



Orion Minerals

ASX/JSE RELEASE: 3 September 2024

Orion to Present at Resources Rising Stars and Africa Down Under Conferences

Orion Minerals Limited (**ASX/JSE: ORN**) (**Orion** or the **Company**) is pleased to advise that its Managing Director and CEO, Mr Errol Smart, will be presenting at the Resources Rising Stars Gold Coast Investor Conference and at the Africa Down Under Conference in Perth, Western Australia.

Conference details:

	Resources Rising Stars Investor Conference	Africa Down Under Conference
Date	Tuesday 3 – Wednesday 4 September 2024	Wednesday 4 – Friday 6 September 2024
Conference Location	RACV Royal Pines Resort Ross Street Benowa Qld 4217	Pan Pacific Hotel 207 Adelaide Terrace Perth WA 6000
Presentation Detail	Tuesday 3 September 2024 – 10:15am AEST	Wednesday 4 September 2024 – 12:15pm AWST
Booth #	49	12

The Resources Rising Stars Investor Conference will be live-streamed and investors can attend either in-person or virtually via the Conference Livestream. There is no charge to attend either the live-stream or in-person event for investors, however registration is essential.

Resources Rising Stars Investor Conference registration details (in-person or online): www.rsinvestor.com.

A recording of the Resources Rising Stars Investor Conference presentation will be sent to all registered attendees shortly after the conclusion of the presentation via the Online Conference platform, and a copy will be available on the Company's website.

The presentation to be delivered by Mr Smart at the conferences will be available on Orion's website www.orionminerals.com.au.

Orion is also sponsoring a luncheon event at Africa Down Under on Thursday 5 September 2024, where the topic of "Reigniting Exploration: South Africa's Strategic Interventions for a New Era of Resource Discover" will be discussed. The event is open to Africa Down Under delegates and the Hon. Gwede Mantashe, Minister of Mineral & Petroleum Resources, South Africa will be in attendance.

For and on behalf of the Board.

Martin Bouwmeester
Company Secretary

ENQUIRIES

Investors

Errol Smart – Managing Director & CEO

Denis Waddell – Chairman

T: +61 (0) 3 8080 7170

E: info@orionminerals.com.au

Media

Nicholas Read

Read Corporate, Australia

T: +61 (0) 419 929 046

E: nicholas@readcorporate.com.au


JSE Sponsor

Monique Martinez

Merchantec Capital

T: +27 (0) 11 325 6363

E: monique.martinez@merchantec.com



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*

September 2024



Orion Minerals

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DISCLAIMER



This presentation contains summary information about Orion Minerals Ltd and its subsidiaries (Orion or Company) and their activities and is current as of 31 August 2024. The information in this presentation is a general background and does not purport to be complete or provide all information that an investor should consider when making an investment decision.

No representation or warranty, express or implied, is provided in relation to the accuracy or completeness of the information.

Statements in this presentation are made only as of the date of this presentation unless otherwise stated and the information in this presentation remains subject to change without notice.

The Company is not responsible for updating, nor undertakes to update, this presentation. It should be read in conjunction with the Company's other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange (ASX), which are available at www.asx.com.au and the Johannesburg Stock Exchange (JSE), which are available at www.jse.co.za.

Certain statements contained in this presentation, including information as to the future financial or operating performance of Orion and its projects, are forward-looking statements. Such forward-looking statements:

- are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Orion Minerals Ltd, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies;
- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements; and

- may include, among other things, statements regarding targets, estimates and assumptions in respect of metal production and prices, operating costs and results, capital expenditures, mineral reserves and mineral resources and anticipated grades and recovery rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions.

Orion disclaims any intent or obligation to update publicly any forward-looking statements whether as a result of new information, future events or results or otherwise.

The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward looking statements.

All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

All information in respect of Exploration Results and other technical information should be read in conjunction with the relevant ASX announcements released by the Company.

Orion is not aware of any new information or data that materially affects the information for the Mineral Resource and confirms that all material assumptions and technical parameters underpinning the estimates in the relevant Orion ASX releases (as referenced in the presentation) continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented have not materially changed.

To the maximum extent permitted by law, Orion and any of its related bodies corporate and affiliates and their officers, employees, agents, associates and advisers:

- disclaim any obligations or undertaking to release any updates or revisions to the information to reflect any change in expectations or assumptions;
- do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this presentation, or likelihood of fulfilment of any forward looking statement or any event or results expressed or implied in any forward-looking statement; and
- disclaim all responsibility and liability for these forward looking statements (including, without limitation, liability for negligence).

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Competent Person Statement



The information in this presentation that relates to Orion's Exploration Results is a compilation of previously released reports to ASX by Orion Minerals on 25 July 2023, 17 August 2020, 6 August 2020, 6 May 2020, 9 March 2020, 3 September 2019, 8 July 2019 and compiled by Mr Paul Matthews (Pr.Sci.Nat.), a Competent Person who is a member of the South African Council for Natural Scientific Professionals, a Recognised Professional Organisation (**RPO**). Mr Matthews is a full-time employee of Orion. Mr Matthews has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Matthews consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Orion's Mineral Resource for the Prieska Copper Zinc Mine, is a compilation of previously released reports to the ASX by Orion and is based on information compiled by Mr Sean Duggan, a Competent Person who is a Director and Principal Analyst at Z Star Mineral Resource Consultants (Pty) Ltd. Mr Duggan (Pr.Sci.Nat) is registered with the South African Council for Natural Scientific Professionals, an RPO. Mr Duggan has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Duggan consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to the Ore Reserves for Orion's Prieska Copper Zinc Mine, is a compilation of previously released reports to the ASX by Orion and is based on mining-related information incorporated under the supervision of Mr William Gillespie, a Competent Person who is a fellow of the Institute of Materials, Minerals and Mining (IMMM), an RPO. Mr Gillespie has sufficient experience that is relevant for the Ore Reserve aspects of the release as Competent Person. Mr Gillespie is an employee of A & B Global Mining Consultants (Pty) Ltd. Mr Gillespie has sufficient experience that is relevant to the type of mining and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Gillespie consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Orion's Mineral Resource for the Okiep Copper Project, is a compilation of previously released reports to the ASX by Orion and is based on information compiled and assessed under the supervision of Dr Dion Brandt, Concession Creek Consulting CC. Dr Brandt (Pri. Sci. Nat.) is registered with the South African Council for Natural Scientific Professionals, an ROPO. Dr Brandt has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Dr Brandt consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Orion's Mineral Resource for the Jacomynspan Project, is a compilation of previously released reports to the ASX by Orion and is based on information compiled and assessed under the supervision of Mr Jeremy Witley, a Principal Resource Consultant at the MSA Group Pty Ltd. Mr Witley (Pri. Sci. Nat.) is registered with the South African Council for Natural Scientific Professionals, a RPO. Mr Witley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Witley consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Orion confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the Mineral Resource and Mineral Reserve estimates in the relevant market announcements continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.

All announcements are available to view on Orion's website: <http://www.orionminerals.com.au/investors/asx-jse-announcements/>

OUR MISSION

FULLY INTEGRATED FROM EXPLORATION TO MARKET



PRODUCING FUTURE FACING METAL PRODUCTS

ESG CERTIFIED METALS,
TRACKED AND VERIFIED
FROM EXPLORATION
TO SALE



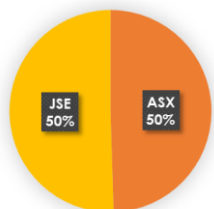
COMPANY SNAPSHOT



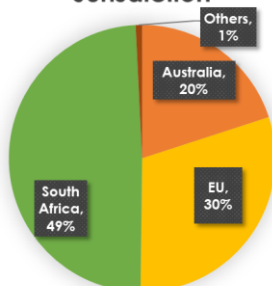
Capital Structure Summary	Current	Board of Directors	Senior Management
Shares on issue (26 Aug'24) ¹	6,834M	Denis Waddell, Chairman	Peet van Coller, CFO
Options on issue (26 Aug'24)	268M	Errol Smart, MD & CEO	Martin Bouwmeester, Company Secretary
Cash on hand (30 Jun'24)	AUD8.3M	Godfrey Gomwe, NED	Marcus Birch, Executive: Sustainability and Business Support
Capital raising (post 30 Jun'24) ²	AUD11.3M	Anthony Lennox, NED	Nelson Mosiapoa, Group Corporate Social Responsibility Advisor
PCZM Project Financing ³	AUD28.9M	Patience Mpofu, NED	
Market capitalisation (AUD1.6cps) ⁴	AUD109M	Mark Palmer, NED	

Significant Shareholders	Current Share Issue %
Tembo Capital (EU/Netherlands)	15.8
Delphi Group (EU/Germany)	11.7
Clover Alloys (SA) (South Africa)	7.8
Fairtree Capital (South Africa)	6.1
Orion Directors (excluding M Palmer) (South Africa & Australia)	1.7
Total	43.1

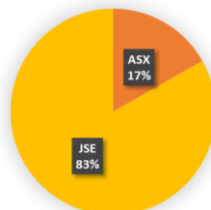
Shares held by Stock Exchange



Shares held by Jurisdiction



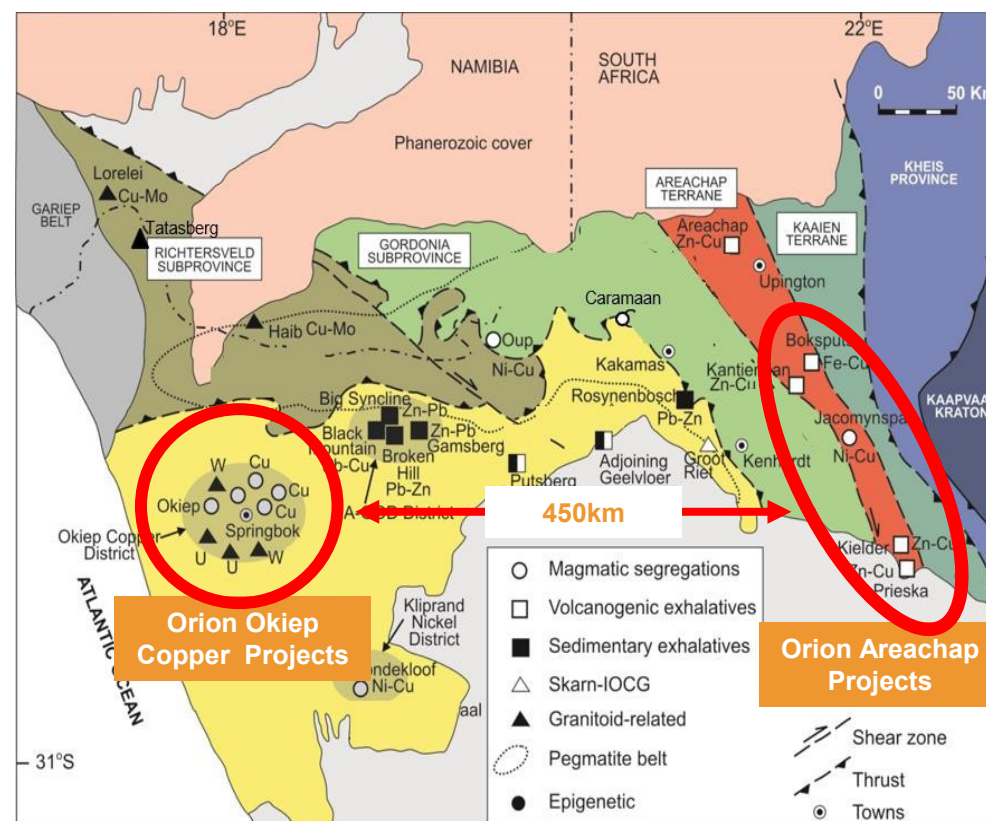
Volume Traded by Register



- Orion is acquiring the controlling interest in the Okiep Copper Project. The purchase consideration payable by Orion is ~ZAR60M (~AUD4.9M), which purchase consideration will be adjusted in certain inflation-related respects and settled partly in cash ~ZAR13M (~AUD1.1M) and partly by way of Orion Shares ~ZAR47M (~AUD3.8M). The first phase of settlement, totaling ~ZAR46M (~AUD3.8M), was completed in May'24 by way of cash payment of ZAR11M and the issue of 206.6M (ZAR35M) Orion Shares. Settlement of second and third phases are pending, subject to certain completion conditions. Share settlement for the second and third phases will include ~68M Orion Shares (~AUD1.2M). Refer ASX/JSE releases 17 Apr'24, 8 May'24 and 30 Jul'24 for further detail.
- On 1 Jul'24, Orion announced a capital raising via placement to sophisticated and professional investors. The placement was completed 18 Jul'24 raising AUD7.7M (~ZAR92.3M). In addition to the placement, Orion also offered existing shareholders to participate in the capital raising via a Share Purchase Plan (SPP). The SPP closed 23 Jul'24 raising AUD3.6M (~ZAR44M). Refer ASX/JSE releases 1 Jul'24, 18 Jul'24 and 26 Jul'24 for further detail.
- The Prieska Copper Zinc Mine (PCZM) project has two funding agreements in place, being the ZAR250M (~AUD20M) IDC Convertible Loan and the AUD10M (~ZAR125M) Triple Flag early Funding Arrangement (together **PCZM Project Financing**). Refer to the Jun'24 Quarterly Reports for further detail regarding PCZM Project Financing. Balance shown as at 30 Jun'24.
- Volume weighted average price (5 day) at 26 Aug'24 of ORN Shares trading on the ASX and JSE.

FOCUS ON TWO HIGHLY PROSPECTIVE SOUTH AFRICAN MINERAL DISTRICTS

Brownfields success being followed by greenfields exploration
3,582km² of prime mining and exploration rights





29 Cu Copper	30 Zn Zinc	28 Ni Nickel	27 Co Cobalt	PGE PGE	79 Au Gold	47 Ag Silver
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PRIESKA COPPER ZINC MINE **(PCZM)**

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Orion Minerals

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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**
- BFS20 provides indicative project metrics, to be replaced shortly by updated and optimised BFS24

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
- Full environmental authorisation in place
- Water Use Licence granted in August 2020

Update BFS24 nearing completion



“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.”

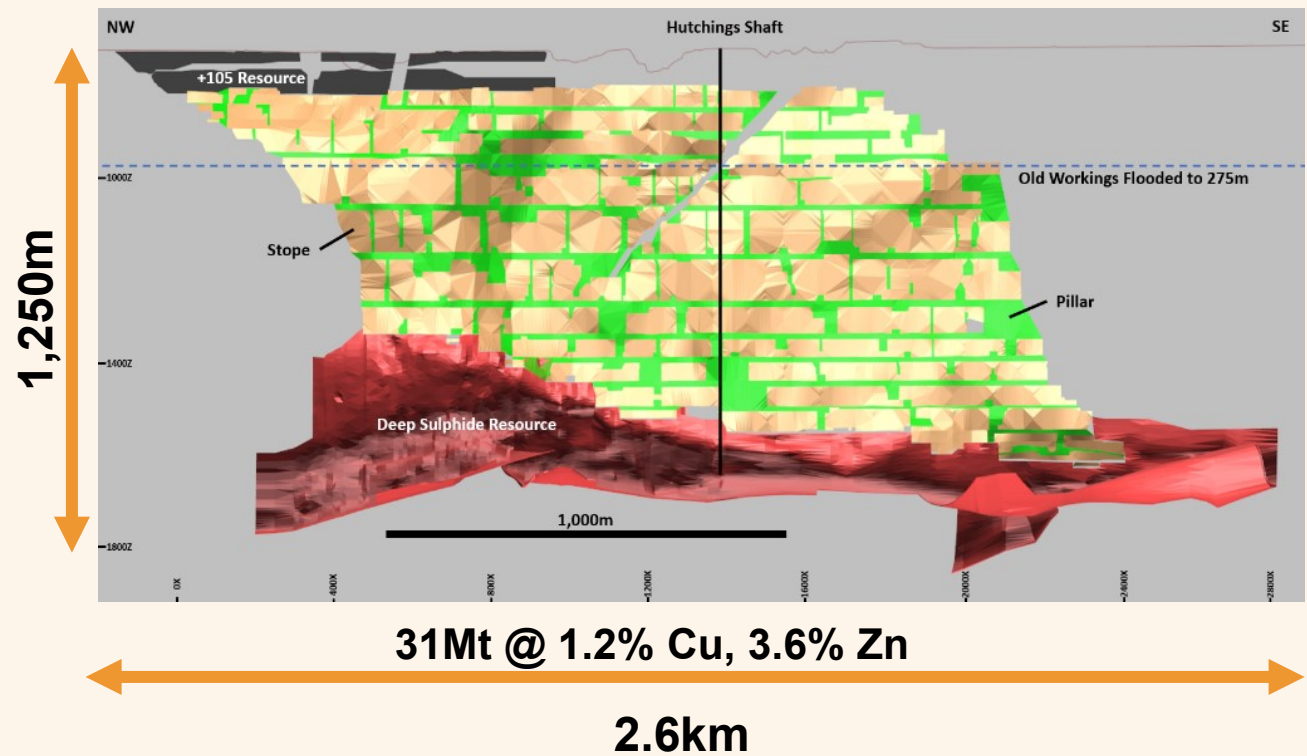
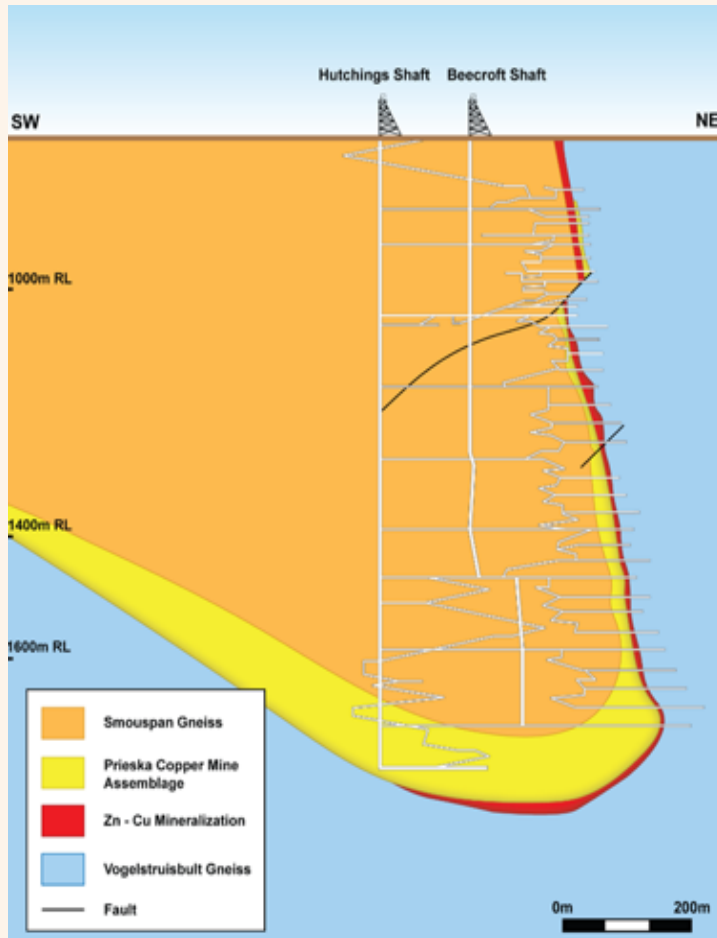
– Orion Minerals MD Errol Smart

Refer ASX/JSE releases 8 July 2019, 3 September 2019, 9 March 2020, 26 May 2020, 6 August 2020, 17 August 2020 and 25 July 2023

Information is extracted from the release titled 'Prieska BFS – Long Life, high margin project' dated 26 May 2020 and available to view at www.orionminerals.com.au/investors/asx-jse-announcements. Orion confirms it is not aware of any new information or data that materially affects the information included in this presentation and that all material assumptions and parameters underpinning the estimate in the release continues to apply and has not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented here have not materially changed.

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 reduced 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)
- Key surface and underground portions of the PCZM mine dewatering mechanical and electrical infrastructure installed
- Completed installation of key infrastructure to the water storage dam

EARLY MINING AND CASH FLOWS

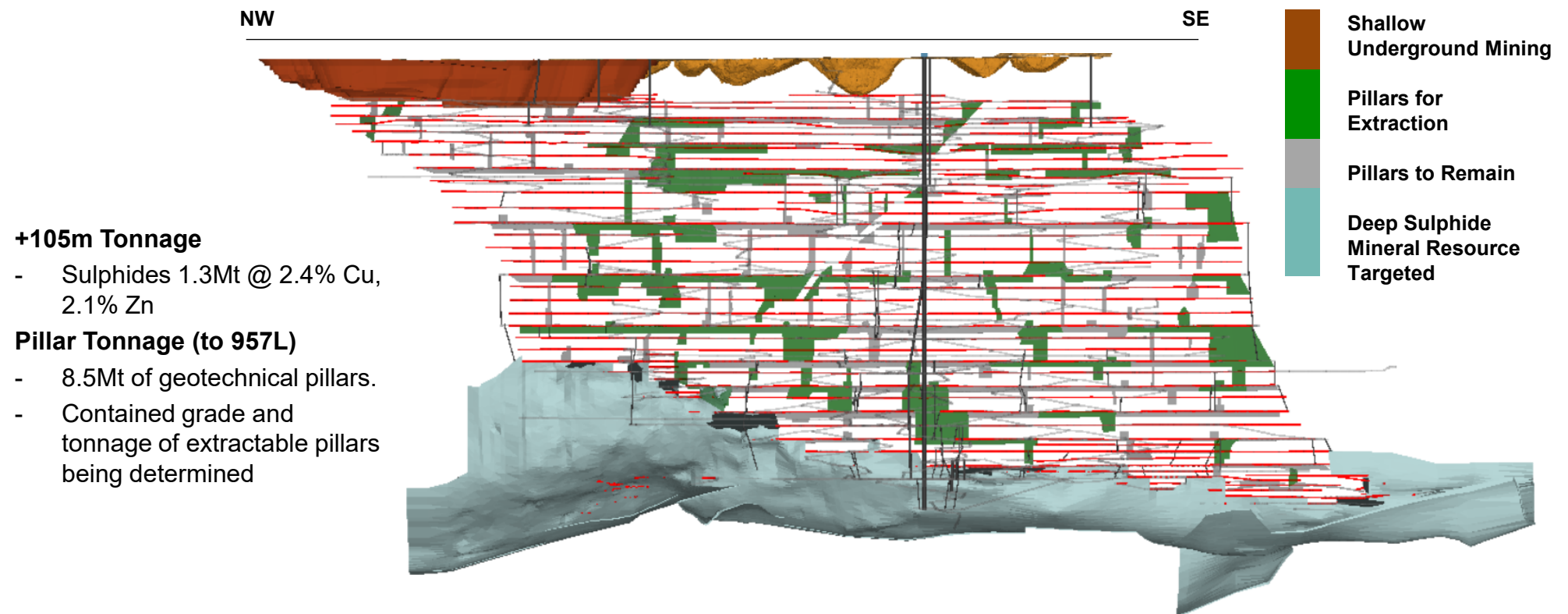
- Trial mining of the Supergene orebody at PCZM successfully completed with efficient development rates demonstrated
- Target ore sources above water level to provide early concentrate production
- Include historical pillars in mining plans
- Harvest the Deep Sulphide deposit (BFS-20 Plan) as an expansion phase



DEVELOPMENT STRATEGY

EARLY MINING TARGETS

- Shallow Mining Plan aims to target mining from shallow underground and remnant pillars, while dewatering underway
- Stream Finance and early funding progressively drawn down, providing funding for trial mining and Early Production Strategy



TOTAL FUNDING


SECURED TO ADVANCE PCZM

<i>IDC Convertible Loan</i> Drawn and applied for site establishment and Trial Mining	AUD20 million (ZAR250m)
<i>Triple Flag – Gross Revenue Return</i> Drawn and used to execute Trial Mining	AUD10 million
Subtotal drawn PCZM Project Finance Facility*	AUD30 million
<i>Triple Flag Au-Ag Stream agreement</i> Undrawn facility	AUD117 million (USD80m)
Total PCZM Ringfenced Finance	AUD147 million

AUD30m site establishment and Trial Mining completed

* Value drawn from Project Finance Facility as at 26 Aug'24
Refer to Company Snapshot slide for further detail on PCZM's Project Financing Facility
Refer ASX/JSE release 13 Dec'22 for detail on the Triple Flag Stream Agreement





29 Cu Copper	30 Zn Zinc	28 Ni Nickel	27 Co Cobalt	PGE PGE	79 Au Gold	47 Ag Silver
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OKIEP COPPER PROJECT (OCP)

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Orion Minerals

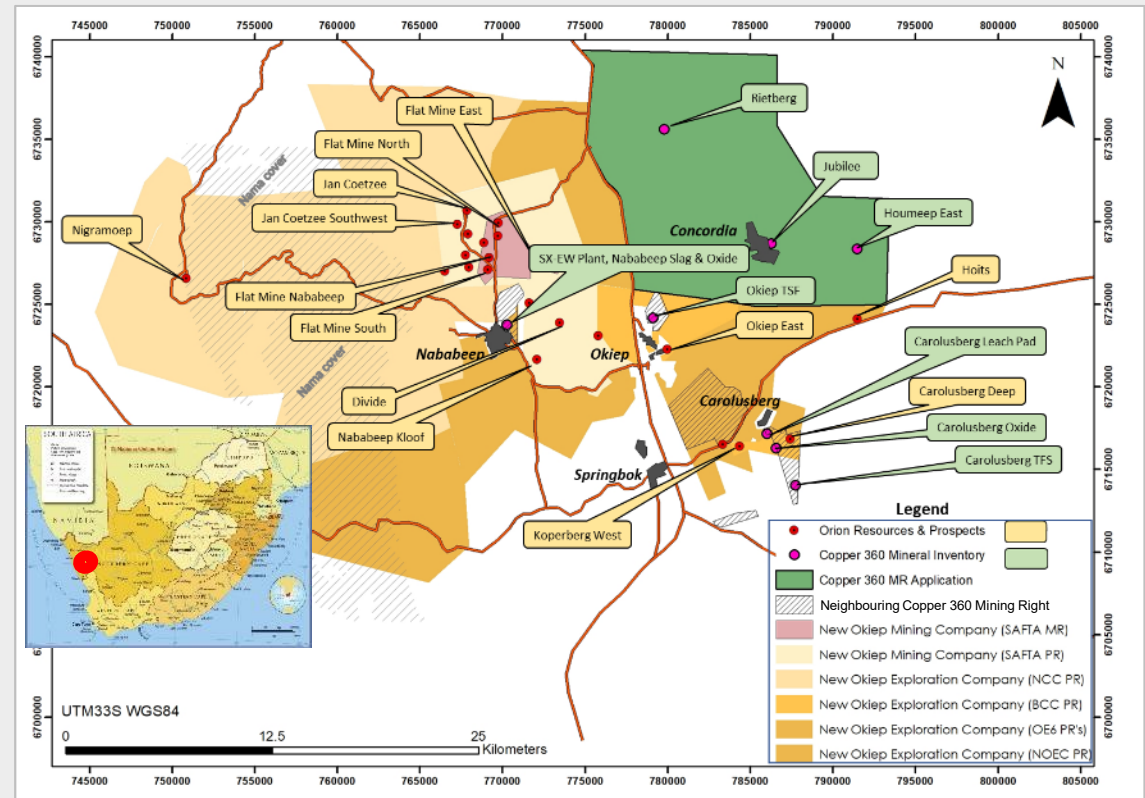
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OKIEP COPPER PROJECT (OCP)

A STANDOUT GROWTH OPPORTUNITY



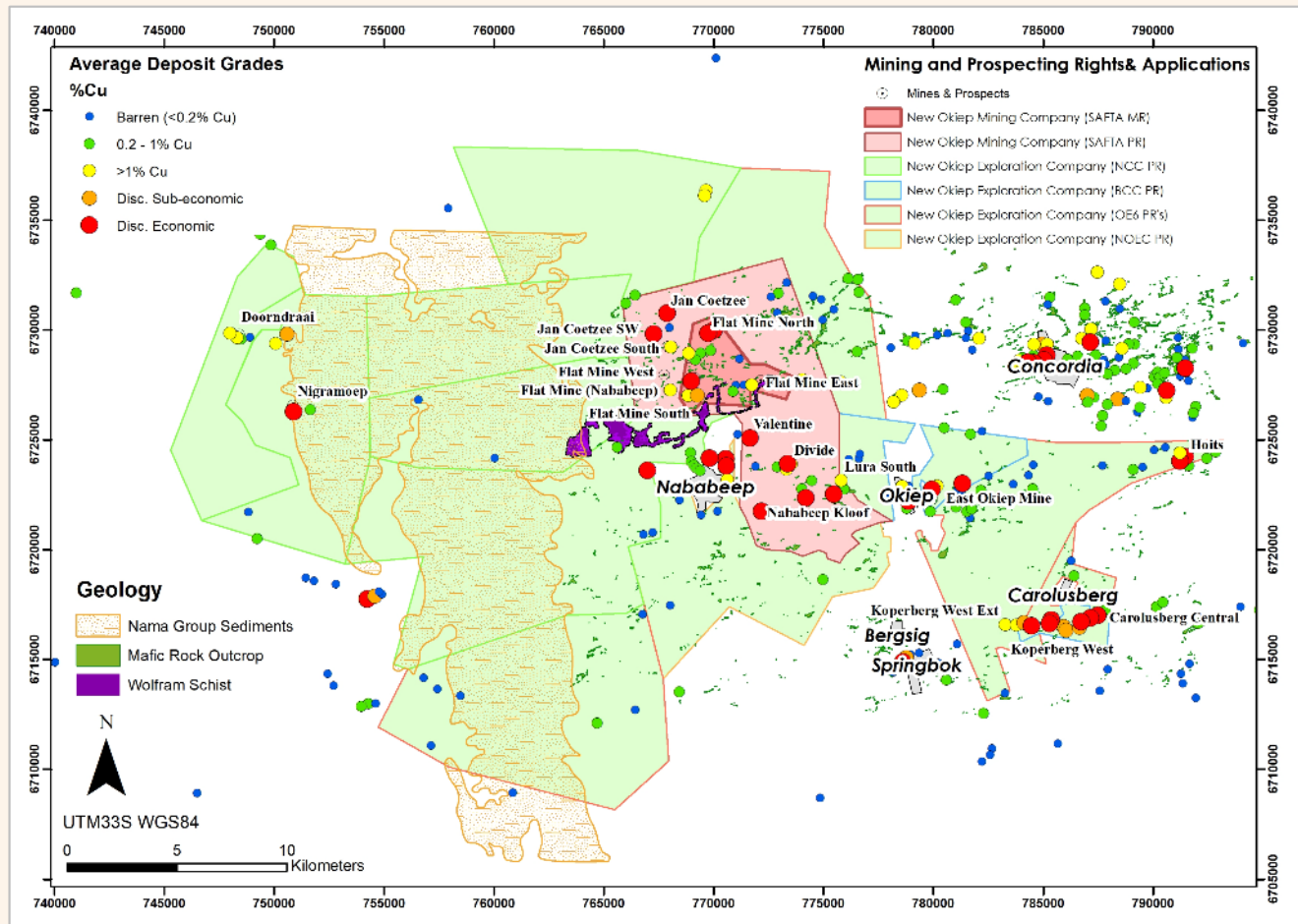
- **Progressing Orion's Okiep Copper Project** to acquire and apply for additional prospecting rights in the historic Okiep Copper Complex:
 - Historical production of +2Mt of copper
 - **JORC Mineral Resource of 11.5Mt at 1.4% Cu, containing 160,000 tonnes Cu in terms of JORC 2012**
 - Tremendous exploration 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

OCP

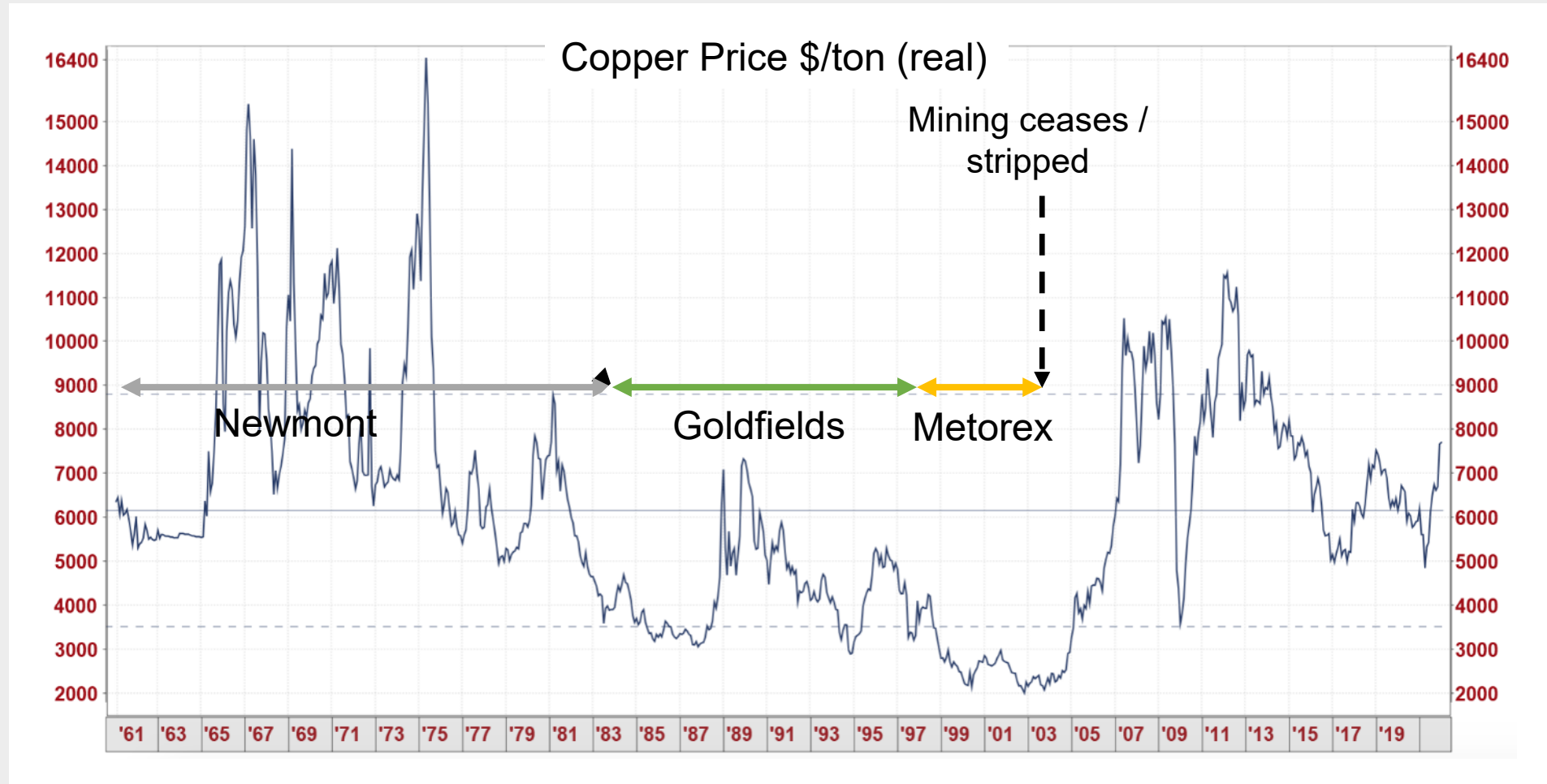
HISTORICAL DISCOVERIES AND MINES



- 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

OWNERSHIP CHANGES

COINCIDED WITH CU PRICE LOWS



NOM – FLAT MINES 2021 SCOPING STUDY

INDICATED ROBUST ECONOMICS FOR INITIAL “PILOT” MINING



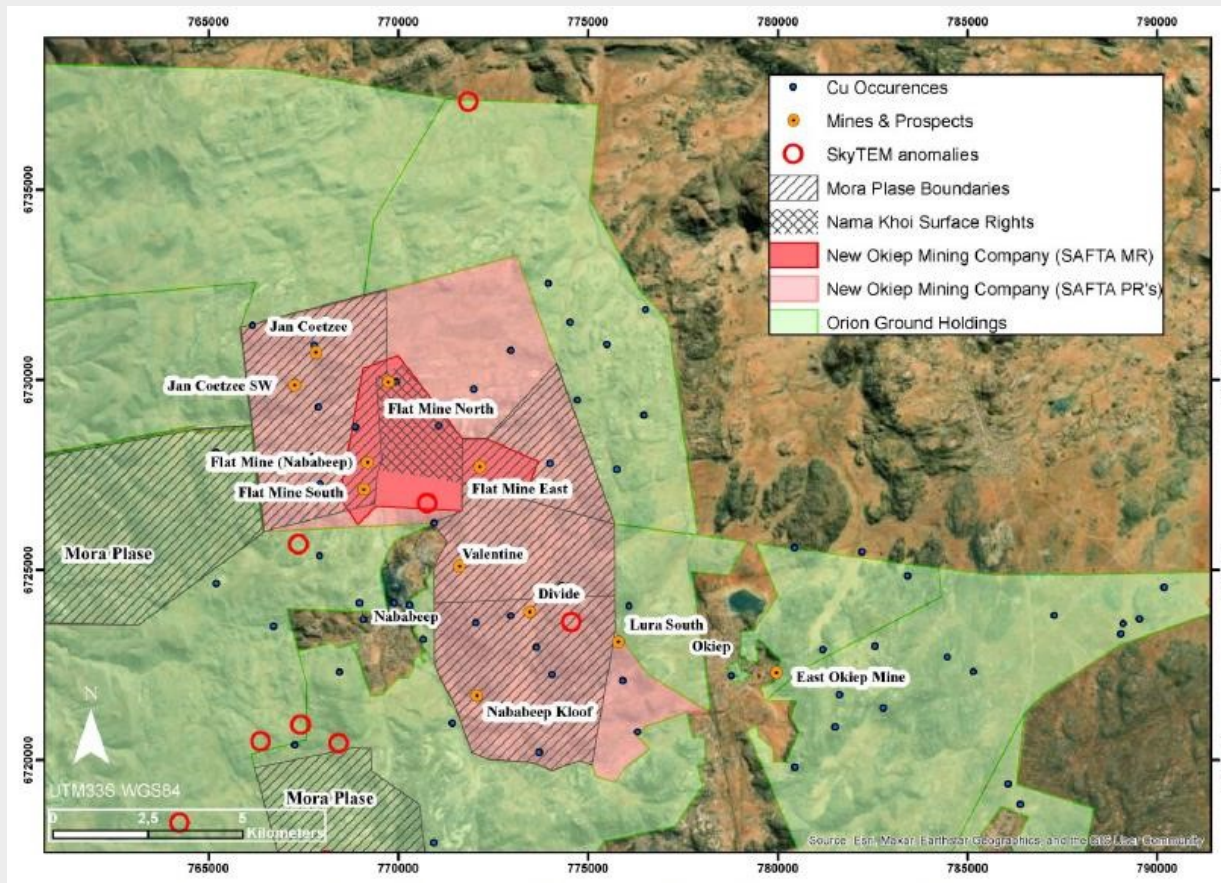
- **BFS24 nearing completion**
- Industrial Development Corporation (IDC) project partners
- Foundation phase is modelled for 12 years
 - Concurrent exploration targeting mine expansion
- Scoping Study indicates potential for robust pilot-phase mine:
 - Production for the pilot phase of 9Mt at **1.29% 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 operation



Refer ASX/JSE release 3 May 2021

Information is extracted from the release titled 'Okiep Copper Project Scoping Study Confirms Potential' dated 3 May 2021 and available to view at www.orionminerals.com.au/investors/asx-jse-announcements. Orion confirms it is not aware of any new information or data that materially affects the information included in this presentation and that all material assumptions and parameters underpinning the estimate in the release continues to apply and has not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented here have not materially changed.

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

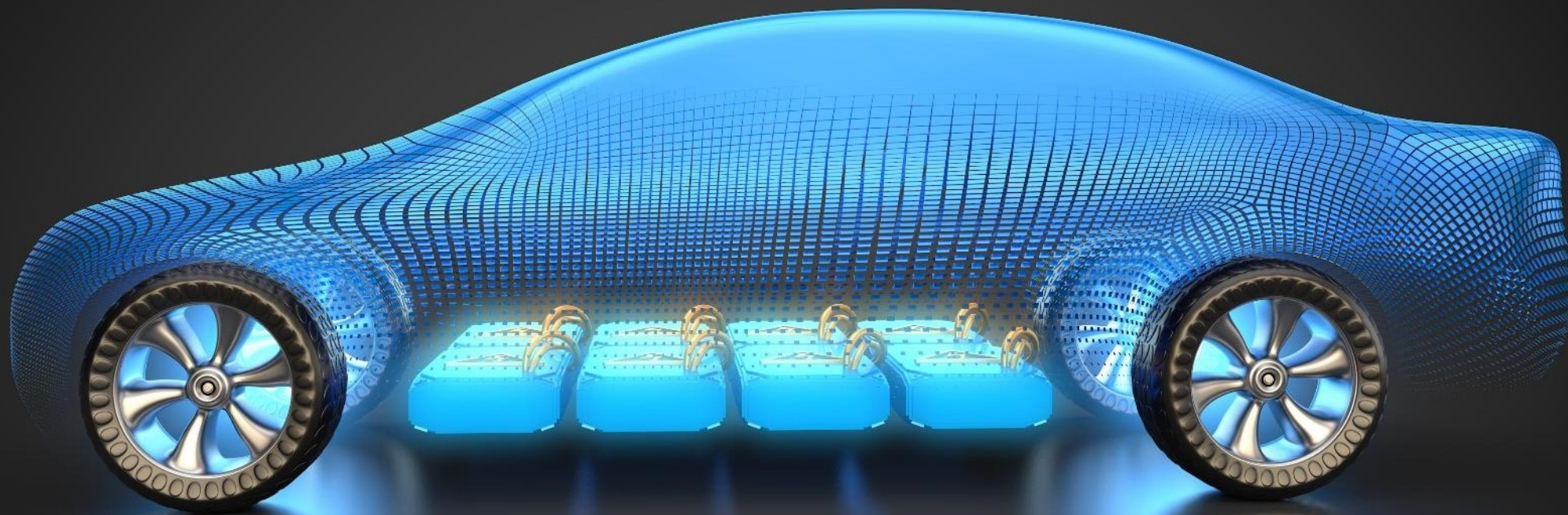


- Acquired 12,156 hectares of surface rights at OCP in January 2024
- Includes 5,687 hectares in the New Okiep Mining Project area and 5,539 hectares in the surrounding Prospecting Rights area in the Northern Cape
- Acquisition clears the way for drilling to provide additional mineral resource classification, geotechnical and metallurgical zonation information for the New Okiep Mining Project
- Granted two prospecting rights over the greater Flat Mines Area surrounding the Flat Mines Mining Right
- Outstanding initial results received from confirmatory diamond drilling, currently underway at the OCP
- 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 programme into the Flat Mines East and South deposits
- Drill core from this programme 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
- Drilling highlights include:
 - Flat Mines East: 49.35m at 5.05% Cu including 21.66m at 9.41% Cu in OFMED153
 - Flat Mines East: 15.00m at 4.80% Cu within 78.00m at 1.57% Cu in OFMED154 and 9.27m at 3.01% Cu
 - Flat Mine South: OFMSD077, intersected 20.50m at 4.99% Cu within 43.00m at 3.41% Cu



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JACOMYNSPAN

NICKEL-COPPER-PGE PROJECT (JMP)

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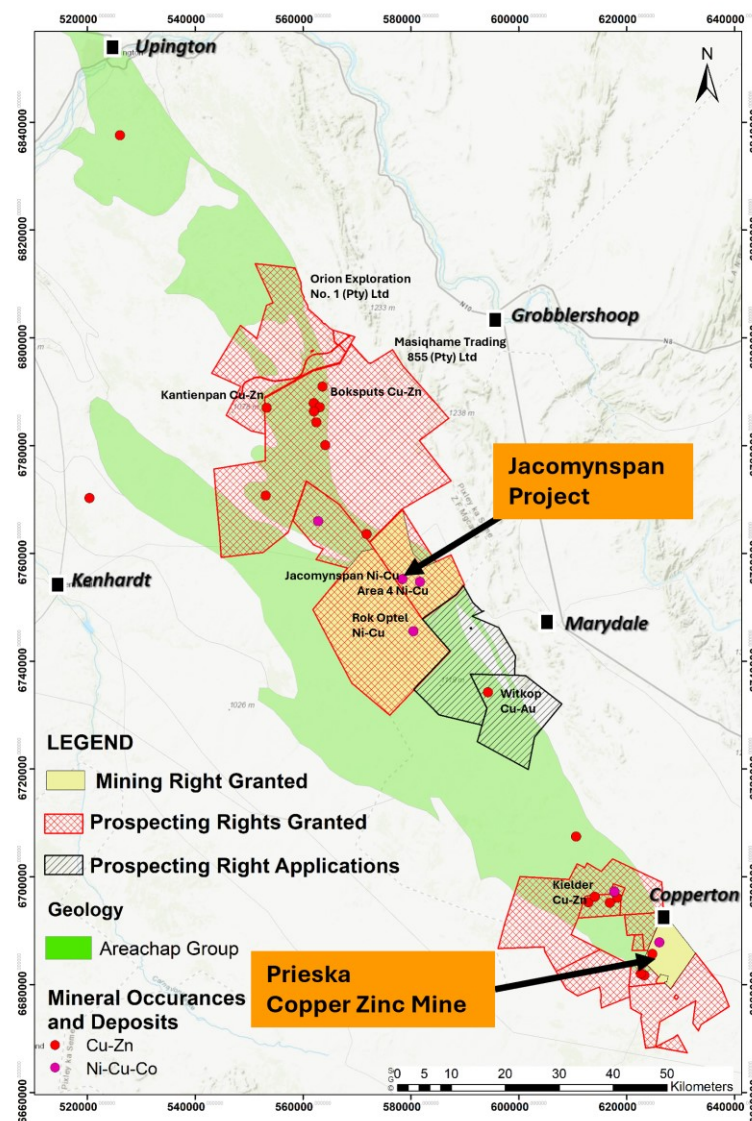
JACOMYNSPAN PROJECT (JMP)

NICKEL-COPPER-COBALT-PGE MINING RIGHT



Potential significant future metals producer

- Only 10% of the outcropping/shallow sub cropping mineralised intrusive has been drilled
- 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 sulphide metals concentrate
- JMP partnering with BBE group to explore and develop Li & REE mining on outcropping pegmatite
- JMP has exclusive rights to provide third party investment funding for Li-REE project and to market the Li & REE

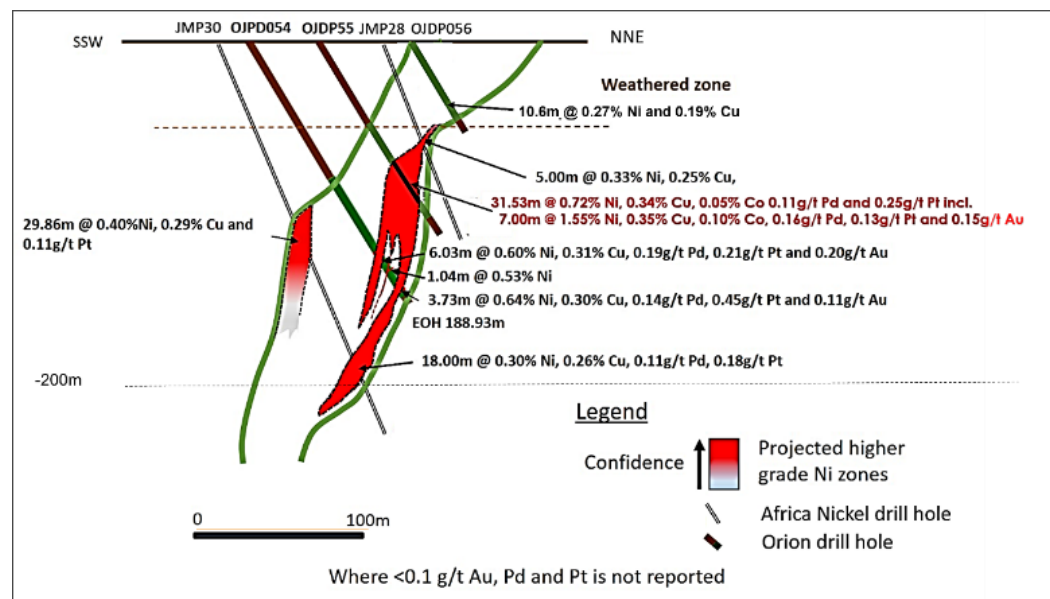
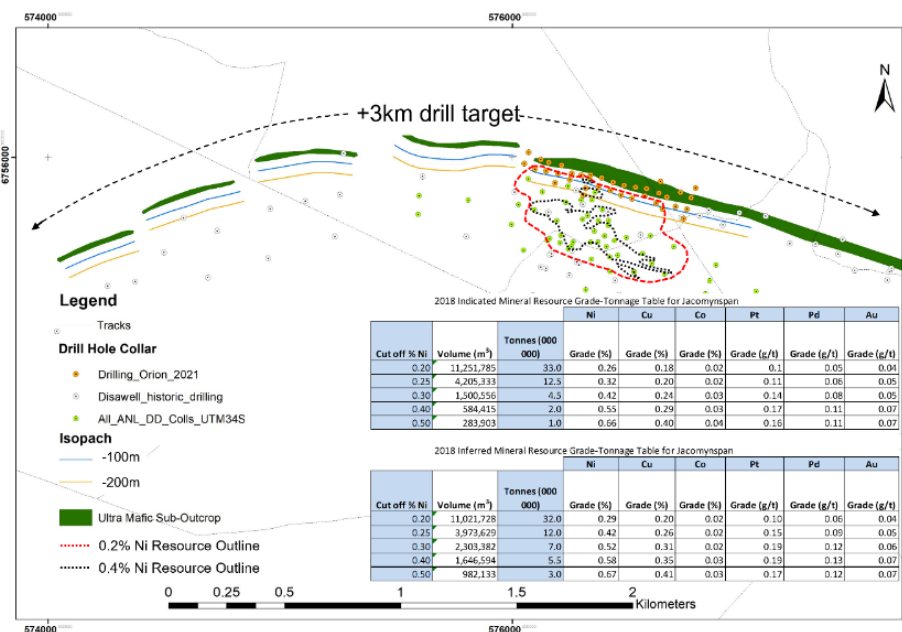


JMP

OWNERSHIP - 50% ORION AND 37%, AFRICAN NICKEL,
13% FOUNDING MINORITIES



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



INVESTIGATING INNOVATIVE COMBINATION OF METAL VAPOUR REFINING TECHNOLOGIES (MVT)

- 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



**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 HIGH PURITY CRITICAL METAL POWDER PRODUCTS

Tronox – A super scale user of Chloro – MVT



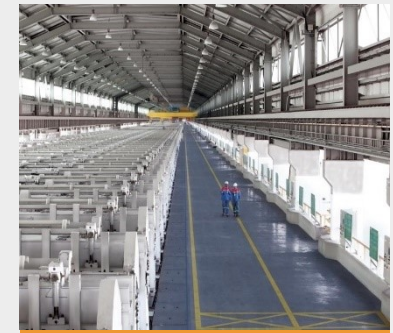
United Kingdom



Netherlands



Australia



Saudi Arabia



Copper Cliff, Canada



Clydach, Wales



Germany

Vale is the worldwide leader in Carbonyl MVT

AREACHAP BELT-ENORMOUS EXPLORATION UPSIDE

AREACHAP – AN UNDER-EXPLORED BELT WITH HIGH METAL ENDOWMENT



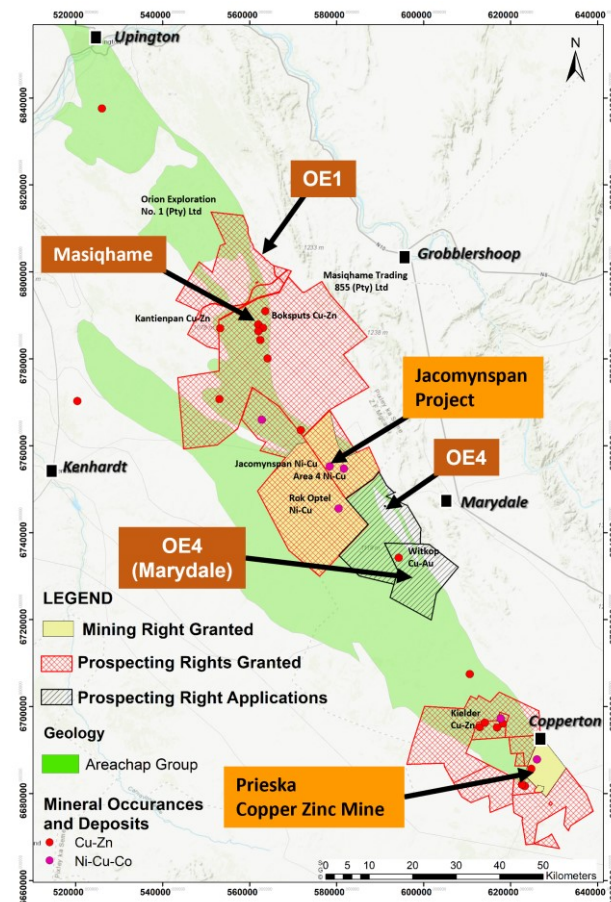
Multiple Cu-Zn, Cu-Au VMS, Ni-Cu-Co-PGE-Au intrusive targets and Li, REE pegmatite within Orion's mineral rights

- 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

Targeting high-quality deposits in an under-explored district



Okiep Copper Project



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

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
- Successfully empowered local supplier **Quebar Electrical and Civil Construction**
- Offered community and extended training opportunities
- Facilitated on-the-job training through drilling and trial mining contracts



Mineral Resource & Reserve



Prieska Copper Zinc Mine – Mineral Resource (Effective Date 25 July 2023)

Resource	Classification	Tonnes	Cu (tonnes)	Cu (%)	Zn (tonnes)	Zn (%)
Deep Sulphide Resource	Indicated	19,000,000	220,000	1.17	670,000	3.60
	Inferred	10,000,000	120,000	1.1	420,000	4.1
+ 105m Level Resource	Indicated	1,900,000	34,000	1.82	32,000	1.70
	Inferred	400,000	4,000	1.0	3,000	0.8
Total	Indicated	20,000,000	250,000	1.23	700,000	3.43
Total	Inferred	11,000,000	120,000	1.1	420,000	4.0
Grand Total		31,000,000	370,000	1.2	1,100,000	3.6

Notes: Deep Sulphide Resource bottom cut-off = 4% Equivalent Zn; +105m Level Mineral Resource bottom cut-off = 0.3% Cu.
Tonnes are rounded to second significant figure, which may result in rounding errors.

Flat Mines Area of the Okiep Copper Project – Mineral Resource (Effective Date 28 August 2023)

Mine / Prospect	Measured			Indicated			Inferred		
	Tonnes	% Cu	† Cu	Tonnes	% Cu	† Cu	Tonnes	% Cu	† Cu
Flat Mine North	440,000	1.13	5,000	940,000	1.42	13,000	200,000	1.5	4,000
Flat Mine East	-	-	-	3,400,000	1.37	47,000	1,000,000	1.0	9,000
Flat Mine South	-	-	-	2,600,000	1.35	35,000	800,000	1.6	13,000
Total*	440,000	1.13	5,000	6,900,000	1.37	95,000	2,000,000	1.3	26,000

Notes: Numbers may not add up due to rounding in accordance with the JORC Code guidance.
Resources are reported at a 0.7% Cu cut-off grade.

Jacomynspan Project - Mineral Resource (ASX Release 8 March 2018)

Classification	Cut off % Ni	Volume (m³)	Tonnes	Ni		Cu		Co		Pt		Pd		Au	
				Grade (%)	Metal Tonnes	Grade (%)	Metal Tonnes	Grade (%)	Metal Tonnes	Grade (g/t)	Metal Ounces	Grade (g/t)	Metal Ounces	Grade (g/t)	Metal Ounces
Indicated	0.40	584 000	1 780 000	0.55	10 000	0.29	5 000	0.03	1 000	0.17	10 000	0.11	6 000	0.07	4 000
Inferred	0.40	1 647 000	5 056 000	0.58	29 000	0.35	18 000	0.03	1 000	0.19	31 000	0.13	21 000	0.07	11 000

Notes: Numbers may not add up due to rounding in accordance with the JORC Code guidance.
Resources are reported at a 0.40% Ni cut-off grade.

For further information, contact:

Orion Minerals Limited

Level 27, 120 Collins Street

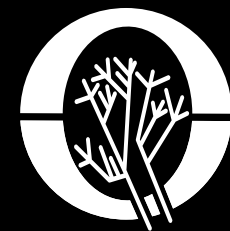
Melbourne, Vic, 3000

Australia

Phone: +61 (0)3 8080 7170

Email: info@orionminerals.com.au

Website: www.orionminerals.com.au



Orion Minerals

ASX: ORN | JSE: ORN