

Prieska & beyond: unlocking a world-class base metals province

ASX/JSE: ORN

Orion Minerals

## DISCLAIMER



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.

Statements in this presentation are made only as of the date of the Company's other periodic and continuous disclosure

- are necessarily based upon a number of estimates and
- from estimated or anticipated events or results reflected

 may include, among other things, statements regarding and are or may be based on assumptions and

The words 'believe', 'expect', 'anticipate', 'indicate', 'estimate', 'may', 'will', 'schedule' and similar expressions

of future performance and accordingly investors are cautioned

materially affects the information for the Mineral Resource and (as referenced in the presentation) continue to apply and have context in which the Competent Person's findings are presented

# ORION MINERALS CORPORATE SUMMARY



Capital structure summary	Current	Post Share Issue
Shares on issue <sup>1</sup>	3,414M	3,414M
Options on issue	234M	234M
Cash on hand <sup>2</sup>	\$3.7M	
Acquisition of Jacomynspan Ni-Cu-PGE Project minority interests <sup>3</sup> - (\$0.75M)		23M
Convertible Loan (2.6cps convert, 12% interest, Jun'21 term) <sup>4</sup>	\$4.8M	
AASMF Loan (Apr'21 term) <sup>5</sup>	\$1.7M	
Total Shares (post Share issue)		3,437M
Market capitalisation (2.8cps (ASX)) <sup>6</sup>	\$96M	\$96M
		-

- Primary listing on the ASX
- Secondary listing on Main Board of the Johannesburg Stock Exchange

Significant shareholders	Current %	Post Share Issue %
Tembo Capital	24.5	24.4
Delphi Group	11.0	10.9
Wyllie Group	6.4	6.4
IGO Limited	4.5	4.5
Tarney Holdings (Denis Waddell)	3.4	3.4
Total	49.8	49.5

- 1. Fully paid ordinary Orion shares (**Shares**) on issue as at 26 Jan'21.
- 2. Cash on hand at 31 Dec'20.
- 3. Orion announced on 13 Jul'20 that it had entered into an agreement whereby Orion will acquire the remaining minority interests in the Jacomynspan Nickel-Copper-PGE Project (South Africa) held by two companies, Namaqua and Disawell. The purchase price payable by Orion to the Namaqua and Disawell minority shareholders will be \$0.75M, to be settled by way of Orion issuing Shares (shareholder approval for the issue of Shares obtained at the Company's AGM held on 20 Nov'20). Refer to ASX release 13 Jul'20.
- 4. Orion announced on 25 Jan'19 that it had entered into an unsecured \$3.6M loan facility with Tembo Capital (excluding capitalised interest and fees) (Convertible Loan). Under the terms of the Convertible Loan, Tembo Capital may at its election, have the balance of the Convertible Loan settled by the issue of Shares at a deemed issue price of 2.6cps (subject to shareholder and FIRB approvals). Refer to ASX releases 25 Jan'19 and 29 Oct'20 and the Company's Annual Report for the period ended 30 Jun'20 for additional information. Balance shown as at 31 Dec'20.
- 5. Refer to the Company's Annual Report for the period ended 30 Jun'20 for information related to the loan agreement (ZAR14.25M) that Prieska Copper Zinc Mine (Pty) Ltd has entered into with Anglo American sefa Mining Fund (AASMF). Balance shown as at 31 Dec'20.
- 6. Closing price of ORN Shares on the ASX on 26 Jan'21. Closing price of ORN Shares on the JSE on 26 Jan'21 was ZAR0.40.

## BASE METALS THE NEW GOLD



Zinc mining – giving back to people and planet

# Anglo American wants to explore base metals in SA

Its interest in base metals, which include copper, nickel, lead, and zinc, was part of its global discovery strategy in greenfield and brownfield projects.

By Tanisha Heiberg and Helen Reid, Reuters 7 Oct 2020 2 17:13

# Fitch revises upwards its zinc price forecast

The research agency Fitch Solutions Macro Research has increased its prognosis for zinc, due to the stronger than expected recovery of the Chinese economy

# Copper price surges to 28-month high

Frik Els | October 20, 2020 | 10:18 am Markets Latin America USA Copper

MINING DOT COM

EMR Capital seeks concessions to develop \$1 bln Zambia copper mine

By Reuters Staff

2 MIN READ

Anglo to explore for base metals in SA but wants Govt to consider

"legislative adjustments"

By David McKay - October 7, 202

INVESTING NEWS OCTOBER 9, 2020 / 9:22 AM / UPDATED 20 DAYS AGO

Trafigura plans to restart Congo copper mine, prime minister says

By Reuters Staff

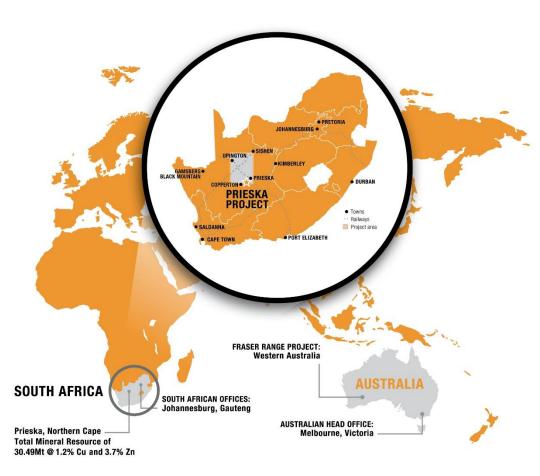
1 MIN READ

Base metals tipped to be next fertile field for investors as consumer demand kicks in Resources

# ORION MINERALS INVESTMENT SNAPSHOT



- Flagship Prieska Copper-Zinc Project accessing a globally significant VMS deposit in the Northern Cape Province, South Africa
- Bankable updated BFS following successful optimisation & value engineering
  - Foundation Phase Mineral Resource 30.49Mt at 1.2% Cu and 3.7% In
  - Development of an initial 12-year, 2.4Mtpa operation targeting production of 22ktpa copper and 70ktpa zinc at globally competitive costs, strong margins and financials
- Fully permitted as of August 2020
- Ready to build project financing and strategic partner discussions well advanced
- Sustainable development planned from the outset
  - Increase use of renewable energy and reduce the carbon footprint
  - Water conservation and recycling in the dry and arid conditions at the project maximised
- **Progressive 4IR adoption** clear roadmap, should deliver high productivity and personnel well-being gains for workforce
- Economic upliftment well placed to play a key role in local economic recovery and post host community development
- Significant pipeline exposure to high-impact exploration in Fraser Range, WA (IGO-JV)
  - Areachap Belt and Underexplored world class base metal opportunity
  - Key Ni-Cu targets directly along trend from recent Legend Mining discovery



# **NEAR-TERM, LOW-COST BASE METALS MINE**



#### THE OREBODY

- Globally significant VMS Resource: 30.49Mt @ 1.2% Cu, 3.7% Zn
- Increased Mineral Reserve: 14.5Mt@ 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
  - o Pre-tax free cash flow to **AUD1.6bn** (post-tax AUD1.2bn)
  - $\circ$  Pre-tax NPV<sub>8%</sub> to **AUD779m** (post-tax AUD552m)
  - o Payback period of **2.4 years** from first production
  - o All-in sustaining margin of 47%
  - Peak Funding requirement AUD413m

#### **FULLY PERMITTED**

- Mining Right granted to PCZM (formerly Repli) in September 2019
- Mining Right granted to Vardocube in August 2020
- Environmental Financial Provision in place fully capitalised
- Environmental approval notices received for both PCZM and Vardocube
- Water Use Licence granted in August 2020



"The completion of the updated BFS marks another huge step towards the development of a modern, state-of-the-art base metals mine at Prieska, which is ideally placed to become the standard bearer for a new generation of world-class mines n South Africa." – Orion Minerals MD Errol Smart

# LOW-COST HIGH-MARGIN OPERATION



### **Contributors to Low OPEX:**

- Brownfields, infrastructure-rich site
- Favourable rock & environmental conditions
- Large scale, simple continuous orebody
- Modern, efficient, mechanised bulk mining
- Simple metallurgy



Project Cost Metrics	Unit	Value	Unit	Value
Average cash operating unit cost (C1)	ZAR/t	807	AUD/t	73
All-in-sustaining cost per unit ROM t	ZAR/t	972	AUD/t	88
All-in-sustaining cost per unit Cu eq t sold	USD/† Cu	3,531	AUD/† Cu	5,779
All-in-sustaining cost per unit Zn eq t sold	USD/t Zn	828	AUD/t Zn	1,355
Price received (net of NSR) - Cu	USD/† Cu	6,604	AUD/† Cu	10,807
Price received (net of NSR) - Zn	USD/t Zn	1,588	AUD/t Zn	2,599
All-in-sustaining margin	%	47%	%	47%
Operating breakeven grade (Cu eq)	%	1.0%	%	1.0%

Method used to determine Cu Equivalent In grades:

1%  $Zn = (Zn \ price \ x \ Zn \ NSR) \ x \ (Zn \ plant \ recovery) = (2.337 \ x \ 67.8\%) \ x \ (81.9\%) = 0.233\% \ Cu$ 

(Cu price x Cu NSR) x (Cu plant recovery) (6,680 x 99.4%) (83.9%)

Cu Equivalent grade = Cu grade + 0.23 x Zn grade.

Recovery assumptions are based on metallurgical test-work completed to date at Mintek (South Africa) under the supervision of DRA.

# COST PROFILE: COPPER PRODUCERS' COST CURVE

# Orion Minerals

## ALL-IN-SUSTAINING COST (AISC) PER POUND OF COPPER



- Lowest quartile copper producer with an AiSC of US¢ 45 per pound of copper (net of zinc credits) or
- Low cost producer with an AiSC of US¢ 160 per pound of copper (accounting for zinc produced on a copper equivalent basis)

Recovery assumptions are based on metallurgical test-work completed to date at Mintek (South Africa) under the supervision of DRA, June 2019.

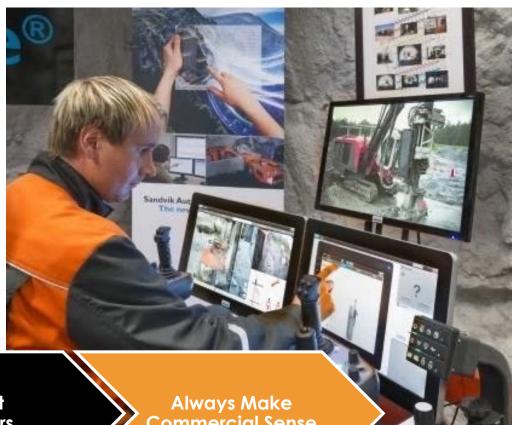
S&P Global Market Intelligence, April 2020 for metal price and cost curve data Method used to determine Cu\_Equivalent In grades: 1% Zn = (Zn price x Zn NSR) x (Zn plant recovery) = (2,337 x 68.4%) x (81.9%) = 0.23% Cu (Cu price x Cu NSR) x (Cu plant recovery) (6,680 x 99.3%) (83.9%) Cu\_Equivalent grade = Cu grade + 0.23 x Zn grade.

# MINE OF THE FUTURE



Implementing a modern operating philosophy (4IR enabled) can contribute to achieving quantum changes in key output parameters that are traditionally slow to improve or have regressed in the local mining industry, including:

- Safety and health improvements
- Improved environmental conditions, reduced pollution and contamination
- Improved energy efficiency and lower energy costs
- Productivity improvements
- Operating cost reductions



**Benchmark Globally** 

**Implement Enablers** 

Be Fast **Followers** 

Commercial Sense

# STRONG PROJECT ECONOMICS + STRONG ESG



# Environmental, Social and Governance (ESG) responsibility embedded in our growth plans

- Investing in district water and infrastructure development
  - Benefiting the communities
  - Focus on low carbon footprint business
  - Solar + Wind (plus hydrogen energy storage or Li or V batteries)
  - Future integration of battery/hydrogen powered machines
- Ongoing community involvement and upliftment
  - Building on a strong foundation already in place
- Plan to operate in compliance with Equator Principles





# A PROJECT SIGNIFICANT TO SOUTH AFRICA STRONG GOVERNMENT SUPPORT AND RECOGNIZED BY OUR PEERS





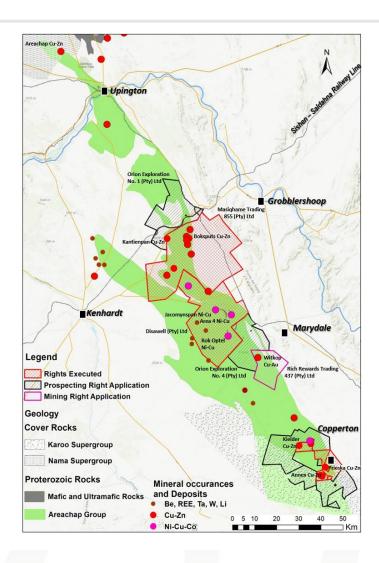
South African State President Cyril Ramaphosa congratulates Orion Minerals' CEO Errol Smart on progress at the Prieska Copper-Zinc Project State President's Investment Conference – 6
November 2019

Orion Chairman **Denis Waddell** accepting the inaugural **ESG Emerging Leader Award** at the annual **AAMEG Awards** from Dr Muza Gondwe, AAMEG Judge – **5 November 2020**. The award recognised Orion's innovative and pioneering ESG work at the Prieska Project.

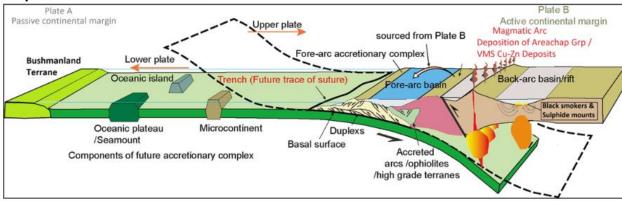


# **EXPLORATION UPSIDE UNDER-EXPLORED BELT**

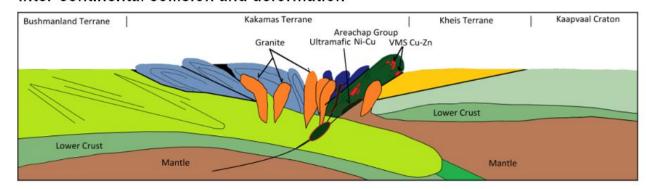




#### **Depositional Environment**



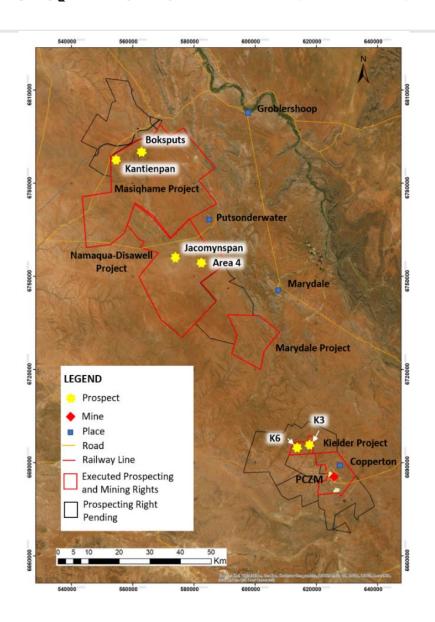
#### Inter-continental collision and deformation



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

# **CQ4 2020 EXPLORATION SUCCESS**





### Near Mine

\* K6 high grade Zn-Cu VMS intersection

### Regional VMS

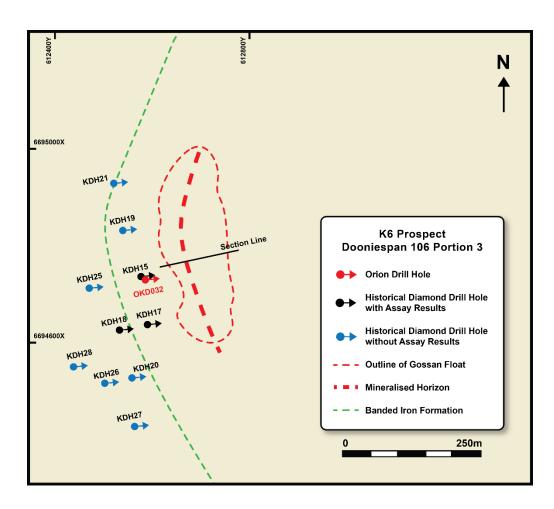
\* Boksputs Syncline confirmed as major Cu Target

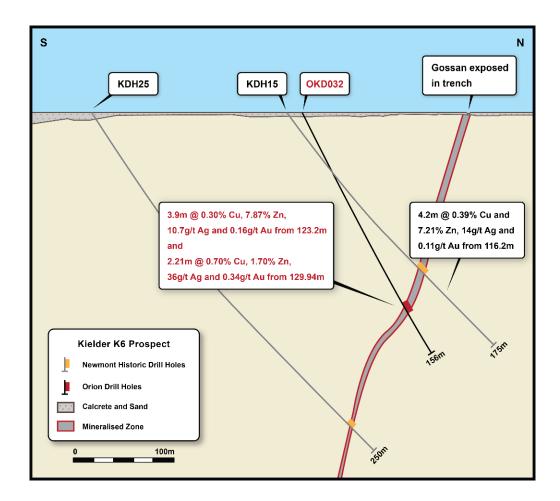
### Ni-Cu-PGE

\* wide, potentially open pittable sulphides confirmed at Jacomynspan

# K6 – NEAR MINE, SHALLOW, HIGH GRADE ZINC-COPPER





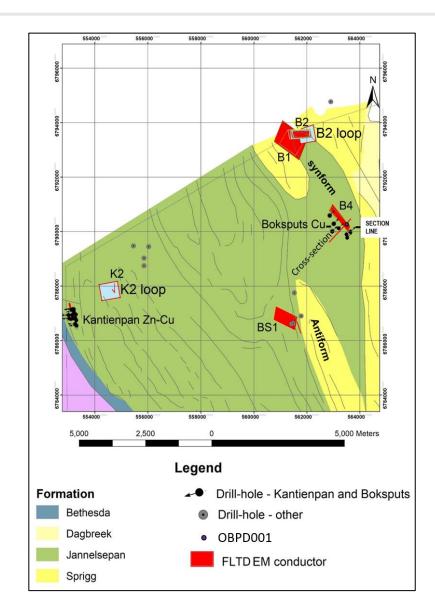


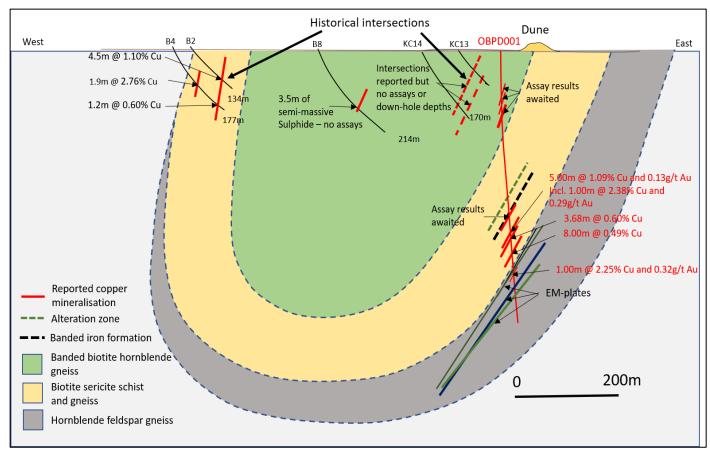
Plan View K6

Section through K6

# **BOKSPUTS VMS COPPER-GOLD**



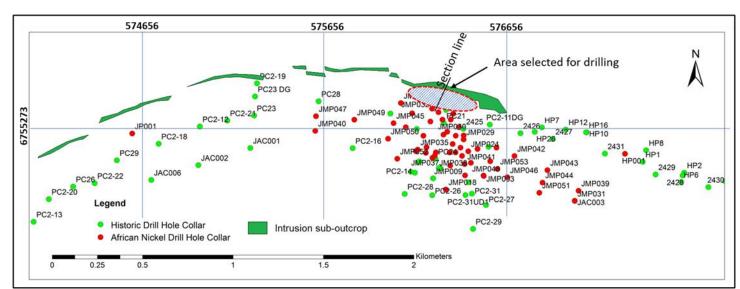


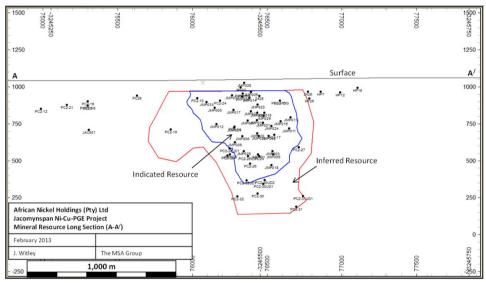


Boksputs VMS Syncline confirmed as major Cu-Au target with multiple targets from surface to 600m depth

# INTRUSIVE: OUTCROPPING NICKEL-COPPER-PGE-GOLD







Plan View

Long Section

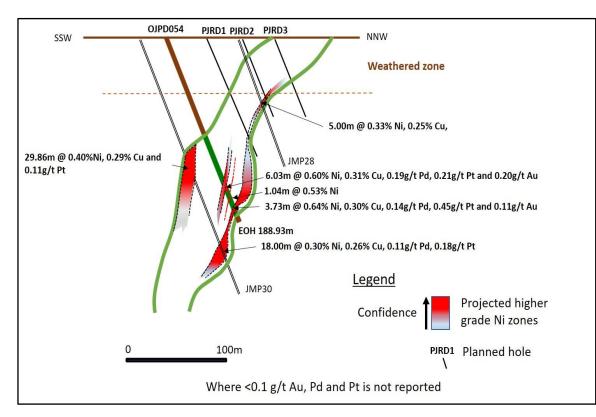
Jacomynspan hosts a Mineral Resource of 6.8Mt at 0.57% Ni, 0.33% Cu, 0.03% Co, 0.19g/t Pt, 0.12g/t Pd, 0.07g/t Au

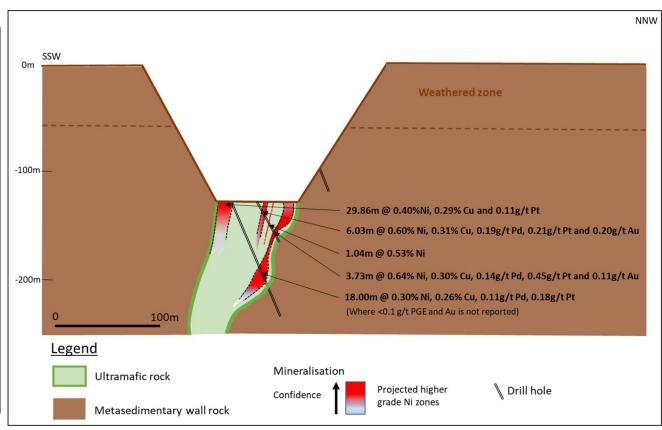
(refer ASX release 20 October 2020)

Mineral Resource reported in ASX release of 8 March 2018: "Geological Modelling Confirms Compelling Targets Surrounding the Jacomynspan Ni-Cu-Co-PGE Intrusive" available to the public on http://www.orionminerals.com.au/investors/asx-jse-announcements/. Competent Person Mineral Resource: Mr. Jeremy Witley. Orion confirms it is not aware of any new information or data that materially affects the information included in the original market announcement. Orion confirms that all material assumptions and technical parameters underpinning the mineral resource estimates 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 been materially modified from the original market announcement.

# APPARENT OPEN PIT POTENTIAL – ABOVE THE DRILLED RESOURCE



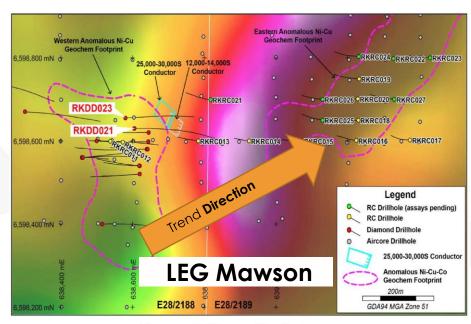


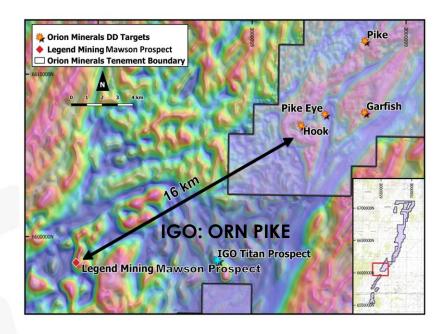


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Refer ASX release 25 January 2021

## FRASER RANGE AUSTRALIA IGO:ORN JV







Mawson Drilling on Gravity Image

Location of Pike Project (IGO: ORN JV) relative to Legend Mining's recent Mawson Ni-Cu discovery.

### Pike Project

- ORN 30% free-carried by IGO through to first Pre-Feasibility study
- 2019 diamond drilling intersected Ni-Cu sulphides in ultramafic intrusive and same geological features as Mawson
- Significant off-hole conductor to be tested
- Air-core drilling has commenced, with preparations underway for follow-up diamond drill program

# ORION'S POSITIONING - THE RIGHT ADDRESS

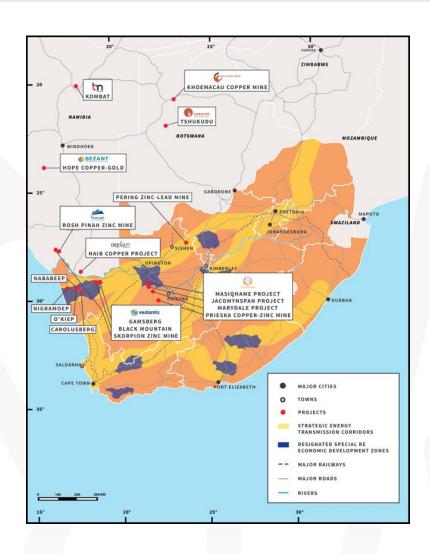


The Northern Cape – Botswana – Namibia (Southern Africa Customs Union) region provides an unprecedented global opportunity to create a green, New Era Metals / Battery Metals production district.

- Several new greenfield and brownfield copper projects are scheduled to come onstream in next 5 years
- Large advanced stage exploration/growth potential for copper, nickel and zinc
- Abundant Renewable Energy
  - Improved regulations in South Africa now allow self generation
  - Advances in technology make combination of RE + battery or hydrogen a looming reality to provide reliable and cost effective energy for mining and beneficiation

# STRATEGICALLY POSITIONED PIVOTAL LEADERSHIP ROLE



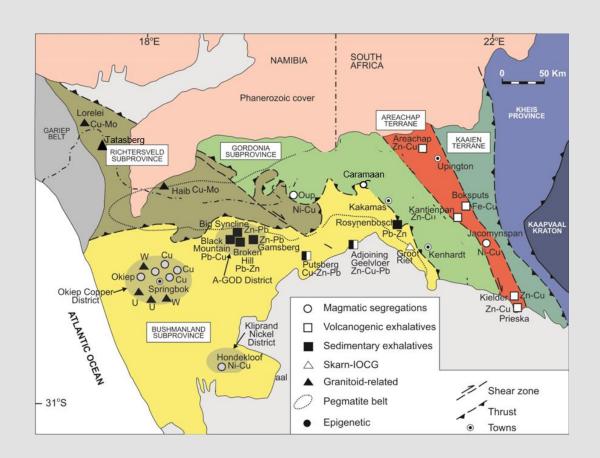


- Interest growing in the Region as a base/battery metals production hub
- RSA government and development finance agencies considering economic stimulus packages to incentivise the sector and all upstream and down-stream business linkages
- The region is:
  - Infrastructure rich
  - Well endowed with Renewable Energy, with the potential addition of "green hydrogen" providing a further opportunity for future low cost beneficiation
- Orion has an established "first-mover" advantage in the region. Our business model incorporates:
  - A strong ESG focus;
  - The ability to leverage modern technology in all aspects of the exploration / mine development cycle; and
  - A first class team, with a strong track record of delivering exceptional results and achieving key project milestones in record time
- Orion is potentially a partner of choice for investors, explorers & miners in the region

## **EXPLORATION UPSIDE - LONG TERM OPPORTUNITY**



- The Northern Cape was previously a large copper producer with >70,000tpa of copper production during 1970-1980s
- The district has produced >2.5million tonnes of copper over the past 150 years
- Despite its significant base metal endowment, there has been no meaningful exploration in the district for the past 40 years
  - No application of modern exploration methods
  - The district remains highly prospective and underexplored
- Copper mining has gradually declined and virtually ceased after 2003
- Recent resurgence of exploration activity seen in the district
- Orion sees Northern Cape potential to rapidly (5 years) grow Cu production to 1980s levels – 70ktpa
- Potential to produce a premium high value product = green metal



## **VISION FOR GROWTH**



- Orion Is uniquely positioned to harness a rapidly growing market for responsibly/sustainably produced "green metals"
- We have secured a first mover advantage and have established a strong corporate and management structure that can be rapidly scaled and expanded
- We have a world class project of suitable scale to provide "critical mass" as a growth platform
- We are uniquely positioned to deliver on RSA government macro-economic growth strategy potentially supporting future beneficiation



# PRIESKA PROJECT BFS 2020: EXECUTIVE DASHBOARD



Key assumptions and Project Performance Parameters									
Price and FX Assumptions	Unit	Value	Financial Performance	Unit	Value	Unit	Value		
Metal price - Cu	USD/t	6,680	NPV (pre-tax) @8% discount rate	ZAR (M)	8,566	AUD (M)	779		
Metal price - Zn	USD/t	2,337	NPV (post-tax) @8% discount rate	ZAR (M)	6,069	AUD (M)	552		
Exchange rate	ZAR : USD	18:1	IRR (pre-tax)	%	39%	%	39%		
Exchange rate  Exchange rate  AUD: USD  1.64:1  Payback from first production  Production metrics  Unit  Value  Undiscounted free cash flow (pre-tax)  Life of Mine (Phase 1)  Years  11.5  Peak funding  Treatment plant capacity  Mtpa  2.4  Project Cost Metrics  Phase 1 tonnage - ROM  kt  25,250  Average cash operating unit cost (C1)  ROM Plant Feed Grade - Cu - U/G (O-Pit)  ROM Plant Feed Grade - Zn - U/G (O-Pit)  ROM Plant Recovery - Cu  Sas.9%  All-in-sustaining cost per unit Zn eq t sold  Overall Plant Recovery - Zn  Richard  RICHARD  Project Cost Metrics  Average cash operating unit cost (C1)  All-in-sustaining cost per unit ROM t  ROM Plant Recovery - Cu  Row Richard  Row Price received (net of NSR) - Cu		%	33%	%	33%				
Exchange rate	AUD : USD	1.64:1	Payback from first production	years	2.4	years	2.4		
Production metrics	Unit	Value	Undiscounted free cash flow (pre-tax)	ZAR (M)	17,691	AUD (M)	1,619		
Life of Mine (Phase 1)	Years	11.5	Peak funding	ZAR (M)	4,542	AUD (M)	413		
Treatment plant capacity	Mtpa	2.4	Project Cost Metrics	Unit	Value	Unit	Value		
Phase 1 tonnage - ROM	kt	25,250	Average cash operating unit cost (C1)	ZAR/t	807	AUD/t	73		
ROM Plant Feed Grade - Cu - U/G (O-Pit)	%	1.0 (1.3)	All-in-sustaining cost per unit ROM t	ZAR/t	972	AUD/t	88		
ROM Plant Feed Grade - Zn - U/G (O-Pit)	%	3.3 (2.4)	All-in-sustaining cost per unit Cu eq t sold	USD/† Cu	3,531	AUD/† Cu	5,779		
Overall Plant Recovery - Cu	%	83.9%	All-in-sustaining cost per unit Zn eq t sold	USD/t Zn	828	AUD/t Zn	1,355		
Overall Plant Recovery - Zn	%	81.9%	Price received (net of NSR) - Cu	USD/t Cu	6,604	AUD/t Cu	10,807		
Concentrate tonnage - Cu - U/G (O-Pit)	kt	1,071 (54)	Price received (net of NSR) - Zn	USD/t Zn	1,588	AUD/t Zn	2,599		
Concentrate tonnage - Zn - U/G (O-Pit)	kt	1,256 (46)	All-in-sustaining margin	%	47%	%	47%		
Concentrate grade UG - Cu - U/G (O-Pit)	%	19.8 (25.5)	Operating breakeven grade (Cu eq)	%	1.0%	%	1.0%		
Concentrate grade UG - Zn - U/G (O-Pit)	%	52.9 (35.0)	Project Cashflows	Unit	Value	Unit	Value		
NSR as % of metal price - Cu - U/G (O-Pit)	%	99.3 (92.1)	LoM net revenue	ZAR (M)	43,404	AUD (M)	3,946		
NSR as % of metal price - Zn - U/G (O-Pit)	%	68.4 (51.3)	LoM operating costs (plus State Royalty)	ZAR (M)	20,082	AUD (M)	1,826		
Metal sold (in concentrates) - Cu	tonnes	226,000	Project Start-up Capital Expenditure	ZAR (M)	4,100	AUD (M)	372		
Metal sold (in concentrates) - Zn	tonnes	680,000	Sustaining Capital Expenditure	ZAR (M)	1,510	AUD (M)	137		
Total Sales as Cu equivalent	tonnes	386,000	Income Tax	ZAR (M)	4,865	AUD (M)	442		
Total Sales as Zn equivalent	tonnes	1,644,000	Cash Flow After Tax	ZAR (M)	12,826	AUD (M)	1,166		

NPV	% Change	-15%	-10%	-5%	0%	+5%	+10%	+15%	0%
Sensitivity	Zn Price USD/lb	0.90	0.95	1.01	1.06	1.11	1.17	1.22	1.06
(AUD (M))	Cu Price USD/lb	2.58	2.73	2.88	3.03	3.18	3.33	3.48	3.03
% Change	ZAR:USD			post-tax N	PV (at 8% dis	scount rate)			IRR
-15%	15.30	112	185	257	329	400	471	541	25%
-10%	16.20	176	252	328	403	478	553	629	28%
-5%	17.10	238	319	398	477	557	636	716	31%
0	18.00	301	385	468	552	636	719	804	33%
+5%	18.90	363	451	538	626	714	803	892	36%
+10%	19.80	425	517	609	701	793	887	981	38%
+15%	20.70	487	583	679	775	873	971	1,070	41%

PV8% (AUD (M))		Sensitivi	ty to ZAR	: USD FOR	EX Rate	Changes		IRR	(%)
1000				- i					50%
900									45%
800				<u>i</u>					40%
700					_				35%
600									30%
500									25%
400		/							20%
300	/								15%
200				<del> </del>	Rase	assumption			10%
100				<u> </u> -		assemp			5%
0				i					0%
14	15	16	17	18	19	20	21	22	
			ZAR : U	JSD Exchan	-				
					-	post-tax f	NPV —	post-tax I	RR

Refer ASX release 26 May 2020

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Level of Accordey of Fill directal Model 1 13/

LOM = Life of Mine, NSR = Net Smelter Return, NPV = Net Present Value, IRR = Internal Rate of Return

There is a low level of geological confidence associated with Inferred Mineral Resources and therefore there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources so that the Production Target or financial forecast information referred to in this Study will be realised.

# PATHWAY TARGETING 2024 PRODUCTION



