# ASX/Media Release

For Immediate Release – 20 January 2017



## **AMT-1 discovery well completed**

## Highlights

- Amanah Timur-1 discovery well has been plugged and abandoned at current depth of 347m KB due to failure to free stuck drill pipe
- Good quality gas reservoir interpreted from 336-347m with gas flared during well control operations, and three shallower potential hydrocarbon zones have also been interpreted from well data
- Joint venture will commence actively pursuing appraisal and commercialisation opportunities for the Amanah Timur discovery
- All drilling commitments in South Block A PSC now satisfied

Lion Energy Limited ("Lion" or "Company"; ASX: LIO) reports that the Amanah Timur discovery well (AMT-1) has been plugged and abandoned at a depth of 347m KB, as attempts to free the stuck drill pipe were unsuccessful. Thus it was not possible to drill to the planned total depth of 570m KB to assess the two deeper objectives. Lion is now working with Renco Elang Energy (REE), the operator, on forward plans to appraise this discovery.

As previously reported, high gas and some oil shows were encountered in AMT-1 with up to four gas zones and some potential oil zones interpreted from fluorescence shows and gas analysis. Of particular interest, during well control operations, gas was flared which is interpreted to be from the well-developed "700" sandstone intersected from 336m KB to total depth at 347m KB. The decision to pump cement was based on the inability to free the stuck drill pipe and the importance of ensuring the various hydrocarbon zones were isolated. This has now been achieved.

While analysis is ongoing, the well represents a potential new field discovery and the Joint Venture will work with the Indonesian Regulator to explore commercialisation options and accelerate appraisal. Any appraisal would also test the deeper "800" and "900" sandstone objectives not reached in AMT-1, which have been significantly upgraded by the results of this well.

The overall well cost is still being evaluated by the Operator but is expected to be less than the budgeted well cost of US\$1.3mil (US\$0.53mil net to Lion). This completes the remaining drilling commitment in the block at a cost significantly less that the US\$3mil (gross) penalty stipulated in the PSC, which on its own represents a significant value enhancement for Lion.

Lion CEO, Kim Morrison commented "Whilst Lion is clearly disappointed that we were unable to evaluate and test all objective intervals in AMT-1, further appraisal and testing is planned. The decision to plug and abandon the well was a prudent one as it become apparent we would be unable to free the stuck pipe and it was important to ensure interpreted hydrocarbon zones were isolated. The results confirm the highly prospective nature of our South Block A PSC and we will ensure the issues encountered drilling AMT-1 are mitigated as we work on accelerating appraisal activities in this attractive block."

### Lion at a glance

- ASX listed oil and gas E&P company focused on Indonesia; two conventional PSC's.
- Net production of around 90bopd from the Seram PSC which also contains the Lofin gas/condensate field.
- An early mover in Indonesia's fledgling unconventional oil & gas industry.
- Leveraging synergies in conventional assets and access to both infrastructure and markets.
- Executive team and strategic investors with impressive track records for value creation in Indonesia.

### Contact

Lion Energy Limited ABN 51 000 753 640 ASX Code: LIO Suite 7 295 Rokeby Road Subiaco WA 6008 Australia Post Box 557 Subiaco WA 6904 Australia Tel +61 8 9211 1500 | Fax +61 8 9211 1501 info@lionenergy.com.au www.lionenergy.com.au

### **Directors & Officers**

| Russell Brimage | Executive Chairman      |
|-----------------|-------------------------|
| Kim Morrison    | Chief Executive Officer |
| Stuart B. Smith | Executive Director      |
| Tom Soulsby     | Non-Executive Director  |
| Chris Newton    | Non-Executive Director  |
| Zane Lewis      | Company Secretary       |

#### For more information contact

Kim Morrison +61 404 490 964 kmorrison@lionenergy.com.au Stuart Smith +65 9820 3889 ssmith@lionenergy.com.au Zane Lewis +61 400 007 900 zlewis@lionenergy.com.au

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## **South Block A PSC**

Lion has a 40.7% interest in the South Block A PSC with the other participant being Renco Elang Energy Pte Ltd (59.3% interest and Operator).

The South Block A PSC is centrally located in the prolific North Sumatra Basin oil and gas province (Figure 1). It is divided into two separate blocks; the western block is known as Area 1 and covers an area of 1,165km<sup>2</sup> while the smaller Area 2 block to the east, extends over the coastal boundary with an offshore portion and covers an area of 414km<sup>2</sup>.

The region has a gas market with solid demand, consequent high prices and a new open access pipeline to Medan extends through the PSC acreage and within 100 metres of the Amanah Timur location. The Amanah Timur location is also within 6km of the city of Langsa with a population of approximately 150,000.

## Amanah Timur-1 summary

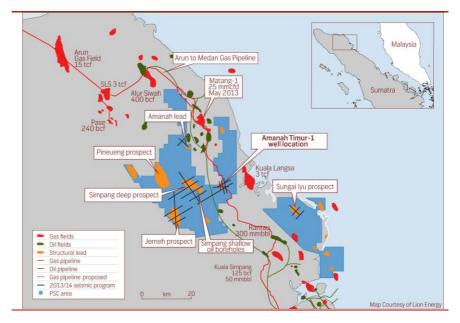
AMT-1, had a planned total depth of approximately 570m KB, and was designed to test a well-defined anticline which has existing shallow oil reservoirs that produced approximately 200,000 barrels of oil in a period prior to WWII.

The well spudded on 3 January 2017 and 9 5/8" casing was set at 78.5m KB. The well drilled an interbedded sandstone, claystone, shale and siltstone section within the Late Miocene age Keutapang Formation in 8  $\frac{1}{2}$ " hole. Key objective intervals were penetrated between 26-58m high to pre-drill prognosis. The total depth of 347m KB was reached on 11 January 2017.

High gas readings encountered from the "700" sandstone objective required the mud weight to be raised from 11 ppg to approximately 14 ppg. During operations to ensure the well was stabilised, the drill string unfortunately became stuck. Efforts to free the pipe were unsuccessful and the joint venture, supported by the drilling contractor and the Indonesian regulator, decided the most prudent action was to cement the well to ensure isolation of hydrocarbon zones. Cement was pumped early on 19 January 2017, plugging and abandoning the well.

A flare with condensate rich gas interpreted to be influx from the "700" sandstone objective was observed during well control operations (Figure 2).

#### Figure 1: South Block A PSC – location map



#### Figure 2; Amanah Timur-1 gas flare



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A number of potential gas and oil intervals (illustrated in Figure 3) were penetrated in the well which include:

- 115-160m KB: "400" sandstone, high gas readings, with peaks up to 270 units (Gas composition C1: 19,495ppm, C2: 1669ppm, C3: 1427ppm, iC4:1036ppm, nC4: 813ppm, iC5: 1269ppm, nC5 240ppm) as well as some oil shows were encountered. Gas ratio analysis indicates a potential oil zone in the interval 140-160m.
- 205-225m KB: Elevated gas up to 126 units (C1: 21374ppm C2 365ppm, C3 977ppm, iC4 214ppm, nC4 75ppm, iC5 191ppm) with some oil fluorescence
- 234-244m KB: "500" sandstone Elevated gas with peak to 158 units (C1: 30,575ppm, C2: 1182ppm C3: 4ppm)
- 336-347m KB: "700" sandstone objective, gas increased rapidly on entering this unit from a background of 150-200 units with a peak of 1271 units at 338m KB with a composition of C1: 216,825ppm, C2: 10,833ppm, C3: 2215ppm, iC4: 950ppm, nC4: 771ppm, iC5: 659ppm, nC5: 160ppm. Gas increased through the unit with peak of 1606 units from 344m and up to 10% oil fluorescence in this interval. Condensate rich gas is interpreted in this unit and gas that was flared during well control operations is interpreted to come from this interval (Figure 2).

#### m KB Legend **Keutapang Fm** 0 Key objective zones Sandstone Claystone, 9 5/8' casing shale, siltstone @78.5m KB Potential gas zone 100 "400" sandstone Potential oil zone 115-160m gas to 270 unit (C1-C5) Some oil fluorescence, potential oil zone in interval 140-160m "450" sandstone 200 205-225m Gas to 126 units (C1-C5), up to 5% oil fluorescence Upper Miocene "500" sandstone Keutapang Fm 234-244m 158 units gas (C1-C3) Fluvio-deltaic 280-336m some thin sandstones 300 w/ gas and oil shows sandstone, shales Well total depth "700" sandstone 347m KB 336-347m 1605 units gas. up to 10% fluorescence, condensate rich gas flared during well control operations 400 '800" sandstone Not penetrated '900" sandstone 500 Not penetrated Middle Miocene **Baong Fm** Marine shales

Figure 3: Amanah Timur-1 well section

The Joint Venture is continuing to evaluate well results and will conduct further laboratory analysis of rock and fluid samples recovered. Over the coming weeks we will update the Amanah Timur resource assessment and work aggressively on appraisal and commercialisation options.

#### **Competent Persons Statement: Qualified Petroleum Reserves and Resources Evaluator**

Pursuant to the requirements of the ASX Listing Rules Chapter 5, the technical information, reserve and resource reporting provided in this document are based on and fairly represent information and supporting documentation that has been prepared and/or compiled by Mr Kim Morrison, Chief Executive Officer of Lion Energy Ltd. Mr Morrison holds a B.Sc. (Hons) in Geology and Geophysics from the University of Sydney and has more than 30 years of experience in exploration, appraisal and development of oil and gas resources – including evaluating petroleum reserves and resources. Mr Morrison is a member of the American Association of Petroleum Geologists (AAPG). Mr Morrison consents to the release of this announcement and to the inclusion of the matters based on the information in the form and context in which it appears.

#### Glossary

bbl: barrels JV: joint venture KB: kelly bushing MD: measured depth

END