

### ASX ANNOUNCEMENT 17 March 2021

# ASX: BSX

# Blackstone corporate strategy update

Blackstone Minerals Limited ("Blackstone" or the "Company") is pleased to provide a corporate strategy update, in light of recent Ta Khoa exploration success and driven by the strong indicative demand received for the Company's planned downstream products. In particular, the Company confirms the ongoing Pre-Feasibility Study (PFS) is now considering significantly expanded downstream refining capacity.

- Planned additional downstream refining capacity is expected to be supplemented by third party concentrates (refer ASX announcement dated 22 January 2021) and additional discoveries made at Ta Khoa.
- Delivering on the expanded scale will see Blackstone becoming a globally significant Class I nickel producer.
- Blackstone's intention is to collaborate with Tier 1 partners to unlock the value of its expanded downstream refinery strategy.

The PFS is progressing designs for an expanded refinery which will enable the production of a range of Nickel:Cobalt:Manganese (NCM) precursor products, for example NCM811, which attract a strong premium to metal prices (refer Figure 1).

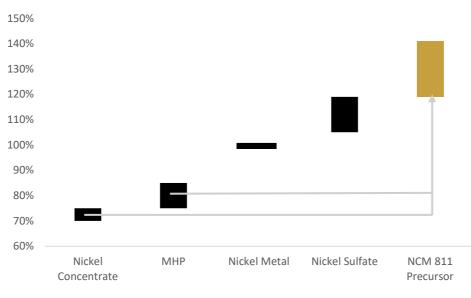


Figure 1. Illustration of Nickel Product Payability vs Metal Spot Price

Source: SMM (Shanghai Metals Market), Benchmark Mineral Intelligence

The Company confirms that separate Pre-Feasibility Studies (PFS) will be delivered for its upstream and downstream business assets. Incorporating the updated strategy and enhanced scopes, the Company is providing additional details, including with respect to timing, for the ongoing PFS's.

## PFS Update Highlights

The immediate priority for the Company to deliver on this development strategy is completion of the relevant PFS's for the upstream and downstream business assets.

Key aspects the downstream PFS will consider include:

- Expanded planned refining capacity enabling the treatment of both third party concentrate and Blackstone's potential orebodies within the Ta Khoa district in Northern Vietnam;
- Enhanced scale and shared infrastructure, which the Company anticipates will lead to a reduction in project capital intensity;
- Reduction in unit operating costs driven by economies of scale, as well as improved refinery performances due to the ability to blend concentrates;
- Flowsheet for the recovery of additional by-products. Preliminary testwork and desktop studies have identified an economic flowsheet for the recovery of by – products from the Ta Khoa DSS concentrate. Further studies will investigate the performance of Ta Khoa Massive Sulfide Vein (MSV) ores and provide PFS level capital and operating cost estimates; and
- Blackstone anticipates the downstream PFS to be completed by June / July 2021.

The upstream PFS will focus on the following items:

- Incorporating high-grade MSV deposits into the mine plan, to reflect ongoing exploration success at multiple prospects including Ban Chang, King Snake and Ta Cuong. The Company is aggressively drilling with a view to incorporate these deposits into the upstream PFS mining inventory;
- The restart and possible expansion of the existing 450ktpa concentrator, which will be supported by the inclusion of higher grade feed into the mine plan. This has the potential to improve project NPV through deferral of significant upfront capital, mine life extension, and lower technical risks;
- Drill out and appropriate mine sequencing of large, disseminated sulfide (DSS) orebodies including Ban Phuc and Ban Khoa; and
- Blackstone anticipates the upstream PFS to be delivered in Q3/Q4 2021, allowing for the sufficient completion of drilling to incorporate DSS and MSV prospects.

Blackstone Minerals' Managing Director Scott Williamson commented:

"The decision to separate PFS's for the upstream and downstream business unit will enable the Company to better deploy resources, unlock strategic partnerships, deliver funding solutions and increase the overall transparency in communicating business progress." "The updated timing on the downstream PFS reflects the Company's ambition to capture as much value in a rapidly growing lithium-ion battery industry. We believe we are at the forefront of a once in a generation opportunity and the Company is positioning by increasing the scale of its downstream refining capacity. The Company is confident it will attract joint venture partnerships with leading organisations that have strong alignment to Blackstone's strategy and best practices engrained in their business models."

"For the upstream business, we are focussed on unlocking potential of the Ta Khoa district. With continued exploration success across our targets at Ta Khoa, the Company is confident that it can achieve a critical mass of MSV mining inventory to warrant the restart of the existing concentrator. To present the highest value proposition to shareholders and potential financiers, and to deliver an enhanced downstream strategy, it is important that each of Ban Chang, King Snake and Ta Cuong are incorporated into the upcoming upstream PFS study."

#### **Business Unit Overview**

To accurately reflect Blackstone's activities and core businesses, the Company will complete future studies and communicate strategy in respect of two distinct divisions, being the Upstream Business Unit (UBU) and the Downstream Business Unit (DBU).

The UBU division will comprise 90% economic interest in the Ta Khoa Nickel-Copper-PGE mine in northern Vietnam and associated infrastructure, including the 450ktpa nickel concentrator. The UBU will produce a nickel concentrate with by-products. Future acquisition of mineral assets will be incorporated into the UBU.

The DBU division will comprise the downstream refinery business which will produce chemical products for the battery market. The Company intends to form Joint Venture(s) for this business unit and produce materials for the burgeoning EV market. The DBU will secure feedstock from a diversified and highly credentialed supplier base including the UBU and third-party providers such as Trafigura (refer ASX announcement dated 22 January 2021).

#### **Downstream Business Unit**

The DBU is intended to initially comprise a refinery in North Vietnam, with future potential to enact a global strategy that delivers chemical products for the emerging battery market. The Company intends to form multiple Joint ventures / Alliances capable of producing a variety of products to suit the dynamic battery materials supply chain (refer Figure 2).

The Company envisages that each Joint Venture / Alliance partner will contribute to the preproduction capital cost, and subsequently owns proportionate equity with the specific Joint Venture / Alliance. Blackstone expects that it's portion of the funding will be achieved through a combination of debt, equity and offtake financing.

Given the versatile design of the refinery, the Company will be able to process and upgrade a number of products, including nickel concentrate and mixed hydroxide precipitate (MHP). In addition, due to the hydrometallurgical process, the refinery will also be able to accept low-cost nickel concentrates undesirable to the traditional pyrometallurgical processing route. The enhanced scale will allow the blending of different concentrates, therefore enabling optimised operational and cost performances.

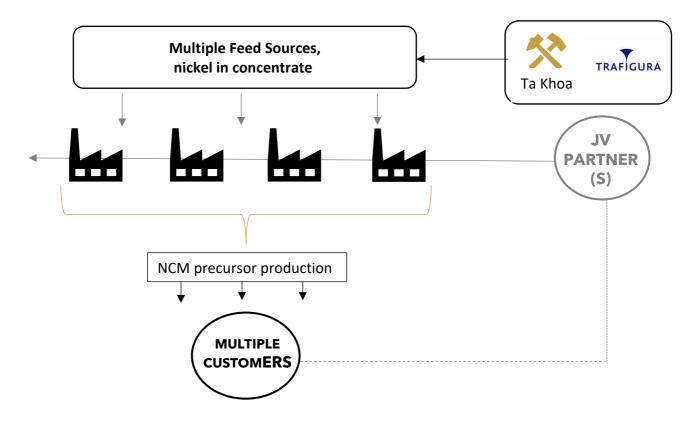
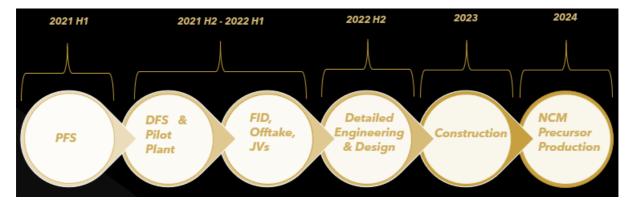


Figure 2 - Downstream Business Unit

# **DBU Key Deliverables and Timeline**

As part of its corporate strategy update, the Company wishes to provide details on the key deliverables and timeline that envisage first production of NCM precursor products for the Lithium-ion battery industry in 2024 (refer Figure 3).

The updated strategy will see Blackstone working towards delivering multiple milestones, including the proof of concept through a pilot plant, securing offtake agreements, securing suppliers and the ramping up downstream refinery lines.





#### **Downstream PFS Update**

Blackstone continues to accelerate development of the downstream PFS scope of works.

In August 2020, The Simulus Group (Simulus, <u>https://thesimulusgroup.com.au</u>) commenced development of the downstream PFS metallurgical testwork and engineering scope. The works focused on further development of the Scoping Study strategy with a basis of 200ktpa (one train) concentrate feed from the Ban Phuc disseminated sulfidic (DSS) deposit, producing a NCM811 product via a mixed hydroxide precipitate intermediate product.

In late 2020 and early 2021, Blackstone's Ta Khoa upstream exploration success created the opportunity to start the downstream NCM processing plant on nickel concentrate sourced from Ta Khoa massive sulfide ores. Downstream benefits of this strategy include:

- Reduced capital and operating cost due to reduced acid consumption;
- Higher NCM output due to higher concentrate grade and better leaching conditions;
- Reduced capital and operating cost due to lower MgO in feed; and
- Higher by-product credits for example platinum group elements (PGE).

In support of this strategy, Blackstone began discussions with third party concentrate suppliers as make-up concentrate feed to fill any shortfall in concentrate supply from Ta Khoa. This strategy quickly grew to encompass additional feed stock and an expanded downstream strategy.

In line with this emerging strategy, Blackstone announced its up-scaled downstream intentions in January 2021 with the signing of a non-binding Letter of Interest (LoI) with Trafigura for the supply of sulfide metal concentrates as third-party feed sources.

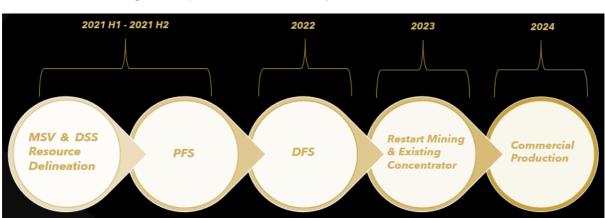
As a result of this shift in strategy, Blackstone intends to expand the PFS metallurgical testwork program and engineering scope of works. The expanded program will test multiple blends of Ta Khoa concentrate and third party concentrates to optimise the plant design and confirm metallurgical performance. This has resulted in delay to completion of the downstream PFS, with results of the downstream PFS to be published by June / July 2021.

### **Upstream Business Unit**

Blackstone's Upstream Business Unit (UBU) will be responsible for development and operation of all current and future upstream (exploration, mining, and mineral beneficiation) assets including the 90% economic interest in the Ta Khoa Nickel-Copper-PGE mine in northern Vietnam.

### **UBU Key Deliverables and Timeline**

Key deliverables for the UBU include delineating potential maiden Resources on multiple deposits, completing Feasibility Studies and restarting the existing concentrator (refer Figure 4).



#### Figure 4 - Upstream Business Unit, Key Deliverables and Timelines

### **Upstream PFS Update**

Recently Blackstone has reported on multiple exploration successes at Ta Khoa including most notably:

- Ban Chang: Refer ASX announcements dated 11 March 2021 & 10 December 2020;
- King Snake: Refer ASX announcements dated 11 March 2021, 16 February 2021 & 4 February 2021; and
- Ta Cuong: Refer ASX announcement dated 25 February 2021.

Commercial production from the Company's DSS mining inventory is expected to be deferred and appropriate mine sequencing will be determined contingent upon MSV exploration success. The three aforementioned MSV targets have the potential to materially impact both the project value and optimum development strategy. Blackstone believes that the PFS outcomes will be improved by the inclusion of these three high-grade deposits. The Company has elected to extend the drilling programs with a view to incorporate these three deposits into the PFS. This requires significant additional drilling to delineate maiden Resources at these deposits. Blackstone therefore anticipates the release of an Upstream PFS by Q3/Q4 2021.

Expected key benefits from incorporating new deposits include:

- Existing Ban Phuc Nickel Concentrator restart strategy and cost estimates;
- Deferment of the initial capex associated with establishment of the 4Mtpa processing facility;
- Reduced upfront capital requirement and potential equity dilution for shareholders;
- Increase in life of mine;
- Reduced permitting requirements before commencement of mining; and
- Improved project NPV

The upstream PFS development has continued in the early months of 2021. Blackstone awarded the upstream PFS process plant engineering to CPC Engineering (<u>https://www.cpcengineering.com.au/</u>). Award of final key packages including Environment, Geology and Mining are expected in March 2021.

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#### **About Blackstone**

Blackstone Minerals Limited (ASX: BSX / OTCQX: BLSTF / FRA: B9S) flagship project, the Ta Khoa Nickel - Copper- PGE Project in Vietnam, is a district scale green nickel<sup>™</sup> sulfide opportunity. The Company is focused on building an integrated upstream and downstream processing business in Vietnam that produces NCM precursor products for Asia's growing Lithium-ion battery industry.

Upstream, at the Ta Khoa Nickel-Cu-PGE mine site in Northern Vietnam (refer Figure 5), Blackstone plans to explore both MSV and DSS targets throughout the project, initially within a 5km radius of the existing processing facility. Blackstone will conduct further geophysics on the MSV and DSS targets and continue an aggressive drilling campaign.

By combining the Company's existing mineral inventory (Ban Phuc), exploration potential presented by high priority targets such as Ban Chang and King Snake and the ability to source third party concentrate, Blackstone will be able to increase the scale of its downstream business to meet the rising demand for downstream nickel products.

The Company has completed a Scoping Study which includes mining the Company's maiden resource at the Ban Phuc Disseminated ore body and the construction of one downstream refinery. The Company is now advancing the Ta Khoa Project through to a Pre-feasibility Study which will contemplate the option to mine higher grade MSV deposits, which has the potential to reduce upfront capital requirements by enabling the Company to restart the existing Ban Phuc Concentrator (450kt).



Figure 5. Ta Khoa Nickel-Cu-PGE Project Location

Authorised by the Managing Director on behalf of the Board of Blackstone Minerals Limited.

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#### **Competent Person Statement**

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr Andrew Radonjic, a Non-Executive Director and Technical Consultant of the company, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Andrew Radonjic has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Andrew Radonjic consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Mineral Resource Estimation was conducted by BM Geological Services (BMGS) under the supervision of Andrew Bewsher, a director of BMGS and Member of the Australian Institute of Geoscientists with over 21 years of experience in the mining and exploration industry in Australia and Vietnam in a multitude of commodities including nickel, copper and precious metals. Mr Bewsher consents to the inclusion of the Mineral Resource Estimate in this report on that information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information including in the original market announcements above, and in the case of estimates of Mineral Resources, 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 Persons' finding are presented have not been materially modified from the original market announcements.

### **Forward Looking Statements**

This report contains certain forward-looking statements. The words "expect", "forecast", "should", "projected", "could", "may", "predict", "plan", "will" and other similar expressions are intended to identify forward looking statements. Indications of, and guidance on, future earnings, cash flow costs and financial position and performance are also forward-looking statements. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results or trends to differ materially. These variations, if materially adverse, may affect the timing or the feasibility of the development of the Ta Khoa Nickel Project.

The project development schedule assumes the completion for the Downstream Business Unit, of a Pre-Feasibility Study (PFS) by mid-2021 and a Definitive Feasibility Study (DFS) by mid-2022. A PFS & DFS for the Upstream Business Unit is assumed to be completed in 2021 and 2022 respectively. Development approvals and investment permits will be sought from the relevant Vietnamese authorities concurrent to studies being completed. Delays in any one of these key activities could result in a delay to the commencement of construction (planned for early 2023). This could lead on to a delay to first production, planned for 2024. The Company's stakeholder and community engagement programs will reduce the risk of project delays. Please note these dates are indicative only.

The JORC-compliant Mineral Resource estimate forms the basis for the Scoping Study in the market announcement dated 14 October 2020. Over the life of mine considered in the Scoping Study, 83% of the processed Mineral Resource originates from Indicated Mineral Resources and 18% from Inferred Mineral Resources; 76% of the processed Mineral Resource during the payback period will be from Indicated Mineral Resources. The viability of the development scenario envisaged in the Scoping Study therefore does not depend on Inferred Mineral Resources and there is a low level of geological confidence associated with Inferred Mineral Resources or that the production target itself will be realised. The Inferred Mineral Resources are not the determining factors in project viability.