

Quarterly Report

1 April to 30 June 2021



Highlights – 2D seismic data interpreted, green hydrogen strategy announced, reserves double at Oseil

Lion Energy Limited (“Lion” or “Company”) announced a green hydrogen strategy, completed a capital raising of A\$2.8m and completed interpretation of new marine seismic data in the East Seram PSC which has more than doubled the Plio-Pleistocene play prospective resources. During the second quarter the Company also had steady oil production from the Oseil oil field in the Seram (Non-Bula) PSC and a 203% increase in reported prior year end oil reserves.

Highlights include:

- Seram (Non-Bula) PSC Oseil and Lofin Field reserves increase 203% and contingent gas resources updated.
- Lion raised A\$2.8m, announced a green hydrogen strategy.
- Appointed Queensland University of Technology (QUT) to assist in locating green hydrogen infrastructure in Queensland, Australia at the critical juncture of resources, markets and technology.
- Signed a MOU with Wagner Corporation to pursue green hydrogen & appointed GPA Engineering to undertake a hydrogen production and refuelling concept study.
- Completed marine seismic data interpretation in the East Seram PSC reporting increased shallow play prospective resources by 120%
- Onshore seismic program now planned for late 2021 due to Covid 19, with partner seismic funding arrangements remaining in place.
- Farmout efforts are ongoing for a further 10% divestment of East Seram by the Company with increased interest in the opportunity.
- Seram (Non-Bula) Block (“SNB”) PSC production for the quarter was 3,529 bbls gross to Lion with the new Oseil-23 development well in progress testing an undrilled extension of the Oseil 2 fault block.
- Cash at quarter end was US\$2.3m (excluding joint-venture cash), an increase of US\$1.71m from the end of Q1 2021.
- A crude oil lifting of ~300,000 bbls is scheduled for the 3rd Quarter, with proceeds net to Lion expected to be in excess of USD400,000.

Lion had one of its most exciting quarters in some time with activities picking up across all assets of the company, and importantly, a green hydrogen strategy announced.

Production from SNB averaged a steady 1,551 bopd for the quarter (~36 bopd net to Lion). Gross crude oil production for the quarter was 141,140 bbl (3,529 bbl to Lion).

Mr Soulsby, Lion’s Chairman said that “Lion’s momentum in its legacy business picked up significantly during Q2 2021 with the completion of interpretation of high resolution 2D data in the East Seram PSC. This has led to a significant increase in prospective resources in the shallow play with some potentially drillable targets emerging.”

Lion at a glance

- ASX listed oil and gas E&P company focused on Seram Island, East Indonesia; two conventional PSCs on gross split terms.
- Net production of around 40bopd from the Seram PSC which also contains the Lofin gas/condensate discovery.
- New focus on production opportunities in Southeast Asia, initial focus on Seram Island.
- Executive team and strategic investors with impressive track records for value creation in Indonesia.

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Mr Soulsby went further to say that “We also raised capital largely earmarked for a planned ~200km onshore survey expected to mature some world-class onshore oil and gas leads of the deeper Jurassic play. We continue to mobilise for a late CY2021 start for our onshore seismic execution whilst being mindful of the Covid-19 pandemic currently being experienced in Indonesia. We are also excited by our new strategic entry into Green Hydrogen which has led to multiple work streams in play. This includes the appointment of specialist advisors, working with QUT on electrolyser location optimisation in Queensland, appointing GPA Engineering to undertake a hydrogen production and refuelling station concept study and important MOUs being signed with Wagner Corporation and Censtar (the latter done post end of quarter).”

Green Hydrogen

During the Quarter, Lion announced its intention to explore producing green hydrogen at the critical juncture of resources, markets, and technology.

As part of the rationale for the move, key drivers are (i) a buoyant market outlook and lowering renewable energy costs, (ii) significant tail wind from governments, (iii) significant private sector initiatives, (iv) the wide-ranging potential application of green hydrogen and (v) the fact that Australia has a global comparative advantage in renewable energy.

As part of the announcement, Lion stated the following provisional roadmap and has responded to the objectives as follows in the quarter under review.

Stated objective	Response
Stage 1	
Publish broad green hydrogen strategy	Completed
Register business name	Completed
Stage 2	
Establish team of hydrogen experts	Dr Andrew Dicks and Mr Ken Farrell appointed
Appoint experts to systematically analyse optimal electrolyser locations in Australia	Queensland University of Technology appointed, MOU signed with Wagner Corporation
Review the best value and fit for purpose solar, wind and electrolyser technologies	GPA Engineering appointed to undertake hydrogen refuelling and refuelling station study
The review of opportunities in which Lion may be able to combine its expertise and resources with a suitable market and partner to progress a green hydrogen development using identified electrolyser locations and appropriate technologies	GPA Engineering appointed, reviewing equipment supplier quotes and signed MOU's signed with Wagner Corporation and Censtar Technologies
Expand the scope of the Advisory Board to review opportunities in H2 distribution and hydrogen fuel cells for heavy equipment and vehicles	Advisory board have an ongoing role and involvement in the work being undertaken by GPA and reviewing submissions by Censtar and other equipment providers
Stage 3	
Appoint consultants to undertake a feasibility study to ascertain the economic viability of a short listed opportunity and the anticipated cost	Conditional upon stage 2 work being completed
Secure any required land rights conditional upon Lion proceeding with an opportunity	Conditional upon stage 2 work being completed
Investigate investing in a pilot or demonstration plant including H2 distribution and hydrogen fuel cell heavy equipment and vehicles	MOU's signed with Wagners and Censtar, work in progress
Stage 4	
Subject to a positive feasibility study, progress the opportunity by participating in the development of a smaller or larger solar/wind farm and relevant energy storage facilities to produce green hydrogen at low cost for domestic or export markets	Conditional upon stage 3 work being completed
Form a joint venture with a suitably experienced and funded partner	Conditional upon stage 2 work being completed

Lion aims to be a first mover in green hydrogen production in Australia and is mobilising its resources to meet this objective with a focus on Queensland.

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Operations update

East Seram PSC

Lion, via its wholly owned subsidiary Balam Energy Pte Ltd, holds a 60% participating interest in the East Seram PSC, located on and offshore east Seram Island in eastern Indonesia.

Lion undertook a 664 km high resolution marine seismic survey in the Bula Bay and offshore Kobi Area of Seram Island in November 2020, with processing completed in March 2021 and interpretation of data finalised in June 2021.

The acquisition and processing of the seismic data has met the firm commitment obligations of the PSC. The data has also helped with selection of less prospective areas for a required 30% relinquishment of the East Seram PSC at the end of Permit Year 3. The new area of the PSC post relinquishment will be 4557 km².

Lion continues to plan for a late 2021 start of an approximate 200 km onshore survey targeting world class onshore oil and gas leads. This program is largely funded by its partner, OESC.

As noted in Lion's press release on 27 September 2019, Lion signed a farmout agreement with OESC, a subsidiary of Taiwan's CPC Corporation. OESC has taken a 40% working interest under the farmout agreement signed with the Company on 25 September 2019.

OESC funds seismic costs on a 2 for 1 basis, up to the gross firm commitment seismic cost cap of US\$8.5m, and Interests in the East Seram PSC are:

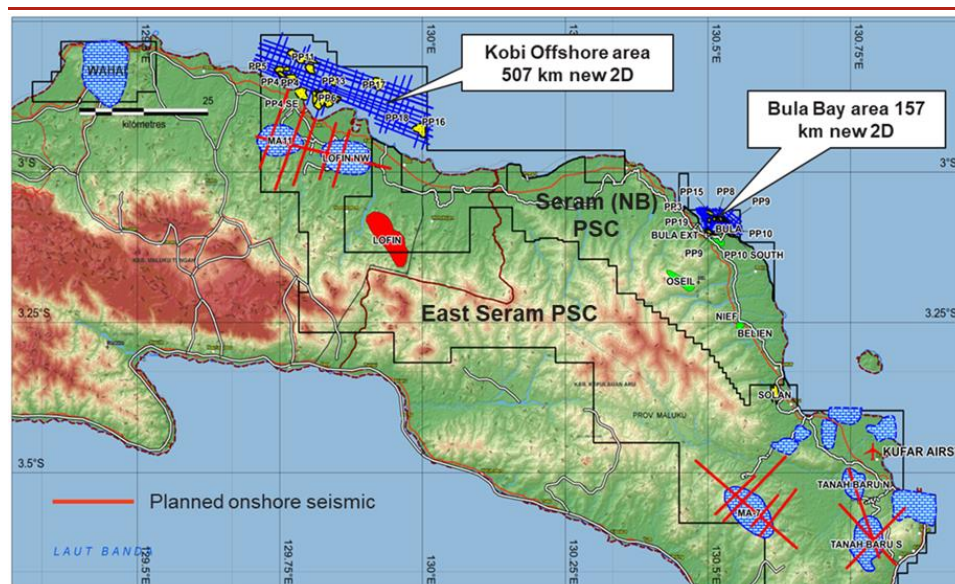
Balam Energy (Operator):	60%
OESC:	40%
Total:	100%

Work program update

Processing of the 664km high resolution 2D data was completed during the first quarter of 2021 and interpretation of the data was completed in June, 2021. The data, recorded in Lion's East Seram PSC in November 2020, has been provided to the Indonesian Government fulfilling the firm commitment obligations in the East Seram PSC.

The data was processed in Jakarta while being overseen by experts engaged by Lion. Interpretation was undertaken by Lion. The survey was designed to investigate some large leads on the offshore shallow (<1200m) Plio-Pleistocene play which includes the potential extension of the 20mmbbl Bula Field.

East Seram PSC – location map



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The prospects and leads that have emerged from the new seismic have exceeded Lion's expectations and have significantly enhanced the view on the potential of the offshore portion of the East Seram PSC. Lion's focus is now on developing drilling cost estimates to determine the economics of testing the highest ranked targets.

In summary, Lion reported a significant 120% increase in the Plio-Pleistocene play prospective resource. For more information on the marine seismic results please refer the ASX release dated 16 June 2021 entitled "Marine seismic results increase prospective resources by 120%, 7 new prospects identified".

Concurrently, Lion continues to plan for an approximate 200km onshore survey targeting world class onshore gas and oil leads. This program was initially planned for 2020; however, it has been deferred due to concerns on Covid-19, given the large numbers of personnel required in the field. The program has now been rescheduled to commence in late 2021, Covid-19 protocols permitting.

Lion reached an agreement with OESC on areas to relinquish in the East Seram PSC in line with its contract commitments in the first quarter. Lion processed these areas with the Indonesian regulatory body SKK Migas during the course of Q2 2021 and expects finalisation of the new PSC working area in Q3 2021.

Lion believes that the combination of the recently acquired offshore seismic program, and the planned onshore program, will result in a suite of drill ready targets and reinforce the East Seram PSC as one of the most high-potential exploration blocks in the Southeast Asian region

Background

The PSC covers much of the eastern part of Seram Island and surrounds the producing Seram (Non-Bula) PSC.

The PSC contains the southeast extension of the 2.6 TCF 2C Gross Gas-in-Place Lofin field, which was appraised by Seram (Non-Bula) PSC participants in 2015, and the potential offshore extension of the 20 mmbbl Bula Field of which Lion was operator from 2000-2005.

Lion's extensive knowledge and database of the area delivers the Company a competitive advantage and has proved critical in high grading and subsequently obtaining the East Seram acreage.

The East Seram PSC was awarded under Indonesia's new Gross Split PSC system which significantly reduces the bureaucratic burden on companies while providing internationally competitive fiscal terms with company profit share of at least 75% before corporate income tax. The 3-year firm commitment program consists of 500km 2D seismic as well as geological and geophysical studies, and has already been met with the 2020 664 km offshore survey. The first year (Year 4) of the second exploration period commences July 17, 2021 and carries no firm commitment obligation.

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Seram (Non-Bula) Block PSC

Lion, via its wholly owned subsidiary Lion International Investment Ltd, holds a 2.5% participating interest in the Seram (Non-Bula) Block PSC, located onshore Seram Island in eastern Indonesia.

The block contains the Oseil oilfield and surrounding structures that have yielded cumulative crude oil production of 18,989,441 barrels since production started in January 2003 through to 30 June 2021.

As previously reported by Lion, in 2015 the Lofin-2 appraisal well confirmed a highly material gas discovery in the SNB PSC.

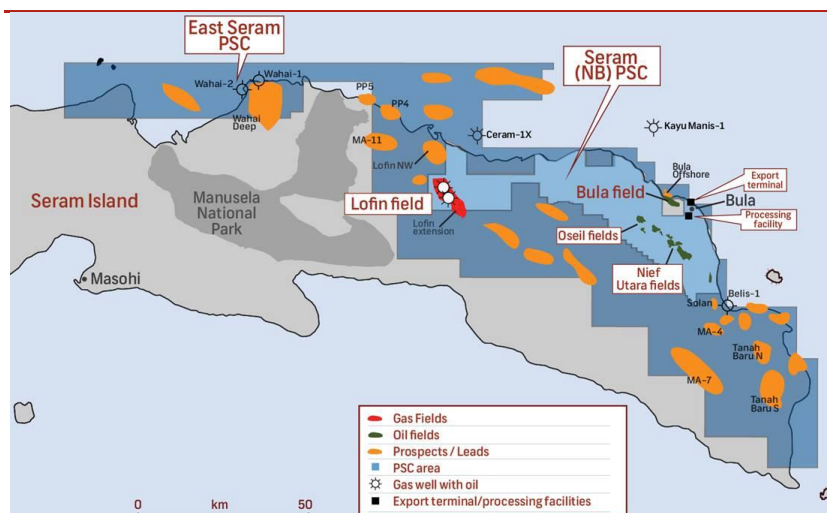
This renewal of the PSC effective December 2019 was a significant milestone and provided the joint venture participants:

- The opportunity to proceed with further appraisal and development of the significant Lofin gas discovery. The Joint Venture is reviewing the timing for the Lofin-2 testing program.

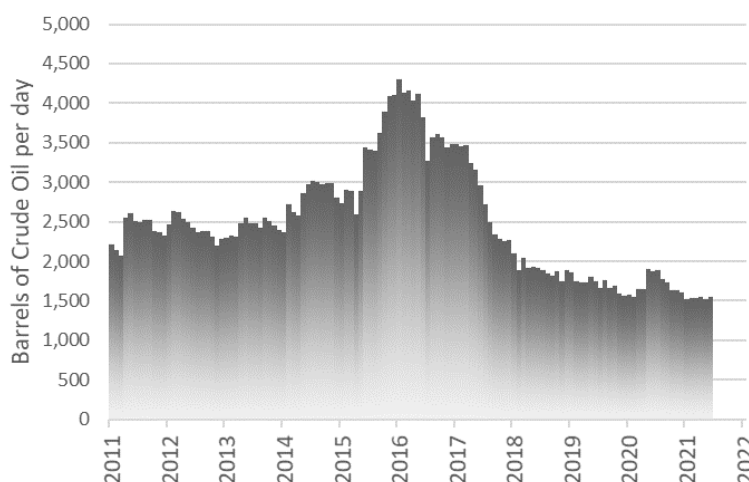
- The opportunity to complete the full drilling program of the Plan of Further Development ("POFD") approved by the Indonesian regulatory body SKK Migas, on 5 May 2015. Only six of the 10 wells approved in the POFD were drilled due to the uncertainty of the SNB renewal, with the pending expiry of the block limiting the time for recovery of the drilling expenditure.

The first of the remaining 4 POFD wells, Oseil-29 was drilled in 2020 and has produced 74,477 bbls since coming on stream in May 2020. The seven wells drilled in the POFD have produced 4.218 million barrels of crude oil up to 30 June 2021, since production commenced in January 2014. Of the 26 wells drilled in the Oseil oilfield, 13 are located in the Oseil-2 fault block and 7 of the 13 are POFD wells, with the remaining 3 approved under the POFD to be drilled in the Oseil-2 fault block. The eighth of the 10 approved POFD wells, Oseil-23, spudded 7th May 2021 testing an undrilled northwest extension of the highly productive Oseil-2 field area. The well has a production forecast at 500 bopd and is projected to come on stream in Q3 2021, assuming a successful outcome.

Seram (Non-Bula) Block PSC - location map



Seram (Non-Bula) Block - daily production per calendar month (bopd)



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Lion recorded a material increase of 203% in Oseil Field 2P oil reserves as at December 31, 2020 to oil reserves for the Oseil Oil Field with Proven and Probable (2P) Reserves reported as 4.37mmbbl (0.109 mmbbl Lion share). Lion reported a new reserve and resource report on the Seram (Non-Bula) PSC has been undertaken by US Oil and Gas Consultants, Miller and Lents ("M&L"), on behalf of the Joint Venture (refer ASX announcement on 13 April 2021). The key reasons are better than expected production during 2020, the impact of the Oseil-29 well and the impact of good results from water shut-off operations on Oseil-28 with additional shut-off operations now planned.

Additionally, a volumetric assessment on the Lofin Gas Field resource by M&L was reported, confirming a highly material discovery. The M&L recoverable Contingent Resource estimate (100%) is 1C: 752 2C: 1450 3C: 1764 Bcf gas. Lion's share is 1C: 18.8 2C 36.3 3C: 44.1 Bcf gas. In contrast, the previously reported estimates, based on a 2015 Independent Experts Report, was 100% 1C:879 2C:2020 (3C was not estimated). The key difference in M&L's numbers was a lower gas recovery factor estimate (2C: 55% vs previous 70% recovery factor) and some more conservative assumptions on the structural model interpretation of the Lofin structure (refer ASX announcement on 13 April 2021).

Production

During the quarter, gross crude oil production from Oseil and surrounding oilfields was 141,140 bbls (Lion's gross share 3,529 bbls). Daily production averaged 1,551 bopd (Lion's net interest being 36 bopd). Crude oil available for lifting at 30 June 2021 was 277,237 bbls.

A crude oil lifting of approx. 300,000 bbls is scheduled during the 3rd Quarter, with Lion revenue before Indonesian Government (GoI) entitlement expected to be approx. USD400,000. The GoI entitlement is subject to several variables, although is expected to be no greater than 10% for the 3rd Quarter lifting.

During the Quarter, two wells had workovers, to replace downhole electric pumps (ESP's).

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Corporate

The Company continues to maintain a focus on costs, whilst pursuing activities in Indonesia and in Green Hydrogen in Australia. Lion expects G&A costs to track steady year on year well below US\$1m.

Related Party Payments

During the quarter, the Company made payments of US\$115,000 to related parties and their associates. These payments relate to the existing remuneration agreements for the Executive and Non-Executive Directors.

Summary of petroleum tenements held as at 30 June, 2021

	% interest	Tenement	Location
Held at end of quarter	60%	East Seram PSC	Seram Island, Indonesia
	2.5%	Seram Non-Bula PSC	Seram Island, Indonesia

ENDS

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

Qualified petroleum reserves and resources evaluator requirements

In accordance with ASX Listing Rule 5.43 the Company confirms that references to petroleum reserves, contingent resources and prospective resources have previously been announced (7/9/2018, 10/9/2018, 04/03/2019, 13/04/2021 and 16/06/2021). The Company confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all the material assumptions and technical parameters underpinning the estimates in this announcement continue to apply and have not materially changed.

Glossary

bbl: barrels

bcf: billion cubic feet

bopd: barrels oil per day

BOP: blow out preventer

ESP: Electric submersible pump

FTP: first tranche petroleum

JV: joint venture

KB: Kelly bushing

mmscfd: million standard cubic feet of gas per day

mmbbl: million barrels

MD: measured depth

POS: probability of success

PSC: Production Sharing Contract

psi: pounds per square inch

tcf: trillion cubic feet

Sq.km: square kilometres

ss TVD: sub-sea true vertical depth

TD: total depth