

Glenaras Gas Pilot – Operations Update

20 July 2021

- ❖ **First direct pressure measurement (~550psi, Glenaras 14) confirming the inner area of the central pilot now below anticipated desorption pressure and prospects for outer field depletion over coming months.**
- ❖ **Glenaras multi-well pilot demonstrably declining towards critical desorption as evidenced in Figure 1.**
- ❖ **Total gas rates excluding the contribution from current shut-in wells, Glenaras 19 (workover) and Glenaras 14 (pressure surveillance) has remained steady. Full field gas rates will be measured once all wells are back on-line.**
- ❖ **Importantly, the portion of total gas desorbing from the coals, as opposed to being produced in the water phase has increased significantly, evidencing behaviour typical of a traditional CSG field.**
- ❖ **Gas rates from desorbing coal will continue to increase as this “pressure sink” expands inside the pilot area and greater coal is exposed to pressure below the critical desorption level.**
- ❖ **Increased confidence on full field development economics due to higher margins resulting from less wells required, underpinned by strong east coast gas prices.**

Further to the Operational Update on the Glenaras Pilot released to ASX on June 24 2021, Galilee Energy Limited (ASX:GLL) (“Galilee”) is pleased to provide an update on the 100% owned and operated Glenaras multi well pilot programme (“Pilot”) in the Galilee Basin ATP 2019.

Normal operations have been temporarily interrupted by a pump failure at the Glenaras 19 (G19) well, in addition there has been restricted site access following a period of wet weather. This interruption has slightly delayed the full extent of the planned testing of the optimised Pilot configuration following the recently completed pump enhancement programme (PEP).

However, workovers on Glenaras 12 and Glenaras 16 were successfully completed and brought on-line, resulting in the Pilot water production rates achieving a new record of more than 20,000 BWPD prior to G19 going off-line and Glenaras 14 (G14) shut-in for pressure surveillance.

Total gas rates excluding the contribution from current shut-in wells Glenaras 19 (workover) and Glenaras 14, (pressure surveillance) remained steady. Full field gas rates will be measured once all wells are back on-line and optimised. Importantly, the portion of total gas desorbing from the coals, as opposed to the gas being produced in the water phase, has increased significantly from ~45% to ~75% over the past month, which is consistent with the reservoir pressure in the central part of the Pilot dropping below the anticipated critical desorption pressure of ~600psi. This performance is consistent with the behaviour of a traditional CSG field.

Gas rates from desorbing coal will continue to increase as the “pressure sink” expands in the Pilot area. This important transitional change in reservoir behaviour is now supported by the results from the direct measurements of pressure over the last few days at G14, which recorded a pressure of ~550psi. This direct measurement augurs well for achieving depletion in the outer field over the coming weeks and months, as explained in the paragraphs below.

Irrigation at pivot 1 and 2 continued uninterrupted throughout the wet weather last week. An additional area has been prepared to handle future increase in water rates and the associated equipment is currently being installed.

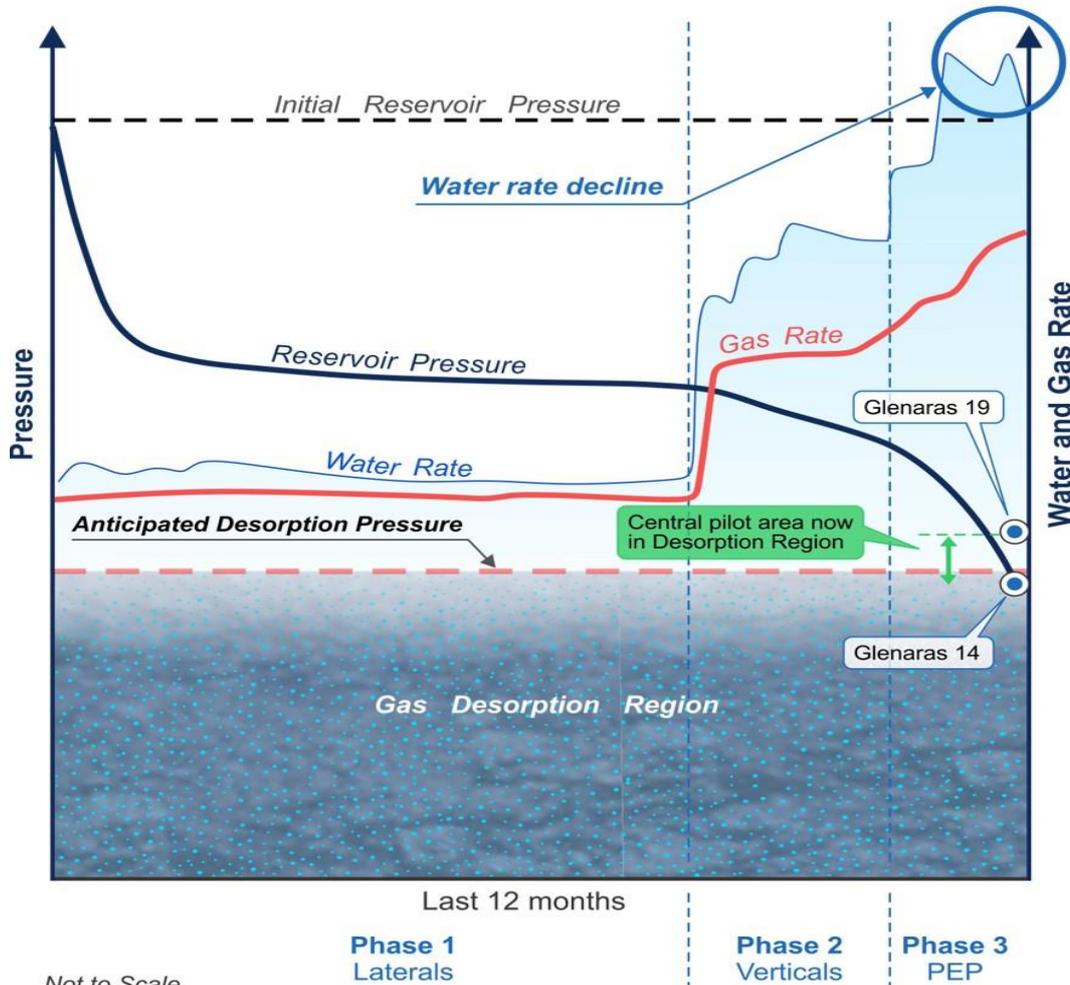
Critical desorption commences in Pilot area

Recent workover activities have provided an opportunity to gather reservoir pressure information in the centre of the Pilot. The middle lateral well G14 was recently shut-in to gather this pressure information and this demonstrated a reservoir pressure of circa 550 psi, which is the first pressure measurement in the area below the anticipated critical desorption pressure.

The pressure data (Figure 1) demonstrates that following the PEP, the middle lateral well (G14) is now below anticipated desorption pressure and the other laterals are trending strongly towards this pressure. This reinforces the message that the current rate of pressure decline indicates that the critical desorption pressure is close to being achieved over the entire central Pilot area.

Additionally, the reservoir pressure at the perimeter well G19 is in the mid 700's psi, a depletion of several hundred psi over the last few months. This trend is as per expectations and confirms that the outer wells are also experiencing a steady decline in reservoir pressure and hence greater gas rates.

GLENARAS PILOT - PRESSURE HISTORY



Not to Scale

Figure 1 – Glenaras pressure history

The technical objective of the Pilot is to remove water from the coal sequence in order to reduce the pressure in the coals. This depressurisation allows the gas stored in solid solution on the coal grains to be released and flow through the coal seams and into the wells.

The current gas rate is a reflection of only relatively small amounts of coal immediately around the well bores being below the estimated critical desorption. Gas rates will continue to increase as this “pressure sink” expands inside the Pilot area and more coal is exposed to pressure below the critical desorption level.

Figure 2 shows a cross section of the pressure sink across the Pilot area. The current pressure in G14 of 550 psi, confirms that the pressure sink in the centre of the Pilot continues to deepen as the Pilot is further de-watered. The schematic also shows the breadth of the pressure sink based on pressure measurements in the surrounding lateral wells. These measurements confirm that the lateral and vertical wells are successfully combining to collectively depressurise the coal sequence, validating the strategy to expand the Pilot with the six additional vertical wells.

These additional wells have materially increased the rate and volume of water removal from the coals to expedite depressurisation and assist in advancing towards commercial gas rates.

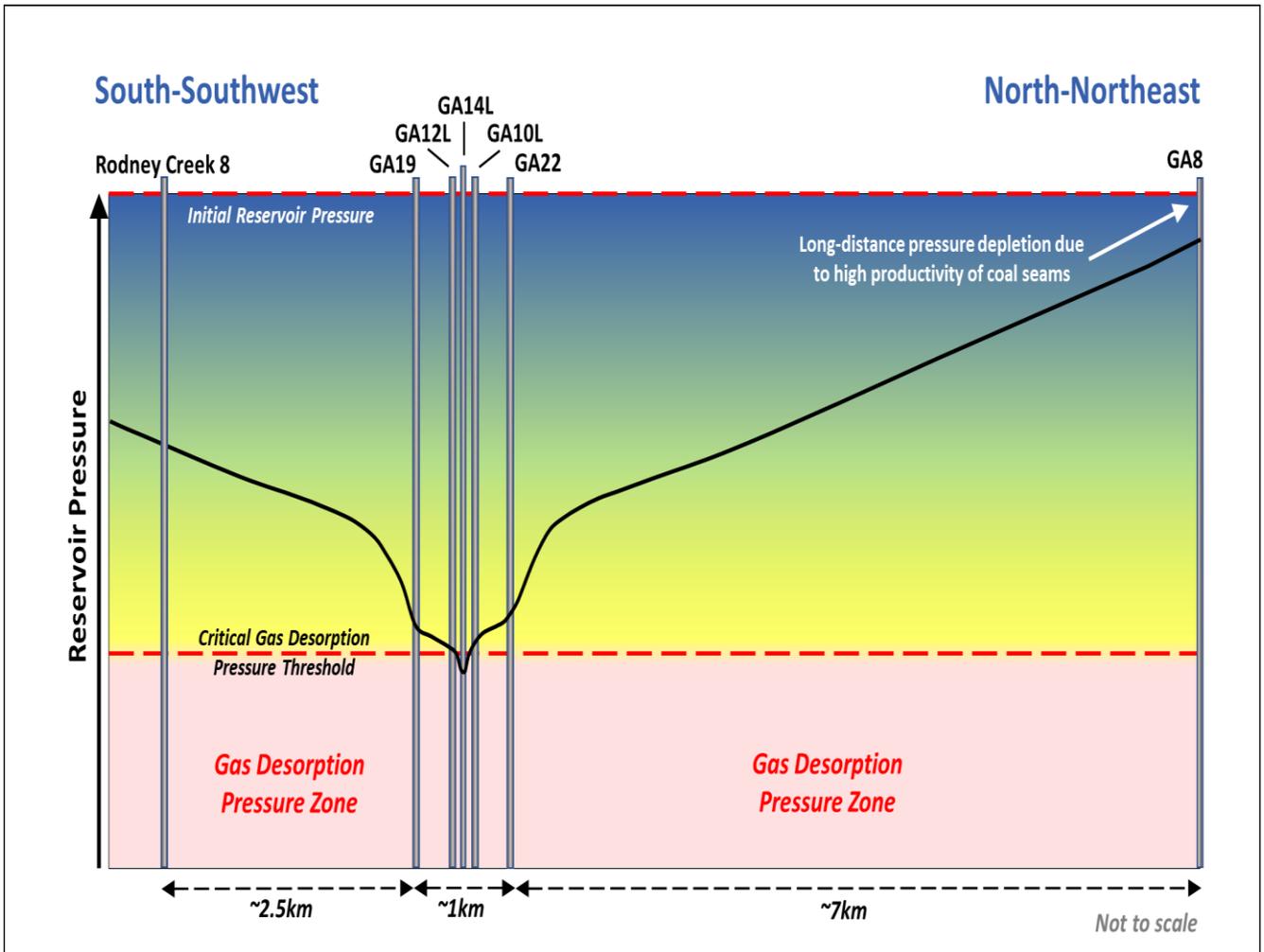


Figure 2 – Glenaras pressure sink development profile

Figure 3 is an areal representation of the pressure sink based on both measured and model derived pressure data. It confirms there is a concentrated reduction in the Pilot area as well as depletion in the regional Glenaras 8 and Rodney Creek 8 wells.

The depletion in these outer wells demonstrates excellent lateral connectivity in the reservoir across the entire permit. This augurs well for full field project economics and provides context for the additional amount of time taken thus far to reduce the pressure in the Pilot area and the large amount of de-watering required.

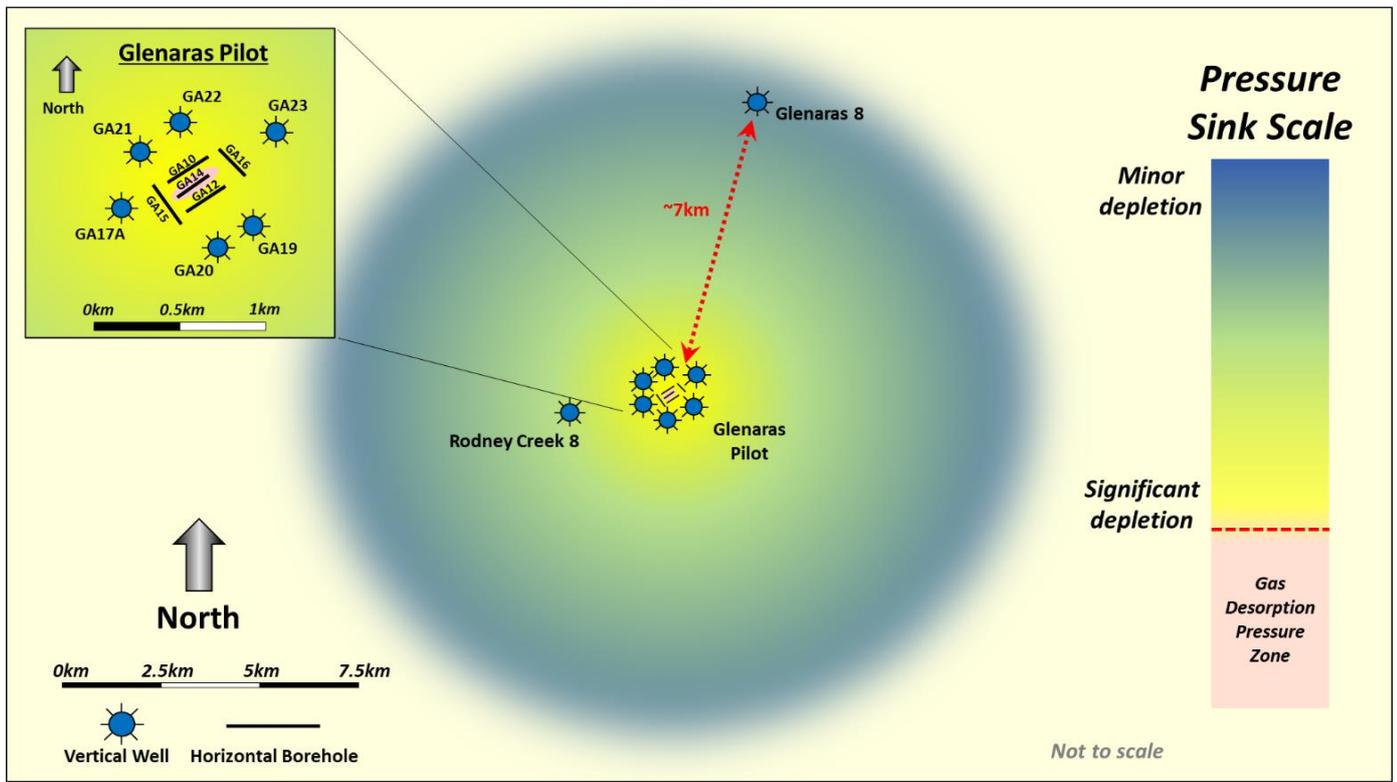


Figure 3—Glenaras pressure sink areal development

Improved confidence in reserves maturation potential and development economics

The confirmation of pressure depletion at Glenaras 8 (approximately 7km away from the Pilot) in the Betts Creek coals (Figure 3) confirms that the coal seams are considerably more productive than initial expectations. This greater productivity has two significantly positive implications for the Glenaras Gas Project.

The first positive impact is that this provides confidence that the ultimate Reserves target will be larger. Subsurface modelling by Schlumberger predicted depletion in the Betts Creek coals up to 5km away from the Pilot, but the pressure depletion in Glenaras 8 indicates the pressure sink is larger again, extending to at least 7km from the pilot.

This result indicates the coals are continuous and of high quality across a greater area than previously considered and is anticipated to deliver an increased Reserves target.

A further positive impact of the Glenaras 8 pressure depletion is the potential for a significant improvement in the full field project economics due to significantly lower development drilling capex. Previous field development concepts had assumed a well spacing of ~750m, however, the Glenaras 8 pressure depletion confirms considerable lateral connectivity in the Betts Creek coals, which means producing wells will access larger areal volumes of coal for gas production. This will increase the development well spacing towards 1,000m and potentially beyond. Given development drilling is such a large component of any gas project, there is potentially a lower cost of production, which will increase the economic margin, further boosted by a strong gas price outlook.

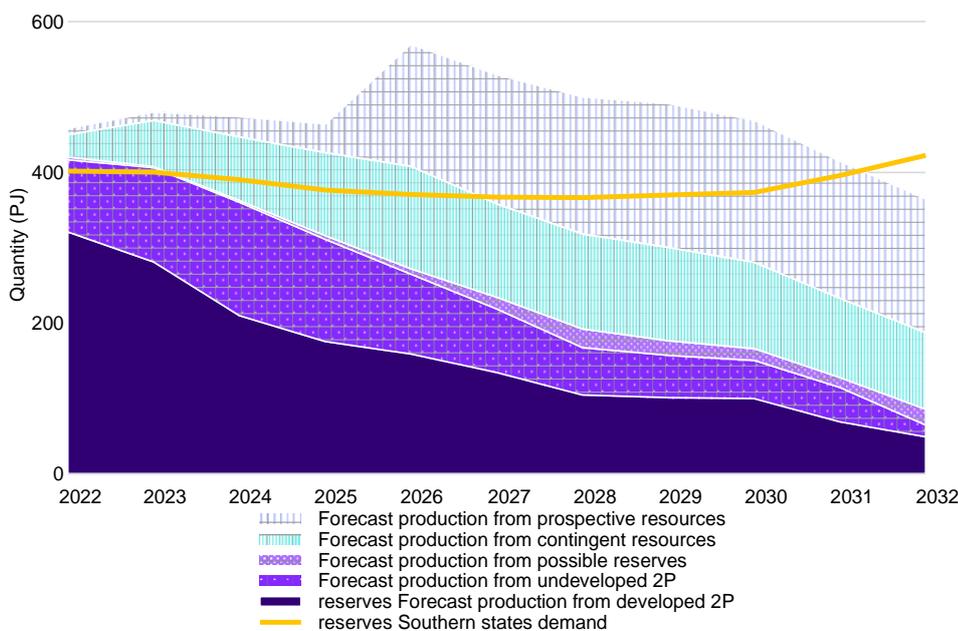
Strong global and east coast gas price thematic

Global energy prices are trending upwards, with Brent oil price breaking through US\$70/bbl and Platts JKM currently in excess of US\$9/MMBtu. The current Wallumbilla netback price is above \$16/GJ.

Outlook for new natural gas supply into the east coast market is bleak, with gas supply shortfalls forecast from 2023 by ACCC (Figure 4) and the recent AEMO Gas Statement of Opportunities (GSOO) report confirming that the outlook for natural gas supply in the southern states had worsened from its previous assessments.

These supply scarcity risks have emerged one year earlier than projected and the last major southern gas field offering flexible supply is expected to be depleted ahead of winter 2023, reducing gas system resilience.

ACCC forecast gas supply and demand, Southern states.



Source: ACCC Gas Inquiry, January 2021 Interim Report.

Figure 4 – ACCC forecast east coast gas supply and demand

SUMMARY

Recent results from the Glenaras Pilot continue to provide significant encouragement for the unlocking of a material gas resource. It is anticipated that following the collection and review of new data and with all wells back online over the coming weeks, we will be well positioned for a measured expansion of operations and able to provide a clear road map of future project milestones.

Further updates will be provided as all wells are brought back on-line and optimised.

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About Galilee

Galilee Energy is focused on creating a high value exploration and production company building on its core strengths in coal seam gas appraisal and development. Its primary area of focus is Queensland where it is appraising the Galilee Basin and exploring in the Surat and Bowen Basins whilst looking to add further high quality acreage to its portfolio.

This announcement was released with the authority of the Board.

Directors

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