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Boss Energy Ltd (BOE)

Honeymoon Site Tour + Global Uranium Conference highlights

Recommendation
Buy (unchanged)
Price
\$2.56
Valuation
\$3.51 (unchanged)
Risk
Speculative

Honeymoon site tour, BOE remains our top pick

We participated in the Honeymoon site tour recently and were pleased to see the camp and existing equipment in good condition but note that large portions of the existing infrastructure are yet to be replaced/ installed. BOE remains on-track for production in the Dec-23 quarter, with 34 of 86 wells completed. The tour reinforced our views around an upside production case for BOE from the currently stated 2.45Mlbs pa, whilst the working condition of site infrastructure lowers the risk profile for the business on a relative basis. The potential for near term inflationary pressure (particularly labour rates) remains, as equipment arrives on-site over the coming months, however the business remains fully capitalised to weather the storm.

GICS Sector

Materials

Expected Return

Capital growth	37%
Dividend yield	0%
Total expected return	37%

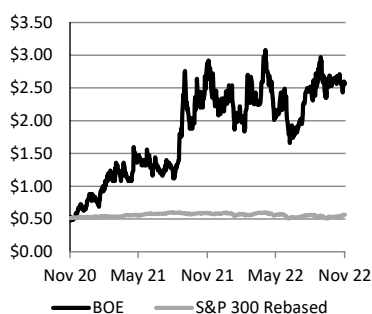
Company Data & Ratios

Enterprise value	\$771m
Market cap	\$903m
Issued capital	353m
Free float	83%
Avg. daily val. (52wk)	\$5.4m
12 month price range	\$1.61-\$3.10

Price Performance

	(1m)	(3m)	(12m)
Price (A\$)	2.59	2.49	2.48
Absolute (%)	-1.2	2.8	3.2
Rel market (%)	-8.4	2.4	7.3

Absolute Price



SOURCE: IRESS

Global Uranium Conference – Highlights

Key take-aways – 1) the incentive price for additional U3O8 supply ≠ US\$60/lb, it's more like US\$80/lb; 2) producers (and aspiring producers) appear disciplined in contract negotiations, but some will inevitably sell into lower prices and potentially fail to deliver, heightening risk of price spikes; 3) Governments are broadly in support of nuclear power, but more is required to provide a stable regulatory framework and to unwind the rhetoric of the last two decades about risks to the public; and 4) Decarbonisation will be considerably more costly and difficult (if not impossible) without nuclear power.

Investment Thesis - Speculative Buy, Valuation \$3.51/sh

We maintain our Speculative Buy recommendation and our valuation of \$3.51/sh. We make no changes to forward earnings in this note. Uranium markets are recovering from a cyclical low with limited near-term supply capacity and further demand upside driven by decarbonisation efforts. BOE represents an opportunity to gain exposure to a fully permitted project, currently on care and maintenance, in a tier 1 jurisdiction, with a comparatively short lead time to first production. In addition to this, we believe there is resource expansion upside in the current portfolio, with drilling currently underway.

Earnings Forecast

Year end 30 June	2022a	2023e	2024e	2025e
Sales (A\$m)	-	-	61.3	145.3
EBITDA (A\$m)	(4.3)	(10.7)	37.4	98.6
NPAT (reported) (A\$m)	31.2	(8.7)	32.1	65.9
NPAT (adjusted) (A\$m)	(6.1)	(8.7)	32.1	65.9
EPS (adjusted) (eps)	(2.0)	(2.2)	8.3	17.0
EPS growth (%)	nm	nm	nm	nm
PER (x)	0.0 x	0.0 x	30.9 x	15.1 x
FCF Yield (%)	0%	-9%	-1%	5%
EV/EBITDA (x)	-124.2 x	119.7 x	13.5 x	7.0 x
Dividend (eps)	0%	0%	0%	0%
Yield (%)	0%	0%	0%	0%
Franking (%)	0%	0%	0%	0%
ROE (%)	-4%	-4%	13%	21%

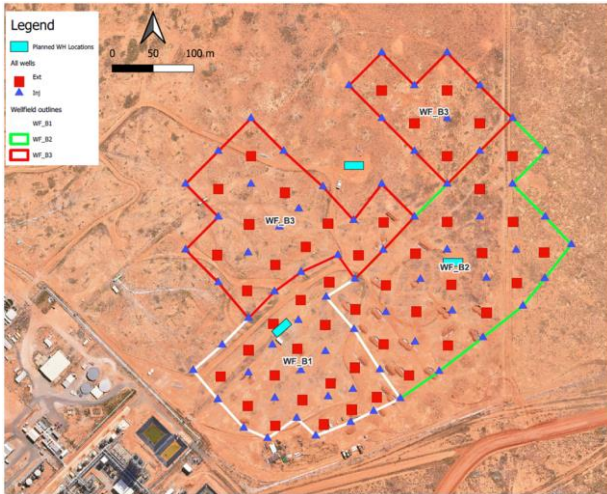
SOURCE: BELL POTTER SECURITIES ESTIMATES

BOE site tour

Key highlights:

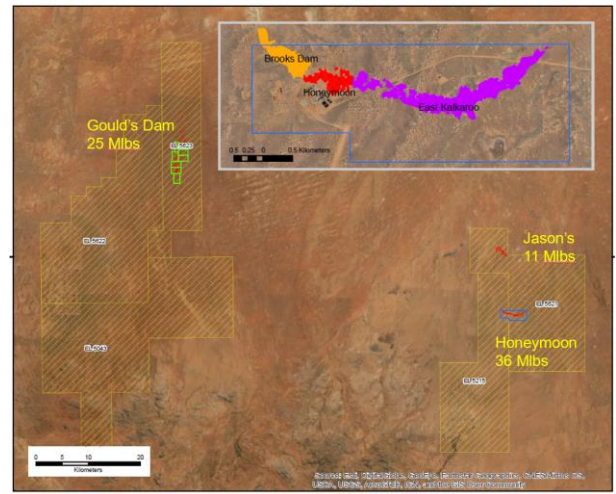
- GM of Wellfield and Resources, Ben Jeuken, (previously Senior Hydrogeologist at Heathgate Uranium mine) highlighted the learnings from Honeymoos previous owner, Uranium One, particularly around the switch to Ion exchange (IX) from Solvent extraction (SX) which was initially implemented due to the high chloride content in the ground water.
- The previous methodology required a high PH lixiviant and required 90-160 pore volumes i.e. production required greater reagents, took longer and recoveries were lower. The switch to IX was enabled due to developments in resin technology.
- Wellfield design under Uranium One didn't allow for a thorough understanding of the orebody, and the inexperience of the drill team at the time meant the well was drilled and cased immediately resulting in sub-optimal positioning.
- Start-up wellfields (B1-B3) (Figure 1) target the Honeymoon resource directly adjacent to the processing facility and represent 3.6Mlbs of the Resource under leach. The production profile will then see the wellfields heading to East Kalkaroo and Brooks Dam (Figure 2).
- Each wellfield is designed to run roughly 21 months, or until the head grade drops to ~23ppm (the economic cut-off grade). The economic cut-off grade was determined by a US\$50/lb uranium price. Wellfields take ~2-3 months to ramp up to peak production and then begin declining steadily over time.
- The production profile provided in the EFS was based off a resin loading of 53mg/l (which is what Uranium One previously achieved). However, as highlighted in the Field Leach Trial (see announcement 1/11/2017) there is potential for loadings up to 80mg/l which could see greater head grades, wellfield efficiency and production.
- Project manager, John Owen, has his work cut out for him, however we note his highly credentialled resume which included 10 years at First Quantum (FM TSX, not covered) where he was project manager for the Sentinel Cu/Ni project should more than suffice.
- Mr Owen's workload will increase as equipment is mobilised to site (as will costs). The water treatment plant is due to arrive in the next 2-3 weeks and the IX columns in the Mar-23 quarter.
- Wyatt Buck, Non-Executive Director, participated in the site visit. Mr Buck's background includes GM of Cameco's (CCO TSX, not covered) McArthur River mine, and GM + MD of the Langer Henrich Mine owned by Paladin Energy (PDN, Buy speculative, valuation \$1.05/sh). Mr Bucks' closing remark was that he was surprised to see the site in such good condition

Figure 1 – Start up wellfield pattern



SOURCE: BELL POTTER SECURITIES

Figure 2 – Mineralisation overview



SOURCE: BELL POTTER SECURITIES

Figure 3 – Existing SX columns to be replaced with IX



SOURCE: BELL POTTER SECURITIES

Figure 4 – Wellfield drill out (looking North-East from site)



SOURCE: BELL POTTER SECURITIES

Figure 5 – Leach ponds



SOURCE: BELL POTTER SECURITIES

Figure 6 – Uranium packing facility



SOURCE: BELL POTTER SECURITIES

Global Uranium Conference - Highlights

Key highlights:

- Incentive prices of \$60/lb appear to be a thing of the past for new developments. Mark Chalmers from Energy Fuels gave a presentation on the history of uranium prices, a slide on the real price of uranium showed that a supply response didn't actually begin until prices moved above US\$80/lb. Other speakers were comfortably pointing to \$100/lb uranium price over the medium term.
- Treva Klingbeil from TradeTech presented on the rising cost of production for all energy sources, uranium included, which supports the fact that prices need to shift in order to bring on the next generation of supply.
- Access to competent people is becoming increasingly difficult and is only going to get harder as the cycle continues unless the industry addresses the large gaps in understanding especially amongst the younger generation.
- The overall feeling in the room was the majority of uranium producers and developers are comfortable waiting for utilities to realise the supply response won't enter the market until prices move higher. CCO's VP and COO Brian Reilly emphasised this point, that whilst Cameco have done the lions share of contracting in the market this year, they remain wedded to maintaining supply discipline.
- Part of the final panel on day 1 discussed misconceptions in radiation exposure, SMR and generation 4 type reactors, machine learning in predicting ISR recovery rates and finally the huge task the world has ahead in terms of mining the metals and minerals to fuel a renewable world and why nuclear needs to be included. The last presentation was quite interesting, as John Vagenas attempted to quantify the metals demand from renewable energy and decarbonisation. The result was clear to those in attendance, the world will struggle to decarbonise over the coming decades without an expansion in Nuclear energy.
- The second day began with a focus on nuclear reactor technology in Australia and particularly what needs to occur should Australia choose to adopt nuclear energy.
- Senator Matt Canavan gave the opening address and spoke about the bill he has put forward to remove the ban on nuclear energy in Australia. He raised the point that his colleagues are more concerned about the cost of Nuclear rather than the associated risks. The Ban was first introduced on an environmental standpoint, and since that is no longer the argument against nuclear it should be removed.
- The most striking presentation in our opinion came from Ben Heard from Frazer Nash consultancy, in his presentation on SMR challenges and opportunities. The presentation looked at the value stack of energy generation and challenged the traditional view that nuclear is "expensive" compared to renewables. In this he viewed nuclear as integral to a discussion on decarbonization but noted that Australia may choose not to go down that path with the alternative being failure

Investment thesis: Speculative Buy, Valuation \$3.51/sh

Our recommendation and investment thesis is based on: **1)** An asset with a clear, low risk pathway to production in a tier-1 jurisdiction, **2)** an experienced management team with a history of developing similar style deposits, **3)** the opportunity for exploration upside currently not factored into the share price, and **4)** supportive structural and cyclical tailwinds in underlying uranium markets.

Valuation

We have maintained our sum-of-the-parts (SOTP) valuation of **\$3.51/sh and maintain our Speculative Buy recommendation for BOE**. Our valuation is based upon the risk adjusted NPV of our forecast free cash flow from the Honeymoon Restart Area an assessed value for the additional resources outside of the HRA, and a notional estimate for other exploration within the current tenements. We estimated the present value of future corporate cash flows and deducted that from our group valuation. BOE has a 1.25Mlb physical uranium holding, which was purchased at an average price of US\$30.15/lb and is stored at the ConverDyn facility in Illinois. This is recognised through the P&L at market value.

Table 1 - BOE Sum-of-the-parts valuation

Ordinary Shares (basic)	m	353
Options outstanding	m	14
Diluted	m	364
Sum-of-the-parts	A\$m	A\$/sh
Honeymoon (NPV 10% , 90% risked)	482	1.37
Additional HRA resource	324	0.92
Other exploration	279	0.79
Corporate overheads	(37)	(0.10)
Subtotal	1,049	2.97
Equity Investments/ Uranium	90	0.26
Net cash (debt)	132	0.37
Total undiluted	1,271	3.60
Cash from options	7	0.02
Total diluted	1,278	3.51

SOURCE: BELL POTTER SECURITIES

Boss Energy company overview

BOE is an ASX-listed uranium miner and exploration company. Its primary asset is the Honeymoon project, consists of five exploration licences and one granted mining lease (ML6109) covering 2,595km², located on the border of South Australia and New South Wales. The project has been on care and maintenance since it was acquired by BOE in 2015. The mine is an in-situ recovery (ISR) deposit, consisting of a 71.6Mlb U₃O₈ (uranium oxide) JORC resource at an average grade of 620ppm U₃O₈. In June 2021, the company released an enhanced feasibility study (EFS) ahead of the potential re-start of operations. The EFS demonstrated a varied approach compared with the original feasibility study done in 2020. The variation resulted in a 35% increase in the base case pre-tax NPV offsetting a 14% increase in upfront capital costs. Included in the EFS, the company provided an update on the path to production, with an initial re-start timeframe of 12-18 months, and an A\$106m capital cost.

Investment risks

Risks include, but are not limited to:

- **Commodity price and exchange rate fluctuations.** The future earnings and valuations of exploration, development and operating resources companies are subject to fluctuations in underlying commodity prices and foreign currency exchange rates.
- **Infrastructure access.** Bulk commodity producers are particularly reliant upon access to transport infrastructure. Access to infrastructure is often subject to contractual agreements, permits, and capacity allocations. Agreements are typically long-term in nature (+10 years). Infrastructure can be subject to outages as a result of weather events or the actions of third party providers.
- **Operating and capital cost fluctuations.** Markets for exploration, development and mining inputs can fluctuate widely and cause significant differences between planned and actual operating and capital costs. Key operating costs are linked to energy and labour markets.
- **Resource growth and mine life extensions.** Future earnings forecasts and valuations may rely upon resource and reserve growth to extend mine lives.
- **Sovereign risks.** Mining companies' assets can be located in countries other than Australia and are subject to the sovereign risks of that country.
- **Regulatory changes risks.** Changes to the regulation of infrastructure and taxation (among other things) can impact the earnings and valuation of mining companies.
- **Environmental risks.** Resources companies are exposed to risks associated with environmental degradation as a result of their exploration and mining processes. Fossil fuel producers (coal) may be particularly exposed to the environmental risks of end markets including the electricity generation and steel production industries.
- **Operating and development risks.** Mining companies' assets are subject to risks associated with their operation and development. Risks for each company can be heightened depending on method of operation (e.g. underground versus open pit mining) or whether it is a single operation company. Development assets can be subject to approvals timelines or weather events, causing delays to commissioning and commercial production.
- **Occupational health and safety risks.** Mining companies are particularly exposed to OH&S risks given the physical nature and human resource intensity of operating assets.
- **Funding and capital management risks.** Funding and capital management risks can include access to debt and equity finance, maintaining covenants on debt finance, managing dividend payments, and managing debt repayments.
- **Merger/acquisition risks.** Risks associated with value transferred during merger and acquisition activity.
- **COVID-19 risks:** Mining companies' rely on freedom of movement of workforces, functioning transport routes, reliable logistics services including road, rail, aviation and ports in order to maintain operations and get their products to market. They also rely on liquid, functioning markets to sell their products. Measures being put in place to combat the COVID-19 pandemic are posing risks to these conditions.

Table 2 - Financial summary

ASSUMPTIONS						FINANCIAL RATIOS							
Year Ending June	Unit	FY21A	FY22A	FY23E	FY24E	FY25E	Year Ending June	Unit	FY21A	FY22A	FY23E	FY24E	FY25E
COMMODITY PRICE						VALUATION							
Uranium Spot Price	US\$/lb	31	48	46	54	60	NPAT	A\$m	0.9	31.2	(8.7)	32.1	65.9
Uranium Term Price	US\$/lb	34	44	48	64	72	Reported EPS	Ac/sh	0.0	8.1	(2.2)	8.3	17.0
Uranium Spot Price	A\$/lb	43	70	66	75	83	Adjusted EPS	Ac/sh	(0.2)	(2.0)	(2.2)	8.3	17.0
Uranium Term Price	A\$/lb	48	64	69	89	100	EPS growth	%	nm	nm	nm	nm	nm
AUD/USD	A\$/US\$	0.72	0.69	0.70	0.72	0.72	PER	x	0.0 x	0.0 x	0.0 x	30.9 x	15.1 x
PRODUCTION & COST						LIQUIDITY & LEVERAGE							
Production U3O8	Mlbs	0.0	0.0	0.0	0.6	1.4	DPS	Ac/sh	-	-	-	-	-
Sales U3O8	Mlbs	0.0	0.0	0.0	0.6	1.4	Frinking	%	0%	0%	0%	0%	0%
PROFIT AND LOSS						ORE RESERVES AND MINERAL RESOURCES							
Year Ending June	Unit	FY21A	FY22A	FY23E	FY24E	FY25E	Honeymoon Uranium Project (100%)						
Revenue	A\$m	0.0	0.0	0.0	61.3	145.3				Mt	% ppm	Mlb	
Expense	A\$m	(3.1)	(4.3)	(10.7)	(23.9)	(46.7)							
EBITDA	A\$m	(3.1)	(4.3)	(10.7)	37.4	98.6							
Depreciation	A\$m	(0.1)	(0.0)	(0.1)	(6.0)	(13.5)							
EBIT	A\$m	(3.2)	(4.3)	(10.8)	31.4	85.2							
Net interest expense	A\$m	0.0	0.0	0.0	0.0	0.0							
Unrealised gains (Impairments)	A\$m	4.5	37.3	0.0	0.0	0.0							
Other	A\$m	(0.5)	(1.8)	2.1	0.7	1.2							
PBT	A\$m	0.9	31.2	(8.7)	32.1	86.4							
Tax expense	A\$m	0.0	0.0	0.0	0.0	20.5							
NPAT (reported)	A\$m	0.9	31.2	(8.7)	32.1	65.9							
NPAT (underlying)	A\$m	(3.7)	(6.1)	(8.7)	32.1	65.9							
CASH FLOW						VALUATION							
Year Ending June	Unit	FY21A	FY22A	FY23E	FY24E	FY25E	Ordinary shares (m)						
OPERATING CASHFLOW						Options in the money (m)							
Receipts	A\$m	0.0	0.0	0.6	56.2	138.4							
Payments	A\$m	(2.7)	(3.4)	(10.1)	(23.3)	(47.1)							
Tax	A\$m	0.0	0.0	0.0	0.0	(6.0)							
Net interest	A\$m	0.1	0.1	2.1	0.7	1.2							
Other	A\$m	(0.7)	(1.0)	(2.4)	(2.0)	(1.6)							
Operating cash flow	A\$m	(3.2)	(4.3)	(9.7)	31.6	84.9							
INVESTING CASHFLOW						Diluted m							
Property, plant and equipment	A\$m	(0.0)	(0.0)	(81.2)	(30.7)	(3.2)							
Mine development	A\$m	(1.6)	(3.0)	0.0	0.0	0.0							
Other	A\$m	(49.7)	0.3	0.0	0.0	0.0							
Investing cash flow	A\$m	(51.3)	(2.8)	(81.2)	(30.7)	(3.2)							
Free Cash Flow	A\$m	(54.6)	(7.1)	(91.0)	0.9	81.7							
FINANCING CASHFLOW						Sum-of-the-parts valuation							
Share issues/(buy-backs)	A\$m	72.0	118.9	0.0	0.0	0.0	\$m	\$/sh	\$m	\$/sh	\$m	\$/sh	
Debt proceeds	A\$m	0.0	0.0	0.0	0.0	0.0	Honeymoon (NPV 10%, 90% risked)	482	1.37	515	1.46	565	1.60
Debt repayments	A\$m	(0.4)	0.0	0.0	0.0	0.0	Additional HRA resource	324	0.92	324	0.92	324	0.92
Dividends	A\$m	0.0	0.0	0.0	0.0	0.0	Other exploration	279	0.79	279	0.79	279	0.79
Other	A\$m	0.0	(0.0)	0.0	0.0	0.0	Corporate overheads	-	37	(0.10)	-	37	(0.10)
Financing cash flow	A\$m	71.6	118.9	0.0	0.0	0.0	Subtotal	1,049	2.97	1,081	3.07	1,132	3.21
Change in cash	A\$m	17.0	111.8	(91.0)	0.9	81.7	Equity Investments/ Uranium	90	0.26	90	0.26	90	0.26
BALANCE SHEET						CAPITAL STRUCTURE							
Year Ending June	Unit	FY21A	FY22A	FY23E	FY24E	FY25E	Net cash (debt)						
ASSETS						Total (undiluted)							
Cash & short term investments	A\$m	20.9	132.6	41.7	42.6	124.3							
Accounts receivable	A\$m	0.0	0.6	0.0	5.0	11.9							
Property, plant & equipment	A\$m	0.1	0.1	81.2	105.9	95.6							
Mine development expenditure	A\$m	0.0	14.9	14.9	14.9	14.9							
Exploration & evaluation	A\$m	10.6	0.0	0.0	0.0	0.0							
Other	A\$m	63.4	99.8	99.8	101.3	103.2							
Total assets	A\$m	94.9	248.0	237.5	269.7	349.9							
LIABILITIES						Total (diluted)							
Accounts payable	A\$m	0.4	2.2	0.3	0.4	0.3							
Income tax payable	A\$m	0.0	0.0	0.0	0.0	14.5							
Borrowings	A\$m	0.0	0.0	0.0	0.0	0.0							
Other	A\$m	9.1	9.5	9.5	9.5	9.5							
Total liabilities	A\$m	9.4	11.6	9.8	9.8	24.2							
Net Assets	A\$m	85.5	236.4	227.7	259.9	325.7							
SHAREHOLDER'S EQUITY						MAJOR SHAREHOLDERS							
Share capital	A\$m	151.6	270.5	270.5	270.5	270.5	Shareholder						
Reserves	A\$m	10.8	11.8	11.8	11.8	11.8	%						
Retained earnings	A\$m	(76.9)	(45.7)	(54.4)	(22.3)	43.6	m						
Total equity	A\$m	85.5	236.6	227.9	260.0	325.9	Paradise Investment Management 6% 22.8						
Weighted average shares	m	2,067	387	387	387	387	New York Life Investment Management 6% 20.1						
						Mirae Asset Global Investments 5% 17.4							
						Sprott Asset Management 4% 14.2							
						21% 74.5							

SOURCE: BELL POTTER SECURITIES ESTIMATES

Recommendation structure

Buy: Expect >15% total return on a 12 month view. For stocks regarded as 'Speculative' a return of >30% is expected.

Hold: Expect total return between -5% and 15% on a 12 month view

Sell: Expect <-5% total return on a 12 month view

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