

## New East Seram seismic confirms world-class potential

Lion Energy Limited ("Lion"; ASX:LIO) is pleased to report highly promising results from interpretation of the 2022 onshore seismic and gravity survey in our operated East Seram PSC (Lion 60% interest). While evaluation of the data is ongoing, the results to date have exceeded expectations. The 14 seismic lines, covering ~200 km, confirm the presence of all the fold belt prospects targeted by the survey. The prospects all have significant potential hydrocarbon columns (up to 1200m) with mapped closures up to 90 km<sup>2</sup>.

- 200 km data shot in late 2022 to early 2023 covers 5 world-class fold belt structures with pre-survey combined P50 (best estimate) Prospective Resource<sup>1</sup> of 675 mmboe (unrisked)
- New data greatly improves imaging and geological understanding of targeted prospects
- The Kobi Prospect (previously MA-10, MA-11), located only 10 km NW of the 1.5 TCF Lofin gas field, has areal extent of up to 90 km<sup>2</sup>
- The Waru Prospect (previously MA-7) is shown to have a potential areal closure of up to 70 km<sup>2</sup>
- The Tanah Baru Prospect has areal potential over 60 km<sup>2</sup>
- All prospects are supported by positive gravity anomalies
- Ongoing processing and interpretation work to update prospective resource assessment and to refine potential drill locations

The 200 km survey was acquired in late 2022 and early 2023 by BGP, one of the world's largest seismic contractors. Both seismic and gravity data were acquired, designed to mature high-graded leads and prospects of the Manusela carbonate fold belt play to drillable status.

<sup>1</sup>*Prospective Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of geologic discovery and a chance of development. Prospective Resources are further categorized in accordance with the range of uncertainty associated with recoverable estimates, assuming discovery and development, and may be sub-classified based on project maturity. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially movable hydrocarbons.*

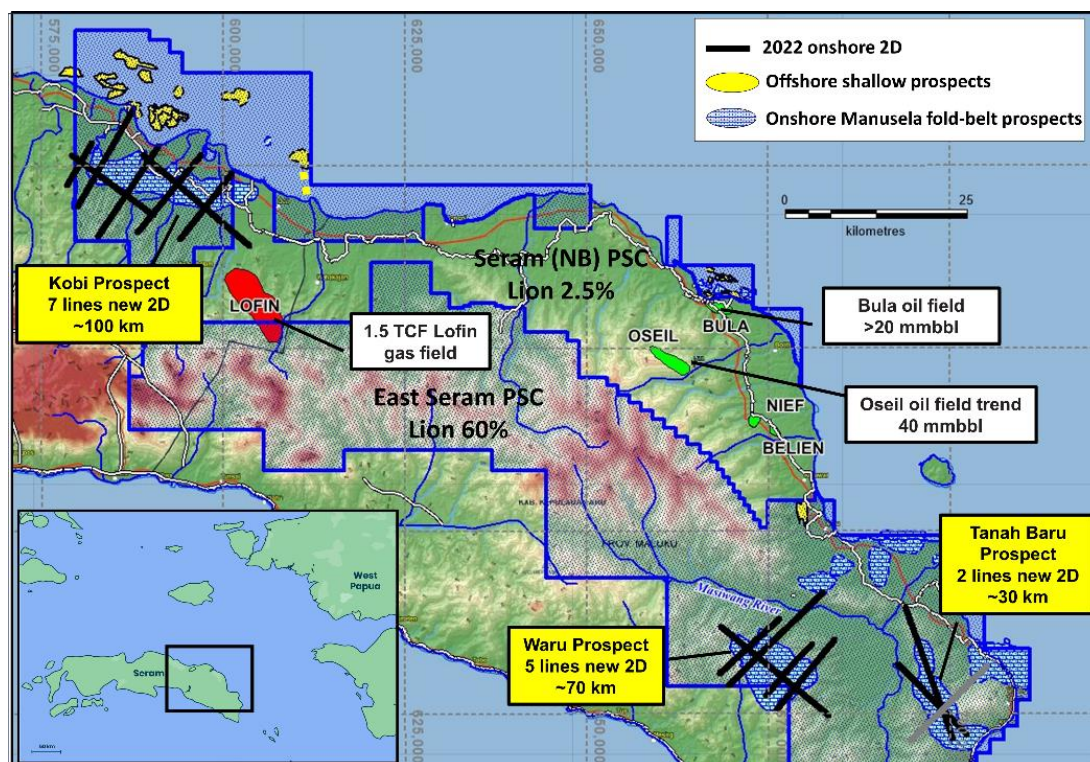


Figure 1 East Seram PSC showing onshore seismic survey with key fields & prospects

The recording of the seismic data commenced in the northwest onshore Kobi area in late October with operations moving to the more operationally challenging Tanah Baru and Waru (MA-7) prospect areas in the southeast of the East Seram block in November 2023.

Operations proceeded well with the seismic recording in the southeast area and the recording activities for the entire survey being completed on January 8<sup>th</sup>, 2023. The complementary gravity survey acquisition (1000 stations) was completed on December 7<sup>th</sup>, 2022. The survey was conducted safely with no lost time incidents (LTI's) despite almost a million-man hour exposure. Processing of the data commenced in late November 2022 with the final time migrated data provided to Lion in June 2023.



**Tom Soulsby,**  
Lion's Executive  
Chairman

Lion is extremely encouraged by the interpretation results of the new seismic and gravity surveys. The fact that all targeted prospects have been confirmed by the new data is a testament to the care taken in the planning process and quality of our geological and geophysical analysis. Given the extremely large size of the prospects confirmed by the new seismic, we are confident we have a world-class prospect portfolio. Our focus is now on specialist seismic and gravity analysis of the prospects, conducting depth processing (PSDM) and proposing the best prospect to drill. Lion is well placed with a 60% participating interest to farm down and get a carried interest through a well. Lion already has a 20% carry for a well from existing partner OPIC, up to a well cost cap of US\$10m.

## Kobi Prospect

- Thrust faulted inversion structure to 10 km to the northwest of 1.5 TCF Lofin gas field
- 9 seismic lines over the prospect (7 new Lion lines)
- Predicted depth to top Manusela reservoir ~2800 mss (~1300 m shallower than in the Lofin field)
- 90 km<sup>2</sup> upside closure at 4000 mss closing contour (Lofin field areal closure ~40 km<sup>2</sup>)
- Gravity high over structure
- Mixed gas and oil predicted based on source rock modelling
- Work plan: Structural analysis, planned depth processing and updated prospective resource analysis

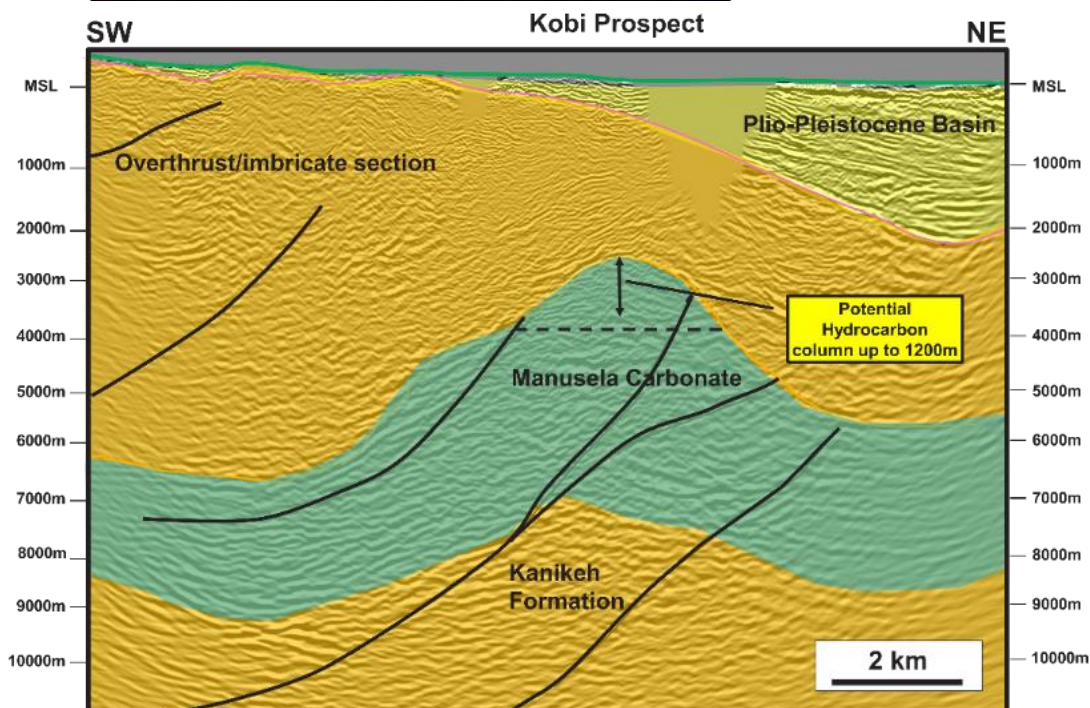
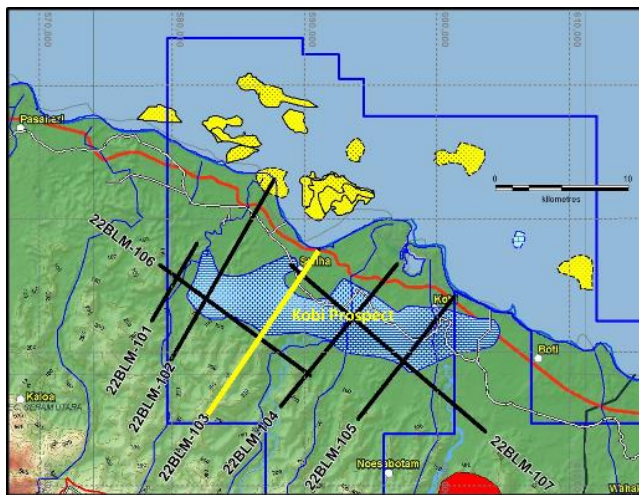


Figure 2 Geoseismic section showing structural style of the prominent Kobi Prospect (Line 22BLM-103). Line location shown in the first map above.

## Waru Prospect (previously MA-7)

- Thrust faulted fold belt structure, ~40 km south of the producing Oseil Oil Field
- 6 seismic lines over prospect (5 new Lion lines)
- Predicted depth to top Manusela reservoir ~1200 mss (Top Manusela in Oseil ~1500 mss)
- 90 km<sup>2</sup> upside closure at 2400 mss mapped closing structural contour
- Gravity and topographic high evident over structure
- Predominately oil predicted based on source rock modelling
- Ongoing structural interpretation, testing of depth processing and updated prospective resource analysis

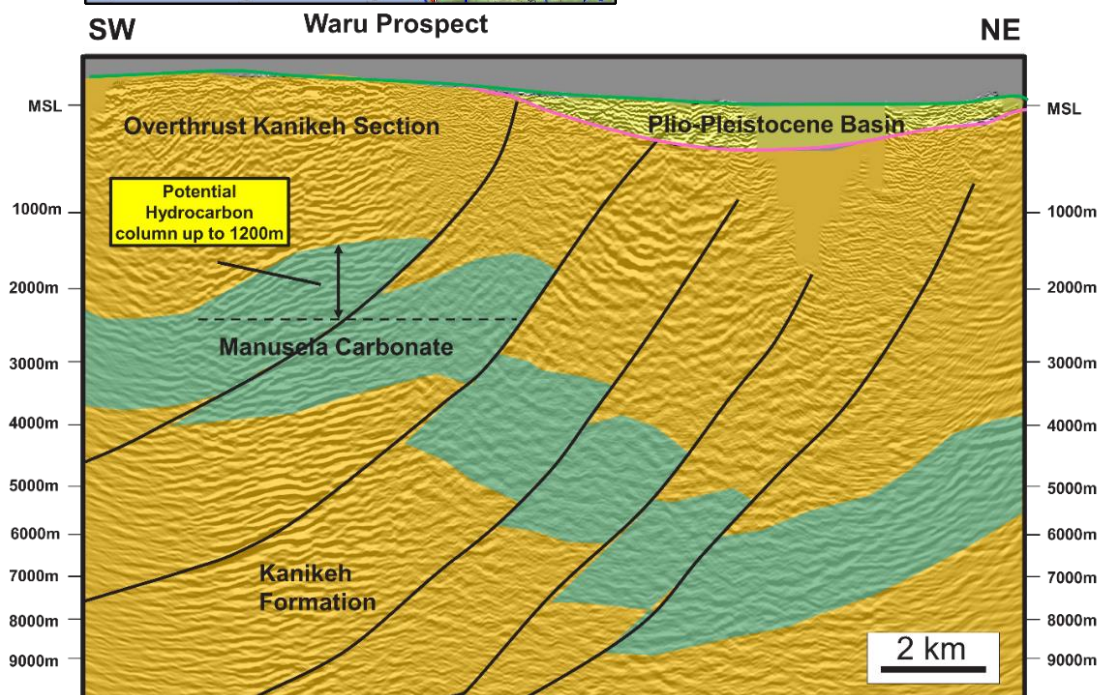
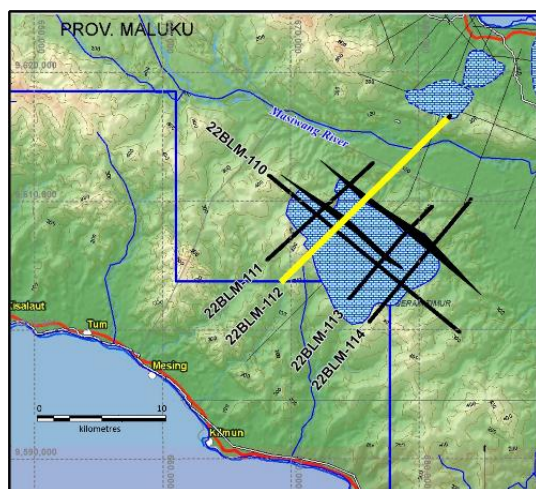
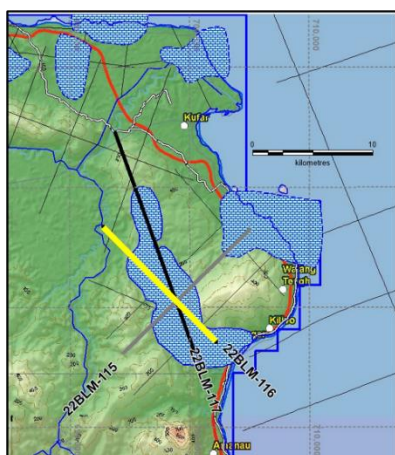


Figure 3 Geoseismic section showing structural style of large Waru fold belt Prospect (Line 22BLM-112). Line location shown in the first map above.

## Tanah Baru Prospect

- Large, thrust inversion feature in southeast area of PSC
- 6 seismic lines over prospects (2 new Lion lines)
- Predicted depth to top Manusela carbonate reservoir ~1800 mss
- 60 km<sup>2</sup> closure at 2800 mss structural contour, additional upside potential
- Large gravity anomaly and topographic high evident over structure
- Predominately oil predicted based on source rock modelling
- Work plan: Ongoing structural interpretation, testing to improve seismic imaging in the area and updated prospective resource analysis



*Note only gravity data  
acquired on Line 115*

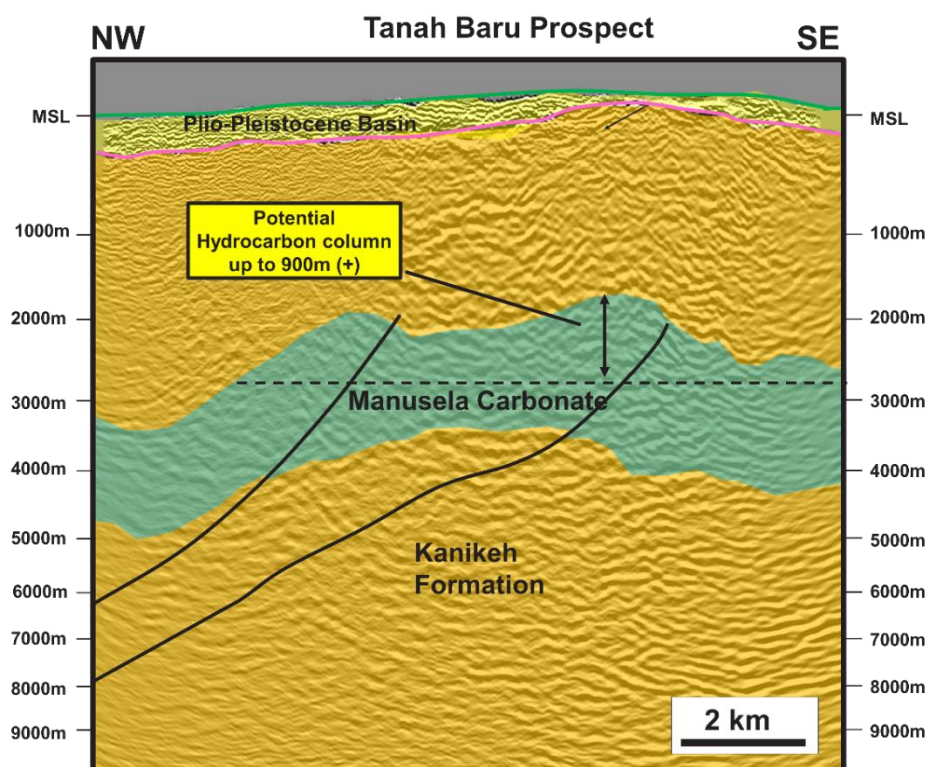


Figure 4 Geoseismic section showing structural style of attractive Tanah Baru Prospect (Line 22BLM-116). Line location shown in the first map above.

## Glossary

bbl: barrels	GIP: gas in place	PSC: Production Sharing Contract
Bcf: billion cubic feet	JV: joint venture	PSDM: Pre-stack depth migration
bpd: barrels per day	KB: Kelly bushing	psi: pounds per square inch
bcpd: barrels condensate per day	mmcfgd: million cubic feet gas per day	ss: sub sea
bopd: barrels oil per day	mmbbl: million barrels	TCF: trillion cubic feet
bwpd: barrels water per day	mmboe: million barrels of oil equivalent	TVD: true vertical depth
CO <sub>2</sub> : carbon dioxide	mss: metres subsea	Conversion factor: 6 mcf = 1 bbl oil equivalent (boe).

This ASX announcement was approved and authorised for release by the Board of Directors.

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