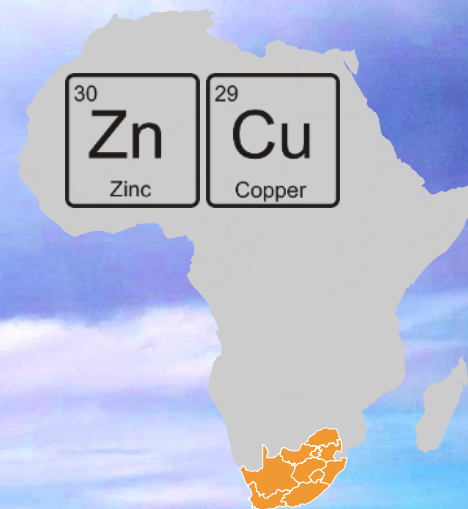




Orion Minerals

ASX/JSE: ORN



Preparing for Prieska

Developing a 21st century African zinc-copper mine

Errol Smart, Managing Director and CEO | Investor Presentations – Cape Town, February 2019

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- 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.

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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.

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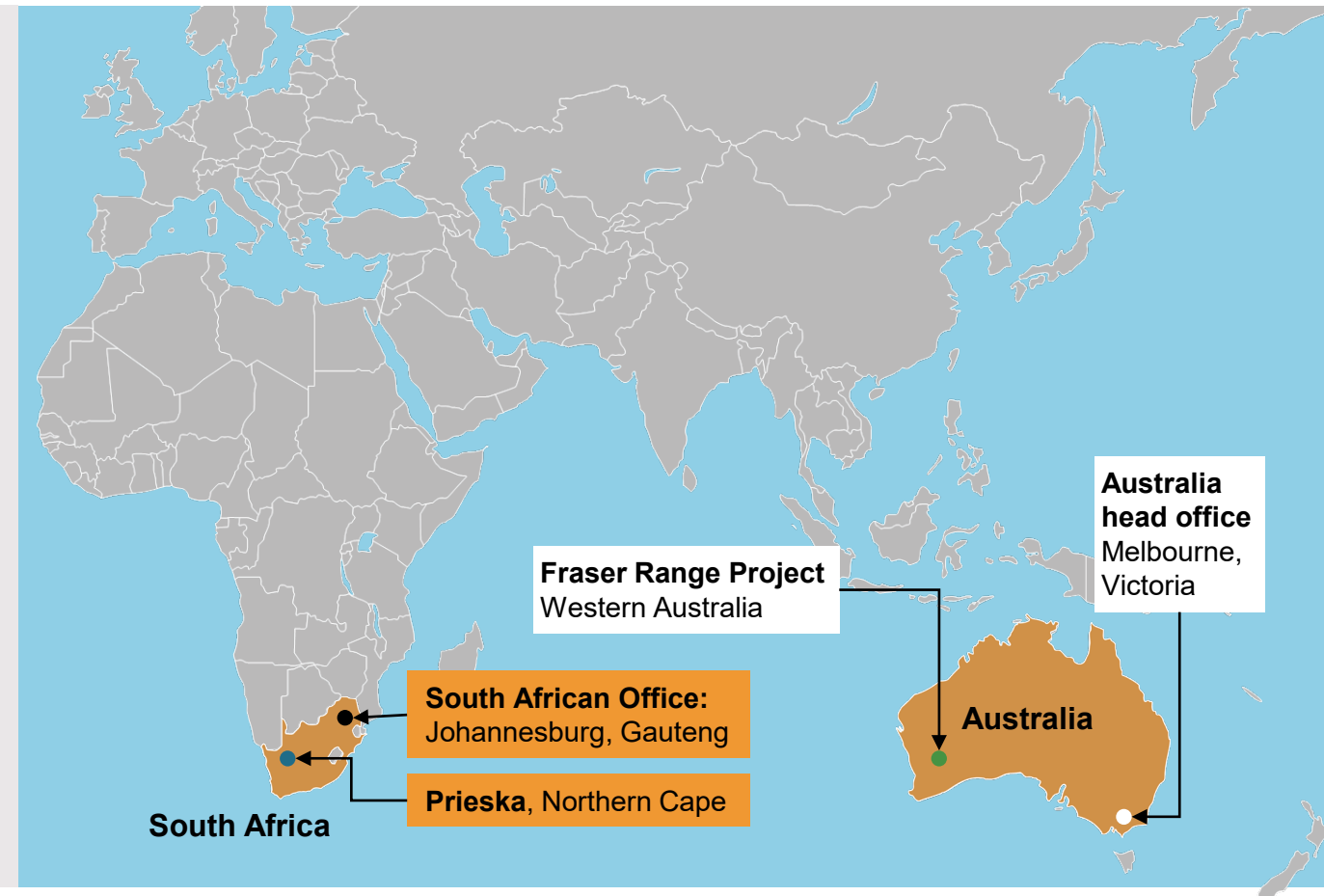
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OVERVIEW: A NEW GENERATION AFRICAN BASE METAL MINE DEVELOPER



- Fast-tracking development of the Prieska Zinc-Copper Project, Northern Cape
- Robust 10-year, Phase 1 Project outlined by December 2018 Scoping Study
- Bankable Feasibility Study on track for Q2 2019; Final Investment Decision 2H 2019
- Ideally positioned to operate effectively within the new South African Mining Charter
- Well-placed to access South African capital markets to underpin project funding
- Experienced corporate and operational team; strong cornerstone shareholders



CORPORATE STRUCTURE



Capital structure summary

Shares on issue	1,874M
Options on issue	209M
Market capitalisation (2.3cps (ASX)) ¹	\$43M
Loan facility (\$3.6M facility, 2.6cps convert, 12% interest, Jan'20 term) ²	\$0.6M
Convertible notes (2.6cps convert, 12% coupon, Sep'19 maturity) ³	\$6.0M
AASMF loan ⁴	\$1.6M
AASMF preference shares ⁴	\$2.3M
Cash on hand ⁵	\$2.0M

Primary listing on the ASX

Secondary listing on Main Board of the Johannesburg Stock Exchange

Significant shareholders	%
Tembo Capital	22.99
Independence Group NL	8.23
Tarney Holdings	5.96
Silja Investment & Alexander Haller ⁶	3.69
Total	40.87

1. Shares on issue as at 25 Jan'19. Closing price of ORN Shares on the ASX on 25 Jan'19. Closing price of ORN Shares on the JSE on 25 Jan'19 was ZAR0.31.
2. Orion announced on 25 Jan'19 that it had entered into a \$3.6M loan facility with Tembo Capital (excluding capitalised interest and fees), pursuant to which Tembo advanced \$0.6M in funds to Orion, being the amount drawn to repay all amounts owing under the Bridge Loan (balance shown is as at 25 Jan'19). Under the terms of the Loan Facility, Tembo may at its election have the balance of the Loan Facility settled by the issue of Orion shares at a deemed issue price of 2.6cps (subject to receipt of shareholder approval). Refer to ASX release 25 Jan'19 for additional information.
3. Refer to ASX release 25 Jan'19 and the Company's Annual Financial Accounts for period ending 30 June 2018 for information related to the Convertible Notes.
4. Refer to the Company's Annual Financial Accounts for period ending 30 June 2018 for information related to the Preference Shares Agreement (ZAR15.75M) and a Loan Agreement (ZAR14.25M) that Repli Trading No 27 (Pty) Ltd (a 73.33% owned subsidiary of Agama Exploration & Mining (Pty) Ltd) has entered into with Anglo American Sefa Mining Fund. Balances shown are as at 31 Dec'18.
5. Cash on hand at 31 Dec'18.
6. Alexander Haller is deemed to have a relevant interest in securities held by Silja Investment.

PRIESKA: REAWAKENING A GLOBAL VMS GIANT

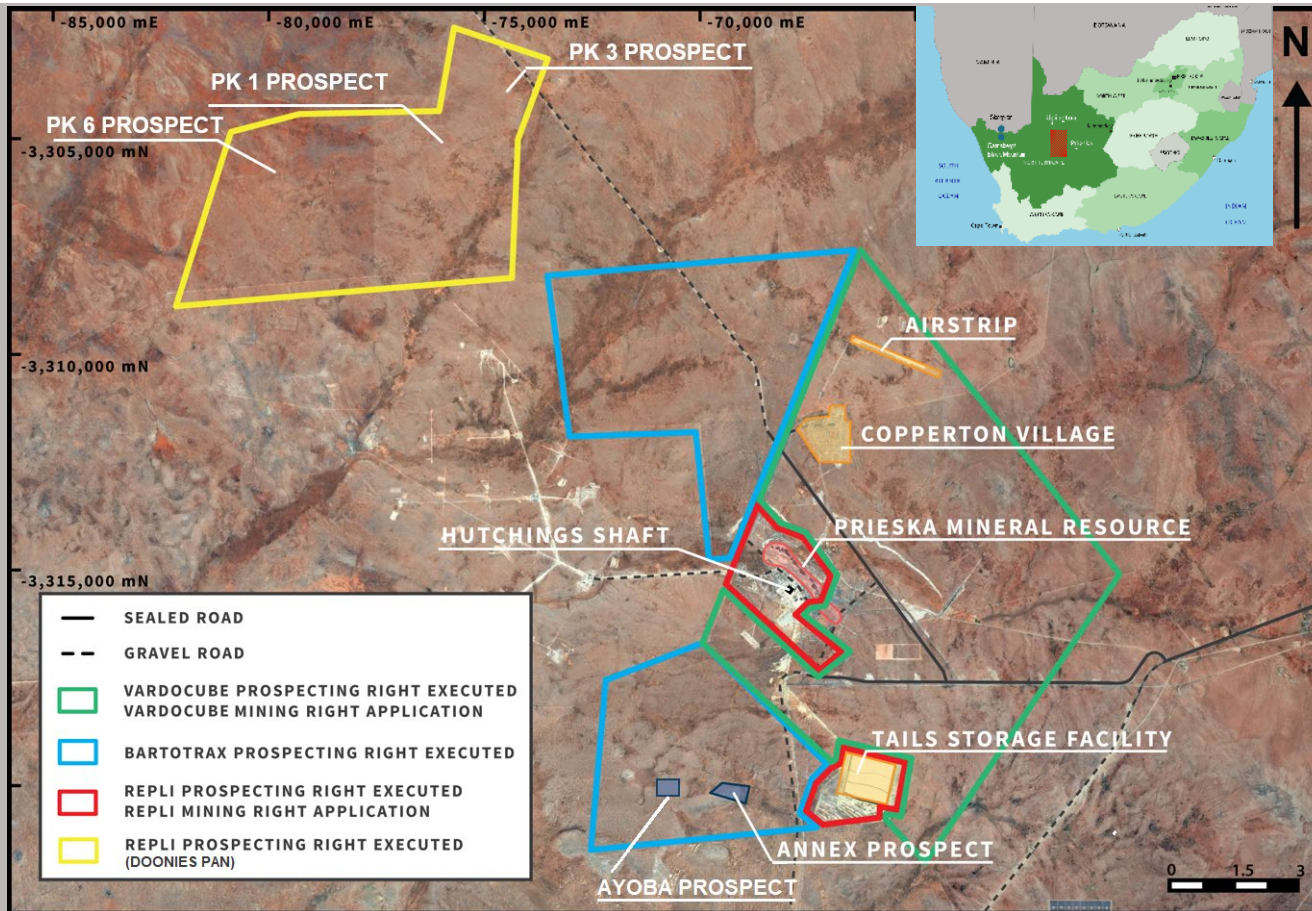


- Located in Northern Cape Province, 270km south-west of regional capital, Kimberley
- Established mining region, yet least populous region of South Africa
- Historically mined by AngloVaal (1971-1991)
- Recorded historical production of 1Mt of Zn and 430kt of Cu from 46.8Mt of sulphide ore milled*
- World-class orebody – recorded as a top-30 global VMS deposit
- Extensive infrastructure in place
- Proven metallurgical process with ability to produce premium concentrates



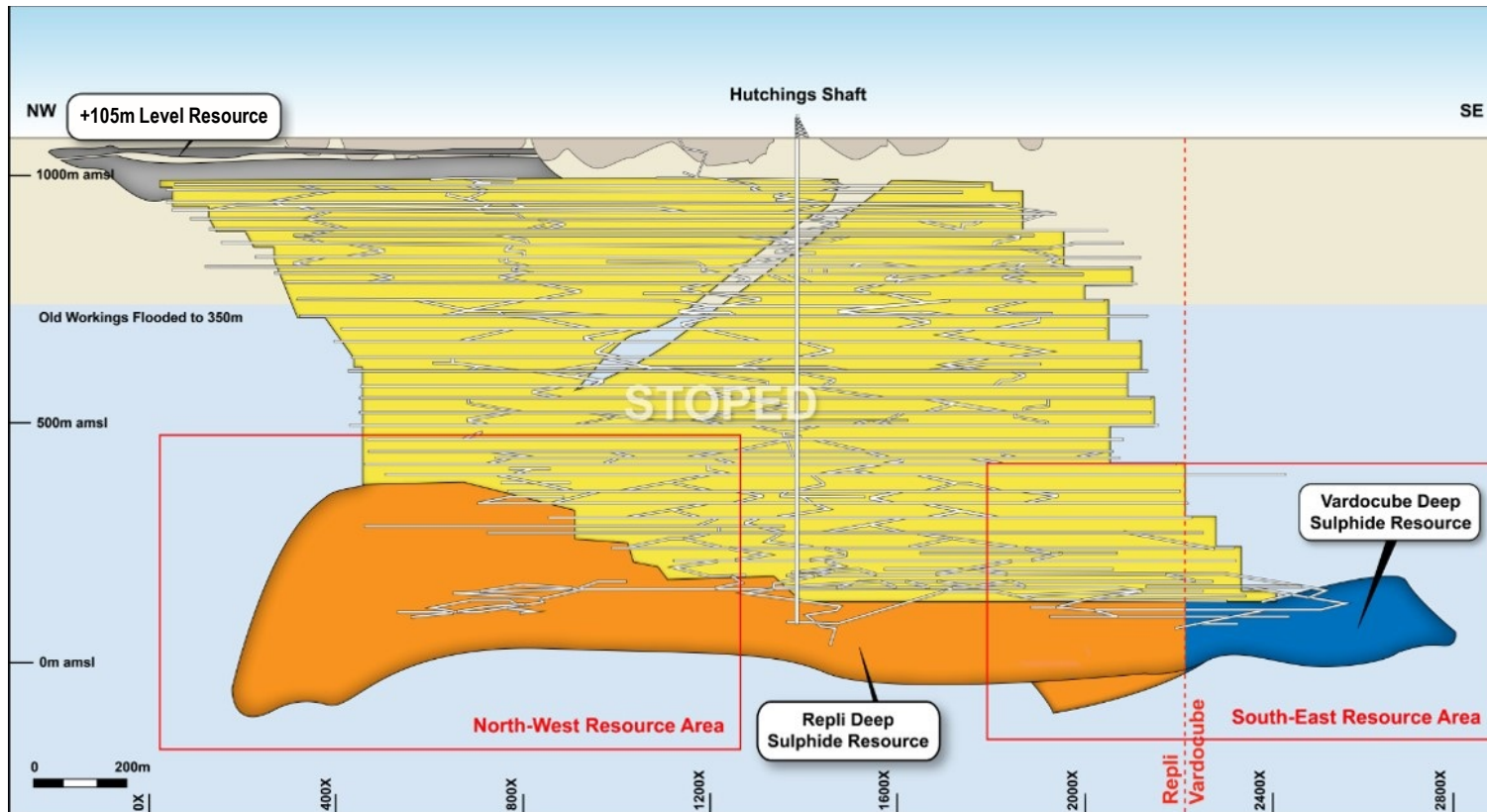
* Source: Prieska Copper Mines Annual Report 1970.

PRIESKA: DEVELOPING A NEW MINE IN THE FOOTPRINT OF AN OLD ONE



- Ability to leverage off extensive infrastructure already in place:
 - Primary shafts and underground decline roadways
 - Sealed access roads, 48km via bitumen road to existing rail siding
 - 175MW operational solar power plants with expansion capacity
 - 800km rail link to major bulk commodity and deep-water ports
 - Bulk water pipeline supplies to site
 - Accommodation facilities in private village of Copperton, ~3km from site

PRIESKA: DEEP SULPHIDE RESOURCE STRONG FOUNDATION FOR DEVELOPMENT



* Longitudinal projection showing the **Repli and Vardocube Deep Sulphide Resource areas**, representing the unmined dip and strike extensions of the historical Prieska mine

- **Deep Sulphide Mineral Resource of 28.7Mt @ 3.8% Zn and 1.2% Cu containing 1.08Mt Zn & 0.33Mt Cu (based on drilling results to 31 Oct 2018)***
- Indicated Mineral Resource of 18.51Mt @ 3.6% Zn and 1.2% Cu provides foundation for development
- Outstanding conversion rate demonstrates quality and consistency of Prieska VMS deposit
- Mineralisation remains open beyond current Resource boundaries with several high-priority extensional drilling targets
- Upgraded Resource underpins December 2018 Scoping Study and ongoing BFS**

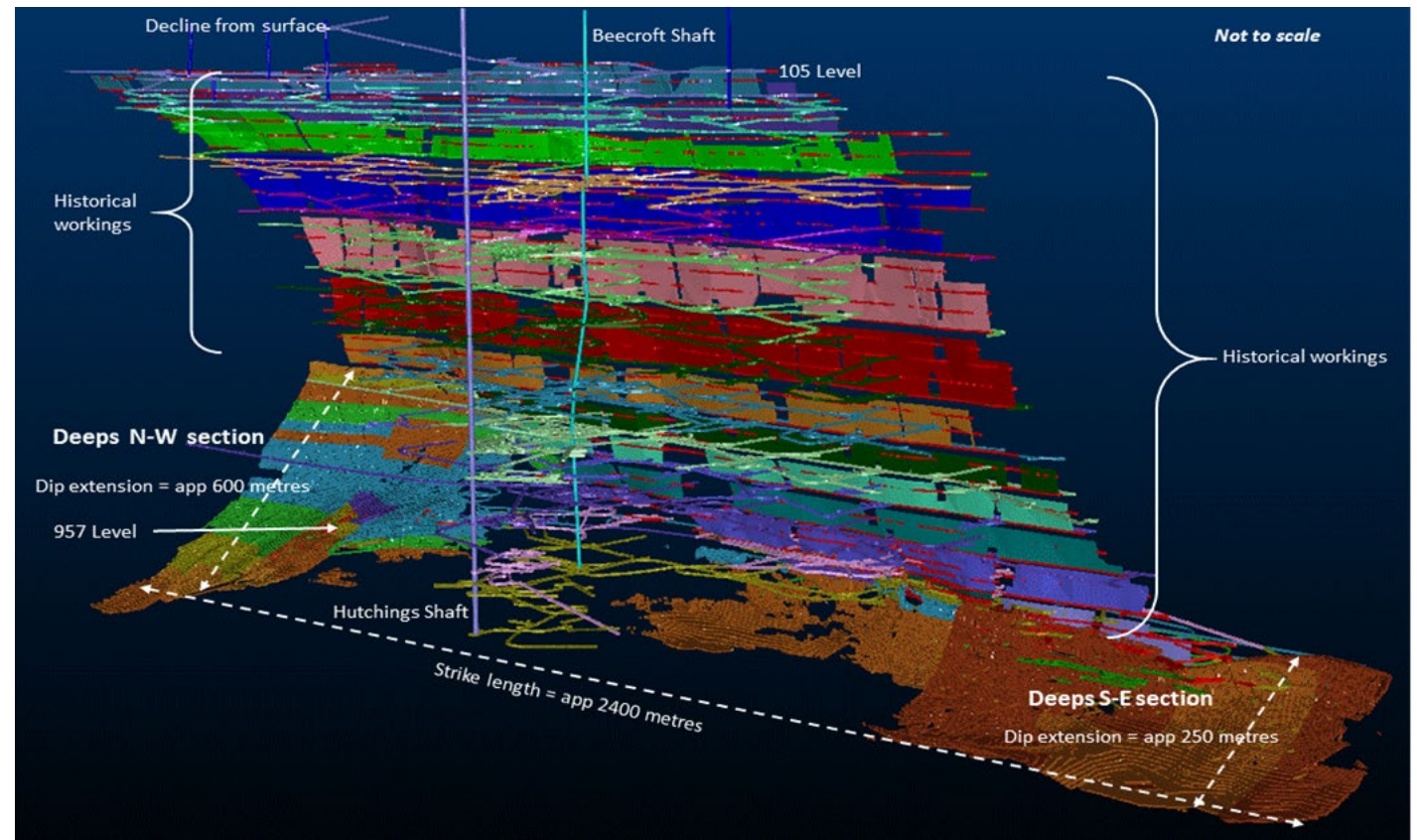
* Refer ASX releases 18 December 2018, 15 January 2019

** Refer ASX release 19 December 2018

PRIESKA SCOPING STUDY

CONFIRMS ROBUST PHASE 1, 10-YEAR PROJECT

- 2.4Mtpa operation producing ~70-80ktpa Zn and 22ktpa Cu in concentrates
- 43% all-in-sustaining margin, with all-in-unit costs A\$1,701/t (US\$1,215/t) zinc equivalent metal sold
- Estimated A\$130m annual free cash flow after-tax at steady-state
- A\$400-440M pre-tax NPV 12.5%, ~38% pre-tax IRR
- Payback period <3 years from first production
- A\$300-330M peak funding to establish infrastructure foundation for future expansion
- BFS due for completion in Q2 2019



Mine Plan underpinned by 64% of Indicated Resources, extracting 75% of UG Mineral Resource of 28.73Mt at 3.77% Zn and 1.16% Cu

Refer ASX release 19 December 2018

PRIESKA: TIMELINE TO DEVELOPMENT



1 Complete Prieska Project BFS

- Updated Deep Sulphide Resource and Scoping Study completed December 2018
- BFS on target for completion in Q2 2019

2 Expand and upgrade Prieska Project resource

- In parallel to BFS, Orion will progress key commercial work streams
- Concentrate marketing; project finance capacity and optimal structure

3 Execute exploration program on highly prospective prospecting rights

- Mining Right and Environmental Authorisation applications submitted in April 2018
- Historical operational data
- Regional exploration ramped up in 2018, ongoing in 2019

	CY17		CY18				CY19				CY20							
Milestone activities	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Project Approval	Q4	Q1	Q2	Q3	Q4	C2021	C2022	
Maiden Mineral Resources estimates			ASX/JSE releases 8 Feb & 9 April 2018															
Mining Right application				Submitted 6 April 2018			Anticipated Grant of Mining Right											
Mineral Resource upgrade							ASX/JSE releases 18 Dec 2018											
Bankable Feasibility Studies																		
Project construction																		
Ore production																		

COMMUNITY ENGAGEMENT

DOING IT RIGHT FROM THE START

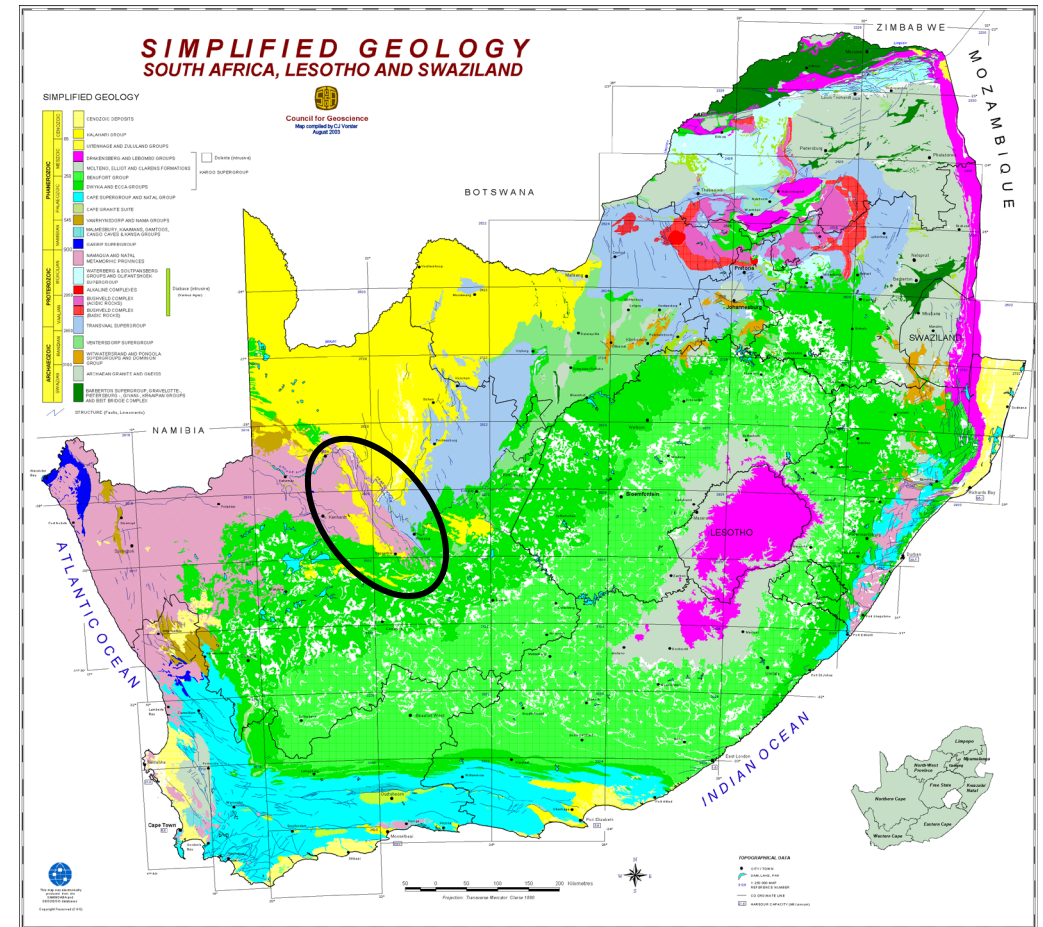
Our communities are at the heart of our corporate responsibility activities. Some of the initiatives we have already undertaken include:

- MoU with Siyathemba Local Municipality to cooperate on key community development initiatives:
 - Water infrastructure
 - Residential development
 - Environment
- Educational seminar for SMMEs and NGOs
- A community liaison office in Prieska dedicated to facilitating:
 - Collection of resumes and expressions of interest from community members for future training and employment opportunities
 - Registration by local companies on the Supply Chain Network portal to stimulate economic growth through enterprise development



A DOMINANT LAND-HOLDING IN AN UNDER-EXPLORED BELT

- Highly prospective yet under-explored mineral province
- 22 identified VMS occurrences historically confirmed by major mining houses
- Reputed to have the highest concentration of zinc on the African continent¹:
 - Large-scale sediment-hosted deposits classified as Broken Hill, SEDEX and VMS
 - >40Mt of contained zinc
- Several known intrusive Ni-Cu-PGE occurrences with limited modern exploration
- Potential for discovery of high-grade Ni-Cu deposits

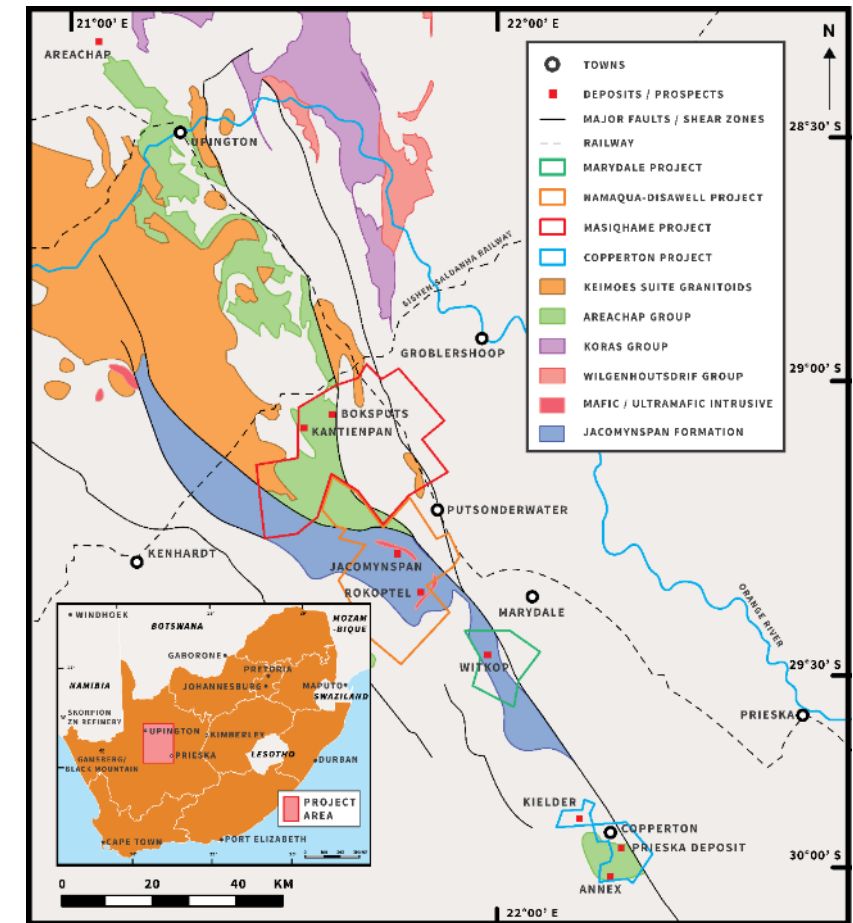


¹ Source: Vedanta Capital Markets Day presentation, March 2015

MAJOR CONSOLIDATION PLAY IN A PROVEN MINERAL DISTRICT



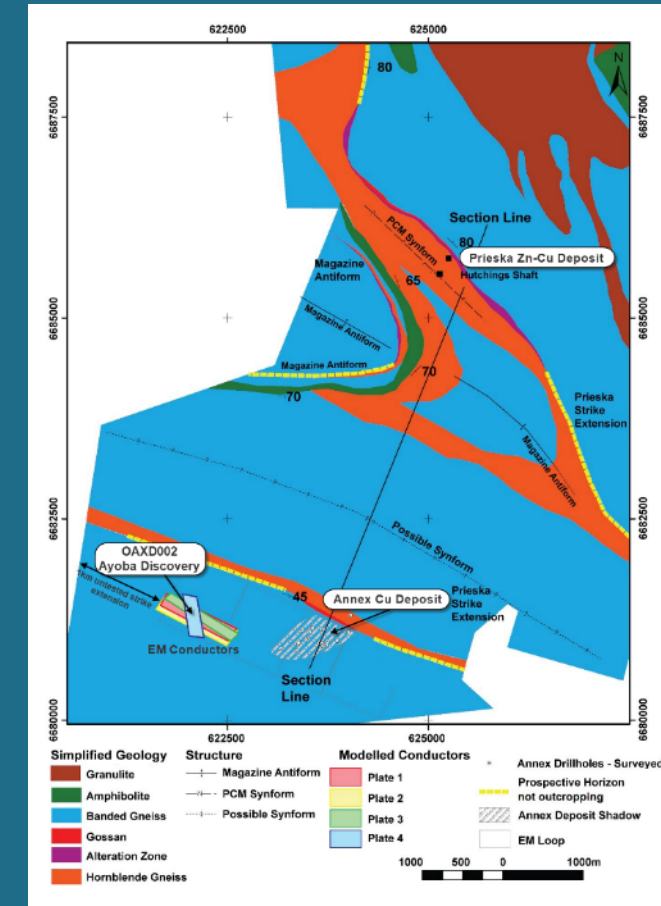
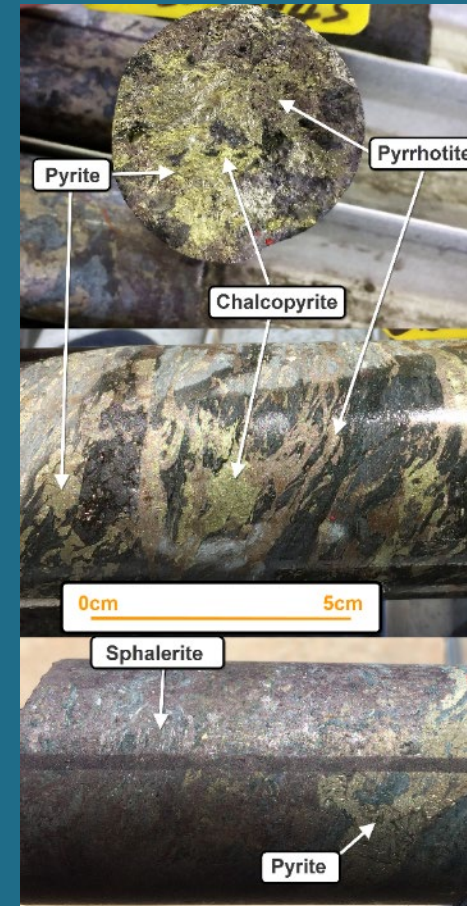
- Large consolidated land package secured by Orion in 2015 – 1,790km²
- Consolidated under single owner for first time
- No major exploration activity for past 30 years
- Application of modern exploration techniques presents significant opportunity
- Collaborative exploration agreement in place with Independence Group
- Three superimposed geological events produce an exceptional metals province:
 - Prieska – near-mine exploration around one of the world's top-30 VMS deposits
 - Mafic intrusive analogous to the Fraser Range in WA
 - Late-stage granites and pegmatites intrude, with lithium and REE deposits



POTENTIAL TO DEFINE A MAJOR **NEW VMS CAMP**

- Emerging VMS discovery at Ayoba, 5.3km SW of Prieska, confirms outstanding near-mine potential
- First hole intersected:
 - 9.5m of massive sulphides grading 0.93% Zn and 0.63% Cu including 1.5m @ 4.98% Zn and 0.89% Cu*
 - 7.13m @ 1.44% Zn and 0.66% Cu*
- Mineralisation and associated alteration typical of VMS
- Discovery hole tested an EM plate with a 1.1km strike and 450m dip extent
- First new VMS discovery in the Areachap Belt for 36 years
- Validates Orion's exploration methodology targeting a cluster of VMS deposits around Prieska
- 148km² high-power SkyTEM™ airborne survey completed with encouraging initial results

* Refer ASX release 16 January 2019



SOUTH AFRICA: A CHANGING MINING LANDSCAPE

- Despite turmoil in 2017, the rule of law prevailed
- President Ramaphosa appointed in February 2018
- New Minister of Mineral Resources, Gwede Mantashe, appointed
- New Mining Charter significantly improved on various drafts and for juniors and explorers and represented an improvement on previous charters
- Remaining concerns being addressed, particularly the recognition of continuing consequences of past BEE transactions for transfers and renewals
- Significant investment drive by President, with mining a key focus area
- DMR clean-up: expediting permitting, closure of problematic offices and removal of certain corrupt officials
- Relationships between industry and government, particularly DMR, much improved
- Voices of junior and emerging miners being heard for the first time in decades



SOUTH AFRICA: THE OPPORTUNITY FOR A NEW-GENERATION MINING COMPANY

- JSE is the world's 18th largest stock exchange by market cap
 - **505 listed companies and +800 securities**
 - **Aggregate market cap: US\$988 billion**
 - **41% liquidity**
 - **More than R767 billion (A\$76.3b) raised in the last 5 years**
- Orion is one of 31 mining companies listed on JSE
 - **Total sector value of R482 billion (A\$48b)**
- Strong appetite from capital markets and banking sector to back new mine developments
- New Mining Charter has provided greater certainty and clarity on future mining investment
- The Minerals Council (which represents >75% of all mining companies) has accepted the Charter as a proactive policy document
- As a new entrant, Orion is well-positioned to comply with Mining Charter and avoid legacy issues faced by older, established mines
- **Orion ideally placed to access South African capital markets to fund the Prieska development following completion of the BFS**



WHAT THE CHANGING LANDSCAPE MEANS FOR ORION



Focus on creating meaningful empowerment structures

- Exploration free of any BEE or Mining Charter impositions – aims to encourage greenfields exploration
- For Mining Rights, 5 years to achieve 30% BEE ownership:
 - 20% black entrepreneurs
 - 5% employees (non-transferable interest, so effectively only a dividend right)
 - 5% community (these need not be "ordinary shares", can be equivalent dividend participation)
- No 'free carry':
 - Cost/value of transferring "shares" for employees and community to be recovered from future mine cash flows
- Black entrepreneurs' corporate vehicle of 20% - full participation and contribution

Orion is working with existing and new BEE partners to optimise the investment opportunity.

SUMMARY: A COMPELLING INVESTMENT CASE

- 'A new mine in the footprint of an old mine':
 - **Updated JORC Mineral Resource and Scoping Study completed on schedule in December 2018**
 - **Bankable Feasibility Study on track for Q2 2019**
 - **Significant existing infrastructure in place**
- Large land-holding in Areachap province – proven mineral endowment, major mining companies operating in region
- Extensive near-mine and regional exploration programs underway:
 - **Recent VMS discovery confirms near-mine exploration upside**
- Strong community relationships and engagement program
- Strategic shareholder support – Tembo Capital, Independence Group
- Experienced board and management team with a proven track record



APPENDICES



BOARD OF DIRECTORS



Denis Waddell
Chairman

Denis is a Chartered Accountant with extensive experience in corporate finance and management of exploration and mining companies.



Errol Smart
Managing Director & Chief Executive Officer

Errol is a Geologist, with professional registration for JORC purposes. He has more than 28 years' industry experience in exploration, mine development and operations. He is also the Chairman of the Junior and Emerging Miners Forum of the Minerals Council South Africa.



Alexander Haller
Non-Executive Director

Alexander is a Partner at Zachary Capital Management, which provides advisory services to private investment companies. He is an ex-JP Morgan advisor on corporate mergers and acquisitions.



Mark Palmer
Non-Executive Director

Mark is an investment banker with 12 years' experience working with entities in Australia. He has been Investment Director at Tembo Capital since 2015.



Michael Hulmes
Non-Executive Director

Michael has 30 years' experience in the mining industry. He has extensive experience in zinc, copper, gold and nickel mining operations.

SENIOR MANAGEMENT



Errol Smart

*Managing Director &
Chief Executive Officer*

Errol is a Geologist, with professional registration for JORC purposes. He has more than 28 years' industry experience in exploration, mine development and operations. He is also the Chairman of the Junior and Emerging Miners Forum of the Minerals Council South Africa.

Martin Bouwmeester

*Chief Financial Officer &
Company Secretary*

Fellow of CPA Australia with over 20 years' experience in exploration, mine development and Operations. Key member of the team which evaluated, funded and developed the Fosterville Gold Mine.

Walter Shamu

Chief Operating Officer

Mining engineer with a B.Eng (Mining Engineering) and Masters in Engineering (Rock Mechanics), as well as LLB (Law). He has more than 20 years' experience in exploration, mining development and mining operations throughout Africa.

Michelle Jenkins

*Executive: Finance &
Administration*

Chartered Accountant with more than 20 years' experience in exploration and mining, with a BSc Hons (Geology) and a Bachelor of Accounting Science. Has held role of CFO/FD with a number of exploration and mining companies throughout Africa.

Louw van Schalkwyk

Executive: Exploration

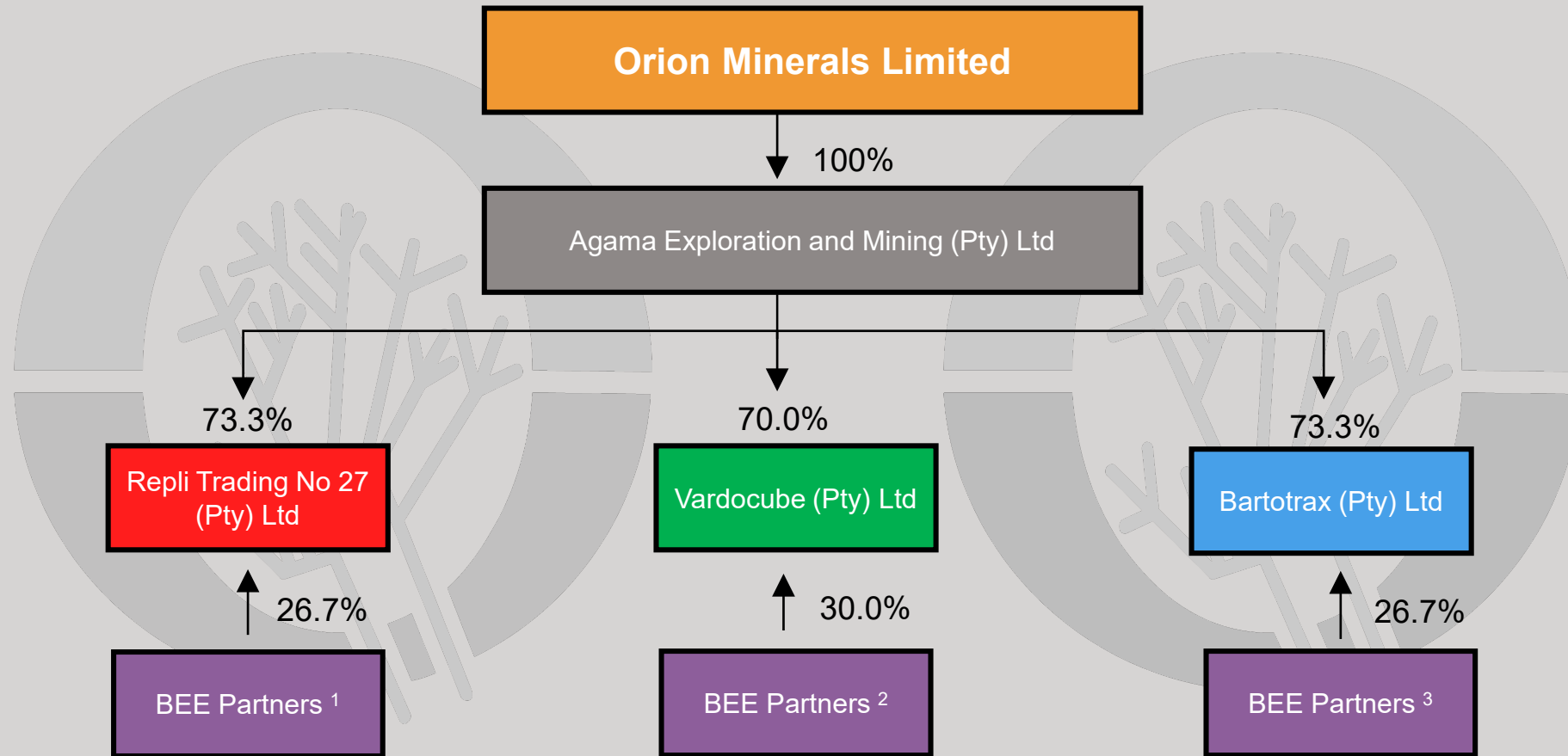
Geologist with over 30 years' experience with major South African mining houses. Part of the team that discovered the 60Mt Gamsberg East Zinc deposit in the Northern Cape. Also discovered the Byumba Gold deposit in Rwanda in 2008.

Nelson Mosiapoa

*Group Corporate Social
Responsibility Advisor*

Founder and trustee of the Mosiapoa Family Trust. Policy scholar of science and technology; served on the policy unit of the governing party in South Africa prior to the first democratic elections.

PRIESKA MINE: CURRENT OWNERSHIP STRUCTURE



1. Mosiapoa Family Trust (15%) and Power Matla (11.67%)
2. Mosiapoa Family Trust (3%) and African Exploration Mining Finance Corporation (27%)
3. Mosiapoa Family Trust (26.67%)

PRIESKA: UPDATED MINERAL RESOURCE INVENTORY



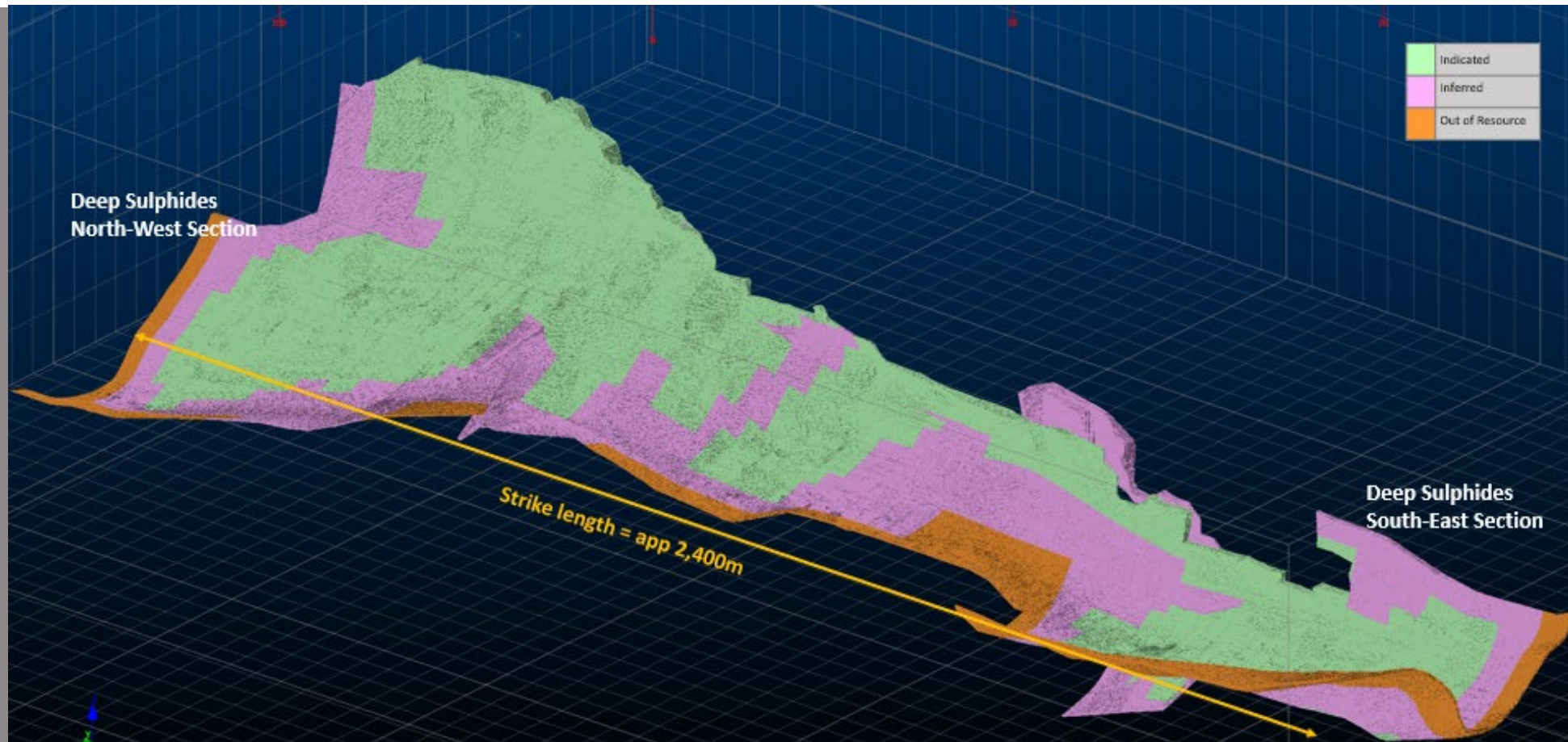
Resource	Classification	Volume	Tonnes	Density	Zn	Zn	Cu	Cu
		m ³		tonnes/m ³	tonnes	%	tonnes	%
Deep Sulphide Resource	Indicated	5,432,000	18,507,000	3.4	667,000	3.60	217,000	1.17
	Inferred	2,977,000	10,219,000	3.4	417,000	4.1	117,000	1.1
+105m Level Resource	Indicated	221,000	623,500	2.8	19,000	3.05	10,000	1.54
	Inferred	403,000	1,138,000	2.8	16,000	1.4	17,000	1.4
Total	Indicated	5,653,000	19,131,000	3.4	686,000	3.59	227,000	1.18
Total	Inferred	3,380,000	11,357,000	3.4	433,000	3.8	134,000	1.2
Grand Total		9,033,000	30,488,000	3.4	1,119,000	3.7	361,000	1.2

Note:

Deep Sulphide Resource bottom cut-off = 4% Equivalent Zn; +105m Level Mineral Resource bottom cut-off = 0.3% Cu.

Mineral Resources stated at zero % cut-off. Tonnes are rounded to thousands, which may result in rounding errors.

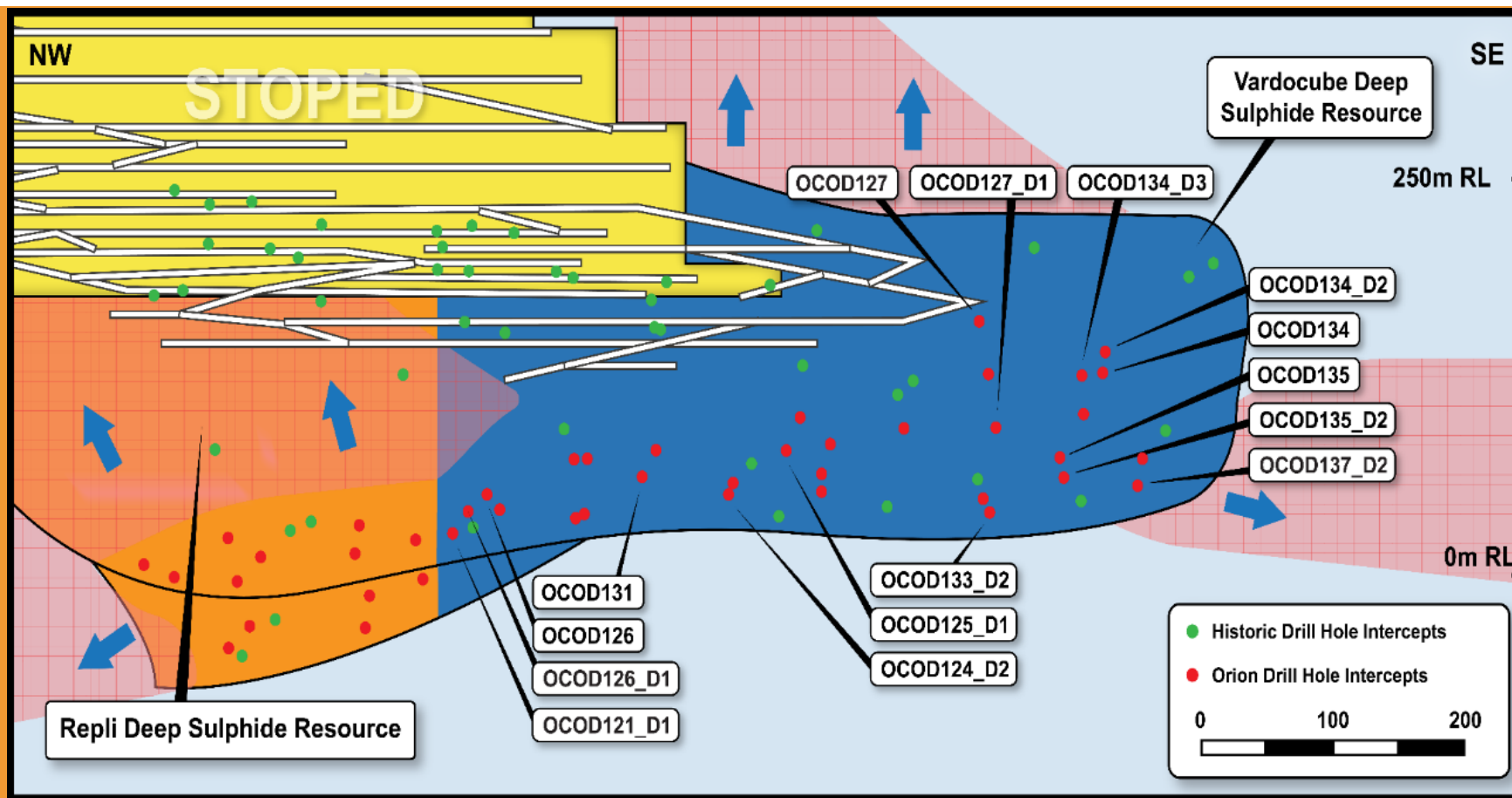
LARGE CONTIGUOUS BLOCKS OF INDICATED RESOURCE



PRIESKA: DEEP SULPHIDE RESOURCE WITH SIGNIFICANT GROWTH POTENTIAL



Orion Minerals



Longitudinal projection showing the **Repli Deep Sulphide Resource**, including priority target areas (pink hatch) for resource extension drilling

Refer ASX release 5 November 2018

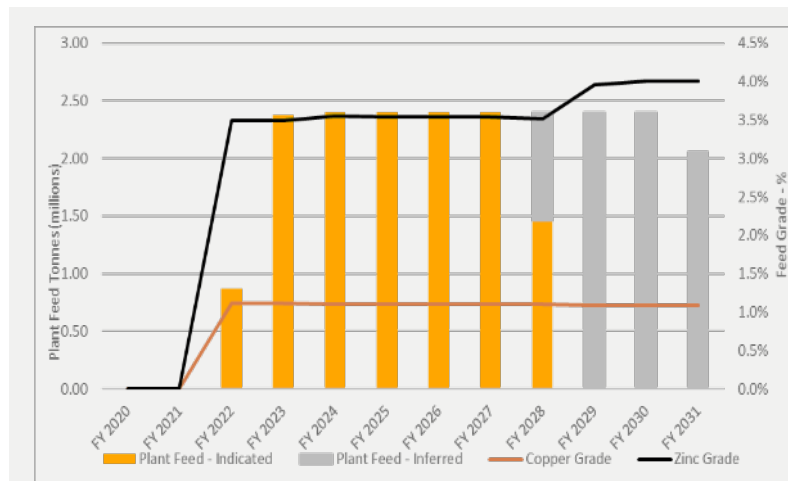


SCOPING STUDY: CONFIRMS ROBUST PHASE 1, 10-YEAR PROJECT



Price and FX assumptions	Unit	Estimated value	Financial performance	Unit	Estimated value
Metal price – Cu (USD3.00/lb)	USD/t	6,614	NPV (pre-tax) @12.5% discount rate	AUD m	400 – 440
Metal price – Zn (USD1.30/lb)	USD/t	2,866 ¹	IRR (pre-tax)	%	38
Exchange rate	ZAR:USD	14 : 1	Payback from first production	years	3
Exchange rate	ZAR:AUD	10 : 1	Undiscounted free cash flow (pre-tax)	AUD bn	1.2 – 1.3
Exchange rate	AUD:USD	1.4 : 1	Peak funding	AUD m	300 – 330
Production metrics	Unit	Estimated value	Project cost metrics	Unit	Estimated value
Life of Mine (Phase 1)	years	10	Average cash operating unit cost (C1)	AUD/t	83
Treatment plant capacity	ktpa	2,400	All-in-sustaining cost per unit ROM t	AUD/t	100
Phase 1 tonnage – ROM	mt	22	All-in-sustaining cost per unit Zn eq t sold	AUD/t Zn	1,701
Phase 1 tonnage – processed	mt	22	All-in-sustaining cost per unit Cu eq t sold	AUD/t Cu	4,949
Concentrate tonnage – Zn	mt	1.4	Price received (net of NSR) - Zn	AUD/t Zn	2,982
Concentrate tonnage – Cu	mt	0.9	Price received (net of NSR) - Cu	AUD/t Cu	8,677
Concentrate grade – Zn	%	50.0	All-in-sustaining margin	%	43
Concentrate grade – Cu	%	24.0	Operating breakeven grade (Zn eq)	%	4.1
NSR as % of metal price – Zn	%	74.3			
NSR as % of metal price – Cu	%	93.7			
Metal sold (in concentrates) – Zn	kt	686			
Metal sold (in concentrates) – Cu	kt	206			
Total sales as Zn equivalent	kt	1,285			
Total sales as Cu equivalent	kt	442			
Project cash flows	Unit	Estimated value			
LoM net revenue	AUD m	3,457			
LoM operating costs	AUD m	1,740			
Project start-up capital expenditure	AUD m	360 - 390			
Sustaining capital expenditure	AUD m	65 - 75			

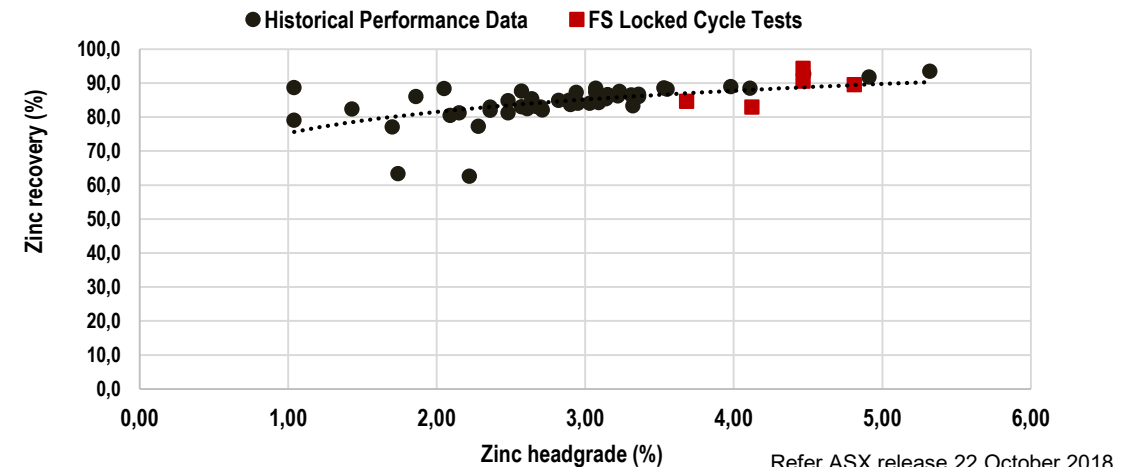
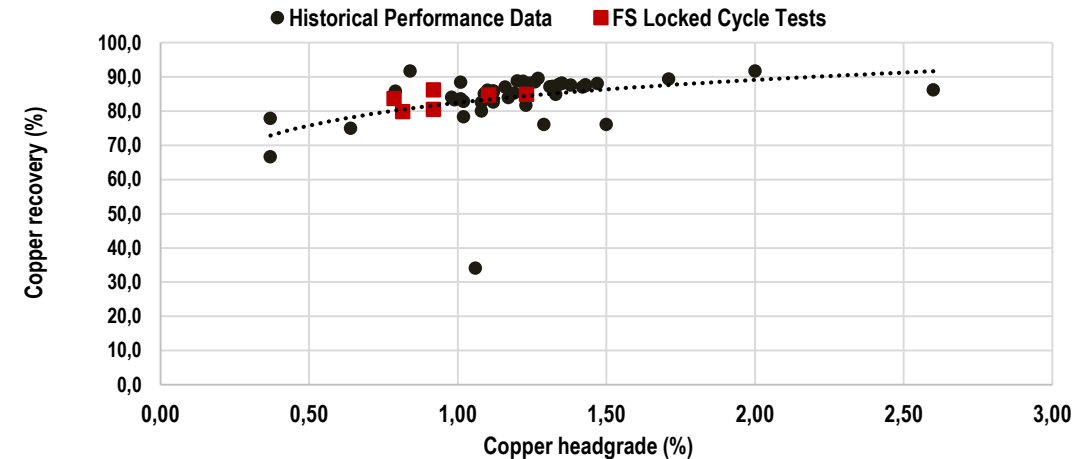
Parameter	Source	Tonnage	Zn equivalent metal contained
Mineral Resources (below Cut-off: 4.5% Zn Eq.)	Estimated	12%	8%
Mine design losses	MSO	10%	11%
Design stope dilution	MSO	10%	n/a
Geological/pillar losses	Assumed	5%	5%
Mining extraction factor (Mining recovery factor)	Assumed	95%	95%



PRIESKA: WELL-UNDERSTOOD METALLURGY, GOOD QUALITY CONCENTRATES

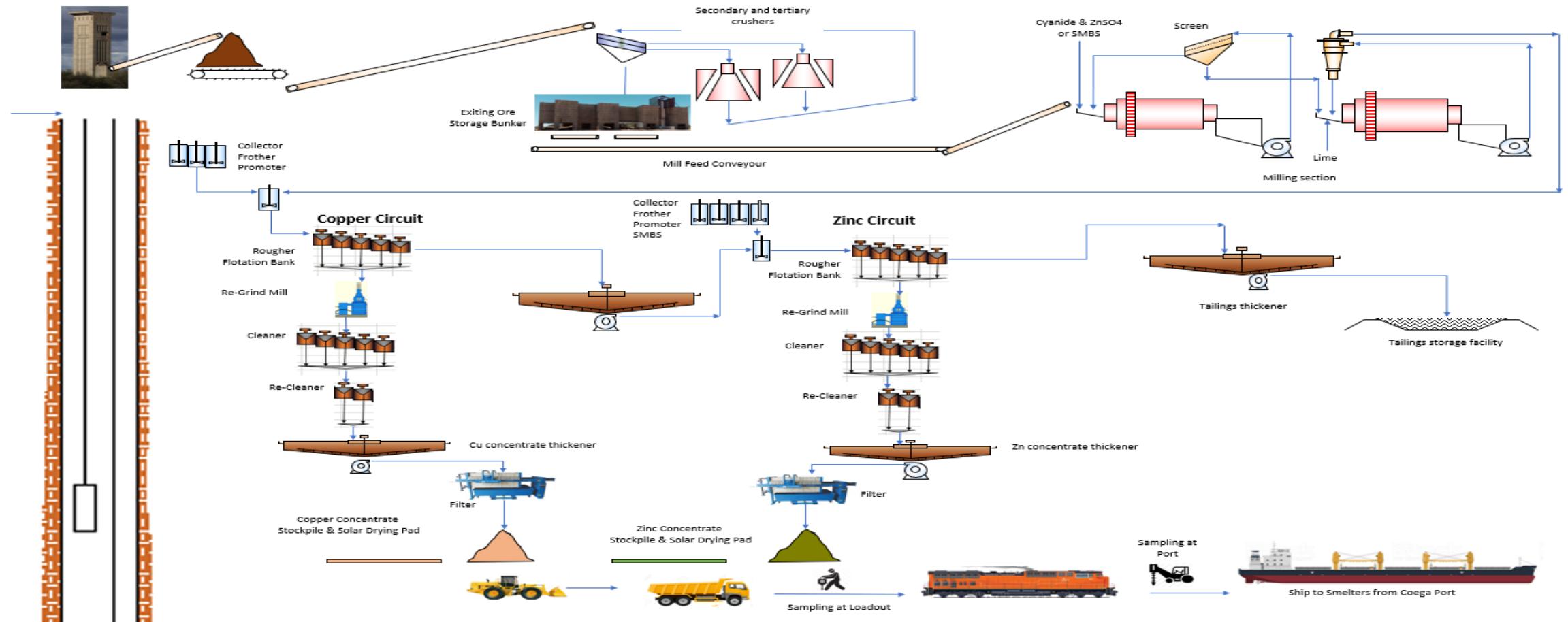


- Extensive locked-cycle metallurgical test work program completed
- Confirms metallurgical continuity across Deep Sulphide Zone
- No material metallurgical zonation issues encountered
- Excellent copper and zinc recoveries, in line with historical mine performance
- Ability to produce high-quality, differentiated copper and zinc metal concentrates
- Process plant design in progress
- Potential to use safer and more environmentally friendly froth-flotation chemical reagents, with added benefit of delivering cost reductions



Refer ASX release 22 October 2018

PRIESKA PROCESS FLOWSHEET





Orion Minerals

ASX/JSE: ORN

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