

## Glenaras Gas Pilot – Operations Update

30 September 2021

- Direct pressure measurements confirm prospects for unlocking gas reserves in multiple coal seams over a large area in the Glenaras field.
- Once unlocked the Galilee field will be one of the largest (multi TCF) uncontracted gas resources accessible to supply the short eastern Australian gas market.
- Gas surges from transitioning reservoir resulting in pump reliability issues and difficulty in measuring gas rates.
- Workover operations to restore water production capacity scheduled for late October following multiple mechanical pump failures.

Further to the Operational update released to the ASX on 16th September 2021, Galilee Energy Limited (ASX:GLL) is pleased to provide an update on the 100% owned and operated Glenaras multi-well pilot programme ("Pilot") in the Galilee Basin ATP 2019 (Figure 1).

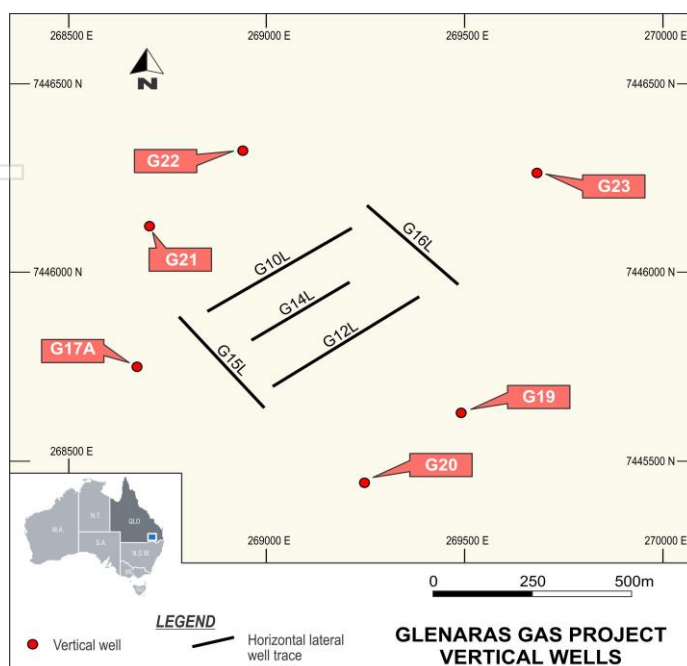
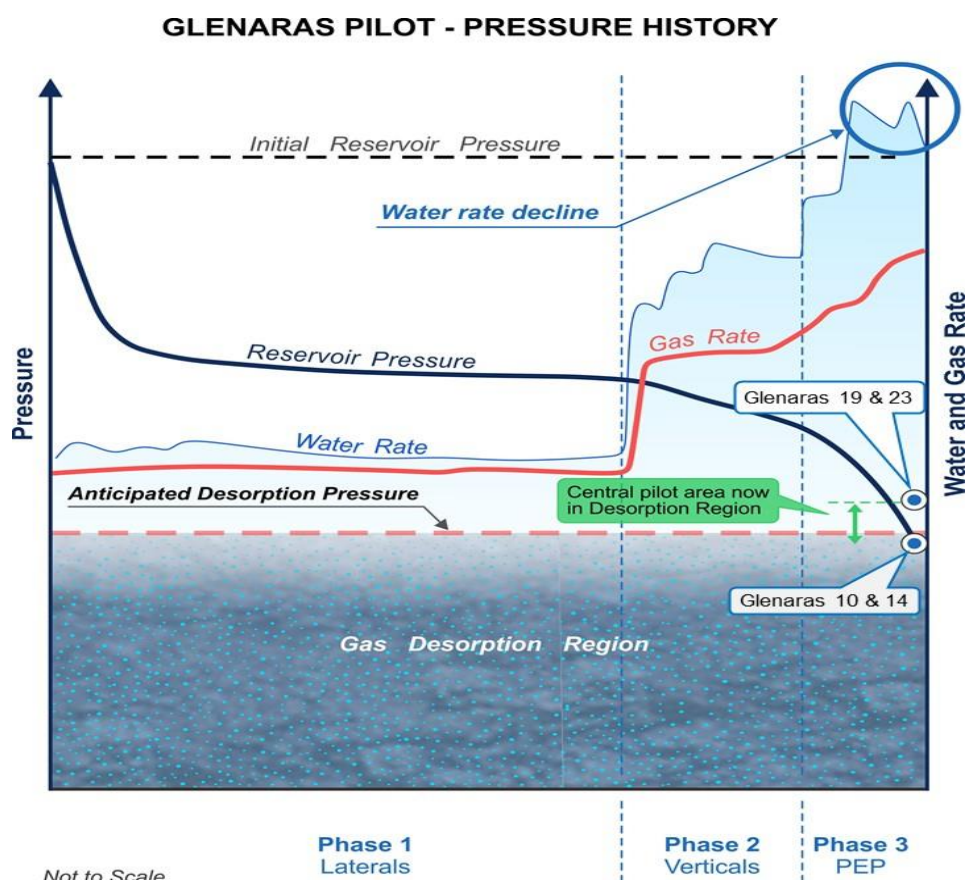


Figure 1 - Pilot well locations

Prior to the interruption due to pump failure reported in our previous release, the Pump Enhancement Programme (PEP) progressively implemented mid-year (ASX release 29 July 2021) was successfully drawing down the pressure across the Pilot area at an accelerated rate.

The greatly increased rate of pressure draw-down achieved with the PEP is shown schematically in Figure 2 below.

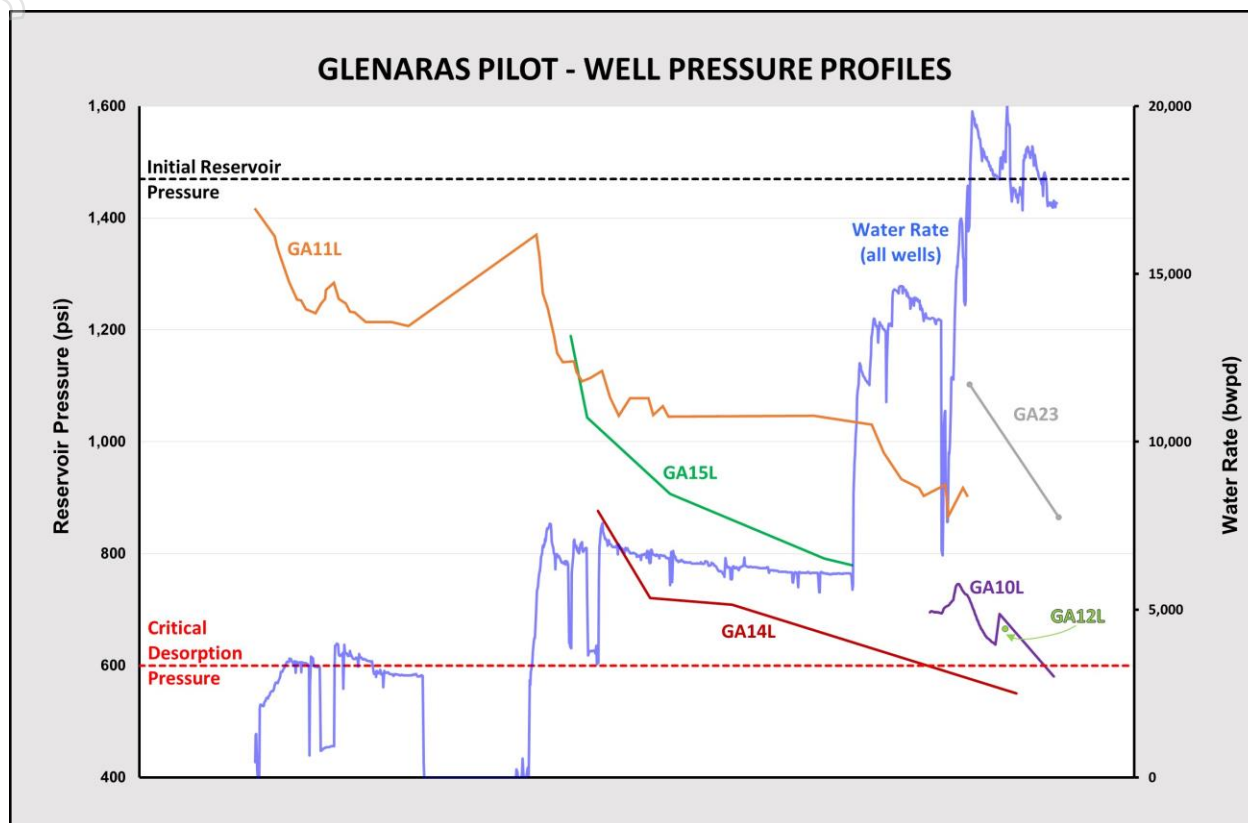


**Figure 2 - Glenaras Pilot – pressure history**

The first direct pressure measurement confirming achievement of drawdown below the anticipated desorption pressure (~600 psi) was recorded in July 2021 at the central lateral well (G14L) (ASX release 20 July 2021). A further opportunity for a direct pressure measurement followed a mechanical pump failure in the adjacent lateral G10 well during September (ASX release 20 September 2021), where a sub-600 psi measurement clearly confirmed the anticipated areal growth of the pressure “sink” in the central Pilot area.

The pump failure also reported at that time in the vertical well G23 has subsequently enabled a pressure measurement at this outer Pilot location and has recorded a pressure depletion at this location of ~240 psi in the short period since implementation of the PEP. All relevant pressure measurements since the commencement of Pilot operations during 2018 are shown in Figure 3 below.





**Figure 3** – Glenaras Pilot well pressure profiles

These data demonstrate clearly that since the recent implementation of the PEP, and with sustained high rates of water production at the vertical Pilot wells, the target pressure depletion across the Pilot area, and anticipated material increase in gas desorption rates consequent on such depletion, is well within reach. With the realisation of such rates, the Glenaras Pilot would unlock one of the largest (multi-TCF) uncontracted gas resources accessible to the supply-short eastern Australian gas market.

The remaining challenge is to maintain the high +18,000 BWPD water rates which have demonstrably depleted pressures in the entire multi-seam Betts Creek sequence as far as 7 kms from the central Pilot area (ASX release 24 June 2021); it is important to stress that our pressure monitoring confirms that we are drawing from the Betts Creek sequence only, and not the overlying Great Artesian Basin.

Frustratingly, since the last report, the pumps in the central G14 well, and more importantly the highly water-productive G20 vertical well, have also suffered mechanical failures. As with the other recent pump failures, these failures followed a period of variable gas surges in the well, a characteristic typical of a reservoir in transition. Anecdotally, the cause of the pump failures is related to the impact of gas and/or solids entering the pump inlets. More detailed prognoses will be possible when the pumps are recovered at surface.

The current priority is to install appropriately sized new pumps in the G10L, G23, and G20 wells incorporating modifications to improve the handling of gas production, leaving the central G14L well (a low water producing horizontal well in the R3 seam) as a valuable observation well.

The workover operations are scheduled to commence on around 27 October 2021, with the first availability of crew following a recent significant upswing in workover activity in Queensland. It is anticipated that these new installations will incorporate significant improvements in the design of the completion assemblies which is expected to mitigate the pump reliability issues which have been experienced recently. These pumps are expected to be back online by mid-November and to again accelerate the pressure drawdown to the previously achieved rates.

Investigations are proceeding on further beneficial uses for produced water, and for utilization of ramp gas (and solar energy) to replace diesel power generation for driving the pumps.

Further market updates will be provided regarding the workover programme as more information is available.

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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**

Chairman – Ray Shorrocks

Managing Director – Dr David King

Non-Executive Director – Stephen Kelemen

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