

MARCH 2020 QUARTERLY REPORT

Boss Resources Limited (ASX: BOE) (Boss or the Company) is pleased to provide its quarterly activities report for the three-month period ending 31 March 2020.

RESTART HIGHLIGHTS

Honeymoon Feasibility Study confirms Boss Resources as Australia's next uranium producer

Outstanding Feasibility Study¹ results announced on 21 January 2020, based on a conservative uranium price, position Honeymoon as one of the world's most advanced uranium development projects that can be fast-tracked to re-start production in 12 months with low capital to seize the rally in the uranium market.

- Feasibility Study is the final independent validation for Honeymoon's restart, having technically de-risked the asset and optimised the process flowsheet through multiple phases of test work and study.
- Project is fully permitted to export 3.3Mlbs/annum U₃O₈ equivalent².
- Strong bank balance³, with no debt, to fully fund 2020/21 operations.



Figure 1: Boss' Honeymoon Uranium Project, 80km north-west of Broken Hill in South Australia.

¹ The forecast financial information (and the production targets on which such forecast financial information is based) in this Quarterly Report was announced on 21 January 2020. All material assumptions underpinning the forecast financial information (and the production targets on which such forecast financial information is based) in the announcement on 21 January 2020 continue to apply and have not materially changed.

² Refer ASX announcement dated 8 April 2019.

³ Cash on hand as at 31 March 2020 is A\$4.4m. Plus, A\$8.8m environmental bond held with South Australian government.

Competent Persons Statements

Mineral Resources

The information in this report that relates to the Mineral Resources on the Honeymoon Project were initially reported by the Company to ASX on 20 January 2016, 8 April 2016, 15 March 2017 and 25 February 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Exploration Target

The information contained in this announcement that relates to the Exploration Target was first reported by the Company to the ASX on 25 March 2019. The Exploration Target does not include areas of existing Mineral Resource and the potential quantity and grade reported are conceptual only in nature. Insufficient exploration has been conducted to estimate a Mineral Resource and it is uncertain whether future exploration will lead to the estimation of a Mineral Resource in the defined areas. The Company is not aware of any new information or data that materially affects the information included in the announcement. The Company confirms that the form and context in which the Competent Person's finding are presented have not been materially modified from the original announcement.



Figure 2: Three of Australia's four fully permitted uranium mines are in South Australia: Olympic Dam, Honeymoon and Beverley with the Four Mile Deposit.

Honeymoon Feasibility Study completed

In January, Boss announced a Feasibility Study (FS) for the base case restart and expansion of its Honeymoon Project, based on:

- Stage 1 – Re-commission the existing SX facility and infrastructure including the various modifications required to improve performance, rectify problems identified during previous operations and make preparation for Stage 2 expansion.
- Stage 2 – Supplement existing SX facility using a parallel IX process along with the expanded yellowcake drying and packaging capacity and modified raffinate / ground water treatment plant all to produce 2Mlb/annum U_3O_8 equivalent.

Commentary

Boss Managing Director and CEO Duncan Craib said:

“Our Feasibility Study base case results confirm we will be Australia’s next uranium producer. The 100%-owned Honeymoon Uranium Project offers an unparalleled investment opportunity, an impressive IRR with low capital intensity and short time to re-start production with excellent leverage to the anticipated upswing in uranium fundamentals.

“Reflecting a conservative base case uranium price of \$50/lb U_3O_8 over LOM, the FS demonstrates Honeymoon’s advanced development can rapidly respond to a market rally, given the low capital barrier.

“Its average all-in-cost of US\$32.3/lb U_3O_8 over LOM positions Honeymoon as one of the lowest operating uranium production costs world-wide.

“Completion of the FS milestones offers investors a real and near-term uranium supply prospect and allows us to progress off-take contracts with utilities world-wide.

“The FS base case was designed for fast-tracked production by recommissioning the existing SX process within 12 months before expanding production to 2Mlbs U_3O_8 equivalent per annum. Our team has technically de-risked the Project and ensured there is no timeline drag from onerous tasks of securing permits and approvals needed to restart production.

“With A\$170m of historical expenditure on infrastructure and plant in place which previously produced and exported uranium, Honeymoon has one of the lowest restart capital intensities in the uranium sector, with a base case pre-tax NPV to capex ratio of 2.6x, and minimal construction risk.

“The FS base case utilises only a portion of Honeymoon’s JORC resource, excluding 36Mlb of JORC resource outside the Restart Area, which could expand the mine life, and Boss’ defined exploration target could potentially extend the mine life beyond the initial 12 years and increase the production profile. Honeymoon’s Federal EPIP Act approvals allow export of more than 3Mlbs/annum U_3O_8 equivalent.

“Recognised industry endorsement of Honeymoon is providing opportunities for Boss to progress off-take contracts with utilities world-wide, and commercial discussions continue.”

Table 1: Summary of Financial Outcomes (assuming a conservative US\$50/lb U₃O₈ price)

Measure ⁵	Unit	A\$M	US\$M ⁴
Uranium Produced (Stage 1+2 LOM total)	Mlbs		20.74
Gross Revenue (over LOM)	\$M	1,480	1,006
Free Cash flow (Pre-tax)	\$M	492	334
Free Cash flow (Post-tax)	\$M	365	248
EBITDA margin (avg over LOM)	%		50.11%
IRR (Pre-tax)	%		42.90%
IRR (Post-tax)	%		33.29%
NPV 8% (Pre-tax) ¹	\$M	240	163
NPV 8% (Post-tax) ¹	\$M	166	113
Stage 1 & 2 Capital Cost	\$M	92.9	63.2
AISC ²	\$/lb U ₃ O ₈	40.2	27.4
AIC ³	\$/lb U ₃ O ₈	47.5	32.3
Total Project Payback (post tax, after production commences)	Years		4.5

1. 8% discount rate applied
2. AISC = wellfield operating, processing, site G&A, freight, marketing, royalties and sustaining capital expenditure
3. AIC = AISC + development and deferred capital expenditure
4. A\$:US\$ exchange rate A\$1:US\$0.68
5. Refer ASX announcement dated 21 January 2020. The Company confirms that all the material assumptions underpinning the production targets, or the forecast financial information derived from the production target, continue to apply and have not materially changed

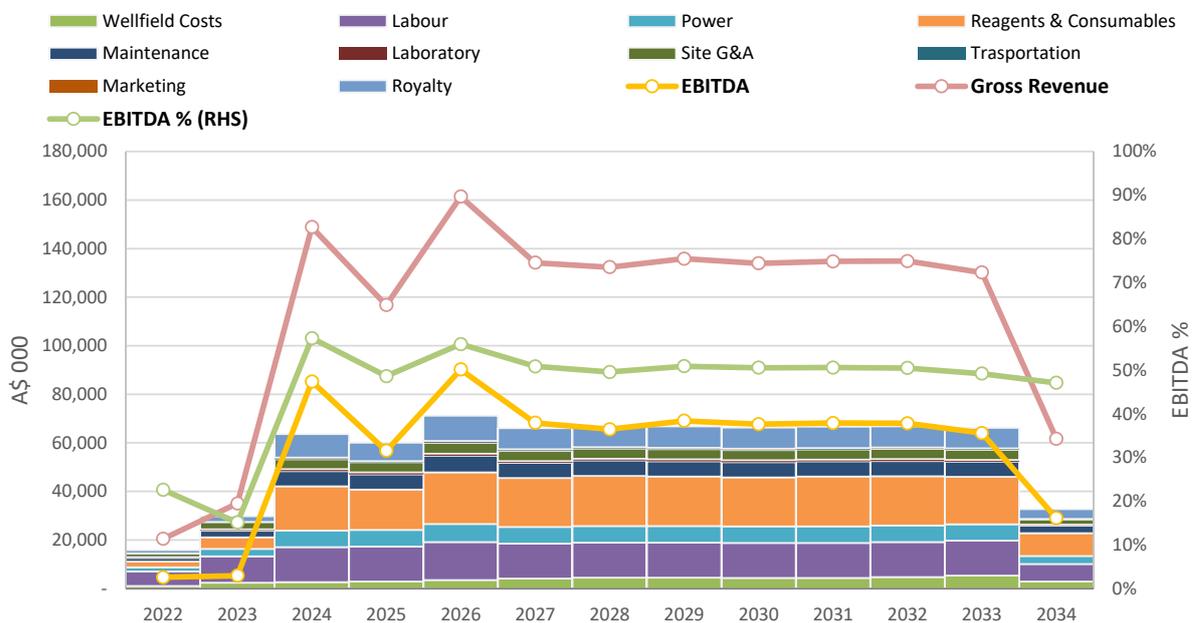


Figure 3: Project revenue and costs (A\$'000's) at a conservative US\$50/lb U₃O₈ price

About 35.7Mlb of the Project's global mineral resource of 71.6Mlb (using a 250ppm U₃O₈ cut-off) is outside the Restart Area. In addition, there are genuine resource growth opportunities from a defined Exploration

Target, comprising 28Mt to 133Mt of mineralisation at 340ppm to 1,080 ppm U_3O_8 for 58Mlbs to 190Mlbs of contained U_3O_8 (26,300 to 86,160 tonnes of contained U_3O_8), using a cut-off of 250ppm.

Note: The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain whether future exploration will result in the definition of a Mineral Resource.

Boss has used geophysical exploration techniques to identify new drill-ready targets. Subsequent drilling of these targets has the potential to significantly increase the global resource and expand Honeymoon's production profile and LOM.

More detail on the Feasibility Study is available in the ASX Announcement dated 21 January 2020.

Uranium Market Analysis

Honeymoon is one of a few advanced uranium projects ready to take advantage of market improvement.

The uranium market is subject to long cycles and appears to be on the cusp of recovery after a long period of low prices. The recent suspension of production from the Cigar Lake mine, and reduced expectations for production in Kazakhstan and Namibia have revitalised the uranium spot price, which has risen almost 40% since March 23rd. The macro outlook is positive and uranium prices are ticking upwards but utilities are waiting to see if publicised global production shutdowns will end after a month or two or will go on for an extended period. This is hard to predict, but the general view is that the shutdowns may well be extended if the Covid-19 situation does not improve which will further pressure the uranium price.

On the macroeconomic level, the World Nuclear Association (**WNA**) "Nuclear Fuel Report", launched in September 2019, revised projections for nuclear generating capacity growth upwards for the first time in eight years, following the introduction of more favourable policies in several countries. The Report's Upper and Reference Scenarios show global nuclear power capacities growing over the period to 2040 at a faster rate than at any time since 1990. For the first time since the early 2000's, there was also consensus in the industry from utilities as well as suppliers that supply from restarts and new mines is needed in the early 2020's to ensure long term security of supply and that current term price levels will not support that investment. Independent leading analysts predict that a long-term price in the mid US\$40's/lb will incentivise restarts whilst a spot price closer to US\$60/lb will be needed for most new mines.

Bearing WNA's macro-economic outlook in mind, the recent impact of Covid-19 on global production is drawing down inventory faster than initially predicted and bringing the anticipated recovery curve forward.

The US Nuclear Fuel Working Group, established by US President Trump in July 2019 to develop recommendations for reviving and expanding the domestic nuclear fuel supply chain, issued its report on the 23rd of April finally ending any uncertainty relating to the section 232 investigations. The findings of the working group report demonstrated strong industry support for nuclear power and outlined potential actions to revive the front-end of the nuclear fuel cycle, but did not propose any actions which would limit the US utilities' ability to purchase uranium in the global market. While unlikely to have an immediate impact on price this is a positive development for international uranium sales.

The marketing strategy for Honeymoon is to build a robust sales portfolio which would cover costs and protect the mine from any future market downturn while retaining sufficient uncommitted supply to take advantage of rising market conditions. Boss is monitoring the term price and staying very close to the market and in regular discussion with fuel buyers. Buyers usually purchase uranium either through 'off market' discussions with a small group of selected suppliers or 'Request for Proposals' (RFP) which are more formal. The Honeymoon Project is viewed as a credible near-term producer and Boss currently engages in off market discussions and is on the bidders lists of selected utilities looking for long term strategic relationships.

Boss' strategy, consistent with industry practice, is to predominantly enter into long-term base escalated contracts once term prices reach an acceptable level. Once this requirement is met further contracts will be layered in to optimise average sales price in an anticipated rising market.

For most term contracts, the negotiations are held two to three years before deliveries commence. The short lead time between the decision to mine and first production at Honeymoon gives Boss the ability to offer into current RFP's and respond quickly to changing market conditions. As the lead time to bring a new mine to production is significant (seven to 10 years from discovery to commissioning on average) prices would have to rise significantly in 2020 if new mines are to be brought on as needed. The longer the price remains low, the more probable a perceived shortfall becomes in the early 2020's and a potential overshoot in prices before they settle at a sustainable level.

Due to a lack of investment, high capex and policy issues the supply response from idled and new mines looks uncertain. This is an ideal environment for Honeymoon as a restart project, with very low upfront capital outlay to recommence production and become one of the lower cost uranium producers globally.

COVID-19

Boss acknowledges and is extremely grateful for the South Australian government's proactive response to the Covid-19 situation, as supported by the South Australian Chamber of Mines, Australian Federal Government, and Mineral Council of Australia. The constant and supportive flow of information and support of the workforce has enabled the Company to continue operations by adopting procedures and policies, following the MCA and SACOME guidelines, to ensure employees and contractors remain healthy and positive.

In particular, Boss welcomed the South Australian Government's swift action to defer costs linked to exploration and licence fees to alleviate the impact on industry of coronavirus containment measures, implementing an immediate deferral of mineral exploration licence fees until 31 December 2020.

In addition, there is a 12-month waiver of committed expenditure for all mineral exploration licence holders.

Due to the temporary cessation of fieldwork activities, Boss is capitalising on the opportunity to complete a desktop review process on the wealth of historical geological information inherited from the original vendor, Uranium One's, databases and subsequently added to since project acquisition in 2015. This exercise is extremely valuable, and well worth conducting, for the following reasons:

- The Company's exploration tenements have been actively explored for more than 50 years;

- Observations and recommendations made by historical explorers may not have been utilised by successive generations of explorers;
- Observations made during field reconnaissance include drill collars and sites of historical disturbance that currently have no corresponding information within the Company's database. Some of these drillholes comprise of inclined diamond core, or RC, drillholes that have likely targeted basement lithologies and possibly base-metal or IOCG mineralisation. It is anticipated that some of the historical reports and data will provide more information about these holes;
- Review and assessment of the historical data may also result in the potential discovery of new uranium and IOCG mineral prospects distal to existing mineral resources;
- This exercise presents a very low-cost opportunity to review and assess mineral prospectivity around the various tenements which will, in turn, save on the cost of future exploration by assisting more focused design of future field programs;
- Data extracted from this work will be used to continually improve existing 3-Dimensional models, e.g. lithological, stratigraphical and structural, that will also be used in the design of drill targets.

Corporate

Cash reserves

In response to the global COVID-19 pandemic, Boss has implemented extensive cost savings initiatives, re-tendering service providers and reducing cash expenditure not related to restarting Honeymoon.

The Company only utilises contractors and service providers when required and has extinguished all legacy debts to the vendor of the project, Uranium One.

Boss Resources is debt free and remains well funded to the end of financial year 2020/21. Boss' reported cash balance excludes an environmental bond of A\$8.8m held with the South Australian government, which the Company treats as restricted cash.

Expenditure going forward will only be incurred when value accretive with all non-essential expenditure deferred indefinitely or terminated.

Board Changes

In January, Boss appointed Peter O'Connor as Non-Executive Chairman. Mr O'Connor has extensive global experience in funds management and has worked with public and private companies in developed and emerging economies. He was co-founder, director and deputy chairman of IMS Selection Management Ltd, and deputy chairman of FundQuest UK Ltd.

Mr O'Connor has been a Non-Executive Director of ASX 100 company Northern Star Resources Ltd (ASX: NST) since 2012. He is also a Non-Executive Director of Blue Ocean Monitoring Limited.

On-market share acquisitions by Directors

During the quarter, the following directors intermittently acquired shares of Boss on market:

Duncan Craib	(Managing Director)	500,000 shares
Peter O'Connor	(Chairman)	2,000,000 shares
Bryn Jones	(Technical Director)	350,000 shares

This ASX announcement was approved and authorised by the Board of Boss Resources Limited.

For further information, contact:

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SCHEDULE OF MINING TENEMENTS

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 March 2020.

Tenement Name	Location	Licence Number	Interest
Yarramba	South Australia	EL5621	100%
South Eagle	South Australia	EL6081	100%
Gould's Dam	South Australia	EL5623	100%
Katchiwilleroo	South Australia	EL5622	100%
Ethiudna	South Australia	EL6020	100%
Gould's Dam	South Australia	RL83-85	100%
Honeymoon Mine	South Australia	ML6109	100%

There were no mining tenement acquisitions or divestments during the quarter.