BEETALOO OPERATIONS UPDATE - IP30 **12 September 2022**

CARPENTARIA-2H ("C-2H") PRODUCTION RATE AND GAS COMPOSITION

- **Average production rate over the first 30 days of testing (IP30) of 2.4 million standard cubic feet (mmscf) per day, equating to 2.6 mmscf per day per 1,000 metres of horizontal section**
- **Gas composition data confirms significant methane and ethane contribution with very low CO_2 (0.88%)**
- **Production testing is continuing with an encouraging decline curve profile**
- **Tracer data is being collected to provide detail on how each of the 21 stages is contributing to overall production**
- **Carpentaria-3H ("C-3H") and Carpentaria-4V ("C-4V") 2022 drilling program on track to commence early October**
- **C-3H hydraulic stimulation and Extended Production Testing ("EPT") program to commence immediately following drilling in Q4**

Comments from Managing Director Alex Underwood:

"The Empire team continues to be encouraged with the results that we are seeing at Carpentaria-2H. The well continues to produce strongly, evidently with a relatively shallow decline curve profile compared to other analogue wells.

We keenly await the receipt of gas and water tracer data that will demonstrate the relative contribution to gas flow from the various stimulation stages in the well. This is likely to provide clarity on which fluid systems and perforation designs are best suited to the development of the Velkerri shale, to be incorporated into stimulation strategy for the Carpentaria-3H well.

The gas composition data shows that we have a rich gas with very low impurities and, critically in an increasingly carbon constrained world, very low CO_2. This will likely reduce the offset challenge in future development scenarios.

We look forward to providing shareholders further updates as our active 2022 program progresses."

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Empire Energy Group Limited ("Empire") is pleased to provide shareholders with an update regarding the operations in Empire's 100% owned and operated EP187 tenement, located onshore Northern Territory in the Beetaloo Sub-basin ("Beetaloo").

Flow back of stimulation fluids commenced at Carpentaria-2H ("C-2H") on 1 August 2022, immediately following placement of the well's 21 hydraulic stimulation stages. C-2H is progressively "cleaning up" by flowing back placed fluids unaided, without the need for any artificial lift or velocity string. Gas flow commenced on 5 August 2022 with a period of significant but unmeasurable gas rates due to slug flow (gas with water production). Gas flow measurement began on 7 August 2022 and has flowed continuously, except for a 2-day operational shut-in to swap the hydraulic stimulation surface pipework to production pipework. Following the shut-in a peak rate of >11 mmscf per day was achieved. These flows are through 4 ½" casing. Production tubing was not required.

Carpentaria-2H IP30

The average production rate over the first 30 days ("IP30") was 2.4 mmscf per day (a normalised rate of 2.6 mmscf per day / 1,000m horizontal section). The well was producing at a rate of 2.1 mmscf per day on day 30, with the rate of production decline reducing with the early type curve flattening, at a lower rate of decline than other analogue wells.

Flow testing continues at C-2H.

Carpentaria-2H Gas Composition Analysis

Gas composition data has been obtained from gas sampled at the surface gas and water separator. The gas samples taken are from the combined flow from all 21 hydraulic stimulation stages.

As modelled and observed at Carpentaria-1 ("C-1") also located in EP187, the sampled gas stream of C-2H has a high calorific value due to the presence of longer chain hydrocarbons. Also consistent with the previously tested C-1 well and other Beetaloo wells, the total inert volume, including CO_2 content, is very low.

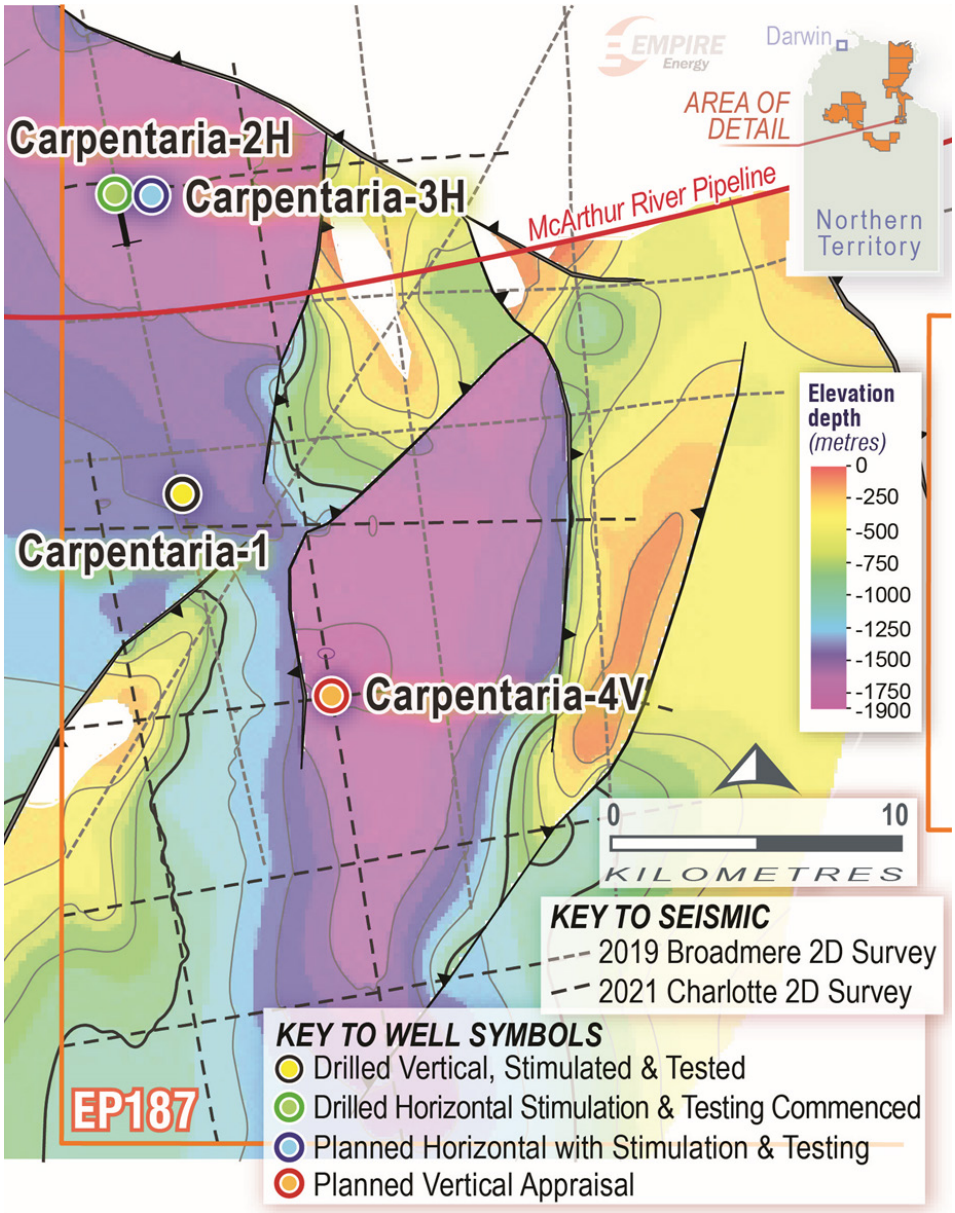
Component		**Mole %**	
C_1	Methane	83.17	Hydrocarbons
C_2	Ethane	11.95	
C_3	Propane	1.47	
C_4	Butane	0.30	
C_{5+}	Pentane and Higher	0.06	
He	Helium	0.16	Inerts
CO_2	Carbon Dioxide	0.88	
	Other Inerts e.g. Nitrogen	2.01	
	Total Gas Composition	**100.00**	

Compositional analysis of Carpentaria-2H gas produced during early production testing

Upcoming Work Program

Empire's 2022 EP187 C-3H and C-4V drilling program is on track to commence early October. C-3H will be a horizontal well from the same pad as C-2H targeting the same B Shale of the Velkerri Formation. C-3H hydraulic stimulation and EPT is scheduled to commence by year end. Learnings from C-2H, including tracer analysis currently being undertaken, will be incorporated into the C-3H horizontal drilling and stimulation program, which seeks to further de-risk the project and optimise gas production rates.

C-4V will be drilled in the Carpentaria East Area (an adjoining fault block) targeting the Velkerri Formation shales to materially mature Prospective Resources to Contingent Resources and further delineate the EP187 Velkerri Formation shale play. Following extensive formation evaluation, the well will be cased and suspended for drilling as a potential future horizontal development well.



Disclosures under ASX Listing Rule 5

LR 5.30 (a)	Carpentaria-2H is a shale gas well
LR 5.30 (b)	Carpentaria-2H is located in Empire's wholly owned and operated EP187 tenement, located in the Beetaloo Sub-basin in the Northern Territory
LR 5.30 (c)	Empire holds a 100% working interest and operatorship in Carpentaria-2H
LR 5.30 (d)	N/A
LR 5.30 (e)	The Carpentaria-2H horizontal section has been drilled in the B Shale of the Velkerri Formation
LR 5.30 (f)	The depths of zones tested range from 1,585 to 1,594 metres True Vertical Depth (TVD) referenced to Rotary Table (6.9m above ground level). The zones tested are along a 927 metre stimulated horizontal section
LR 5.30 (g)	Flow testing of the well following the hydraulic stimulation of Carpentaria-2H. 30 days duration (as at 3pm Australian Central Standard Time on Thursday 8th September 2022) with flow testing ongoing
LR 5.30 (h)	Gas recovery - mole %: Methane 83.17, Ethane 11.95, Propane 1.47, Butane 0.3, Pentane and Higher 0.06
LR 5.30 (i)	29,890 barrels of flowback fluid (including coiled tubing cleanout volume) has been recovered to date, representing 35.6% of total injected water. During the 30 days of measured gas flow, the rate of fluid flowback declined from ~1,500 bbl / day to ~130 bbl / day and continues to decline
LR 5.30 (j)	The orifice plate size is 2 1/8" Gas flow from Carpentaria-2H has stabilised at an average rate of 2.4 mmscf / day metres (a normalised rate of 2.6 mmscf per day per 1,000m) across the stimulated horizontal section of 927 metres over the first 30 days. After 30 days the well was producing at an actual rate of 2.1 mmscf per day
LR 5.30 (k)	Wellhead pressure has ranged from 138 psi – 1,275 psi. Test duration 30 days (as at 3pm Australian Central Standard Time on Thursday 8th September 2022). Flow testing is ongoing
LR 5.30 (l)	21 stages along an effective stimulated horizontal length of 927 metres (3,041 ft). 7 slickwater stages, 8 crosslink stages, 4 hybrid stages and 2 HVFR stages were executed with a total of 6,283,200 lbs of proppant (sand) placed representing proppant concentration of 2,066 pounds per foot
LR 5.30 (m)	Mole %: Helium 0.16, Carbon Dioxide 0.88 and other Inert volume 2.01
LR 5.30 (n)	N/A

This ASX release has been authorised by the Managing Director

For queries about this release, please contact:

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