

Norwest Energy Sees Incredible Results In Perth Basin Well

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Perth Basin oil and gas company Norwest Energy has announced what it described as 'incredible' results from the Lockyer Deep-1 well test program.

Norwest Energy said that the operator of the well, Energy Resources, started production testing operations on March 25 with a six-day test program designed to determine well deliverability, reservoir quality, and gas composition across an 82-foot interval of the Kingia Sandstone – 13,260 to 13,340 feet MDRT.

The initial main flow period ran for several hours, during which flow was increased through several increasing choke settings. A maximum sustained flow rate of 102 million standard cubic feet per day (mmscfd) was achieved through a 76/64" choke, with a maximum instantaneous gas flow rate of 117 mmscfd – one of the highest rates recorded onshore Australia.

"This is an incredible result with the Lockyer Deep-1 well once again surpassing even our expectations. The highest gas flow rate seen thus far in the Perth Basin gas play, a low level of impurities, and with associated condensate providing a significant uplift in value," Norwest Energy Managing Director Iain Smith said.

"Our thanks go to operator Energy Resources and the crews from Aztech Well Construction and SGS for running a textbook operation. With planning underway for appraisal and additional exploration across our joint 666-square-mile acreage position, this is just the start and bodes well for an exciting 2022," Smith added.

With a wellhead pressure of 3,618 psi the well was capable of higher rates of delivery, however, the main flow period was stopped at this point due to indications of sand being produced to the surface.

Sand production is to be expected at such exceptionally high flow rates and the produced sand was captured by the installed sand filtration system.

As with the Waitsia development wells, future Lockyer Deep production wells will likely be completed with appropriate sand control measures in place to maintain long-term reservoir and well integrity.

Condensate was produced throughout the main flow period, with a preliminary Condensate to Gas Ratio of between 5 to 6 barrels per mmscf of gas offering significant value upside. CO₂ is low, between 2 and 2.5 percent while H₂S is only between 3ppm to 7ppm.

Testing operations have continued over the weekend and will run for another few days to gather essential reservoir and pressure data before the well is shut-in for a pressure build-up period. Thereafter the pressure gauges will be retrieved and the well suspended for future completion as a production well.

At the time of the discovery, Norwest stated that, based on a gas column of up to 2,625 feet, the indicative areal extent of the discovery is approximately 25.5 square miles, with an additional 8.5 square miles of low-risk upside in the downthrown fault block to the south of the North Erregulla culmination.

The company added upon the discovery that the associated preliminary estimate of gas resources within the Kingia 25.5-square-mile area alone is believed to exceed the Norwest's pre-drill High Case prospective resources for the Kingia and High Cliff areas combined.

Norwest's MD Iain Smith described the Lockyer Deep-1 discovery as an extraordinary outcome for the company and the upper Kingia pay interval as 'arguably the highest quality reservoir encountered thus far within the deep Permian gas play of the North Perth Basin'.

"[...] this fact combined with an inferred significant gas column gives us good reason to believe that the structure hosts gas resources that are greater than our pre-drill High Case prospective resource. Such an outcome happens only very rarely in our industry [...]," Smith said in September of last year.

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