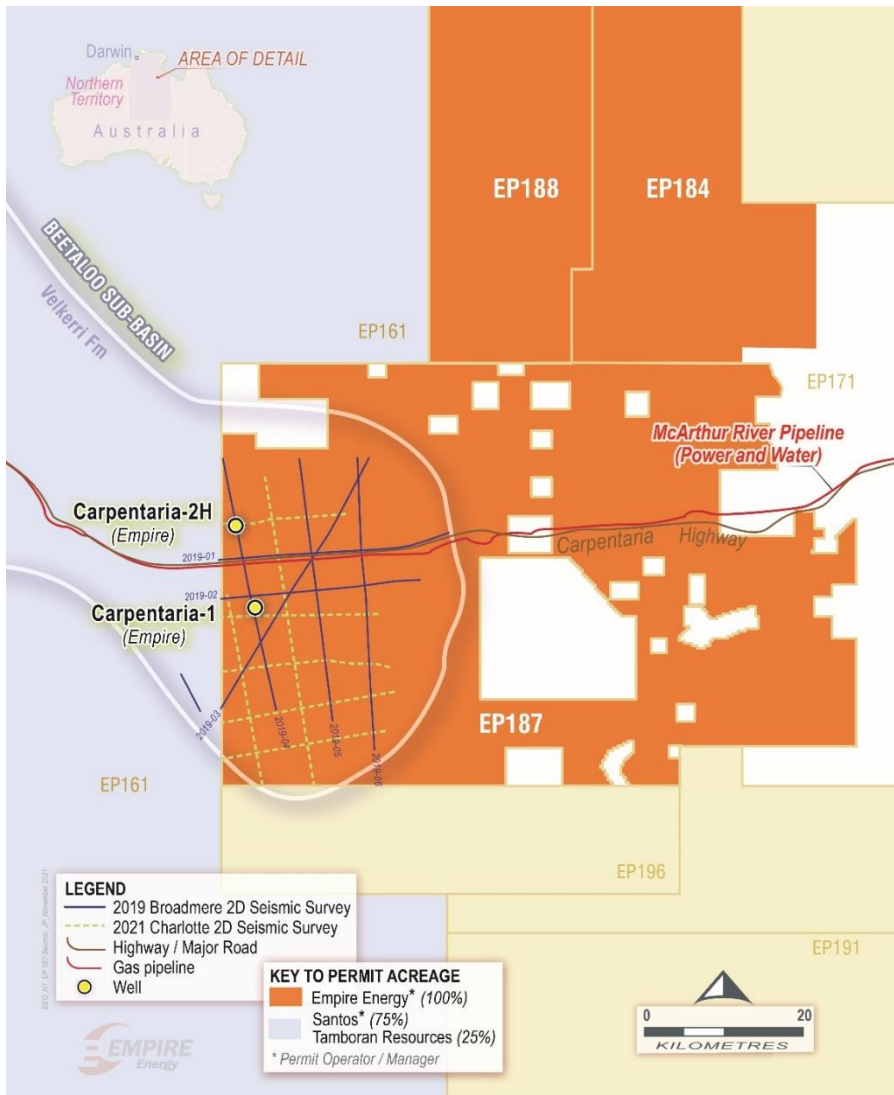
### **Environment, Social & Governance (ESG) Update**

Empire has used H2 2021 to deepen our understanding of the ESG impacts most material to our business. Empire has been assisted by a third-party ESG specialist firm and relied on industry best-practice from the Sustainability Accounting Standards Board’s (SASB) Oil and Gas Exploration and Production ESG standard.

The result of these efforts is a detailed ESG workplan to deliver a ESG framework by mid-2022 that includes performance metrics, targets, and an action plan. This ESG framework will have a specific focus on operational and value chain greenhouse gas emissions, as well as our engagement with local communities and Traditional Owner stakeholders where we operate.

## Carpentaria-2H Successfully Drilled, Cased and Suspended

Empire will provide a detailed update on our ESG policy and framework in our forthcoming 2021 Annual Report due in March 2022.



EP 187 map detailing drilling and seismic survey locations

This ASX release has been authorised by the Managing Director

For queries about this release, please contact:

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