

Blackstone Minerals Ltd

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Blackstone Minerals positive scoping study positions Ta Khoa to serve growing li-ion battery market

Blackstone Minerals Ltd (ASX:BSX) (FRA:B9S) has completed a positive scoping study which paves the way for continued progress with the development and restart of the Ta Khoa Nickel-Copper-PGE Project in Vietnam.

The study has positioned the Ta Khoa project in the country's north to serve Asia's growing demand for lithium-ion batteries with the company now progressing to the next phase of pre-feasibility studies.

Ta Khoa will comprise an open pit mine at the Ban Phuc Disseminated Sulphide (DSS), upstream processing and downstream processing to produce a precursor product.

Important milestone

The scoping study is an important milestone for Blackstone and an initial platform to build a mine-to-market nickel business in coming years with multiple upside opportunities to improve on study results.

Blackstone's managing director Scott Williamson said: "The scoping study defines a project path that maximises economics, minimises environmental and social impacts, and offers a lasting legacy to the people in our local community."

Ban Phuc resource

The study is based on a maiden Ban Phuc DSS indicated resource of 44.3 million tonnes at 0.52% nickel for 229,000 tonnes of nickel and an inferred resource of 14.3 million tonnes at 0.35% for 50,000 tonnes.

Annual production is estimated at around 12,700 tonnes of nickel over an 8.5-year project life.

There is upside potential from by-product credits, including copper, gold, platinum, palladium and rhodium along with other regional deposits and targets, including King Cobra Discovery Zone, Ban Chang, Ta Cuong and 25 untested massive sulphide vein (MSV) targets.

Study outcomes

The study also estimates:

- Gross revenue of approximately US\$3.3 billion (US\$2.95 billion to US\$3.6 billion);
- Net pre-tax cashflow of ~US\$1.2 billion (US\$1.03 billion to US\$1.37 billion);
- Pre-production capital cost of ~US\$314 million including contingency;

Price: 0.37

Market Cap: \$118.52 m

1 Year Share Price Graph



December 2019 June 2020 December 20

Share Information

Code: BSX

Listing: ASX

52 week High Low
0.54 0.08

Sector: General mining & base metals

Website: www.blackstoneminerals.com.au

Company Synopsis:

Blackstone Minerals Limited (ASX:BSX) (OTCQB:BLSTF) is developing the district scale Ta Khoa Project in Northern Vietnam where the company has a maiden resource and scoping study for the large-scale Ban Phuc Nickel-PGE deposit. The Ta Khoa Nickel-Copper-PGE Project has existing modern mine infrastructure built to International Standards including a 450ktpa processing plant and permitted mine facilities.

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- Pre-tax cashflow of ~US\$179 million per annum (US\$155 million to US\$210 million);
- Pre-tax NPV8% of ~US\$665 million (US\$550 million to US\$780 million) and ~45% IRR (38% to 50% IRR); and
- Capital payback period of ~2.5 years.

Economically robust

Overall, the study outlines an economically robust nickel sulphide project to produce downstream nickel, cobalt and manganese (NCM) precursor products for the lithium-ion battery industry.

The downstream processing utilises existing well-tested technology while the downstream NCM precursor product significantly improves the payability of nickel - from ~70-80% to ~125-135% of LME metal prices.

	4Mtpa Base Case	6Mtpa
Ore Mined (Mt)	~31.6Mt	~44.5Mt
Head Grade (%)	~0.52%	~0.47%
Metallurgical Recovery (%)	~65.9%	~59.6%
Strip Ratio (waste (t): ore (t))	~6.1:1	~4.1:1
Mining Cost (US\$/t ore)	12.00 - 14.70	8.75 - 10.70
Processing Cost (US\$/t ore)	10.70 - 13.00	9.85 - 12.05
Refining Cost (US\$/t ore) ¹	19.50 - 23.80	15.45 - 18.85
Project Life	~8.5 years	~8.25 years
Nickel Production	~108kt	~124kt
Annual Nickel Production	~12.7ktpa	~15ktpa
NCM Precursor Production	~213kt	~245kt
Annual NCM Precursor Production	~25ktpa	~29.7ktpa

Table 1 - Key Operational Outcomes based on operating costs ranging from +/-10% from base case.

	4Mtpa Base Case	6Mtpa
Pre-Production Capital Cost (US\$m) (incl. contingency)	314	356
Precursor NCM Price (US\$/lb NCM) (assumed)	6.96	6.96
C1 Cash Costs (US\$/lb NCM) ¹	3.00 - 3.70	3.00 - 3.60
All-in Sustaining Costs (US\$/lb NCM) ¹	3.40 - 4.10	3.30 - 4.00
Gross Revenue (LOM Average) (US\$mtpa)	350 - 430	410 - 500
Pre-Tax Cashflow (LOM Average) (US\$mtpa) ²	155 - 210	200 - 255
Pre-Tax NPV (US\$m) ²	550 - 780	645 - 907
IRR (%) ²	38 - 50	36 - 49
Capital Payback Period	~2.5 years	~2.5 years

Table 2 - Key Financial Outcomes based on operating costs ranging from +/-10% from base case

¹ Refining cost includes purchasing costs for cobalt sulfate and manganese sulfate

² Pre-tax financial outcomes reported only. Corporate tax rate in Vietnam is 20% with potential for tax incentives during the early years of the project

PFS level studies

Williamson added: "Whilst we are pleased with the outcomes of this study, we will continue to expand our resource and increase our production potential in this exciting, and yet under-explored region of Vietnam and have commenced work on PFS level studies for the project."

Blackstone's strategy is underpinned by an unwavering focus on developing the Ta Khoa project.

Existing modern mine infrastructure at Ta Khoa offers the company a foundation to build a fully integrated mine-to-market nickel business over the coming years.

The company aims to build one of the world's first green nickel processing facilities to produce downstream nickel products for the lithium-ion battery industry.

Blackstone has the vision to build a world-class nickel mining centre supported by a downstream processing facility to be developed and operated over the coming years.

The Ta Khoa Nickel-Copper-PGE project is powered by South East Asia's largest hydropower plant located nearby in the Son La Province.

Blackstone aims to set an example on how to build a green nickel mining business for the future demand coming from the rapid growth in nickel-rich cathode materials required to power the electric vehicle revolution.

Preliminary study

The scoping study has been undertaken to determine the potential to restart the project and develop downstream processing infrastructure.

It is a preliminary technical and economic study of the potential viability of those projects based on low level technical and economic assessments (+/- 40% accuracy) that are not sufficient to support the estimation of ore reserves.

Further evaluation work and appropriate studies are required before Blackstone is in a position to estimate any reserves or to provide any assurance of an economic development case.

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