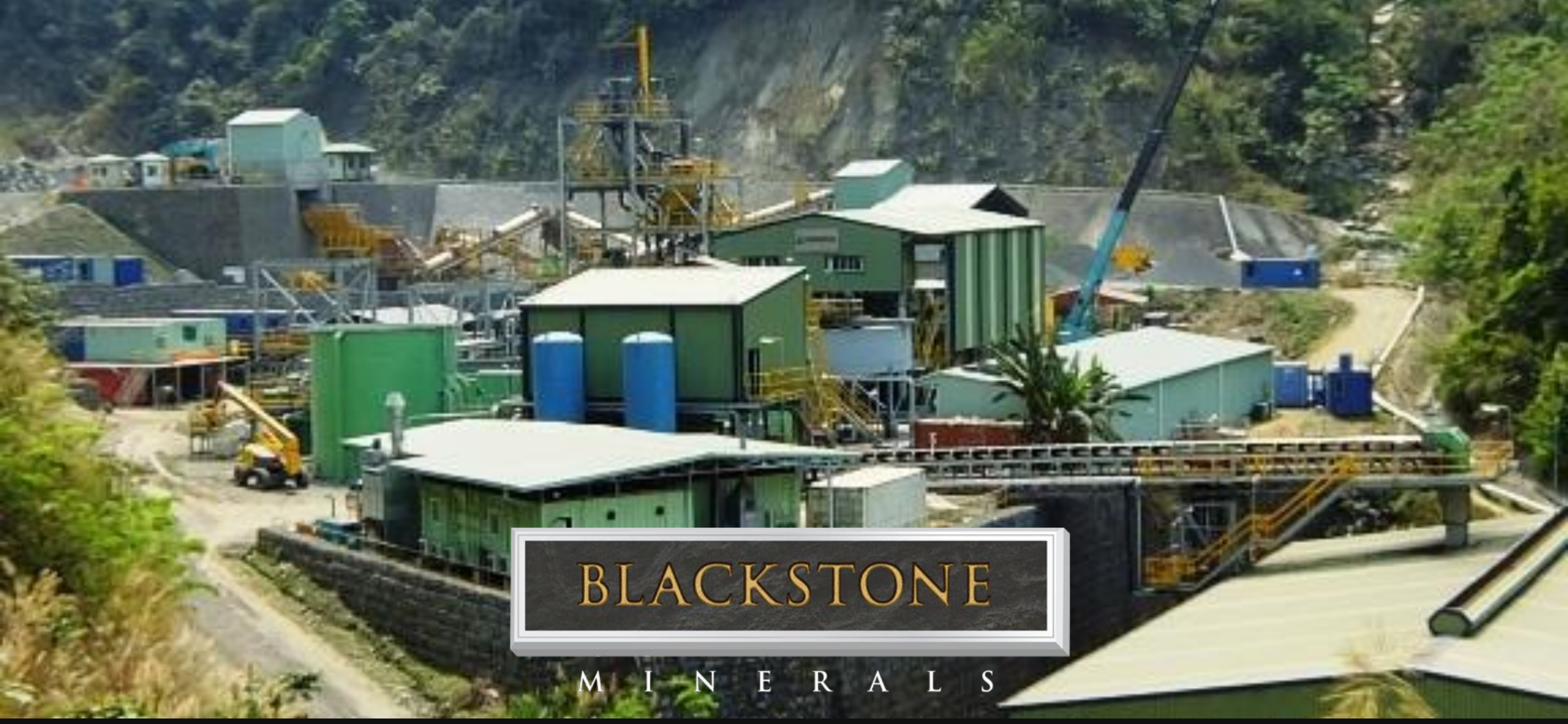


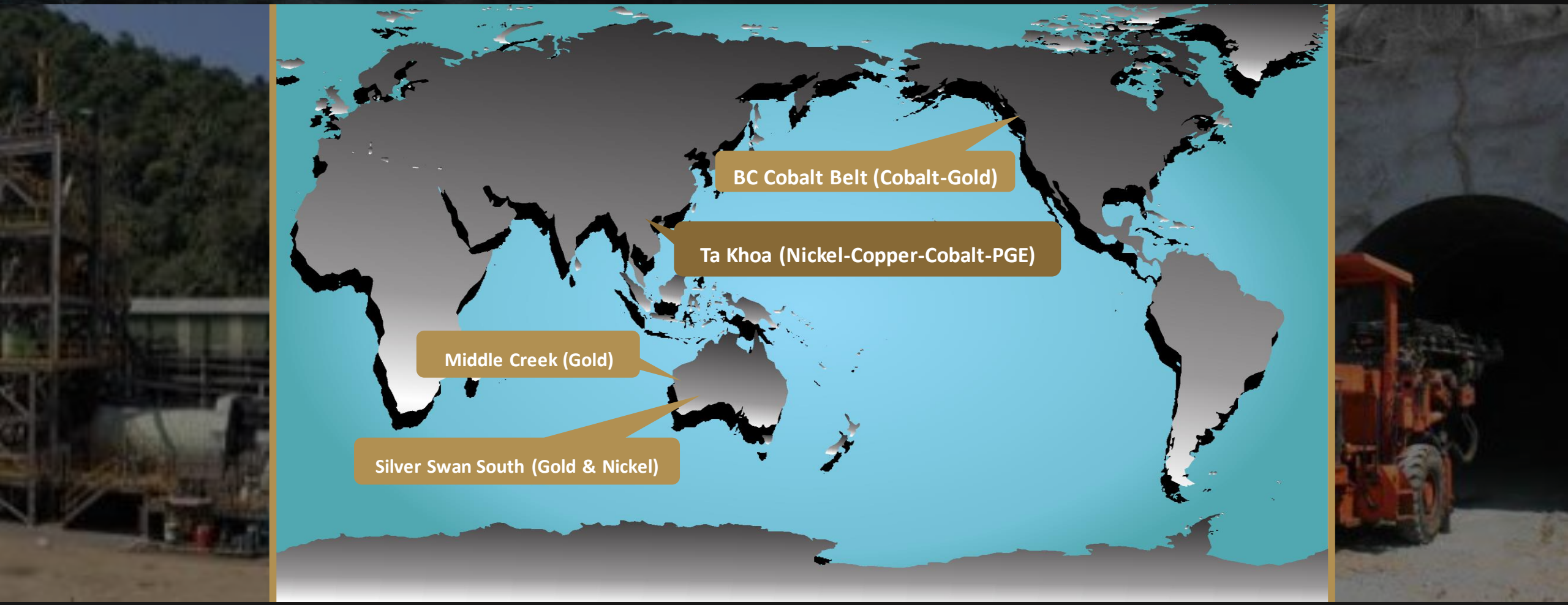
Investor Presentation (ASX: BSX)

December 2019

Positioned to meet demand from Asia's growing lithium-ion battery industry

Projects Locations

An international portfolio of nickel, copper, cobalt & precious metals exploration projects



BLACKSTONE MINERALS

Projects Summary

An international portfolio of battery & precious metals exploration projects

BLACKSTONE MINERALS

www.blackstoneminerals.com.au

Ta Khoa Nickel Project (Nickel-Coper-Cobalt-PGE), Vietnam

- Ban Phuc Mine operated from 2013 to 2016, mining 975kt @ 2.4% Ni & 1.0% Cu for 20.7kt Ni & 10.1kt Cu;
- Existing infrastructure built to Australian Standards includes a 450ktpa concentrator and a modern mechanised underground mine located within a premier nickel sulfide district;
- Invested capital in excess of US$136m generated US$213m in revenue and paid total contributions to government of US$65m during a 3.5 year period of falling nickel prices.

BC Cobalt Project (Cobalt-Gold), British Columbia, Canada

- Multiple new targets with coincident Cu-Au-Co in soil anomalies and IP chargeability and resistivity signatures typical of sulfide bearing bodies;
- 48km of strike potential of untested geology analogous to the world class Bou-Azzer district.

Silver Swan South Project (Gold & Nickel), Western Australia

- Emerging gold discovery located 8 km along strike of the world class Kanowna Belle gold mine (+5 Moz gold endowment);
- Nickel-Cobalt sulfide targets located only 10 km south of the Silver Swan (655 kt @ 9.5% Ni) and Black Swan (10 Mt @ 1% Ni) nickel mines (166 kt nickel endowment).

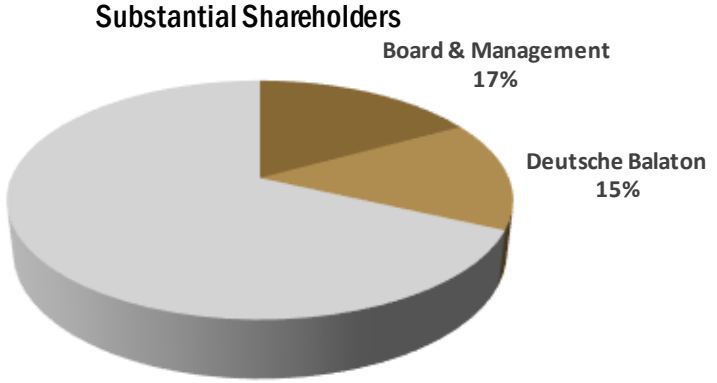
Middle Creek Project (Gold), Western Australia

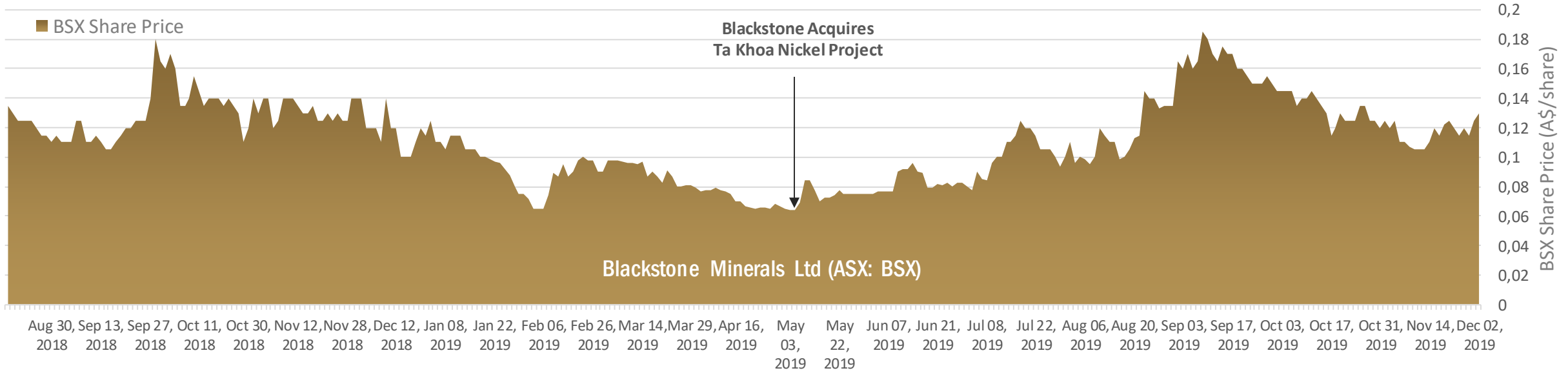
- Pilbara gold exploration adjacent Novo Resources (NVO.tsx-v) Beatons Creek Conglomerate Gold project and Millennium Minerals (MOY.asx) Nullagine Gold project;
- Visible gold in quartz veins at surface and an untested 1.3km long gold in soil anomaly.

Corporate Snapshot

A tight capital structure and well funded for further exploration

ASX Code	BSX
Shares on issue	191.7m
Last Share Price (2 December 2019)	13.5c
Market Capitalisation	A$25.9m
Cash	A$4.9m
Options	26.2m
Top 20 Shareholders	50%





Board & Management Team

Proven track record of mineral discovery and corporate success

Board of Directors

Hamish Halliday	Non-Executive Chairman	Geologist with over 20 years corporate and technical experience, founder of Adamus Resources Limited, a A$3M float which became a multi-million ounce emerging gold producer.
Scott Williamson	Managing Director	Mining Engineer with a Commerce degree from the West Australian School of Mines and Curtin University, over 10 years experience in technical and corporate roles in the mining and finance sectors.
Andrew Radonjic	Technical Director	Mine Geologist and Mineral Economist with over 25 years experience with a focus on gold and nickel exploration, instrumental in three significant gold discoveries north of Kalgoorlie, Managing Director of Venture Minerals Ltd (ASX: VMS) and co-lead the discovery of the Mount Lindsay Tin-Tungsten-Magnetite deposits.
Steve Parsons	Non-Executive Director	Geologist with corporate and technical experience, a proven track record of mineral discoveries, corporate growth, international investor relations and creating shareholder wealth, founding MD of Gryphon Minerals Ltd which became an ASX 200 company with a multi-million ounce gold discovery in West Africa, Managing Director of Bellevue Gold Ltd (ASX: BGL) currently growing a multi-million ounce gold discovery in WA.

Management

Michael Naylor	Joint Company Secretary	Chartered Accountant with over 20 years experience in corporate advisory and public company management, previously an Executive Director and / or Company Secretary of two highly successful battery metal resource companies located in Australia and Canada. Executive Director and Company Secretary of Bellevue Gold Ltd (ASX: BGL) currently growing a multi-million ounce gold discovery in WA.
Jamie Byrde	Joint Company Secretary	Chartered Accountant with over 14 years experience in accounting, company secretarial and corporate advisory roles specialising in Financial Accounting and Reporting and Corporate Governance, currently the Company Secretary for Venture Minerals Limited and Alicanto Minerals Limited.
Dr Stuart Owen	Exploration Manager	BSc & PhD in Geology with over 20 years experience in mineral exploration, Senior Geologist in the team that discovered the Paulsens Mine (+1Moz) and as an Exploration Manager at Adamus discovered the Southern Ashanti Gold deposits (+2Moz) and at Venture discovered the Mt Lindsay Tin-Tungsten-Magnetite deposits.

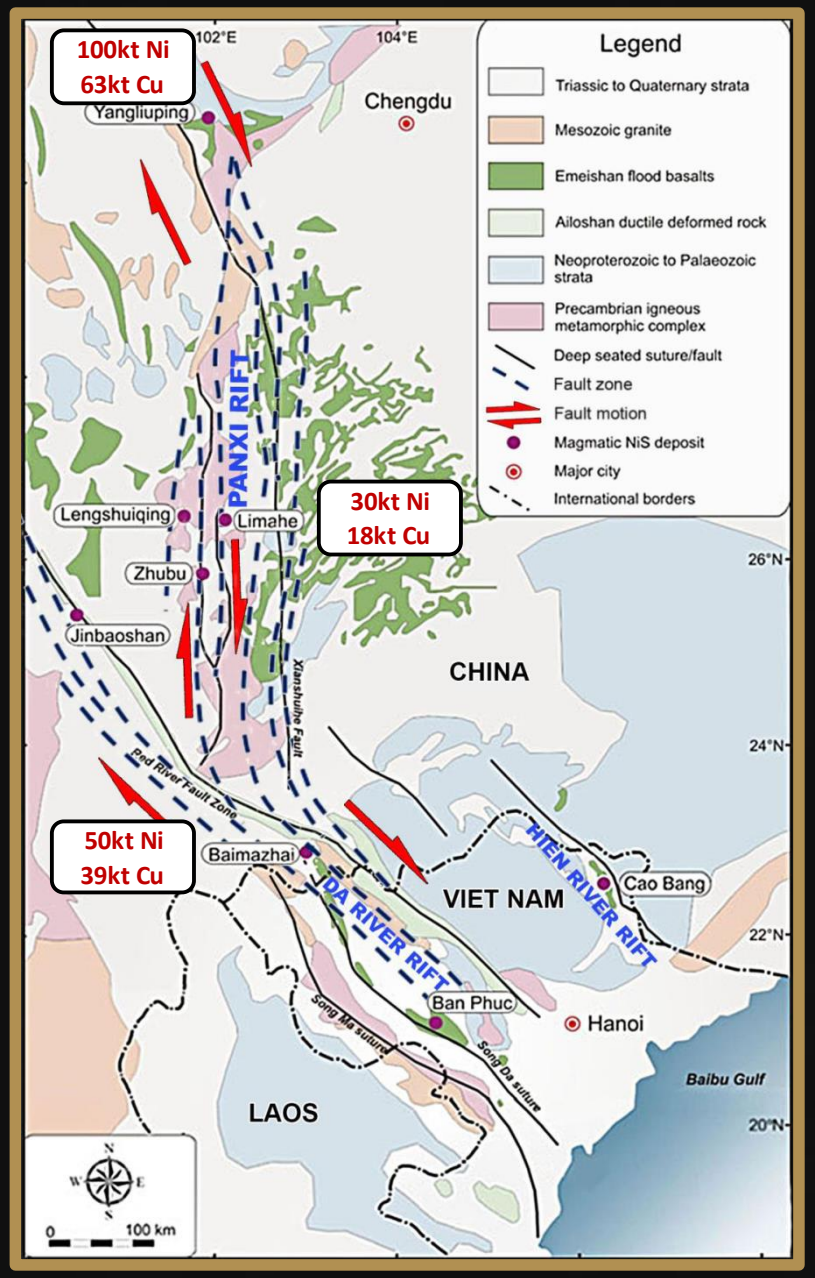
BLACKSTONE MINERALS

Ta Khoa Nickel Project

Exploring Southeast Asia's Premier Nickel Sulfide District

- Located 160km west of Hanoi in Son La Province of Vietnam, existing modern nickel mine built to Australian Standards, currently under care and maintenance;
- Exclusive 150km^2 land package includes a 34.8km^2 exploration license with over 25 advanced stage massive sulfide vein (MSV) targets and a number of large bulk-tonnage disseminated sulfide (DSS) targets;
- Internationally-designed 450ktpa processing plant connected to local hydro grid power with a fully-permitted tailings facility and a modern 250 person camp;
- Operated as a modern mechanised underground nickel mine from 2013 to 2016 and mined 975kt @ 2.4% Ni & 1.0% Cu for 20.7kt Ni & 10.1kt Cu;
- Ban Phuc invested capital in excess of US$136m generated US$213m in revenue and paid total contributions to government of US$65m during falling nickel prices;
- Long term existing partnership exists between AMR Nickel (90%) and a supportive local partner COXAMA (10%), a private Vietnamese industrial conglomerate with primary operations in Son La.

Source: Refer to ASX Announcement 8 May 2019



Ta Khoa Nickel Project

Located within a premier nickel sulfide district

Location

- The Ban Phuc deposit is located 160km west of Hanoi in the province of Son La;
- Access to the mine is via a sealed road from Hanoi which is approximately 240 Km;
- The capital of Son La province, is a further 35km north west of the Ban Phuc Mine and is accessed by sealed road;
- Access to Hai Phong Port is via a sealed road which is approximately 357km.

History

- Early exploration work conducted by Vietnamese geologists in the mid-1950's and early 1960's was initially focussed on copper;
- AMR Nickel was established in 1993 and commenced modern exploration in 1996;
- Mining commenced in 2008 and stopped soon after due to the GFC;
- Construction recommenced in 2012 and the mine was bought into full scale production during 2013 and completed in mid 2016;
- 381 holes drilled for 61,894m (310 holes for 49,743m into Ban Phuc) up to 2016.

Geology

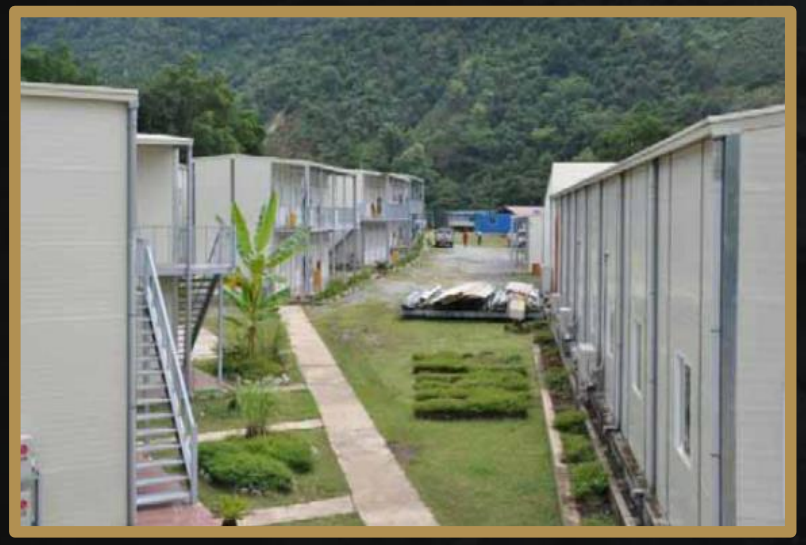
- Located within the Song Da Rift Zone, a major crustal suture zone which forms part of a greater system of deep continental rifting;
- Geotectonic and structural setting analogous to major Ni-Cu deposits such as Norilsk (Russia) and Jinchuan (China);
- Ta Khoa anticline is a domal feature within the Song Da Rift Zone, significant potential exists for multiple Ni-Cu-Co-PGE deposits within the Ta Khoa dome .

Existing Modern Infrastructure Built to Australian Standards

A modern mechanised underground nickel mine built to Australian Standards currently under care and maintenance

Existing Modern Infrastructure

- Internationally-designed 450ktpa processing facility connected to local hydro grid power;
- High recoveries (87% Ni, 95% Cu, 90% Co);
- Fully-permitted tailings facility with excess capacity and expansion options;
- Established workshops, fabrication, and maintenance facilities;
- Modern 250 person camp;
- Internationally certified laboratory.



Existing Modern Infrastructure Built to Australian Standards

A modern mechanised underground nickel mine built to Australian Standards currently under care and maintenance

Existing Modern Infrastructure Built to Australian Standards

A modern mechanised underground nickel mine built to Australian Standards currently under care and maintenance

Low Operating Cost Environment vs Equivalent Western Operations

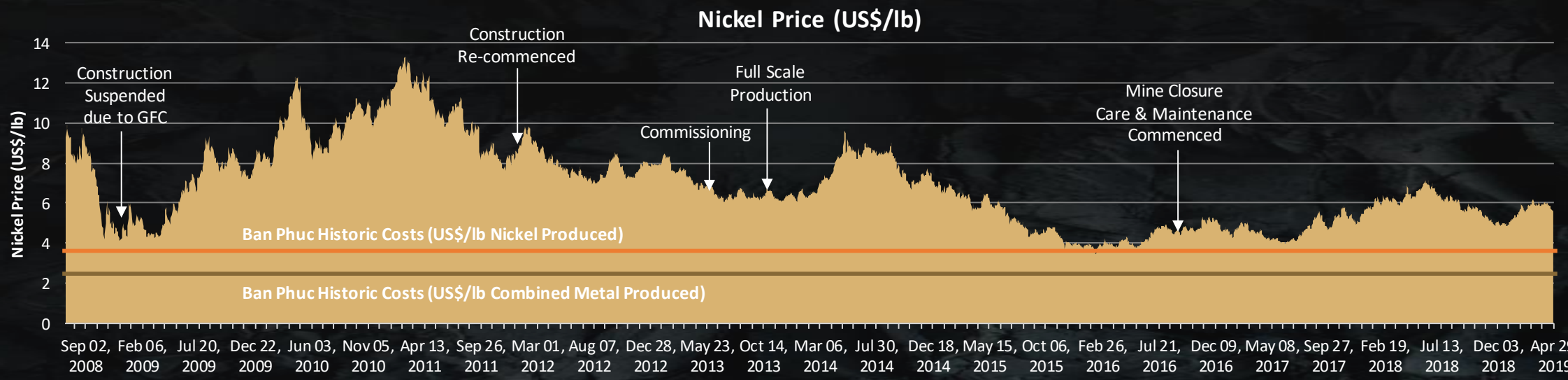
Comparison between historic operating costs at Ban Phuc nickel mine vs equivalent western operations

	Ban Phuc (Actuals)	Western (Equivalent)	Comments
Mining Cost (US$/t)	US$49/t	US$100/t	Narrow vein mechanised underground mining
Processing & Transport Cost (US$/t)	US$27/t	US$45/t	Hydro grid power at Ban Phuc offers significantly lower processing costs
General & Admin Cost (US$/t)	US$10/t	US$25/t	General & Admin Costs excluding head office costs
Tariffs & Royalties (US$/t)	US$50/t	US$10/t	High tariffs in Vietnam can be reduced with downstream processing
Total Site Operating Cost (US$/t)	**US$136/t**	**US$180/t**	**~25% lower operating costs vs equivalent western operations**

Ban Phuc Historic Costs vs Long Term Historic Nickel Prices

Comparison between historic operating costs at Ban Phuc nickel mine and long term historic nickel prices

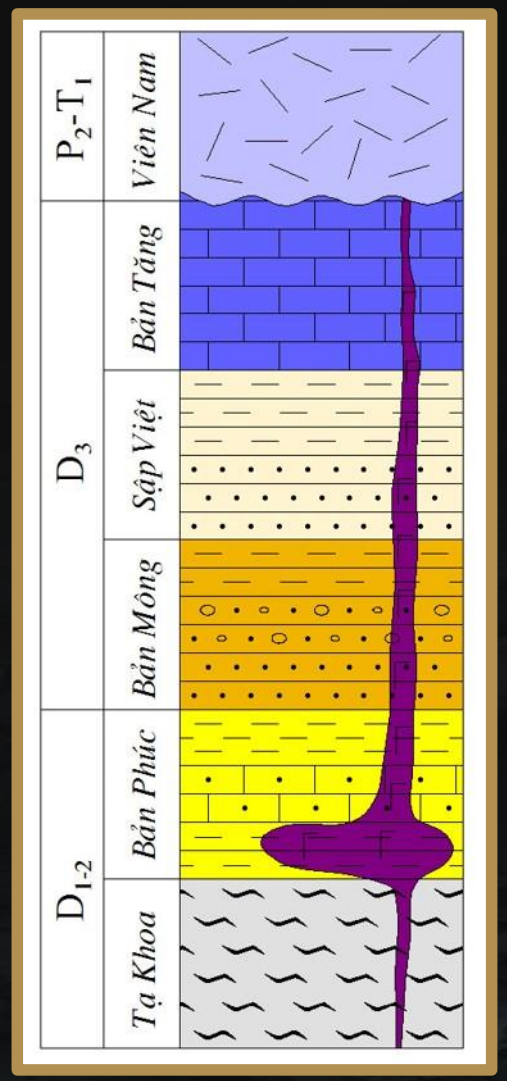
	Ban Phuc Historic Costs[1] (US$/lb Nickel Produced)	Ban Phuc Historic Costs[1] (US$/lb Combined Metal Produced)
Mining Cost (US$/lb)	US$1.29/lb	US$0.85/lb
Processing & Transport Cost (US$/lb)	US$0.72/lb	US$0.47/lb
General & Admin Cost (US$/lb)	US$0.26/lb	US$0.17/lb
Tariffs & Royalties (US$/lb)	US$1.31/lb	US$0.86/lb
Total Site Operating Cost (US$/lb)	**US$3.57/lb**	**US$2.35/lb**

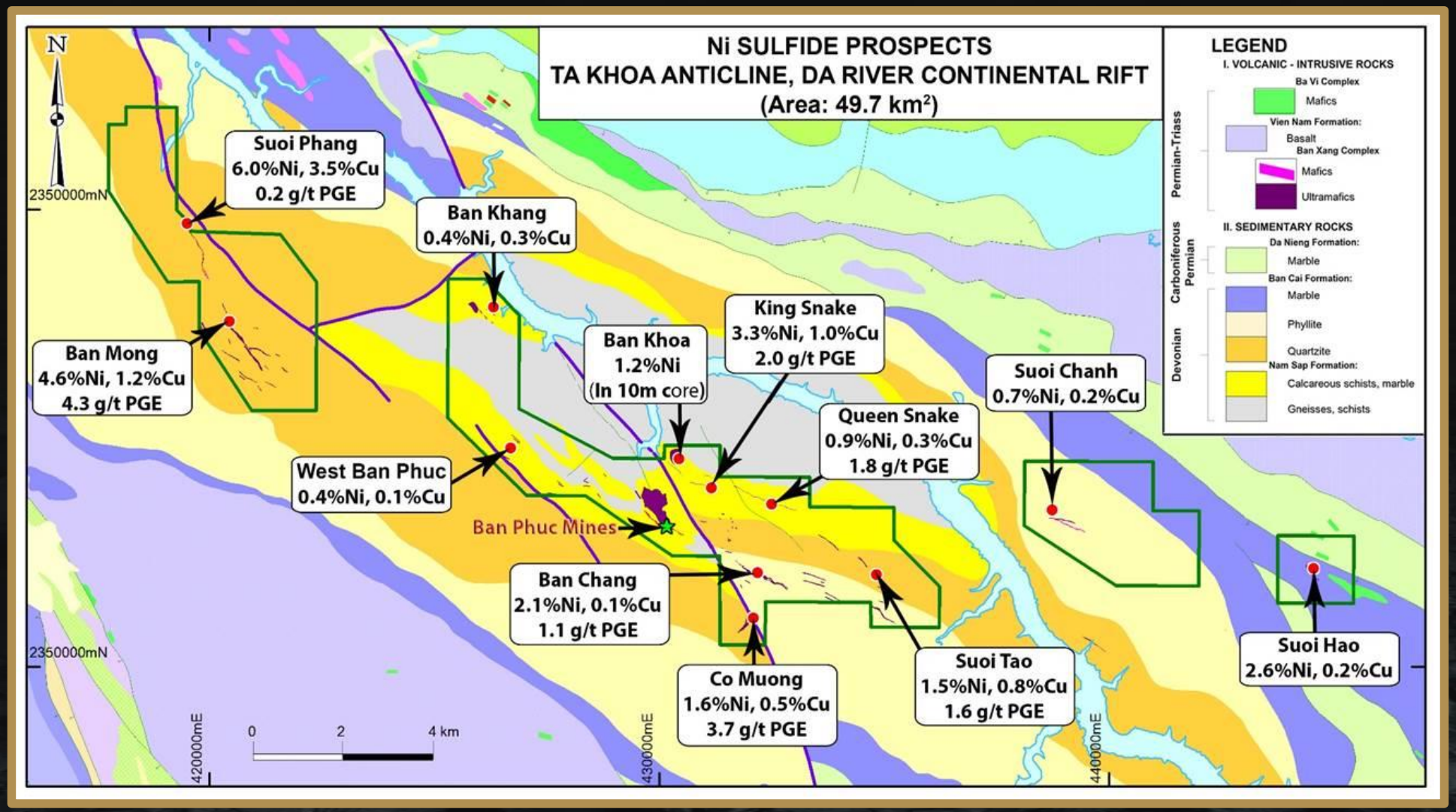


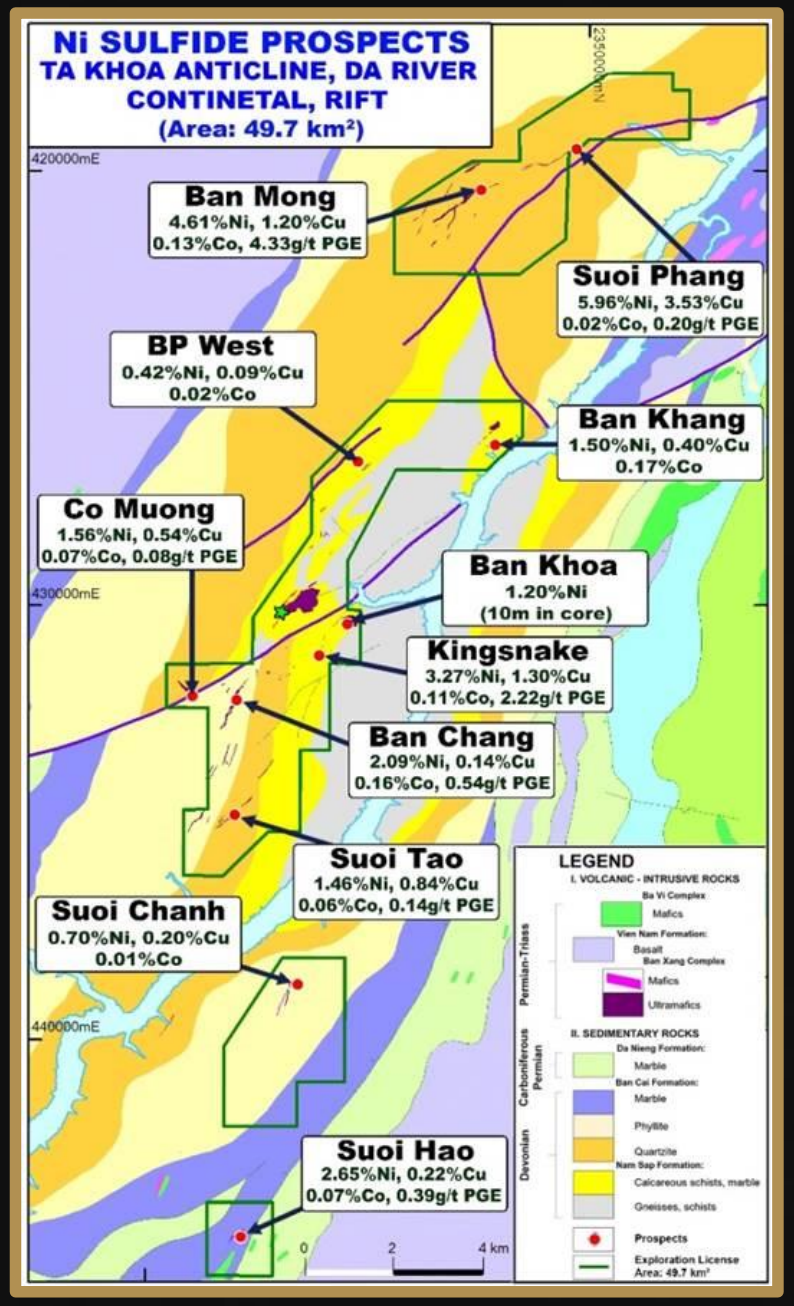
[1]*Source: Refer to AMR quarterly MD&A reports from JunQ 2013 to SepQ 2016* www.asianmineralres.com

Ta Khoa Ni-Cu-Co-PGE Project

Ta Khoa Dome is prospective for multiple magmatic nickel sulfide deposits







Ta Khoa Massive Sulfide Vein (MSV) Prospects

Extensive advanced stage high grade massive sulfide vein targets

Suoi Phang

- 2.1 m @ 4.19% nickel, 0.36% copper & 0.14% cobalt;
- 1.0 m @ 5.96% nickel, 3.53% copper, 0.02% cobalt & 0.2g/t PGE;
- 1.0 m @ 5.98% nickel, 0.24% copper, 0.19% cobalt & 0.17g/t PGE.

Kingsnake

- 1.7 m @ 3.30% nickel, 1.02% copper, 0.11% cobalt & 2.16g/t PGE;
- 1.6 m @ 3.27% nickel, 1.30% copper, 0.11% cobalt & 2.22g/t PGE;
- 0.8 m @ 3.08% nickel, 1.59% copper, 0.17% cobalt.

Ban Chang

- 1.6 m @ 2.19% nickel & 1.54% copper;
- 1.0 m @ 2.65% nickel & 1.04% copper;
- 1.7 m @ 1.89% nickel & 0.91% copper.

Ban Khang

- 2.6 m @ 1.59% nickel, 0.71% copper & 0.08% cobalt;
- 2.5 m @ 1.76% nickel, 0.25% copper & 0.19% cobalt;
- 1.8 m @ 1.51% nickel, 0.35% copper & 0.17% cobalt.

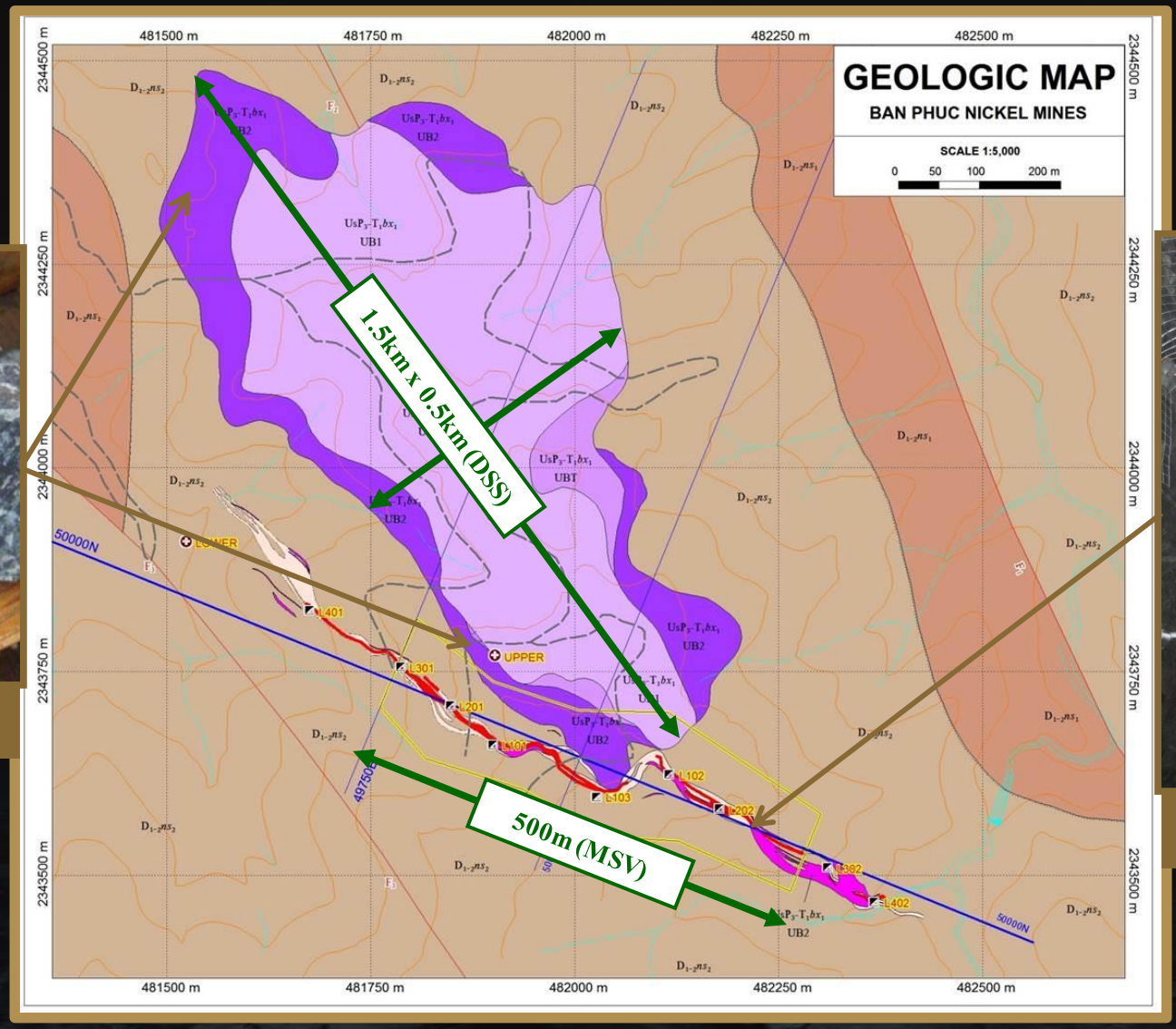
Ban Mong

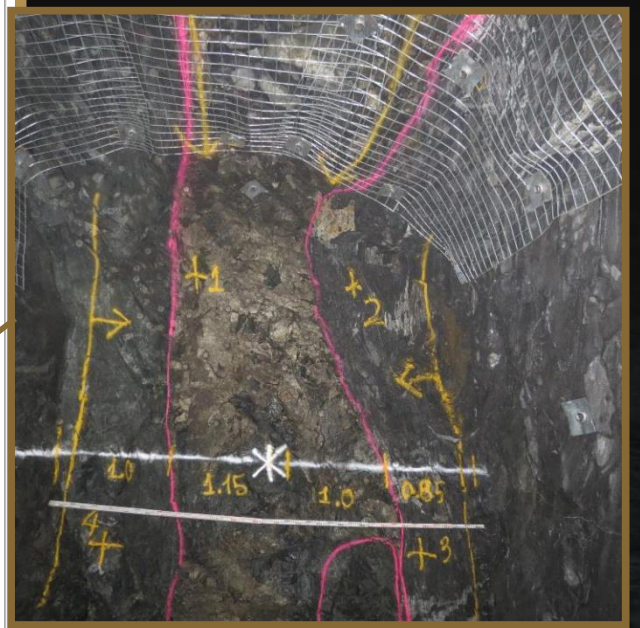
- 0.5 m @ 6.11% nickel, 0.11% copper & 0.2% cobalt;
- 0.5 m @ 4.56% nickel, 0.15% copper & 0.15% cobalt;
- 0.5 m @ 4.61% nickel, 1.20% copper, 0.13% cobalt & 4.33g/t PGE.

Ta Khoa Ni-Cu-Co-PGE Project Two Styles of Mineralisation

Ta Khoa Project has both high grade massive sulfide veins (MSV) and bulk-tonnage disseminated sulfides (DSS)

Disseminated Sulfide (DSS)

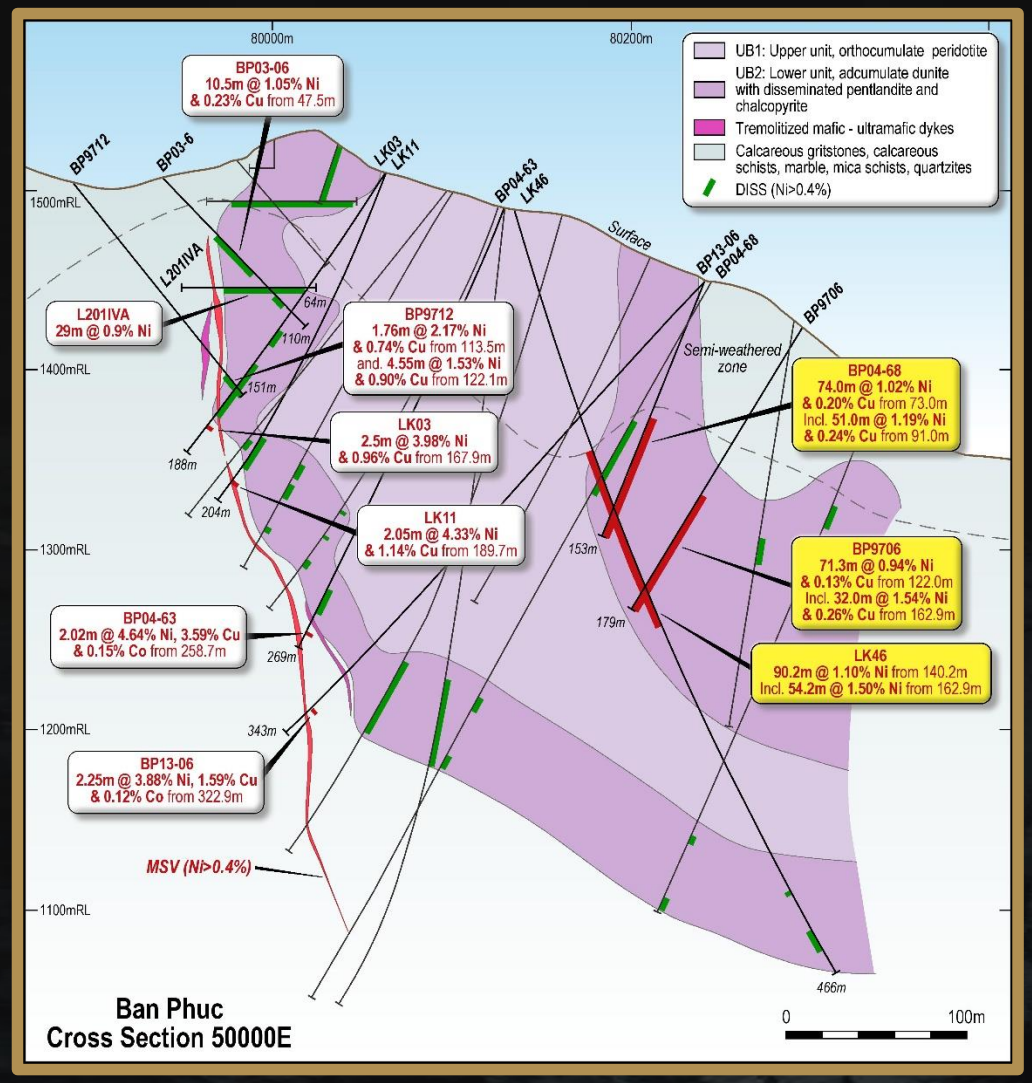


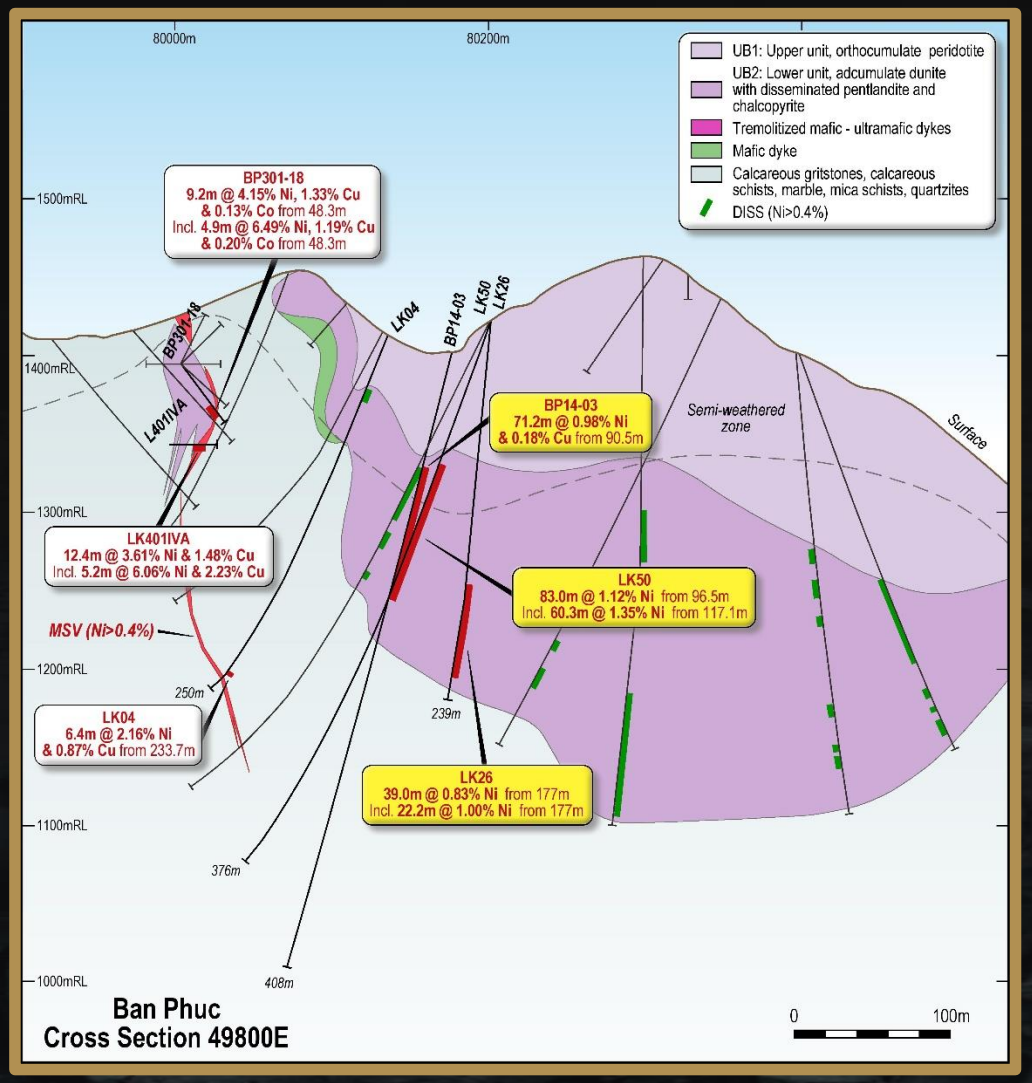


Massive Sulfide Vein (MSV)

Ban Phuc Disseminated Sulfide (DSS)

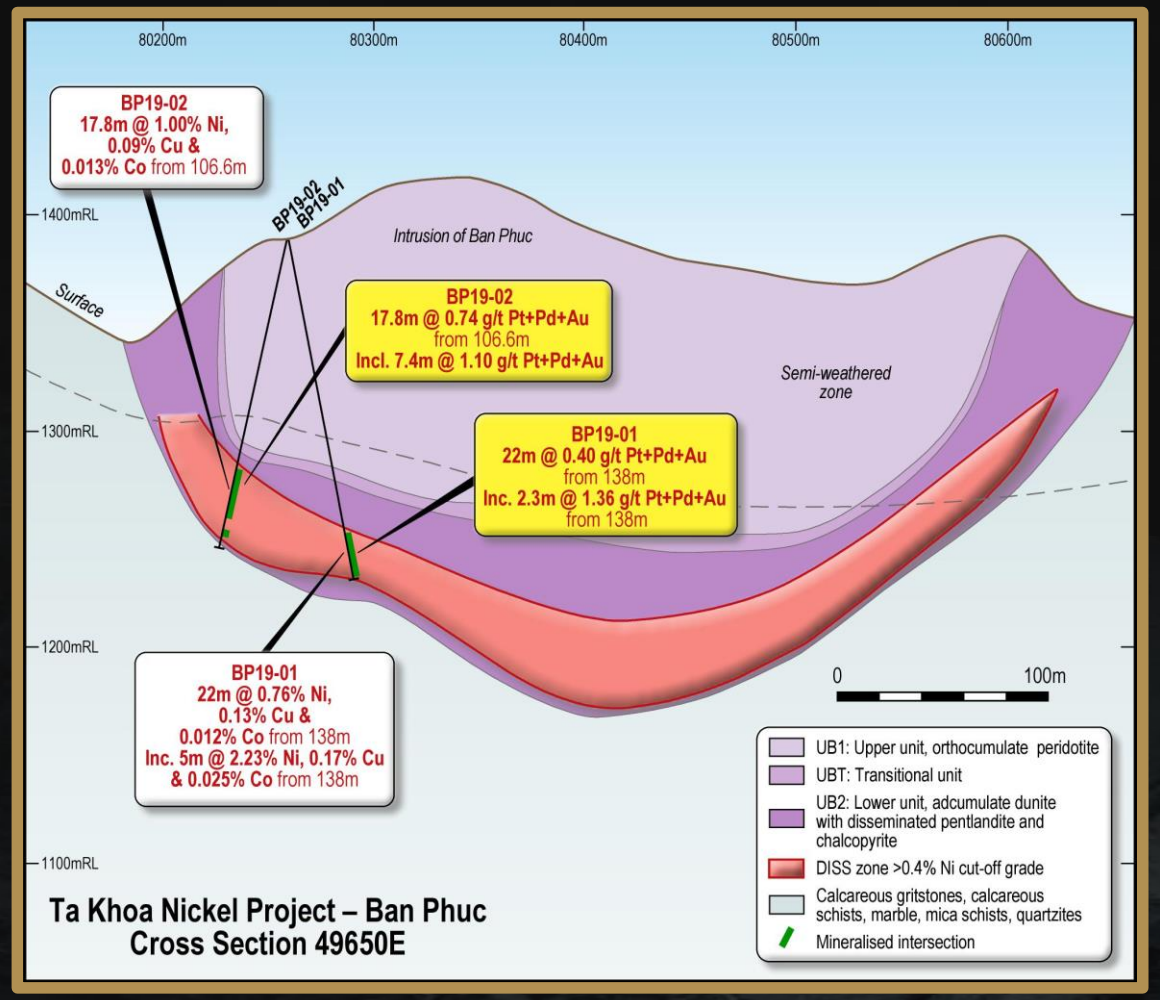
Previous drilling indicates the Ban Phuc disseminated sulfide orebody has significant tonnage at mineable grades for open pit or bulk underground mining

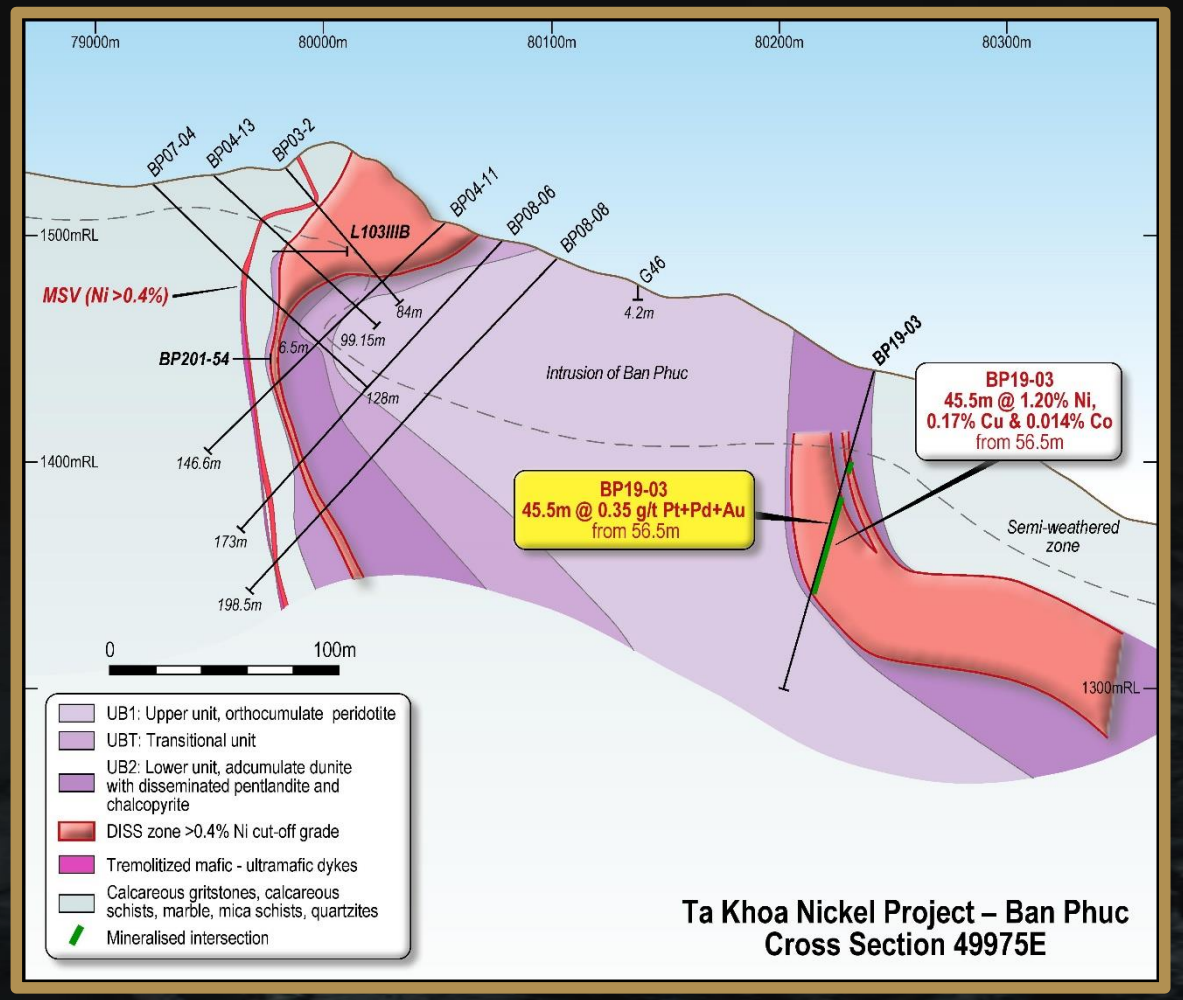




Pt+Pd+Au Credits a "game changer" for the Ban Phuc DSS

Previously unrecognised PGE grades associated with the Ban Phuc DSS suggest a potential by-product credit could significantly enhance the economics of the Ta Khoa Nickel Project





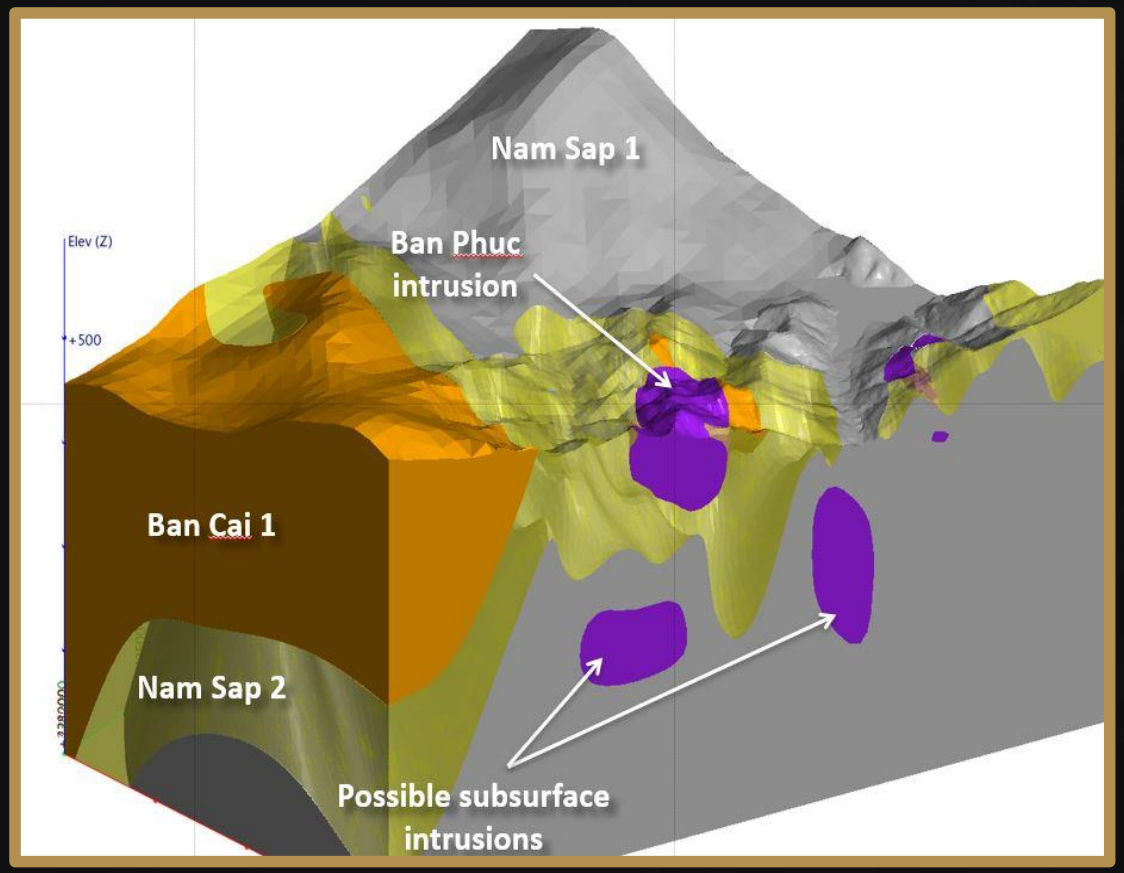
Blackstone's successful maiden drilling program at Ban Phuc DSS

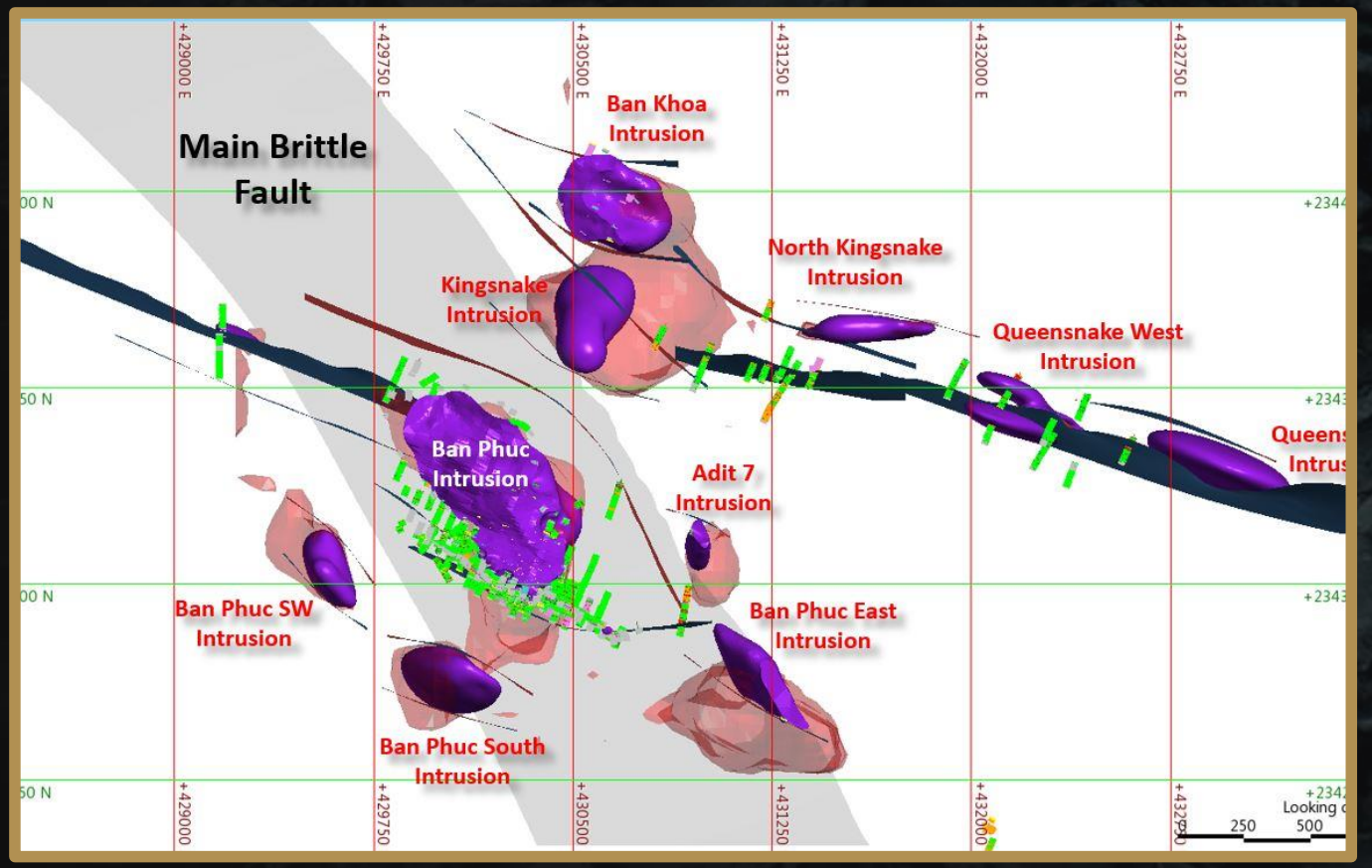
Blackstone's maiden drilling has confirmed the Ban Phuc disseminated sulfide orebody has significant tonnage at mineable grades for open pit or bulk underground mining

- BP19-01 **22.0 m @ 0.76% nickel**, 0.13% copper, 0.01% cobalt & **0.40g/t PGE** from 138.0m;
- BP19-02 **17.8 m @ 1.00% nickel**, 0.09% copper, 0.01% cobalt & **0.74g/t PGE** from 106.6m;
- BP19-03 **45.5 m @ 1.20% nickel**, 0.17% copper, 0.01% cobalt & **0.35g/t PGE** from 56.5m;
- BP19-06 **27.7 m @ 0.88% nickel**, 0.09% copper, 0.01% cobalt & **0.74g/t PGE** from 101.0m;
- BP19-08 **29.4 m @ 1.00% nickel**, 0.12% copper, 0.02% cobalt & **0.60g/t PGE** from 140.6m;
- BP19-09 **11.9 m @ 1.35% nickel**, 0.15% copper, 0.02% cobalt & **1.09g/t PGE** from 107.0m;
- BP19-10 **33.3 m @ 0.80% nickel**, 0.09% copper, 0.01% cobalt & **0.36g/t PGE** from 138.0m.

Ta Khoa Disseminated Sulfide (DSS) Prospects

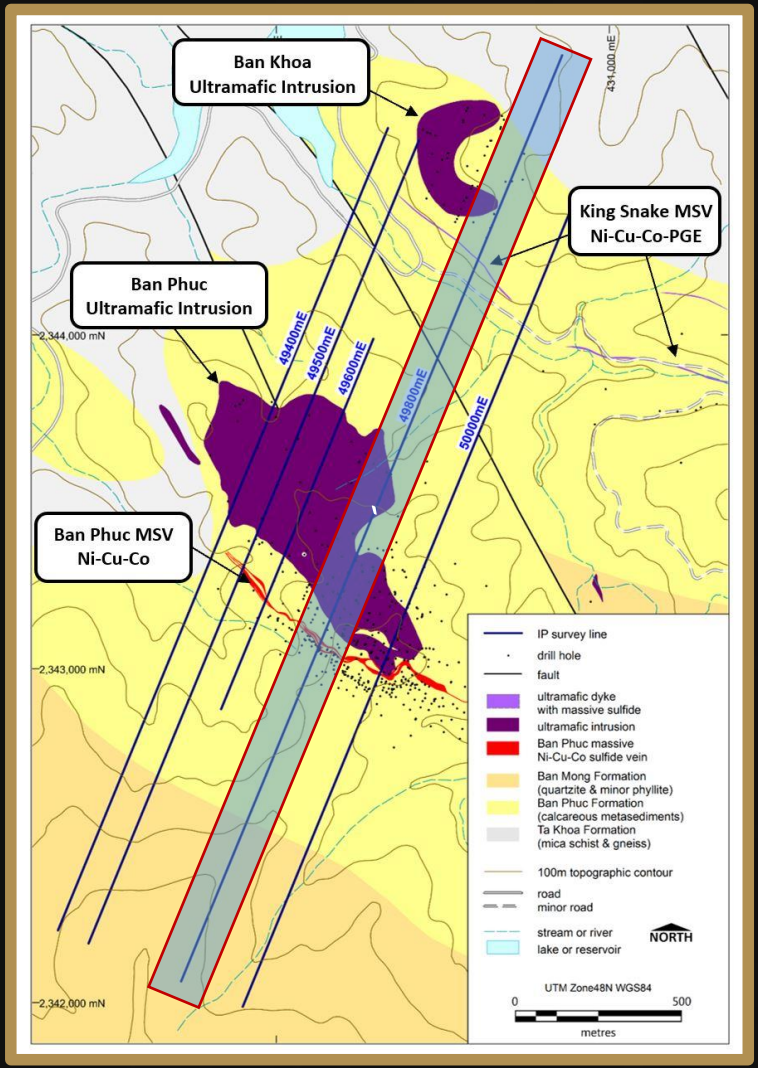
Strong correlation between magnetics and ultramafic intrusions indicates a number of magnetic anomalies at Ta Khoa are high priority unexplored targets for disseminated sulfide orebodies

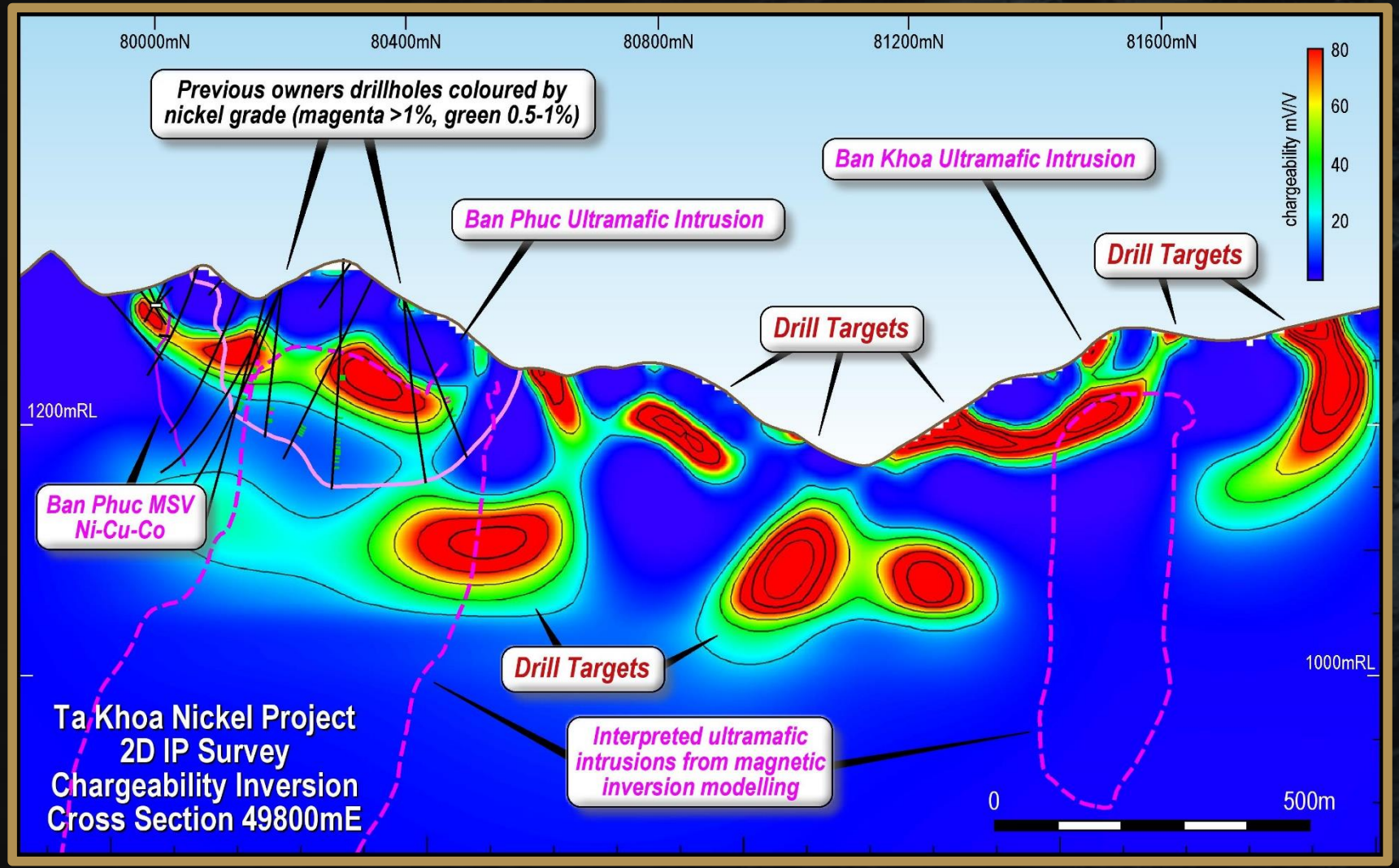




Ta Khoa Multiple New IP Chargeability Targets

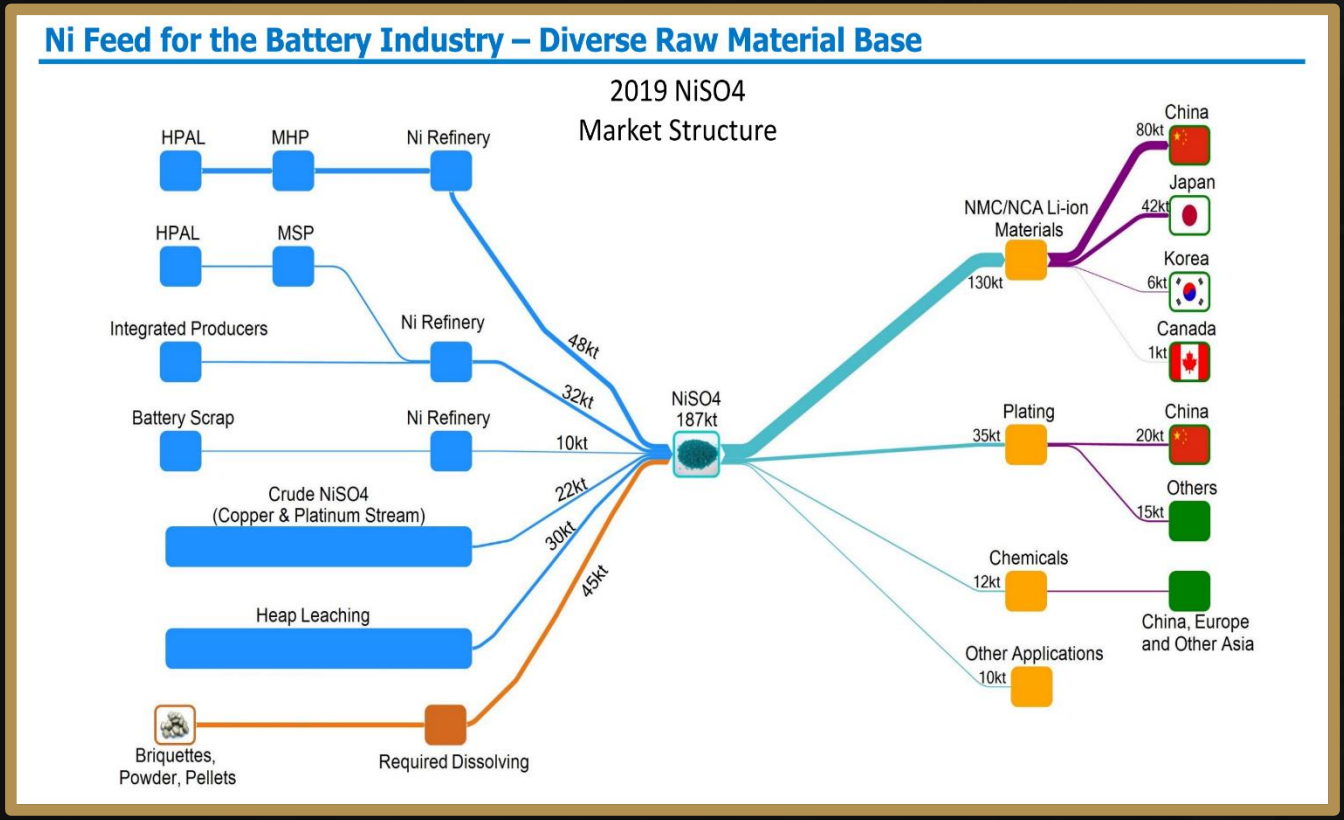
Strong correlation between IP chargeability and high grade DSS and high grade MSV mineralisation indicates a number of high priority unexplored targets exist throughout the Ta Khoa Nickel Project





Downstream Processing Opportunities

Blackstone plans to build downstream processing infrastructure to supply Nickel Sulfate to the Lithium Ion battery and cathode manufacturers



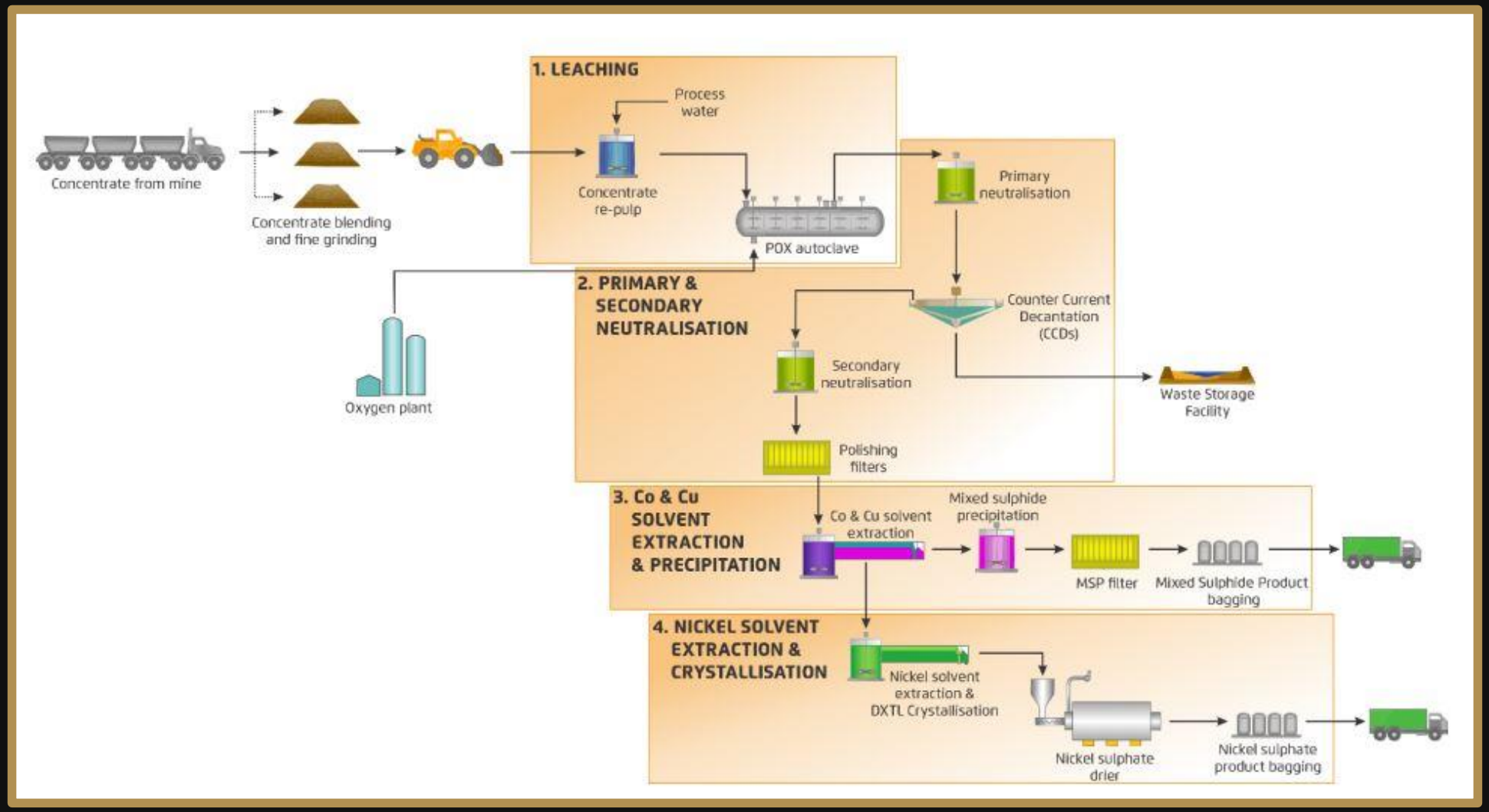
Source: Nornickel

Downstream Nickel Processing

- Previous owners completed engineering studies for a downstream nickel smelter to reduce tariffs from 20% to 5%;
- Ta Khoa has favourable metallurgical characteristics for downstream processing at relatively low capex;
- Low cost manufacturing industry in Vietnam is an ideal location to establish downstream processing for nickel sulfate feed into Asia's growing battery industry;
- Blackstone is investigating the potential for downstream processing to produce a downstream nickel sulfate for the Lithium Ion battery industry.

Downstream Processing: Pressure Oxidation (POx) Process

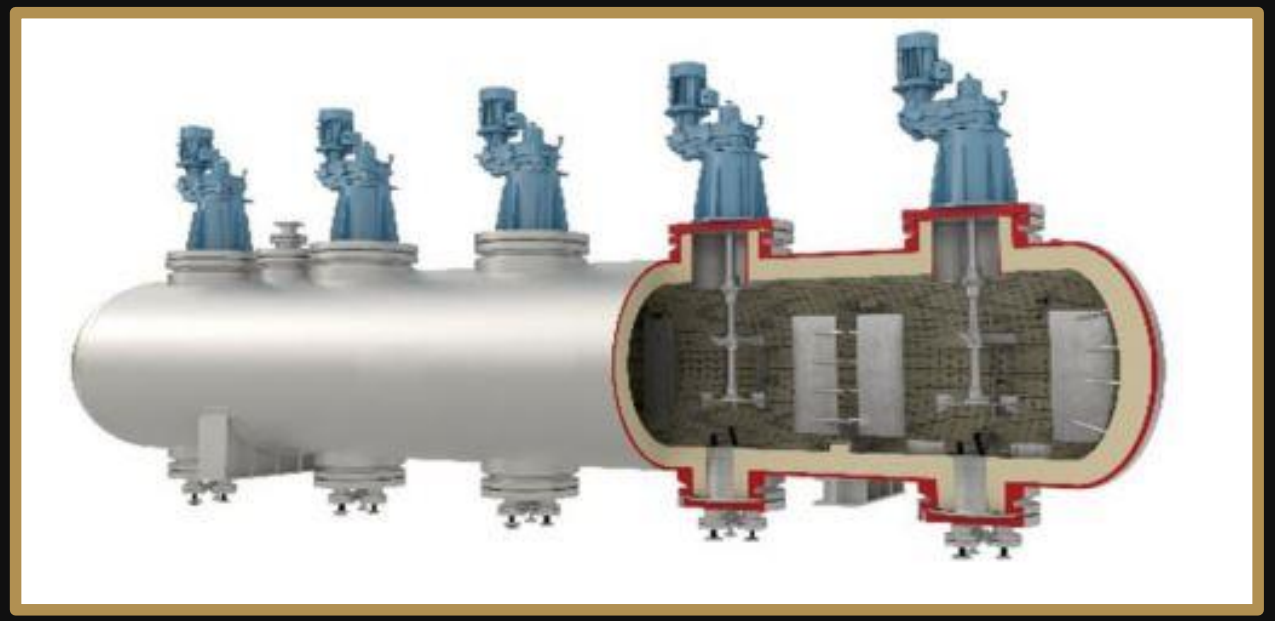
Blackstone plans to build downstream processing infrastructure to supply the Lithium Ion battery industry (see Pressure Oxidation flowsheet below)



Source: Independence Group

Downstream Processing: Pressure Oxidation (POx) Autoclave

A POx autoclave is a pressurised, agitated vessel that allows processes to be run at temperatures greater than 145°C with oxygen injection

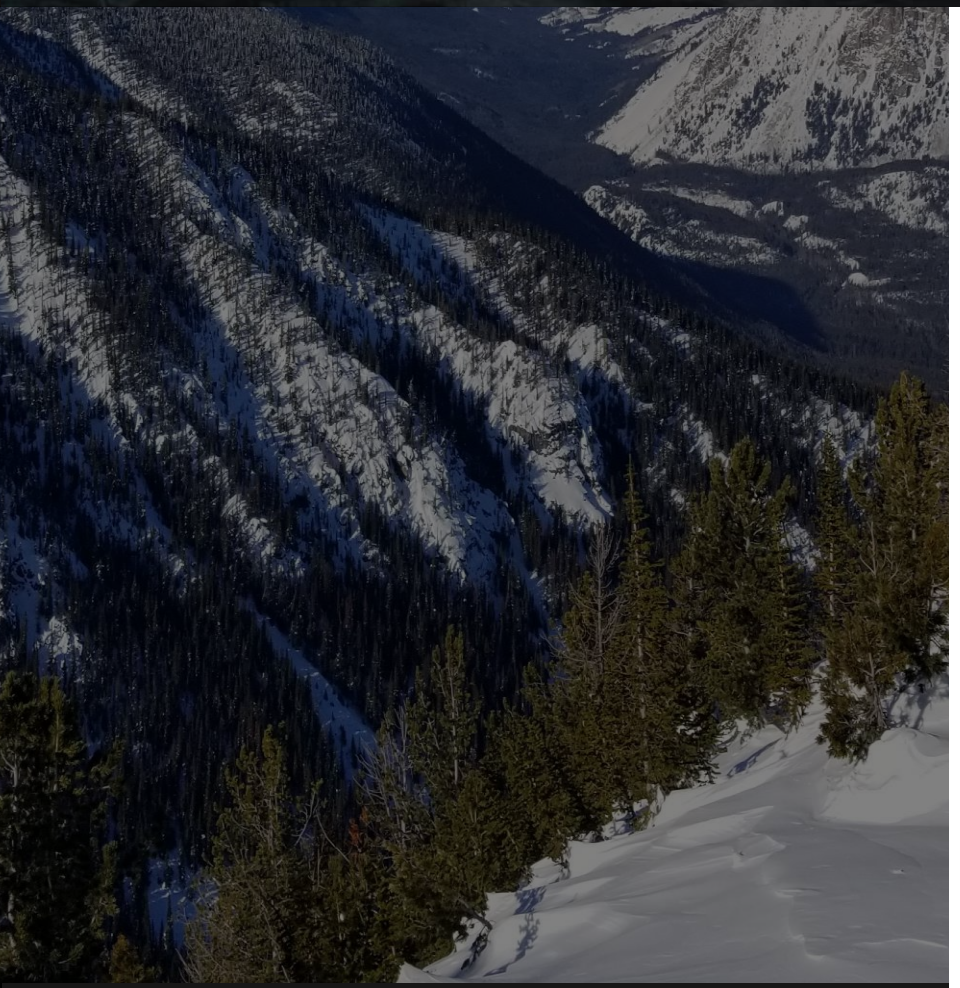


Hydrometallurgy for Downstream Nickel Processing

- Hydrometallurgy uses existing technology to remove impurities and upgrade the Ni-Cu-Co concentrate at the Ta Khoa Nickel Project;
- Autoclaves are already used in the Ni-Cu-Co industry and the technology is tried and tested throughout the mining industry;
- By using an autoclave, the sulfide minerals are oxidised and impurities are removed.

BC Cobalt Project Location

World class geology in a tier one mining jurisdiction

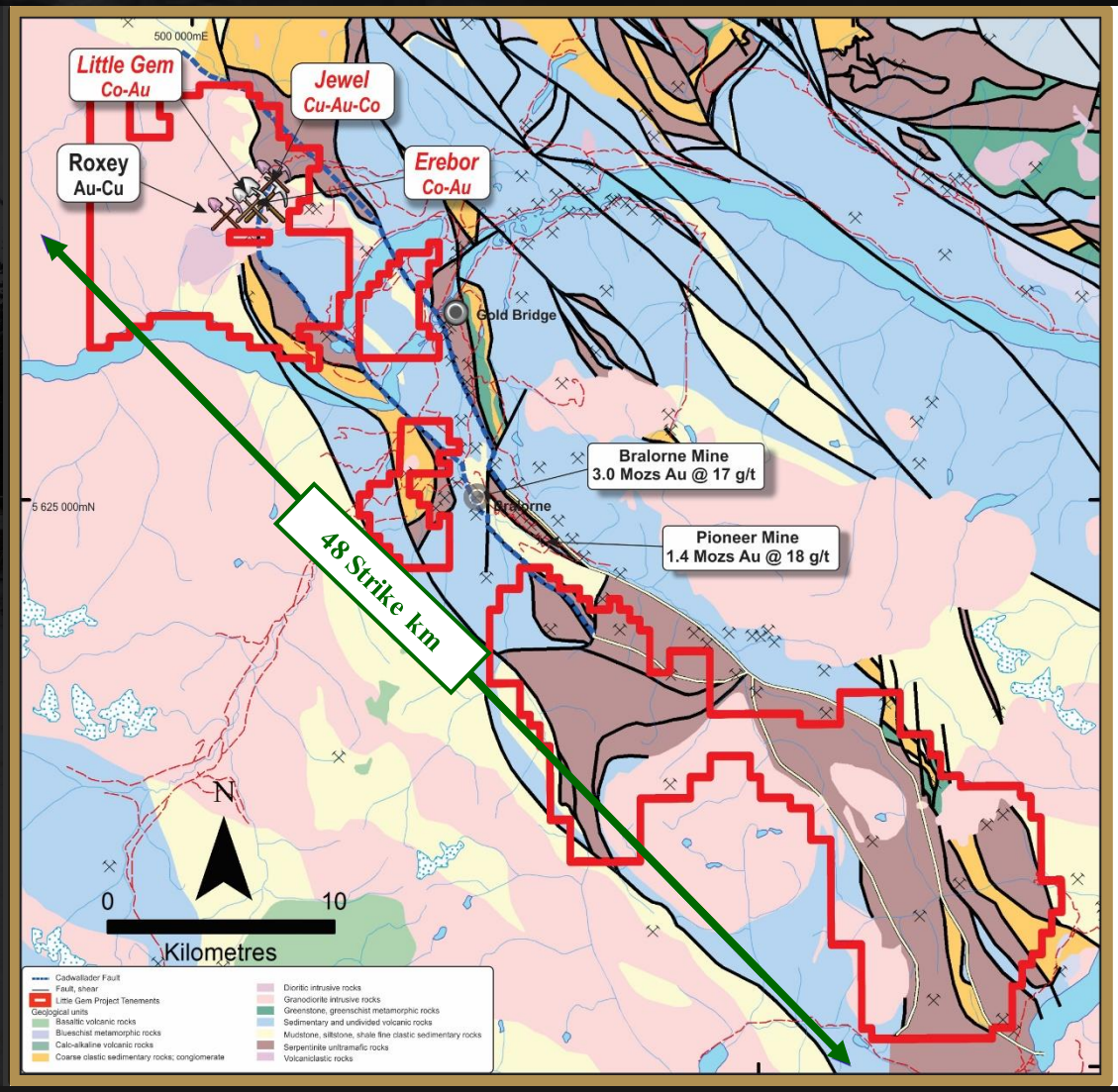


BLACKSTONE MINERALS

www.blackstoneminerals.com.au

BC Cobalt Belt Geological Setting

Dominant land position along strike from major historic gold mines



Legend

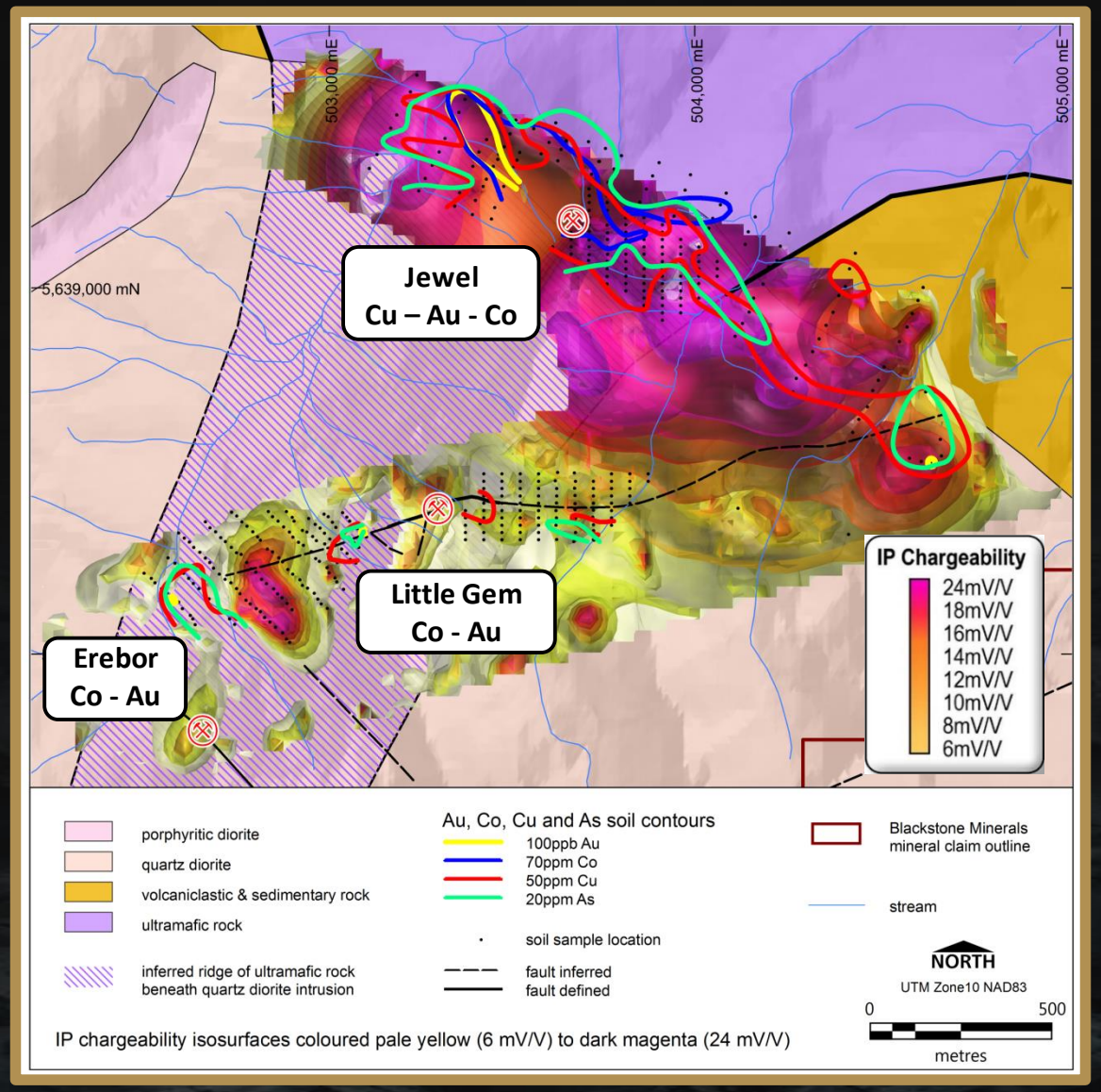
- Cadwallader Fault
- Roads
- Faults, shear
- Little Gem Project Tenements

Geological Units

- Basaltic volcanic rocks
- Blueschist metamorphic rocks
- Coarse clastic sedimentary rocks; conglomerate
- dacitic volcanic rocks
- Dioritic intrusive rocks
- Granodioritic intrusive rocks
- Greenstone, greenschist metamorphic rocks
- Sedimentary and undivided volcanic rocks
- Mudstone, siltstone, shale fine clastic sedimentary rocks
- Serpentinite ultramafic rocks
- ultramafic rocks

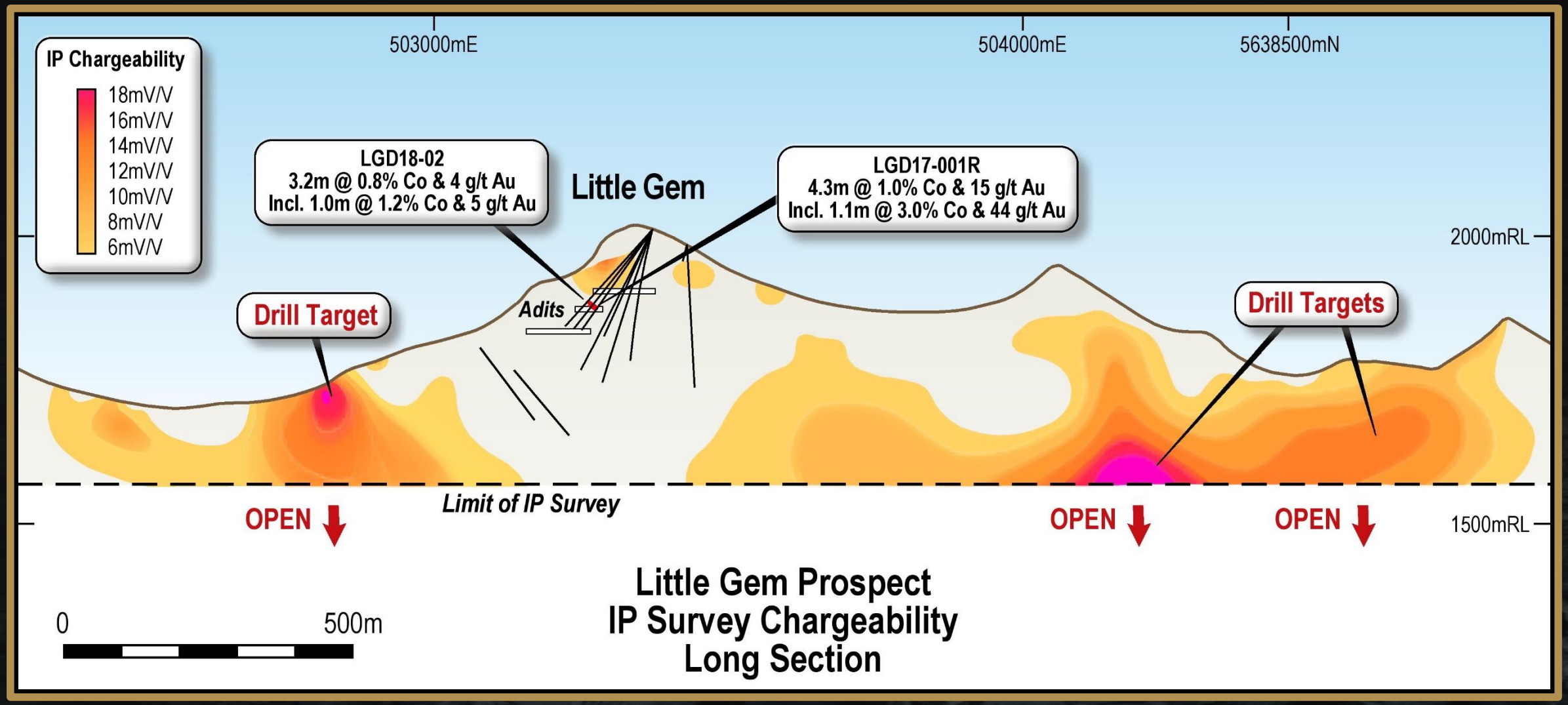
Copper, Gold and Cobalt Soil Contours at BC Cobalt Project

Multiple new targets with Copper, Gold and Cobalt soil anomalies coincident with IP signatures typical of sulfide bearing bodies



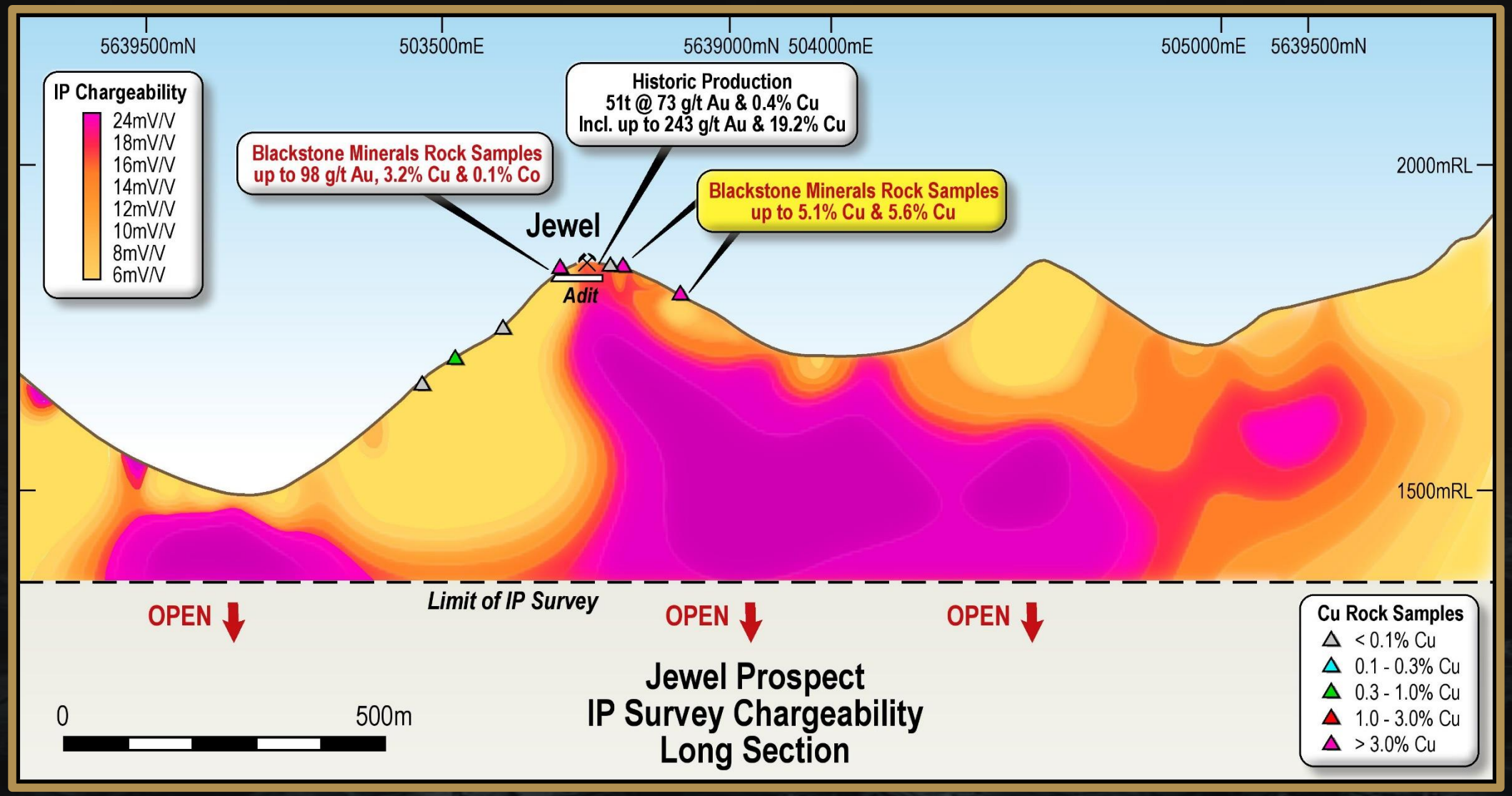
IP Survey Chargeability Contours at Little Gem Prospect

IP Survey confirms multiple new targets with Chargeability and Resistivity signatures typical of sulfide bearing bodies



IP Survey Chargeability Contours at Jewel Prospect

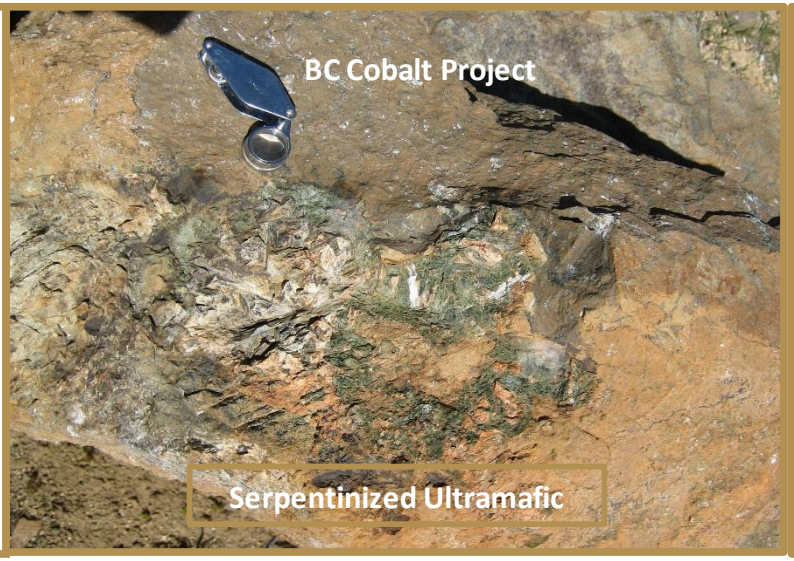
IP Survey confirms multiple new targets with Chargeability and Resistivity signatures typical of sulfide bearing bodies

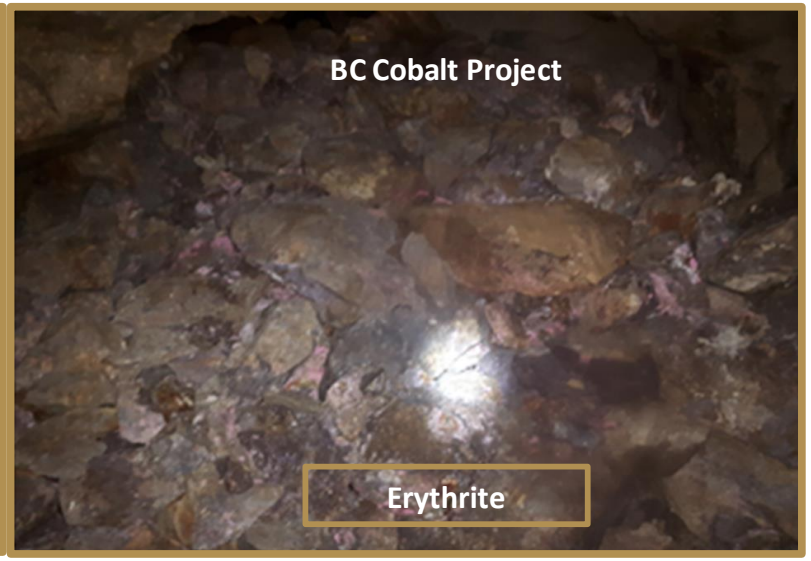


Analogous to Bou-Azzer in Morocco

BC Cobalt geology is analogous to the world class Bou-Azzer primary Cobalt district

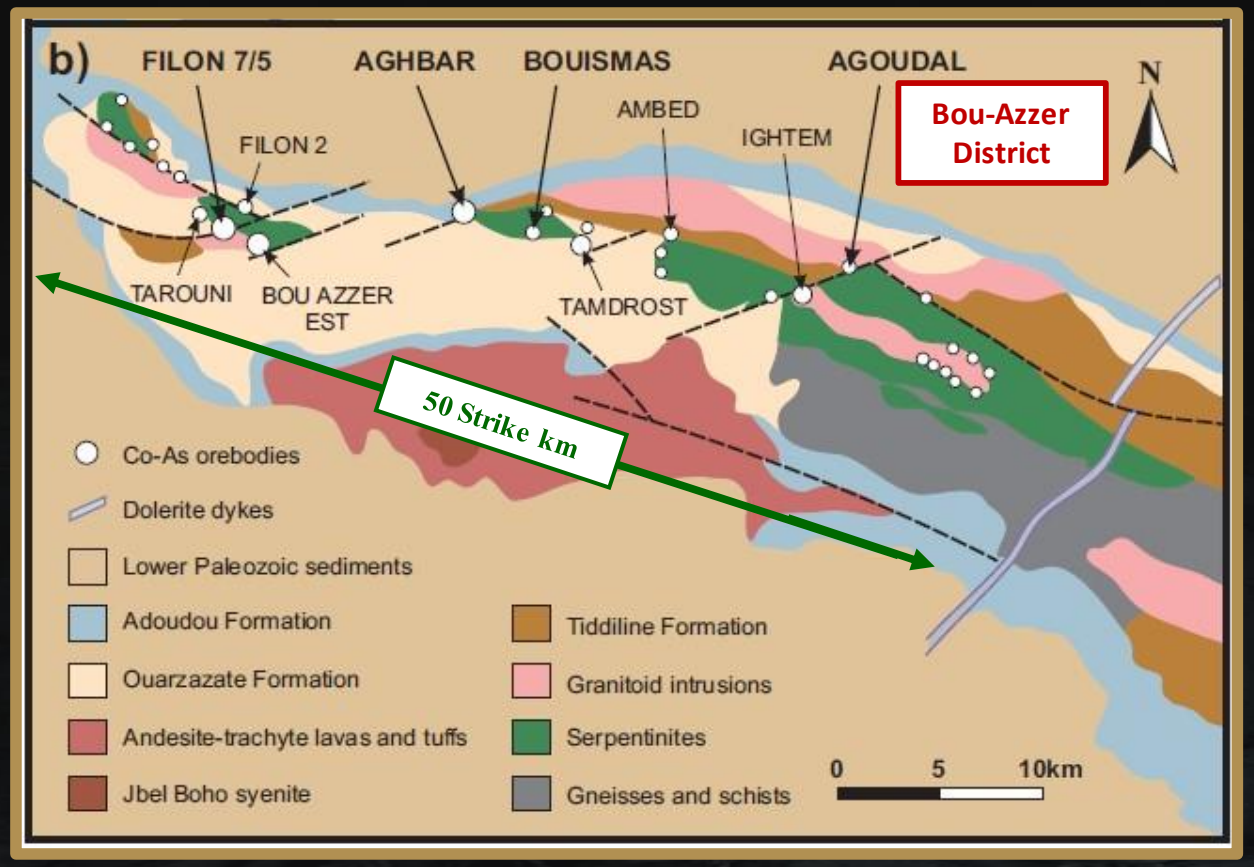
- Bou-Azzer in Morocco has Co-Ni Arsenide deposits with Au & Ag and is currently one of the world's only operating primary cobalt mines;
- Structurally controlled and concentrated mainly within quartz-carbonate veins along boundaries of Neoproterozoic Serpentinised mantle peridotites, quartz diorite and Precambrian volcanic rocks;
- More than 50 deposits in the district, mined over 75 years with production of over 100kt of cobalt, 1,000's of tonnes of silver and tens of tonnes of gold;
- Current production of ~2ktpa of cobalt at an estimated head grade of 1.3% cobalt and up to ~3-4 g/t gold, total current resources and reserves of 17,800 tonnes of cobalt.

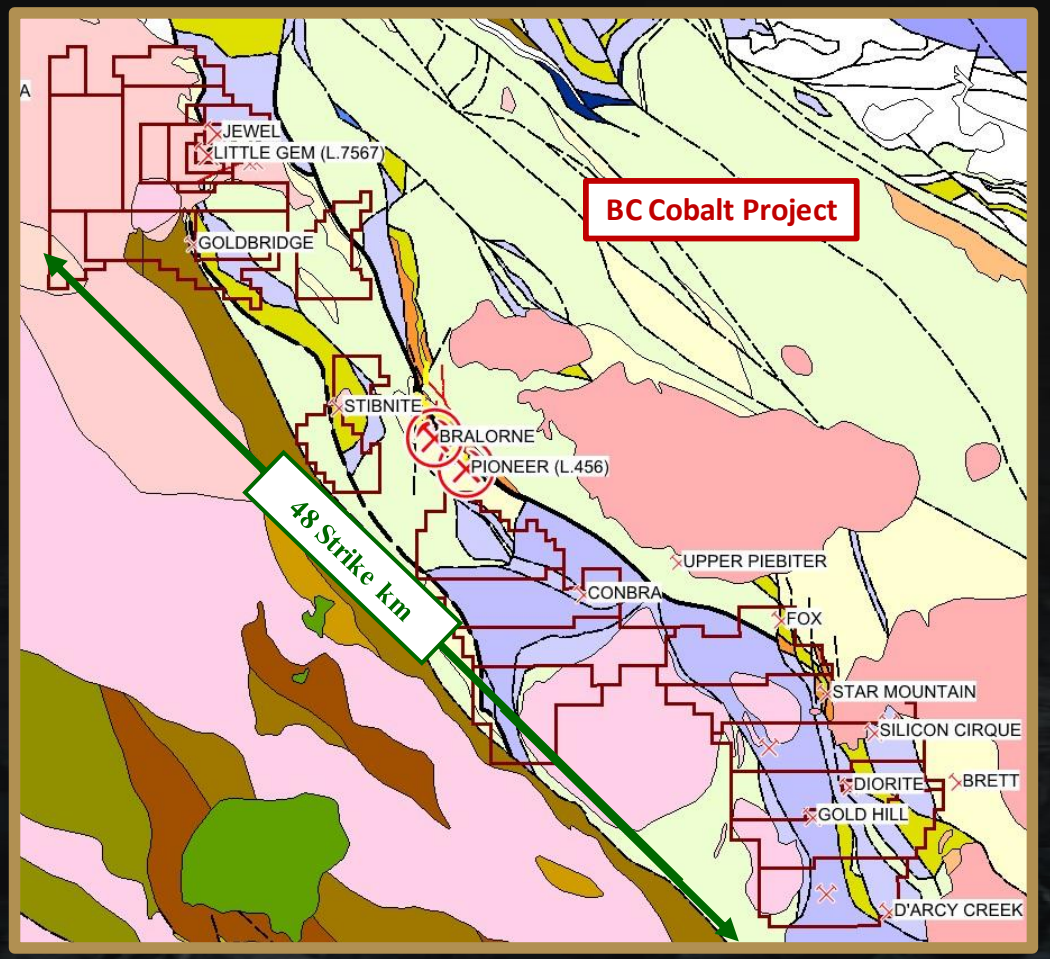




Bou-Azzer District vs BC Cobalt Project

Bou-Azzer is a world class mining district with over 50 Cobalt deposits and 75 years of Cobalt production and the Bridge River Mining Camp is a world class mining district which has never been explored for cobalt or base metals



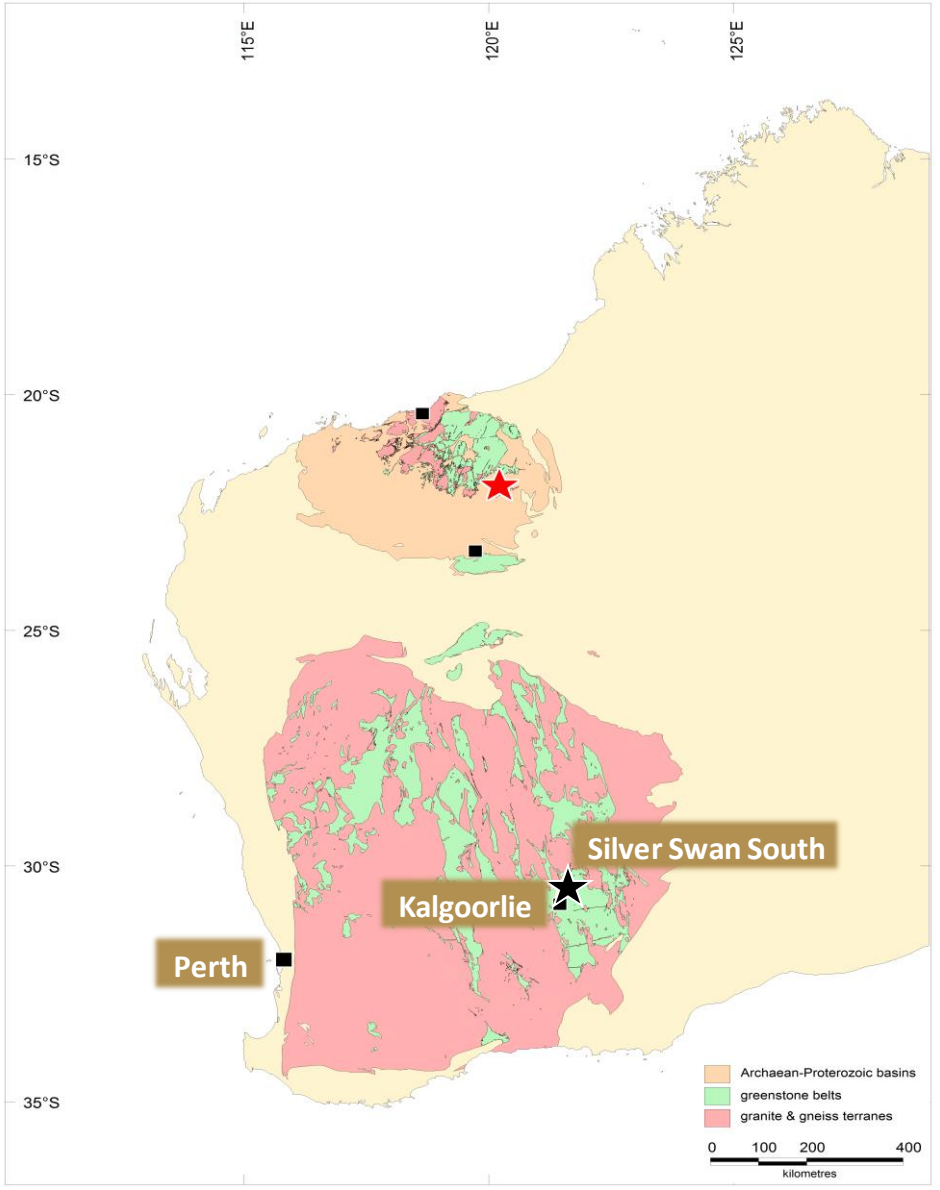


Silver Swan South Project

Nearby world class gold and nickel mines

BLACKSTONE MINERALS

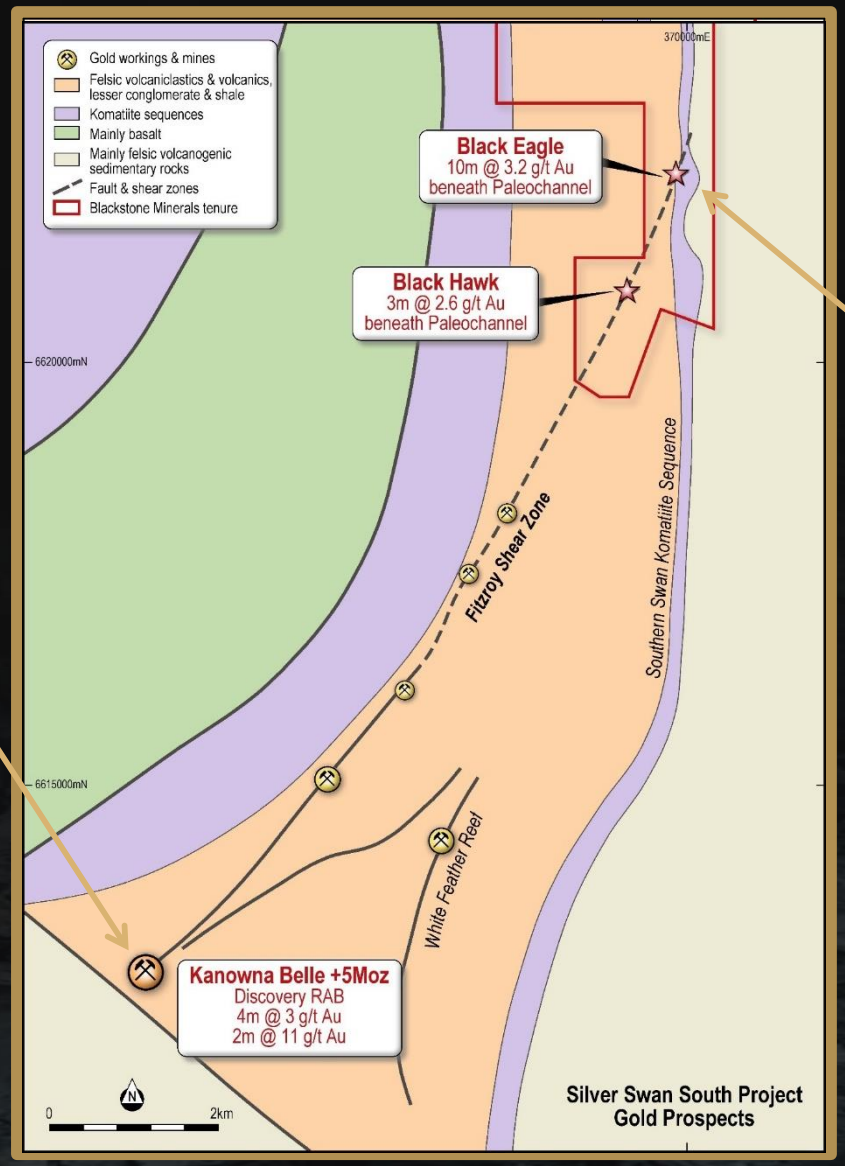
www.blackstoneminerals.com.au



Silver Swan South Emerging Gold Discovery

Along strike of the world class Kanowna Belle Gold Mine (+5 Moz gold endowment)

High priority nickel sulfide & gold targets



Black Eagle Prospect

- **10 m @ 3.2 g/t Au from 68 m**
- **3 m @ 3.5 g/t Au from 60 m**

Kanowna Belle + 5 Moz

Discovery RAB

- **4 m @ 3 g/t from 28 m**
- **2 m @ 11 g/t from 52 m**

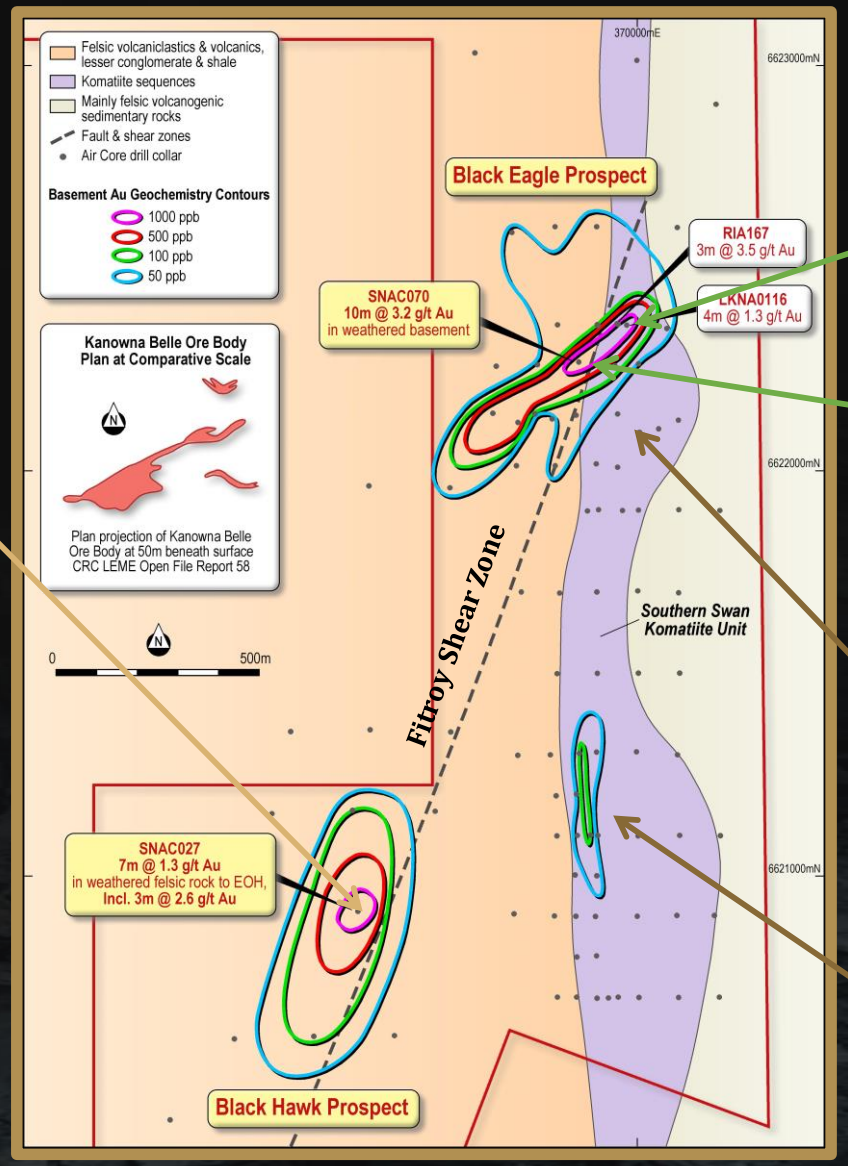
Silver Swan South Gold & Nickel Targets

Actively exploring for gold and nickel sulfides

High priority nickel sulfide & gold targets

SNAC027: 3 m @ 2.6 g/t Au from 52 m to EOH

8 km to Kanowna Belle Gold Mine +5 Moz Au



10 km to Silver Swan and Black Swan Nickel Mines 166 kt Nickel

RIA 167: 3 m @ 3.5 g/t Au from 60 m

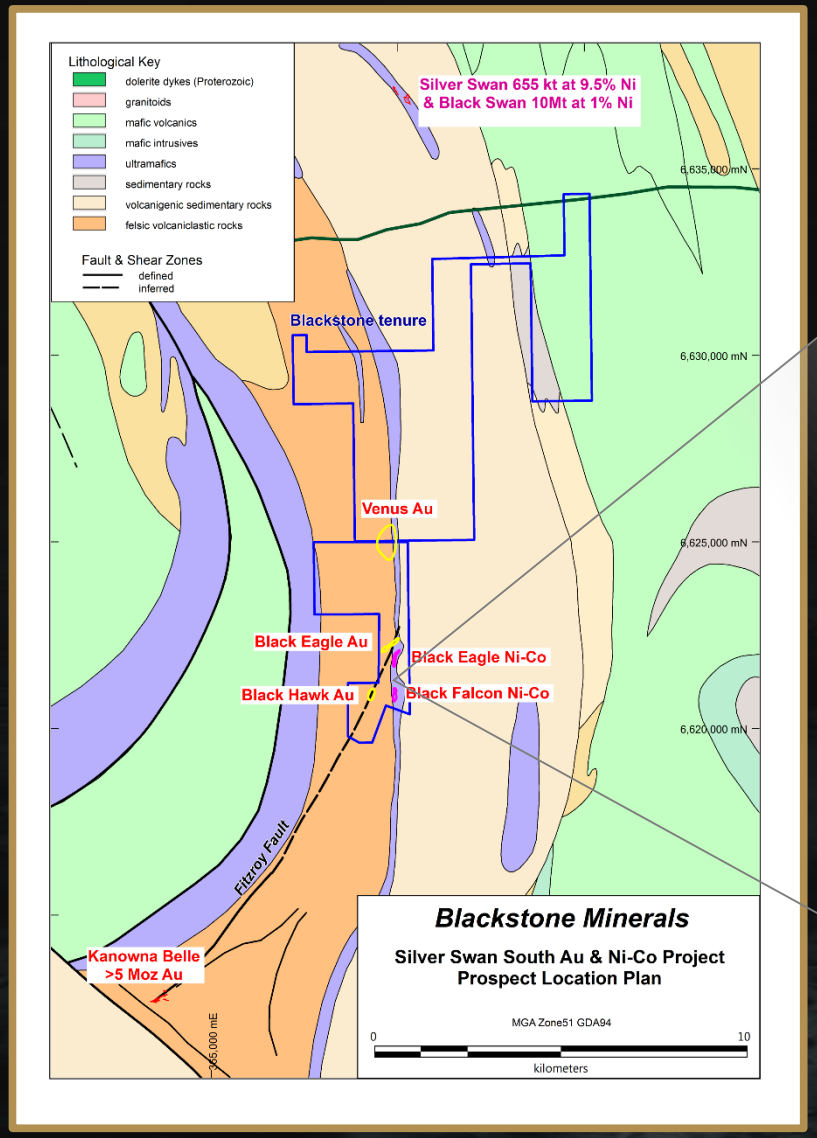
SNAC070: 10 m @ 3.2 g/t Au from 68 m

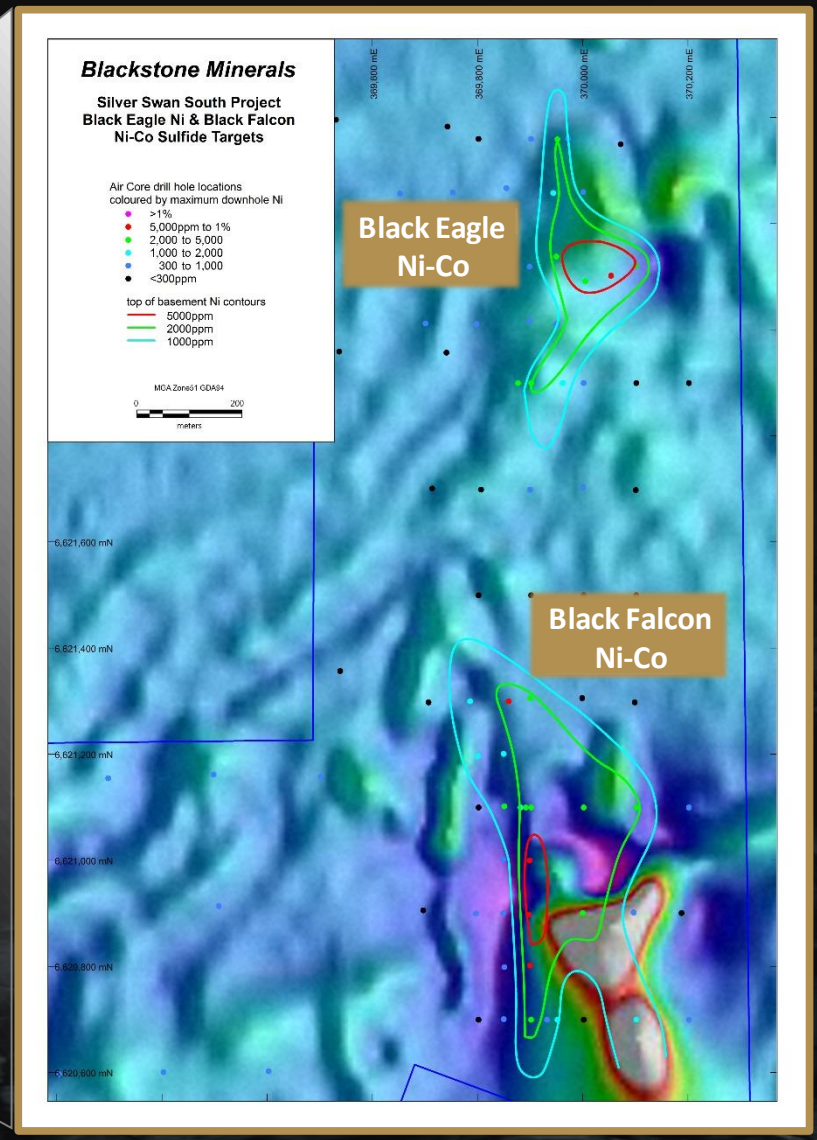
LKNA118: 4 m @ 0.4% Ni, 254ppm Cu, 50ppb Pt & Pd

SNAC019: 12 m @ 0.8% Ni & 143ppm Cu from 24 m

Silver Swan South Nickel-Cobalt sulfides

Nickel-Cobalt Sulfide targets at the Silver Swan South Project near Kalgoorlie, Western Australia





Ta Khoa Nickel Project

Next steps…..

Drilling ongoing to delineate high grade disseminated sulfides at Ban Phuc

- Blackstone has completed a maiden 2D IP survey and will continue drilling for high grade zones throughout the Ban Phuc disseminated sulfide (DSS) prospect;
- Ongoing drilling of high priority disseminated sulfide targets throughout the Ta Khoa Nickel Project initially within a 5km radius of the existing processing facility.

Complete a Scoping Study including downstream processing

- Blackstone plans to complete a Scoping Study over the next ~6-12 months;
- Scoping Study to include a concentrator upgrade and downstream processing to produce a nickel sulfate.

Maiden resource over the next ~6-12 months

- Blackstone is targeting a maiden resource over the next ~6-12 months for the Ban Phuc disseminated sulfide (DSS) prospect;
- Blackstone to assess the economics of a potential open pit or underground mining scenario for the Ban Phuc DSS by utilising the existing infrastructure at the Ta Khoa Nickel Project;
- Ongoing assessment of the downstream processing options to produce nickel sulfate in Vietnam.

Seeking strategic partners to fund further drilling and feasibility studies

- Blackstone is seeking strategic partners to fund further drilling and feasibility studies.

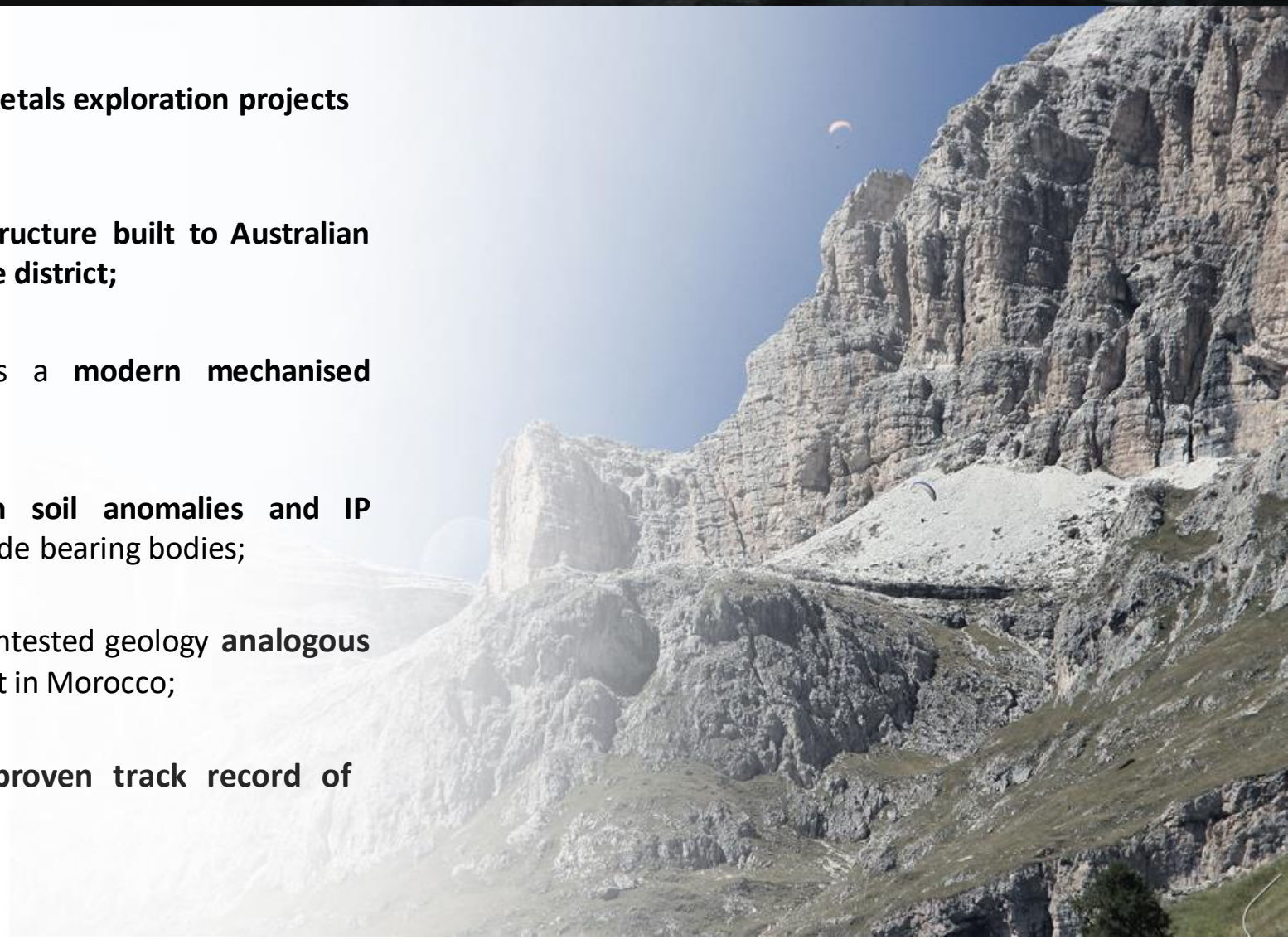
BLACKSTONE MINERALS

www.blackstoneminerals.com.au

Presentation Summary

Proven track record of mineral discovery and corporate success

- An international portfolio of **battery and precious metals exploration projects** across Australia, Canada and Southeast Asia;
- Ta Khoa Nickel Project has existing **modern infrastructure built to Australian Standards** and located within a **premier nickel sulfide district;**
- Ban Phuc nickel mine successfully operated as a **modern mechanised underground nickel mine** from 2013 to 2016;
- BC Cobalt targets with **coincident Cu-Au-Co in soil anomalies and IP chargeability** and resistivity signatures typical of sulfide bearing bodies;
- Large landholding in BC Cobalt Belt with 48km of untested geology **analogous to the world class Bou-Azzer** primary cobalt district in Morocco;
- Well credentialed management team with a **proven track record of discovery** and creating shareholder wealth.



BLACKSTONE

MINERALS

Suite 3, Level 3, 24 Outram Street, West Perth, WA, 6005
T: +61 8 6425 5217 | F: +61 8 6500 9982 |
E: admin@blackstoneminerals.com.au | www.blackstoneminerals.com.au

@blackstone_BSX

@blackstoneminerals

Blackstone Minerals