

ASX Release January 25, 2024

December 2023 Quarterly Report

Boss set for strong growth with first production-tenor uranium and significant asset acquisition

Successful commissioning progress at Honeymoon and purchase of first overseas asset comes as uranium price breaks through US\$100/lb

Highlights

Honeymoon Uranium Project, South Australia

- Honeymoon continues to run on time and on budget with project execution proceeding to plan
- Committed expenditure under the Honeymoon re-development program totals A\$102M (or 96%) of the budgeted A\$105.4M CAPEX, excluding a A\$7.6M contingency
- Significant progress made on project commissioning; These achievements saw Boss pass another key milestone with production-grade uranium generated during the pre-flushing of the start-up wells
- The supporting infrastructure is operating to design specifications, including the raw water system, the 25,000-ton gypsum repository, reagent handling systems and first fills of key reagents
- Boss entered into its first binding sales agreement for the supply of uranium from Honeymoon; The agreement will see Boss sell 1Mlbs of uranium to a major publicly-listed US power utility over a seven-year period commencing in 2025 at market-related prices
- A new infill and scout drilling program started at the Jason's deposit, located ~13km north of the Honeymoon Mine
- Jason's deposit will form part of a study on increasing the forecast production rate at Honeymoon to more than 3Mlb/annum U₃O₈ equivalent (from 2.45Mlb nameplate capacity) or an extension of mine life
- The current life-of-mine plan at Honeymoon is based on just 50% of the existing JORC Resource

Alta Mesa Acquisition, US

- Boss entered into an agreement with enCore Energy Corp (TSX.V:EU; NYSE:EU) of the US under which Boss will acquire a 30% stake in enCore's Alta Mesa ISR Project in South Texas for US\$60m cash
- A\$205m raised through a share placement plus A\$15m raised through a share purchase plan; Proceeds will be used primarily to fund the Alta Mesa transaction and the Alta Mesa Project restart

Corporate

- As at 31 December 2023, Boss held unrestricted cash and cash equivalents of A\$227M; The Company also holds inventory of 1.25Mlb of U₃O₈, which has a current spot market value of A\$202M. Combined with unrestricted cash, Boss has liquid assets of A\$429M and no long-term debt obligations

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Boss Energy Limited (ASX: BOE; OTCQX: BQSSF) is pleased to report on what was a pivotal quarter for the Company as it generated the first production-grade uranium at Honeymoon, signed its first offtake agreement and completed its first international asset acquisition.

These major milestones were achieved against the backdrop of an increasingly strong uranium market which saw the commodity's price break through the US\$100/lb barrier.

Boss Managing Director Duncan Craib said: "It was an extremely pivotal quarter for Boss which saw us achieve several major milestones on the path to becoming a substantial global uranium company.

"The Honeymoon commissioning is well on track with the first drum of uranium scheduled for this quarter.

"We signed our first offtake agreement, which is structured so that we retain exposure to increases in the uranium price, and we are generating strong exploration success as part of our strategy to grow the inventory, mine life and production rate.

"During the quarter, we also laid the foundations for more growth with the purchase of a 30% stake in the Alta Mesa project in Texas. This project has many key similarities to Honeymoon and will enable us to diversify our production base on both a project and geographical basis while driving growth in our production and cashflow.

"This production and growth outlook is underpinned by a balance sheet with no debt, cash of \$227¹ million and a strategic uranium stockpile now worth \$202² million based on current spot prices".

"Our success was reflected in our recent inclusion in the S&P/ASX 200 Indices and Best 50 OTCQX companies based on total return and growth in average daily dollar volume in 2023.

"The combination of the significant commissioning progress and ramp-up at Honeymoon, the exploration success which will underpin growth there, the Alta Mesa acquisition and our very strong balance sheet and impending cashflow means we are ideally positioned to capitalise on the strong demand for uranium from tier-one locations".

Key Achievements in December Quarter

Committed expenditure under the Honeymoon re-development program totals A\$102M (or 96%) of the budgeted A\$105.4M CAPEX, excluding a A\$7.6M contingency, with incurred costs amounting to A\$88M.

All critical path items remain on track for delivery in line with the project schedule.

Boss wins competitive application to explore potential new uranium province

In October 2023, Boss announced that the Government of South Australia had awarded four highly prospective exploration tenements under a minerals rights sharing arrangement to Boss and copper developer Coda Minerals (ASX: COD).

¹ As at 31 December 2024 (excluding 100% cash backed environmental bond of approximately A\$9M)

² Strategic uranium stockpile valued at A\$202M based on a spot U₃O₈ price of US\$106/lb and an exchange rate of A\$1:US\$0.6575

The tenements were applied for recently as part of an Exploration Licence Application (ELA) process covering Cambrian-Ordovician Delamerian Orogen basement rocks and the overlying Cenozoic Murray Basin sediments in eastern South Australia. The tenements form the Kinloch Project, which is located only ~130km south of the Honeymoon Mine in eastern South Australia.

Importantly, the geological setting of this new project area is broadly analogous to the Lake Eyre Basin to the north, where Boss is actively exploring and exploiting palaeovalley-hosted uranium deposits including Honeymoon, Jason's, Gould's Dam, Billeroo and Sunrise.

The Kinloch Project area represents a highly promising new exploration frontier for Boss, which can utilise its expertise in this deposit style and leverage the infrastructure of the Honeymoon Uranium Mine.

Mr Craib sincerely thanked the Government of South Australia for entrusting this exceptional exploration acreage to Boss and Coda.

"Boss has a thorough understanding of the geology style and its uranium potential due to its striking similarities with the geology at Honeymoon and surrounding areas.

"Boss will apply its wealth of exploration knowledge and in-depth understanding of uranium to the Kinloch Project area with the aim of establishing a new uranium province".

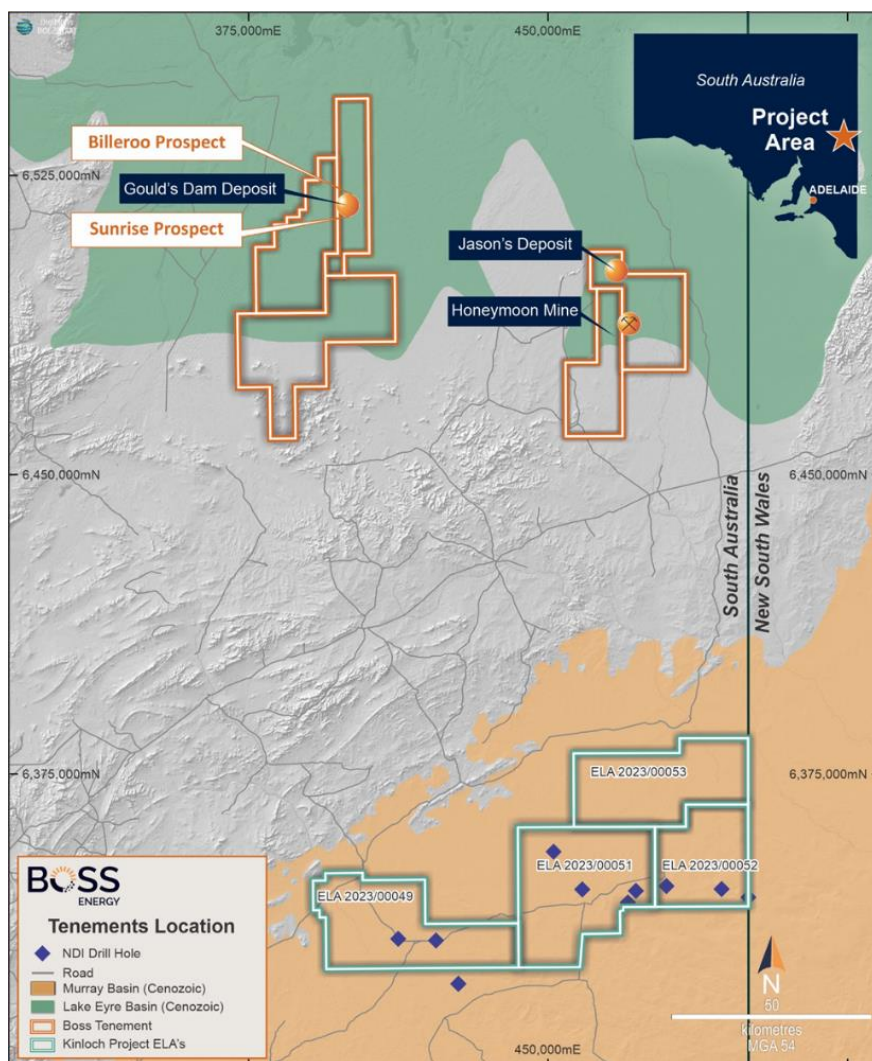


Figure 1: Location of the Kinloch Project areas granted ELAs

Significant milestone with commencement of mining operations at Honeymoon

In October 2023, Boss announced the commencement of mining activities at Honeymoon, with the first wellfield being pre-conditioned in the lead up to In-Situ Recovery (ISR) feeding the processing plant with extracted uranium during December quarter 2023.

Pre-conditioning effectively cleans the wellfields of unwanted chlorides and calcium prior to uranium recovery being extracted. To achieve this milestone Boss has successfully completed major construction activities including wellfield development, gypsum repository construction, water treatment and RO plant commissioning.

Completion of these milestones ensures Honeymoon remains on track to produce the first drum of uranium production in the March quarter 2024.

Mr Craib said: “It is a testament to the hard work and effort undertaken by all Boss employees over many years to reach today’s pivotal milestone, the commencement of mining activities at Honeymoon”.

Mining operations were previously suspended in November 2013 in response to falling uranium prices. Since acquiring the Honeymoon Project in December 2015, Boss embarked on a series of technical optimisation studies to improve Honeymoon’s position as a globally competitive mining operation in a Tier 1 location.

Drilling for base metals underway at Honeymoon

In October 2023, Boss announced that First Quantum Minerals (TSE:FM) (FQM) had commenced a maiden diamond drilling program targeting basement-hosted base metal mineralisation below the Yarramba Palaeovalley on Honeymoon’s tenements in South Australia.

The drilling program will cover three high-priority targets identified from extensive analysis and modelling of geophysical and geochemical datasets, alongside geological logging of historic drill holes at the state core library in Adelaide. The drilling will comprise at least five diamond core holes for a minimum of 1,800m drilling, with experienced drilling contractor DDH1 chosen to complete the program.

Boss Energy entered into an exploration earn-in agreement with FQM in February 2022. FQM is a significant Canadian-listed group operating eight mines across four continents producing copper, nickel, and gold with an additional three mines under development. With a proven track record in discovering and developing deposits, Boss considers FQM an ideal partner in the exploration and potential development of any base metal discoveries at Honeymoon.

Boss Managing Director Duncan Craib said: “This agreement is an outstanding opportunity for Boss and our shareholders.

“We have a global leader in FQM funding base metals exploration at Honeymoon, giving Boss significant exposure to their success at no cost to us while we focus on our goal of becoming Australia’s next uranium producer”.

Boss advances growth strategy with new drilling program at Jason’s satellite deposit

In November 2023, Boss announced the start of a new infill and scout drilling program at the Jason’s deposit, located ~13km north of the Honeymoon Mine.

Mr Craib said: “In parallel with the impending start of production at Honeymoon, we are driving our organic growth strategy.

“Satellite deposits such as Jason’s will help underpin our expansion study, which is aimed at increasing the inventory and production rate.

“This will also enable us to leverage the existing infrastructure at Honeymoon and capitalise on the growing demand for uranium from tier-one locations such as Australia”.

Jason’s is one of several deposits which will underpin a Honeymoon expansion study.

Pre-flushing of start-up wells yields production-tenor uranium

In November 2023, the Company announced it had passed another key milestone in the development of its Honeymoon project, with production-tenor uranium generated during the pre-flushing of the start-up wells. Tenor by definition, being the concentration of uranium contained in liquor recovered from the wellfield.

This is significant because it showed Boss on track to fill the Pregnant Leach Solution processing ponds by the end of 2023 in line with the overall development timetable, which was successfully achieved.

The supporting infrastructure is operating to design specifications, including the raw water system, the 25,000 ton gypsum repository, reagent handling systems and first fills of key reagents.

Boss Energy set to become a multi-mine uranium producer in 1H 2024

On 6 December 2023, the Company was pleased to announce that it had entered into a Master Transaction Agreement with enCore Energy Corp (TSX.V:EU; NYSE:EU) (enCore), and enCore's wholly owned subsidiary enCore Energy U.S. Corp., pursuant to which Boss Energy will acquire a 30% stake in enCore’s Alta Mesa ISR Project in South Texas for US\$60m cash.

enCore Energy is a highly credentialed US uranium developer and operator, having recently commissioned the Rosita ISR re-start project in the United States within 20 months from start. The enCore team previously ran the Alta Mesa Project before it was placed on care and maintenance post Fukushima.

The Transaction will create a 30%/70% incorporated joint venture, with enCore as the initial manager, and will establish a strategic relationship between Boss Energy and enCore. This strategic relationship will include:

- Boss Energy receiving an exclusive Australian licence for, and collaborating on the development of, enCore’s PFN exploration and production tool technology
- Boss Energy subscribing for US\$10m of equity in enCore at a price of US\$3.90 per share, and lending 200klb of physical uranium on commercial terms to deliver into enCore’s sales contracts
- Developing future opportunities to collaborate on joint acquisitions

With the Honeymoon and Alta Mesa Projects, Boss Energy expects to become a multi-mine uranium producer in 1H 2024.

Alongside the Transaction, Boss Energy raised A\$205 million via a single tranche share Placement to fund the Transaction, associated re-start and exploration activities, and working capital required to bring the Alta Mesa Project into production in 1H 2024. The proceeds of the Placement will also fund exploration at Boss Energy's Honeymoon uranium project in South Australia and a study on increasing production at the Honeymoon Project from 2.45Mlb a year to the Federal Government annual export permit of 3.3Mlb.

Boss Energy also offered a Share Purchase Plan to eligible shareholders with registered addresses in Australia and New Zealand to raise up to an additional A\$15M.

Alta Mesa Project Overview

The Alta Mesa Project is a high grade uranium ISR project in South Texas, a prolific US district for sandstone-hosted ISR production having produced ~80Mlb historically.³ South Texas is the most progressive permitting production jurisdiction in the United States and the typical AISC for similar ISR projects in the region are US\$30-35/lb.⁴

The Alta Mesa Project has 3.41 million pounds at 0.109% U_3O_8 measured and indicated and 16.97 million pounds at 0.120% U_3O_8 inferred N.I. 43-101 compliant resources,⁵ significant potential for further resource growth, and drying capacity to expand the 1.5Mlb capacity plant after recommencement of production which is expected to occur in 1H 2024.

The Alta Mesa and Mesteña Grande resource areas include uranium mineral-bearing sandstones within approximately 52 linear miles of stacked geochemical REDOX and mineralised fronts, with only 5 miles of mineralised trends closely drilled out to date. The project area comprises a total of 200,099 acres with currently approved mining permits issued by the Texas Commission on Environmental Quality.



Figure 2: Alta Mesa processing facility

³ enCore presentation November 2023 <https://encoreuranium.com/wp-content/uploads/2023/11/EU-Corporate-Deck-FINAL-Nov-17-23.pdf>

⁴ Technical Report Summary for the Alta Mesa Uranium Project, Brooks and Jim Hogg Counties, Texas, USA National Instrument 43-101, Technical Report 2023, BRS Engineering, using mid-point of typical production cost of approximately US\$30-35/lb for similar ISR uranium projects. This is not a forecast of what the costs for the Alta Mesa Project will be, and actual costs may be higher or lower than this industry average.

⁵ Refer to the cautionary statement in the enCore presentation as per Footnote 3.

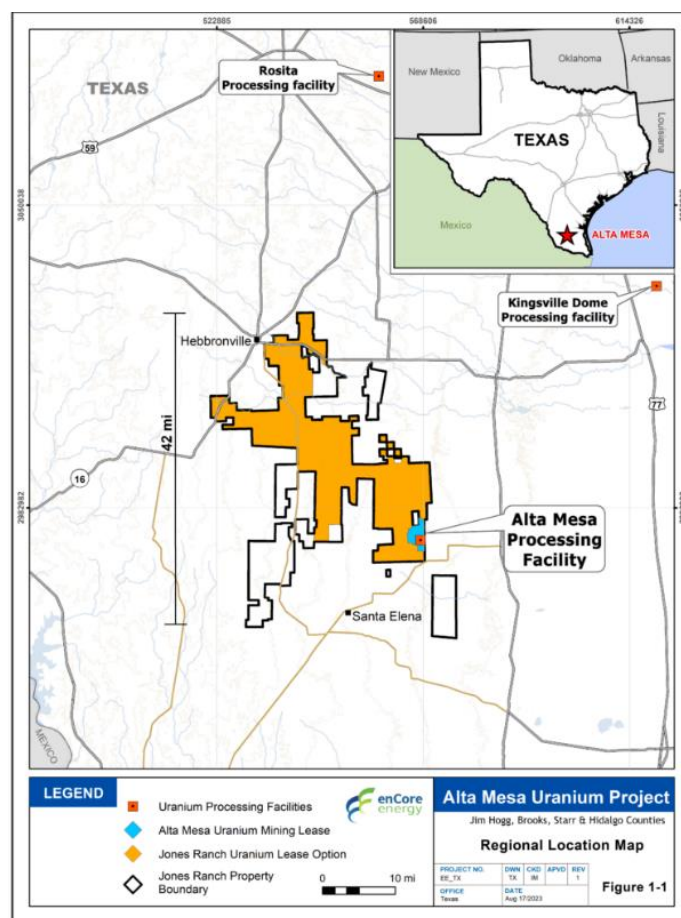


Figure 3: Alta Mesa project location

The Alta Mesa Project has produced the third largest amount of uranium out of all ISR assets in the United States. The first six production areas produced approximately 4.6Mlb of uranium oxide between 2005 and 2013 via in-situ recovery using an alkaline lixiviant processed at the Alta Mesa Central Processing Plant.

Successful Completion of A\$205m Placement

On 8 December 2023, the Company announced that it had successfully completed its bookbuild to raise A\$205 million through a single tranche placement of new fully paid ordinary shares.

Proceeds raised from the Offer will be used to fund the Alta Mesa transaction, the Alta Mesa Project restart, exploration activities and working capital, enCore equity investment and spend on Prompt Fission Neutron technology as well as production and resource growth initiatives for the Honeymoon Project.

Boss Energy's Managing Director, Duncan Craib said:

"It is a very exciting time for Boss Energy as it moves to become a multi-mine In-Situ Recovery (ISR) uranium producer by 1H 2024. We are extremely pleased with the outcome of the capital raising and we are grateful for the support of our existing and new shareholders. The proceeds will be used to drive Boss Energy's multi-pronged growth strategy, with significant exploration spend and work towards expanding production capacity at Honeymoon."

We would like to once again thank our existing and new shareholders for their support."

Boss secures first binding sales contract, signing market-linked deal with US power utility

In December, the Company announced that it had entered into its first binding sales agreement for the supply of uranium from its Honeymoon Project in South Australia.

The agreement will see Boss sell 1Mlbs of uranium to a major publicly-listed US power utility over a seven-year period commencing in 2025 and continuing until the end of 2031.

The agreement is based on market-related pricing and contains a ceiling price and a floor price which is above Boss' forecast production costs at Honeymoon. Other terms and conditions of the agreement are in line with industry standards.

Boss Managing Director Duncan Craib said: "Signing our first sales contract is a major milestone for Boss and another key de-risking event for the Honeymoon Project.

"With production about to start and the project running on time and on budget, we are extremely well-placed to capitalise on the rising uranium price.

"Now we also have a binding sales contract in place which gives us financial security while allowing us to retain exposure to further increases in the uranium price.

"In the process, we have established a long-term relationship with this large strategic customer".

Uranium Market Analysis

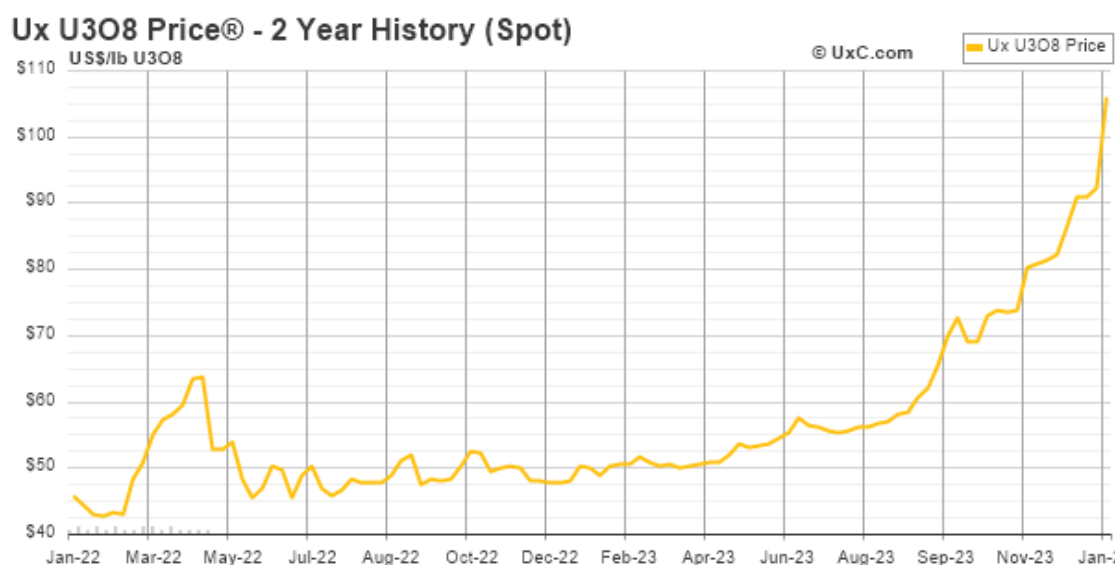


Figure 4: Ux U₃O₈ Price – 2 Year History (Weekly)

The uranium spot price indicator rose steeply during the Quarter, rising above \$90/lb U₃O₈ by year end.

Spot market purchasing in the fourth quarter was predominantly intermediaries and funds/financials but included some utility buying. Spot market quantities traded in 2023 were lower than in 2022.

The term price indicator rose from \$61/lb to \$68/lb U₃O₈ in the same period.

The quantity of uranium traded in the term market for 2023 was close to 160m lbs U₃O₈, up 33% on the term quantity in 2022.

Uranium market fundamentals continue to improve with demand in the near- and long-term, firming and increasing as life extension in Belgium are agreed and plans for extensions in the UK are announced. Supply continues to have more downside risk in the near term though plans for the mid to longer terms are being firmed up.

Political uncertainty continues in the market with the US senate considering a ban on Russian nuclear fuel imports and little sign of an end to the Russian invasion of the Ukraine.

Political developments and the increased interest by funds in participating in the physical market are likely to put upward pressure on the uranium spot price. Regardless of spot price movements, the spotlight must be on the term price indicator which still has to rise to provide sustainable incentive pricing for new mines.

Security of supply is still a prime consideration for buyers and Australia is a preferred source of supply. Together with the Alta Mesa joint venture Boss has increased its near-term sales capacity in a market which continues to strengthen.

Strong Balance Sheet

As at 31 December 2023, the Company held unrestricted cash and cash equivalents of A\$227M, which excludes a fully cash-backed environmental bond of A\$8.9M. Cash balances are being managed with a term deposit program to take advantage of the higher interest rate environment.

The Company also holds inventory of 1.25Mlb of U₃O₈, which has a current spot market value of A\$202M. Combined with unrestricted cash, Boss has liquid assets of A\$429M, no long-term debt obligations, leaving it well-positioned to transform Honeymoon into production.

S&P/ ASX 200 and OTCQX Best 50

On 1 December 2023, S&P Dow Jones Indices announced changes in the S&P/ASX 200 Indices, effective prior to the open of trading on Monday, 18 December 2023.

As a result of the December quarterly review, Boss Energy ASX:BOE was an addition to the ASX 200.

Subsequently, on 18 January 2024, Boss Energy was named in the 2024 OTCQX® Best 50, a ranking of top US and internationally performing companies traded on the OTCQX Best Market during 2023.

Annual General Meeting

The Company advised, in accordance with ASX Listing Rule 3.13.2 and Section 251AA of the Corporations Act, details of the resolutions and proxies received for the Annual General Meeting held on 20 November 2023.

All resolutions apart from Resolution 5: 'Adoption of New Constitution' were passed on a poll.

In relation to Resolution 5, the Company noted that some proxy advisors recommended to their clients to vote against this resolution, and as a result, this resolution was not passed.

The Company's existing constitution was adopted by shareholders more than 10 years ago. There have been many changes to the ASX Listing Rules and the Corporations Act in this period. In light of this, the Board resolved it would be in the best interests of the Company and the Shareholders to repeal the existing Constitution and replace it with a new constitution that reflects these changes.

One of these changes would have allowed the Company to hold wholly virtual general shareholder meetings. It is understood by the Company that purely for this reason, the proxy advisors recommended against this resolution.

As communicated to the proxy advisors, it was never the Company's intention to stop holding physical meetings, personal interaction with all shareholders is of the highest priority to Boss. The only reason the Company would not hold a public meeting was if the government precluded us from doing so e.g. in a pandemic event.

The Company will in future again seek to make these administrative changes and update its constitution.

Appendix 5B disclosures

In line with its obligations under ASX Listing Rule 5.3.5, Boss notes that the only payments to related parties of the Company, as disclosed in the Appendix 5B (Quarterly Cashflow Report) for the period ended 31 December 2023, consist of executive director, company secretary and chief financial officer salaries and wages (including superannuation) and payment of non-executive director fees.

During the quarter ended 31 December 2023, the Company spent approximately \$26M on project and exploration activities relating to its Honeymoon Project. These activities included:

- Technical studies costs
- Construction equipment
- Wellfield drilling and development costs
- Engineering and construction expenses

In addition to these activities the Company continued to incur costs relating to the ongoing maintenance activities required at Honeymoon. The expenditure represents direct costs associated with these activities as well as capitalised wages which can be directly attributable to Honeymoon.

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

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Reference to previous ASX announcements

In relation to the results of the Enhanced Feasibility Study announced on 21 June 2021, the Company confirms that all material assumptions underpinning the production target and forecast financial information included in that announcement continue to apply and have not materially changed.

The mineral resource estimates in this announcement were reported by the Company in accordance with listing rule 5.8 on 25 February 2019. The Company confirms it is not aware of any new information or data that materially affects the information included in the previous announcement and that all material assumptions and technical parameters underpinning the estimates in the previous announcement continue to apply and have not materially changed.

Forward-Looking Statements

This announcement includes forward-looking statements. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Boss, which could cause actual results to differ materially from such statements. Boss makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of this announcement.

Appendix One:

Schedule of Mining Tenements

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 December 2023.

Tenement Name	Location	Licence Number	Interest
Yarramba	South Australia	EL6510	100%
South Eagle	South Australia	EL6081	100%
Gould's Dam	South Australia	EL6512	100%
Katchiwilleroo	South Australia	EL6511	100%
Ethiudna	South Australia	EL6020	100%
Gould's Dam	South Australia	RL83-85	100%
Honeymoon Mine	South Australia	ML6109	100%
Prairie Dam	South Australia	EL6962	75%
Chalker Dam	South Australia	EL6963	75%
Oakvale	South Australia	EL6964	75%
Gairloch	South Australia	EL6965	75%

There were no mining tenement acquisitions or divestments during the quarter. The new tenements in the Kinloch Project area were awarded late last quarter.

EL6512, 6511, 6020, 6510 and 6081 are subject to an earn-in agreement with First Quantum Minerals in respect to the base and precious metal rights. Refer ASX release dated 10 February 2022 for further information.

Honeymoon's Mineral Resource (lower cut-off of 250 ppm U₃O₈)

Classification	Tonnage (Million Tonnes)	Average Grade (ppm U ₃ O ₈)	Contained Metal (Mkg, U ₃ O ₈)	Contained Metal (Mlb, U ₃ O ₈)
Measured	3.1	1,100	3.4	7.6
Indicated	18.4	630	12.0	25.5
Inferred	30.9	570	18.0	38.5
Total	52.4	620	32.5	71.6