ASX RELEASE | ASX:BSX

14 October 2020

Blackstone positions Ta Khoa Nickel-Cu-PGE Project for Li-ion battery market with positive Scoping Study

Cautionary Statement

The Scoping Study at Ta Khoa, referred to in this announcement, has been undertaken to determine the potential to restart the Ta Khoa Nickel-Cu-PGE project and develop downstream processing infrastructure in Vietnam to produce a downstream nickel and cobalt product to supply Asia's growing lithium-ion battery industry. The Scoping Study 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. Mining and processing rates of 2Mtpa, 4Mtpa and 6Mtpa have been examined within this Scoping Study. The 2Mtpa case was considered to be sub-optimum in terms of being able to delivery sufficient product to secure superior offtake terms.
Further evaluation work and appropriate studies are required before Blackstone is in a position to estimate any Ore Reserves or to provide any assurance of an economic development case.

The JORC-compliant Mineral Resource estimate forms the basis for the Scoping Study that is the subject of this announcement. Over the life of mine considered in the Scoping Study, 83% of the processed Mineral Resource originates from Indicated Mineral Resources and 17% 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. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Inferred Mineral Resources are not the determining factors in project viability.

This Scoping Study was completed to an overall +/- 40% accuracy using the key parameters and assumptions outlined elsewhere in this announcement. Due to the sensitivity of the project to operating costs the Company has decided to present the results as a range based on the operating cost estimate (OPEX) and OPEX +/- 10% as this is felt to be an appropriate treatment for the level of study. Assumptions also include assumptions about the availability of funding. While Blackstone considers that all the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this study will be achieved. To achieve the range of outcomes indicated in the Scoping Study, further funding will be required in the order of US$314 million to construct the mine, process facilities and project infrastructure including upstream and downstream processing plants. Investors should note that there is no certainty that Blackstone will be able to raise that amount of funding when needed. It is also possible that such funding will only be available on terms that may be dilutive to or otherwise affect the value of Blackstone's existing shares

It is also possible that Blackstone pursues other 'value realisation' strategies such as a sale or partial sale of its interest in the Project.

Blackstone concluded it has a reasonable basis for providing these forward-looking statements and believes it has reasonable basis to expect it will be able to fund development of the project. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this study. The project development schedule assumes the completion of a Pre-Feasibility Study (PFS) by early 2021 and a DFS by late 2021. Development approvals and investment permits will be sought from the relevant Vietnamese authorities in early 2021. Delays in any one of these key activities could result in a delay to the commencement of construction (planned for early 2022). This could lead on to a delay to first production, planned for 2023. The Company's stakeholder and community engagement programs will reduce the risk of project delays. Please note these dates are indicative only.

It is anticipated that finance will be sourced through a combination of equity and debt instruments from existing shareholders, new equity investment and debt providers. In April this year, the Company completed a A$6.8 million investment from EcoPro Co Limited, the world's second largest nickel-rich cathode materials manufacturer and recently completed a further A$21 million institutional capital raising. The Board considers that the Company has sufficient cash on hand to undertake the next stage of planned work programs, including the completion of a Definitive Feasibility Study (DFS), continued metallurgical testing and the commencement of further technical studies.

Scoping Study

Blackstone Minerals (ASX: BSX) is pleased to announce the completion of the Scoping Study for the development and restart of the Ta Khoa Nickel-Cu-PGE Project in Vietnam. The Ta Khoa Project comprises an open pit mine at the Ban Phuc Disseminated Sulfide (DSS), upstream processing and downstream processing to produce a Precursor product for Asia's growing Lithium-ion Battery Industry.

The Company sees the Scoping Study as an important milestone and an initial platform to build a mine-to-market nickel business over the coming years with multiple upside opportunities to improve on the Scoping Study as presented. Blackstone looks forward to developing the Ta Khoa Project and has immediately commenced the next phase of Pre-Feasibility Studies.

Highlights

- Maiden Ban Phuc DSS indicated resource of 44.3Mt @ 0.52% Ni for **229kt Ni** and Inferred Mineral Resource of 14.3Mt @ 0.35% Ni for **50kt Ni;**
- Annual production of ~**12.7ktpa Ni over ~8.5-year** project life;
- Gross Revenue of ~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$314m including contingency;
- **Pre-tax cashflow of ~US$179mpa (US$155mpa to US$210mpa);**
- **Pre-tax $NPV_{8\%}$ of ~US$665m (US$550m to US$780m) and ~45% IRR (38% to 50% IRR)**;
- **Capital Payback Period of ~2.5 years**;
- Economically robust nickel sulfide project to produce downstream nickel: cobalt: manganese (NCM) **Precursor products for the Lithium-ion battery industry**;
- Downstream processing utilises existing well-tested technology;
- Blackstone's downstream **NCM Precursor product significantly improves the payability of nickel**, from ~70-80% to ~125-135% of LME metal prices;
- Upside opportunities include staged Capex, by-product credits (including copper, gold, platinum, palladium and rhodium), King Cobra Discovery Zone (KCZ), Ban Chang, Ta Cuong and 25 untested massive sulfide vein (MSV) targets.

Blackstone's Managing Director Scott Williamson commented:

"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."

"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."

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Conceptual Operational and Financial Outcomes

The following table should be read in conjunction with the details in following sections of this release as well as the material assumptions included in Appendix 1. All figures provided below and in this release are estimates or approximates based on Blackstone's operational knowledge, familiarity of the scoping study team with deposits of similar size and complexity, in analogous settings and discussions with suppliers and key consultants, and may be subject to future modification during Pre-Feasibility and Definitive Feasibility stages.

	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$mpa)	350 - 430	410 - 500
Pre-Tax Cashflow (LOM Average) (US$mpa) [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*

Blackstone Minerals Strategy

Blackstone's strategy is underpinned by an unwavering focus on developing the Ta Khoa Nickel-Cu-PGE Project in Northern Vietnam. The 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.

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

The maiden resource at Ban Phuc gives the Company an initial platform to build on as our exploration team continues to unlock the geology throughout our Ta Khoa nickel sulfide district.

Blackstone has the vision to build a world class nickel mining centre at Ta Khoa supported by a downstream processing facility to be developed and operated over the coming years. The Ta Khoa Nickel-Cu-PGE project is currently powered by South East Asia's largest hydro power plant located nearby in the Son La Province.

At Blackstone we aim 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.

Project Background

The Ban Phuc nickel mine operated as a modern mechanised underground mine for 3.5 years between 2013 and 2016, producing 20.7kt Ni, 10.1kt Cu and 0.67kt Co, before closing when the defined mineable reserves were depleted. The high-grade Ban Phuc MSV deposit was mined adjacent to the Ban Phuc DSS deposit and remains underexplored at depths below the base of previous mining.

Many other MSV targets are within potential trucking distance of the existing 450ktpa Ban Phuc processing facility that was built to international standards, commissioned in 2013, and has been on care and maintenance since 2016.

Blackstone's Ta Khoa Nickel–Cu-PGE project has a combination of large, disseminated nickel sulfide targets and 25 other prospects, including multiple high grade MSV targets of the style that were mined from the Ban Phuc underground mine. Blackstone believes that the Ta Khoa project represents a true district scale Nickel-Cu-PGE sulfide opportunity of a calibre rarely controlled by a junior company. The project also has significant infrastructure advantages that include the existing processing facility, abundant low cost hydroelectric power, a skilled low-cost labour force, and is located in a country that has become an Asian hub for electronics and battery manufacturing with a growing demand for downstream nickel products for the lithium-ion battery industry.

Project Team

The Ta Khoa Nickel-Cu-PGE Project scoping study was compiled in-house with the assistance of the Optimize Group as an independent consultant. The Optimize Group is an experienced project development firm with significant mineral processing experience in the South East Asia region. Blackstone personnel and external consultants who contributed to the study are outlined below:

Contributor	Role
Dr Stuart Owen – Blackstone Minerals Dr Dinh Huu Minh – Blackstone Minerals	Geology
Scott Williamson – Blackstone Minerals	Mining
Steve Ennor – Blackstone Minerals	Mineral Processing
Ian McKenzie – Optimize Group	Independent Consulting & Review
BM Geological Services (BMGS)	Mineral Resource Modelling
Pells Sullivan Meynink (PSM)	Geotechnical Engineering
Mining Plus	Mining Engineering
Whittle Consulting	Integrated Strategic Planning
ConnectivIQ	Financial Modelling
Como Engineers	Upstream Processing
Simulus Engineers	Downstream Processing
ALS Metallurgy	Upstream Metallurgical Testwork
Simulus Laboratories	Downstream Metallurgical Testwork

Location

The Ta Khoa Nickel-Cu-PGE Project is located approximately 160km west of Hanoi near the Ban Phuc village in Son La Province, north-west Vietnam. The nearest towns are Hat Lot, approximately 30km north-west and Bac Yen, approximately 25km east. The nearest major population centre is the provincial capital Son La, approximately 55km north-west. The site is approximately 3km from the Da River hydroelectric dam reservoir. The elevation across the site ranges from 100m to 500m above sea level. The site is approximately 350km from the port city of Hai Phong. Best access to site is by way of Son Tay, Thanh Son, Phu Yen, Bac Yen and the Ta Khoa Bridge with a travelling time of six hours from Hanoi on serviceable paved roads.

Figure 1 - Project Location

Geology

The Ta Khoa Project is a magmatic Ni-Cu-PGE sulfide district associated with the Song Da Rift, a major crustal suture zone, and the Emeishan Large Igneous Province that extends for over 1000 km from north Vietnam into south China and hosts several significant Ni-Cu-PGE sulfide deposits. Two main Ni-Cu-PGE sulfide deposit styles are recognised within the Ta Khoa district:

1) Massive Ni-Cu+PGE sulfide veins associated with narrow ultramafic dykes or locally within sedimentary wall rocks. Zones of disseminated semi massive and stringer sulfides are associated with many massive sulfide veins. The recently operating Ban Phuc nickel mine (2013-2016) exploited one of these massive sulfide veins adjacent to the Ban Phuc ultramafic body.
2) Disseminated sulfide deposits within larger ultramafic intrusions, of which the Ban Phuc ultramafic intrusion is the best known and hosts the Ban Phuc Disseminated Ni-Cu-PGE sulfide deposit subject of this report. The Ban Phuc ultramafic intrusion is approx. 940 m long by 420 m wide and >400 m deep with two main disseminated sulfides zones, an outer and more extensive inclined boat hull-shaped zone and a smaller bean-shaped central zone.

All of the Ta Khoa district ultramafic intrusions and associated Ni-Cu-PGE sulfide bodies have been affected by post-magmatic deformation and regional metamorphism.

Mineral Resources

The mineralisation model used for the Blackstone's maiden Mineral Resource estimate is based on an interpretation generated by BMGS in conjunction with geologists from Blackstone Minerals. A wireframe interpretation was created by combining sections into individual three-dimensional solids representing mineralised domains. Ordinary Kriging (OK) was used to interpolate Ni, Cu, Co, Pd and Pt grades to a block model constrained with the interpreted sulfide mineralisation wireframes and Indicated and Inferred Resources at a 0.3% Ni lower cut off are reported in Table 3 below. More details on estimation methodology and resources at higher cut offs are included in the Appendices.

Category	Mt	Ni (%)	Cu (%)	Co (%)	Pd (g/t)	Pt (g/t)	S (%)	Ni (t)	Cu (t)	Co (t)	Pd (oz)	Pt (oz)
Indicated Resources	44	0.52	0.06	0.01	0.11	0.09	0.45	230,000	27,000	5,800	160,000	130,000
Inferred Resources	14	0.35	0.01	0.01	0.03	0.03	0.13	51,000	1,600	1,100	12,000	15,000

Table 3 – Mineral Resource Estimate (Refer to Appendix 1)

Project Financials

Pre-Production Capital Costs including contingency

Capital Cost Estimate	4Mtpa Base Case (US$m)	6Mtpa (US$m)
Mining	59.2	55.3
Infrastructure	15.5	19.5
Processing	53.2	78.7
Refining	108.9	108.9
Project Execution	19.5	24.7
Owners Costs	16.9	19.9
Contingency	40.6	49.0
Total	**313.8**	**356.0**

LOM Average Operating Costs – per tonne of ore milled

Operating Cost Estimate	4Mtpa Base Case (US$/t ore) 2	6Mtpa (US$/t ore) [2]
Mining	12.00 - 14.70	8.75 - 10.70
Processing	10.70 - 13.00	9.85 - 12.05
Refining[1]	19.50 - 23.80	15.45 - 18.85
G&A	2.75 - 3.40	2.00 - 2.45
Total	**44.95 – 54.90**	**36.05 - 44.05**

1 Refining cost includes purchasing costs for cobalt sulfate and manganese sulfate
2 Based on operating costs ranging from +/-10% from base case

LOM Average Operating Costs – per pound of nickel

Operating Cost Estimate	4Mtpa Base Case (US$/lb) 2	6Mtpa (US$/lb) 2
Mining	1.60 - 1.95	1.40 - 1.75
Processing	1.40 - 1.75	1.60 - 1.95
Refining[1]	2.60 - 3.15	2.50 - 3.05
G&A	0.35 - 0.45	0.30 - 0.40
C1 Cash Costs	**5.95 - 7.30**	**5.80 - 7.15**
Royalties	0.55 - 0.65	0.55 - 0.65
Sustaining Capex	0.10 - 0.12	0.10 - 0.12
All-in Sustaining Cost	**6.60 - 8.07**	**6.45 - 7.92**

1 Refining cost includes purchasing costs for cobalt sulfate and manganese sulfate
2 Based on operating costs ranging from +/-10% from base case

Key Financial Assumptions

Long-term Avg. Consensus Nickel Price Forecast (nominal)	US$17,815/t or US$8.08/lb
Peer Group Avg. Nickel Price Assumption used in studies	US$17,874/t or US$8.11/lb
Ta Khoa Scoping Study Nickel Price Assumption	**US$17,632/t or US$8.00/lb**
Precursor NCM Price Assumption	**US$15,344/t or US$6.96/lb**
Discount Rate	**8%**

The nickel price assumption is based on the average long-term consensus price for nickel, the peer group average nickel price assumption used in studies for undeveloped nickel sulfide projects, combined with Blackstone's experience in dealing with Lithium-ion battery end users and careful consideration of the expected future demand for class 1 nickel over the coming years. Commodity price assumptions have been applied on a flat line basis over the life of mine. The Precursor NCM price is based on the comparative premium to the nickel price by using the current spot price for ternary precursor products found on the Shanghai Metal Markets (SMM) website: https://www.metal.com/Ternary-precursor-material

Key Financial Metrics

The Ta Khoa Project base case financial metrics include the following highlights:

- NCM Precursor currently trades at a ~35% premium to London Metal Exchange (LME) prices;
- ~12.7ktpa of Nickel units produced per annum over an ~8.5-year project life;
- Net Pre-tax cashflow of ~US$1.2 billion (US$1.03 billion to US$1.37 billion);
- Pre-tax NPV of ~US$665m (US$550m to US$780m) and IRR of 45% (38% to 50% IRR);
- Capital Payback period of ~2.5 years.

	4Mtpa Base Case	6Mtpa
Gross Revenue (US$m)	2,950 – 3,600	3,380 – 4,150
Gross Revenue (LOM Avg) (US$mpa)	350 - 430	410 - 500
Net Pre-Tax Cashflow (US$m)	1,030 – 1,375	1,230 – 1,620
Pre-Tax Cashflow (LOM Avg) (US$mpa)	155 - 210	200 - 255
Pre-Tax NPV (US$m)	**550 - 780**	**645 - 907**
IRR (%)	**38 - 50**	**36 - 49**
Capital Payback Period	**~2.5 years**	**~2.5 years**

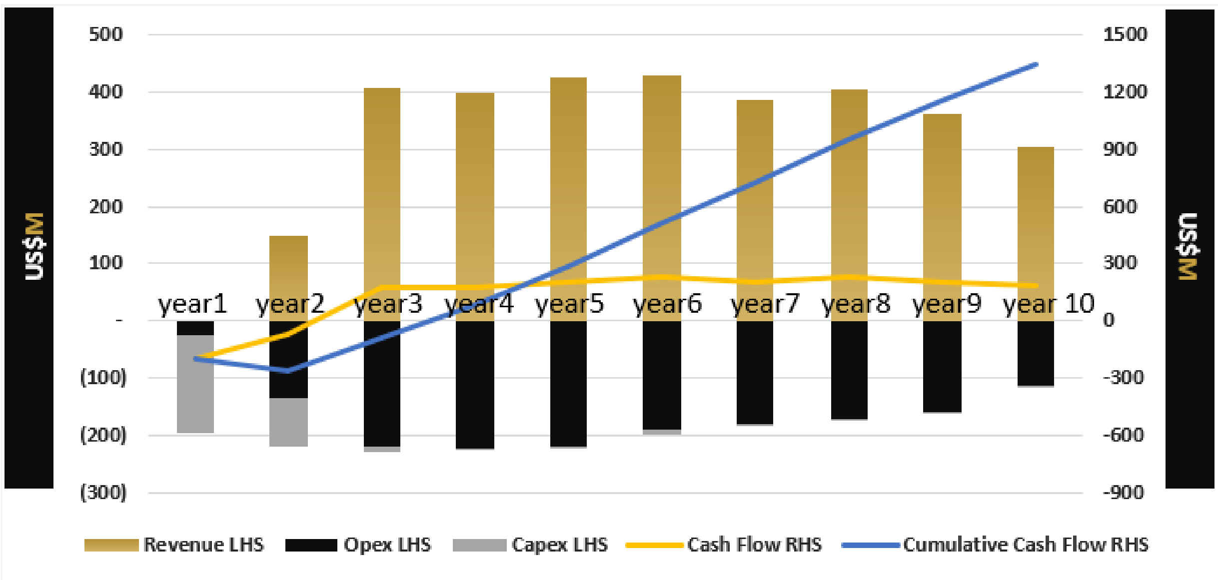

Figure 2 – Cashflow Forecast

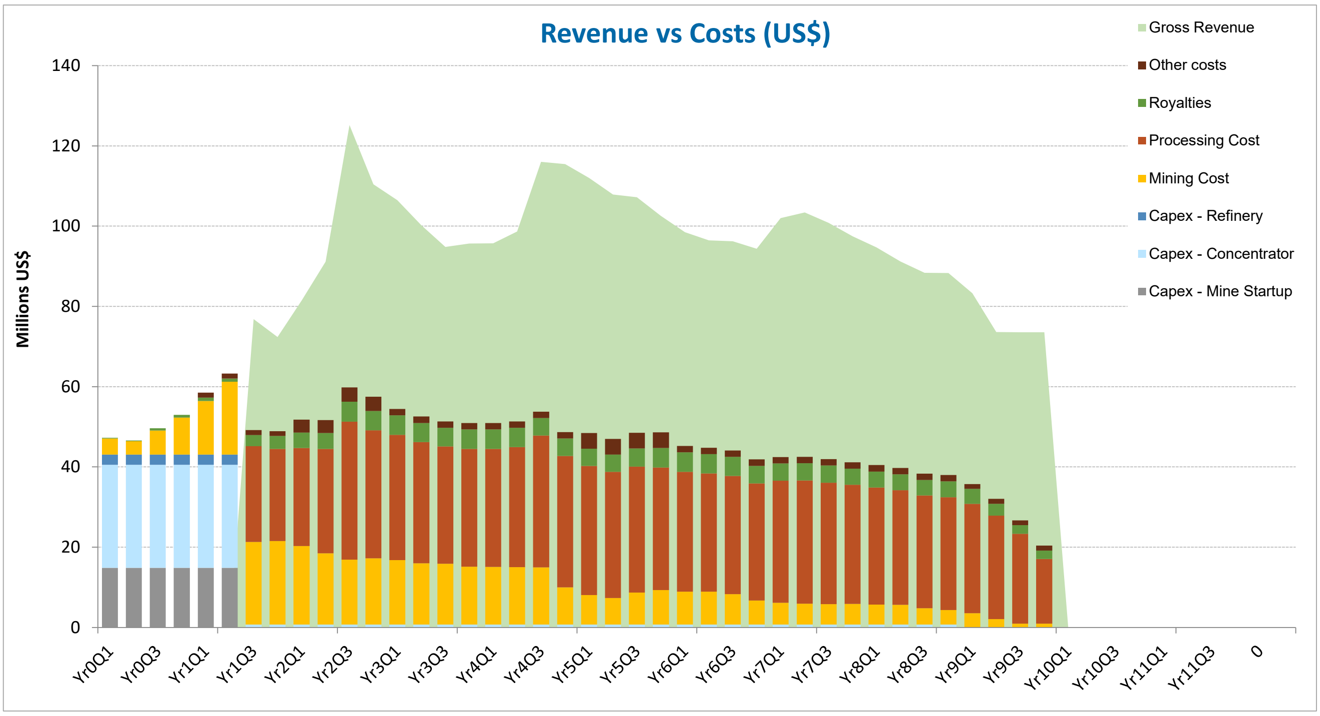

Figure 3 – Revenue vs Cost

Sensitivity Analysis

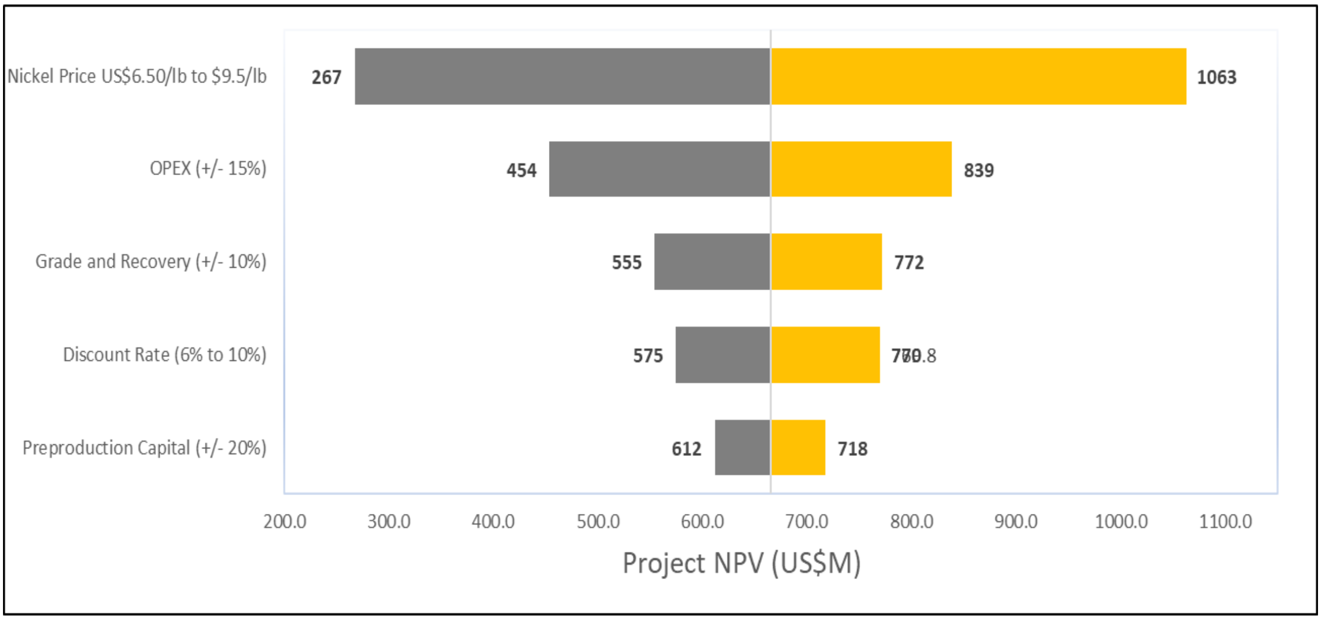

Figure 4 – Sensitivity Analysis – Key Drivers

		Nickel Price (US$/lb)						
	NPV (US$m)	6.5	7.0	7.5	8.0	8.5	9.0	9.5
Discount Rate	6%	330	476	623	770	917	1,063	1,210
	7%	297	437	576	716	855	994	1,134
	8%	267	400	532	**665**	798	930	1,063
	9%	240	366	492	618	744	870	997
	10%	214	334	454	575	695	815	935

Figure 5 – Sensitivity Analysis - Nickel Price & Discount Rate

Project Funding

The estimated pre-production capital requirement for the project is US$314 million for the base case. Blackstone's cash and working capital is currently in the order of A$28 million (including SPP and recent placement). The Company is in regular communication with partner EcoPro with an aim to discuss a joint venture partnership agreement over the coming months to jointly build the downstream processing facility in northern Vietnam. EcoPro has been a very supportive shareholder since investing A$6.8m in April 2020 and Mr Hoirim Jung joined Blackstone's board of directors as an EcoPro representative.

The upstream processing facility will most likely be funded through conventional debt and equity and the ultimate funding strategy will be based on the conditions of the equity capital markets and relative debt financing opportunities at the time of the final investment decision, which is expected in early 2022. Blackstone has a very supportive shareholder base, with EcoPro as the largest shareholder at 13%, Deutsche Balaton at 13%, Fidelity International at 6% plus several large institutional investors below the 5% disclosure threshold.

Further to the above, there is potential for Blackstone to defer the construction and associated Capex of the 4-6Mtpa plant by initially restarting the existing concentrator to treat high grade MSV ore. Doing so would improve the overall project NPV, as the initial Capex requirement will be significantly reduced and may be funded through future cash flow. In addition, given part of the future Capex will be funded through cash flow under this scenario, there could also be less dilution to existing shareholders during project funding. The staged Capex scenario has not been factored into this Scoping Study.

In addition, the Company entered a Non-Binding Memorandum of Understanding (MOU) with Eventus Partners Co. Ltd (Eventus) to assist Blackstone with funding solutions for the Ta Khoa Nickel Downstream Processing Facility. Eventus is a Seoul based financial institution with existing relationships with Korean Investors including pension funds, credit unions, banks and insurance companies. Eventus has experience in debt and equity funding for projects in Asia and North America, including projects in the Materials, Energy and Renewable Energy sectors.

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Open Pit Mining

Geotechnical Parameters

The open pit slope design parameters are based on a best estimate for a Scoping Level Study. The assessment has been undertaken based on consideration of the geotechnical model and relevant failure mechanisms. The design sectors adopted are based on degree of oxidation, i.e. completely oxidised, partially oxidised, and fresh rock. The slope design parameters apply to the following:

- Completely oxidised – all slopes above the base of complete oxidation;
- Partially oxidised – all slopes between the base of complete oxidation and the base of partial oxidation;
- Fresh – all slopes below the base of partial oxidation.

Rock Mass	Wall	Slope Aspect [1] (°)	BFA [2] (°)	Bench Height (m)	Berm Width (m)	IRA [3] (°)	Basis
Completely oxidised	All	All	50	10	5	37	Local experience with similar conditions
Partially oxidised	Southwest (footwall)	030 to 080	55	20	8	42	Bedding dipping out of the wall
	All except Southwest	080 to 030	60	20	8	45	Low to medium rock strength
Fresh	Southwest (footwall)	030 to 080	55	20	8	42	Bedding dipping out of the wall. High rock strength
	All except Southwest	080 to 030	75			56	Few pervasive joints, faults, or shears. High rock strength

[1] *Wall aspect indicated as the dip direction of the wall, and clockwise.*
[2] *BFA – Batter face angle.*
[3] *IRA – Inter-ramp angle, measured toe-to-toe.*

Conceptual Open Pit Mine

The Ban Phuc deposit is a large, near-surface disseminated nickel sulfide orebody amenable to bulk open pit mining with a pre-strip requirement of approximately 25Mt and life of mine (LOM) strip ratio of 6.1:1.

Processing rates of 2Mtpa, 4Mtpa and 6Mtpa have been thoroughly examined and optimised rates of 4Mtpa (base case) and 6Mtpa have been selected. Mining is modelled to be conventional drill, blast, load and haul and is assumed to be contractor operated with mining costs based on similar sized open pit mines within the region. Note the 2Mtpa processing rates were examined as part of this Scoping Study. However, the 2Mtpa case was considered to be sub-optimum in terms of being able to delivery sufficient product to secure superior offtake terms.

The open pit mine design has four stages with the first stage including initial drilling from the KCZ. The higher grade, near-surface mineralisation at KCZ will be mined during the first three years of open pit mining.

Pre-strip mining is modelled to commence approximately 18 months before processing to allow sufficient time to establish the initial stages of the open pit mine and the associated civil requirements for the processing facility and tailings storage facility.

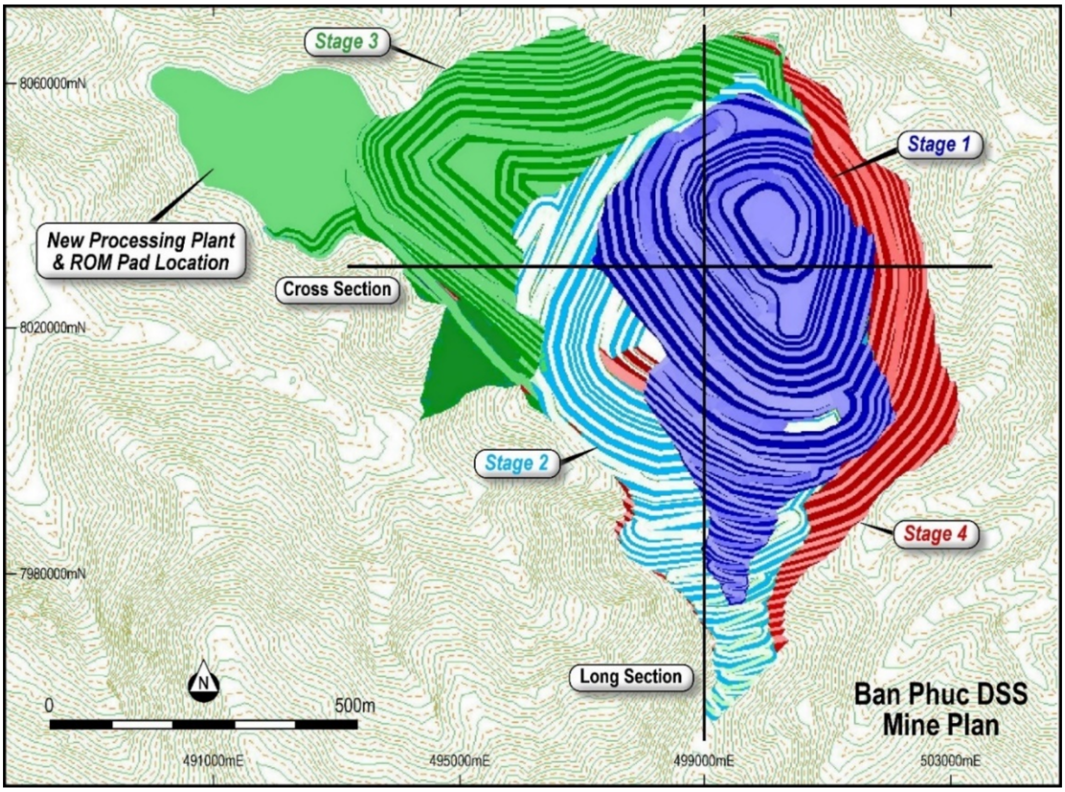


Figure 6 – Ban Phuc DSS - Stages 1 to 4

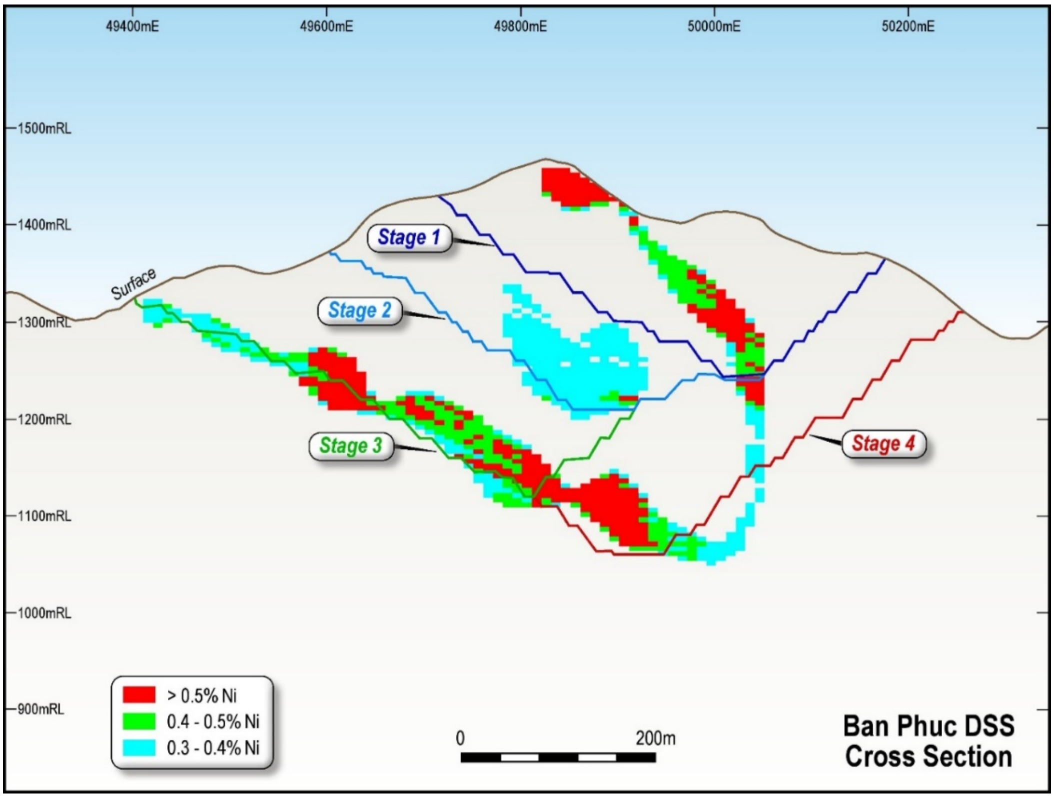


Figure 7 - Ban Phuc DSS Cross Section with Open Pit Stages 1 to 4

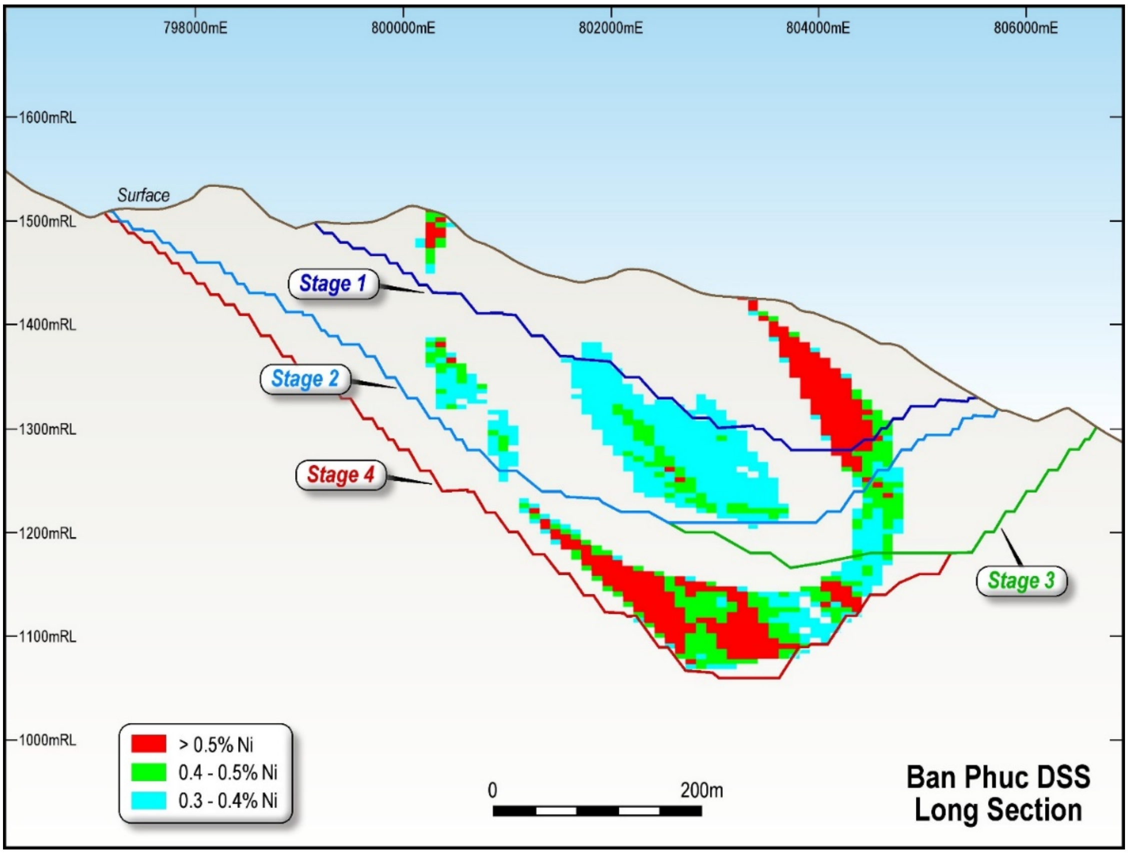


Figure 8- Ban Phuc DSS Long Section with Open Pit Stages 1-4

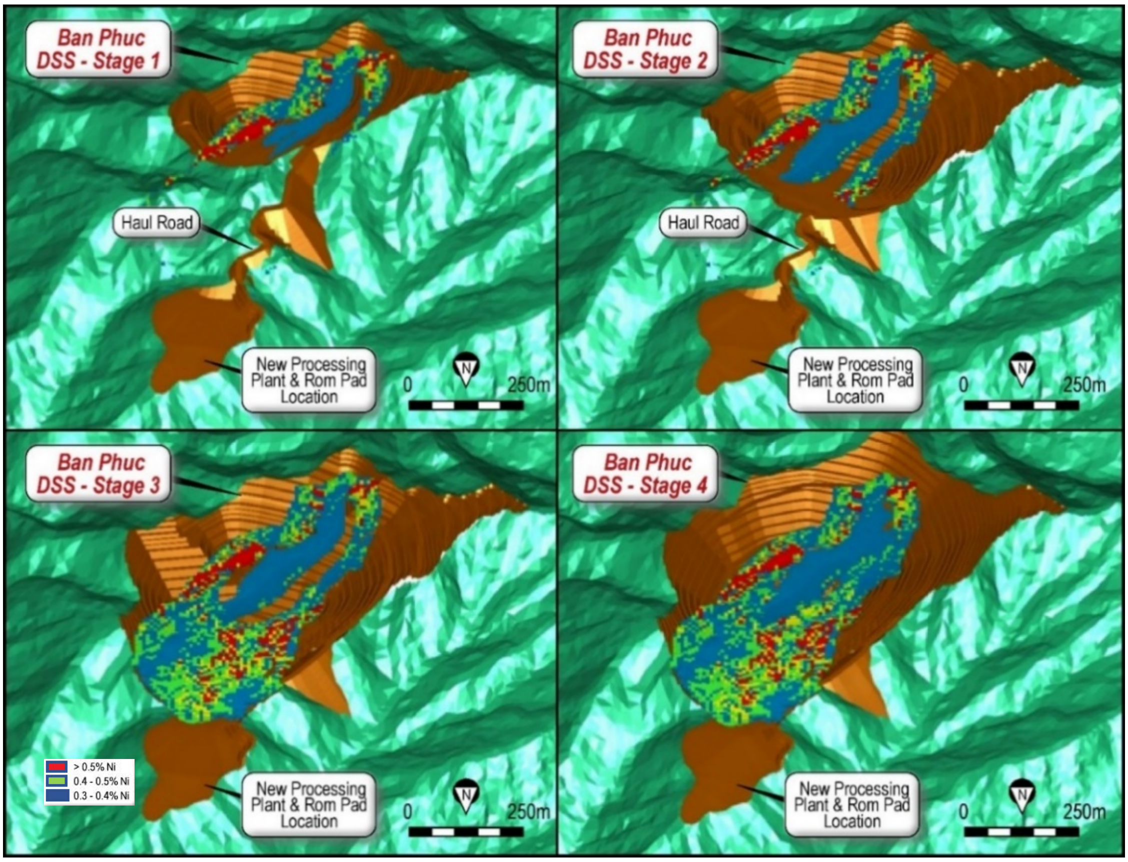


Figure 9 – Ban Phuc DSS – Open Pit Stages 1 to 4

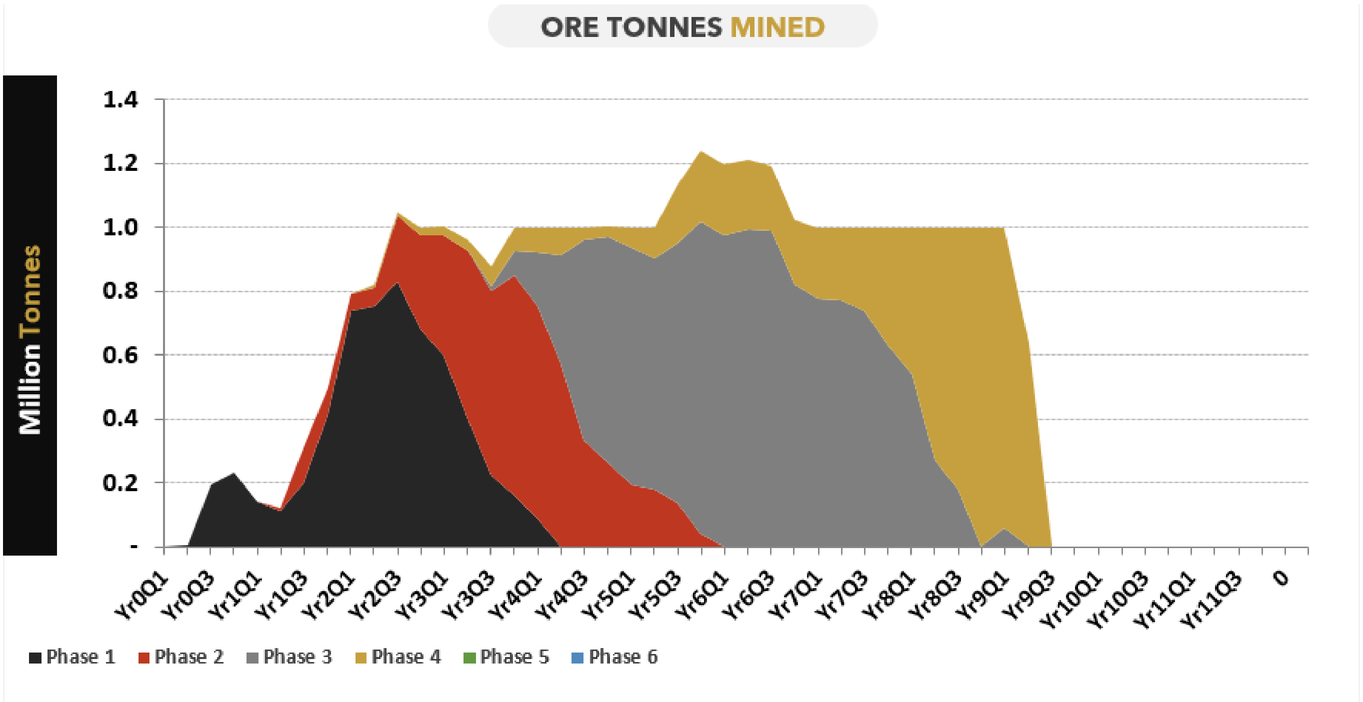


Figure 10 - Ore Tonnes mined - Stages 1 to 4

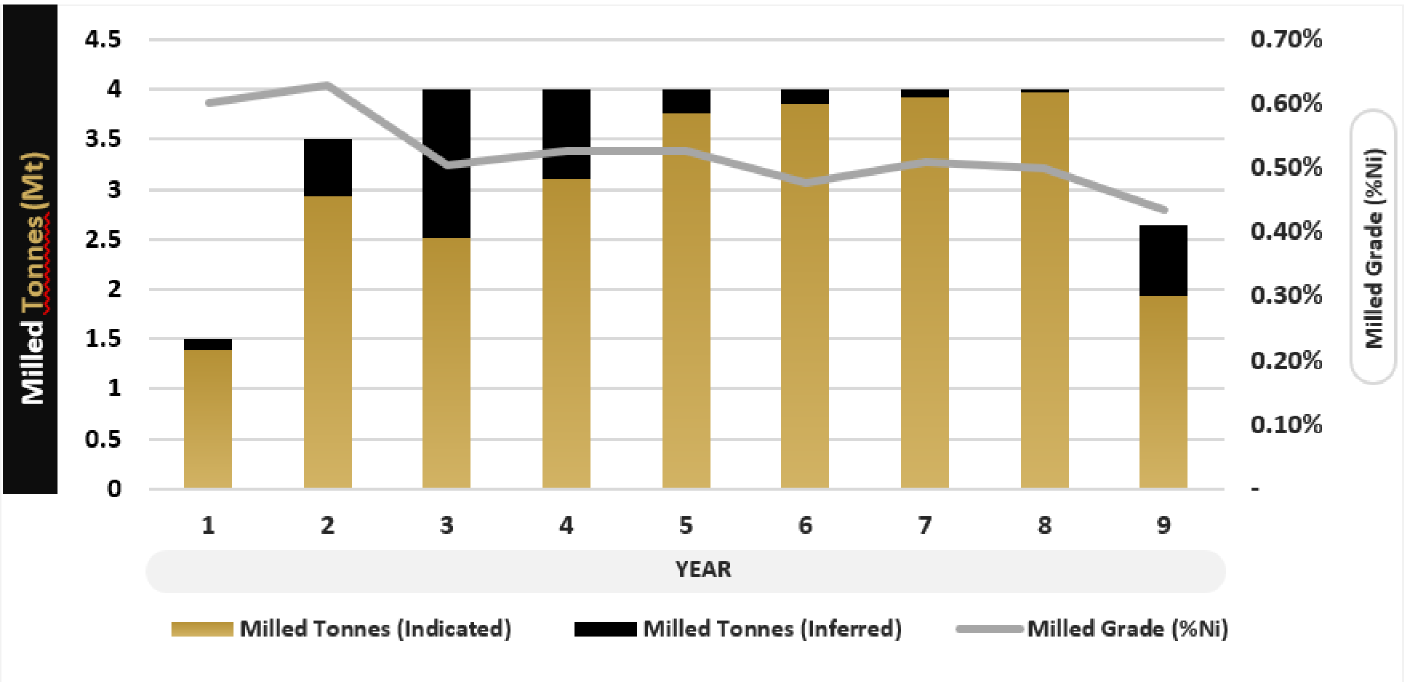


Figure 11 – Milled Tonnes & Grade

Upstream Processing

The Scoping Study considered a broad range of processing throughput options and product scenarios which include upgrades to the current processing facility and design and construction of an entirely new standalone plant.

The process design criteria have been derived from metallurgical test work from which process flowsheets and equipment lists have been prepared to develop the preliminary process plant design.

The process plant will produce a nickel concentrate targeting optimum metal recoveries at the concentrator whilst being suited to processing at the downstream process facility. The flotation circuit consists of a rougher/scavenger circuit followed by a cleaner flotation circuit.

The mineral concentrate is transported to a downstream processing facility via road transport to be converted to final product. An overall process flow diagram of the upstream processing is indicated below:

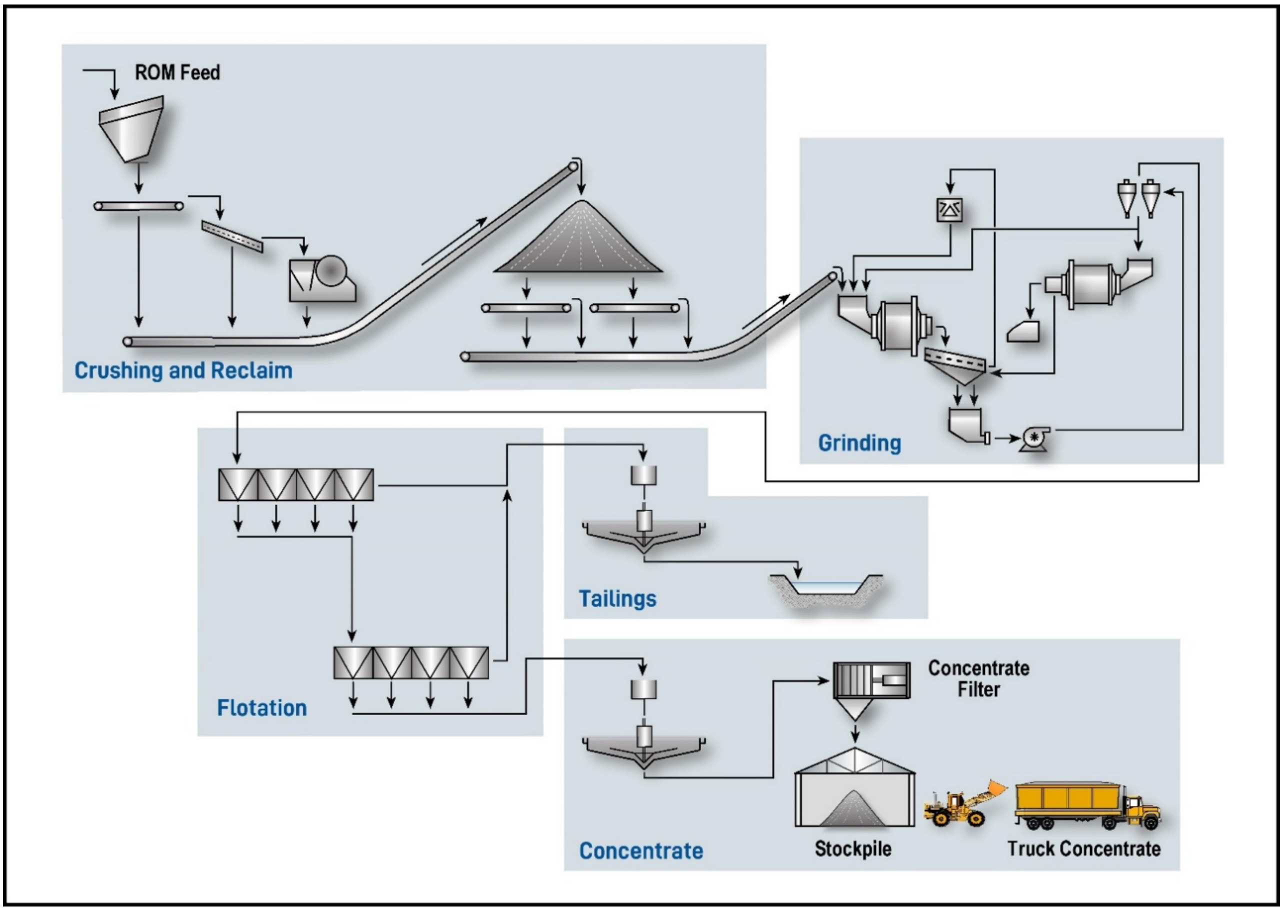


Figure 12 - Process Flow Diagram for Upstream Processing

Crushing

Run of Mine (ROM) material from the open pit mine will be trucked to the ROM pad or dumped directly into the crusher dump pocket depending on crusher availability and ore type. The crusher dump pocket is sized to accept multiple truck payloads to provide continuous feed via an apron feeder and vibrating grizzly to the primary jaw crusher.

The crusher reduces the ROM ore to P_{80} of 125mm. The crusher discharges the material onto the crusher discharge conveyor. The crushed material will be conveyed under a belt magnet to remove tramp metals to the open Coarse Ore stockpile. Crushed ore from the stockpile is metered using two apron feeders discharging onto the semi-autogenous grinding (SAG) mill feed conveyor.

Grinding

The grinding circuit consists of a single variable speed SAG mill, followed by a single ball mill (or dual ball mill for the 6Mtpa scenario) operating in closed circuit with a cyclone cluster. The product from the grinding circuit (cyclone overflow) has a typical P_{80} of 75µm. SAG mill discharge flows onto a vibrating screen to remove +12 mm pebbles. Screen oversize is transported by conveyor to the pebble crusher (cone crusher). Crushed pebbles are recycled back to the SAG mill feed conveyor.

The SAG mill feed conveyor discharges ore, along with pebble recycle and grinding media, into the feed chute of the SAG mill together with mill feed dilution water. The SAG mill is fitted with discharge grates to retain grinding media and larger pebbles while allowing smaller particles to discharge from the mill. SAG mill grinding media is also added to the SAG mill feed chute with a 2T kibble with a false bottom. The SAG mill discharge screen undersize gravitates to the primary cyclone feed hopper where it is combined with the discharge from the ball mill(s). The slurry is transported to a single cyclone cluster using two variable-speed cyclone feed pumps (duty and stand-by).

Dilution process water is added to the cyclone feed hopper before the slurry is pumped to cyclone cluster for classification. Coarse ground particles report to the cyclone underflow and are directed to the ball mill feed chute via a boil box with a portion being directed to the SAG mill to balance the mill powers. The cyclone overflow stream gravitates to the vibrating trash screen via a cross-stream sampler. A SAG mill feed chute removal system and a ball mill feed chute removal system are used to service the mills.

Flotation

The rougher flotation circuit consists of a conditioning tank, single train of rougher flotation cells, rougher scavenger flotation cells. The rougher/scavenger concentrate slurry is fed through the cleaner circuit which consists of a conditioning tank, cleaner flotation cells and cleaner scavenger flotation cells. The cyclone overflow stream from the trash screen undersize reports to the flotation feed conditioning tank. Reagents added to the conditioning tank are sodium silica (Na_2SiO_3) and soda ash (NaOH). As the streams enters the rougher flotation cells, collector and frother are added as required. Automated level control is implemented on all flotation cells to control the interface level and confirm froth rates. Additional reagents are added along the rougher flotation circuit to control the frothing rates.

Flotation feed reports to single rougher flotation bank consisting of three forced air mechanical rougher flotation tank cells and two forced air mechanical rougher flotation tank cells. The rougher flotation cells produce a concentrate which is transferred to the cleaner circuit. The rougher tailings stream is pumped to the flotation tailings thickener. The tails thickener underflow is pumped to the agitated tailings transfer tank from where they are pumped to the tailing's storage facility. Thickener overflow reports to the process water tank. Flocculant solution is added to the thickener feed to promote settling and increase thickener underflow density.

The cleaner scavenger tails are pumped to the rougher scavenger tails to be transferred to the flotation tailings thickener. The cleaner flotation cell concentrate is transferred to final concentrate while the cleaner scavenger concentrate is processed as final concentrate or returned to the cleaner flotation circuit for higher upgrading as required. The final concentrate is transferred to the concentrate thickener. The concentrate thickener underflow is pumped to the agitated filter feed tank from where the stream is pumped to the concentrate filter as per the operating filter cycles.

Concentrate

The concentrate filter is a plate frame style filter pressure which incorporates filter feed pumps, manifold wash water pumps, pressing water pump systems, air and hydraulic systems. The filtrate is returned to the main process water system for reuse. The filtered concentrate cake is dumped from the filter onto the concentrate stockpile conveyor positioned directly underneath the filter. The concentrate front end loader as required either transfers the material to the concentrate stockpile or loads directly into the concentrate transport truck. The concentrate shed is a fully enclosed engineered building with high concrete kerb walls to maximise the storage volume. The concentrate is loaded into a concentrate truck while on a weigh bridge to maximise truck load movements while maintaining a safe truck loading process.

Plant Layout

The upstream processing plant layout is indicated below:

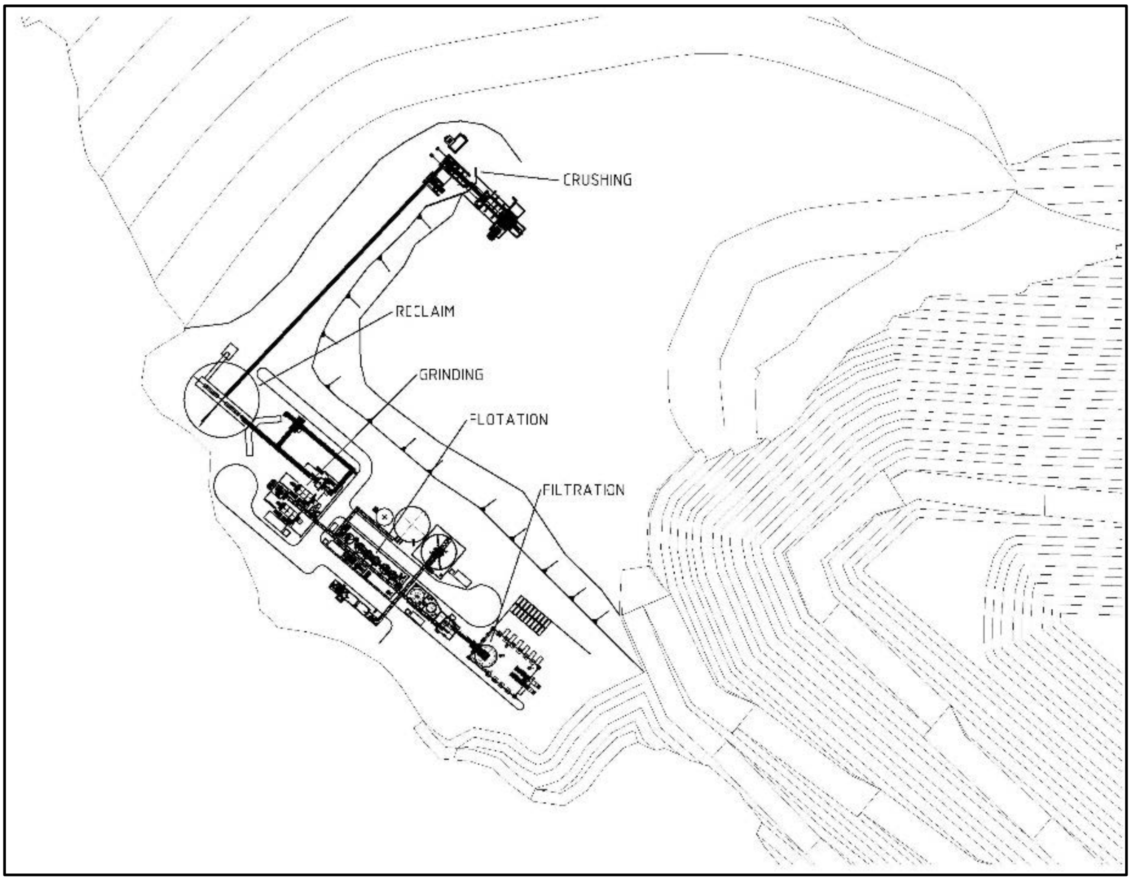


Figure 13 - Plant Layout for Upstream Processing

Tailings Disposal

The tails thickener underflow is pumped via multi-stage pumps (in duty/standby arrangement) to the tailings storage facility (TSF). The scoping level tailings discharge philosophy is based on sub-aqueous discharged via a floating barge. During Stage 1 the tailings will initially be discharged from the upstream face of the embankment to provide a tailings cover against the upstream slope of the embankment, thereby reducing seepage. Later in Stage 1 and for subsequent stages tailings will be discharged via a floating barge. Decant water will be reclaimed via the floating barge. A tailings delivery pipeline and reclaim water pipeline will be required between the Plant Site and the TSF.

Tailings Storage Facility

A preliminary assessment and construction cost estimate have been carried out for an additional TSF site located approximately 3km from the existing plant site. An assessment of the storage characteristics and TSF embankment volumes has been made based on tailings production estimates and tailings characterization and deposition test work.

Four stages have been assessed:

- Stage 1 - 3 years: 15.5Mt (12.4Mm^3) tailings
- Stage 2 - 6 years: 32.9Mt (22.7Mm^3) tailings
- Stage 3 - 9 years: 48.5Mt tailings (33.4Mm^3) tailings
- Stage 4 - 18 years: 100 Mt tailings (69.0Mm^3) tailings

A settled tailings dry density of 1.25t/m^3 has been used for Stage 1 and 1.45t/m^3 for subsequent stages.

Transportation

The concentrate will be loaded into and transported by suitably sized tipper trucks. The concentrate is tipped into the concentrate receival building for stockpiling and/or feed to the downstream processing facility.

Downstream Processing

Downstream benefits

Blackstone is looking to develop an integrated downstream processing facility to supply Precursor products to the emerging Lithium-ion battery market. The technology associated with the production of NCM precursor from MHP is well-tested.

There are many benefits through delivering a downstream solution, including:

- Significantly improve payability of the product, from ~70-80% to ~125-135% of LME metal prices;
- Eliminate or substantially reduce export tariffs on the product;
- Maximise product margin by reducing transport and rehandling costs, as well as by taking advantage of competitive hydro-power and labour rates;
- Provide increased employment in Son La, particularly amongst minority groups;
- Allow the product to be delivered directly to the battery supply chain in an environmentally friendly manner.

Process Evaluation

The Scoping Study considered seven possible nickel concentrate processing flowsheets consisting of four different downstream products and three different processing technologies.

The Scoping Study considered the following downstream processing technologies: Pressure Oxidation (POX), Glyleach and the Albion Process; and considered the following downstream products: Mixed Hydroxide Precipitate (MHP), Mixed Sulfide Precipitate (MSP), Nickel Sulfate and NCM precursor.

Scoping level engineering flow sheet designs were developed for each of the seven options including process design information, operating and capital cost estimates. The extensive study work and batch test work program completed by Simulus Engineers facilitated the selection of the preferred option for ongoing project development. The Study found that the premium associated with NCM precursor products significantly improved overall project economics and the preferred option is for Blackstone to produce NCM precursor as the final product via MHP using the POX processing technology.

Process Description

A simplified process flow diagram of the downstream processing is indicated below:

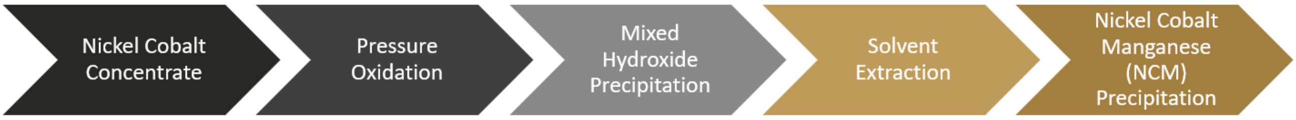


Figure 14 – Simplified Process Flow Diagram for Downstream Processing

The flowsheet consists of a concentrate POX leach with the rejection of most impurities via partial neutralisation and solid liquid separation by pressure filtration.

The pregnant liquor solution (PLS) from the POX leach then undergoes a second neutralisation stage followed by two stages of mixed hydroxide precipitation using magnesia and lime.

Stage 1 MHP contains the bulk of the nickel and cobalt and undergoes an atmospheric releach with sulfuric acid to give a liquor with ~100g/L nickel. This liquor then undergoes impurity removal using recycled nickel hydroxide dosing to increase the pH and with sulfur dioxide and air addition to precipitate manganese followed by solid liquid separation to reject the solid impurities.

The filtrate is processed in cobalt solvent extraction (CoSX) to separate the cobalt (and any copper and zinc present) from the nickel solution. The CoSX strip liquor is crystallised to produce battery grade cobalt sulfate heptahydrate.

The raffinate from CoSX primarily contains nickel but also some magnesium. This raffinate is fed to a magnesium solvent extraction (MgSX) circuit to remove the magnesium from the nickel sulfate liquor.

The raffinate from MgSX proceeds to NCM precursor refining to generate the main refinery product, Precursor NCM.

The downstream process is summarised in the following process flow diagram:

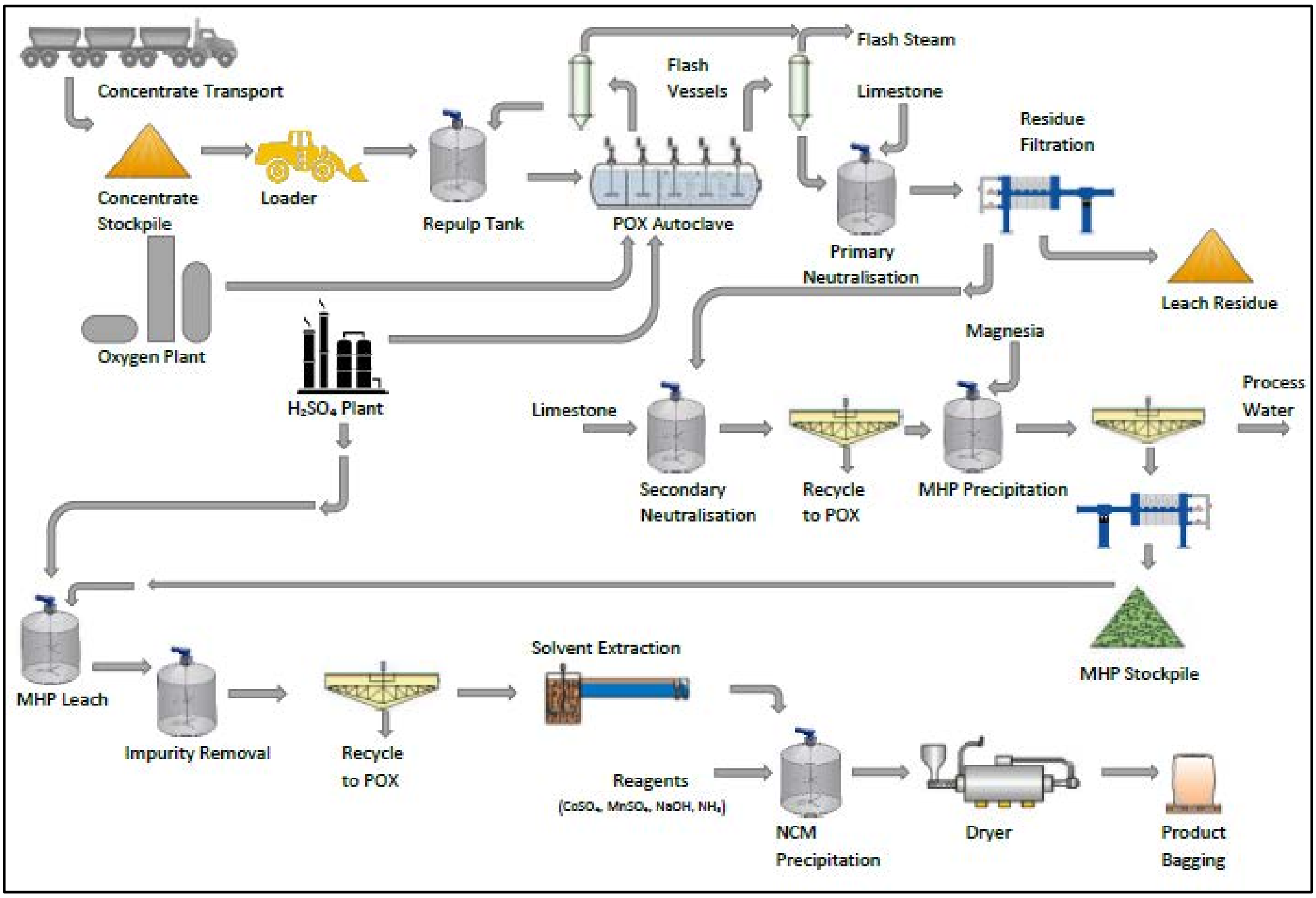


Figure 15 - Process Flow Diagram for Downstream Processing

Pressure Oxidation

Concentrate generated from composites of Ta Khoa disseminated have been successfully leached via POX, with consistent nickel extractions exceeding 95% and up to 98.5% achieved at moderate acid consumption of 130 kg/t.

Blackstone will complete further optimisation work in the next stage of the project to increase the project economics. The POX process route is based around a typical sulfide oxidation autoclave, as commonly used on refractory gold and base metal sulfide concentrates.

The purpose of the area is to leach the maximum amount of nickel and cobalt possible from the nickel concentrate feed, which requires an oxidant and pressure vessel to prevent boiling of the aqueous leach liquor.

The current program is based on a nickel concentrate feed containing approximately 8% sulfur and 8% nickel. Ongoing test work is focusing on optimising the processing interface between upstream concentrator and downstream refinery in order to maximize overall project economics.

The gangue composition, particularly the ratio of magnesium to pentlandite will drive the acid consumption, i.e. higher magnesium requires more acid. A minor amount of acid is also required during the process for leaching metal hydroxides recycled in the process.

The POX autoclave will be a horizontal, five-compartment type fabricated from duplex stainless steel designed to operate at 160°C and with a residence time of 1.5 hours. Oxygen gas will be supplied to the autoclave with 10 bar(g) overpressure, making the total operating pressure approximately 16 bar(g).

The oxidative leaching of nickel sulfide concentrate is exothermic so the autoclave temperature can be maintained by the heat of reaction. The autoclave discharges to a single-stage atmospheric flash vessel. A barometric condenser ensures that entrained acidic mist is scrubbed from the vent gas prior to environmental release. The water vapour is also condensed, which avoids the potential formation of a large steam plume in cooler weather, which may be confused for smoke or pollution by surrounding stakeholders. The flashed leached slurry is pumped to the slurry neutralisation area.

Limestone is added to the leach pulp in four reactors in series to neutralise free acid and precipitate most of the iron (III), aluminum, and chromium as hydroxides. Carbon dioxide gas is evolved by the neutralisation and precipitation reactions. The pH increases to ~2.5–3.2, but no higher, to limit the co-precipitation of nickel and cobalt. Limestone will be crushed and milled on site prior to dosing as a slurry from a ringmain. The slurry is pumped to a smaller filtration feed tank where it is filtered. The filter cake is repulped in washate from subsequent stages, then filtered again. Water is used for repulping in the third and final stage to achieve a counter-current repulp washing configuration. The filtrate from the first filtration stage is pregnant liquor solution (PLS).

Secondary Neutralisation

The PLS still has minor levels of acid present. Prior to MHP precipitation the bulk of this acid is neutralised by the addition of a limestone slurry. The PLS is fed to six agitated, cascading tanks in series with an overall retention time of six hours. The temperature is maintained at 80°C and the pH is controlled to approximately 4.5 by varying the limestone addition rate.

Mixed hydroxide precipitation

A mixed hydroxide precipitate (MHP) product is proposed as an intermediate product which provides an internal process buffer point and consolidation of feed materials and blending to achieve process quality for the end product constituents. The PLS from secondary neutralisation is pumped to the mixed hydroxide precipitation area. Nickel and cobalt are precipitated using electrofused magnesia powder in a series of three precipitation reactors. The MHP is primarily composed of nickel hydroxide and nickel hydroxy-sulfate hydrate, but some of the gangue metals will co-precipitate meaning low levels of aluminium, iron, manganese and magnesium will be present. The tanks are sized for a total retention time of three hours. The MHP is thickened with the addition of flocculant then filtered and washed in a proposed vertical plate and frame pressure filter to produce the base metal hydroxide product.

Neutralisation and MHP test work conducted on POX discharge liquor generated an intermediate product that could be readily re-leached in an atmospheric leach. Magnesia was overdosed marginally in this program during MHP precipitation, leading to a higher than normal magnesium grade in the precipitate and subsequently higher than normal acid requirement in the atmospheric leach. However, the MHP produced was of good quality containing 37.7% nickel and was produced with a nickel recovery of 100%. Work on further optimisation of this process will be undertaken in the next stage of the project.

MHP leach

The MHP leach consists of an atmospheric sulfuric acid leach circuit to dissolve the cobalt and nickel hydroxides. The circuit consists of six leach tanks in series with a total retention time of 3 hours. Sulfuric acid is dosed to the four tanks to control the pH. The bulk of cobalt and nickel leach along with magnesium and manganese and other minor impurities such as aluminium, copper, iron, and zinc. The MHP leach PLS is pumped to the nickel refinery.

Nickel refining – Mn impurity removal

The MHP leach liquor is an acidic, concentrated nickel sulfate stream containing approximately 100 g/L nickel. The liquor contains nickel and cobalt but also has appreciable levels of manganese and magnesium and other impurities. The PLS is fed to the first of six tanks in series. A mixture of air and sulfur dioxide gas is sparged into the tanks. This oxidises manganese from (II) which is soluble, to (IV) which is highly insoluble and precipitates as MnO_2. The pH is maintained at approximately 4.0 by adjusting the dose of recycled nickel hydroxide. The impurity removal discharge is clarified with a portion of the clarifier underflow recycled to the first impurity removal tank and the remainder pumped back to the primary neutralisation area. The clarified PLS is then pumped to the CoSX circuit.

Nickel refining – CoSX

The PLS enters the first of four cobalt extraction mixer settlers in series. The organic consists of the extractant Cyanex® 272 in a low aromatic diluent such as Shellsol D70®. The scrubbed loaded organic is stripped sequentially, first in dilute sulfuric acid to strip almost all the cobalt at pH at approximately 3. Any extracted zinc and iron remain on the organic at this pH, which prevents contamination of the cobalt sulphate downstream. Low levels of manganese will be present in the cobalt loaded strip liquor and are removed using an impregnated resin, such as Lewatit VP OC 1026® prior to crystallization or NCM precursor precipitation.

Nickel refining – MgSX

The magnesium concentration in the CoSX raffinate is too high to achieve battery grade nickel sulfate crystals without further treatment. A second Cyanex® 272 solvent extraction circuit is used to remove the magnesium. The magnesium loaded organic is scrubbed to recover nickel using magnesium strip liquor. The scrubbed organic is then stripped with dilute sulfuric acid at a pH approximately 4. The scrub liquor returns to the MgSX extraction feed. The raffinate proceeds to nickel sulfate crystallisation and the magnesium loaded strip liquor is sent to nickel hydroxide precipitation.

Nickel refining – NCM precursor

The raffinate from cobalt and magnesium SX contains concentrated nickel sulfate. It is mixed with the cobalt loaded strip liquor, plus solutions of manganese sulfate and additional cobalt sulfate. The determined or prescribed stoichiometry was selected in consultation with the end product requirements and the availability of market price data for this Scoping Study. The mixed metal sulfate solution is dosed with citric acid solution as complexing agent and allowed to stabilise in three agitated tanks in series. The citrate complexes with the manganese (II) ions which prevent oxidation and precipitation as MnO_2 and other undesirable phases. Citrate complexation ensures that the manganese precipitates as the manganese (II) hydroxide, in uniform stoichiometry with the coprecipitating nickel and cobalt hydroxides. Dilute sodium hydroxide solution is added over three precipitation tanks, to increase the pH to approximately 12.0 and the precipitated slurry is aged in three agitated reactors over 24-hours. The mixed NCM hydroxide precursor slurry is thickened in a conventional thickener, with the option for seed circulation depending on particle size requirements. The thickener overflow is filtered in a pressure candle filter, to capture any entrained solids. The thickened slurry is filtered in a vertical, recessed, membrane plate pressure filter. The NCM hydroxide filter cake is dried in a steam-heated fluid bed dryer. Solids are conveyed to three storage bins, then packed into lined shipping containers using a telescopic container loading conveyor.

Acidic liquor neutralisation

The acidic liquor neutralisation (ALN) system consists of two stages of neutralisation, the first with limestone slurry addition to pH of approximately 4 – 4.5 followed by lime addition to pH of approximately 8 – 10 depending on the water balance, effluent discharge requirements and degree of manganese and magnesium removal required.

Infrastructure

Nickel refining – NCM precursor plant location

The Son La Peoples Committee and Son La Industrial Zone Management Authority has proposed the Mai Son Industrial Park as a potential site for the Ta Khoa Project downstream processing facility. The 50-hectare lot is located 42km from the mine site and processing facility and 26km from the provincial capital of Son La. The site has necessary power and water supply infrastructure in place and is zoned for industrial application. Discussions have commenced with the province regarding investment incentives associated with the site which will be considered, along with alternate sites, in the next stage of study.

The preliminary plant location is indicated in the below figure:

Figure 16 – Mai Son Industrial Park, Son La – potential location for downstream processing facility

Water Supply

Raw water will be sourced from the current TSF. Raw water will be used to provide makeup water for the process plant and to meet clean water requirements for the concentrator. Clean water will be used for the following areas:

- Pump gland seals
- Reagent preparation (flocculant, collector, modifier and dispersant)
- Firewater
- Raw water (dust suppression, filter plant, screens and hose down)

Power Supply

Power for the processing plant and refinery sites is primarily sourced from the 2400MW Son La Hydropower plant as seen below:

Figure 17 – Son La Hydropower Plant - a renewable energy source for the Ta Khoa Project

The Son La Provincial Government Power Department has indicated additional power can be provided to accommodate the upgrade in processing requirements, though approval has not been provided and there is no guarantee of an adequate power supply if the upgrade is not made. Options currently being considered include:

- Upgrade of the Gia Phu 110 kV/35 kV substation located 16km to the northeast of the Ban Phuc mine site;
- Construction of a new 110 kV/35 kV substation within the Muong Khoa commune boundary.

Transport

During historical operations, several routes have been identified for road transport of goods to site with the size of the loads being the main determining factor as to which route is taken. Incoming freight will consist of equipment, spares, reagents, consumables, and general merchandise. Some inbound goods will be in break bulk but others will be in 20 foot sea containers.

Road transport of diesel fuel will be in conventional tanker trucks. Import equipment will be shipped via Hai Phong port. The road route passes Hanoi via the Hanoi-Hai Phong Expressway and then via Highway 6 from Hanoi to Son La and finally the intersection of Highway 6 with Highway 37 and then on Highway 37 to site.

Figure 18 - Ta Khoa Project Location and Hai Phong Port Location

Figure 19 - Highway 37 - sealed road to the Ta Khoa Project

Figure 20 - Hai Phong Port is located approximately 350km from the Ta Khoa Project (copyright haiphongport.com.vn)

Figure 21 – Provincial capital, Son La is located 55km to the north-west of the Ta Khoa Project

Figure 22 - Ta Khoa Processing Plant - existing 450ktpa Concentrator

Environmental, Social & Governance

Environmental

The Ta Khoa project was implemented on the foundation of expanding and upgrading the existing Ban Phuc nickel mine that was successfully operated as a mechanised underground nickel mine from 2013 to 2016. Baseline environmental studies in the area have been carried out since 2014 including an assessment of flora and vegetation, landforms, subterranean fauna, terrestrial environmental quality (including both mineralised and non-mineralised waste), terrestrial fauna, inland waters, air quality, heritage, archaeology, social surrounds and human health.

Since the baseline studies a program of monitoring environment, vegetation, and implementation of minimizing environment impact has been maintained ongoingly and the project's *Environmental Impact Assessment Report* was approved by the Government of Vietnam.

Previous environmental assessment studies showed that waste rock in mining has no potential to create acid, therefore it can be reused in the process of upgrading the construction of the internal mine road. In addition, an area of 16ha has been planned for the waste rock dump. The waste rock dump will be designed according to international standards to meet the environmental standards set by the Vietnamese government.

The recycle and reused water system of the existing processing plant supplies enough water for production activities. Further to this, the baseline survey study shows that the project is adjacent to the Da River so additional water demand for production will be supplied from the Da River and suitable for production conditions.

The tailing storage facility was built according to international standards with a permanent spillway ensuring production wastewater is treated by deposition before being discharged into the environment. The Company has been granted a licence to discharge waste into water source.

TSF Closure

At closure of the TSF the decant barge, discharge spigots, tailings pipelines and return water pipelines will be removed from the TSF area and between the TSF and the process plant. Based on the geochemistry analysis results available to date the disseminated tailings are not potentially acid forming. The Scoping Study TSF closure philosophy however assumes that tailings from future MSV orebodies may be deposited in the facility. At closure a water cover allowance of 2m has been applied over the tailings. This water cover will be maintained during operations so at closure no additional work is required. In addition, a 100mm layer of inert tailings is to be placed over the tailings immediately prior to closure. This inert tailings layer plus the water cover will minimise acid generation from the tailings storage in the long term. Both the upstream and downstream slopes of the TSF have an external rock rip-rap cover 1m thick which is erosion resistant. As a result, no additional work will be required on the external surface of the TSF embankment.

The project has obtained a land use licence for the existing mine site. The time and permitted area of land use licence will be extended and expanded to match the permitted area in mining licence and exploitation licence. The company notes that additional licences and extensions will need to be applied for and no guarantee these will be granted (refer to Key Project Risks). For the forest area that was given to the Company to be converted into land use for the purpose of mining, the Company will pay a replacement afforestation fee and develop a plan for environmental reclamation and rehabilitation for mining closure. The environmental reclamation and rehabilitation program to be approved by the Ministry of Natural Resources and Environment in accordance with the provisions of the Law on Environmental Protection in Vietnam. The Company will be obliged to make the escrow for the environmental rehabilitation. This is to ensure the Company's obligations on environmental rehabilitation after mining.

An expansion of the project will require an additional environmental impact assessment. Additional environmental survey, community consultation and environmental impact assessment program are expected to be finalised in April 2021 and the Environment Impact Assessment Report will be submitted to the Vietnamese Ministry of Natural Resources and Environment for approval before the project construction.

Figure 23 - Ta Khoa Project - existing Tailings Storage Facility (TSF)

Social and Community

The project values the community in which it works and takes seriously its community and environmental obligations to ensure the community benefits from all stages of the project's activities. We have a history of operating responsibility and have the endorsement of the local community to operate. Our social and community values are demonstrated in the relationships we share with the local community, the economic and employment opportunities we provide, and engagement we have on environmental activities.

The project is located in the Muong Khoa Commune, Bac Yen District, Son La Province, a culturally rich but economically poor district in the Northern mountainous province of Vietnam. The population of the area is almost 5,000 people, who are mainly engaged in subsistence agriculture and forestry. The population mostly consists of ethnic minorities with low levels of educational attainment, with the area serviced by a local primary school and a secondary school further away. The average income per capita in 2019 was US$1,400pa. The information on socioeconomic status was collected through the use of district government censuses, statistical yearbooks of the Son La Province and Bac Yen District, and relevant archives from the Muong Khoa Commune.

Over the past years, the project has supported several key community development projects and at the request of the Bac Yen District. Community consultation has been an important factor in determining the priorities of the projects, and have included: building and upgrading roads, supporting the construction of a new inter-village bridge and implementing vocational training programs as the project has supported the community businesses, the building of schools and community houses for local people.

Within the current exploration program, the Ta Khoa Project employs more than seventy local workers with an average salary above the average annual income of those employed in other industries in the region. Once the project becomes fully operational, it is expected to provide employment for a larger number of local people. Additionally, we will develop local people into their roles and have a track record of supporting personnel to study at Mine College in Quang Ninh. Further to this, local businesses and suppliers from the region will continue to be engaged to ensure economic opportunities in the project contribute to the local community.

According to Vietnamese Government regulations, public consultation on project impacts will be carried out simultaneously during the environmental impact assessment process. Community consultation carried out in 2014 showed that the project received active support from the local community as well as the authorities at all levels. Further environmental consultation on the project's expansion is scheduled for March 2021. A compensation and assistance policy for affected households to expand the mining project will be implemented will need to be approved by local authorities in accordance with the provisions of Vietnam's land law. The Company will appoint a representative to join the compensation and site clearance council established by the Bac Yen District People's Committee.

The project's organisation will include an environmental and corporate social responsibility department to:

- manage the impacts of the project;
- ensure the community benefits from activity within the region; and
- commit to continued engagement and reporting with local and government stakeholders.

Accordingly, the project will allocate an annual budget for environmental rehabilitation and community development activities.

Licensing and Permitting

Approval for the Ta Khoa project will be at government central level. The following government organisations are involved in the approval process for the Ta Khoa Project:

Project approved components	Organisation
Investment Certificate for Downstream Processing	Ministry of Planning and Investment/ Son La People Committee
Reserve Approval/ Exploration Report Approval	Ministry of Natural Resource and Environment/ General Department of Geologic and Mineral/ National Reserves Council
Feasibility Study	Ministry of Industry and Trade/ Ministry of Construction
Socio-Environment Impact Assessment	Ministry of Natural Resource and Environment
Mining Licence	Ministry of Natural Resource and Environment
Export licence	Ministry of Industry and Trade
Water Use and Discharge Permit	Ministry of Natural Resource and Environment/ Son La People Committee

Table 4 – Approval Stages and Process

Government Engagement

A dedicated government engagement strategy has been developed and is underway. The key objectives of this strategy include:

- Working with the Ministry of Industry and Trade in mineral planning to ensure that the Ta Khoa project and its products are supported by and within the national mineral development orientation that is expected to be built in 2021 and issued in 2022;
- Currently, the Ministry of Natural Resources and Environment of Vietnam is conducting a national mineral exploration planning and investigation. Therefore, Blackstone will continue to align the potential exploration areas the Company is aiming to add with the direction of the National orientation;
- Submit the application for the downstream processing project to Son La Provincial People's Committee and the Ministry of Planning and Investment to consider and apply preferential tariff policy for single-product Lithium-ion battery materials with new production technology;
- Report to Son La Provincial People's Committee (PPC) on the land use plan for the PPC to allocate land funding for the project;
- Report to Son La Provincial People's Committee on project scale to adjust investment licence to increase equity and investment capital for project implementation;

Research & Development

Blackstone Minerals is a key participant in The Future Battery Industries Cooperative Research Centre (FBICRC) project. The program is jointly funded by the Federal Government, industry participants and research organizations to support Australian industries in battery technology development.

Present and ongoing work has included the development of alternate leach technology's for nickel and cobalt.

Bench scale test work conducted in 2020 has yielded encouraging results from Ban Phuc disseminated ores and concentrates in the selective leaching of nickel and cobalt via alkaline glycine leaching.

While glycine leaching is not the primary focus of the projects refining flowsheet Blackstone will continue to support ongoing test work and assessment of the process to investigate the potential for commercialization of this process.

Project Development Timeline

Risks

Resource Risks

Blackstone continues to drill the Ban Phuc DSS orebody and the associated KCZ to improve confidence in the resource block model. The Maiden Resource for the Ban Phuc DSS comprises 82% of the nickel tonnes within the indicated confidence category which is typically a high level of confidence for a Scoping Study. Ongoing drilling at Ban Phuc will most likely improve confidence in the orebody which may result in an increase some of the indicated material to the measured category and remaining inferred mineralisation may result in being upgraded to indicated for the next stage of the project.

Mining Risks

Mining of the Ban Phuc DSS orebody will be via conventional drill, blast, load and haul open pit mining and is assumed to be contractor operated with mining costs based on similar sized open pit mines within the region. The mine schedule is based on typical mining rates for similar sized operations located in similar elevation scenarios. Further optimisation of haulage profiles and waste dump locations will be carried out during the next stage of the project to minimise risks associated with open pit mining of the Ban Phuc DSS orebody.

Processing Risks

Processing of the Ban Phuc DSS orebody will be via conventional froth flotation to concentrate followed by pressure oxidation of the concentrate to produce downstream nickel products. Although the flowsheet is based on conventional technology it is a relatively new concept to process nickel concentrate directly via a hydrometallurgical process. Blackstone believes that the growing demand for downstream nickel chemical products from the Lithium-ion battery industry will see the hydrometallurgical processing of nickel concentrate ores become more common place over the coming years. The Company believes the technical risks associated with the downstream processing can be managed by the next stages of test work, piloting and studies.

Commodity Price Risks

Commodity price volatility is typical of all mining projects and nickel has been particularly volatile in recent times. The nickel price used for the Scoping Study is based on the long-term average consensus forecast pricing which continues to be significantly less than the incentive price required for increased investment in nickel projects. Blackstone believes a nickel price in the order of US$20,000/t is required to incentivise funding of new nickel projects to meet the imminent demand coming from the Lithium-ion battery industry. The disconnect between supply and demand and the significant lag associated with the time required to develop large projects suggests that volatility in the nickel price will continue to be a significant risk in the future. A hedging strategy may be considered at a time closer to the final investment decision to minimise the risk associated with the commodity price.

Permitting Risks

Delays in the permitting and approvals process are a risk to all mining projects regardless of the jurisdiction. The Ta Khoa Nickel-Cu-PGE project has an existing mining licence and the approval process has commenced to amend the mining licence to include the development outlined in this Scoping Study. Vietnam has an established mining industry with a structured permitting process similar to the Australian mining industry. The Ta Khoa project has a long and successful history of permitting, development and operations.

The Ta Khoa project was highlighted as a project of national significance in the Vietnam National Mining Master Plan. This national recognition combined with the government's continued focus on incentivising downstream processing will be beneficial to the permitting process over the coming months.

Upside Opportunities

Blackstone Minerals has identified a number of additional enhancement opportunities which will generate significant additional value to the project. The Scoping Study represents just the starting point for the future of its nickel operations at Ta Khoa. The Company has a number of opportunities to increase mine life, nickel production and revenue through a combination of exploration, further studies and resource extension programs which are either already in progress or planned for the coming months.

Staged Capex

The Scoping Study considered the immediate construction of a 4-6Mtpa treatment facility to process ore mined at the large tonnage, Ban Phuc DSS orebody. In addition to the Ban Phuc orebody, the project also features an established and well-maintained 450ktpa concentrator and multiple known high grade MSV prospects. Whilst more exploration is required to ascertain the qualities of MSV material, there is potential for Blackstone to defer the construction and associated Capex of the 4-6Mtpa plant by initially restarting the existing concentrator to treat high grade MSV ore. Doing so would improve the overall project NPV, as the initial Capex requirement will be significantly reduced and may be funded through future cash flow. In addition, given part of the future Capex will be funded through cash flow under this scenario, there could also be less dilution to existing shareholders during project funding. The staged Capex scenario has not been factored into this Scoping Study.

By-product Credits

The Ta Khoa Project Scoping Study is focused on nickel and cobalt revenues only and has not considered the by-product credits that potentially exist within the Ban Phuc DSS orebody. Initial metallurgical test work conducted by Blackstone suggests the by-product minerals (including copper, gold, platinum, palladium and rhodium) that exist within the Ban Phuc DSS orebody can be recovered through flotation and processed within the downstream refinery. Further analysis, test work and engineering are required to understand the full potential of the by-products to add value to the overall economics of the project. Blackstone believes there is significant potential for upside to the value of the project and is considering additional processing infrastructure to allow the downstream processing to produce secondary saleable products to generate by-product credits.

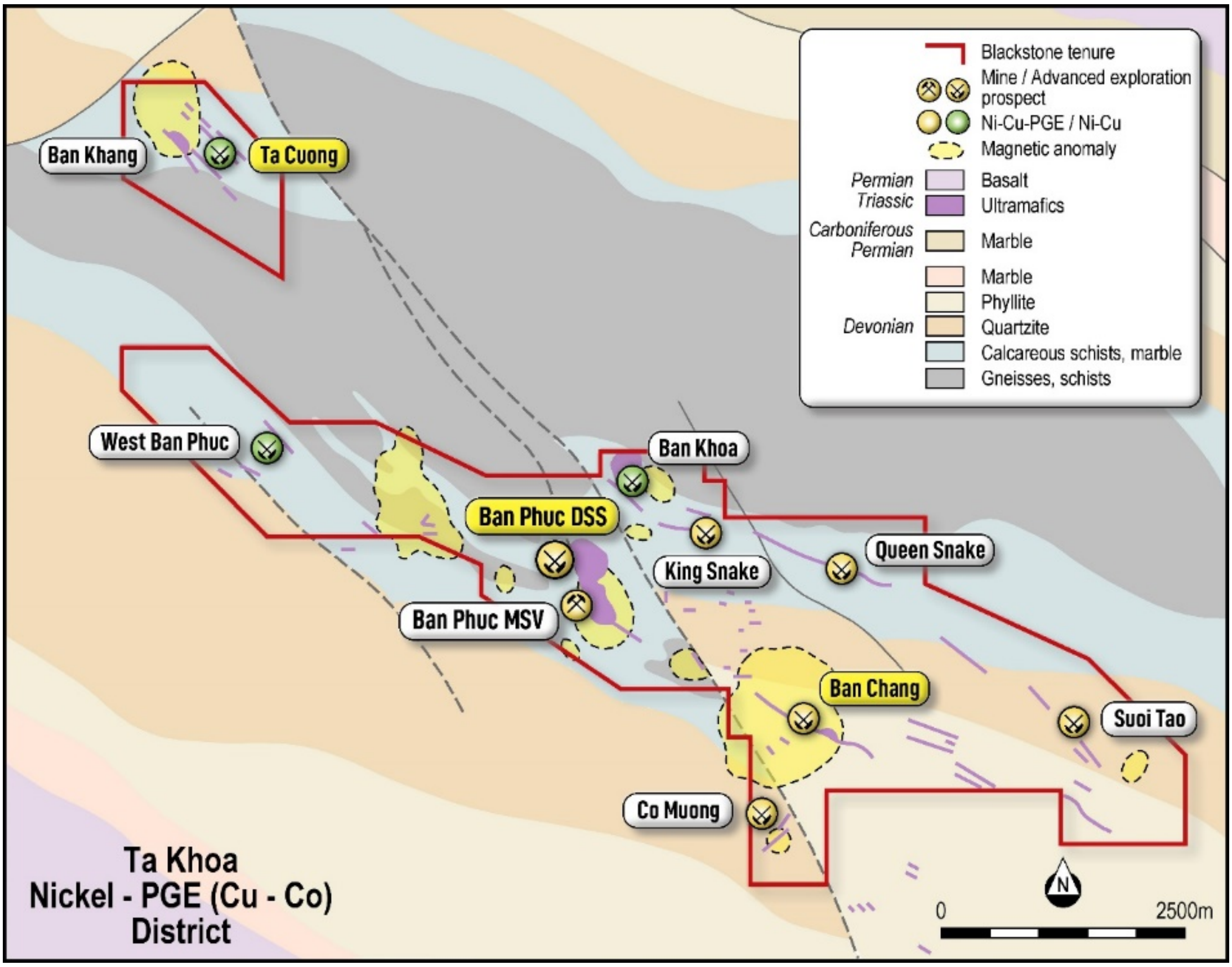


Figure 24 - Ta Khoa Nickel-Cu-PGE – Regional Prospects

King Cobra Discovery Zone

The Ta Khoa Project Scoping Study includes some initial drilling of the KCZ but does not include the most recent drilling. The KCZ remains open at depth towards the northeast of the Ban Phuc DSS with massive sulfide vein and breccia styles of sulfide mineralisation generally not seen elsewhere within the Ban Phuc DSS orebody. The KCZ has potential to add shallow, high grade tonnes to the Ban Phuc DSS maiden resource estimate and hence significant upside to the value of the project. Any KCZ drill holes announced after the ASX announcement dated 27 July 2020 (subsequent to drill hole BP20-23) are not included in the current Ban Phuc DSS Mineral Resource Estimate and Scoping Study.

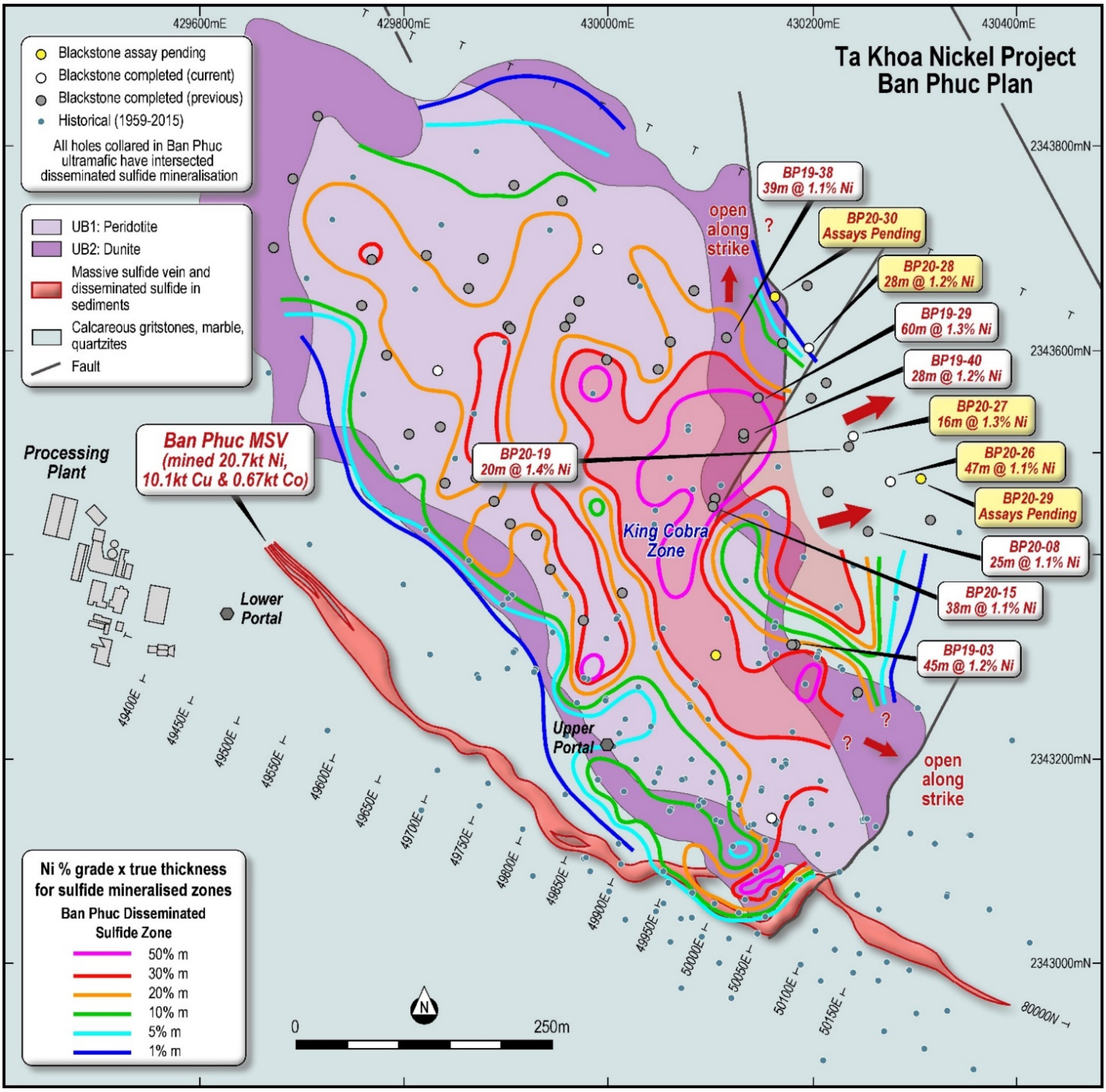


Figure 25 - Plan View showing Ban Phuc DSS drillhole locations and King Cobra Discovery Zone (KCZ) (Refer to ASX Announcement 14 May 2020)

Ban Chang

The Ban Chang prospect is located 2.5km south-east of the Ban Phuc deposit and processing facility, adjacent to the Chim Van – Co Muong fault system. The Ban Chang Prospect is the first of 25 MSV prospects to be drill tested and the initial results indicate potential for Ban Chang to add significant value to the project. Three drill rigs are currently operating at Ban Chang where the Company has intersected high grade MSV in the majority of maiden drillholes. The following highlights are from the maiden four drillholes at Ban Chang, all of the subsequent holes have delivered similar results *(for full table of results refer to ASX announcements from 17 June 2020, 02 July 2020, 22 July 2020, and 11 August 2020)*:

BC20-01	5.2m @ 0.66% Ni, 0.73% Cu, 0.04% Co & 0.79g/t PGE from 58.0m
	1.5m @ 2.20% Ni, 2.12% Cu, 0.13% Co & 2.66g/t PGE from 58.5m
Incl.	**1.05m @ 2.98% Ni, 1.22% Cu, 0.18% Co & 3.43g/t PGE** from 58.5m
BC20-02	4.1m @ 0.92% Ni, 0.69% Cu, 0.05% Co & 0.26g/t PGE from 85.9m
	2.3m @ 1.6% Ni, 1.09% Cu, 0.09% Co & 0.43g/t PGE from 85.9m
Incl.	**1.8m @ 2.01% Ni, 1.27% Cu, 0.12% Co & 0.53g/t PGE** from 86.4m
BC20-03	9.8m @ 1.45% Ni, 0.9% Cu, 0.08% Co & 0.70g/t PGE from 57.05m
	5.7m @ 2.07% Ni, 1.08% Cu, 0.12% Co & 0.95g/t PGE from 60.0m
Incl.	**1.85m @ 3.59% Ni, 1.18% Cu, 0.20% Co & 1.97g/t PGE** from 63.35m
BC20-04	21.5m @ 0.69% Ni, 0.66% Cu, 0.03% Co & 0.81g/t PGE from 71m
	13.4m @ 1.01% Ni, 0.96% Cu, 0.05% Co & 1.14g/t PGE from 76m
Incl.	**2.1m @ 2.53% Ni, 1.36% Cu, 0.11% Co & 0.76g/t PGE** from 77.6m.

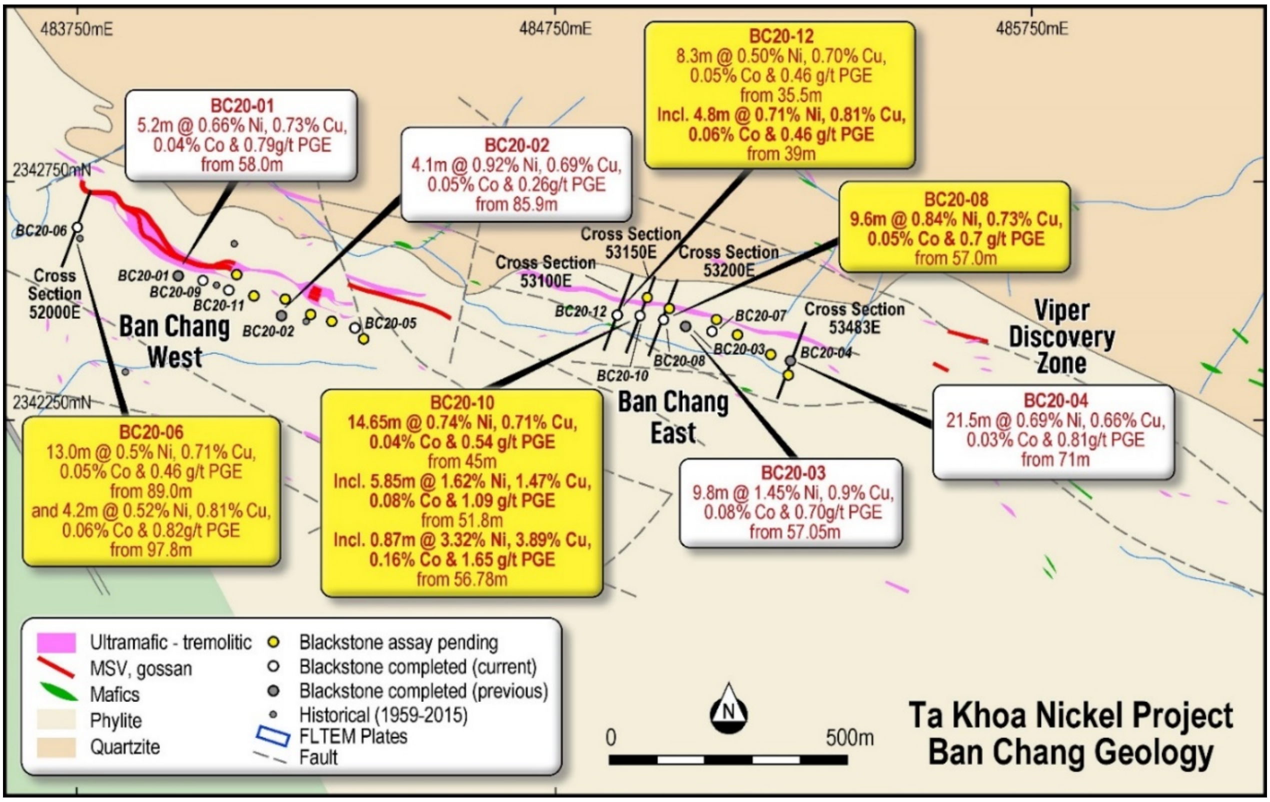


Figure 26 – Ban Chang Geology (Refer to ASX Announcement 2 September 2020)

Viper Discovery Zone (VDZ)

The VDZ is a blind discovery located east of the Ban Chang prospect, with no surface exposures of nickel sulfide or ultramafic, which bodes well for further blind discoveries of massive sulfide nickel using Blackstone's in-house geophysics crews to unlock the extensive potential throughout the Ta Khoa Nickel-Cu-PGE district. The Viper Discovery happened soon after the Company recently moved to an aggressive drill-out phase at Ban Chang to supplement the ongoing studies focused on producing nickel sulfate for the lithium-ion battery industry.

Ta Cuong

Ta Cuong is the Company's second MSV prospect at the Ta Khoa Nickel-Cu-PGE Project in Vietnam. Ta Cuong is located 6km along strike from Ban Chang and proximal to a major regional structure that is also close to the Ban Phuc and Ban Chang prospects. The Company recently commenced drilling at Ta Cuong targeting new EM plates generated by Blackstone's in-house geophysics team. The drilling at Ta Cuong sees Blackstone continue its aggressive exploration program with multiple rigs targeting MSV prospects analogous to the recently discovered Ban Chang prospect and the flagship Ban Phuc orebody. The Ta Cuong prospect has potential to add significant value to the Ta Khoa Nickel-Cu-PGE Project.

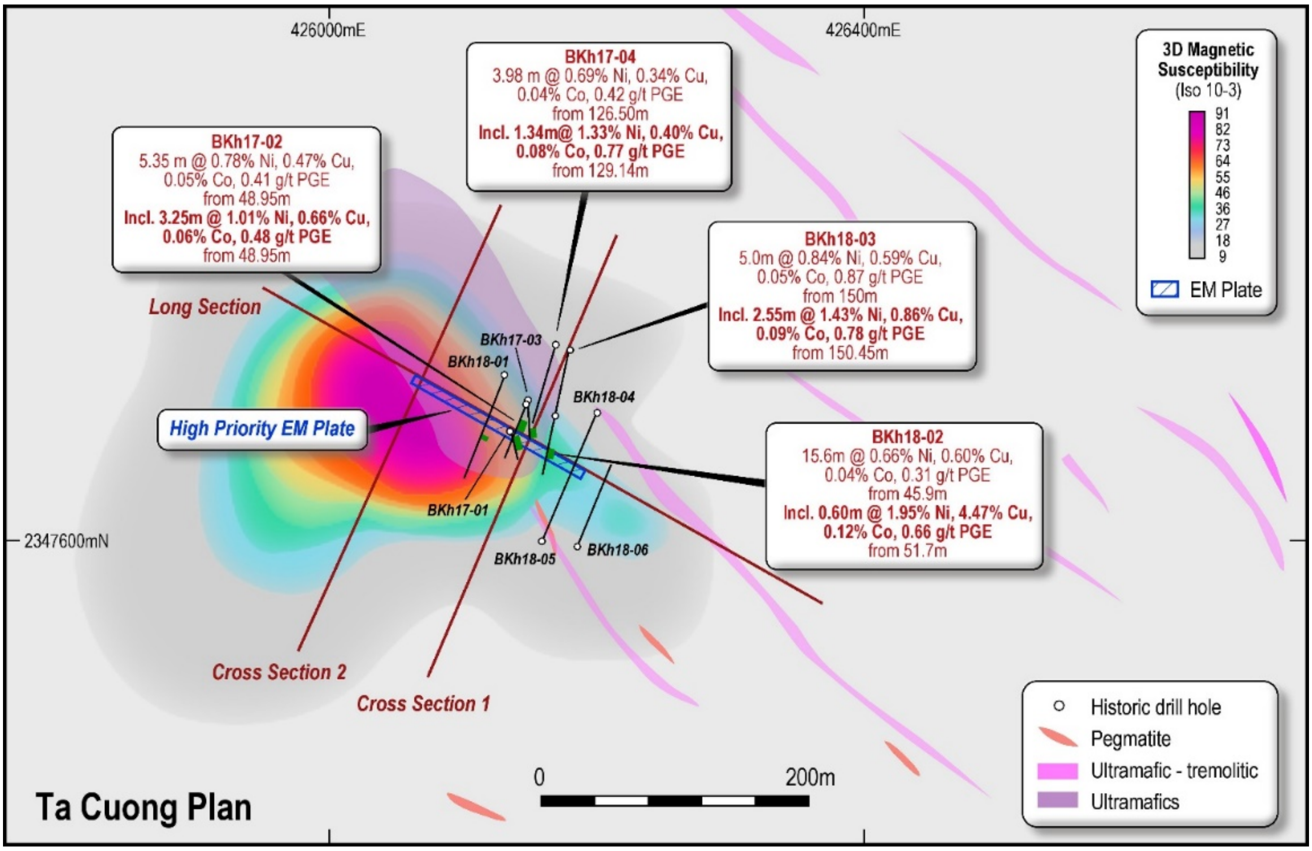


Figure 27 - Ta Cuong MSV target showing drilling by previous owners (Refer to ASX announcement 7 September 2020)

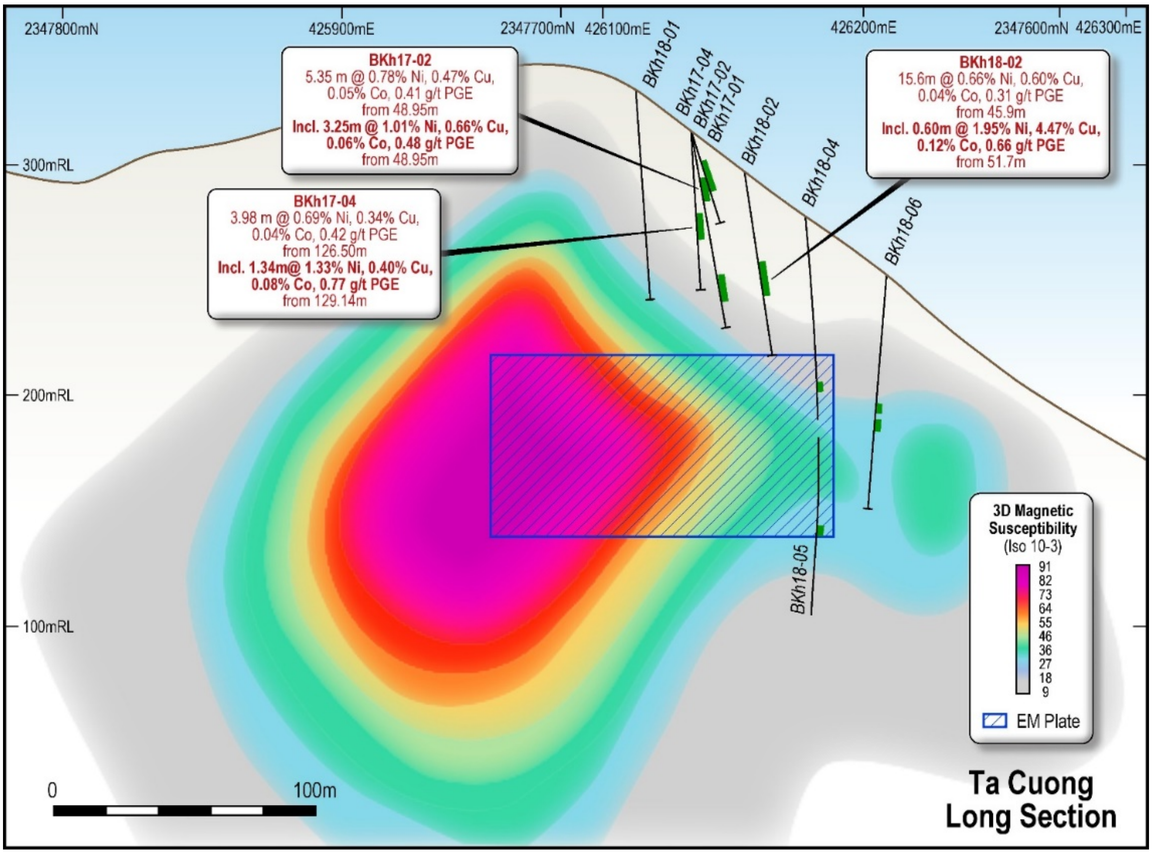


Figure 28 - Ta Cuong Long Section showing BKh17-02, BKh17-04 & BKh18-02 (Refer to ASX announcement 7 September 2020)

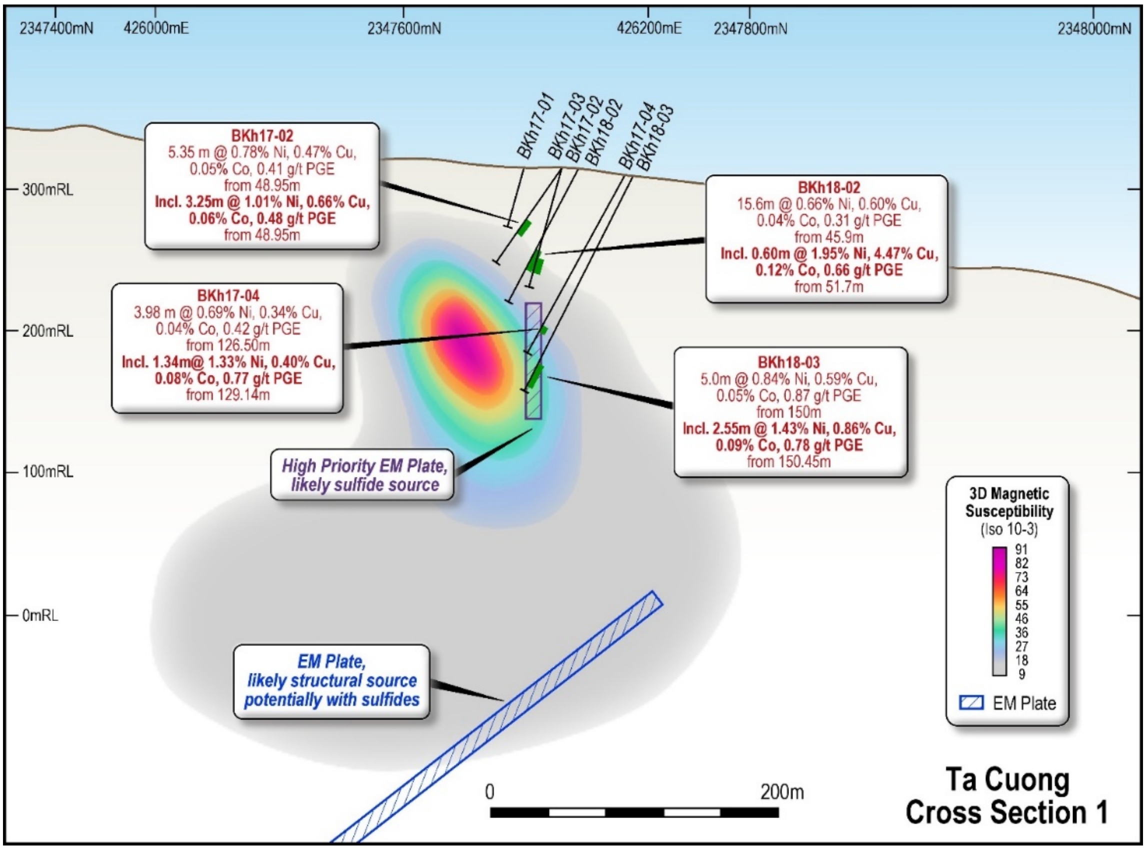


Figure 29 - Ta Cuong Cross Section 1 showing BKh17-02, BKh17-04, Bkh18-02 & BKh18-03 (Refer to ASX announcement 7 September 2020)

A summary of JORC Table 1 is provided below for compliance with the Mineral Resource and in-line with requirements of ASX listing rule 5.8.1.

Geology and Geological Interpretation

- The late Permian Ta Khoa nickel-copper-sulfide deposits and prospects are excellent examples of the globally well-known and economically exploited magmatic nickel – copper sulfide deposits. The identified nickel and copper sulfide mineralisation within the project include disseminated, net texture and massive sulfide types. The disseminated and net textured mineralisation occurs within dunite adcumulate intrusions, while the massive sulfide veins typically occur in the adjacent metasedimentary wallrocks and usually associated with narrow ultramafic dykes.

Drilling Techniques, Sampling and Assaying

- The VGS drill core is no longer available, but results were transcribed and tabulated by AMR. All AMR drilling (1996 to 2015) was conducted by a branch of the Vietnamese geological survey and mainly of NQ and HQ diameters. Drill core was not orientated
- All BSX drilling was of PQ, HQ and NQ diameters conducted by BPNM using GX-1TD and GK-300 diamond coring rigs and independent drilling contractor Intergeo using Longyear 38 and LF70 diamond coring rigs.
- Diamond core drilling was used to explore and define the Ban Phuc Disseminated Ni-Cu-PGE sulfide deposit (Ban Phuc DSS Deposit). The drilling was conducted in several major campaigns, firstly by the Vietnamese Geological Survey (VGS) 1959-1963, then Asian Mineral Resources (AMR) 1996-2015, and from 2019-2020 by Ban Phuc Nickel Mines (BPNM) initially through an option agreement with and more recently a subsidiary of Blackstone Minerals Ltd (BSX).
- BSX drill core was cut and sampled in continuous half or quarter samples and submitted to SGS Hanoi for preparation then forwarded to ALS Geochemistry, Perth assay. Drilling and sampling was supervised by suitably qualified BPNM geologists.
- AMR drill core was half or quarter core sampled by core saw (fresh) or knife (for soft weathered core). The assay samples were of appropriate size for the style of mineralisation and core diameters. There is no information regarding duplicate sampling.
- BSX drill core was cut lengthwise by diamond core saw and continuous half or quarter core sample bagged for assay in intervals according to lithological criteria determined by BPNM geologists. Sampling intervals ranged from 0.05 m to 8.4 m with a mean of 1.4 m. Continuous remnant core has been retained in the trays for future reference or sampling as necessary. Sample weights for assay ranged from approx. 0.2 to 8 kg each with a mean of 2 kg. Quarter core sampling was considered sufficient for the nature of mineralisation. Duplicate quarter core samples were collected at a rate of c.1 per 25 samples. >90% of the core duplicates have <10% Half Absolute Relative Difference (HARD) for Ni and Co, while Cu, Pt and Pd exhibit more nuggety behaviour with >70% core duplicates having <10-15% HARD. All BSX core samples were submitted to SGS Hai Phong, Vietnam ('SGS') where the quarter core samples were dried and crushed to -5 mm, then a 250 g was split from each and pulverised to 85 % passing 75 microns to produce the analytical pulps which were then dispatched to ALS Geochemistry, Perth ('ALS') for assay
- AMR drill samples were prepared and assayed by commercial laboratories including BSE/Analabs, Hanoi, Intertek Genalysis, Perth WA and a SGS laboratory at the Ban Phuc Mine site. Check assaying was various conducted at Acme Analytical Laboratories, Vancouver, Chemex Labs Ltd, Vancouver, and Lakefield Research Laboratory, Canada. Blanks and grade appropriate standards were used and results considered most generally acceptable.
- For BSX drilling Ni, Cu and Co were determined at ALS Geochemistry, Perth by industry standard nitric + perchloric + hydrofluoric + hydrochloric acid digest with ICP-AES finish. Pt, Pd and Au were determined at ALS by industry standard 50g fire assay and ICP-AES finish. Approx. one commercially certified assay standard per 25 core samples was inserted by BSX in each sample submission. All standards reported within 10 % of the Ni, Co and Cu reference values for the grade ranges of interest. >90% of Pt and Pd standards were within 10% of the reference values. The anomalous Pt and Pd

standard results were associated with 2 commercial standards with high Cr. Investigation revealed inconsistent bead structure during fluxing of the high Cr standards. While high Cr and S are not a feature of the Ban Phuc disseminated sulfide mineralisation some 108 pulps were selected for Pt and Pd check assays at Intertek, Perth; >90%of the check assays reported <10% HARD for Pd and >70% check assays <10% HARD for Pt.

- Approximately one crushed rock blank per 30 samples was included in the submissions. Blank Ni, Cu and Co were below 400 ppm, 50 ppm and 15 ppm respectively. Blank Pt and Pd were all within 3x the instrumental lower limits of detection.
- The assay results are compatible with the observed mineralogy and historic mining, and results of VGS, AMR and BSX drilling campaigns considered compatible.
- A check assay programme of the VGS sampling and assaying was conducted in 1989, and later twin drilling by AMR of VGS drill holes returned acceptably similar intersections. AMR conducted internal check sampling and assay programmes.
- BSX has been progressively replacing the VGS drill holes with new drilling to upgrade sampling, assay and QC information.
- Primary data is stored and documented in industry standard ways. AMR and BSX assay data is as reported by the commercial assay laboratories and has not been adjusted in any way.
- Remnant assay pulps are currently held in storage by the assay laboratories and Blackstone Minerals in Perth, and remnant half or quarter core is stored by BPNM in Vietnam.

Bulk Density

- Bulk density measurements were collected regularly from core samples using the Archimedes immersion method.
- A relationship between nickel grade and bulk density was used to generate bulk density values where in situ measurements were not available.
- The nickel – bulk density regression formula is y=-0.03Ni+2.64

Estimation Methodology

- The entire assay database was composited to 1 m lengths (the mode sample length) and composites flagged according to mineralisation domain. Statistics were reviewed for all domains and assessed for multiple populations and bias from outlier grade populations.
- Ordinary Kriging was used as the estimation methodology for the Mineral resource estimate.
- Drilling data was composited to 1m intervals to ensure representivity between samples, samples were also density weighted to allow for variation of metal content.
- The 1m composites were statistically evaluated using Snowdens "Supervisor" software. The analysis consisted of checking for homogenous population domains, assessing outlying grades that may bias estimates and variogram analysis and modelling to determine highest continuity orientations within the available data.
- No nickel top cuts were deemed necessary or applied within the Mineral Resource Estimate (MRE). The domain statistics suggest a homogenous single population with no positive or negative skew to the dataset. The Coefficient of Variation was very low at 0.35.
- Nickel lower cuts (grades) were used to define the extent of mineralisation within geological model.
- Nickel, copper and cobalt, sulfur and density were all modelled as part of the MRE. Non-sulfide nickel content is excluded from the MRE.
- Three successive (expanding) search passes were used to estimate grades into the MRE. The search passes were aligned with the strike of the interpreted mineralisation and based on the variogram model continuity and drill spacing.
- The block model had parent cell sizes of 10m Y, 10m X, 5m Z with sub-blocking to 2.5m Y, 2.5m X and 2.5m Z. The blocks are of a suitable size based on the shape and dimensions of the interpreted mineralisation and drillhole spacing.

- The mineralisation interpretation was based on 0.3% lower cut of nickel grade and minimum downhole width of 3m to allow for mining in an open pit environment.
- The drill spacing over the entire model is 50m spaced sections in a BPMG E-W orientation and 20-50m centres in BPMG N-S orientation. The limbs of the interpreted mineralisation typically have closer spaced drill density due to orientation of contacts and proximity to surface for drilling.
- The MRE has been validated, with visual check comparing block grades vs drill grades and statistical swath analysis of nickel block grades vs nickel composite grades on BPMG north, east and elevation interval basis throughout the model

Reporting Cut-off grade

- The mineralisation interpretation was based on a nominal 0.3% nickel grade as a lower cutoff, with the presence of logged sulfide (nominally >0.1% S where S assays were available). For Ban Phuc Ni mineralisation without sulfide is not considered likely to be economically viable.
- Metallurgical performance at various ore grades was compared using laboratory scale flotation concentrate grade vs. metal recovery curves. The data was produced from test work conducted on a range of composite and variability samples that broadly represent the deposit.

Mining Factors or Assumptions

- The in-situ deposit Mineral Resource Model is the basis for the mining model used for Life of Mine (LOM) planning and assessment reporting.
- The Mineral Resource Model provided as the basis of the LOM planning assessment is the OK resource model prepared by BMGS. The model has cell dimensions of 10m (east) by 10m (north) by 5m (elevation).
- Metal grades were supplied with the model as estimated proportional grades using the OK estimation technique.
- An estimated marginal cut-off grade was established at 0.3% Ni using an assumed long-term nickel price of US$7.50/lb and a comparative final product price of US$6.53/lb for NCM Precursor.
- Royalties were calculated to be 5.3% NSR (net smelter return).
- Mining costs used for the mine schedule were US$2.0/t mined, confirmed by in-country knowledge and experience.
- Process plant recoveries were estimated from grade recovery curves developed from bulk and variability flotation test work.
- For purposes of the baseline mining model, an input process cost for the 4.0Mtpa option was estimated at approximately US$11/t milled.
- Using the identified marginal Cut-off Grade, the proportion of ore per parcel and nickel grade above the Cut-off Grade were included within the mining model to allow export of the parcelled (ore + waste) blocks to the pit optimiser for open pit optimisation.
- Bulk mining (minimal selectivity) was assumed with 100t – 350t excavators feeding 50t - 140t rigid body haul trucks. A minimum mining width of 40m was assumed.
- Mining dilution and recovery were addressed in the mining block model through SMU analysis.
- Inferred Mineral Resources have been included for scoping study assessment within the LOM planning. No Ore Reserves are currently declared for the Ban Phuc DSS project. The proportion of Inferred Mineral Resource material accounts for 19% of potential mill feed.
- Mining Infrastructure requirements were assumed to be provided by the selected mining contractor with the mining performed on an outsourced basis.
- Grade control will be based on sampling from reverse circulation drilling spaced at approximately 15mE by 10mN with samples taken at 3.0 metre intervals downhole.
- All Grade Control sampling assays are assumed to be determined by fire assay on the mine site. Standard QAQC protocols will be applied which comprise of 1 in every 10 samples. Grade control drilling will precede ore identification and ore mark-out on a bench basis.
- Minimal infrastructure is required for the selected mining method.

Metallurgical Factors or Assumptions

- Metallurgical factors and scoping level process flowsheets have been developed from metallurgical test work programs on master composite samples obtained during the 2019 & 2020 exploration drill programs.

This announcement effectively lifts the trading halt requested on 12 October 2020. The company is not aware of any reason why the ASX would not allow trading to commence immediately.

Authorised on behalf of the Board by:

Scott Williamson

Managing Director

+61 8 9425 5217

scott@blackstoneminerals.com.au

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.

Blackstone concluded it has a reasonable basis for providing these forward-looking statements and believes it has reasonable basis to expect it will be able to fund development of the project. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this study. The project development schedule assumes the completion of a Pre-Feasibility Study (PFS) by early 2021 and a DFS by late 2021. Development approvals and investment permits will be sought from the relevant Vietnamese authorities in early 2021. Delays in any one of these key activities could result in a delay to the commencement of construction (planned for early 2022). This could lead on to a delay to first production, planned for 2023. 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 that is the subject of this announcement. 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. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Inferred Mineral Resources are not the determining factors in project viability.

About Blackstone

Blackstone Minerals Limited **(ASX code: BSX)** is developing the district scale Ta Khoa Project in Northern Vietnam where the Company is drilling out the large-scale Ban Phuc Nickel-Cu-PGE deposit. The Ta Khoa Nickel-Cu-PGE Project has existing modern mine infrastructure built to International Standards including a 450ktpa processing plant and permitted mine facilities. Blackstone also owns a large land holding at the Gold Bridge project within the BC porphyry belt in British Columbia, Canada with large scale drill targets prospective for high grade gold-cobalt-copper mineralisation. In Australia, Blackstone is exploring for nickel and gold in the Eastern Goldfields and gold in the Pilbara region of Western Australia. Blackstone has a board and management team with a proven track record of mineral discovery and corporate success.

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.

APPENDIX 1 – STUDY PARAMETERS AND MATERIAL ASSUMPTIONS

Material assumptions used in the estimation of the mineable material and associated financial information relating to the Study discussed in this announcement, including consideration of the “modifying factors” under the JORC Code, are set out in the following table:

Material Assumptions	Commentary
Study Status	The Study, including capital estimates, mining and processing costs, was completed to an accuracy of +/-40% with a 90% level of confidence and was undertaken based on only open pit mining from the existing resources. The proposed plant comprises an initial single-stage crushing, milling (SAG + ball), flotation to concentrate and a downstream Pressure Oxidation (POX) process with Mixed Hydroxide Precipitation (MHP) leaching and nickel refining via solvent extraction to produce NCM precursor. Three production throughputs were assessed by Como Engineers, namely 2.0, 4.0 and 6.0 Mtpa. The metallurgical test work carried out to date indicates that nickel can be satisfactorily recovered from Ban Phuc DSS ore using conventional crushing, milling and flotation to concentrate. The test work is considered sufficient to determine that the Ban Phuc DSS Mineral Resource represents a deposit with potential economic extraction. The estimation of capital costs was prepared by Como Engineers and Simulus Engineers for the process plant, refinery, and associated infrastructure. Mining Plus provided open pit mine engineering services. The work comprised strategic planning by Whittle Consulting, open pit and enterprise optimization studies, pit designs and detailed mine schedules. A series of shells from the open pit and enterprise optimizations were selected and used to generate a Life of Mine (LOM) production schedule. Mining Plus provided an estimate of mining, including haulage, rehabilitation and administration costs. Como Engineers and Simulus Engineers provided processing cost estimates for upstream and downstream processing. The financial model was completed as a real model by ConnectivIQ. A LOM financial analysis was performed using the discounted cash flow (DCF) method and varying % real discount rates. The financial analysis was used to determine the potential economic return of the project over the LOM.
Global Mineral Resource	In summary, Ban Phuc DSS has been estimated as an Indicated Mineral Resource of 44Mt @ 0.52% Ni for **230kt Ni** and an Inferred Mineral Resource of 14Mt @ 0.35% Ni for **51kt Ni** at a 0.3% Ni cut off.

Material Assumptions	Commentary

Lower cut off Ni%	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	S %	Ni t	Cu t	Co t	Pd oz	Pt oz
	Indicated Resources											
0.3	44	0.52	0.06	0.01	0.11	0.09	0.45	230,000	27,000	5,800	160,000	130,000
0.4	33	0.57	0.07	0.01	0.12	0.1	0.5	190,000	23,000	4,200	130,000	100,000
0.5	19	0.67	0.09	0.01	0.14	0.11	0.58	130,000	16,000	2,600	83,000	67,000
0.6	9.8	0.78	0.11	0.02	0.15	0.12	0.66	77,000	11,000	1,500	47,000	38,000
0.7	5.4	0.89	0.13	0.02	0.16	0.13	0.75	48,000	7,200	860	27,000	22,000
0.8	3.2	1	0.15	0.02	0.16	0.13	0.81	32,000	4,700	540	17,000	14,000
0.9	1.9	1.09	0.16	0.02	0.17	0.14	0.86	21,000	3,100	350	11,000	8,700
1	1.2	1.19	0.17	0.02	0.18	0.15	0.9	14,000	2,100	230	7,000	5,700
Lower cut off Ni%	**Inferred Resources**											
	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	S %	Ni t	Cu t	Co t	Pd oz	Pt oz
0.3	14	0.35	0.01	0.01	0.03	0.03	0.13	51,000	1,600	1,100	12,000	15,000
0.4	1.1	0.45	0.03	0.01	0.04	0.04	0.24	4,900	310	100	1,300	1,300
0.5	0	0.58	0.07	0.01	0.06	0.05	0.37	760	90	10	230	210
0.6	0	0.67	0.1	0.01	0.06	0.05	0.48	290	40	10	80	70
0.7	0	0.83	0.16	0.02	0.06	0.05	0.73	49	10	-	10	10
0.8	0	0.86	0.17	0.02	0.07	0.05	0.78	38	10	-	10	10
0.9	0	0	0	0	0	0	0	-	-	-	-	-

Ban Phuc Disseminated Ni-Cu-Co-PGE Mineral Resource Estimate by Ni % cut offs and classification

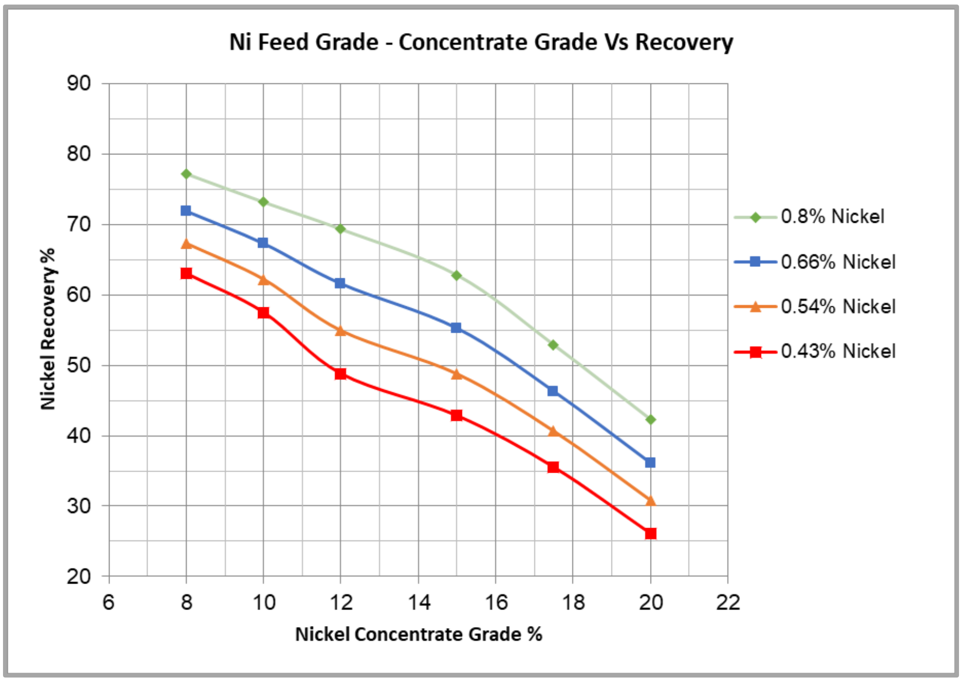
Estimation Methodology	BMGS created two disseminated Ni-Cu-PGE sulfide mineralization wireframes for the resource estimation: 1) An outer and more extensive slightly inclined boat hull-shaped zone with a strike of c. 900 m, beam of up to c. 400 m and a maximum depth extent of c. 400 m beneath surface. In cross section the outer sulfide zone is open bowl shaped at the western end to upturned horseshoe shaped at the eastern end, with interpreted mineralisation thickness ranging from c. 5 to 50 m. 2) a smaller bean-

Material Assumptions	Commentary
	shaped core within the outer hull, also striking UTM NW with strike extent of c. 350 m, dip extent up to 300 m and thickness up to 100 m. The mineralisation interpretation was based on a nominal 0.3% nickel grade as a lower cut-off, with the presence of sulfides (nominally >0.1% S). A second wireframe set based on a 0.4% Ni cut-off was also created to test the effect concentration of mineralisation would have on the interpretation and the estimation. Both interpretations included material below the cut-off to improve continuity. Statistics were reviewed for all domains and assessed for multiple populations and bias from outlier grade populations, and Ordinary Kriging was used to estimate grade to a 10 x 10 x 5 m xyz block model with 2.5 x 2.5 x 2.5 m sub-blocks within the interpreted +0.3% Ni sulfide wireframes.
Classification	BMGS has assigned Indicated and Inferred status to the Ban Phuc DSS Mineral Resource in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code) and the CIM Definition Standards (CIM, 2014). A range of criteria were considered in determining this classification including geological and grade continuity, data quality and drill hole spacing. BMGS recognises that the outer hull zone is consistently drilled, shows consistent grade and geological continuity and is classified as predominantly Indicated. BMGS classifies the core zone as Inferred as it appears to have less geological continuity, the geological constraints are poorly understood and a higher density of drilling is required to improve geological and interpretational confidence. On a tonnage basis 76% of the MRE has been classified as Indicated. The production target is based on 83% Indicated Mineral Resources and 17% Inferred Mineral Resources. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target will be realised.
Nickel Price	The mining study used a base-case nickel price of US$7.50/lb and a final product price of US$6.53/lb for NCM Precursor. Each pound of NCM precursor product contains approximately 51% Ni, 6% Co and 6% Mn. The NCM precursor product trades at a significant premium to the combined metal prices. The nickel price selected for the mining study was at a discount to the long-term average consensus price forecast. The price was also assessed as lower than what has been utilized across a number of studies presented by peers.
Mining and Metallurgical Methods and Parameters	Open pit optimisations were undertaken in Whittle while the project optimisations were completed in Prober at a US$7.50/lb Ni price to define the base of potentially economic material. Four stages were then selected and full mine designs applied. Mining of the Ban Phuc DSS project has been assumed to be medium-scale using conventional open pit mining equipment. The mining process will include drill and blast as well as conventional load and haul operations. There is expected to be a limited amount of free dig material with the majority of material assumed to require drilling and blasting. Mining will be carried out using staged cut-backs with four identified stages incorporated within the LOM final pit. Except for the initial plant commissioning,

Material Assumptions	Commentary
	transitional ore will be stockpiled temporarily and blended into the process feed with the fresh ore. Waste rock will be stockpiled separately on the south-eastern side of the pit. The metallurgical work carried out to date indicates that nickel can be satisfactorily recovered from Ban Phuc DSS ore using crushing, milling and conventional flotation techniques. The work is considered sufficient to determine that the Ban Phuc DSS Mineral Resource represents a deposit with potential economic extraction.
Mining Factors	The in-situ deposit Mineral Resource Model is the basis for the mining model used for Life of Mine (LOM) planning and assessment reporting. The Mineral Resource Model provided as the basis of the LOM planning assessment is the OK resource model prepared by BMGS. The model has cell dimensions of 10m (east) by 10m (north) by 5m (elevation). Metal grades were supplied with the model as estimated proportional grades using the OK estimation technique. An estimated marginal cut-off grade was established at 0.3% Ni using an assumed long-term nickel price of US$7.50/lb and a final product price of US$6.53/lb for NCM Precursor Royalties were calculated to be 5.3% NSR (net smelter return). Mining costs used for the mine schedule were US$2.0/t mined, confirmed by in-country knowledge and experience. Process plant recoveries were estimated from grade recovery curves developed from bulk and variability flotation test work. For purposes of the baseline mining model, an input process cost for the 4.0Mtpa option was estimated at approximately US$11/t milled. Using the identified marginal Cut-off Grade, the proportion of ore per parcel and nickel grade above the Cut-off Grade were included within the mining model to allow export of the parcelled (ore + waste) blocks to the pit optimiser for open pit optimisation. Bulk mining (minimal selectivity) was assumed with 100t – 350t excavators feeding 50t - 140t rigid body haul trucks. A minimum mining width of 40m was assumed. Mining dilution and recovery were addressed in the mining block model through SMU analysis. Inferred Mineral Resources have been included for scoping study assessment within the LOM planning. No Ore Reserves are currently declared for the Ban Phuc DSS project. The proportion of Inferred Mineral Resource material accounts for 19% of potential mill feed. Mining Infrastructure requirements were assumed to be provided by the selected mining contractor with the mining performed on an outsourced basis.

Material Assumptions	Commentary
	Grade control will be based on sampling from reverse circulation drilling spaced at approximately 15mE by 10mN with samples taken at 3.0 metre intervals downhole. All Grade Control sampling assays are assumed to be determined by fire assay on the mine site. Standard QAQC protocols will be applied which comprise of 1 in every 10 samples. Grade control drilling will precede ore identification and ore mark-out on a bench basis. Minimal infrastructure is required for the selected mining method.
Geotechnical Parameter	The pit slopes were assessed from an initial geotechnical assessment by PSM with the oxide (upper material) requiring an estimated overall slope angle of 37^0, whilst an overall slope angle of 56^0 was allowed for in the fresh rock except the southwest wall overall slope angle of 42^0.
Mine Scheduling	The mine scheduling programme includes revenue and cost information to maximise NPV. The scheduling software assesses the value generated by each block to determine whether the block is fed directly to the plant, stockpiled or treated as waste. Further financial analysis to determine more realistic absolute financial indicators and sensitivity analysis are performed separately using the tonnes and grades extracted from the schedule. The mine design of the Ban Phuc DSS Project consists of a series of nested conventional pit layouts with orebody access provided by a series of ramps. The orebody can be considered a layered sequence consisting of oxidised, transition and fresh mineralized zones. Mining will be of a conventional type back hoe and dump truck operation. High-level mine production schedules were evaluated for two scenarios considered (4Mtpa and 6Mtpa mill throughputs) using a starter pit with subsequent pushbacks to the target pit size. The schedules allowed an initial ramp up for the process plant in each case before full process plant production was assumed. In order to gain maximum value from the 6.0 Mtpa option, an estimated total peak rock movement of some 40Mtpa is required in year 1 of the schedule.
Mine Design Criteria	The mine design criteria were developed to allow for the development and assessment of designs to provide plant feed rates of 4Mtpa & 6Mtpa. For the conceptual pit design, three geotechnical domains namely Zone 1 – Completely Oxidised, Zone 2 – Partially Oxidised and Zone 3 - Fresh Weathering Domain, were used to define pit bench heights, berm widths and slope angles.
Mining Cost	The Scoping Study assumes the mining contractor will bear the total mining capital cost under an outsourced mining arrangement with the costs recovered by the mining contractor on a cost per tonne mined basis. Mining costs have been sourced from in-country knowledge and experience. The estimated base mining cost has applied an incremental cost with depth to account for

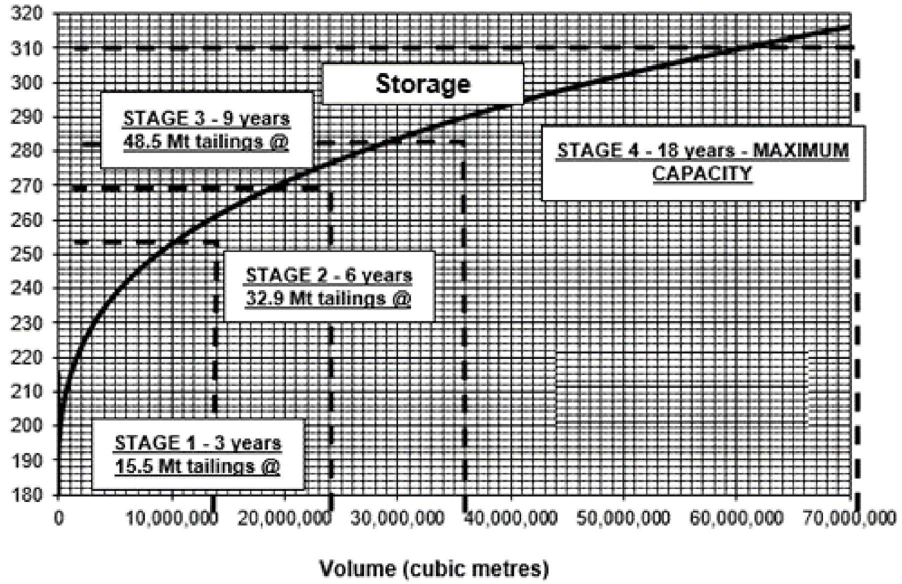
Material Assumptions	Commentary
	increased haulage costs and the depth of mining increases in line with standard mining cost principles. All costs have been determined on a US dollar basis.
Metallurgy	Metallurgical factors and scoping level process flowsheets have been developed from metallurgical test work programs on master composite samples obtained during the 2019 & 2020 exploration drill programs. Test work included: *Upstream Processing* • Composite mineralogical examination; • ore and waste-ore transition comminution characteristics; • validation and optimisation of the flotation flowsheet identified by historical test programs; • production of sufficient concentrate via bulk flotation for hydrometallurgical evaluation; • rheology, thickening and filtration of both concentrate and tailings; • tailings deposition characterisation; • AMD and associated environmental testing; • production of sufficient concentrate via bulk flotation for hydrometallurgical evaluation. *Downstream Processing* • Assess amenability of the concentrate generated to pressure oxidation; • Refine the pressure oxidation liquor via three proposed processing routes; • The processing routes included: ➢ Mixed Sulphide Precipitation (MSP), ➢ Mixed Hydroxide Precipitation (MHP), and ➢ Direct Solvent Extraction (DSX). Comminution test work within the program is limited to ball mill, rod mill and abrasion indices testing due to limited core dimensions. Future dedicated metallurgical drill holes are scheduled to provide suitable samples for sag mill competency testing and ore flotation variability characterization. Based on the test work completed, the most suitable conditions for flotation of the disseminated sulphides were found to be: • Primary grind to P80 75µm; • Sodium silicate as the dispersant, added ahead of the rougher stage; • Rougher / scavenger flotation time of 30 minutes; • Three stages of cleaning, with flotation times of 15, 10 and 7 minutes; • Sodium ethyl xanthate as the collector, added to both the primary grind and regrind, and with staged additions throughout rougher flotation and to each cleaning stage. This processing route is conventional and well tested.

Material Assumptions	Commentary
	Nickel flotation grade recovery curves were developed from initial flotation test work for the purposes of modelling economics of various concentrate products being supplied to the downstream refinery.  For the purposes of evaluating downstream processing characteristics and establishing an economic comparison case a target concentrate grade of 8% nickel was selected. The concentrate generated was successfully leached via Pressure Oxidation (POX), with nickel extractions greater than 95% consistently and up to 98.5% achieved. Neutralisation and NCM test work on the POX discharge liquor generated an intermediate product that could be readily re-leached in an atmospheric leach. No by-products were considered in the scoping level evaluation and will be assessed at the next level of study. The study found that the premium associated with NCM precursor products significantly improved overall project economics and the preferred option is for Blackstone to produce NCM precursor as the final product via MHP using the POX processing technology. The downstream process is summarised in the following steps: • Pressure Oxidation; • Primary Neutralisation and Filtration; • Secondary neutralisation; • MHP; • MHP leach; • Nickel refining – Mn impurity removal; • Nickel refining – CoSX; • Nickel refining – MgSX;

<table>
<tr><th>Material Assumptions</th><th>Commentary</th></tr>
<tr><td></td><td>• Nickel refining – NCM precursor;
• Acidic liquor neutralisation (ALN).

The technology associated with the production of NCM precursor is well-tested.</td></tr>
<tr><td>Processing Cost</td><td>Capital costs were provided by Como Engineers and Simulus Engineers who carried out a scoping level study for Blackstone Minerals on the Ban Phuc DSS Project. Capital and operating costs were estimated for three process plant throughputs, namely 2Mtpa, 4 Mtpa and 6Mtpa ore feed and one refinery throughput of 200ktpa.
Capital Costs are tabulated below:
<table>
<tr><th>Unit</th><th>2.0Mtpa (Upstream)</th><th>4.0Mtpa (Upstream)</th><th>6.0Mtpa (Upstream)</th><th>200ktpa (Downstream)</th></tr>
<tr><td>USD (M)</td><td>64.1</td><td>89.3</td><td>131.4</td><td>149.3</td></tr>
</table>
Operating costs provided by Como Engineers were compiled from a variety of sources and compared against existing and planned operations elsewhere in Asia.</td></tr>
<tr><td>Pit optimisations</td><td>Pit optimisations were undertaken in Whittle and the project optimisations were completed using the Lerchs-Grossman (LG) algorithm in Prober© to calculate the optimal pit at specified input parameters that were determined prior to the study.</td></tr>
<tr><td>Infrastructure</td><td>The Son La Peoples Committee and Son La Industrial Zone Management Authority has proposed the Mai Son Industrial Park as a potential site for the Ta Khoa Project downstream processing facility. The 50-hectare lot is located 42km from the mine site and processing facility and 26km from the provincial capital of Son La. The site has necessary power and water supply infrastructure in place and is zoned for industrial application. Discussions have commenced with the province regarding investment incentives associated with the site which will be considered, along with alternate sites, in the next stage of study.
During historical operations a number of routes have been identified for road transport of goods to site with the size of the loads being the main determining factor as to which route is taken. Incoming freight will consist of equipment, spares, reagents, consumables and general merchandise. Some inbound goods will be in break bulk but others will be in 20 foot sea containers. Road transport of diesel fuel will be in conventional tanker trucks. Import equipment will be shipped via Hai Phong port. The road route passes Hanoi via the Hanoi-Hai Phong Expressway and then via Highway 6 from Hanoi to Son La and finally the intersection of Highway 6 with Highway 37 and then on Highway 37 to site.</td></tr>
<tr><td>Cut-Off Parameters</td><td>A marginal cut-off grade (COG) was estimated for nickel using:
• a gross long-term nickel price of US$7.50/lb
• processing costs of approximately $11/t
A marginal Cut-off Grade has been estimated at 0.3% Nickel.</td></tr>
</table>

Material Assumptions	Commentary
	The 0.3% Ni cut-off approximates an operational parameter that the Company believes to be applicable. This is in accordance with the guidelines of Reasonable Prospects for Eventual Economic Extraction ("RPEEE") per the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code 2012).
Capital Costs	The mining establishment cost was provided by in-country mining contractors. The process plant and infrastructure costs were estimated by Como and Simulus Engineers, the Optimize Group and Blackstone Minerals. The costs for the TSF were provided by Mr. Tony Sales. The capital costs include owner's project cost and contingency as calculated by Como Engineers and Simulus Engineers. The estimate base date is Q3 2020. The estimate is deemed to have an accuracy of ± 40%.
Operating Cost	The process plant operating costs were estimated and compiled by Como Engineers and Simulus Engineers with contributions from a number of sources including: • Reagent consumption based on test work by ALS Metallurgy and Blackstone; • Crushing and grinding modelling by Como Engineers; • Data from equipment vendors; • Como Engineers and Simulus Engineers databases.
Environmental	Baseline environmental studies in the area have been carried out since 2014 including an assessment of flora and vegetation, landforms, subterranean fauna, terrestrial environmental quality (including both mineralised and non-mineralised waste), terrestrial fauna, inland waters, air quality, heritage, archaeology, social surrounds and human health. Since the baseline studies a program of monitoring environment, vegetation, and implementation of minimizing environment impact has been maintained ongoingly and the project's Environmental Impact Assessment Report was approved by the Government of Vietnam. A preliminary assessment and construction cost estimate have been prepared by independent consultant Mr. Tony Sales (design and construction engineer for the current Ban Phuc TSF) for an additional TSF located approximately 3km west of the existing plant site. TSF embankment volumes have been made based on tailings production estimates and tailings deposition characteristics. An allowance was made in the initial capital cost and the sustaining capital cost estimates for the TSF.

Material Assumptions	Commentary
	
Social	The project values the community in which it works and takes seriously its community and environmental obligations to ensure the community benefits from all stages of the project's activities. We have a history of operating responsibility and have the endorsement of the local community to operate. Our social and community values are demonstrated in the relationships we share with the local community, the economic and employment opportunities we provide, and engagement we have on environmental activities.
Audits or Reviews	The Scoping Study has been subject to a third-party review by Ian Mc Kenzie, Vice President Engineering at Optimize Group, an experienced project development firm with significant mineral processing experience in the South East Asia region.
Other	There are no known current impediments to the progression of the project or foreseen encumbrances to the granting of a licence to operate. Continued discussions with the regulatory authorities and submission of the mine plan and closure plan will be submitted to the Vietnam government authorities during the course of the pre-feasibility study.

APPENDIX TWO

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g.: cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. • Measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g.: 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g.: submarine nodules) may warrant disclosure of detailed information.	• Diamond core drilling was used to explore and define the Ban Phuc Disseminated Ni-Cu-PGE sulfide deposit (Ban Phuc DSS Deposit). The drilling was conducted in several major campaigns, firstly by the Vietnamese Geological Survey (VGS) 1959-1963, then Asian Mineral Resources (AMR) 1996-2015, and from 2019-2020 by Ban Phuc Nickel Mines (BPNM) initially through an option agreement with and more recently a subsidiary of Blackstone Minerals Ltd (BSX). • The VGS diamond drill core size and method of sampling is not known. Fresh and transitional AMR drill core was cut by core saw, and weathered core by knife. Quarter or half core sample was collected and submitted to commercial laboratories for preparation and assay. For a more complete discussion of AMR sampling techniques see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited • BSX drill core was cut and sampled in continuous half or quarter samples and submitted to SGS Hanoi for preparation then forwarded to ALS Geochemistry, Perth assay. Drilling and sampling was supervised by suitably qualified BPNM geologists.
Drilling techniques	• Drill type (e.g.: core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc..) and details (e.g.: core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc..).	• The VGS drill core is no longer available, but results were transcribed and tabulated by AMR. All AMR drilling (1996 to 2015) was conducted by a branch of the Vietnamese geological survey and mainly of NQ and HQ diameters. Drill core was not orientated. For a more complete discussion of VGS and AMR drilling techniques see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited • All BSX drilling was of PQ, HQ and NQ diameters conducted by BPNM using GX-1TD and GK-300 diamond coring rigs and independent drilling contractor Intergeo using Longyear 38 and LF70 diamond coring rigs.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• Quantitative recovery is not available for the VGS or AMR drilling although observation of AMR core in storage suggests recoveries in the fresh zone were generally excellent. For a more complete discussion of AMR drilling techniques see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited • For BSX drill holes recovered core length was routinely tape measured. Recovery was estimated by dividing the recovered core length by the drilled interval as determined by the drilling contractor. Overall core recovery was 99%. Relationship between recovery and Ni, Cu, Co, Pt, Pd and Au grades is not evident.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	• There is no information on logging methods used by the VGS. • AMR drill core was marked up, qualitatively lithologically logged, photographed and commonly geotechnically logged by a suitably qualified geologist.

Criteria	JORC Code explanation	Commentary
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	• All BSX diamond drill core was qualitatively lithologically logged by a suitably qualified BPNM geologist and photographed. Key mineral abundances such as nickel and copper sulfides were visually estimated. Selected zones were orientated with spear and structurally logged.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• There is no information on sampling methods used by the VGS. • AMR drill core was half or quarter core sampled by core saw (fresh) or knife (for soft weathered core). The assay samples were of appropriate size for the style of mineralisation and core diameters. There is no information regarding duplicate sampling. For a more complete discussion of sampling techniques see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited. • BSX drill core was cut lengthwise by diamond core saw and continuous half or quarter core sample bagged for assay in intervals according to lithological criteria determined by BPNM geologists. Sampling intervals ranged from 0.05 m to 8.4 m with a mean of 1.4 m. Continuous remnant core has been retained in the trays for future reference or sampling as necessary. Sample weights for assay ranged from approx. 0.2 to 8 kg each with a mean of 2 kg. Quarter core sampling was considered sufficient for the nature of mineralisation. Duplicate quarter core samples were collected at a rate of c.1 per 25 samples. >90% of the core duplicates have <10% Half Absolute Relative Difference (HARD) for Ni and Co, while Cu, Pt and Pd exhibit more nuggety behaviour with >70% core duplicates having <10-15% HARD. All BSX core samples were submitted to SGS Hai Phong, Vietnam ('SGS') where the quarter core samples were dried and crushed to -5 mm, then a 250 g was split from each and pulverised to 85 % passing 75 microns to produce the analytical pulps which were then dispatched to ALS Geochemistry, Perth ('ALS') for assay.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• There is no information regarding the assay methods used by the VGS. • AMR drill samples were prepared and assayed by commercial laboratories including BSE/Analabs, Hanoi, Intertek Genalysis, Perth WA and an SGS laboratory at the Ban Phuc Mine site. Check assaying was various conducted at Acme Analytical Laboratories, Vancouver, Chemex Labs Ltd, Vancouver, and Lakefield Research Laboratory, Canada. Blanks and grade appropriate standards were used and results considered most generally acceptable. For a more complete discussion of assay techniques and quality control analysis see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited. • For BSX drilling Ni, Cu and Co were determined at ALS Geochemistry, Perth by industry standard nitric + perchloric + hydrofluoric + hydrochloric acid digest with ICP-AES finish. Pt, Pd and Au were determined at ALS by industry standard 50g fire assay and ICP-AES finish. Approx. one commercially certified assay standard per 25 core samples was inserted by BSX in each sample submission. All standards reported within 10 % of the Ni, Co and Cu reference values for the grade ranges of interest. >90% of Pt and Pd standards were within 10% of the reference values. The anomalous Pt and Pd standard results were associated with 2 commercial standards with high Cr. Investigation revealed inconsistent bead structure during fluxing of the high Cr standards. While high Cr and S are not a feature of the Ban Phuc disseminated sulfide mineralisation some 108 pulps were selected for Pt and Pd check assays at Intertek, Perth; >90%of the check assays reported <10% HARD for Pd and >70% check assays <10% HARD for Pt. • Approximately one crushed rock blank per 30 samples was included in the submissions. Blank Ni, Cu and Co were below 400 ppm, 50 ppm and 15 ppm respectively. Blank Pt and Pd were all within 3x the instrumental lower limits of detection.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• The assay results are compatible with the observed mineralogy and historic mining, and results of VGS, AMR and BSX drilling campaigns considered compatible • A check assay programme of the VGS sampling and assaying was conducted in 1989, and later twin drilling by AMR of VGS drill holes returned acceptably similar intersections. AMR conducted internal check sampling and assay programmes. No significant issues were identified as documented and discussed in DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval • BSX has been progressively replacing the VGS drill holes with new drilling to upgrade sampling, assay and QC information. • Primary data is stored and documented in industry standard ways. AMR and BSX assay data is as reported by the commercial assay laboratories and has not been adjusted in any way. • Remnant assay pulps are currently held in storage by the assay laboratories and Blackstone Minerals in Perth, and remnant half or quarter core is stored by BPNM in Vietnam.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• There is no information regarding survey control for the VGS drill holes. • AMR drill holes were surveyed by total station system to cm level accuracy in the local Ban Phuc Mine Grid linked to the VN2000 (104.5) National grid coordinate system (used for Vietnamese government reporting) and UTM Zone 48N WGS84. For a more complete discussion of survey control and techniques see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited • All BSX drill hole collar locations were determined by Leica 1203+ total station survey to centimetre accuracy in the Ban Phuc Mine Grid and UTM Zone 48N WGS84 coordinate system. • Topographic control is provided by a precision Digital Terrain Model derived from 1:5000 scale aerial photography. • Some 57% of the previous owner's drill holes were surveyed with magnetic down hole camera, for which all dip measurements and selected azimuth measurements were accepted. • BSX drill holes BP19-01 to BP19-31 (6111 m) were down hole surveyed with conventional magnetic instruments, all dip but only consistent azimuth data were accepted. BP19-32 to BP20-23 (7738 m) were down hole surveyed with a non-magnetic Deviflex tool.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• Drill section spacing through the Ban Phuc DSS resource reported here is mainly 50 m with some 25 m sections in higher grade areas such as the Muong, King Cobra and Hilltop zones. Intersection spacing along sections ranges from c. 10 m (twins) up to c. 100 m with dominant spacing of c. 50 m, i.e. average drill spacing is c. 50 x 50 m. Some 373 diamond core drill holes for a total of 62,189 m were used to define the mineralised zones. Of this drilling some 231 holes for 47,247 m, including 68 holes for 13,849 m by BSX, pierced Ban Phuc DSS mineralised zones and were used in the resource estimation. The data spacing and distribution is sufficient to allow estimation of Ni, Cu, Co, Pt and Pd resources as summarised below. • All visibly sulfide mineralised zones in the drill core were sampled and assayed (see above). • Because of the large amount of data only length weighted composite intersections >0.3% Ni are given in Appendix 3 Table 1 of this report. All BSX assays have been previously reported to the ASX in un-composited form. • Samples were composited to 1 m (the mode) for the resource estimation as summarised below.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• Previous drilling and interpretation indicate the reported drill holes are suitably orientated to test the target zones. • The reported drilling is at a high angle to the interpreted mineralised zones. • The reported drill hole intersections are down hole lengths. • Relevant cross sections are included in the announcement.
Sample security	• The measures taken to ensure sample security.	• Sample security measures for VGS and AMR samples are not known. • BSX samples were collected, stored and dispatched to the assay laboratories by BPNM personnel. Sample numbers were unique and did not include any locational information useful to non-BSX personnel. The level of security is considered appropriate for this style of deposit. • BPNM retains quarter or half core of all AMR and BSX drilling in storage.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• The assay results agree well with the observed mineralogy, historic mining and exploration results (refer to previous Blackstone Minerals announcements to the ASX and additionally available from www.blackstoneminerals.com.au). • Fore independent audit and review of AMR drilling see DB Mapleson and BA Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited • The results agree with the observed materials and bulk metallurgical testwork subsequently conducted by BSX.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section).

Criteria	Explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• The Ban Phuc DSS Ni-Cu-Co-PGE Deposit and associated drilling is located within the Ta Khoa Concession and is covered by the Foreign Investment Licence, 522 G/P, which Ban Phuc Nickel Mines Joint Venture Enterprise (BPNMJVE) was granted on January 29th, 1993. An Exploration Licence issued by the Ministry of Natural Resources and Environment covering 34.8 km² within the Ta Khoa Concession is currently in force. Blackstone Minerals Ltd (BSX) owns 90% of Ban Phuc Nickel Mines (BPNM).
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• The first significant work on the Ban Phuc nickel deposits was by the Vietnamese Geological Survey in the 1959-1963 period, then Asian Mineral Resources period spanning 1996-2018, including mining of the Ban Phuc massive sulfide vein 2013 to 2016. The project, plant and infrastructure has been on care and maintenance since 2016.
Geology	• Deposit type, geological setting and style of mineralisation.	• The late Permian Ta Khoa nickel-copper-sulfide deposits and prospects are excellent examples of the globally well-known and economically exploited magmatic nickel – copper sulfide deposits. The identified nickel and copper sulfide mineralisation within the project include disseminated, net texture and massive sulfide types. The disseminated and net textured mineralisation occurs within dunite adcumulate intrusions, while the massive sulfide veins

Criteria	Explanation	Commentary
		typically occur in the adjacent metasedimentary wallrocks and usually associated with narrow ultramafic dykes. • For more detail of the deposit and regional geology see Mapleson and Grguric N43-101 Technical Report on the Ta Khoa (Ni Cu Co PGE) Prospects Son La Province, Vietnam available from System for Electronic Document Analysis and Retrieval (www.sedar.com) for Asian Minerals Resources Limited. A recent summary of the geology of the Ban Phuc intrusion can be found in Wang et al 2018, A synthesis of magmatic Ni-Cu-(PGE) sulfide deposits in the ~260 Ma Emeishan large igneous province, SW China and northern Vietnam, Journal of Asian Earth Sciences 154.
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	• Collar coordinates, orientations, hole lengths and intersections for holes piercing the mineralisation wireframes of the Ban Phuc DSS resource are given in Appendix 3 Table 1. Because of the large amount of data only intersections >0.3% Ni are given in Appendix 3 Table 1. All BSX assays have been previously reported to the ASX in un-composited form.
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• The drill hole intersections given in Appendix 3 Table 1 represent length weighted averages and is restricted to intersections >0.3% Ni within the mineralisation wireframes used for the Ban Phuc DSS Ni - Cu-Co-PGE resource presented in this release. • High grades have not been cut for the intersections listed in Appendix 3 Table 1. • Metal equivalent values are not used.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	• All intervals reported in Appendix 3 Table 1 are down hole. • While most drilling was designed to intersect mineralisation at a high angle there is a range of intersection orientations because of site constrains and geometrical variation: This is volumetrically accounted for by the geological modelling and resource estimation.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view	• Appropriate maps are included in the body of this report.

Criteria	Explanation	Commentary
	of drill hole collar locations and appropriate sectional views.	
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• The resource estimation in this release takes into account all available drilling information for the Ban Phuc DSS Ni-Cu-Co-PGE Deposit.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• Bulk sampling for metallurgical testwork was conducted (see below). • Geological logging of the drilling was used to construct 3D geological models in Micromine and Surpac suitable to constrain resource modelling.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• The Ban Phuc DSS Ni-Cu-Co-PGE Deposit has been delineated to a stage suitable for scoping studies. Further resource delineation drilling is in progress to increase resource confidence to PFS and FS level. • An appropriate map of the deposit is included in the body of this report. • Further metallurgical testwork is in progress. • Geotechnical and hydrogeological drilling and modelling is in progress. • Exploration of adjacent prospects is in progress.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in the preceding sections also apply to this section).

Criteria	Explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. • Data validation procedures used.	• Geological, survey and assay data were collected digitally in industry standard ways, stored in an MS Access database and validated using Micromine and Surpac mining software. Collar positions (northing, easting and elevations) were checked graphically, and downhole survey measurements were checked to ensure they were representative and realistic.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• The BSX Competent Persons have been to site and confirm the sampling methods used and geological logging were appropriate, and the resource modelling is compatible with the observed geology. • The BMGS competent person has not visited the project since 2004. There have been visits by other competent persons from within BMGS in the last 3 years. Additional drilling completed in 2019 and 2020 has not been reviewed by BMGS at site, however it has been noted that drilling, logging, sampling practices are consistent with those put in place by BMGS in 2014. • The competent person is confident that the drilling, sampling, and geological logging process are sufficient to provide data suitable for Mineral Resource estimates.

Criteria	Explanation	Commentary
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation. • The factors affecting continuity both of grade and geology.	• Drill hole assay and logging data, surface geological mapping and a 1:5000 scale DTM generated from aerial photography were used to create 3D geological models for resource estimation in Surpac. • A wireframe interpretation was created by combining sections into individual three-dimensional (3DM) solids representing mineralised domains. The solids were checked for errors and inconsistent triangulations to ensure mineralisation is best represented by the shapes created. Digitised sections were based on primarily 25-50m spaced drilling using a 0.3% Ni cut-off. A second wireframe based on a 0.4% Ni cut-off was also created to test the effect concentration of mineralisation would have on the interpretation and the estimation. Both interpretations included material below the cut-off to improve continuity. • There is high confidence in the geological and mineralisation interpretations of the Mineral Resource estimate. • Some of the historical VGS drill holes have questionable assay results with unknown quality control procedures, but these holes are steadily being replaced with new drilling confirming the current geological understanding and providing a higher confidence in the grade distribution. • The interpretation of mineralisation is based upon nickel grade and the presence of sulfides.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• Two disseminated Ni-Cu-PGE sulfide mineralization zones were wireframed for the resource estimation: 1) An outer and more extensive slightly inclined boat hull shaped or synclinal sulfide zone with a Ban Phuc Mine Grid (BPMG) WNW strike of c. 900 m, across strike width or beam of up to c. 400 m and a maximum depth extent of c. 400 m beneath surface. In cross section the outer sulfide zone is open bowl shaped at the western end to upturned horseshoe shaped at the eastern end, with interpreted mineralisation thickness ranging from c. 5 to 50 m. The base of keel of the outer sulfide zone plunges BPMG ESE at approximately 20 degrees. 2) a smaller bean-shaped core within the outer hull, also striking UTM NW with strike extent of c. 350 m, dip extent up to 300 m and thickness up to 100 m. Both mineralization zones crop out at surface. • The mineralisation interpretation was based on a nominal 0.3% nickel grade as a lower cutoff.
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The entire assay database was composited to 1 m lengths (the mode sample length) and composites flagged according to mineralisation domain. Statistics were reviewed for all domains and assessed for multiple populations and bias from outlier grade populations. • Ordinary Kriging was used as the estimation methodology for the Mineral resource estimate. • Drilling data was composited to 1m intervals to ensure representivity between samples, samples were also density weighted to allow for variation of metal content. • The 1m composites were statistically evaluated using Snowdens "Supervisor" software. The analysis consisted of checking for homogenous population domains, assessing outlying grades that may bias estimates and variogram analysis and modelling to determine highest continuity orientations within the available data. • No nickel top cuts were deemed necessary or applied within the Mineral Resource Estimate (MRE). The domain statistics suggest a homogenous single population with no positive or negative skew to the dataset. The Coefficient of Variation was very low at 0.35 • Nickel lower cuts (grades) were used to define the extent of mineralisation within geological model.

Criteria	Explanation	Commentary
	• Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	• Nickel, copper and cobalt, sulfur and density were all modelled as part of the MRE. Non-sulphide nickel content is excluded from the MRE. • Three successive (expanding) search passes were used to estimate grades into the MRE. The search passes were aligned with the strike of the interpreted mineralisation and based on the variogram model continuity and drill spacing. • The block model had parent cell sizes of 10m Y, 10m X, 5m Z with sub-blocking to 2.5m Y, 2.5m X and 2.5m Z. The blocks are of a suitable size based on the shape and dimensions of the interpreted mineralisation and drillhole spacing. • The mineralisation interpretation was based on 0.3% lower cut of nickel grade and minimum downhole width of 3m to allow for mining in an open pit environment. • The drill spacing over the entire model is 50m spaced sections in a BPMG E-W orientation and 20-50m centres in BPMG N-S orientation. The limbs of the interpreted mineralisation typically have closer spaced drill density due to orientation of contacts and proximity to surface for drilling. • The MRE has been validated, with visual check comparing block grades vs drill grades and statistical swath analysis of nickel block grades vs nickel composite grades on BPMG north, east and elevation interval basis throughout the model
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages were estimated on a dry basis (see also determination of bulk densities below).
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation interpretation was based on a nominal 0.3% nickel grade as a lower cutoff, with the presence of logged sulfide (nominally >0.1% S where S assays were available). For Ban Phuc Ni mineralisation without sulfide is not considered likely to be economically viable. • Metallurgical performance at various ore grades was compared using laboratory scale flotation concentrate grade vs. metal recovery curves. The data was produced from test work conducted on a range of composite and variability samples that broadly represent the deposit.
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• The in-situ deposit Mineral Resource Model is the basis for the mining model used for Life of Mine (LOM) planning and assessment reporting. • The Mineral Resource Model provided as the basis of the LOM planning assessment is the OK resource model prepared by BMGS. The model has cell dimensions of 10m (east) by 10m (north) by 5m (elevation). • Metal grades were supplied with the model as estimated proportional grades using the OK estimation technique. • An estimated marginal cut-off grade was established at 0.3% Ni using an assumed long-term nickel price of US$7.50/lb and a comparative final product price of US$6.53/lb for NCM Precursor • Royalties were calculated to be 5.3% NSR (net smelter return). • Mining costs used for the mine schedule were US$2.0/t mined, confirmed by in-country knowledge and experience. • Process plant recoveries were estimated from grade recovery curves developed from bulk and variability flotation test work.

Criteria	Explanation	Commentary
		• For purposes of the baseline mining model, an input process cost for the 4.0Mtpa option was estimated at approximately US$11/t milled. • Using the identified marginal Cut-off Grade, the proportion of ore per parcel and nickel grade above the Cut-off Grade were included within the mining model to allow export of the parcelled (ore + waste) blocks to the pit optimiser for open pit optimisation. • Bulk mining (minimal selectivity) was assumed with 100t – 350t excavators feeding 50t - 140t rigid body haul trucks. • A minimum mining width of 40m was assumed. • Mining dilution and recovery were addressed in the mining block model through SMU analysis. • Inferred Mineral Resources have been included for scoping study assessment within the LOM planning. No Ore Reserves are currently declared for the Ban Phuc DSS project. The proportion of Inferred Mineral Resource material accounts for 19% of potential mill feed. • Mining Infrastructure requirements were assumed to be provided by the selected mining contractor with the mining performed on an outsourced basis. • Grade control will be based on sampling from reverse circulation drilling spaced at approximately 15mE by 10mN with samples taken at 3.0 metre intervals downhole. All Grade Control sampling assays are assumed to be determined by fire assay on the mine site. Standard QAQC protocols will be applied which comprise of 1 in every 10 samples. Grade control drilling will precede ore identification and ore mark-out on a bench basis. • Minimal infrastructure is required for the selected mining method.
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• Metallurgical factors and scoping level process flowsheets have been developed from metallurgical test work programs on master composite samples obtained during the 2019 & 2020 exploration drill programs. • Test work included: *Upstream Processing – Conducted by ALS Metallurgy* • Composite mineralogical examination; • ore and waste-ore transition comminution characteristics; • validation and optimisation of the flotation flowsheet identified by historical test programs; • rheology, thickening and filtration of both concentrate and tailings; • tailings deposition characterisation; • AMD and associated environmental testing; • production of sufficient concentrate via bulk flotation for hydrometallurgical evaluation. *Downstream Processing – Conducted by Simulus Laboratories* • Assess amenability of the concentrate generated to pressure oxidation • Refine the pressure oxidation liquor via three proposed processing routes. • Mixed Sulphide Precipitation (MSP), • Mixed Hydroxide Precipitation (MHP), and • Direct Solvent Extraction (DSX).
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental	• AMD classification testing of a disseminated master composite (broadly representing disseminated mineralisation), 4 variability composites and tailings produced from laboratory flotation test work all identified as non-acid forming (NAF).

Criteria	Explanation	Commentary
	impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Bulk density measurements were collected regularly from core samples using the Archimedes immersion method. • A relationship between nickel grade and bulk density was used to generate bulk density values where in situ measurements were not available. • The nickel – bulk density regression formula is y=-0.03Ni+2.64
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit.	• The MRE has been classified based on geological confidence, mineralisation continuity and confirmation of mineralisation using recent drilling. • The mineralisation interpretation is separated into two domains as described above, 1) a larger, outer hull zone and 2) a smaller, inner core zone, The hull zone is consistently drilled, shows consistent grade and geological continuity and is classified as predominantly Indicated where there is recent drilling verifying the nickel grade. Where historical VGS drilling is utilised, this can only be classified as Inferred. The core zone appears to have less geological continuity and may be structurally controlled. As the geological constraints are poorly understood the core zone is classified as Inferred, and a higher density of drilling is required to improve geological and mineralisation confidence.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• No audits have been completed on this Mineral Resource estimate (MRE).
Discussion of relative accuracy / confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	• There is good confidence in the data quality, drilling methods and analytical results for the data used in the MRE. The available geology and assay data correlate well, and the geological continuity has been demonstrated. • The Mineral Resource statement relates to global estimates of tonnes and grade. • No mining of disseminated mineralisation has occurred at Ban Phuc therefore reconciliation has not been completed.

Criteria	Explanation	Commentary
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

BLACKSTONE MINERALS

APPENDIX 3

Table 1

Ban Phuc DSS drill intersections >0.3% Ni. BP19- and BP20- prefix holes by Blackstone Minerals (BSX), BP96-, BP97-, BP01- to BP14- prefix holes by Asian Mineral Resources (AMR), and LK prefix drill holes by Vietnamese Geological Survey (VGS). BSX and AMR collar surveys by Leica 1203+ total station system, survey system not known for VGS drill holes.

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP19-01	430083	2343346	387	22	-80	162.80	138.00	160.00	22.00	0.76	0.13	0.01	0.15	0.21
BP19-02	430084	2343345	387	202	-78	146.00	106.60	124.40	17.80	1.00	0.09	0.01	0.29	0.39
BP19-03	430376	2343205	439	22	-76	146.50	39.00	45.00	6.00	0.76	0.09	0.02	0.05	0.07
and							56.50	102.00	45.50	1.20	0.17	0.01	0.13	0.15
BP19-04	430375	2343206	439	22	-75	160.00	104.45	121.00	16.55	0.34	0.04	0.01	0.03	0.03
BP19-05	430125	2343312	391	22	-90	166.00	118.20	134.00	15.80	0.57	0.07	0.01	0.10	0.12
BP19-06	430066	2343369	385	202	-74	135.60	101.00	128.70	27.70	0.88	0.09	0.01	0.30	0.38
BP19-07	430208	2343258	429	22	-60	650.30	310.90	375.30	64.40	0.52	0.05	0.01	0.08	0.10
BP19-08	430065	2343370	385	22	-80	172.30	140.60	170.00	29.40	1.00	0.12	0.02	0.25	0.30
BP19-09	430101	2343325	389	202	-74	130.00	107.00	118.95	11.95	1.46	0.15	0.02	0.42	0.60
BP19-10	430100	2343326	389	22	-78	170.20	136.90	170.20	33.30	0.80	0.09	0.01	0.14	0.18
BP19-11	430137	2343281	394	22	-86	162.50	109.40	160.90	51.50	0.50	0.05	0.01	0.09	0.11
BP19-12	430136	2343282	394	202	-70	138.80	52.90	78.50	25.60	0.43	0.12	0.01	0.05	0.07
and							96.00	118.20	22.20	0.34	0.01	0.01	0.04	0.04
BP19-13	430172	2343233	394	202	-64	102.90	72.00	80.70	8.70	0.31	0.02	0.01	0.04	0.04
BP19-14	430217	2343411	394	202	-84	370.40	215.00	321.00	106.00	0.45	0.04	0.01	0.08	0.10
BP19-15	430032	2343416	394	22	-80	153.00	111.70	143.90	32.20	0.40	0.04	0.01	0.06	0.07
BP19-16	430033	2343415	394	202	-66	125.80	100.50	116.90	16.40	0.42	0.02	0.01	0.06	0.07
BP19-17	430190	2343483	394	202	-71	249.60	191.50	207.00	15.50	0.74	0.09	0.01	0.24	0.36
BP19-18	430005	2343419	394	22	-73	103.00	57.00	61.00	4.00	0.40	0.01	0.01	0.16	0.18
and							78.70	87.15	8.45	0.51	0.04	0.01	0.05	0.06
BP19-19	430217	2343411	394	202	-71	263.00	201.70	217.70	16.00	0.40	0.04	0.01	0.06	0.09
BP19-20	430006	2343418	394	202	-70	114.50	52.80	56.80	4.00	0.96	0.65	0.01	0.53	0.72
and							77.90	89.50	11.60	0.44	0.03	0.01	0.07	0.09

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP19-21	430190	2343483	394	202	-56	223.30	174.10	200.40	26.30	0.50	0.05	0.01	0.16	0.21
BP19-22	430037	2343362	394	202	-75	117.20	79.00	108.00	29.00	0.60	0.05	0.01	0.15	0.20
BP19-23	430217	2343412	394	202	-55	237.70	173.00	224.00	51.00	0.71	0.08	0.01	0.17	0.23
BP19-24	430150	2343638	394	22	-72	96.80	54.30	60.90	6.60	0.40	0.07	0.01	0.03	0.04
and							77.90	86.00	8.10	0.40	0.04	0.01	0.03	0.04
BP19-25	430189	2343482	394	22	-78	233.60	166.00	215.00	49.00	0.31	0.02	0.01	0.02	0.02
BP19-26	430098	2343513	370	22	-73	225.90	165.80	199.30	33.50	0.50	0.03	0.01	0.08	0.10
BP19-27	430219	2343412	411	24	-83	320.10	225.25	293.00	67.75	0.42	0.01	0.01	0.06	0.07
BP19-28	430071	2343580	343	22	-62	147.00	97.00	132.50	35.50	0.40	0.03	0.01	0.06	0.07
BP19-29	430340	2343442	377	202	-82	305.00	2.50	91.80	89.30	1.02	0.16	0.02	0.10	0.10
and							123.00	265.00	142.00	0.41	0.04	0.01	0.05	0.05
BP19-30	430070	2343580	343	22	-90	151.40	121.80	143.00	21.20	0.57	0.06	0.01	0.08	0.10
BP19-31	430244	2343472	374	202	-84	230.00	167.70	189.60	21.90	0.42	0.02	0.01	0.06	0.07
BP19-32	430099	2343512	370	202	-64	198.80	108.00	187.80	79.80	0.51	0.05	0.01	0.13	0.17
BP19-33	430218	2343567	372	34	-71	144.10	69.40	122.70	53.30	0.46	0.06	0.01	0.07	0.07
BP19-34	430365	2343499	336	202	-80	234.00	4.00	213.75	209.75	0.35	0.03	0.01	0.03	0.03
BP19-35	430299	2343346	444	202	-69	365.00	0.00	40.00	40.00	0.93	0.10	0.01	0.10	0.12
and							179.50	212.35	32.85	0.70	0.12	0.01	0.08	0.09
and							286.00	315.80	29.80	0.65	0.08	0.01	0.11	0.15
BP19-36	430103	2343653	333	22	-67	98.80	49.30	62.00	12.70	0.45	0.16	0.02	0.04	0.04
BP19-37	430153	2343516	378	202	-80	234.00	196.00	217.00	21.00	0.63	0.04	0.01	0.11	0.14
BP19-38	430311	2343504	344	22	-72	152.40	0.00	96.30	96.30	0.64	0.08	0.01	0.09	0.10
BP19-39	430018	2343580	338	202	-79	133.00	67.00	123.50	56.50	0.50	0.05	0.01	0.09	0.12
BP19-40	430325	2343410	401	202	-79	343.70	3.00	47.40	44.40	0.87	0.16	0.02	0.07	0.07
and							281.70	301.00	19.30	0.65	0.06	0.01	0.15	0.17
BP19-41	430255	2343499	353	22	-75	202.60	99.40	109.00	9.60	0.46	0.04	0.01	0.10	0.12
BP19-42	430154	2343517	378	202	-61	241.00	199.50	214.70	15.20	0.40	0.05	0.01	0.02	0.08
BP19-43	429960	2343572	336	22	-71	115.40	50.00	85.60	35.60	0.75	0.11	0.01	0.21	0.29

BLACKSTONE MINERALS

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP19-45	430325	2343409	401	202	-67	343.50	3.00	30.50	27.50	0.69	0.07	0.02	0.07	0.07
and							293.00	312.80	19.80	0.47	0.07	0.07	0.08	0.09
BP19-46	429957	2343535	352	218	-64	90.00	51.20	62.90	11.70	0.34	0.04	0.01	0.04	0.06
BP20-01	429956	2343538	352	336	-80	114.10	79.30	85.90	6.60	0.52	0.09	0.01	0.06	0.08
BP20-02	430152	2343517	378	22	-80	205.70	172.00	196.85	24.85	0.45	0.04	0.01	0.05	0.06
BP20-03	430398	2343442	378	202	-52	175.50	51.20	116.00	64.80	0.59	0.10	0.02	0.05	0.06
BP20-04	430406	2343348	393	202	-54	166.80	29.00	86.30	57.30	0.63	0.09	0.02	0.08	0.08
BP20-05	429975	2343476	367	22	-90	157.70	71.00	95.30	24.30	0.35	0.01	0.01	0.03	0.04
BP20-06	430169	2343549	376	22	-76	185.70	132.00	172.50	40.50	0.35	0.03	0.01	0.03	0.03
BP20-07	430447	2343315	359	202	-67	335.10	32.00	81.30	49.30	0.79	0.12	0.02	0.09	0.09
and							309.20	320.50	11.30	0.41	0.03	0.01	0.04	0.05
BP20-08	430507	2343327	329	202	-51	308.70	80.00	151.65	71.65	0.65	0.09	0.01	0.07	0.07
BP20-09	430468	2343356	347	202	-71	332.60	58.30	141.50	83.20	0.50	0.07	0.02	0.03	0.04
and							306.00	320.40	14.40	0.47	0.07	0.02	0.18	0.1
BP20-10	430437	2343160	445	202	-84	332.10	56.20	321.00	264.80	0.33	0.02	0.01	na	na
BP20-11	430169	2343549	376	22	-54	151.60	116.00	139.00	23.00	0.36	0.03	0.01	0.05	0.05
BP20-12	430278	2343548	325	22	-70	119.40	49.60	104.60	55.00	0.31	0.02	0.01	0.03	0.03
BP20-13	429888	2343664	330	22	-90	99.70	57.00	61.00	4.00	0.31	0.01	0.01	0.03	0.03
BP20-14	430404	2343457	369	202	-70	346.00	63.80	142.00	78.20	0.37	0.02	0.01	0.04	0.05
and							220.50	283.90	63.40	0.46	0.05	0.01	0.09	0.07
and							293.00	316.70	23.70	0.41	0.01	0.01	0.07	0.08
BP20-15	430298	2343346	448	202	-63	346.80	0.00	37.70	37.70	1.12	0.11	0.02	0.17	0.19
and							287.00	338.20	51.20	0.59	0.07	0.01	0.09	0.12
BP20-16	429914	2343723	316	22	-90	55.70	19.80	51.90	32.10	0.32	0.02	0.01	0.03	0.03
BP20-17	430060	2343552	365	202	-84	183.80	136.60	174.30	37.70	0.45	0.04	0.01	0.05	0.07
BP20-18	429873	2343617	339	22	-90	86.00	56.20	57.60	1.40	0.31	0.02	0.01	0.02	0.02
BP20-19	430421	2343378	384	202	-55	366.00	41.00	100.40	59.40	0.91	0.14	0.02	0.11	0.09
and							343.10	358.00	14.90	0.80	0.10	0.01	0.14	0.2

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP20-20	430291	2343456	377	22	-68	203.70	112.00	179.80	67.80	0.39	0.03	0.01	0.04	0.05
BP20-21	430191	2343602	369	22	-52	118.00	67.40	87.80	20.40	0.40	0.03	0.01	0.07	0.09
and							102.50	103.80	1.30	0.44	0.22	0.02	0.26	0.23
BP20-23	430025	2343467	365	22	-82	181.60	103.60	173.60	70.00	0.50	0.05	0.01	0.09	0.11
BP01-20	430538	2343314	340	236	-75	472.9	169.47	174	4.53	0.51	0.06	na	na	na
BP03-01	430254	2342972	544	23	-55	120	40.55	64.3	23.75	0.76	0.21	na	na	na
BP03-02	430277	2342963	535	23	-50	84	25.2	68.17	42.97	0.62	0.20	na	na	na
BP03-03	430358	2342962	516	23	-50	70	6.54	43	36.46	0.62	0.10	na	na	na
BP03-04	430299	2342952	519	23	-50	80	18	48.7	30.7	0.67	0.13	na	na	na
BP03-05	430349	2342939	503	23	-45	90	0	61	61	0.71	0.16	na	na	na
BP03-06	430286	2342919	504	23	-47	110.2	38.3	68.5	30.2	0.75	0.18	na	na	na
BP03-07	430267	2343072	481	199	-45	144.2	95.5	108	12.5	0.41	0.05	na	na	na
BP03-08	430323	2342943	506	23	-50	64.9	7.8	64.9	57.1	0.68	0.12	na	na	na
BP03-09	430201	2343104	468	203	-45	143	24.8	64.6	39.8	0.35	0.04	na	na	na
BP03-10	430164	2343148	432	203	-50	34	5.5	15.4	9.9	0.34	0.04	na	na	na
BP03-11	430223	2343092	469	203	-50	155	77	85	8	0.42	0.05	na	na	na
BP03-12	430241	2343070	478	203	-43	130.4	64.5	73.5	9	0.41	0.03	na	na	na
BP04-01	430359	2343029	501	203	-50	151.3	128	151	23	0.42	0.09	na	na	na
BP04-01A	430359	2343031	501	205	-50	200.6	130	161	31	0.46	0.07	na	na	na
BP04-07	430401	2343000	493	203	-45	138.2	28.1	31.3	3.2	0.55	0.01	na	na	na
BP04-10	430313	2342918	491	20	-44	101	31.95	87	55.05	0.65	0.16	na	na	na
BP04-11	430305	2343031	506	203	-42	146.6	0	34	34	0.81	0.11	na	na	na
BP04-11	430305	2343031	506	203	-42	146.6	100.47	104.55	4.08	0.38	0.05	na	na	na
BP04-12	430210	2343061	493	204	-45	117.9	25	30	5	0.60	0.19	na	na	na
BP04-13	430266	2342937	528	22	-45	99.15	45.7	69	23.3	0.88	0.16	na	na	na
BP04-14	430212	2342936	521	22	-45	136.2	93	112	19	0.47	0.06	na	na	na
BP04-15	430177	2342983	475	23	-44	112.9	84	92	8	0.48	0.04	na	na	na
BP04-16	430257	2343044	490	202	-45	127.6	16	29	13	0.98	0.16	na	na	na

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP04-16	430257	2343044	490	202	-45	127.6	60.4	67.9	7.5	0.61	0.10	na	na	na
BP04-19	430278	2343357	445	201	-45	90	0	22.45	22.45	1.48	0.22	na	na	na
BP04-21	430350	2343333	424	203	-52	49.4	15	17.6	2.6	0.62	0.06	na	na	na
BP04-22	430305	2343360	440	202	-54	53	0	13	13	1.66	0.14	na	na	na
BP04-23	430018	2343317	340	203	-50	140	9	10	1	0.51	0.10	na	na	na
BP04-27	429989	2343377	332	201	-50	160.5	28.5	44.4	15.9	0.55	0.05	na	na	na
BP04-35	430419	2343240	423	204	-81	225.8	101	136.65	35.65	0.46	0.05	na	na	na
BP04-36	430438	2343156	446	25	-85	393.7	139	183	44	0.66	0.14	na	na	na
BP04-36	430438	2343156	446	25	-85	393.7	376	387.7	11.7	0.37	0.03	na	na	na
BP04-42	430255	2343368	432	203	-65	313.6	237	271	34	0.43	0.03	na	na	na
BP04-43	430437	2343154	446	205	-51	320.4	43	77	34	0.73	0.11	na	na	na
BP04-43	430437	2343154	446	205	-51	320.4	110	152.6	42.6	0.42	0.02	na	na	na
BP04-43	430437	2343154	446	205	-51	320.4	220.7	258.7	38	0.34	0.00	na	na	na
BP04-45	430241	2343203	422	202	-57	305.1	118.7	121	2.3	0.31	0.00	na	na	na
BP04-48	430385	2343290	394	203	-53	469.7	18.5	66.7	24.05	0.34	0.02	na	na	na
BP04-48	430385	2343290	394	203	-53	469.7	270	319.7	49.7	0.34	0.03	na	na	na
BP04-51A	430342	2343186	450	203	-49	308.3	264	274	10	0.44	0.08	na	na	na
BP04-52	430281	2343167	442	203	-72	389.4	75.6	96.1	20.5	0.30	0.00	na	na	na
BP04-52	430281	2343167	442	203	-72	389.4	207	219	12	0.33	0.02	na	na	na
BP04-53	430154	2343253	395	202	-59	305.7	44.35	66.5	22.15	0.32	0.02	na	na	na
BP04-54	430241	2343204	422	211	-83	266.8	122	151	29	0.44	0.03	na	na	na
BP04-54	430241	2343204	422	211	-83	266.8	209	223	14	0.68	0.10	na	na	na
BP04-55	430358	2343226	426	203	-57	191.2	16	67	51	0.60	0.07	na	na	na
BP04-55A	430357	2343222	426	201	-57	391	235.4	267	31.6	0.58	0.09	na	na	na
BP04-57	430241	2343203	422	203	-72	219.4	159	161	2	0.53	0.18	na	na	na
BP04-58	430293	2343131	456	204	-44	218.8	162	171	9	0.66	0.08	na	na	na
BP04-60	430394	2343050	473	204	-50	182.8	95.1	105	9.9	0.95	0.14	na	na	na
BP04-60	430394	2343050	473	204	-50	182.8	153	164	11	0.51	0.08	na	na	na

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP04-62	430237	2343125	449	200	-51	188	93	119	26	0.55	0.08	na	na	na
BP04-63	430357	2343091	489	202	-68	269	232	250.9	18.9	0.43	0.04	na	na	na
BP04-64	430154	2343254	395	175	-88	181.5	110	132	22	0.87	0.11	na	na	na
BP04-65	430193	2343151	431	203	-54	214.4	27	31.8	4.8	0.51	0.01	na	na	na
BP04-65	430193	2343151	431	203	-54	214.4	95.2	99	3.8	0.33	0.05	na	na	na
BP04-67	430171	2343230	397	200	-84	182.7	65	157	92	0.70	0.07	na	na	na
BP04-68	430400	2343194	449	199	-68	153	80	149	69	1.06	0.21	na	na	na
BP04-69	430422	2343183	448	202	-80	202.6	81	154	73	0.33	0.01	na	na	na
BP04-70	430477	2343249	393	200	-77	171	96	127	31	0.48	0.05	na	na	na
BP04-71	430425	2343180	448	27	-80	195	150	179	29	0.46	0.05	na	na	na
BP07-01	430242	2342943	544	22	-54	110	70	83	13	0.75	0.16	na	na	na
BP07-02	430303	2342894	482	22	-45	187	74	89	15	0.68	0.22	na	na	na
BP07-06	430340	2342984	526	142	-57	171	12	72	60	0.77	0.25	na	na	na
BP07-07	430360	2342999	511	142	-50	119.6	32.1	48.9	16.8	0.55	0.06	na	na	na
BP08-01	430276	2343092	468	202	-47	184.5	128	133	5	0.53	0.07	na	na	na
BP08-02	430345	2343062	499	202	-52	229.3	179	182	3	0.56	0.06	na	na	na
BP08-05	430369	2343056	487	202	-50	263.8	165.3	180	14.7	0.57	0.06	na	na	na
BP08-06	430315	2343054	497	202	-45	173	132	134	2	0.55	0.06	na	na	na
BP08-08	430324	2343075	488	202	-45	198.5	148	154	6	0.39	0.01	na	na	na
BP08-09	430337	2343029	508	142	-53	206.9	82	107.2	25.2	1.33	0.19	na	na	na
BP08-11	430208	2342991	499	22	-43	74.4	52	58.48	6.48	0.49	0.04	na	na	na
BP08-12	430382	2342975	514	231	-45	140.4	66	73.5	7.5	0.41	0.03	na	na	na
BP08-13	430205	2343010	500	22	-45	82	28.9	51	22.1	0.64	0.15	na	na	na
BP08-14	430256	2343042	504	202	-59	129.4	87	100	13	0.33	0.02	na	na	na
BP08-15	430382	2342975	514	231	-57	154.8	22	111.95	89.95	0.72	0.21	na	na	na
BP08-16	430328	2342955	514	22	-45	64.7	6	50	44	1.15	0.21	na	na	na
BP08-18	430383	2342975	513	231	-67	180.8	39.5	155	115.5	0.79	0.15	na	na	na
BP08-19	430288	2343050	497	202	-52	165.7	112	125	13	0.31	0.02	na	na	na

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
BP08-20	430317	2343007	524	142	-58	212.2	78	141	63	0.92	0.22	na	na	na
BP08-32	430345	2343064	497	202	-60	237.4	172.7	214	41.3	0.40	0.04	na	na	na
BP13-03	430249	2343221	436	202	-61	361	141.5	144	2.5	1.06	0.05	na	na	na
BP13-04	430349	2343201	439	202	-51	342.2	222.55	240	17.45	0.30	0.01	na	na	na
BP13-05	430359	2343196	439	202	-59	374	243	254	11	0.41	0.05	na	na	na
BP13-07	430438	2343155	445	202	-57	364.7	63	86	23	0.71	0.11	na	na	na
BP13-07	430438	2343155	445	202	-57	364.7	192	263.6	71.6	0.34	0.00	na	na	na
BP13-09	430423	2343183	447	202	-50	347.7	56	74	18	0.96	0.16	na	na	na
BP14-01	430065	2343431	376	202	-59	427.1	122	147	25	0.89	0.10	na	na	na
BP14-03	430193	2343211	403	204	-76	408	90	163	73	0.97	0.17	na	na	na
BP14-04	430125	2343313	392	202	-73	400.55	112.24	122	9.76	1.74	0.22	na	na	na
BP14-05	430439	2343157	445	202	-67	423.95	91.4	136	44.6	0.79	0.16	na	na	na
BP14-05	430439	2343157	445	202	-67	423.95	271.35	308	36.65	0.47	0.04	na	na	na
BP14-06	430401	2343198	449	202	-60	455.85	90.26	107.53	17.27	0.53	0.05	na	na	na
BP14-06	430401	2343198	449	202	-60	455.85	266	311	45	0.46	0.03	na	na	na
BP96-01	430206	2343118	457	201	-47	152.2	36	93.35	57.35	0.43	0.06	na	na	na
BP96-06	430284	2343046	500	201	-47	151	10	22	12	1.44	0.26	na	na	na
BP96-07	430341	2342922	488	22	-45	110.1	24	106.5	82.5	1.03	0.15	na	na	na
BP96-08	430384	2343025	484	201	-45	150	55	118	63	0.50	0.08	na	na	na
BP97-04	430394	2343052	474	202	-60	202	154.66	162	7.34	0.51	0.04	na	na	na
BP97-05	430196	2342964	498	27	-47	110	89	96	7	0.62	0.03	na	na	na
BP97-06	430420	2343241	420	203	-60	207.7	105	207.7	102.7	0.77	0.09	na	na	na
BP97-08	430246	2343084	474	202	-52	170	100	108	8	0.32	0.03	na	na	na
BP97-09	430232	2342918	537	23	-52	116.4	102	107.65	5.65	0.50	0.09	na	na	na
BP97-10	430295	2343070	484	202	-52	179.9	103	135	32	0.32	0.00	na	na	na
BP97-12	430267	2342869	505	22	-52	151.48	137.05	144.4	7.35	0.77	0.10	na	na	na
BP97-14	430308	2343108	470	202	-57	220.5	161.2	194.5	33.3	0.51	0.04	na	na	na
LK01	430155	2343116	456	203	-70	200.48	6.55	25.92	19.37	0.40	na	na	na	na

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
LK03	430333	2343027	508	203	-60	187.89	0	19.28	19.28	0.62	na	na	na	na
LK03	430333	2343027	508	203	-60	187.89	101.93	162.65	60.72	0.42	na	na	na	na
LK04	430175	2343172	409	203	-70	250.11	16.85	55.62	38.77	0.33	na	na	na	na
LK05	430365	2343086	494	203	-70	261.68	227.8	232.83	5.03	0.71	na	na	na	na
LK07	430244	2343080	475	203	-65	178.05	99.05	123.1	24.05	0.49	na	na	na	na
LK09	430275	2343145	446	203	-60	234.3	183.63	188.78	5.15	0.54	na	na	na	na
LK11	430335	2343028	508	203	-70	203.55	163.9	180.2	16.3	0.42	na	na	na	na
LK14	430276	2343146	446	203	-73	337.2	188.3	210.5	22.2	0.42	na	na	na	na
LK16	430275	2343144	446	203	-70	295.7	155.2	192.7	37.5	0.40	na	na	na	na
LK19	429957	2343449	359	203	-90	98.02	67.3	94.15	26.85	0.47	na	na	na	na
LK24	430172	2343171	414	203	-65	220.34	8.77	55.51	46.74	0.33	na	na	na	na
LK25	430367	2343088	494	203	-85	459.05	268	316.7	48.7	0.55	na	na	na	na
LK26	430204	2343232	417	203	-85	238.75	162.55	223.8	61.25	0.68	na	na	na	na
LK28	430007	2343552	342	203	-70	125.95	64.55	114.85	50.3	0.50	na	na	na	na
LK29	430329	2343267	425	23	-80	365.75	115.8	135.2	19.4	0.42	na	na	na	na
LK29	430329	2343267	425	23	-80	365.75	281.8	362.1	80.3	0.41	na	na	na	na
LK30	430156	2343367	429	203	-85	233.67	148	157	9	0.40	na	na	na	na
LK30	430156	2343367	429	203	-85	233.67	172	210.35	38.35	0.79	na	na	na	na
LK31	430033	2343615	325	203	-90	112.15	62	94.65	32.65	0.34	na	na	na	na
LK32	430067	2343687	324	23	-90	75	46.65	65.9	19.25	0.44	na	na	na	na
LK35	430375	2343119	488	203	-75	388.65	266.3	313.4	47.1	0.52	na	na	na	na
LK36	430226	2343555	363	23	-90	179.79	127.4	160.6	33.2	0.40	na	na	na	na
LK37	430311	2343231	446	203	-85	508.83	137.72	161.85	24.13	0.44	na	na	na	na
LK37	430311	2343231	446	203	-85	508.83	204.67	307.04	102.37	0.45	na	na	na	na
LK38	430181	2343449	395	23	-85	247.7	102.23	175.1	72.87	0.42	na	na	na	na
LK38	430181	2343449	395	23	-85	247.7	187.25	242.35	55.1	0.57	na	na	na	na
LK40	429926	2343620	310	293	-65	63.85	10	55.7	45.7	0.55	na	na	na	na
LK41	430046	2343387	370	203	-90	146.45	91.96	141.1	49.14	0.51	na	na	na	na

Hole	East UTM48N WGS84	North UTM48N WGS84	RLm UTM48N WGS84	Azimuth UTM	Dip	End of hole m	From m	To m	Interval m	Ni %	Cu %	Co %	Pt g/t	Pd g/t
LK42	430094	2343500	375	203	-90	219.45	126.65	214.25	87.6	0.42	na	na	na	na
LK43	430139	2343610	346	203	-90	141.3	74.6	134.35	59.75	0.60	na	na	na	na
LK44	430240	2343323	464	203	-90	366.5	168.1	196.55	28.45	0.46	na	na	na	na
LK44	430240	2343323	464	203	-90	366.5	281.35	358.16	76.81	0.49	na	na	na	na
LK45	430274	2343415	400	23	-85	295.85	121.38	215.76	94.38	0.39	na	na	na	na
LK45	430274	2343415	400	23	-85	295.85	221.4	290.19	68.79	0.42	na	na	na	na
LK47	430434	2343282	386	203	-70	311.8	42.8	83.3	40.5	0.57	na	na	na	na
LK47	430434	2343282	386	203	-70	311.8	286.05	310.25	24.2	0.38	na	na	na	na
LK48	429945	2343661	296	23	-65	198.95	10.5	56.75	46.25	0.47	na	na	na	na
LK49	429901	2343562	334	203	-90	83.73	18.5	69.7	51.2	0.39	na	na	na	na
LK50	430203	2343232	417	203	-70	375.98	94.45	183.05	88.6	1.08	na	na	na	na
LK51	430203	2343231	417	203	-65	354	98.35	178.25	79.9	0.45	na	na	na	na
LK52	430273	2343417	400	23	-70	270.75	150.85	262.15	111.3	0.54	na	na	na	na
LK53	430362	2343378	422	203	-75	375.3	283.44	374.1	31.01	0.50	na	na	na	na