

Outtrim project update

6 May 2020



Carnarvon Petroleum Limited (“Carnarvon”) (ASX:CVN) advises that it has recently increased its equity to 70% and secured operatorship of the WA-155-P permit (“Outtrim project”).

Within WA-155-P exists the Belgravia, Belgravia East and Palmerston prospects, all Top Triassic Mungaroo gas targets. Carnarvon believes there to be significant gas potential in this area of the Southern Carnarvon Basin that includes the WA-155-P permit (figure 1).

Woodside Petroleum Limited (“WPL”), in their Fourth Quarter Report released on 18 January 2018, as Operator of the Swell-1 well, announced that the well had intersected interpreted gas sands across a large gross interval of approximately 450 metres. The Swell-1 well whilst being a tight gas discovery, is encouraging because it confirmed the presence of a working petroleum system, over a large hydrocarbon column, only some 20 kilometres from the Belgravia prospect that resides within the WA-155-P permit.

Carnarvon’s mapping indicates the crest of the Belgravia structure is updip of the Swell-1 gas discovery and around 650 metres shallower than the Swell structure. Typically, reservoir quality improves at shallower depths. Accordingly, on face value, Belgravia could expect to contain better reservoir quality compared to that reported at Swell.

Carnarvon has also observed, through recent regional Triassic mapping, that the Belgravia prospect could be part of a much larger structure that Carnarvon refers to as the “JBS structure” (Jurabi-Belgravia-Swell structure – figure 2). This structure has already been proven to contain gas based on the down dip Swell-1 well (Top Triassic is around 4,500 metres below seabed) and the up dip Jurabi-1 well (Top Triassic is around 3,600 metres below seabed). Both wells were reported as relatively low porosity Top Triassic gas discoveries. Carnarvon has been assessing the reason for the low porosity sands at these depths; noting that other comparable Triassic gas fields on the North West Shelf have higher porosity. Cutting based thin section petrography work undertaken in conjunction with CSIRO in Perth is indicating these wells (Swell-1 and Jurabi-1) are likely cemented due to hydrothermal fluids. This type of cementation, as demonstrated in other local gas fields, is usually quite aerially limited and as such would indicate the porosity reduction is a local affect around the wells within proximity to faults. The consequence is that the porosity and reservoir quality within the Belgravia and Belgravia East prospects and potentially within the larger “JBS structure” could be similar to many other Triassic wells in the region and validated in nearby commercial Triassic gas fields. If it can be demonstrated that the average porosity across the “JBS structure” is even marginally better than that observed in the Jurabi-1 and Swell-1 wells, this would have a significant beneficial effect on permeability, potentially reclassifying a tight gas discovery into a significant gas field discovery.

The scale of the “JBS structure” is similar to other fields on the North West Shelf (figure 3), and although only around a quarter lies within Carnarvon’s WA-155-P permit, there is considerable potential from what could already be a significant discovery. Further work with CSIRO is ongoing to understand the likelihood of improved porosity away from the Jurabi-1 and Swell-1 wells and Carnarvon will update our shareholders when this work is completed.

The Palmerston prospect is also an attractive Top Triassic reservoir structure (figure 1).

Carnarvon plans to mature this project for future farmout. A significant commercial gas discovery in this area could either be developed as a standalone project with processing via nearby onshore facilities or be developed as part of infill gas for existing proximate LNG and domestic gas projects.

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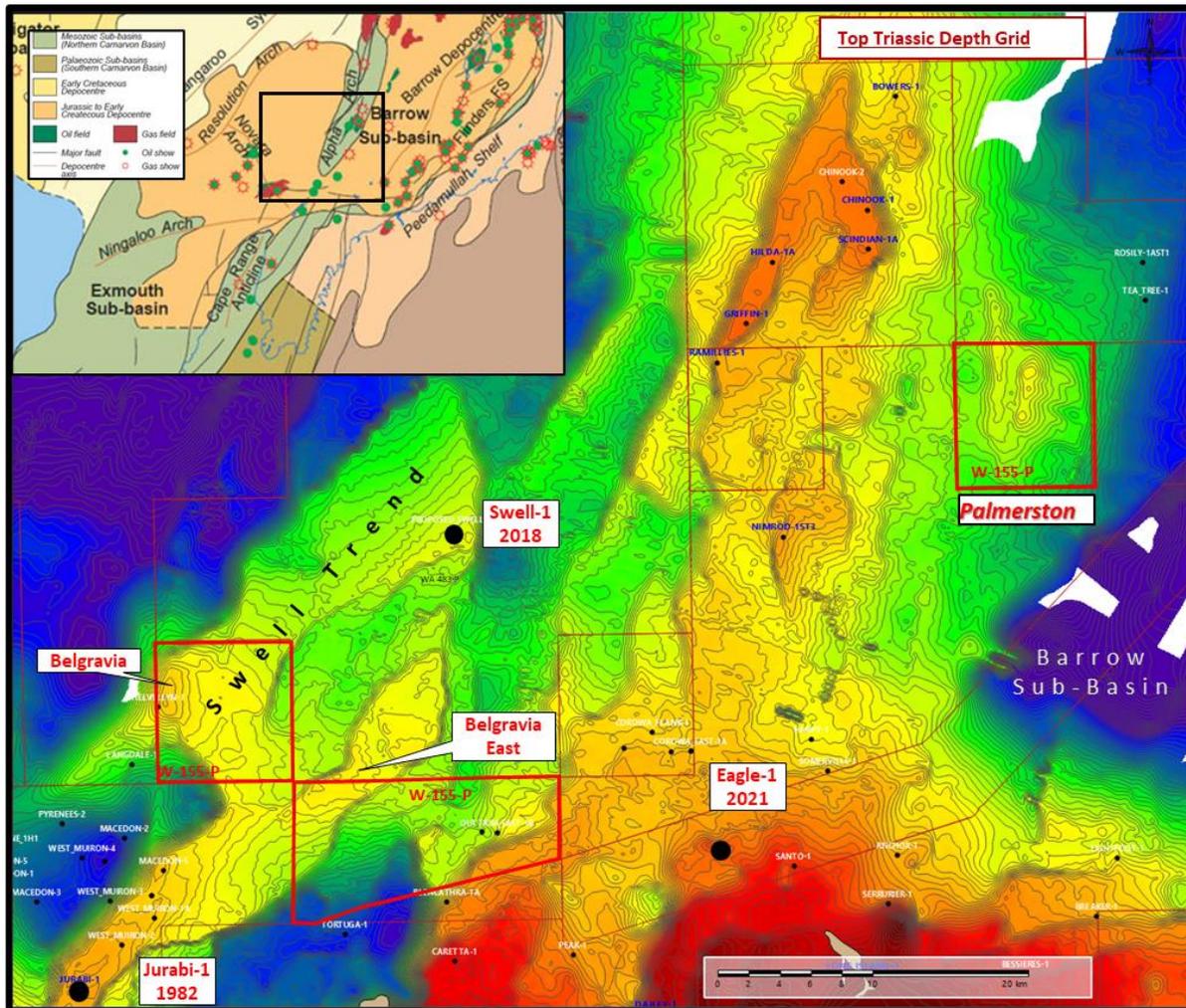


Figure 1: Top Triassic map of Belgravia and Palmerston prospects within WA-155-P. Note the recent gas discovery made at Swell-1 by Woodside and Kufpec in 2018 along trend. Eagle-1 Triassic gas well planned by Sapura and Finder to be drilled in 2021.

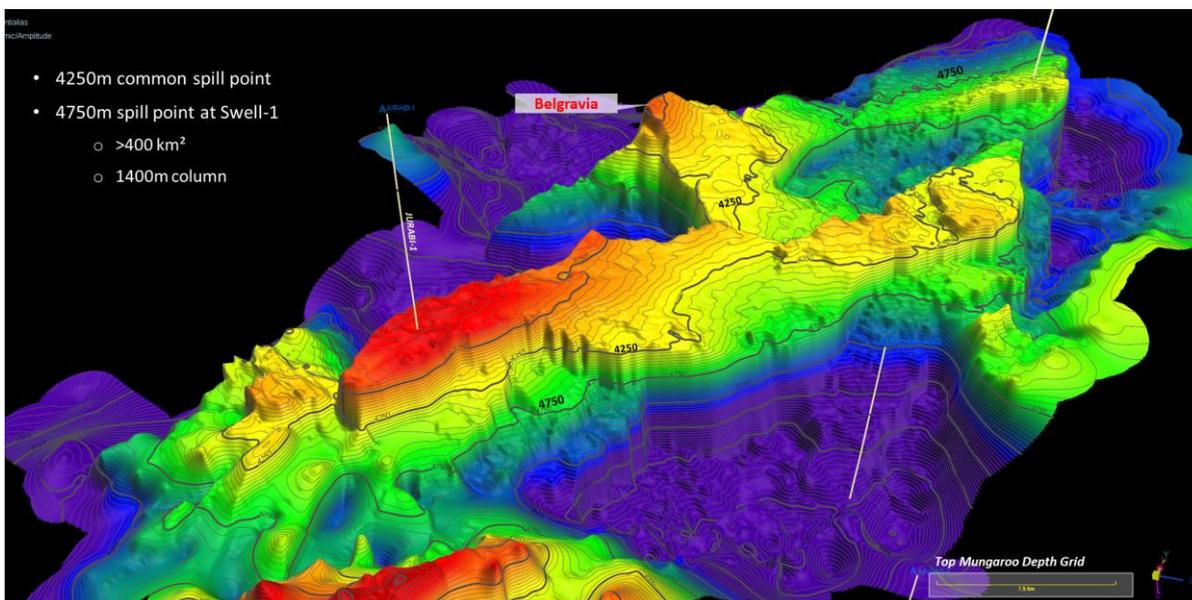
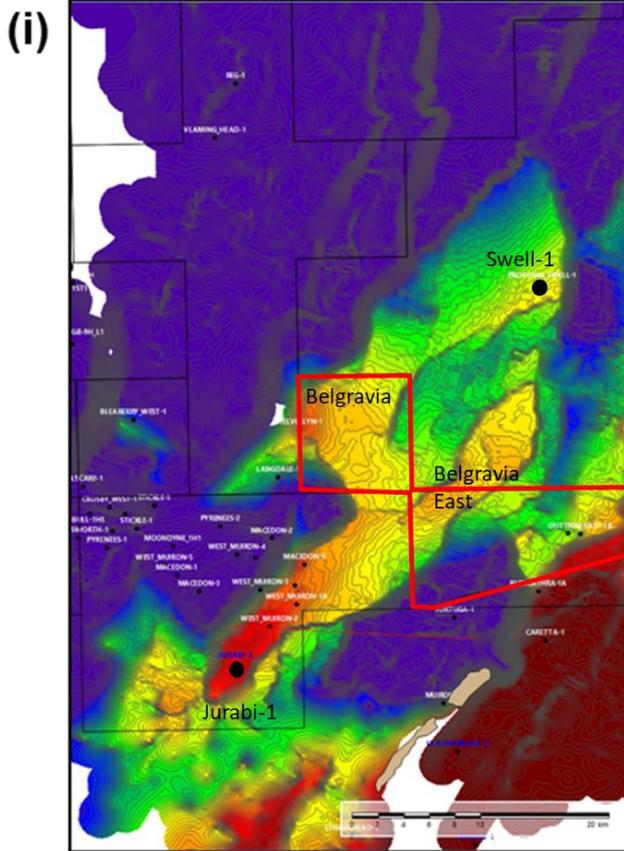


Figure 2: The “JBS structure” (Jurabi-Belgravia-Swell) is a >400 square kilometre 1400m metre column structure drilled by Swell-1(2018) gas discovery and Jurabi-1(1982) discovery.

JBS
Area > 400 km², Column < 1,400m



Gorgon
Area > 200 km², Column > 600m

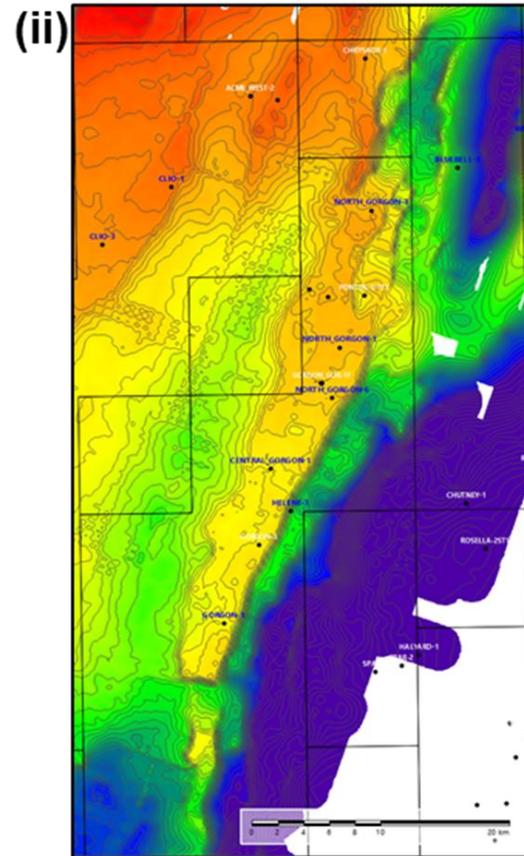


Figure 3: “JBS structure” in comparison to nearby gas field Gorgon.