

**ASX Announcement**

**20 June 2022**

## **LOCKYER DEEP PROJECT UPDATE**

### **HIGHLIGHTS**

- **Indicative estimate of Free Water Level increases from 4,500 metres to 4,560 metres**
- **Potential resource area increased from 92km<sup>2</sup> to 100km<sup>2</sup>**
- **Lockyer Deep-1 Absolute Open Flow rate estimated at 190 MMscf/d**
- **Compositional analysis confirms high quality of Lockyer Deep-1 gas**
- **Joint Venture targeting drilling and 3D seismic commencing Q4 CY2022**

Perth Basin oil and gas company Norwest Energy NL (ASX: NWE) ("Norwest" or the "Company") is pleased to provide the following update regarding its Lockyer Deep-1 conventional gas discovery.

### **Geological Evaluation**

A comprehensive analysis of all data gathered during the Lockyer Deep-1 drilling program has now been completed, with a number of key findings as below:

- Semi-qualitative rock typing of drilling cuttings indicates that additional gas pay may exist, over and above that identified via preliminary petrophysical analysis, with potentially effective reservoir down to 4,085 metres (MDRT, assuming a 9% porosity cut-off).
- Average porosities within the Upper Kingia perforated interval (4041.5m to 4066.75 metres, MDRT) are estimated to range between 13% to 21%.
- Consistent with the regional Kingia geological play, the presence of clay-coated grains combined with large grain size and high sediment maturity has resulted in the retention of significant original porosity and permeability.
- Comprehensive analysis of pressure data from Lockyer Deep-1 and available offset wells supports an indicative Free Water Level range (FWL) between 4458 metres and 4620 metres, with a best-estimate case at 4560 metres (refer Figure 1).
- As a result of the estimated deeper FWL and based on Norwest's post-drill structural interpretation, the potential resource area is increased to 100km<sup>2</sup> (previously 92km<sup>2</sup>).

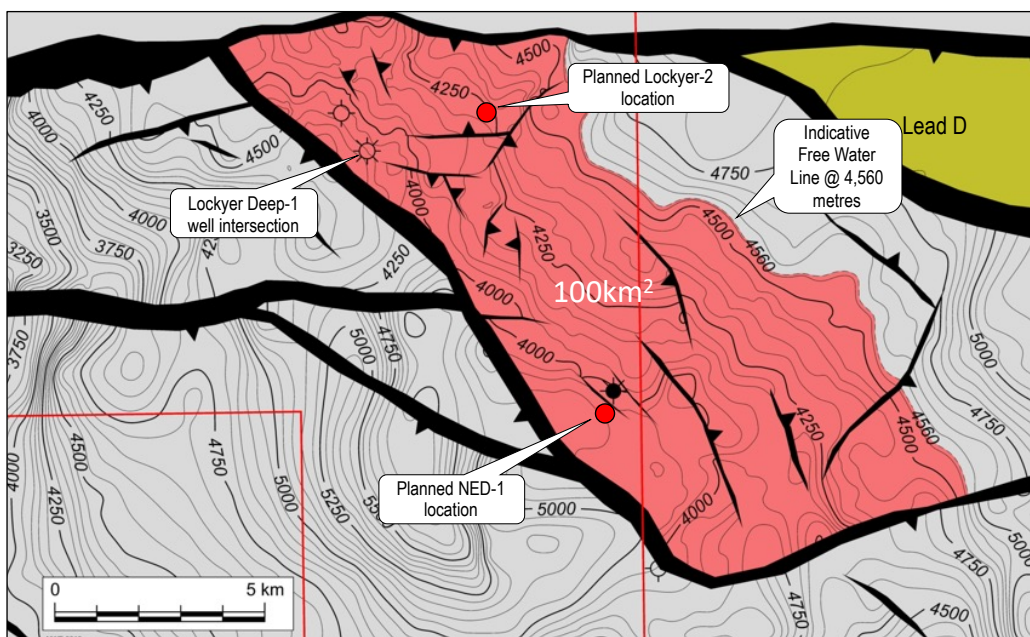


Figure 1: Norwest Energy Top Kingia Fm. Depth Map

Norwest Managing Director, **Iain Smith** commented "The post-well analysis confirms that we have encountered an exceptional, high-pressure gas reservoir with good evidence to support a very significant gas column that justifies a comprehensive appraisal program for which Norwest is well funded."

### Well Test Analysis

Well testing operations were completed during March 2022, with a six-day test program confirming exceptional well deliverability, reservoir quality and high quality gas composition across a 25-metre interval of the Kingia Sandstone (4041.5m to 4066.75m, MDRT). A maximum sustained flow rate of 102 MMscf/d (million standard cubic feet per day) was achieved through a 76/64" choke, with a maximum instantaneous gas flow rate of 117 MMscf/d; one of the highest rates recorded onshore Australia.

Subsequent analysis confirms that the testing objectives were met, with a high quality dataset recorded. Key insights from this analysis include:

- Absolute Open Flow rate for Lockyer Deep-1 (i.e. unconstrained by tubing) estimated at 190 MMscf/d.
- Estimated 70 Bcf to 110 Bcf gas-in-place connected to the Lockyer Deep-1 well *within the well test maximum radius-of-investigation*, representing an area of approximately 3km<sup>2</sup> (refer Figure 2).
- Sand production occurred only at flow rates in excess of 50 MMscf/d, with no sand produced during the extended flow period which was conducted at lower rates.
- High quality gas; estimated 87.5% methane and 3.9% CO<sub>2</sub>.
- Estimated well-stream Condensate-Gas-Ratio of 3.2 bbls per MMscf.

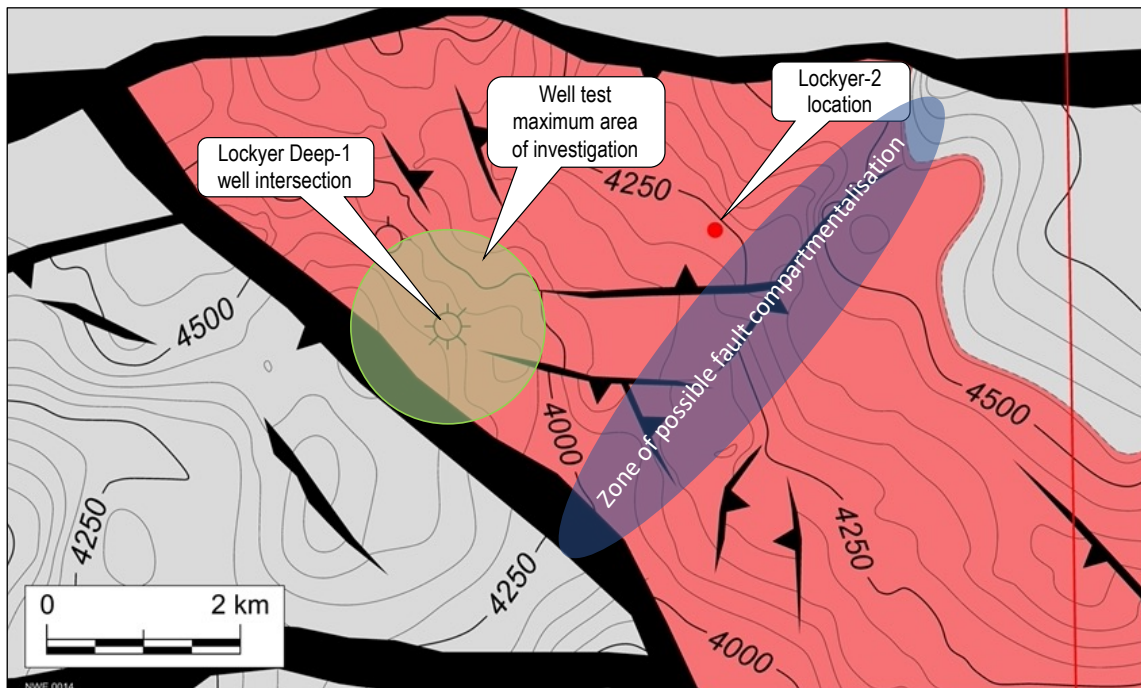


Figure 2: Top Kingia Fm. Depth Map with Well Test Area of Investigation and Zone of Possible Faulting

Note: The maximum radius of investigation provides an indication of the reservoir volume connected to the wellbore and is limited by the duration of production testing. In general the longer the duration of testing, the greater the radius of investigation.

Norwest Managing Director, **Iain Smith** commented "These post-test results once again confirm the quality and potential commerciality of the Lockyer Deep discovery. While additional drilling is required, we are extremely encouraged by the early indications of significant overall resource potential, particularly when comparing the estimated resource-connectivity from the recent well test to the area of the broader structure."

### Appraisal Planning

Having commenced ordering long lead items early in 2022 the Joint Venture is preparing for a drilling program across the broader Lockyer Deep/North Erregulla Deep structure, targeting commencement of a

two well back-to-back program in Q4 CY2022, subject to the necessary land access agreements, regulatory approvals and rig availability.

North Erregulla Deep-1 (NED-1, refer Figure 1) is designed to test the structural high located some 8.5km to the southeast of Lockyer Deep-1. NED-1 is conservatively regarded as an exploration well (rather than appraisal) due to the distance from Lockyer Deep-1 and the possibility of fault compartmentalisation between the two well locations. Such compartmentalisation may be present but is not clearly definable on the existing 2D seismic data (refer Figure 2).

The Lockyer-2 well location is situated downdip and to the northeast of Lockyer Deep-1. The purpose of Lockyer-2 is to test the downdip presence of gas within the Kingia Formation. Lockyer-3 and Lockyer-4 wells are also in the planning stage, with final locations and timing to be confirmed based on the results of the first two wells, and subject to the necessary land access agreements, regulatory approvals and rig availability.

The 385km<sup>2</sup> Rococo 3D seismic survey (refer Figure 3) is targeted to commence in December 2022 and is estimated to take approximately four months to complete. The purpose of the survey is to provide a high resolution and high quality subsurface view of the Lockyer Deep discovery, providing valuable insight to the detailed subsurface form of the discovery to guide later appraisal/development drilling, reserves definition and development planning.

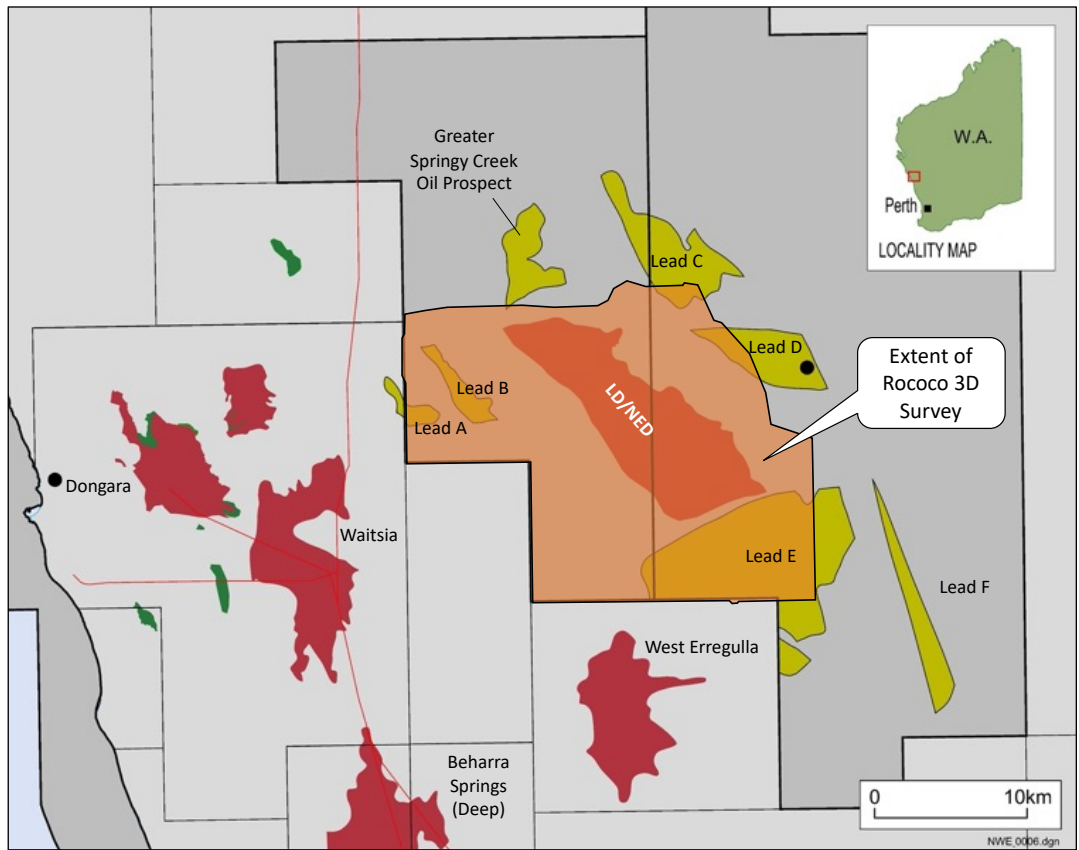


Figure 3: Rococo 3D Seismic Survey Area

### Exploration

The Ringneck 2D seismic program was completed in March 2022 and was designed to provide additional seismic coverage of the area to the southeast of Lockyer Deep/North Erregulla Deep, in the vicinity of a prominent gravity anomaly that may be indicative of basement structuring that sets up a suitable hydrocarbon trap at the Upper Permian level. Additionally 2D seismic data was acquired across the Lockyer Deep/North Erregulla Deep structure to support the pending drilling program prior to the completion of the Rococo 3D survey. The 2D seismic data is presently being processed by Earth Signal Processing Ltd. After initial processing the data will be put through a Pre-Stack Time Migration processing flow with the final processed data now estimated to become available by early September 2022.

The EP368 and EP426 Joint Ventures are comprised of the following participants:

**EP368**

Norwest Energy Ltd	20%
Energy Resources Ltd	80% (Operator)

**EP426**

Norwest Energy Ltd	22.22%
Energy Resources Ltd	77.78% (Operator)

Energy Resources Limited is a wholly-owned subsidiary of Mineral Resources Limited (**ASX: MIN**).

Note: Quoted depths are TVDSS unless stated otherwise.

**Authorised for release to ASX by the Norwest Board of Directors.**

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