Glenaras Gas Project Update

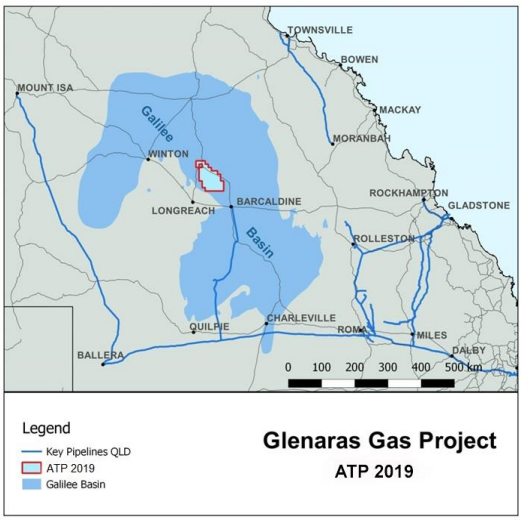
11 August 2020

Highlights

- Schlumberger reservoir simulation study completed with very good history match of production and pressure data across the 75 square km modelled area over a 20 year period.
- Predictive modelling has confirmed that accelerated water drawdown is required in the lateral pilot area. Five new vertical wells located around the perimeter of the existing pilot, plus utilising Glenaras 17A as a producer, will achieve the requisite pressure drawdown and commercial gas flow.
- Field development scenarios based on the model findings indicate robust project economics and confirm the potential to realise a larger initial 2P Reserves target of 800 – 1,000 PJ.
- Good quality produced water with current and future water solutions underway to deal with any additional water from future drilling.

Glenaras Gas Project (ATP 2019) – GLL 100%

Galilee Energy Limited (ASX:GLL) ("Galilee") is pleased to provide an update on the Glenaras multi-lateral pilot programme ("Pilot") in the Galilee Basin in Queensland (Figure 1).



The Glenaras Gas Project ("Project") located in ATP 2019, is 100% owned and operated by Galilee. The Permit covers an area of approximately 4000 km^2.

The Project has one of the largest Contingent Gas Resources on the east coast. Forecasting from AEMO indicates the east coast will need supply from currently booked Contingent Resources from the early 2020's. The independently derived and certified Contingent Resource $^+$ within the Betts Creek coals are a 1C of 308 PJ, a 2C of 2,508 PJ and a 3C of 5,314 PJ. The Company's primary focus is on converting these Contingent Resources to Reserves.

Figure 1 – Glenaras Gas Project

Schlumberger Modelling

As previously reported to the market, results from the Glenaras 17A monitoring well provided significant new information regarding the reservoir characteristics and vertical connectivity within the Betts Creek coal sequence. It has indicated that, at the Glenaras 17A well location, the entire Betts Creek i.e. the R1 to R7 coal sequence (and interspersed sandstones) is being depleted almost uniformly by the Pilot. As such, the multi-lateral Pilot is successfully draining from the entire Betts Creek sequence.

Also, data obtained from Glenaras 17A importantly confirms that the Betts Creek coal sequence is isolated from the significant aquifer systems in the area, particularly the overlying Hutton sandstone and Great Artesian Basin sequence. This observation is also confirmed by numerous other data points, including the Gowing 1 well, which was drilled by AGL in 2009. The Gowing 1 well has been utilised as a continuous monitoring well in the Hutton sandstone and the results from that well have demonstrated no measurable impact on the Hutton sandstone from the various intervening production pilots.

Following the Glenaras 17A results, all production and pressure data from the legacy Rodney Creek and Glenaras 5-spot vertical pilots (Figure 2) were collated, as well as key monitoring well pressure data from Rodney Creek 8 and Glenaras 11L. This provided the requisite production and pressure data to accurately characterise the Betts Creek coal sequence in the Pilot area for modelling purposes.

Schlumberger Modelling (continued)

Galilee engaged Schlumberger to undertake a reservoir simulation study on the Glenaras Gas Project area. The work incorporates a detailed 3-D reservoir modelling study to match both legacy vertical pilots in the area. The model consists of a 75 km^2 area covering a 5km radius around the Glenaras Pilot and includes the legacy Glenaras and Rodney Creek vertical well pilots.

This sophisticated modelling work is now complete, and the project team have been successful in achieving a good history match on the production and pressure data from all three pilots. The model incorporates accurate representations of all coal and sandstone layers throughout the Betts Creek system. Importantly, the data from the Glenaras 11L, Rodney Creek 8 and Glenaras 17A monitoring wells have also been successfully matched. These data have identified the extent of communication between sands and coals within the Betts Creek section and the level of pressure support observed. The history matching work has been wide ranging as it modelled both coal and sandstone layers and is matching data from three different pilots over a 20+ year period. The model has matched the pilots using deterministic values from the extensive data set available within the project area. These data include permeability and porosity measurements, coal thickness trends, and coal isotherm and saturation data. The model has successfully matched the pressure profiles of the wells along with the gas flow rates seen at the various pilots. It has also been able to identify that the area of connectivity between sands and coals is not prevalent over the larger project area but confined to a small area in the vicinity of Glenaras 15L and 17A.

The history matched model has then been used to predict a series of future outcomes from the Pilot. The results of these predictions indicate that the existing Pilot is creating an excellent pressure sink. The nearby vertical connectivity between other Betts creek coals and sands is the reason for the continued high water production rates and pressure support observed in the R3 coal at the Pilot. The vertical connectivity is allowing other layers within the section (from the R1 through to the R7) to contribute and provide crossflow support. This is the key reason why the Pilot is taking longer to achieve critical desorption than the timeframes previously expected and reported by the Company.

The prediction runs indicate that additional vertical wells around the Pilot area will greatly accelerate pressure drawdown and achieve timely commercial gas flow objectives and that the optimal well design is vertical wells completed over the full Betts Creek coal section. Various well spacing designs have been investigated and optimised within the model and the Company has now finalised a forward work programme.

The modelling work shows that adding five new vertical producing wells spaced around the perimeter of the existing lateral Pilot, in addition to utilising Glenaras 17A as a producer, will achieve the dual objective of reducing the crossflow impact on the existing R3 lateral wells while also providing important additional drawdown on the total Betts Creek section. These new wells, combined with the existing laterals, are expected to achieve the additional drawdown in the Pilot area to lower the overall Betts Creek section well below the coal's critical desorption pressure and achieve commercial flow rates. In addition they will provide ratification of the type of well design, spacing and completion assumptions to be adopted for full field development. The development style for field development is a critical step along the pathway of progressing to a larger initial 2P Reserves booking.

Next Steps

The prediction runs have resulted in the recommendation of a new drilling and completions programme to accelerate the current Pilot. This programme will include:

1. A five well vertical drilling programme to complement the existing lateral Pilot wells. These wells will be completed over the full Betts Creek section to draw down all coals from the R1 to the R7 and reduce the crossflow contribution to the existing lateral wells in the R3. All wells will be connected to the existing gas and water infrastructure. Well locations are currently being pegged with drilling expected to commence in approximately four weeks.
2. Completion and connection of the Glenaras 17A well over the Betts Creek section, which will add an additional drainage well to the Pilot.
3. Investigate the option to pull the downhole pumps from some of the existing lateral wells such as Glenaras 10L, 14L and 16L and perforate the upper Betts Creek sections in these wells and then re-install the pumps to add additional drainage at these locations.

To this end the Company has moved rapidly to initiate the drilling, completion and connection programme. The drilling rig and service company tender selection process is complete and we are progressing final contracts. A workover rig has been sourced and stacked on site and surface facilities work is also well underway.

The other important work stream from the simulation project has been to assess field development and project economics. The Schlumberger modelling software has enabled sensitivities on various vertical well pattern developments at different well spacings to assess full field economics on a variety of scenarios. Based on the interconnectivity observed at Glenaras 17A, we have run sensitivities on the levels of water treatment that may be required, notwithstanding the low salinity level of the produced water and the resultant lower water processing costs. This analysis has been conducted on a range of well spacings from 500m through to 1km apart. The scoping economics demonstrate that the project is highly robust and confirm the Glenaras Gas Project to be a highly potential major new source of gas supply to east coast markets.

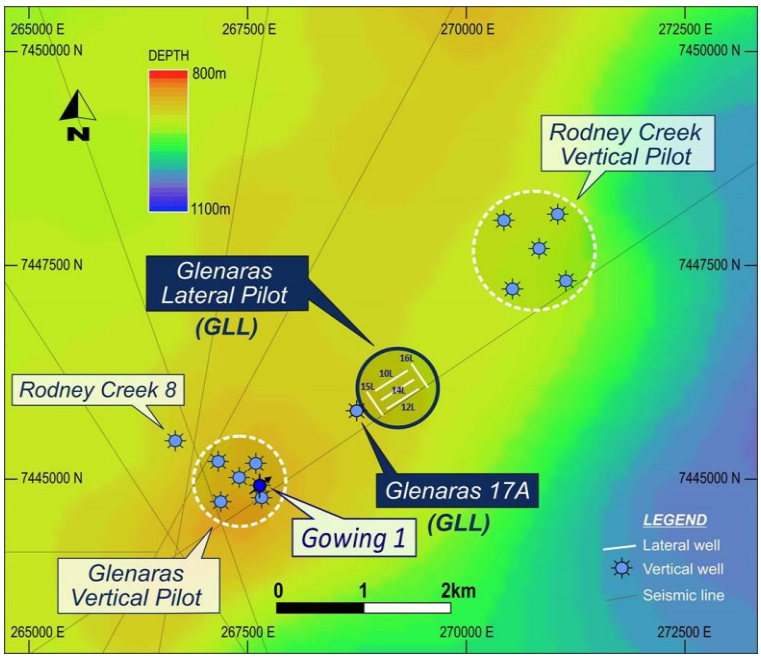


Figure 2 – Glenaras Location Map

Glenaras Water Management

A significant competitive advantage for the Project is the quality of the produced water from the Betts Creek section, which has only 1,100 ppm of total dissolved solids. Very limited processing is required on this water for multiple agricultural applications. The Company has been very active in progressing the design, scope of work and regulatory approvals to secure continuity of well water production for the Project.

Galilee has secured approvals for an area of 118 hectares on which to conduct irrigation activities. The initial development is under construction and will utilise a 33 hectare centre pivot irrigation system, targeting commissioning of the system within a month. A variety of crops, including forage sorghum and barley will be grown to be utilised by a local landholder to assist in livestock management during the prolonged drought periods experienced in this area. This project is easily scalable with additional pivots able to be installed within 2 to 3 months.

In addition to enabling the Project to continue production unrestrained, the aim of the water management projects is to test all technologies to determine their design capacities and forecast unit cost of production as well as the potential to add value given its good quality under a full field commercial development scenario.

This announcement was released with the authority of the Board.

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** Listing Rule 5.42 [+]*

The details of Contingent Resources referenced throughout this release in respect to ATP 2019 were announced to the market on 1 September 2015. In accordance with Listing Rule 5.34.3, Galilee Energy confirms that it is not aware of any new information or data that materially affects the information in those Market announcements first report the details of the Contingent Resources for ATP 2019 and that all of the material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

About Galilee

Galilee Energy is focused on creating a mid-tier 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.

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