



## Orion Minerals

ASX/JSE RELEASE: 25 June 2019

# Investor Presentation – Prieska Project Bankable Feasibility Study - Mining Journal Select 2019

On 24 June 2019, **Orion Minerals Ltd (ASX/JSE: ORN) (Orion or Company)** announced the positive outcomes of a Bankable Feasibility Study for the Foundation Phase of its Prieska Copper-Zinc Project (**Prieska Project**), located in the Northern Cape Province of South Africa (**BFS**).

The BFS results highlight that the Prieska Project is a long life, high margin copper and zinc development project, with exceptional opportunities for future growth. Based on the BFS assumptions, the Project will provide excellent financial returns, for a relatively modest capital investment, given the scale of operations envisaged and the fact that the new production hub is located within a highly-endowed but under-explored volcanic massive sulphide district, with significant long-term exploration potential.

Orion's Managing Director and CEO, Mr Errol Smart is presenting today at Mining Journal Select 2019, in London. Attached is a copy of Mr Smart's presentation.

Errol Smart  
**Managing Director and CEO**

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Orion Minerals

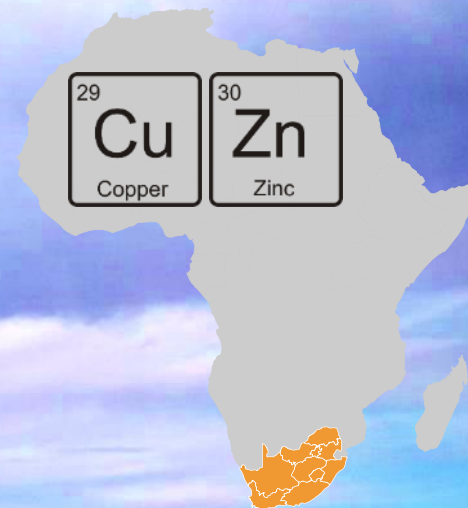
ASX/JSE: ORN

# PRIESKA

## BANKABLE FEASIBILITY STUDY

A strong foundation for near-term development and long-term growth

Investor Presentation : 25 June 2019



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Orion Minerals

This presentation contains summary information about Orion Minerals Ltd and its subsidiaries (Orion or Company) and their activities and is current as at 24 June 2019. 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.

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- may include, among other things, statements regarding

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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.

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.

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# ORION MINERALS – A COMPELLING INVESTMENT CASE



## THE OREBODY

- Globally significant VMS Resource: 30.49Mt @ 1.2% Cu, 3.7% Zn
- Mineral Reserve: 13.62Mt @ 1.06% Cu, 3.18% Zn

## FOUNDATION PHASE BFS OUTCOMES

- Initial 10-year, 2.4Mtpa operation targeting 22ktpa Cu & 70ktpa Zn
- Strong operating margins and financials
  - Pre-tax free cash flow of A\$1.1bn (post-tax A\$819m)
  - Pre-tax NPV<sub>8%</sub> of A\$574m (post-tax A\$408m)
  - Peak funding of A\$378m
  - Payback period of three years from first production
  - All-in sustaining margin of 44%

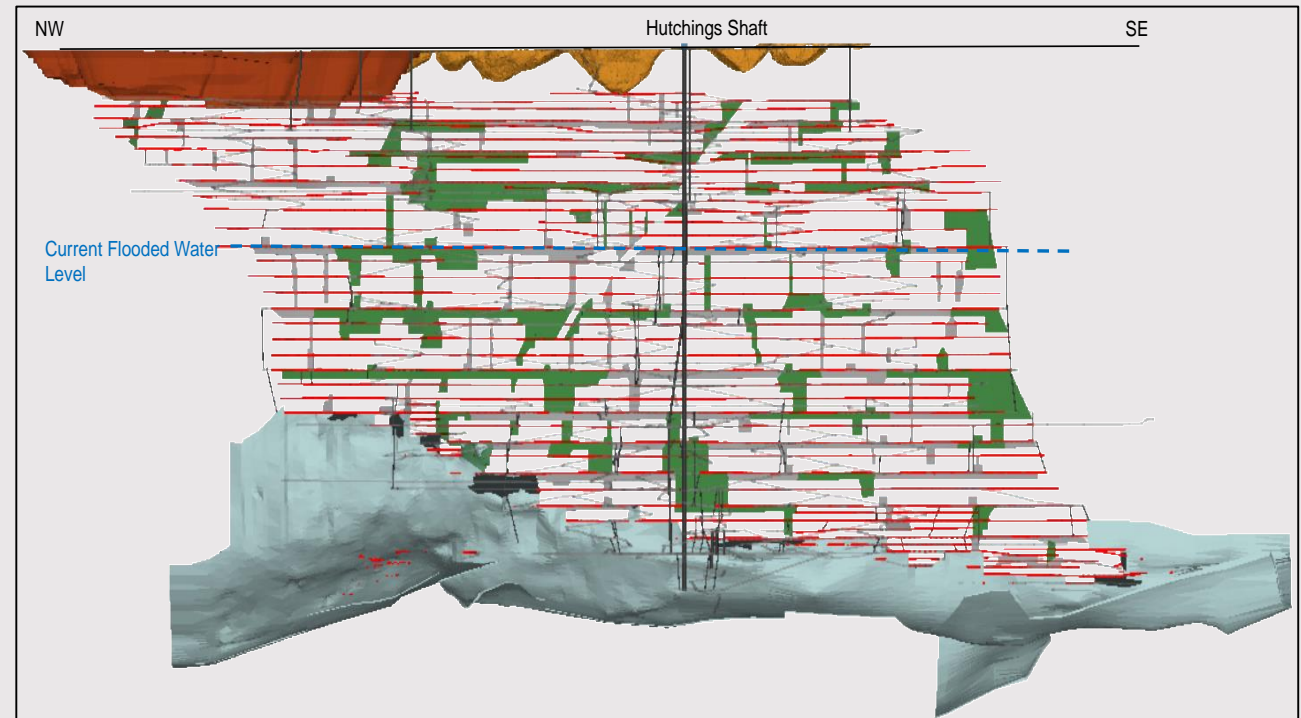
## THE FUTURE

- Exceptional exploration and growth pipeline



# PRIESKA: REAWAKENING A GLOBAL VMS GIANT

- World-class orebody – recorded as a Top 30 global VMS deposit
- 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\*
- Extensive infrastructure in place
- Near-mine exploration and further expansion potential



\* Source: Mine records

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

## Extensive infrastructure already in place:

- Primary shafts and underground decline roadways
- Sealed access roads to project site
- 48km via bitumen road to existing rail siding
- Four high-voltage regional lines linked to national electricity grid
- 175MW operational solar power plants in area with additional 675MW approved and 300MW pending authorisation
- 800km rail link to major bulk commodity and deep-water ports
- Bulk water pipeline supplies to site
- Good contractor accommodation facilities ~3km from site
- Low environmental sensitivity – existing mine footprint





# PRIESKA: 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**

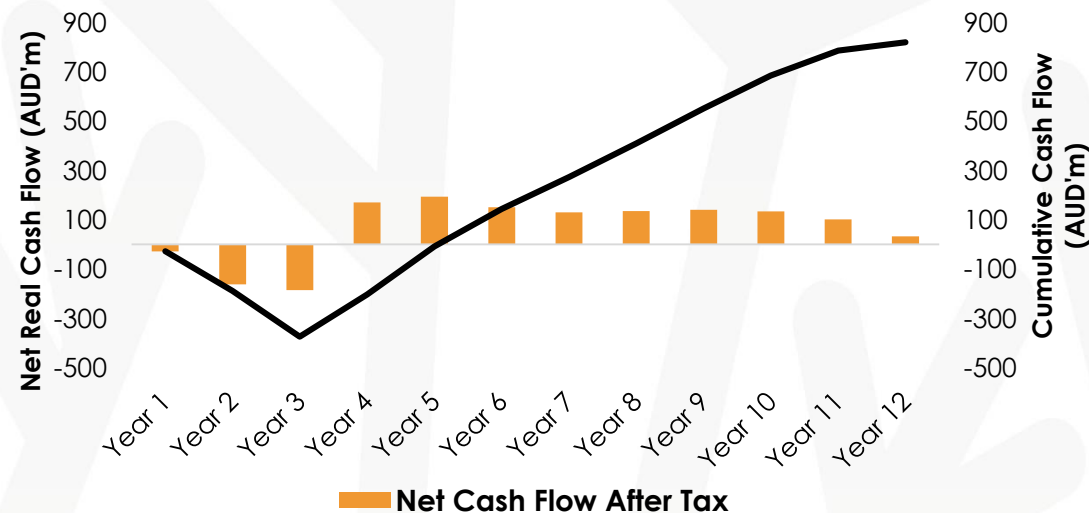
**Implement  
Enablers**

**Be Fast  
Followers**

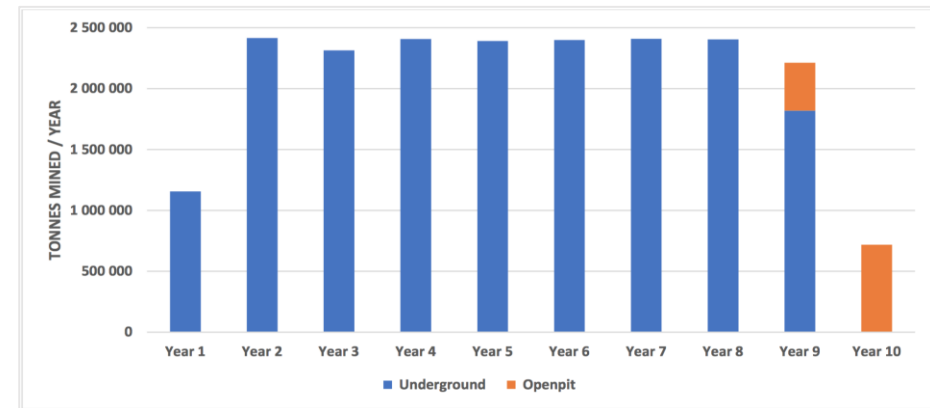
**Always Make  
Commercial  
Sense**

# MINING PRODUCTION PROFILE

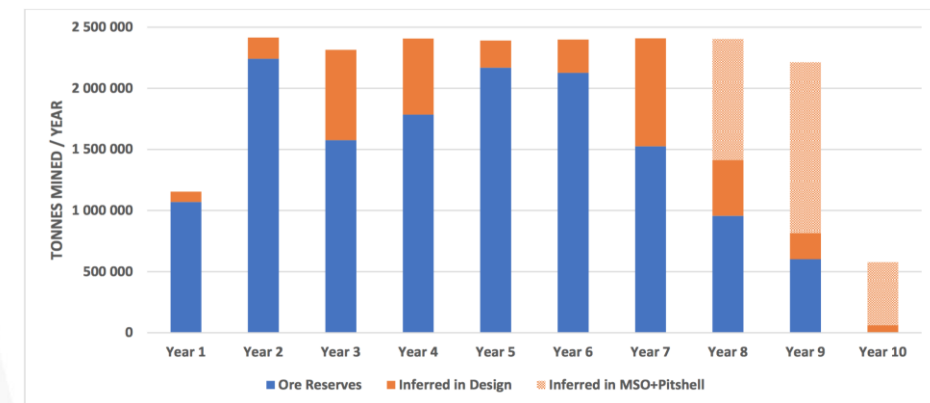
- Underground mining for majority of the Foundation Phase
- Small open pit mined on retreat
- Underground mining to commence on completion of:
  - mine dewatering
  - shaft refurbishment
- Underground establishment program of 23 months before first ore mined
- Underground mining will build up over 14 months to steady-state run-of-mine production rate of 200ktpm or 2.4Mtpa



## MILLED ORE SOURCES



## MILLED ORE JORC CATEGORIES





# PRIESKA BFS HIGHLIGHTS



## FOUNDATION PHASE



## LOM EXTENSION PHASE

- Demonstrates compelling investment case to establish financially robust mine with initial 10 year life
    - Pre-tax free cash flow of A\$1.1bn (post-tax A\$819m)
    - Pre-tax NPV<sub>8%</sub> of A\$574m (post-tax A\$408m)
    - Peak funding of A\$378m
    - Payback period of three years from first production
    - All-in sustaining margin of 44%
  - Optimisation studies continue
  - Investigating by-product production
- LOM extensions leveraging off Foundation Phase development and requiring limited or no additional capital works
  - Tonnage targeted
    - Remainder of current Global Resource, 9.13 Mt at 1.4% Cu and 3.6% Zn
    - Evaluating existing pillar extraction (7-8 million tonnes) after voids are paste filled
    - High grade strike extensions of resource requiring additional drilling, not yet in JORC resource

# PRIESKA: NEXT STEPS

## FOUNDATION PHASE

- Orion progressing key commercial work streams:
  - Permitting
  - Concentrate marketing
  - Project financing
- Final investment decision targeted in H2 2019
- Commencement of construction targeted for late 2019/early 2020
- Ongoing optimisation studies
- Evaluating by-product production and sales
  - Barite
  - Pyrite

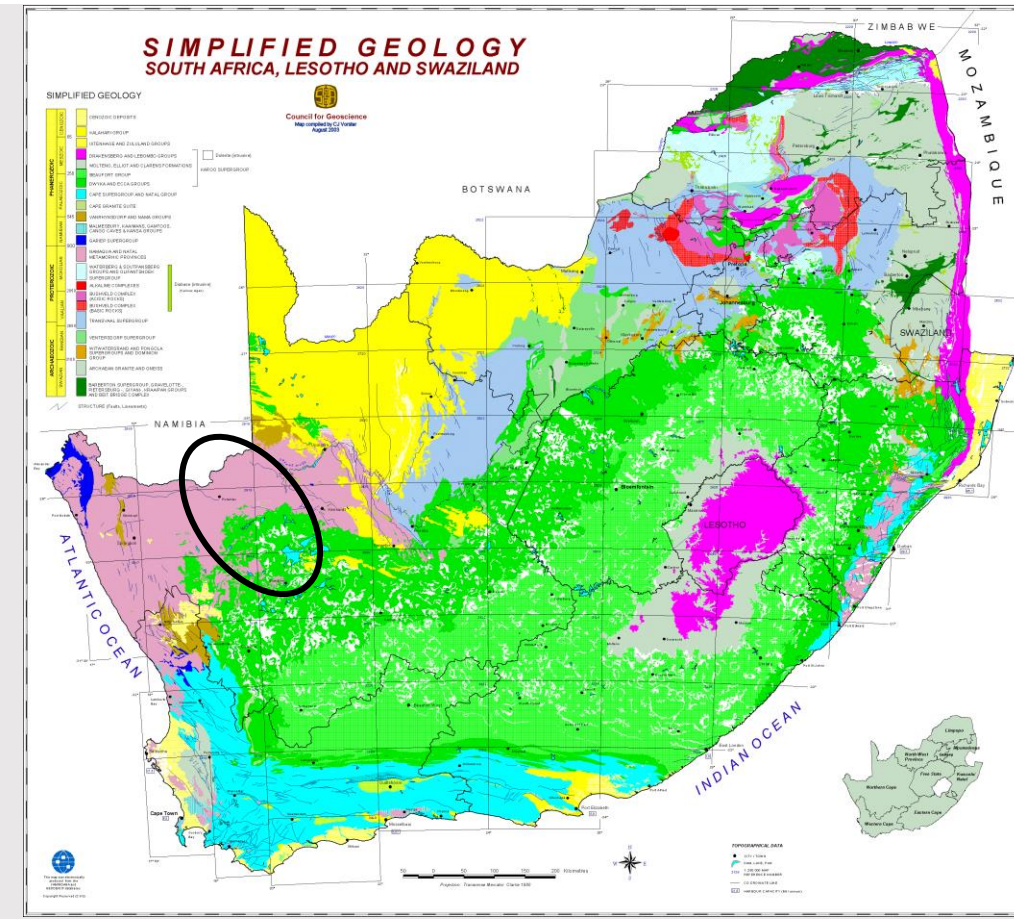
## LOM EXTENSION PHASE

- Resource extension drilling to commence following establishment of underground drilling platforms
  - targeting strike extensions and folded limb of the main Prieska VMS lens, which remains open
- Exploration for near mine satellite bodies to continue from surface



# A DOMINANT LAND-HOLDING IN AN UNDER-EXPLORED MINERAL 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 continent<sup>1</sup>:
  - 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





# CORPORATE STRUCTURE



Capital structure summary	Current	Post Capital Raising
Shares on issue <sup>1</sup>	2,003M	2,003M
Options on issue <sup>2</sup>	273M	315M
Cash on hand <sup>3</sup>	\$1.1M	
Placement of Shares – (Tranche 2) <sup>2</sup> - (\$3.3M)		84M
Founding BEE investor share exchange <sup>4</sup> - (\$4.2M)		135M
AASMF preference shares redeemed <sup>5</sup> - (\$2.4M)		78M
AASMF loan <sup>6</sup>	\$1.6M	
Convertible notes (2.6cps convert, 12% coupon, Sep'19 maturity) <sup>7</sup>	\$5.8M	
Convertible loan (2.6cps convert, 12% interest, Jan'20 term) <sup>8</sup>	\$3.8M	
<b>Total Shares (post Share issues)</b>		<b>2,300M</b>
Market capitalisation (2.9cps (ASX)) <sup>9</sup>	\$58M	\$67M

**Primary listing on the ASX.**

**Secondary listing on Main Board of the Johannesburg Stock Exchange.**

Significant shareholders	Current %	Post capital raising %
Tembo Capital	24.0	20.9
Independence Group NL	7.7	6.7
Tarney Holdings	5.6	4.9
Wyllie Group	5.5	4.8
Silja Investment & Alexander Haller <sup>10</sup>	3.5	3.0
<b>Total</b>	<b>46.2</b>	<b>40.2</b>

1. Fully paid ordinary Orion shares (**Shares**) on issue as at 21 June '19.

2. Completion of Tranche 2 of the \$8M capital raising, being the issue of 83.71M Shares at 4.0cps (together with one free attaching option for every two Shares issued) (approved by shareholders at a General Meeting held 7 June 2019 (**Meeting**)) (refer ASX release 16 Apr'19).

3. Cash on hand as at 31 Mar '19.

4. Founding BEE investor exchange for Shares (approved by shareholders at the Meeting) (refer ASX release 16 Apr'19).

5. Refer to ASX release 4 Mar'19 and the Company's Half Year Accounts for period ended 31 Dec'18 for information related to the Preference Shares Agreement (ZAR15.75M) that Repli Trading No 27 (Pty) Ltd (a 73.33% owned subsidiary of Agama Exploration & Mining (Pty) Ltd) (**Repli**) has entered into with Anglo American sefa Mining Fund (**AASMF**). On 4 Mar'19 Orion announced that it had reached agreement with AASMF for AASMF to voluntarily redeem the Preference Shares for Orion Shares (approved by Orion shareholders at the Meeting). Balance shown as at 31 Mar'19.

6. Refer to the Company's Half Year Accounts for period ended 31 Dec'18 for information related to the Loan Agreement (ZAR14.25M) that Repli has entered into with AASMF. Balance shown as at 31 Mar'19.

7. Refer to ASX release 25 Jan'19 and the Company's Half Year Accounts for period ended 31 Dec'18 for information related to the Convertible Notes.

8. Orion announced on 25 Jan'19 that it had entered into a \$3.6M loan facility with Tembo Capital (excluding capitalised interest and fees) (**Loan Facility**). Under the terms of the Loan Facility, Tembo may at its election have the balance of the Loan Facility settled by the issue of Shares at a deemed issue price of 2.6cps (subject to receipt of shareholder approval). Refer to ASX release 25 Jan'19 and the Company's Half Year Accounts for the period ended 31 Dec'18 for additional information. Balance shown as at 31 Mar'19.

9. Calculated based on closing price of ORN Shares on the ASX on 21 June'19. Closing price of ORN Shares on the JSE on 21 June'19 was ZAR0.30.

10. Alexander Haller is deemed to have a relevant interest in securities held by Silja Investment.

# APPENDICES



# BANKABLE FEASIBILITY STUDY DASHBOARD



Price and FX Assumptions	Unit	Value	Financial Performance	Unit	Value
Metal price – Cu	USD/t	6,834	NPV pre-tax (post-tax) @ 8.0% discount rate	AUD M	574 (408)
Metal price – Zn	USD/t	2,756	IRR pre-tax (post-tax)	%	38% (33%)
Exchange rate	ZAR:USD	14.5 :1	Payback from first production	years	2.9
Exchange rate	ZAR:AUD	10 : 1	Undiscounted free cash flow pre-tax (post-tax)	AUD M	1,127 (819)
Exchange rate	AUD:USD	1.45 : 1	Peak funding	AUD M	378
Production Metrics	Unit	Value	Project Cost Metrics	Unit	Value
Life of Mine	Years	9.7	Average cash operating unit cost (C1)	AUD/t	80
Treatment plant capacity	Mtpa	2.4	All-in-sustaining cost per unit ROM t	AUD/t	94
ROM Plant Feed – tonnage	kt	20,827	All-in-sustaining cost per unit Cu_Eq t sold	AUD/t Cu	5,470
ROM Plant Feed – grade - Cu	%	1.1%	All-in-sustaining cost per unit Zn_Eq t sold	AUD/t Zn	1,582
ROM Plant Feed – grade - Zn	%	3.4%	Price received (net of NSR) - Cu	AUD/t Cu	9,785
Concentrate tonnage - Cu	kt	790	Price received (net of NSR) - Zn	AUD/t Zn	2,830
Concentrate tonnage - Zn	kt	1,180	All-in-sustaining margin	%	44%
Concentrate grade – Cu U/G (O-Pit)	%	23.8% (25.6%)	Operating breakeven grade (Cu_Eq)	%	1.2%
Concentrate grade – Zn U/G (O-Pit)	%	49.9% (35.5%)			
NSR as % of metal price – Cu U/G (O-Pit)	%	98.7% (91.2%)			
NSR as % of metal price – Zn U/G (O-Pit)	%	71.3% (53.7%)	Project Cash Flows	Unit	Value
Metal sold (in concentrates) - Cu	tonnes	189,000	LoM net revenue	AUD M	3,284
Metal sold (in concentrates) - Zn	tonnes	580,000	LoM operating costs (+ Royalty and Tax)	AUD M	1,673
Total Sales as Cu equivalent	tonnes	357,000	Project Start-up Capital Expenditure	AUD M	402
Total Sales as Zn equivalent	tonnes	1,230,000	Sustaining Capital Expenditure	AUD M	83

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

Table: Key BFS Results for the Foundation Phase of the Prieska Copper-Zinc Project. Note that the Study estimation accuracy level is ±15%.



# STRONG CASHFLOW



# CONSTRUCTION MILESTONES

[illegible]

# MINERAL RESOURCE

Total Prieska Project Mineral Resource for Repli + Vardocube Tenements (Effective Date: 11 January 2019)						
Mineral Resource	Classification	Tonnes	Cu (tonnes)	Cu (%)	Zn (tonnes)	Zn (%)
Deep Sulphide Resource	Indicated	18,507,000	217,000	1.17	667,000	3.60
	Inferred	10,219,000	117,000	1.1	417,000	4.1
+ 105m Level Resource	Indicated	624,000	10,000	1.54	19,000	3.05
	Inferred	1,138,000	17,000	1.4	16,000	1.4
<b>Total</b>	Indicated	19,131,000	227,000	1.18	686,000	3.59
	Inferred	11,357,000	134,000	1.2	433,000	3.8
<b>Grand Total</b>		<b>30,488,000</b>	<b>361,000</b>	<b>1.2</b>	<b>1,119,000</b>	<b>3.7</b>
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.						

**The Mineral Resources are inclusive of the Mineral Reserves**

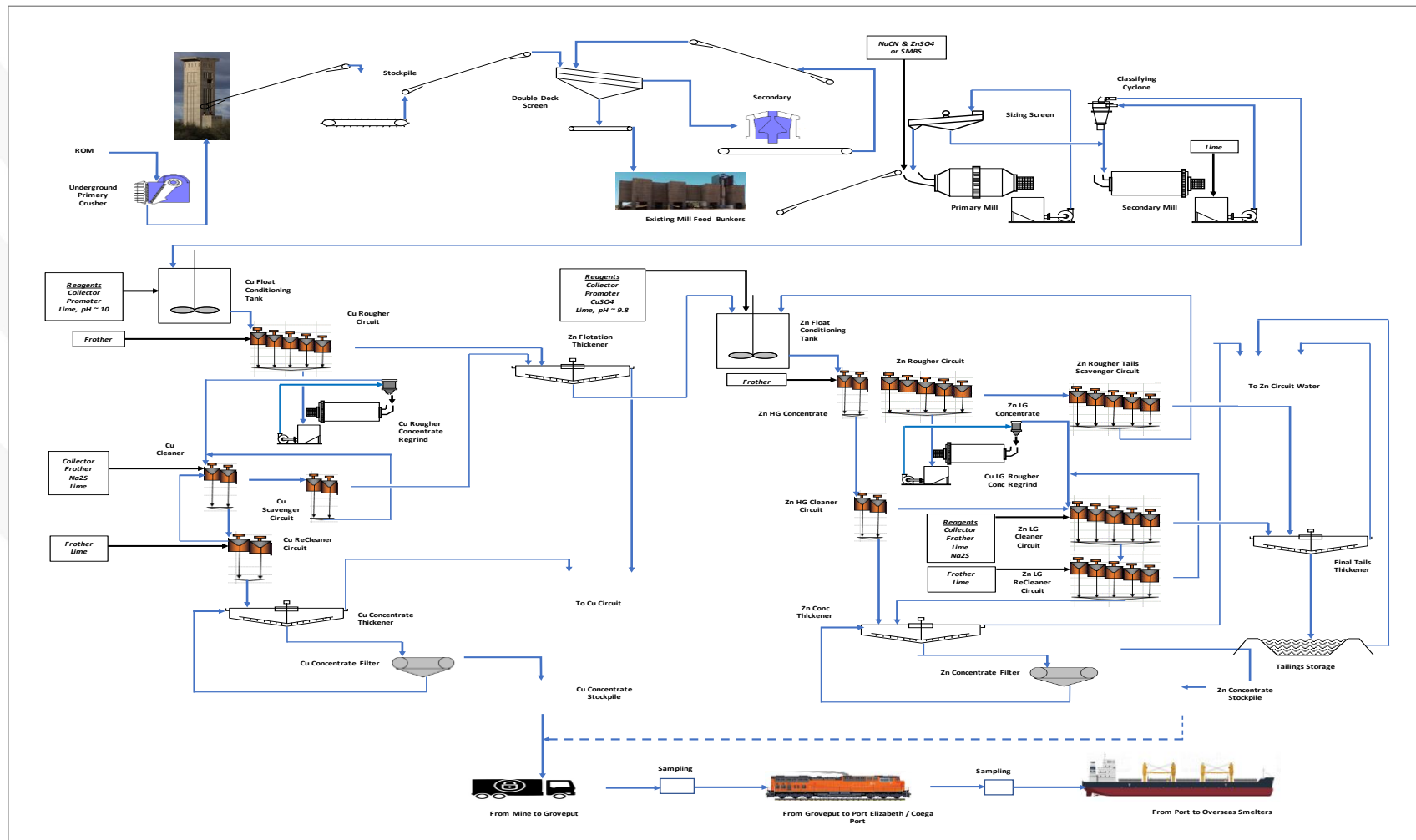


# MINERAL RESERVE

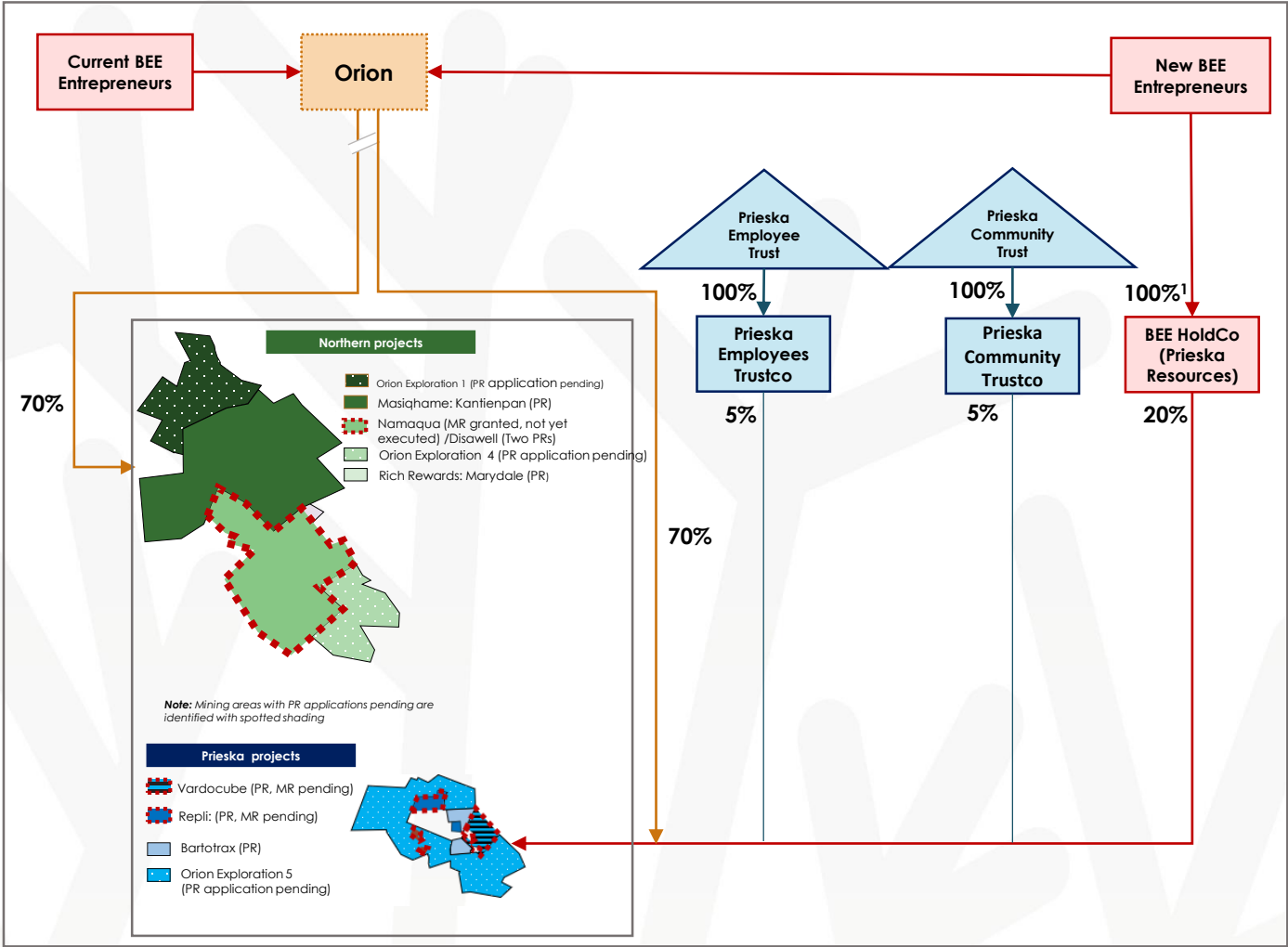
Preiska Project Ore Reserves Estimate (Effective Date: 16 June 2019)								
Deposit	Ore Reserve Classification	Tonnage (Mt)	Cu		Zn		Cu Equivalent	
			Metal Tonnes (kt)	Grade (%)	Metal Tonnes (kt)	Grade (%)	Metal Tonnes (kt)	Grade (%)
+ 105 Supergene	Probable	0.48	7	1.5	16	3.3	11	2.2
Deep Sulphide	Probable	13.14	136	1.0	417	3.2	257	2.0
<b>Total</b>	<b>Probable</b>	<b>13.62</b>	<b>143</b>	<b>1.1</b>	<b>433</b>	<b>3.2</b>	<b>268</b>	<b>2.0</b>

Prieska Ore Reserves calculated using financial assumptions and modifying factors stated in the Study. Tonnes are rounded to thousands, which may result in rounding errors.

# MINE FACE TO MARKET



# PIVOTAL BEE TRANSACTION



**Note 1:**  
The BEE entrepreneurs own 100% of the ordinary shares in BEE HoldCo (Prieska Resources), while Orion, through one of its subsidiary companies, holds a 10% voting right. BEE entrepreneurs are required to fund their equity contribution.





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