



29 Cu Copper	30 Zn Zinc	28 Ni Nickel	27 Co Cobalt	PGE PGE	79 Au Gold	47 Ag Silver
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BUILDING TOMORROW'S MINES TODAY

Errol Smart - *Managing Director and CEO*
February 2024



Orion Minerals

ASX: ORN | JSE: ORN

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OUR MISSION

FULLY INTEGRATED FROM EXPLORATION TO MARKET



PRODUCING FUTURE FACING METAL PRODUCTS

ESG CERTIFIED METALS,
TRACKED AND VERIFIED
FROM EXPLORATION
TO SALE

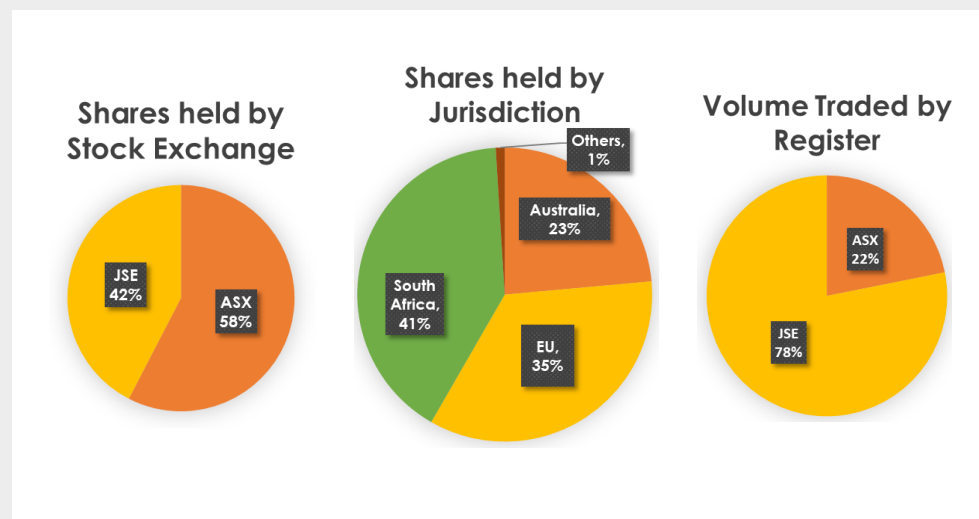


COMPANY SNAPSHOT



Capital Structure Summary	Current
Shares on issue ¹	5,845M
Options on issue	261M
Cash on hand ²	AUD11.0M
IDC Shareholder Loan ³	AUD2.8M
PCZM Project Financing ⁴	AUD13.5M
Market capitalisation (AUD1.4cps) ⁵	AUD82M

Significant Shareholders	Share Issue %
Tembo Capital (EU/Netherlands)	18.5
Delphi Group (EU/Germany)	12.9
Clover Alloys (SA) (South Africa)	9.2
Thomas Borman (South Africa)	5.6
Other Orion Directors (South Africa & Australia)	1.9
Total	48.1



Board of Directors	Senior Management
Denis Waddell, Chairman	Peet van Coller, CFO
Errol Smart, MD & CEO	Martin Bouwmeester, Company Secretary
Godfrey Gomwe, NED	Marcus Birch, Executive: Sustainability and Business Support
Philip Kotze, NED	Nelson Mosiapoa, Group Corporate Social Responsibility Advisor
Mark Palmer, NED	
Patience Mpofu, NED	
Anthony Lennox, NED	

1. Fully paid ordinary Orion shares (**Shares**) on issue at 29 Jan'24.
2. Cash on hand at 31 Dec'23.
3. Refer to Orion's Jun'23 Annual Report to Shareholders for information on the agreement for pre-development funding at the Okiep Copper Project entered into with the Industrial Development Corporation of South Africa Limited (**IDC**). Balance shown as at 31 Dec'23.
4. The Prieska Copper Zinc Mine (**PCZM**) project has two funding agreements in place, being the ZAR250M (~\$20M) IDC Convertible Loan and the \$10M (~ZAR122M) Triple Flag early Funding Arrangement (together **PCZM Project Financing**). Refer to the Dec'23 Quarterly Reports for further detail regarding PCZM Project Financing. Balance shown as at 31 Dec'23.
5. Volume weighted average price (5 day) at 29 Jan'24 of ORN Shares trading on the ASX and JSE.



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PRIESKA COPPER ZINC MINE **(PCZM)**

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PRIESKA COPPER ZINC MINE (PCZM)

BANKABLE – FULLY PERMITTED – READY TO MINE



The orebody

- Globally significant VMS Mineral Resource: **31Mt** at **1.2% Cu**, **3.6% Zn**
- Increased Mineral Reserve: **14.5Mt** at **1.1% Cu** and **3.2% Zn**

Foundation phase as per BFS-20 outcomes

- Initial 12-year, 2.4Mtpa operation, targeting **22ktpa Cu** and **70ktpa Zn**
- Life-of-mine production **226kt Cu** and **680kt Zn**
- Strong operating margins and financials
- Pre-tax free cash flow **AUD1.6bn** (post-tax AUD1.2bn)
- Pre-tax NPV8% **AUD779m** (post-tax AUD552m)
- Payback period of **2.4 years** from first production
- All-in sustaining margin of **47%**
- Peak Funding requirement **AUD413m**

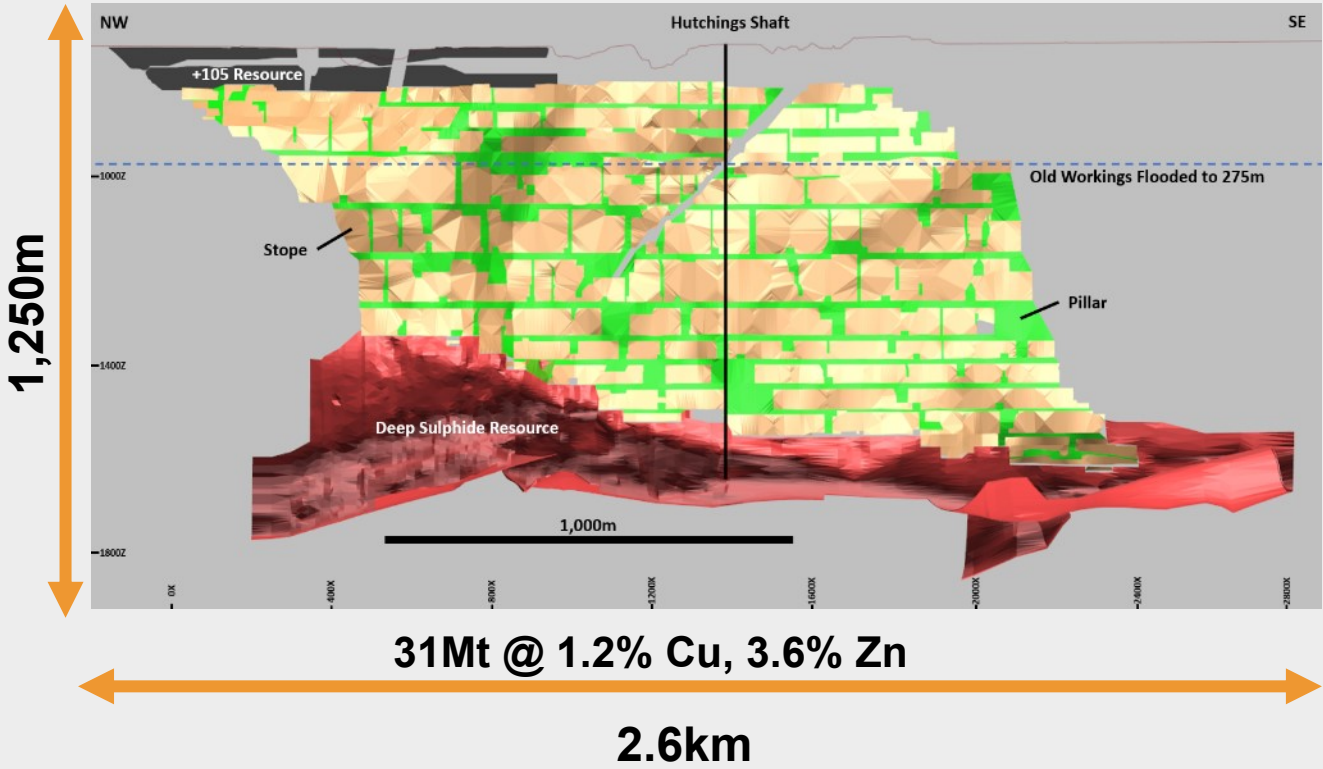
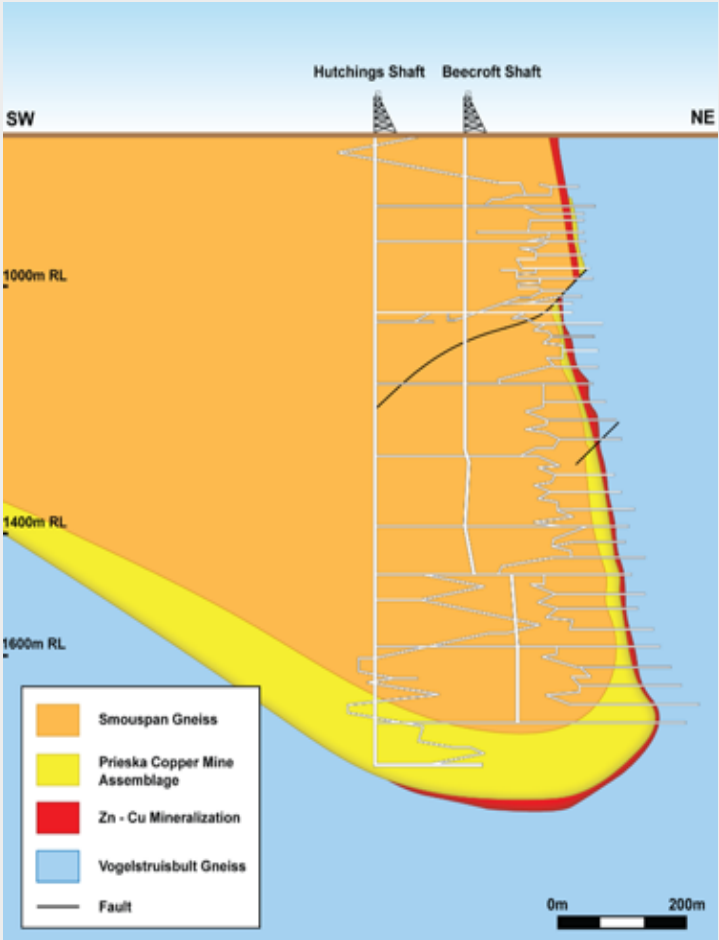
Fully permitted and 70% owned

- Mining right granted to PCZM in August 2019
- Mining right granted to Vardocube in August 2020
- Environmental Financial Provision in place fully capitalised
- Environmental Authorisations received for both PCZM and Vardocube
- Water Use Licence granted in August 2020



“Our strategy to bring the Prieska Copper Zinc Mine back into production is now rapidly growing momentum, with the completion of the updated Mineral Resource for the near-surface, +105 Resource Block, outlining a very attractive early mining opportunity at this fully permitted mine.”
– Orion Minerals MD Errol Smart

PCZM – CROSS AND LONG SECTIONS



KEY CHALLENGES FOR ORION WITH PCZM BFS-20



High capital, long lead-time project

- Can we bring forward production and reduce funding?

Skills / Development Team?

- Orion is proven as an explorer and study team – but where are the mining team and experience?

Dewatering

- What are alternatives to reduce cost?

Sources of Finance (for a first-time developer)?

**These pressing questions are
now largely answered**

ALTERNATIVE DEVELOPMENT STRATEGY

STARTING SMALL TO GROW BIG

Early Production Plan for PCZM under investigation to capitalise on the positive near-term outlook for the base metals market

STRATEGY

- Address perceived high-risk elements of plan to reduce cost of funding
- Prove up and implement a low peak funding business plan
- Investigate opportunities for early production
- Retain ability to rapidly scale up to full-scale project (subject to funding availability)
- Maintain community, regulatory and stakeholder relations

EARLY DEWATERING

- Immediately start with phased, reduced rate, early dewatering (before project is fully-funded)

EARLY MINING AND CASH FLOWS

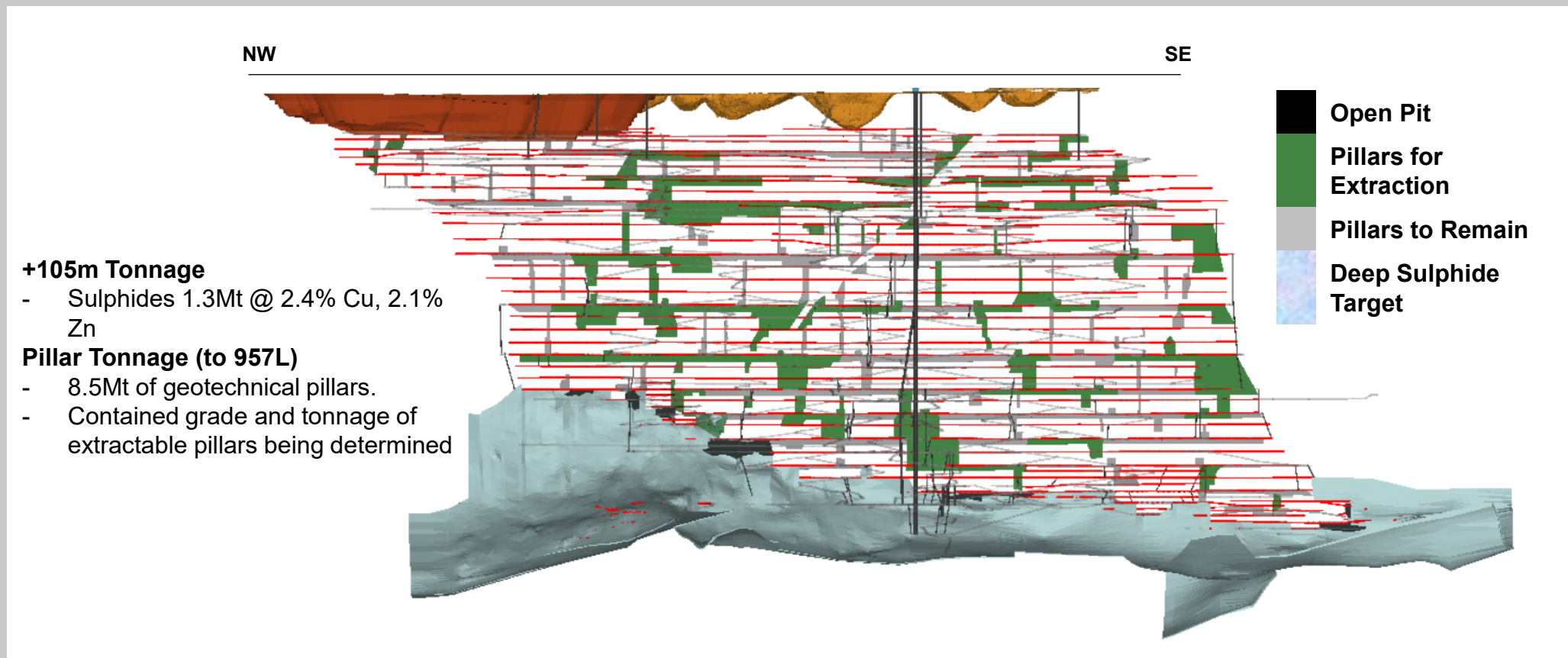
- Prove early mining concepts by trial mining and processing
- Target ore sources above water level to provide early concentrate production
- Include historical pillars in mining plans
- Harvest the Deep Sulphide deposit (BFS-20 Plan) as an expansion phase



DEVELOPMENT STRATEGY

EARLY MINING TARGETS

- Shallow Mining Plan aims to target mining from shallow underground, open pit and remnant pillars, while dewatering underway
- Stream Finance and early funding initial drawdown completed (~AUD13.8M), providing funding to advance Early Production Strategy



TOTAL FUNDING SECURED TO ADVANCE PCZM

Industrial Development Corporation of South Africa (IDC) Convertible Instrument	AUD 20 million (ZAR 250m)
Triple Flag Precious Metals Corp	AUD 10 million
Triple Flag Au-Ag Stream agreement	AUD 117 million (USD 80m)
Total PCZM Ringfenced Finance*	AUD 147 million

AUD30m Trial Mining program now underway

Conditions fulfilled for the drawdown of the ZAR250 million IDC Convertible Loan and Triple Flag AUD10 million Funding Arrangement

* Initial drawdown of ~AUD13.8 million - July 2023 from IDC and Triple Flag Early Funding agreements.





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OKIEP COPPER PROJECT (OCP)

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Orion Minerals

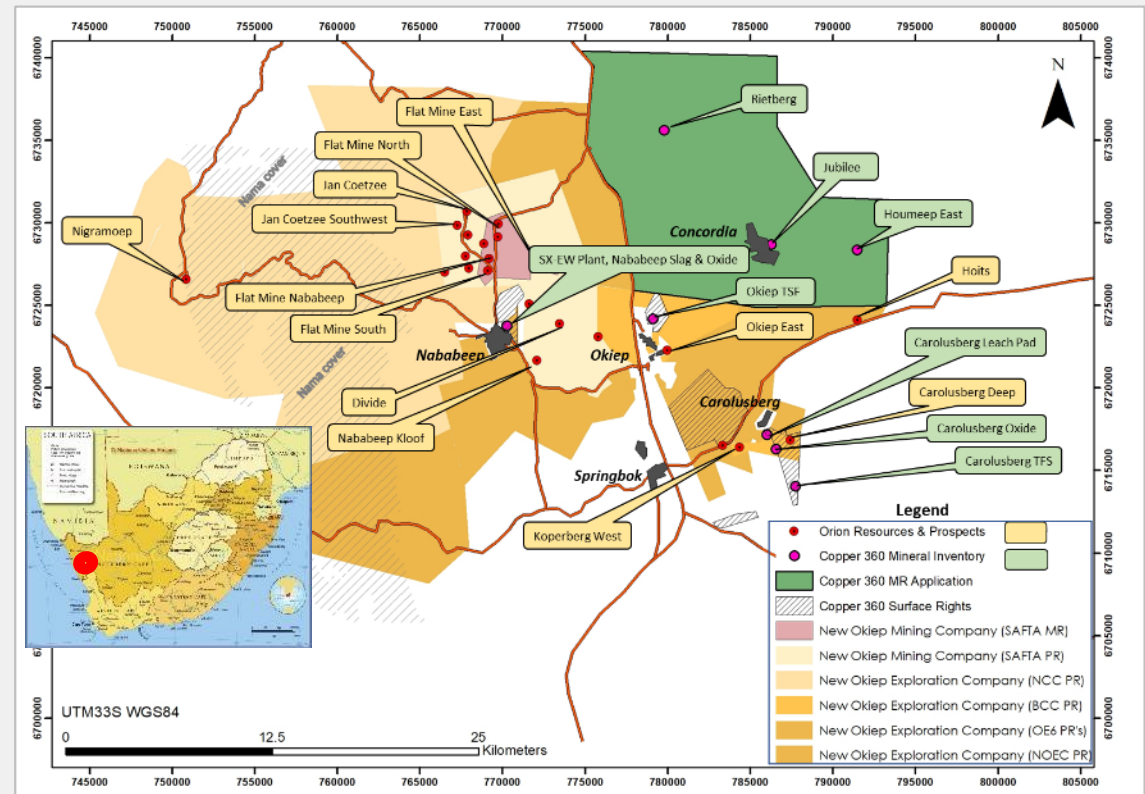
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OKIEP COPPER PROJECT (OCP)

A STANDOUT GROWTH OPPORTUNITY



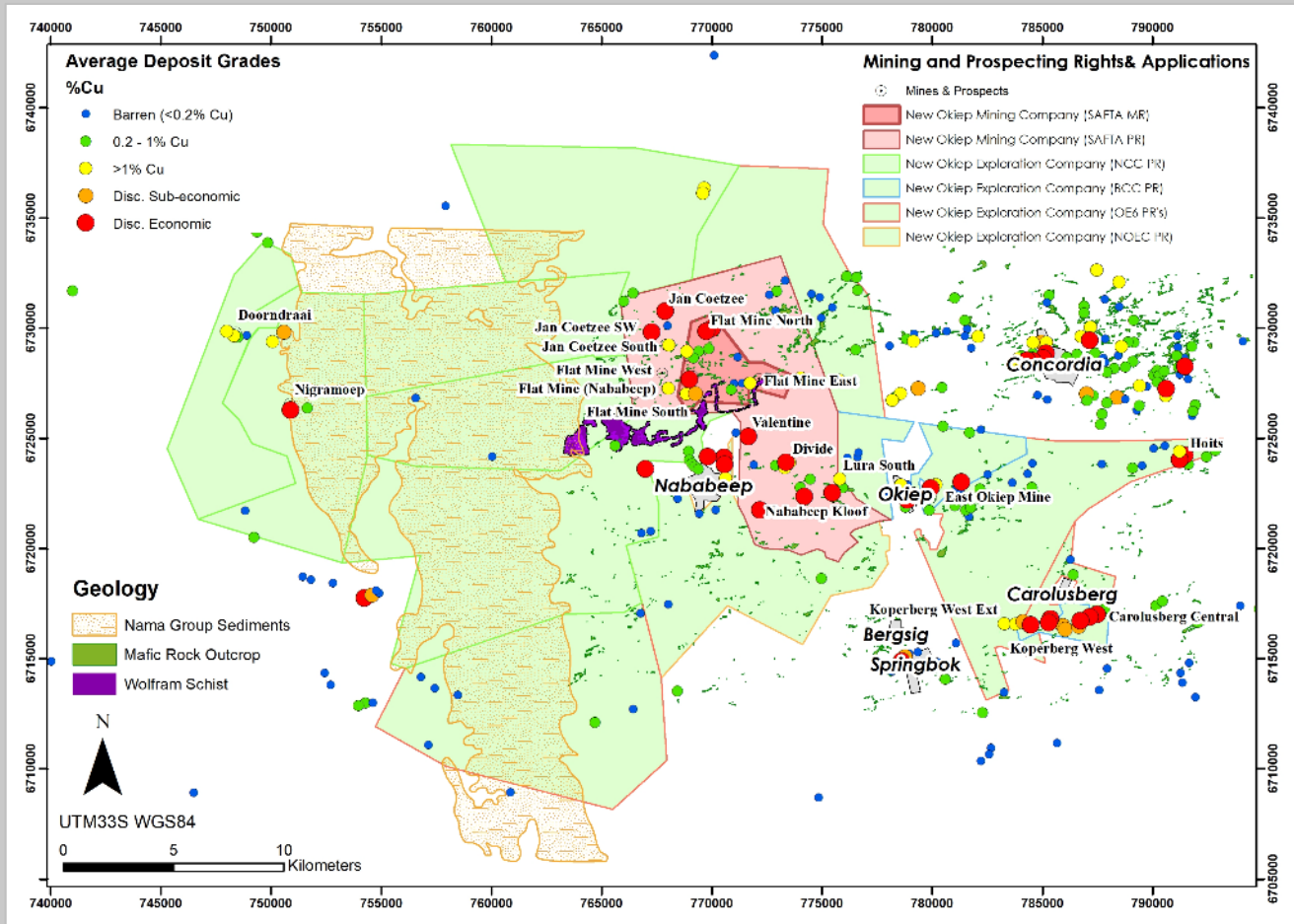
- **Exercised option** to acquire and applying for additional prospecting rights in the historic Okiep Copper Complex:
 - Historical production of +2Mt of copper
 - Non-JORC in-house resource ex-Goldfields of 52Mt at 1.3%
 - **JORC Mineral Resource of 11.5Mt at 1.4% Cu, containing 160,000 tonnes Cu in terms of JORC 2012**
 - Tremendous exploration upside
- Promises outstanding operational synergies with PCZM, located 450km east of OCP
- 56%-100% ownership



Significant opportunity for Orion to develop a second base metal production hub alongside PCZM

Refer ASX/JSE releases 2 August 2021, September 2021 Quarterly report, Annual Report to Shareholders 2022 and 28 August 2023

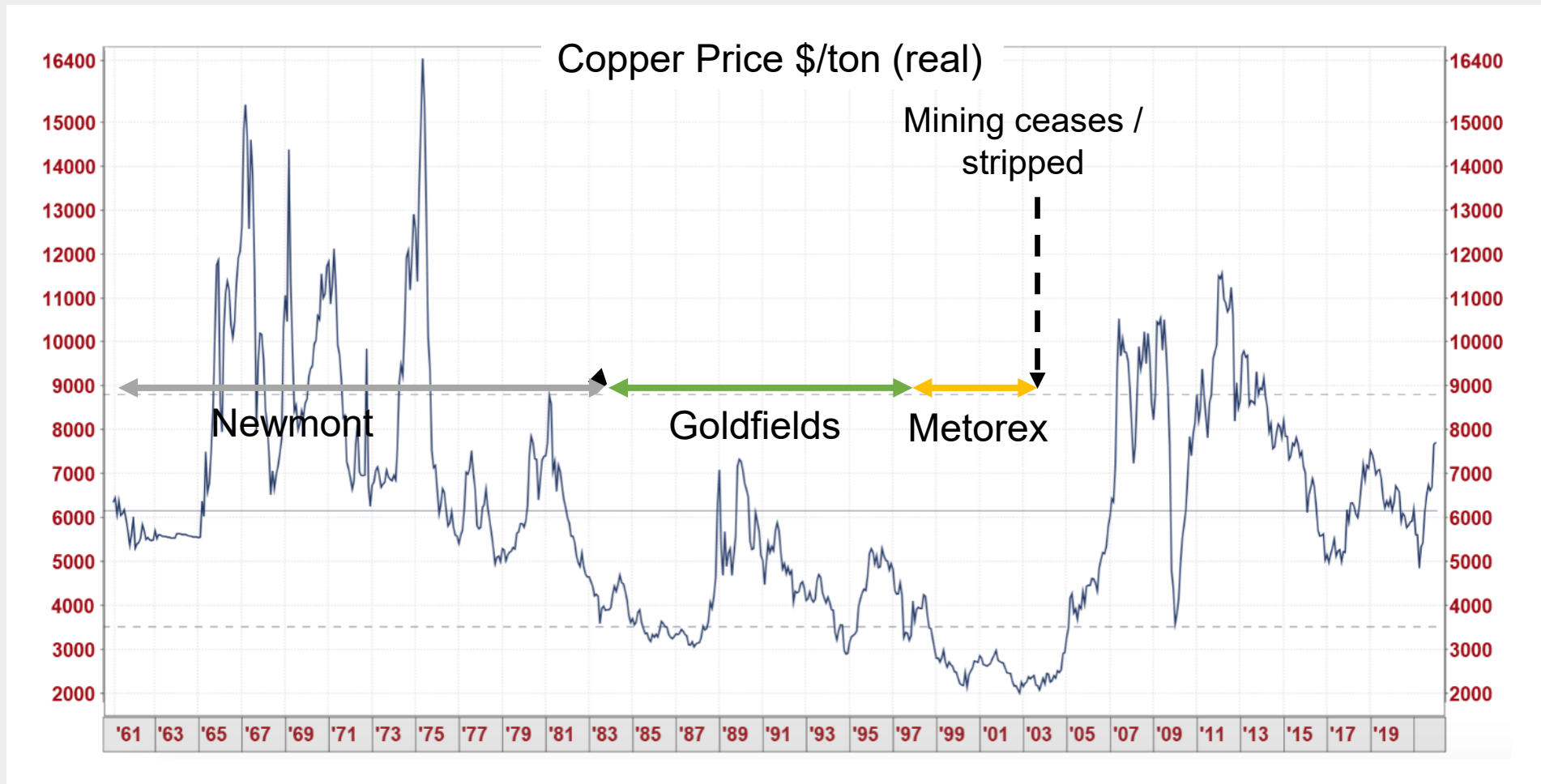
OCP HISTORICAL DISCOVERIES AND MINES



- Mineralised intrusive bodies intrude structures aligned in east-west trending structural corridors
- 25% of mineralised corridors hidden under thin surface cover
- Modern geophysics expected to assist in detecting mineralisation underneath the thin cover
- Orion has now proved the existence of a Ni rich sulphide mineralisation phase, not previously targeted

Refer ASX/JSE release 4 September 2023

OWNERSHIP CHANGES COINCIDED WITH CU PRICE LOWS



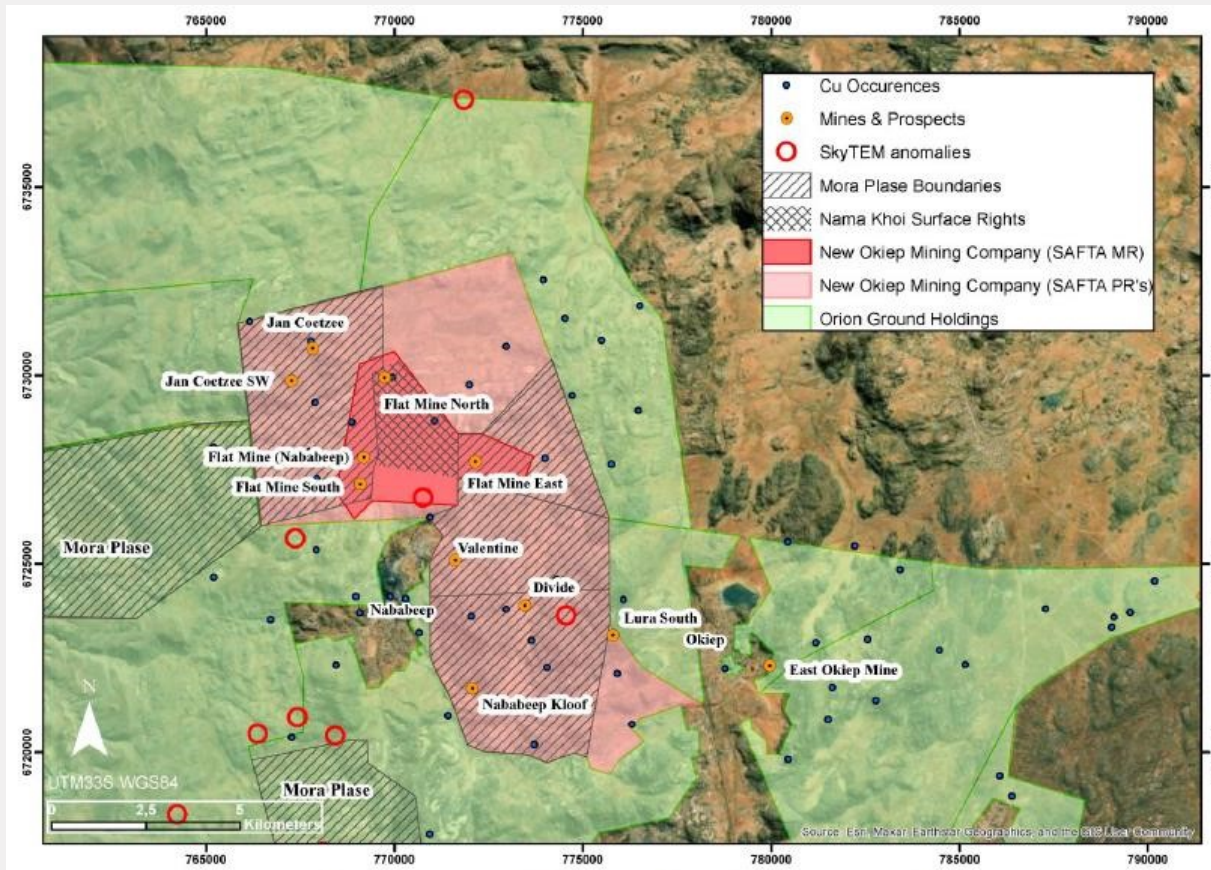
Source: Mergence Capital

NOM – FLAT MINES 2021 SCOPING STUDY INDICATED ROBUST ECONOMICS FOR INITIAL “PILOT” MINING

- Industrial Development Corporation (IDC) project partners
- Foundation phase is modelled for 12 years
 - Concurrent exploration targeting mine expansion
- Scoping Study indicates potential for robust pilot-phase mine:
 - Production for the pilot phase of 9Mt at **1.29% Cu** producing **102kt** of copper in saleable concentrates
 - First production possible within **16 months** of the start of construction
- Capital of **AUD58M** (including 15% contingency)
- All-in-sustaining costs of **US\$4,478/t**
- **NPV₁₀ (post tax) of AUD114M (at US\$7,593/ton Cu)**
- **All-in-sustaining margin of 40%**
- Average annual undiscounted free cash flows of AUD32M post-tax
- Break-even grade of 0.83% Cu for both un-optimised open pit and underground mining operations



KEY SURFACE RIGHTS ACQUIRED AT NEW OKIEP MINING, FLAT MINES PROJECT

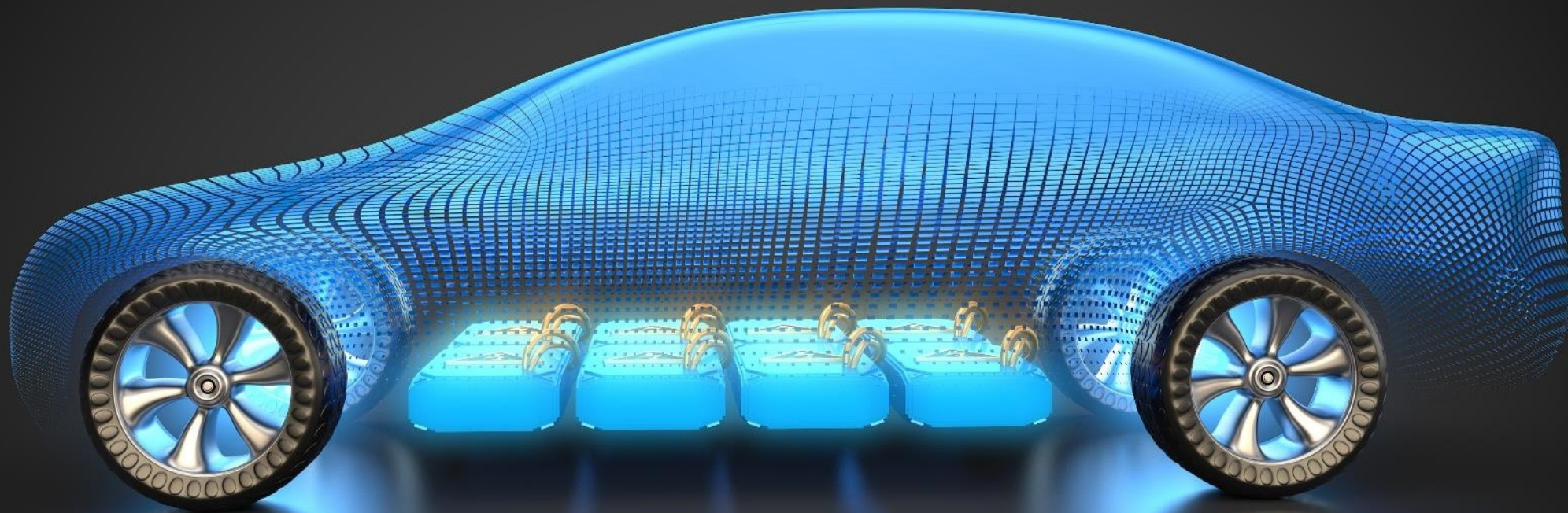


- Lack of surface access prevented drilling to provide final validation of data for the Bankable Feasibility Study on the Flat Mines deposits
- Acquired 12,156 hectares of surface rights at OCP in January 2024
- Includes 5,687 hectares in the New Okiep Mining Project area in the Northern Cape
- Acquisition clears the way for drilling to provide additional mineral resource classification geotechnical and metallurgical zonation information for the New Okiep Mining Project
- Surface right ownership removes any conflict of interest in future surface use, allowing outstanding Environmental Authorisations, and Water Use License and rezoning applications to be processed

VALIDATION DRILLING



- The recent acquisition of the Mora Plase Farms has permitted the commencement of a validation drilling program into the Flat Mines East and South deposits
- Drill core from this program will be used to validate the legacy exploration results in these areas, and provide samples for further metallurgical testwork from these specific areas
- Drill rigs have been mobilised to complete this work which will enhance the confidence in the BFS due for finalisation in Q2 CY2024



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JACOMYNSPAN

NICKEL-COPPER-PGE PROJECT (JMP)

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JACOMYNSPAN PROJECT (JMP) NICKEL-COPPER-COBALT-PGE MINE

Potential significant future metals producer

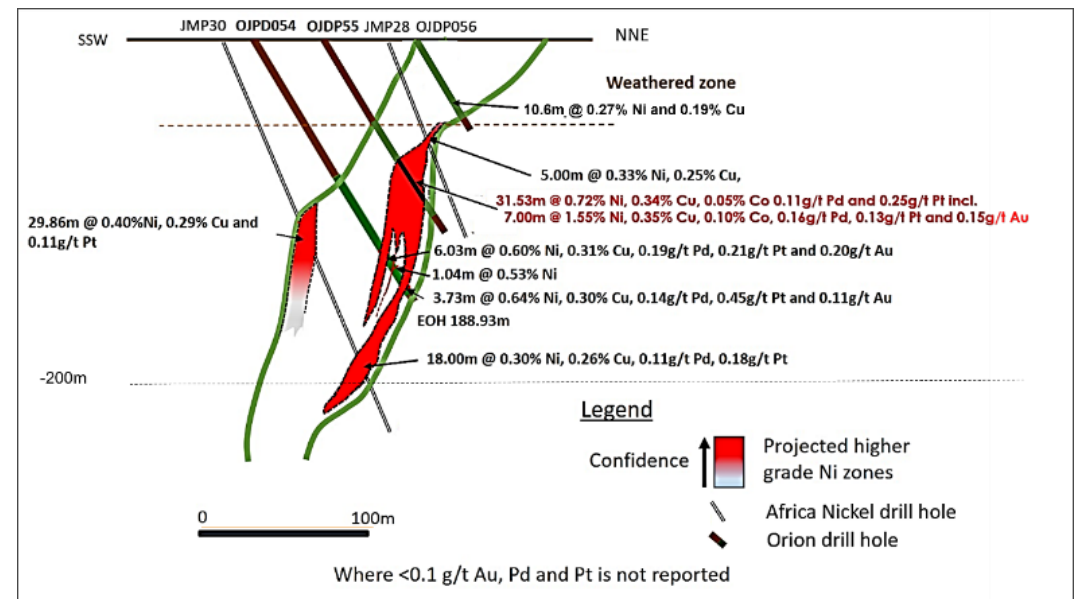
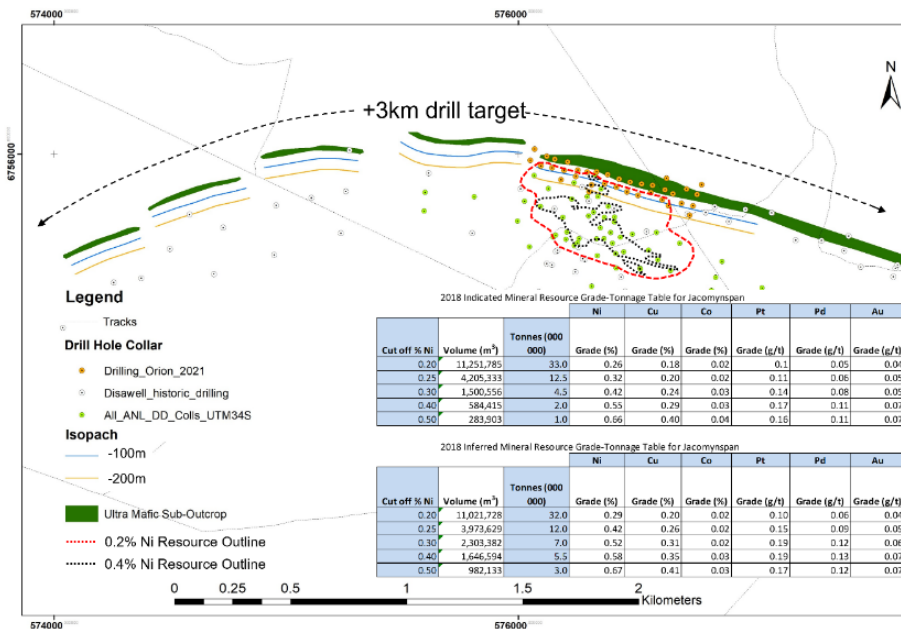
- Only 10% of the outcropping has been drilled – large upside potential
- JORC compliant Mineral Resources: **>65 million tonnes of ore containing 180kt Ni, 120kt Cu, 12kt Co**
- JMP Mining Right Area can potentially supply **13 metals and materials of the 24** that are critical to battery electric vehicle production, cleaner combustion and energy transition
- Envision **1.2 to 3.5Mtpa** mining operation producing **80 to 240ktpa** of concentrate






Refer ASX/JSE release 8 March 2018



Executed Mining Right over Ni-Cu-Co-PGE+Au Intrusive Complex



RAW MATERIALS CRITICAL TO ELECTRIC VEHICLE PRODUCTION

Al Aluminium	Cr Chromium	Co Cobalt	Cu Copper	C Graphite	Fe Iron
↗ Page 04		↗ Page 07			
 Leather	Li Lithium	Mg Magnesium	Mn Manganese	 Mica	Mo Molybdenum
	↗ Page 10		↗ Page 13		
Ni Nickel	Nb Niobium	Pd Palladium	Pt Platinum	 Rare Earth Elements	Rh Rhodium
 Rubber	Si Silica sand & Silicon	Ta Tantalum	Sn Tin	W Tungsten	Zn Zinc

The Jacomynspan Mining Right Area has mineral deposits that can potentially supply **13 metals and materials of the 24** that are critical to battery electric vehicle production, cleaner combustion & energy transition.

Investigating innovative proprietary technology to recover high-value pre-cursor products (high purity metal powders) for the electronic and chemical industries – a value game changer



Extracted from: Mercedes-Benz | Raw Materials Report July 2022

STRATEGA – TCM MVT SOLUTION*

- Treating higher metallurgical recovery – lower grade concentrates (Maximises value extraction of ore deposit)
 - Enables **>90% metal recovery to** concentrate
- Recovery of **>95% of all metals from sulphide concentrates with premium sales value as high purity metal powder products**
- Producing high value – clean, green next generation metal powder products
 - Low capex
 - Low opex
 - Low net energy requirement (co-generating electricity)
 - Reagents are generated / regenerated on site and recycled
 - Low/no water consumed
 - Low/no liquid or gas emissions
 - Dry solid waste is inert can be used for production of bricks/tiles/ceramics

* Technical & Commercial claims by Stratega and TCM are currently the subject of test work due-diligence



**POTENTIAL TO MORE THAN
DOUBLE REVENUE PER TON
ORE MINED – MODERATE
INCREMENTAL COST!**

COMBINING PROVEN CHLORO AND CARBONYL METAL VAPOUR PROCESS TECHNOLOGIES “MVT” TO PRODUCE CRITICAL METAL PRODUCTS

Tronox – A super scale user of Chloro – MVT



United Kingdom



Netherlands



Australia



Saudi Arabia



Copper Cliff, Canada



Clydach, Wales



Germany

Vale is the worldwide leader in Carbonyl MVT

ENORMOUS EXPLORATION UPSIDE

AREACHAP – AN UNDER-EXPLORED BELT WITH HIGH METAL ENDOWMENT



Multiple Cu-Zn VMS and Ni-Cu-Co intrusive targets within Orion's mineral rights

- Jacomynspan – Mining Right with potential for sulphide Ni-Cu-PGE-Au open pit and shallow underground mining
- Several high-grade Cu-Au targets with historical and recent drill intersections
- Several Li, Be, REE, Mica occurrences and old diggings to be investigated

Areachap Belt, Northern Cape, South Africa



Kantienpan Zn-Cu VMS intercept

PROSPECTING RIGHTS AND NEW APPLICATIONS

CONFIRMED EXPLORATION POTENTIAL IN TIER-1 MINING DISTRICT



Masiqhame: Current PR - Known deposits

- Kantienpan Zn-Cu: 1.5 Mt at 4.4% Zn and 0.4% Cu *
- Boksputs Cu-Zn
- Untested JMP style intrusives

Marydale: PR Application

- Witkop Au(-Cu): 416 800 t at 1.59 g/t Au
- Scoping Study ready

Orion Exploration No 1: New PR

- Area to north of Masiqhame
- Cover northern strike continuation of Kantienpan and Boksputs

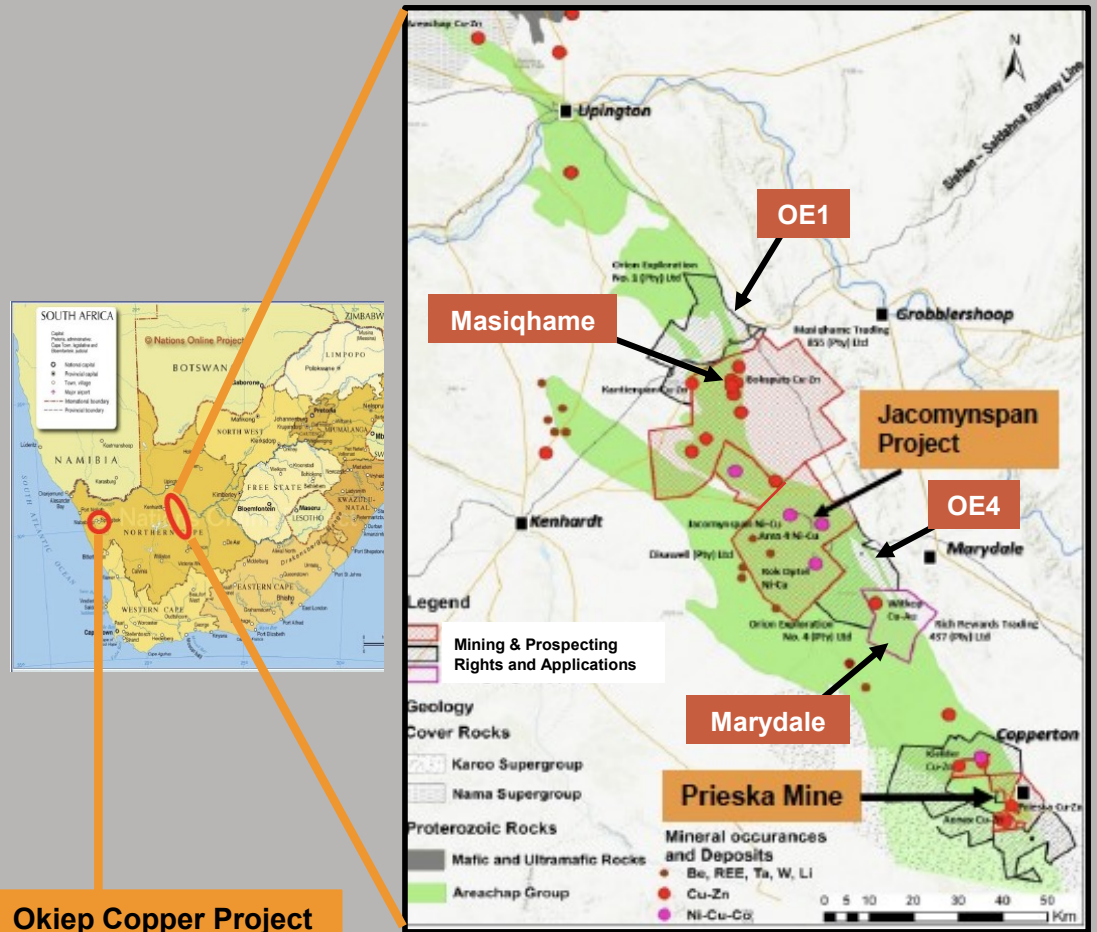
Orion Exploration No 4: PR Application

- CGS reported ultra-mafic rocks
- Proximity to known Ni-Cu deposits

Using advanced technologies and improved geological understanding of VMS deposits to make additional mineral discoveries and bring them to the market

* Unpublished Mineral Resource

Targeting high-quality deposits in an under-explored district

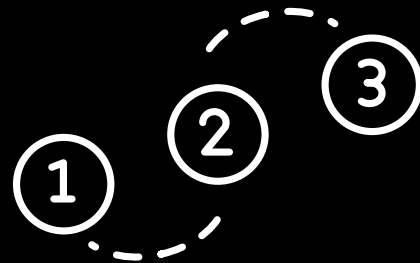


Orion has 3,135km² of tenement holdings and applications in the Areachap Belt

AN EXCEPTIONAL PROJECT PIPELINE POISED FOR DISCOVERY AND LEADING TO DEVELOPMENT



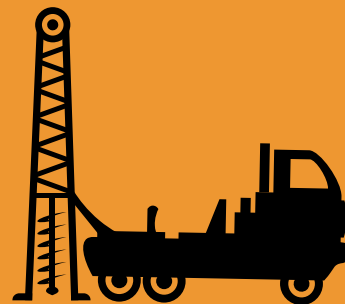
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Exceptional
exploration
pipeline



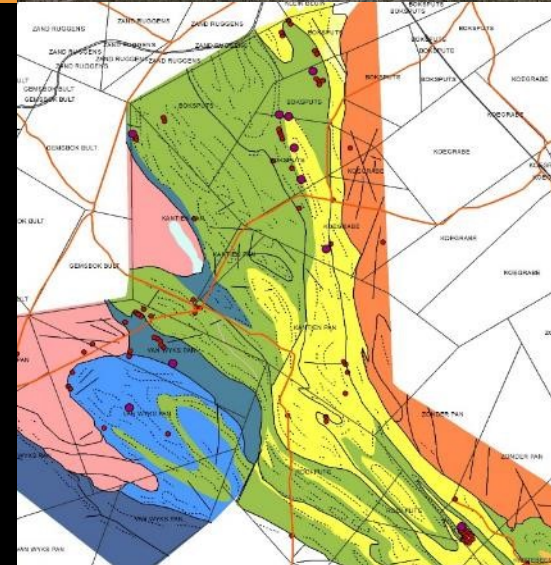
Healthy mix of projects
at different stages
of advancement



Drill-ready targets
and past success within
Areachap Belt



Deliver Tier-1 and Tier-2
Projects to the market



ESG LEADER, PROMOTING REGIONAL GROWTH

BUILDING MINES, BUILDING COMMUNITIES



- Emerging ESG Leader Award at the 2020 AAMEG Africa Awards
- Junior ESG Award for Enhanced Labour Standards at the 2022 Investing in African Mining Indaba
- Emerging ESG Leader for an Explorer/Developer for its Community Participation Framework by AAMEG in 2023

Contributing to the socioeconomic development of the Northern Cape:

- Stakeholder Engagement Forums established for both key projects
- Collaboration agreement at PCZM – ensuring local participation in employment and small businesses
- Established databases for local employment and suppliers
- Offered community and extended training opportunities
- Facilitated on-the-job training through drilling and trial mining contracts



For further information, contact:

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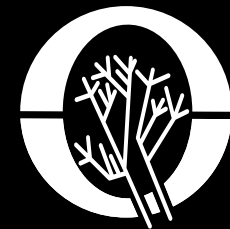
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