

Ilya AYZIKOV

Professional Profile

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PROFESSIONAL PATH



SUMMARY

- Ilya is a seasoned metals and mining analyst with 10+ years of hands-on experience in mining investment analysis, market research and project development
- Expertise spans base/battery metals, platinum group metals, gold and other critical metals and minerals, with a focus on developing and frontier markets across the EMEA region, including Russia, Central Asia, Fennoscandia, West/Sub-Saharan Africa
- Driven by a passion for integrating financial modelling with market intelligence
- Extensive experience in building multi-layered DCF models, incorporating NSR, FCFF/FCFE, dynamic WACC and project financing elements (incl. CFADS, DSRA, Cash Sweeps, DSCR, LLCR)
- Well versed in conducting indicative valuations using trading and transaction comparables, providing comprehensive assessments to support executive investment decisions and corporate growth

Head of Market Intelligence

Oct 2023 – present



Junior miner focusing on gold and copper resources across the Central Asian region and other emerging jurisdictions

Head of Research and Data Analysis

Apr 2021 – Oct 2023



#2 gold producer in the FSU region
Annual Output: >1,000koz Au

Investment Manager

Sep 2015 – Jun 2022



Developer of a PGM greenfield project in Zimbabwe
Annual Output: 280koz 4E (at Phase 1 steady state)

Head of International Operations Office

Senior Analyst | Analyst

Jun 2009 – Sep 2015



World's largest producer of palladium, one of the major producers of nickel, platinum and copper
Annual Output: 2,800koz Pd | 700koz Pt | 240kt Ni | 500kt Cu

EDUCATIONAL BACKGROUND

MSc Mechanical Engineering
Caterpillar Machines and Robotics
2007

BSc Finance (Hons)
Financial Management | Cost Management in Mining
2013

CFA Level I passed
first attempt, ID 6655820
2014

MSc Minerals and Energy Economics / MBA
2025
Course Weighted Average ~81.4% (Distinction)

A regional finalist of the **Curtin Global Student Pitch Competition** (2023) and the **Trailblazer Ignition Scholarship** recipient (2023)

Bauman Moscow State Technical University
Moscow, Russia



Financial University
Under the Government of the Russian Federation
Moscow, Russia



CFA Institute
Charlottesville, Virginia, United States



Curtin University
Curtin Graduate School of Business | WA School of Mines
Perth, Australia



SELECT PROJECTS & DETAILS OF ILYA'S ROLES



NORNICKEL

MMC Norilsk Nickel / Tati Nickel Mine

Selkirk Project

Ni Cu PGM

Brownfield, Open Pit
PFS/DFS Stage



Project Size:
US\$400M

Role Details

Financial modelling, Benchmarking,
Commercial treatment terms analysis
(concentrate toll smelting/matte offtake)

BOTSWANA



NORNICKEL

MMC Norilsk Nickel / Nkomati Mine

Nkomati Mine

Ni Cu PGM Cr

Operating Mine, Open Pit



Project Size:
>US\$350M

Role Details

Life-of-Mine Techno-Financial Modelling

SOUTH AFRICA



GREAT DYKE INVESTMENTS (PVT) LTD

Vi Holding / Great Dyke Investments

Darwendale Project

PGM

Greenfield, Underground PFS, Bankable FS Stage

Project Size:
US\$650M

Role Details

Techno-Financial Modelling, Benchmarking,
Costing, Offtake identification and
commercial terms analysis, Fundraising

ZIMBABWE



Polyus / Cresco Project Finance

Chertovo Koryto Project

Au

Greenfield, Open Pit PFS Stage

Project Size:
Undisclosed

Role Details

Cost benchmarking
(as a sub-consultant of Cresco Project Finance)



RUSSIA



NORNICKEL

MMC Norilsk Nickel / Polar Division

Komsomolsky Mine

Ni Cu PGM

Operating Mine, Underground Expansion/DFS Stage

Project Size:
Undisclosed

Role Details

Financial modelling
(as a sub-consultant of Cresco Project Finance)



RUSSIA



Highland Gold Mining Ltd

Head of Research & Data Analysis

Au Cu Ni Zn Pb

Operating Mines, Open Pit/Underground

Project Size:
Various

Role Details

Market intelligence, Data collection,
Cost analysis, Benchmarking, M&A support

RUSSIA/FSU/EMEA



Bai Tau Minerals Ltd

Head of Market Intelligence

Au Ag Cu Zn Pb

Greenfield/Early Exploration Stage

Project Size:
Various

Role Details

Market intelligence, Data collection,
Cost analysis, Benchmarking, M&A support

KAZAKHSTAN/CENTRAL ASIA/EMEA



Bayrock Resources Ltd

Consultant on Asset Combination Transaction

Ni Cu Au

Greenfield/Early Exploration Stage

Project Size:
~A\$5M

Role Details

Project benchmarking, Synergy analysis,
Buyer long list, Engaging with counterparties

SWEDEN/NORWAY



Nordic Resources Ltd
(former Nordic Nickel Ltd)

Pulju Nickel Project

Ni Co

Greenfield/Exploration/MRE Stage

Role Details

(Curtin Uni/WA School of Mines MSc Capstone Project)
Financial modelling, Project benchmarking

FINLAND



Akkerman Finland Oy
(Akkerman Exploration B.V. & Avrupa Minerals Ltd)

Consultant on JV Partner Acquisition

Cu Zn Au

Brownfield/Exploration Stage

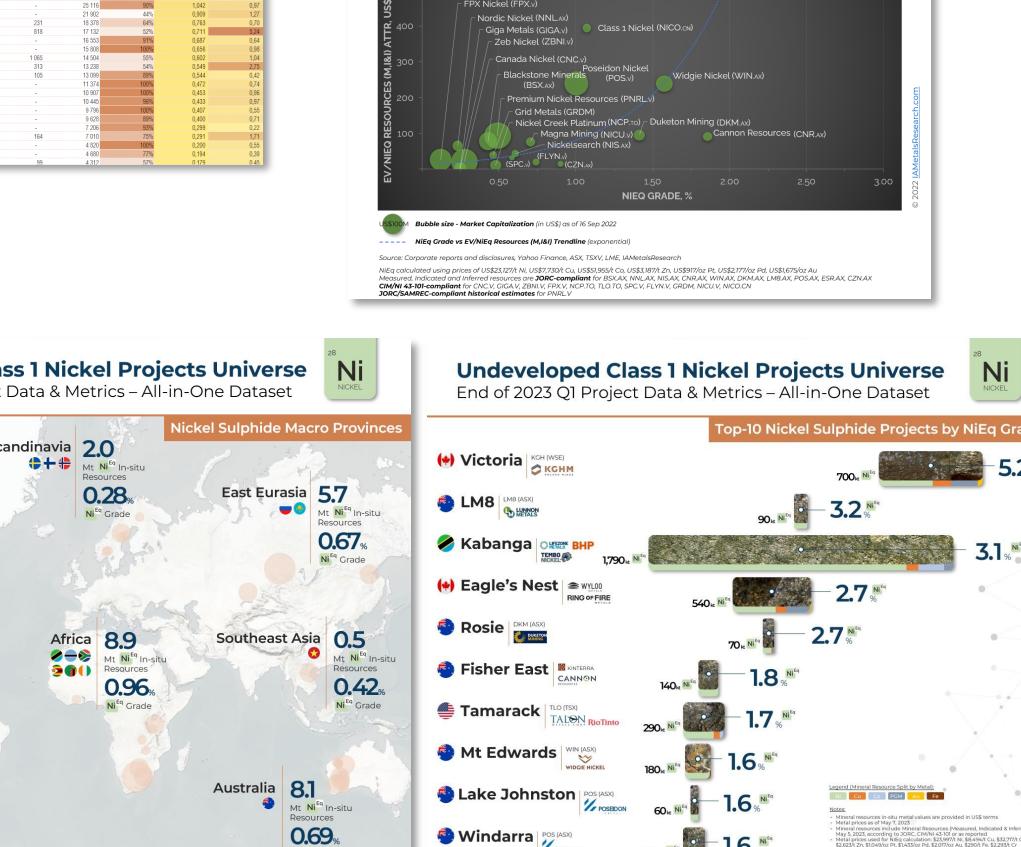
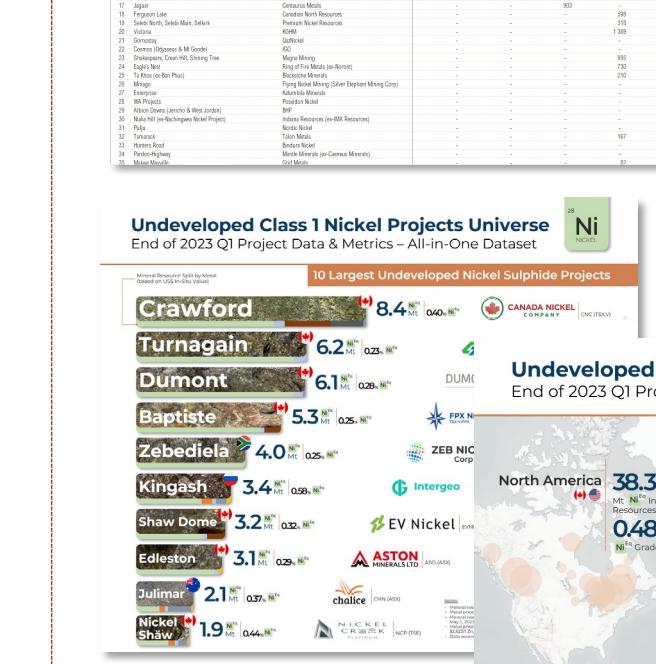
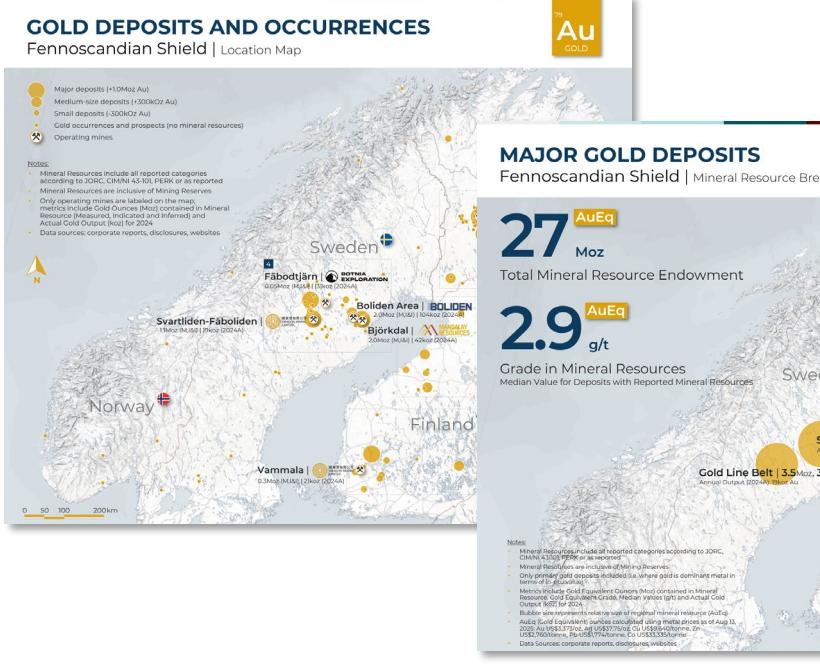
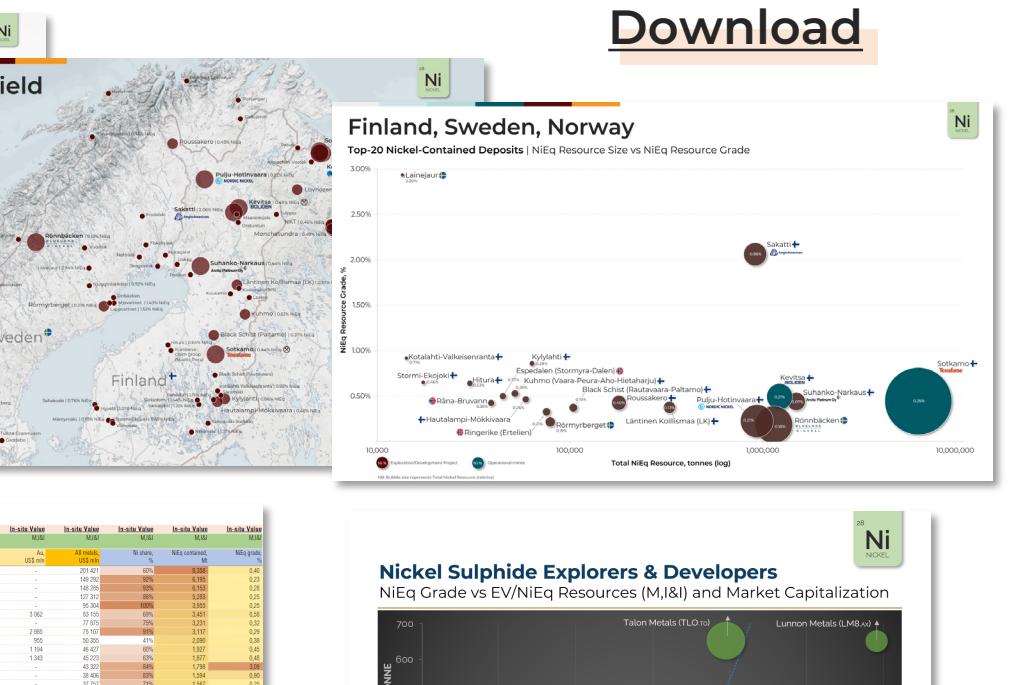
Project Size:
€3-4M

Role Details

Synergy analysis, JV partner long list,
Engaging with counterparties

FINLAND

MARKET INTELLIGENCE & DATASETS



FINANCIAL MODELING



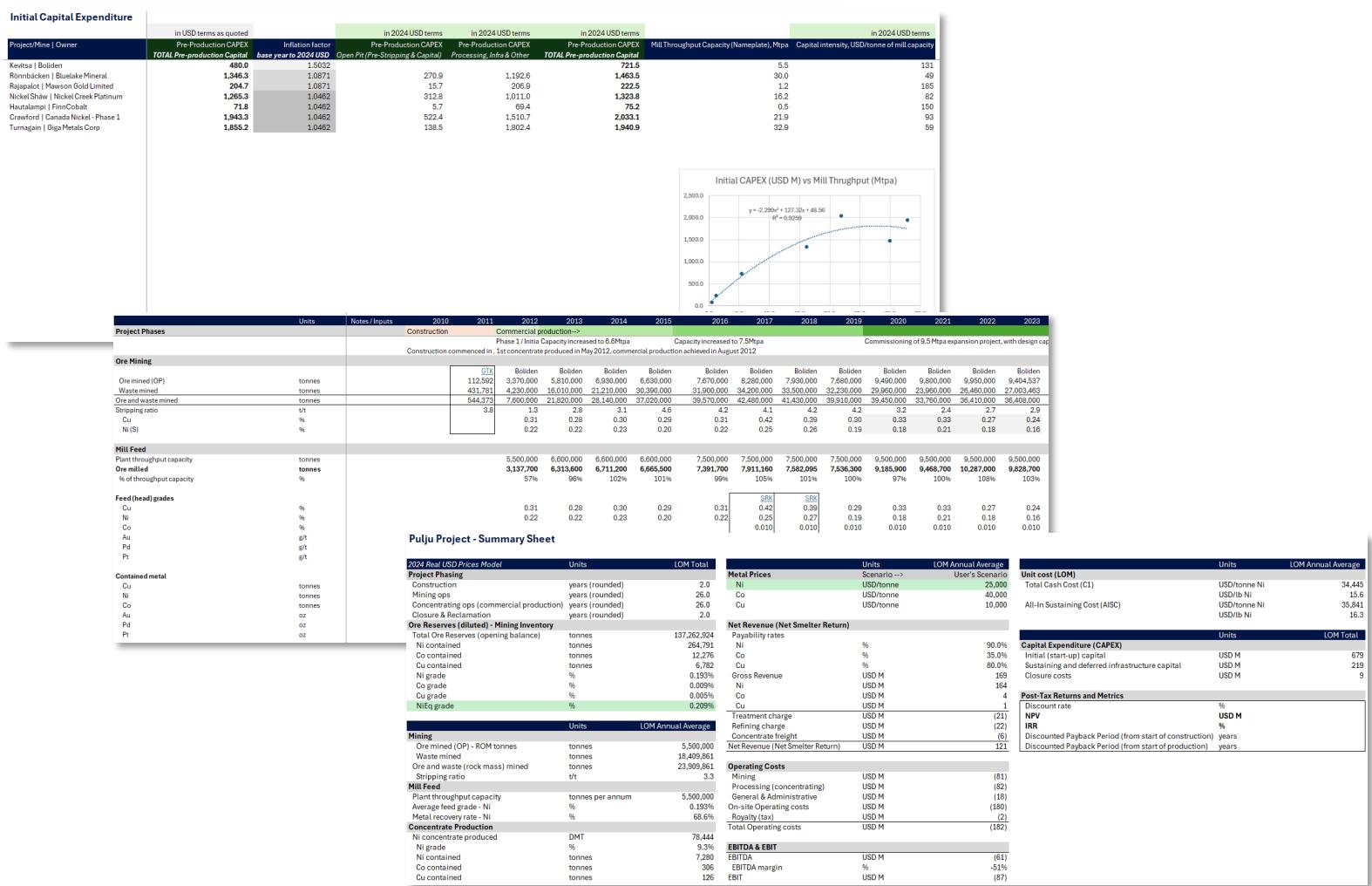
NORDIC NICKEL

PULJU PROJECT – FINANCIAL MODEL

STUDENT NAME: Ilya AYZIKOV
STUDENT NUMBER: 21235825
EMAIL: ilya.ayzikov@postgrad.curtin.edu.au
UNIT NAME AND CODE: Minerals and Energy Economics Capstone ECON6018
UNIT COORDINATOR: Dr Sakshi Anderson
RESEARCH PROJECT TITLE: Nickel Mining Projects in the Fennoscandian Shield: Economic Viability, Opportunities and Challenges

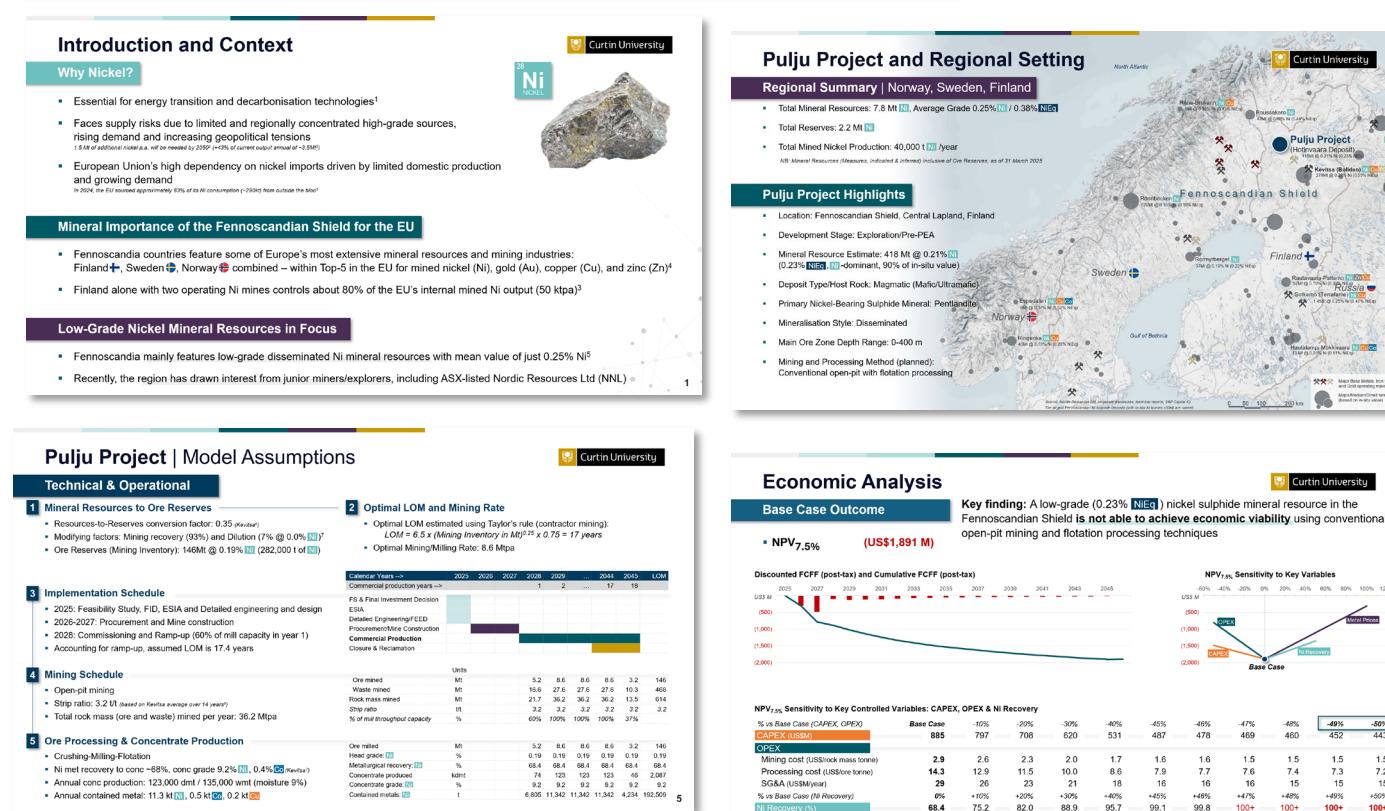
ASX NNL

Download



The slide has a dark blue background with a photograph of a forest under a night sky with the Aurora Borealis. The title is in white text at the top left, and the subtitle is in white text below it. The Curtin University logo is in the top right corner, and the date is at the bottom center. The overall theme is related to mining and environmental challenges.

Download



PROJECT BENCHMARKING

Poseidon Nickel (POS.AX)

One of the majors among Australian nickel sulphide resource developers
Market Capitalisation of ~A\$70 Mln¹



Global Sea Mineral Resources

Peer Benchmarking

Document date: August 14, 2023

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Nickel Projects - Peer Group

#	Project Name	Operator	Country (Asset Location)	Dominant Mineralization (Sulphide/Laterite)	Processing Technology
1	Sunrise	Sunrise Energy Metals	Australia	Laterite	HPL
2	Vemelho	Horizonte Metals	Brazil	Laterite	HPL
3	Araguaia	Horizonte Metals	Brazil	Laterite	RKEF
4	NWest	Alliance Nickel	Australia	Laterite	Hsep Leaching-Direct Solvent Extraction
5	Nico Young	Jervois Global	Australia	Laterite	Hsep Leaching-Direct Solvent Extraction
6	QM Pilot	GEM, Nusantara, BHP-CATL, Macquarie	Indonesia	Laterite	HPL
7	QM Nickel & Cobalt	Husky Cobalt China Molybdenum/Tsingtao	Indonesia	Laterite	HPL
8	Merenski (als Bahodspit)	Yilgarn-Chardron Xinhai Bessc	Indonesia	Laterite	RKEF
9	Kalgoorlie (Gongorae)	Ardea Resources	Australia	Laterite	HPL
10	Wingellina (Central Musgrave)	NiCo Resources	Australia	Laterite	HPL
11	Sconi	Australian Mines	Australia	Laterite	HPL
12	IGP Pomalaa	Vale/Zhejiang Huayou Cobalt Co/Ford	Indonesia	Laterite	HPL
13	Jigalong	Centaur Metals	Canada	Sulphide	Crushing-milling-Flotation-Hydrogen
14	Tanegipin	Gas Projekt	Canada	Sulphide	Crushing-milling-Flotation-[Hydrogen]
15	West Musgrave-Nebbo-Babel	OZ Minerals	Australia	Sulphide	Crushing-milling-Flotation-[Hydrogen]
16	Bustitite (Dear)	FPX Nickel	Canada	Sulphide	Crushing-milling-magnetic-flotation-[Hydrogen]
17	Tamarack	Talon Metals	USA	Sulphide	Crushing-milling-magnetic-flotation-[Hydrogen]
18	Crowdford	Canada Nickel	Canada	Sulphide	Crushing-milling-magnetic-flotation-[Hydrogen]
19	Enterprise	First Quantum Minerals	Zambia	Sulphide	Crushing-milling-Flotation
20	Odysseus	UGO	Australia	Sulphide	Crushing-milling-Flotation
21	Julian	Anglo American	Finland	Sulphide	Crushing-milling-Flotation
22	Sakirk	Premium Nickel Resources	Botswana	Sulphide	Crushing-milling-Flotation
23	Sebibi	Premium Nickel Resources	Botswana	Sulphide	Crushing-milling-Flotation
24	Pauli	Brazilian Nickel	Brazil	Laterite	Hsep leaching
25	Gördes	Mete Nickel Cobalt	Turkey	Laterite	HPL
26	Ramu	MCC	PNG	Laterite	HPL
27	Halmahera Persada Lygend	Lygend Resources & Technology Co / Hari	Indonesia	Laterite	HPL
28	Wartsila Nickel Project	Techintex - Ermine	Indonesia	Laterite	PFSE

DEMÉ Group (DEMÉ.BR) | Global Sea Mineral Resources

A Belgian dredging, environmental and marine engineering group focused on the sustainable development of deep ocean polymetallic mineral resources (nODULES)

Market Capitalisation of ~EUR3.0 Bln¹

The world needs our *Clean Nickel*™

July, 2023

EV Nickel

Top 10 Undeveloped Class 1 Nickel Projects- by valuation

Project	Value (US\$B)
Chalco Mining	\$942
Centaurus	\$218
Canadian North Resources	\$204
Aston Metals	\$25
Canada Nickel	\$1

Top 10 Undeveloped Class 1 Nickel Projects- by size

Project	Resource (Mt)
Canada Nickel	8.0
Giga Metals	6.0
FPX Nickel	5.0
Zeb Nickel	4.0
EV Nickel-Shaw Dome	3.5
Aston Metals	3.0
Chalco Mining	2.0
Nickel Creek	1.5
Centaurus	1.0
Canadian North Resources	0.5

EV Nickel (EVNI.V)

A Canadian junior explorer advancing the next generation of high-grade, Clean Nickel™ projects

Market Capitalisation of ~C\$4 Mln¹

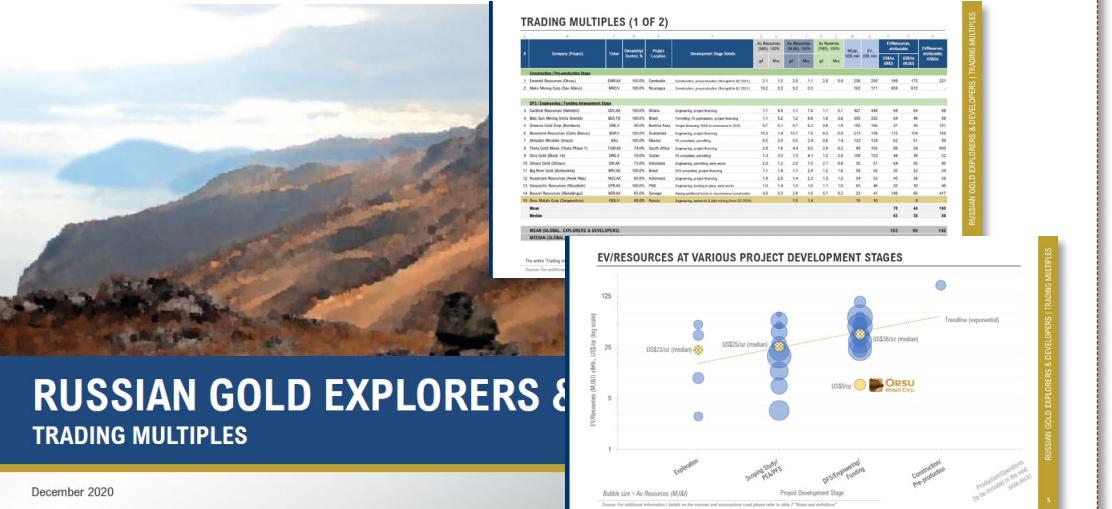
METALS & MINING RESEARCH

Russian Gold Miners EV/Resources Value Curve



Dec 2020 | 3.8k views on LinkedIn

Russian Gold Explorers & Developers Trading Multiples



TEASERS & CORPORATE PRESENTATIONS (1)

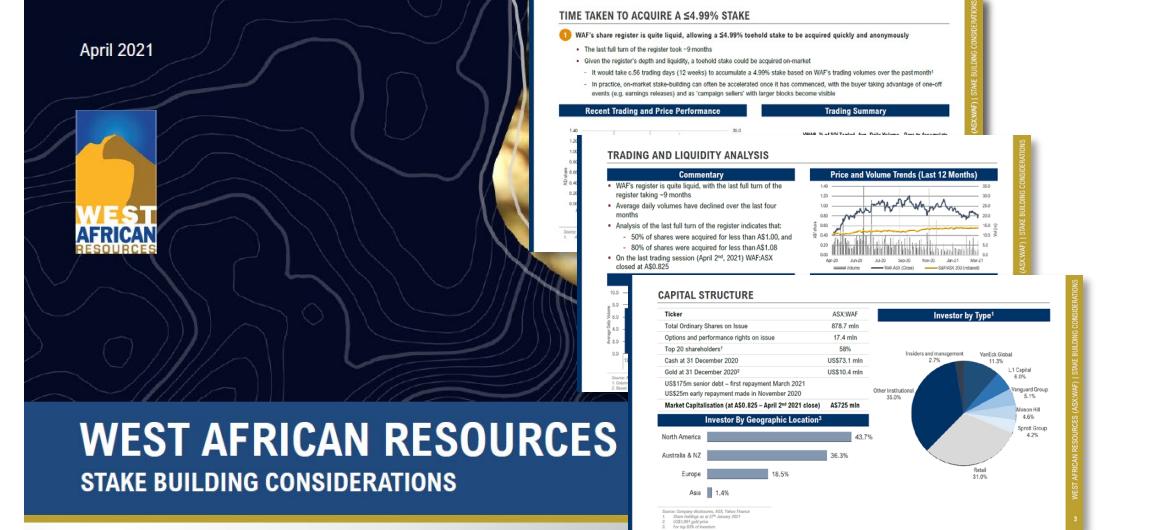
Corporate, marketing, and transaction-related materials (teasers, presentations, investment/information memos, brochures, etc)



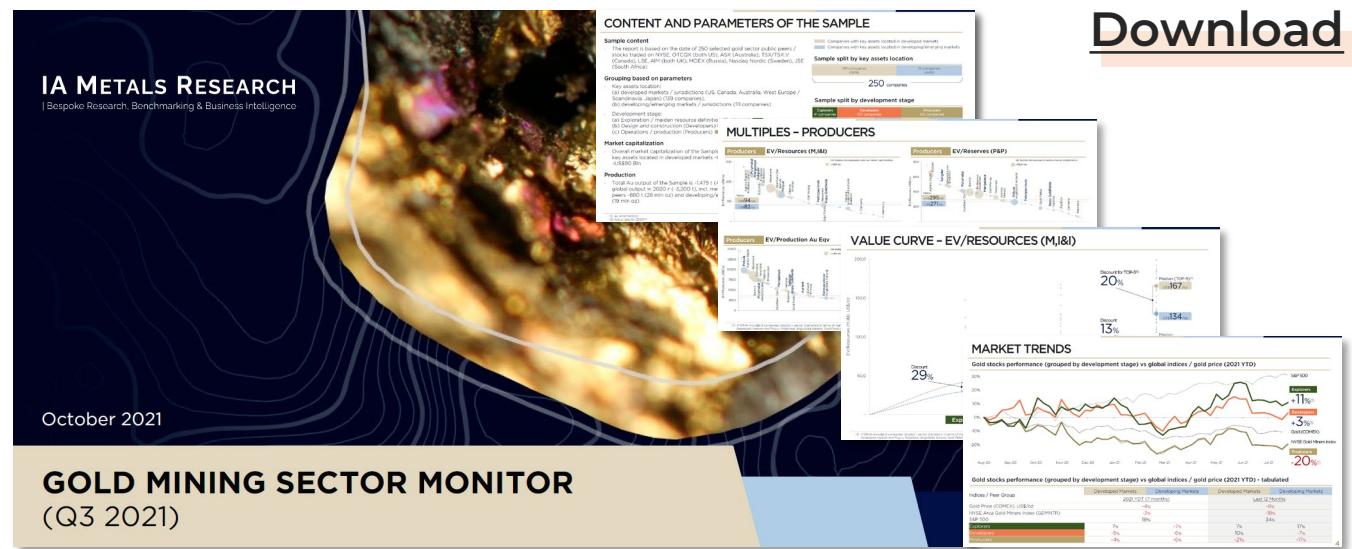
Darwendale Project | Teaser



Highland Gold Mining | Corporate Presentation



West African Resources | Stake Building Considerations



Gold Mining Sector Monitor (Q3 2021)



Eldorado Gold | Company Overview & Indicative Valuation Report

TEASERS & CORPORATE PRESENTATIONS (2)



BOLOTISTOYE GOLD PROJECT

Russia 

January 2022

Download

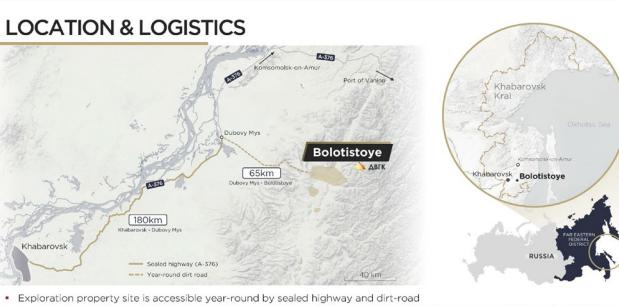


OPPORTUNITY HIGHLIGHTS & INVESTMENT PROPOSITION

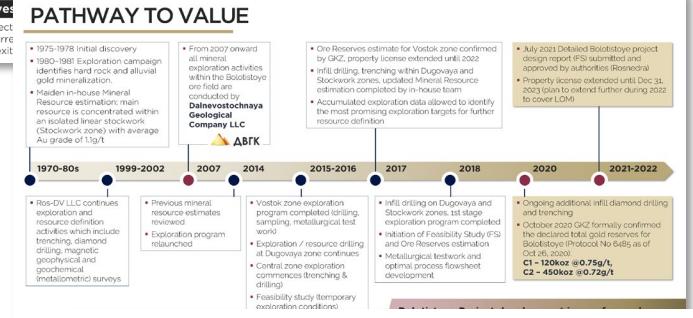
Opportunity Highlights

- Location: Khabarovsk Krai, Far Eastern Federal District, Russia
- Key metals: Gold, Copper (possibility of industrial grades at greater depth)
- Project ownership: 100% owned by Dalnevestochnaya Geological Company LLC (DVGC)
- Property License / Mineral rights: Exploration and mining license for hard rock gold, covers 20.5km² within the upstream basin of the Sooli and Tornmasu rivers (XAB 02055 BP)
- Project status: Granted to DVGC LLC, the license is currently valid until 31 Dec 2023, plans to extend further during 2022 to cover complete LOM
- Total drilling, trenching to date: Detailed Design Report (Feasibility Study equivalent) completed and approved by authorities
- Reserves (GK2 classification): Gold: C1 - 120k oz @ 0.75g/t, C2 - 450k oz @ 0.72g/t, Total (C1+C2) - 570k oz @ 0.73g/t
- Mineral Resource Upside Potential: Type of mineralization (porphyry) allows to estimate the Bolotistoye total resource potential at up to 100 tons of gold (c. 3.2Moz) - Reserves & Resources (C1+C2+P1+P2)

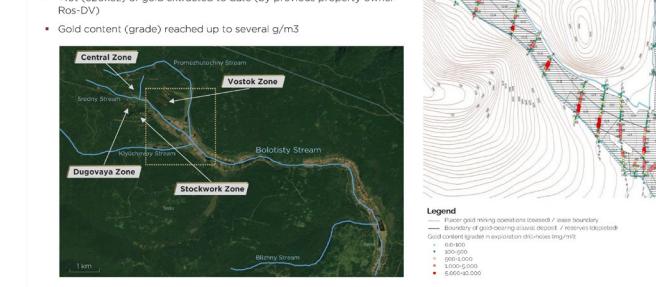
LOCATION & LOGISTICS



PATHWAY TO VALUE



HISTORICAL PLACER MINING OPERATIONS



BOLOTISTOYE GOLD PROJECT

© 2022 Bolotistoye gold project

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SORBY HILLS JV PROJECT
A NEAR-TERM PRODUCER OF LEAD, ZINC AND SILVER

AUGUST 2024

SORBY HILLS JV PROJECT | SUMMARY

The Sorby Hills project is one of the largest undeveloped, near-surface polymetallic deposits in Australia. The Project is subject to a Joint Venture Agreement (‘JVMA’) between Boab Metals Ltd (ASX: BML), Australia, MCap ~\$22M, and Henan Yuguang Gold and Lead Co (SE: 000530), China, MCap ~\$1.3B - 25% in June 2024, a Front-End Engineering and Design (‘FEED’) Study was released, demonstrating robust economics of open-pit mining and crushing-milling-flotation processing a high-grade Pb-Zn-Ag ore.

Key ‘Base Case’ project metrics underpin CAPEX of US\$180M/A\$264M, pre-tax NPV8 of US\$20M (A\$11M) and pre-tax IRR of 37%.

The DFS/FEED Study economics underpinned by Ore Reserves of 15.2Mt at 3.5% Pb and 39g/t Ag, and a well-defined Mineral Resource of 47.3Mt at 3.1% Pb, 39g/t Ag and 0.4% Zn (20Mt PEAQ, 4.3% PEAQ).

KEY METRICS | BASE CASE SCENARIO (FEED 2024*)

2.0 Mt PEAQ	2.25 Mtpa	US\$ 180 M UPIFRONT CAPEX
2.0 Mt PEAQ	4.3% PEAQ	

MINERAL RESOURCE ESTIMATE

The Sorby Hills mineralization is classified as Mississippi Valley Type (MVT), implying replacement of carbonate and mixed carbonate-siliciclastic rocks by Pb-Zn-Fe sulphides.

The Mineral Resource Estimate (MRE) was undertaken by CSA Global in accordance with the JORC Code 2022. The MRE is based on the results of the DFS/FEED Study.

The MRE is supported by 100% of the mineralization, which makes it possible to predict the occurrence of mineralization at greater depths, also with possibility of industrial copper content.

SORBY HILLS MINERAL RESOURCE ESTIMATE

Ore	Grade	Contained Metal						
Mt	Pb	Zn	PbEq	Ag	Zn			
A	0.6	5.3%	23	0.3%	6.1%	31	0.4	6
B	2.7	3.6%	20	0.3%	4.3%	97	17	8
C	17.2	3.3%	94	0.4%	4.5%	566	18.9	71
Norton	21.1	3.4%	54	0.4%	4.0%	599	20.4	76
Alpha	1.5	3.1%	64	0.3%	4.3%	45	3.0	13
Beta	4.2	3.6%	43	0.4%	5.1%	151	5.9	17
Measured	12.6	3.5%	43	0.4%	5.0%	444	17.5	45
Total	11.0	3.4%	34	0.4%	4.6%	377	121	46

FEED STUDY OUTPUTS

On 6 June 2024, the Front-End Engineering and Design (‘FEED’) Study was published, augmenting and enhancing the DFS (2023) via various specific updates to the Project:

- The study proposes the open-pit mining and processing of 18.3Mt of ore from five of the six Sorby Hills deposits, expected LOM of 8.5 years.
- The designed open pits contain a production target of 18.3Mt of ore, at a stripping ratio of 4.4:1, containing 38.8Mt of Ag equating to 628k t of Pb and 22.8Mt of Ag metal. The pits also contain 136Mt of waste material for an average strip ratio of 7.51 (t/t).
- The FEED Study is based on a conventional crush-mill-flotation circuit to produce Pb-Ag-Zn concentrate at approximately 103ktpa over LOM.
- The process plant is designed to treat 2.2Mtpa of ore. In the initial year of operation while head grade is at its highest, the process plant throughput is at a nominal 1.5Mtpa. This processing rate profile maintains concentrate production at a nominal 10ktpa until the grade reduces after the first year.
- The processing plant has a dedicated half-height container loading and sampling system. This system loads the containers, samples the concentrate and then closes/locks the lid. Container will be transported to off-takers.
- BAK is currently undertaking further project development discussions while advancing negotiations with off-takers and financiers. At the same time, some DFS/FEED assumptions might be sub-optimal (refer to Investment Rationale slide).

SORBY HILLS | FEED BASE CASE

Physicals (LOM)	Concentrate Produced	Met (Mtpa)
Ore tonnes processed	Met/t	18.3 (2.25)
Head grade	% PbEq Ag	75
Recovery	% PbEq Ag	3.4 / 39
Concentrate Produced	kMtp	873
Concentrate Grade	% PbEq Ag	65.8 / 164
Concentrate Metal	kt PEAQ	575 / 18.6
Pb Price	US\$/t	2,255
Ag Price	US\$/t oz	27.4
AS/US\$	0.68	
Revenue	US\$M (A\$M)	1,697 (2,496)
Capital Cost	US\$M (A\$M)	72.2 (106)
Treatment Charge (TC)	US\$/tDMT	125
Refining Charge (RC)	US\$/t oz Ag	125
EBITDA	US\$M (A\$M)	727 (1,069)
Annual Average EBITDA	%	46 (52)
EBITDA Margin	%	37 (43)
CF Cost (incl. Ag credits)	US\$M	794
Upfront CAPEX	US\$M (A\$M)	180 (264)
Pre-Tax NPV8	US\$M (A\$M)	280 (411)
Pre-Tax IRR	%	37%

SORBY HILLS PROJECT | FEED STAGE

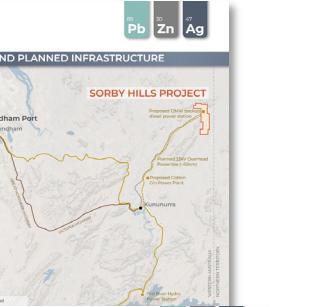
© 2022 Sorby Hills Project

INVESTMENT RATIONALE

BACKGROUND

OPPORTUNITY

UPFRONT



EXISTING AND PLANNED INFRASTRUCTURE

The Project has much of the required infrastructure in place including the following components:

- The newly constructed Moonbarum Road is located 630m immediately north of the Project providing all weather access to the Project via a sealed road to Kununurra (50km) and to the Wyndham Port (150km).
- Horizon Power will supply hydroelectric power to Sorby Hills via a dedicated 33kV feeder and overhead powerline from the Kununurra substation, supplied from the Ord hydro-power station (Head of Agreement signed).
- It is proposed that Horizon Power will also build a 12MW backup diesel power station on site to mitigate for periods when the Ord hydro-power is unavailable. The Company continues to explore opportunities to remove the need for a full-size back-up diesel power plant on site.
- The site has a significant volume of water in excess of the site needs; this excess water, after being treated through the pre-filtration stage of the plant, will be used for site cooling.
- Second-hand accommodation facilities previously secured and relocated to site by Boab will be fully refurbished and upgraded to house a construction and operational workforce of up to 200 personnel for the Project.

EXPLORATION UPSIDE

In addition to the Sorby Hills Project, BAK holds a 100% interest in the Manbarrum Zn-Pb-Ag Project (25km east of Sorby Hills) and the Eight Mile Creek Project (immediately south of Sorby Hills). Both projects have significant targets overlying geology genetically and spatially related to the current mineralization at Sorby Hills (part of the Burt Range Sub-basin) - highly prospective for MVT deposits.

MANBARRUM Zn-Pb-Ag Project

- Located 25km east of the Sorby Hills Project
- Mineral Resources declared at two prospects which are zinc and silver deposits, with an estimated total MRE of 22.5Mt @ 18% Zn (407k t), 0.4% Pb (90k t) and 0.4% Ag (33.4k t).
- 175kM² of prospective tenements (including two granted mining leases) covering geology related to that found at Sorby Hills.
- Extensive but only shallow-depth exploration in the past; need for new geological approach and deeper exploration (100 to 200m below surface).
- Two targets prioritized in favourable structural and stratigraphic positions.
- Conceptual open pit mining studies completed by CSA Global in 2018.

EIGHT MILE CREEK Project

- Comprised of Sorby Hills, Manbarrum, and Eight Mile Creek Projects.
- Estimated total MRE of 2.6Mt @ 18% Zn (450k t), 0.4% Pb (90k t) and 0.4% Ag (33.4k t).
- Large-scale mineralization targets identified at Sorby Hills, Manbarrum and Eight Mile Creek.
- Large-scale mineralization targets identified at Sorby Hills, Manbarrum and Eight Mile Creek.

INVESTMENT RATIONALE

BACKGROUND

OPPORTUNITY

UPFRONT

10

Ilya AYZIKOV

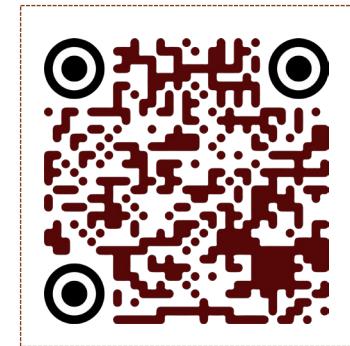
Non-Ferrous Market Intelligence | MAusIMM | MSc (MEE) | MBA

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www.IAMetalsResearch.com



References

available from the following Metals & Mining and Investment industry professionals:

- **Jan Henk AKKERMAN**, Managing Director, Akkerman Finland Oy/[Akkerman Exploration B.V.](#) 
- **Paul SMITH**, CEO, [Globe Metals & Mining](#), ASX:GBE (former Group Executive - Strategy, [Impala Platinum](#); Darwendale Project Director) 
- **Rob FUTTER**, Managing Director, [Cresco Project Finance](#) 
- **Max YACOUB**, former International Project Director, [Highland Gold Mining](#); Chief Investment Officer, [Auriant Mining AB](#) 
- **Vaughan FULMER**, Legal Manager, [Fortescue](#), ASX:FMG (former Director & Company Secretary, [Norilsk Nickel Australia](#)) 