



**IVANHOE MINES**  
NEW HORIZONS

# IVANHOE MINES TD MINING CONFERENCE

Platreef PGMs-Nickel-Copper Mine being developed in South Africa



# FORWARD-LOOKING STATEMENTS & QUALIFIED PERSON

This presentation has been prepared solely for informational purposes. You should not definitively rely upon it or use it to form the definitive basis for any decision, contract, commitment or action whatsoever, with respect to any proposed transaction or otherwise.

Certain statements in presentation constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws, including, without limitation, the timing and results of: (i) statements regarding the ongoing development and exploration work at the Kamoa-Kakula Project, including drilling, decline development, and feasibility, pre-feasibility and preliminary economic assessment (PEA) studies; (ii) statements regarding the ongoing development work, including shaft sinking and feasibility, pre-feasibility and PEA studies, at the Platreef Project; and (iii) statements regarding ongoing upgrading and development work and feasibility, pre-feasibility and PEA studies at the Kipushi Project. As well, the results of the pre-feasibility study and PEA of the Kamoa-Kakula Project, the feasibility study of the Platreef Project and the pre-feasibility study of the Kipushi Project constitute forward-looking information, and include future estimates of internal rates of return, net present value, future production, estimates of cash cost, proposed mining plans and methods, mine life estimates, cash flow forecasts, metal recoveries, and estimates of capital and operating costs.

Such statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Ivanhoe, its mineral projects, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as "may", "would", "could", "will", "intend", "expect", "believe", "plan", "anticipate", "estimate", "scheduled", "forecast", "predict" and other similar terminology, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. These statements reflect Ivanhoe's current expectations regarding future events, performance and results and speak only as of the date of this presentation.

In making such statements, Ivanhoe has made assumptions regarding, among other things: the accuracy of the estimation of mineral resources; that exploration activities and studies will provide results that support anticipated development and extraction activities; that studies of estimated mine life and production rates at the Kamoa-Kakula, Kipushi and Platreef projects will provide results that support anticipated development and extraction activities; that Ivanhoe will be able to obtain additional financing on satisfactory terms; that infrastructure anticipated to be developed or operated by third parties, including electrical generation and transmission capacity, will be developed and/or operated as currently anticipated; that laws, rules and regulations are fairly and impartially observed and enforced; that the market prices for relevant commodities remain at levels that justify development and/or operation; that Ivanhoe will be able to successfully negotiate land access with holders of surface rights; and that war, civil strife and/or insurrection do not impact Ivanhoe's exploration activities or development plans.

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This presentation also contains references to estimates of Mineral Resources. The estimation of Mineral Resources is inherently uncertain and involves subjective judgments about many relevant factors. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The accuracy of any such estimates is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation (including estimated future production from the company's projects, the anticipated tonnages and grades that will be mined and the estimated level of recovery that will be realized), which may prove to be unreliable and depend, to a certain extent, upon the analysis of drilling results and statistical inferences that ultimately may prove to be inaccurate. Mineral Resource estimates may have to be re-estimated based on: (i) fluctuations in copper, nickel, zinc, platinum-group elements (PGE), gold or other mineral prices; (ii) results of drilling, (iii) metallurgical testing and other studies; (iv) proposed mining operations, including dilution; (v) the evaluation of mine plans subsequent to the date of any estimates; and (vi) the possible failure to receive required permits, approvals and licences.

Disclosures of a scientific or technical nature regarding the revised capital expenditure and development scenarios at the Kamoa-Kakula Project in this presentation have been reviewed and approved by Steve Amos, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Amos is not independent of Ivanhoe within the meaning of NI 43-101. Other disclosures of a scientific or technical nature in this presentation have been reviewed and approved by Stephen Torr, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Torr is not independent of Ivanhoe within the meaning of NI 43-101. Information in this presentation is based upon, and certain information is extracted directly from, NI 43-101 compliant technical reports prepared by Ivanhoe for each of the Kamoa-Kakula Project, the Platreef Project and the Kipushi Project, which are available under the company's SEDAR profile at [www.sedar.com](http://www.sedar.com). These technical reports include relevant information regarding the effective date and the assumptions, parameters and methods of the mineral resource estimates on the Kamoa-Kakula Project, Kipushi Project and Platreef Project cited in this presentation, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this presentation in respect of the Kamoa-Kakula Project, Platreef Project and Kipushi Project.

# IVANHOE AT A GLANCE

## CORPORATE INFORMATION

<b>LISTINGS</b>	TSX: IVN OTCQX: IVPAF	
<b>SHARE PRICE</b>	C\$4.04 / share <sup>(1)</sup>	
<b>MARKET CAP</b>	US\$3.6 billion <sup>(1)</sup>	
<b>SHARES, OPTIONS &amp; RSU</b>	Common Shares: 1,197 million <sup>(2)</sup> Options and other: 31 million <sup>(2)</sup>	
<b>CASH POSITION</b>	US\$808 million <sup>(3)</sup>	
<b>MAJOR SHAREHOLDERS</b>	CITIC Metal	26.4%
	Zijin Mining	13.8%
	Robert Friedland	13.3%
	Institutional Investors	Fidelity Blackrock Invesco Skagen AS Rothschild Oppenheimer Vanguard

1. As of January 20, 2020 using a US\$:C\$ exchange rate of 1.32.

2. As of January 20, 2020.

3. Cash & cash equivalents as of September 30, 2019.



Kakula Copper Mine being developed in DRC

# INVESTMENT HIGHLIGHTS



Three disruptive world-class projects in their respective commodities: copper, zinc, and PGMs



Significant growth in reserves and resources in some of the world's largest, highest-grade deposits



Well funded with strong financial partners



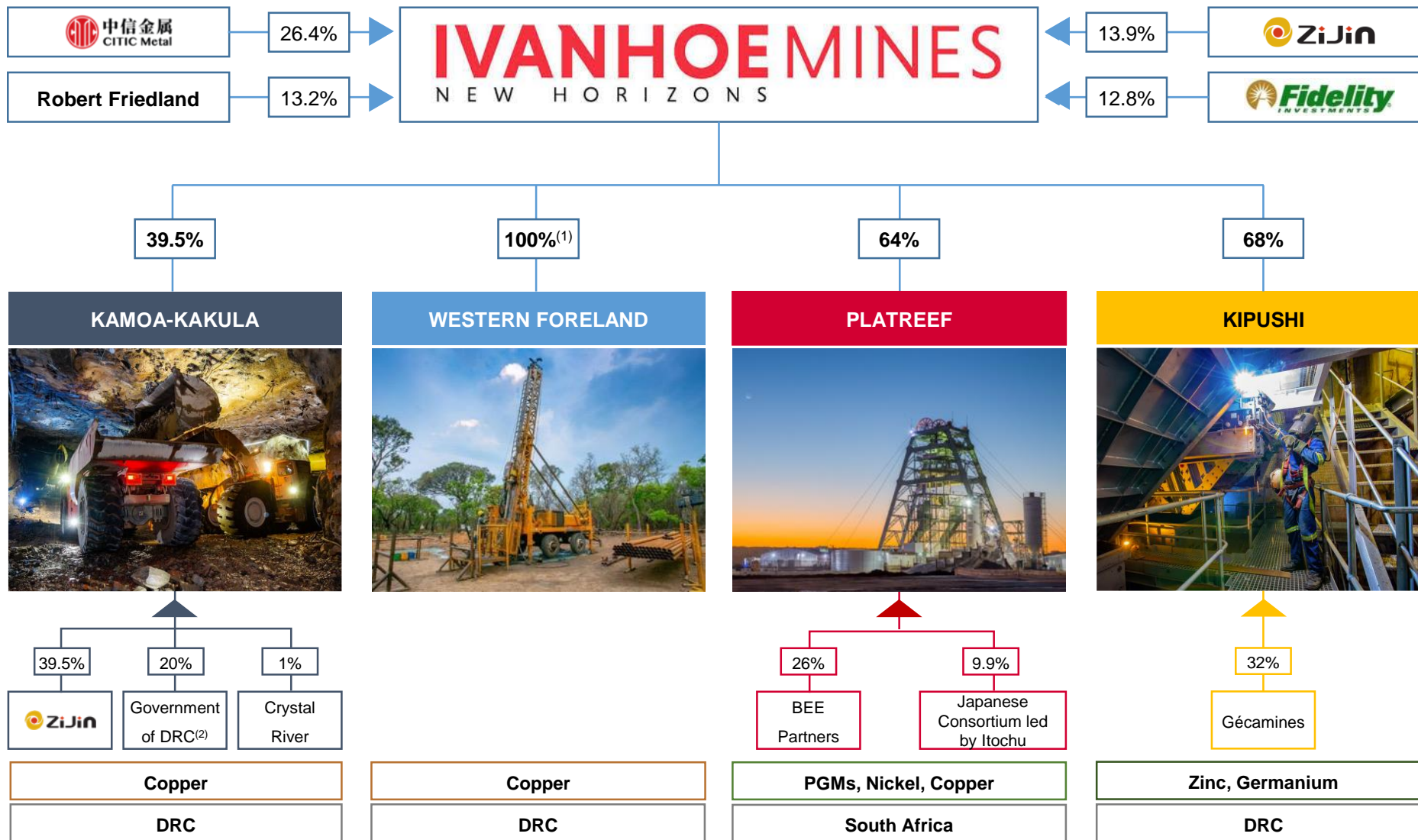
Partnership with CITIC and Zijin will allow for a new, large Canadian-based diversified mining company



Experienced management team, with strong track record of creating value through exploration and development



# CORPORATE STRUCTURE



1. Required to sell down to 90% interest under DRC law.  
 2. 5% free carry, 15% carry.

# EXPERIENCED BOARD AND MANAGEMENT TEAM

## BOARD OF DIRECTORS



**Mr. Robert Friedland**, Founder and Executive Co-Chairman

- Recognized as an entrepreneurial explorer, technology innovator, and company builder
- Inducted to the prestigious Canadian Mining Hall of Fame in 2016
- Led some of the world's largest mineral discoveries including Oyu Tolgoi, Voisey's, Fort Knox, and Kamoakakula



**Mr. Yufeng "Miles" Sun**, Non-Executive Co-Chairman

- Chairman of CITIC Resources Holdings Limited, and President of CITIC Metal Group Limited
- More than 32 years working experience in metals and mining industry. During this period, he has successfully invested in many quality assets at home and abroad



**Mr. Egizio Bianchini**, Executive Vice Chairman

- Former Co-Head of Global Metals & Mining Group and Vice Chairman at BMO Capital Markets
- Has over 30 years of experience in the global metals and mining sector, and played instrumental roles in a number of key financing and mergers and acquisition transactions



**Mr. Chen Jinghe**, Independent Director

- Founder and core leader of Zijin Mining
- The key discoverer, researcher and development organizer of the Zijinshan Gold and Copper Mine
- Obtained more than 10 national, provincial and ministerial-level science and technology awards and owns 11 patents



**Mr. Tadeu Carneiro**, Lead Independent Director

- Chief Executive Officer of Boston Electrometallurgical Corporation, and an invited lecturer in the Department of Materials Science and Engineering at the Massachusetts Institute of Technology
- Spent 30 years with Companhia Brasileira de Metalurgia e Mineração (CBMM) in progressively senior leadership positions

## EXECUTIVE MANAGEMENT TEAM



**Mr. Tony Giardini**

President

- Former Executive Vice President and Chief Financial Officer of Toronto-based Kinross Gold
- Former Chief Financial Officer of the original Ivanhoe Mines (now Turquoise Hill Resources)



**Ms. Marna Cloete**

Chief Financial Officer

- Previous role with PricewaterhouseCoopers in the Metals and Mining Division with a client base that included Harmony Gold Mining Company Limited, Palabora Mining Company (a member of the Rio Tinto Group) and Ingwe Collieries (a subsidiary of the Energy Coal Division of BHP Billiton)



**Warwick Morley-Jepson**

Chief Operating Officer

- +37-year career in mining, with executive positions in underground and open-pit gold and platinum mining operations and development projects. Former senior executive at Kinross Gold.
- Experience in West and North Africa



**Mr. Mark Farren**

Chief Executive Officer, Kamoakakula Joint Venture

- Former Head of Mining of Amplats (South African operations of Johannesburg-based Anglo American Platinum)
- Previous role leading development, commissioning and operation of expanded Tharisa Mine, on the Western Limb of South Africa's Bushveld Complex

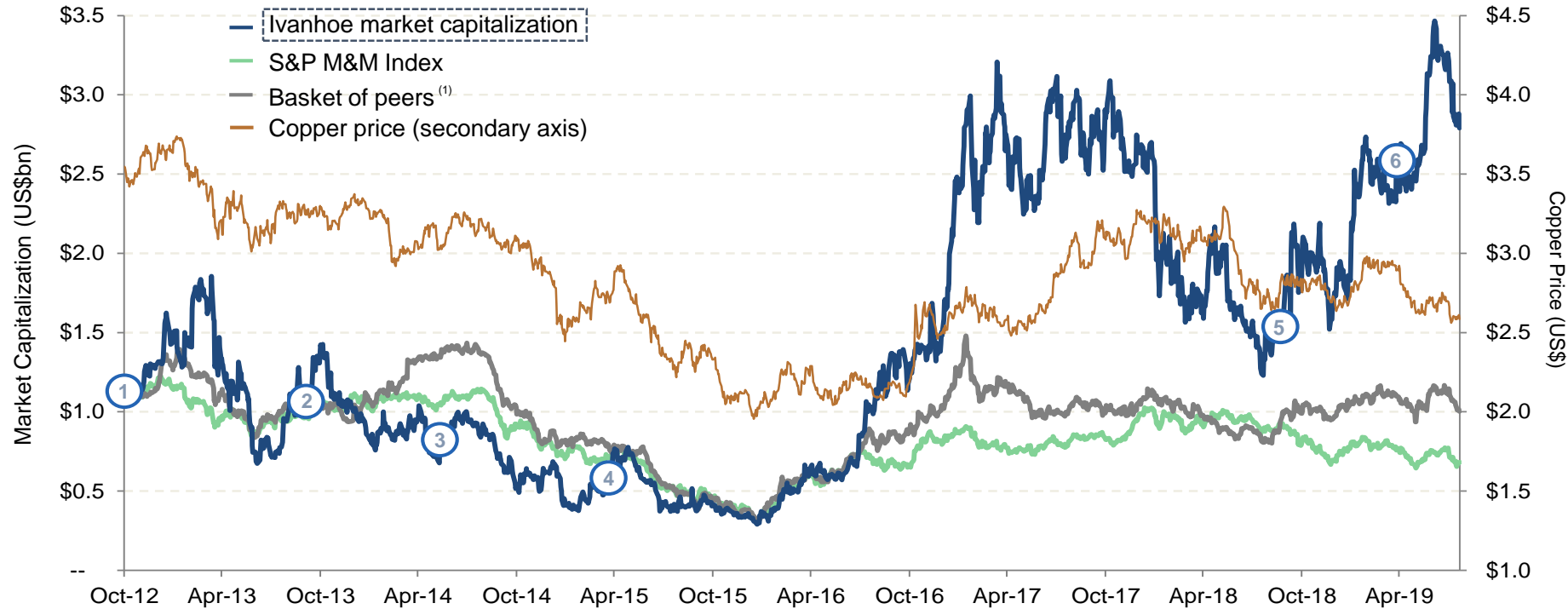


**Dr. Patricia Makheshu**

Managing Director, Platreef Project

- Has served on the boards of GlaxoSmithKline, Rand Water Board, Trans Caledon Tunnel Authority, Construction Industry Development Board, South African Broadcasting Corporation & Co-operative Bank Development Agency
- Founder and Chief Executive Officer of MMMS Consulting

# WORLD'S LEADING MINING DEVELOPMENT COMPANY



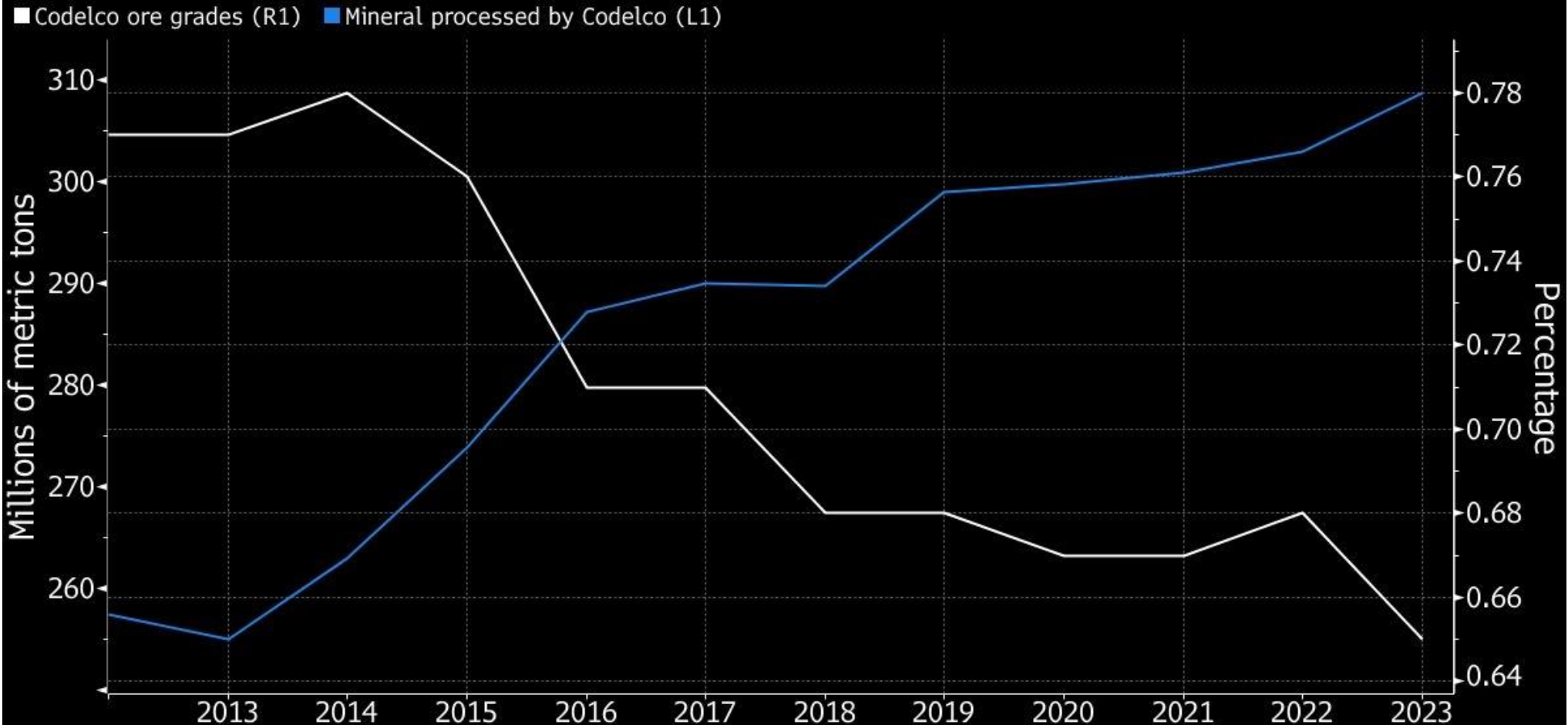
Broker <sup>(2)</sup>	Target Price (C\$)
AB Bernstein	\$16.00
BMO Capital Markets	\$9.00
Canaccord Genuity	\$8.50
RBC	\$7.00
TD Securities	\$6.50
Raymond James	\$6.00
Macquarie	\$5.50
Paradigm	\$4.65
CIBC	\$4.30
Median	\$6.50
<b>Current Price<sup>(3)</sup></b>	<b>\$4.04</b>
<b>Premium</b>	<b>72%</b>

1. Peers include: Trilogy, SolGold, Nevada Copper, Polymet, MOD (acquired by Sandfire Resources in Jun-19), Northern Dynasty, NGEx (now: Josemaria Resources), Western Copper, Royal Bafokeng, Tharisa, Platinum Group Metals Ltd.
2. Other brokers for whom target prices is not available include: Global Mining Research and Nedbank.
3. As of January 20, 2020.

# CODELCO'S GRADE PROBLEM – MINING MORE, PRODUCING LESS

## Falling Grade

Codelco needs to process more mineral to maintain output levels



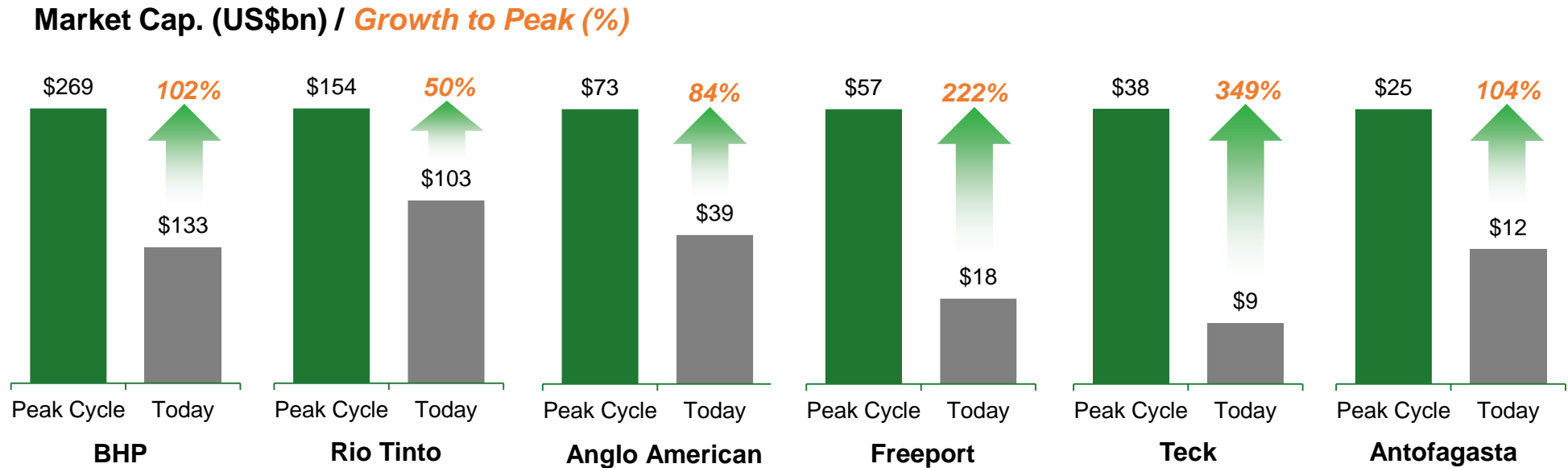
Source: Codelco | Note: 2019-2023 data is estimate

Bloomberg

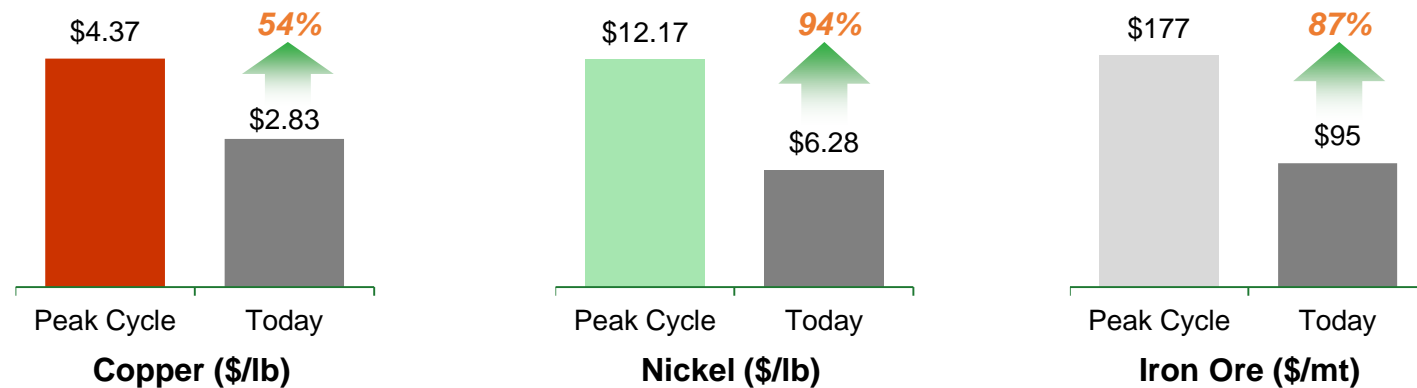


# ENVIRONMENT FOR RETURN TOWARD PEAK CYCLE VALUATIONS

Valuation of Mining Majors – Peak Cycle Value (Early-2011) vs. Today



Core Commodities – Prices at Peak Cycle (Early-2011) vs. Today



# KAMOA-KAKULA

## World's largest high-grade copper discovery

### UNRIVALLED RESOURCE BASE

- World's largest, high-grade undeveloped copper deposits with 36.6 Mt (Ind.) + 5.6 Mt (Inf.) of contained Cu<sup>(1)</sup>
- Mineral reserves of 6.6 Mt of contained Cu at an average grade of 5.48% Cu<sup>(2)</sup>
- Open down dip and along strike – excellent exploration potential

### PHASED APPROACH MINIMIZES RISKS AND PROVIDES OPTIONALITY

- Phased approach to development minimises initial capital requirement
- Cash flow from initial operations to contribute to an expanded operation
- Lowest capital intensity of all copper projects globally<sup>(3)</sup>; current in development

### LOW CASH COSTS

- Positioned to be among the world's lowest-cost copper mines
- Expected to rank in the lowest quartile of the global cash cost curve

### VIABLE POWER AND INFRASTRUCTURE

- Agreement in place to rehabilitate three hydroelectric power plants; providing sufficient power
- Phased logistics solution initially exporting to Durban (South Africa), and then by rail to the port of Lobito (Angola)

### CONSTRUCTION AND DEVELOPMENT IS UNDERWAY

- In full construction, with first concentrate production expected in Q3 2021
- Substantially richer, thicker and more consistent mineralization
- 740 ktpa of Kakula + Kamoa + Kakula West peak copper production would establish the project as the second largest copper mine globally

1. At 1.0% copper cut-off.

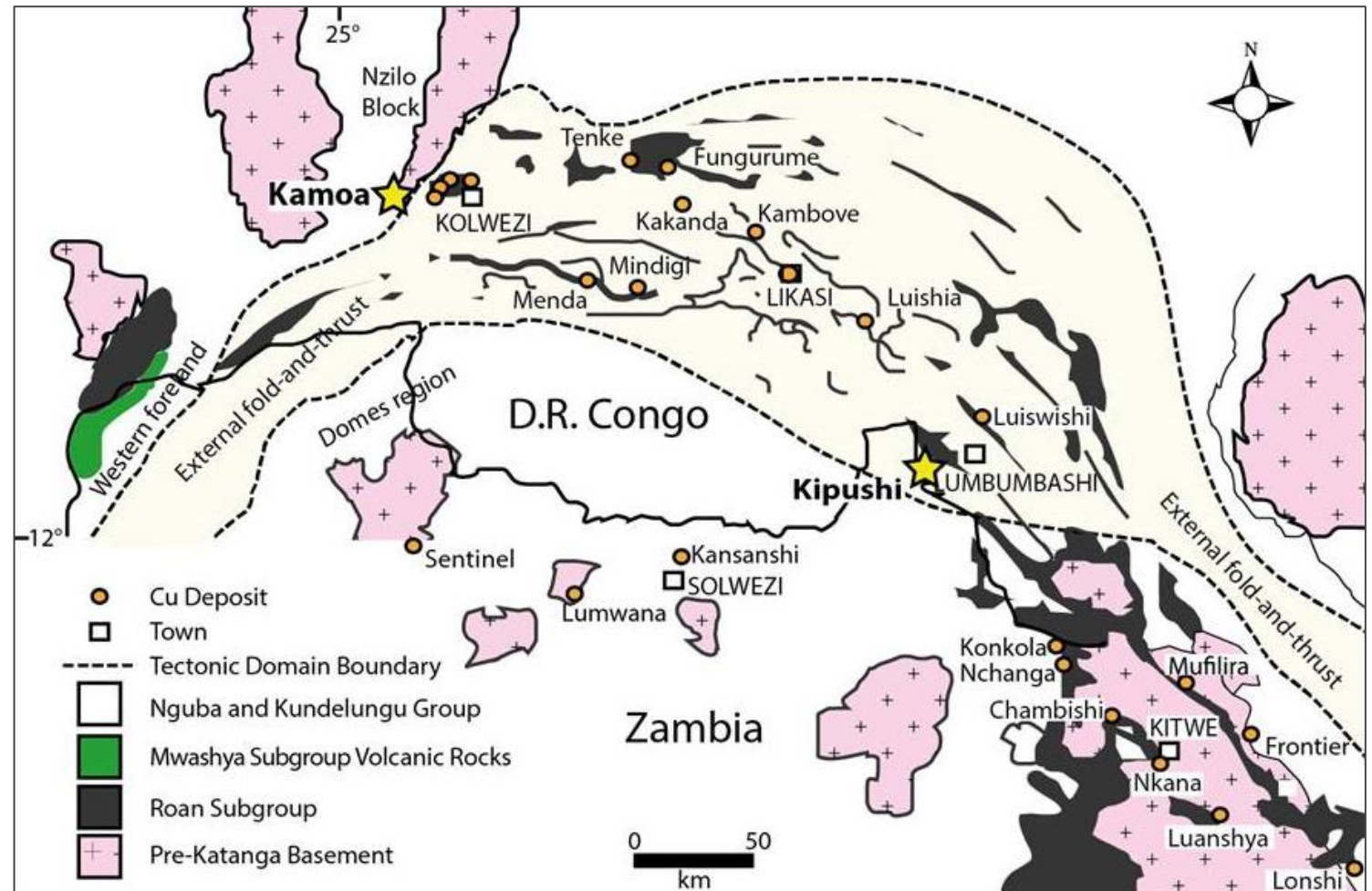
2. Kakula Mineral Reserves as of February 1, 2019.

3. All comparable "recently approved", "probable" and "possible" projects with nominal copper production capacity > 200ktpa (based on public disclosure and information gathered in the process of routine research) as identified by Wood Mackenzie.



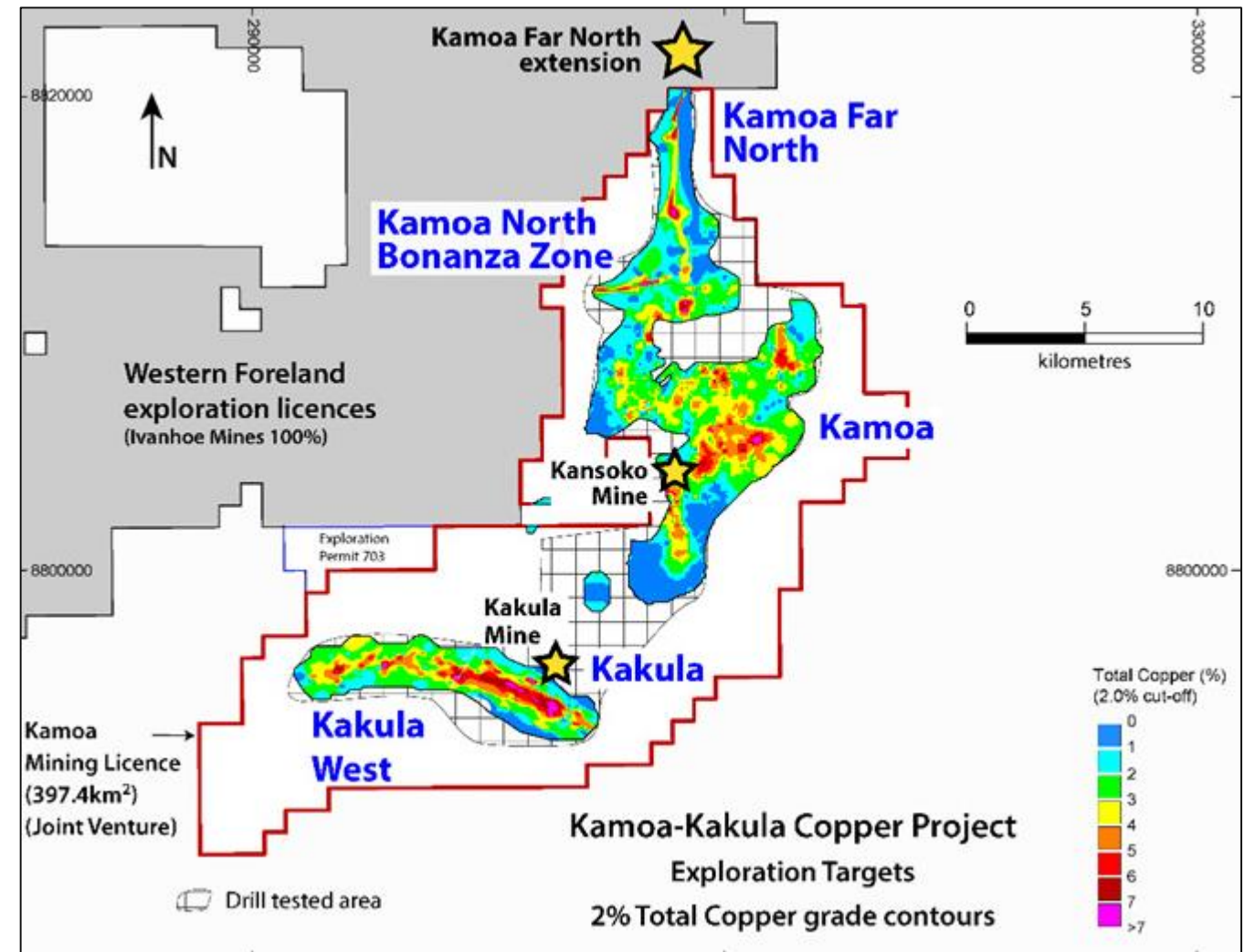
# KAMOA-KAKULA IS THE FIRST MAJOR COPPER DISCOVERY WITHIN THE CENTRAL AFRICAN COPPERBELT SINCE THE EARLY 1990s

Geologically distinct, yet geographically next door to the well-known Kolwezi deposits



# KAMOA-KAKULA

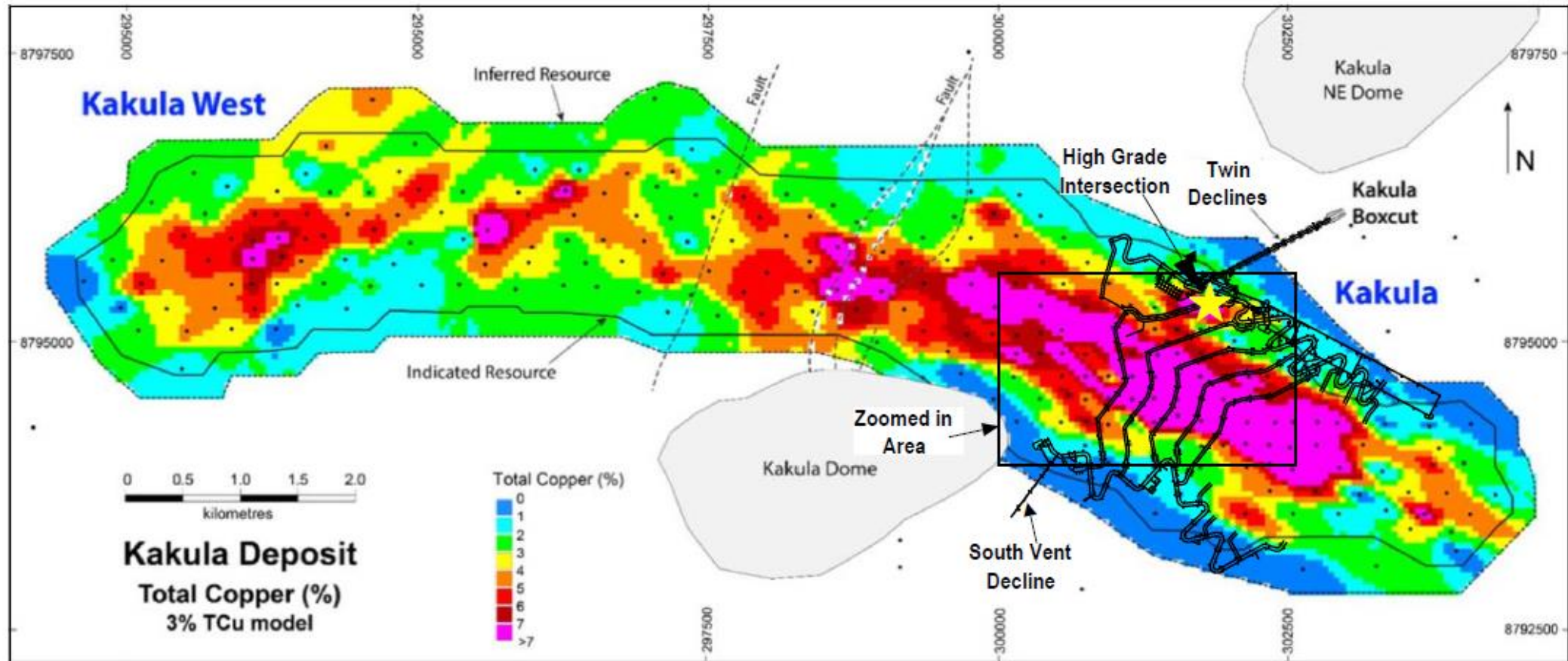
Category	Mt	Cu %	Cu Bnlb	Cu Mt
Probable (Kakula)	120	5.48	14.5	6.6
Probable (Kamoa)	125	3.81	10.5	4.7
<b>Total Reserves</b>	<b>245</b>	<b>4.63</b>	<b>25.0</b>	<b>11.3</b>
Indicated (Kakula)	628	2.72	37.6	17.1
Indicated (Kamoa)	759	2.57	43.0	19.5
<b>M&amp;I Resources<sup>(1)</sup></b>	<b>1,387</b>	<b>2.64</b>	<b>80.6</b>	<b>36.6</b>
Inferred (Kakula)	114	1.59	4.0	1.8
Inferred (Kamoa)	202	1.85	8.2	3.7
<b>Inferred Resources<sup>(1)</sup></b>	<b>316</b>	<b>1.76</b>	<b>12.2</b>	<b>5.6</b>



Very large resource with prospective newly discovered ultra high-grade zones, such as Kakula & Kamoa North



# FIVE YEAR DEVELOPMENT PLAN



**Kakula Indicated Resources - 174 million tonnes at 5.62% copper<sup>(1)</sup>**

1. 3.0% cut-off, per February 2018 resource update.



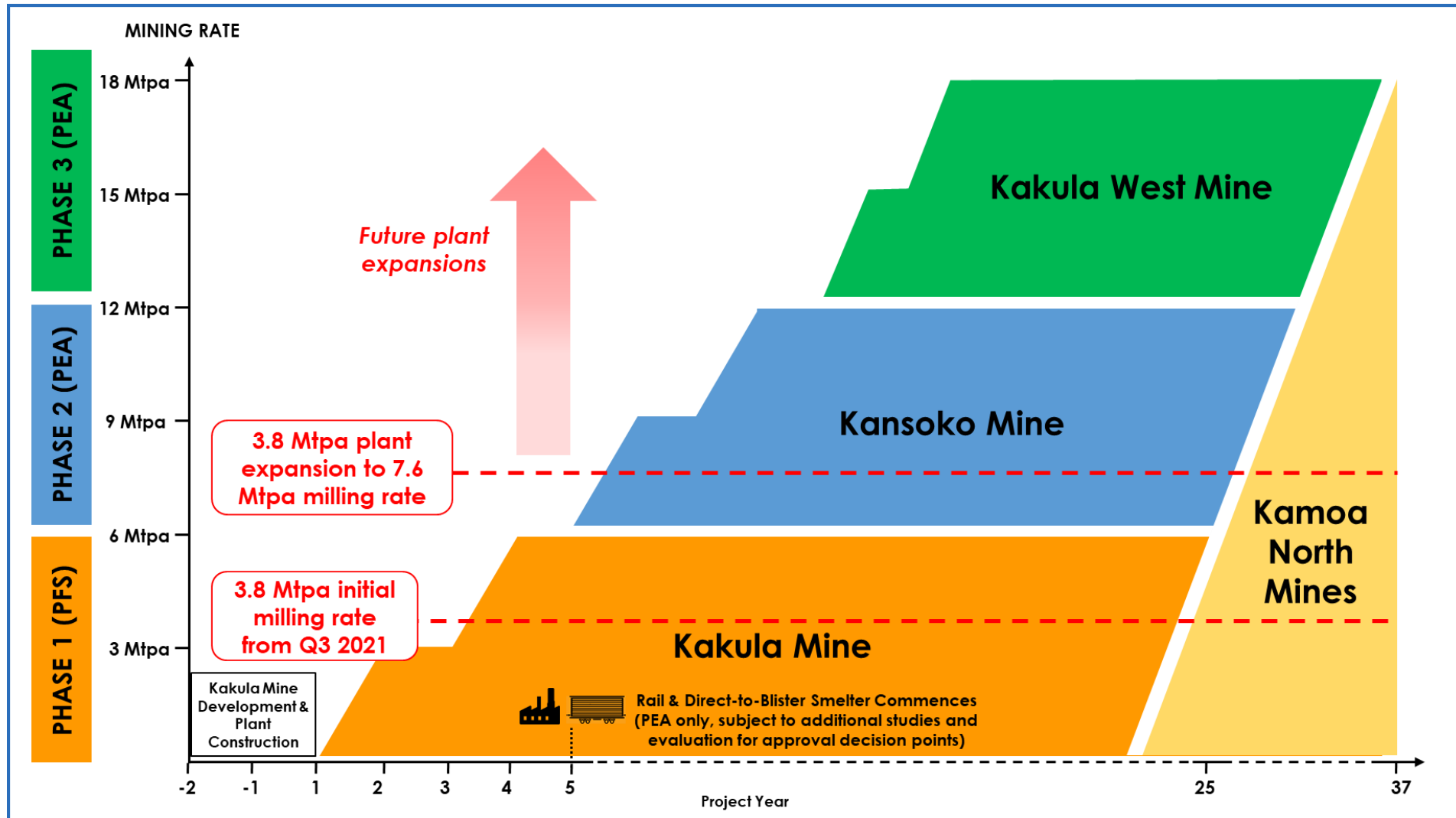
# KAMOA-KAKULA IN CONSTRUCTION





# KAMOA-KAKULA INTEGRATED DEVELOPMENT PLAN

Once Fully Expanded, Kamoa-Kakula Will Become the World's Second Largest Copper Mine



# LATEST PEA AND PFS RESULTS

Description	Kakula PFS (Feb. 2019)	Kamoa-Kakula PEA (Feb. 2019)
Mining Area	Kakula	Kakula + Kamoa + Kakula West
Steady State Production	6 Mt	18 Mt (6 + 6 + 6 Mt)
Copper Feed Grade <sup>(1)</sup>	6.39%	5.66%
Copper Recovery <sup>(2)</sup>	85.4%	85.1%
Copper Concentrate Grade <sup>(2)</sup>	57.3%	45.2%
Copper Concentrate Produced <sup>(2)</sup>	391 ktpa	1,055 ktpa
Copper Metal Produced <sup>(2)</sup>	224 ktpa	472 ktpa
Peak Copper Metal Produced	360 ktpa (Yr. 4)	740 ktpa (Yr. 12)
Mine Site Cash Cost <sup>(1)</sup>	\$0.46/lb	\$0.63/lb
Total Cash Cost <sup>(1)</sup>	\$1.11/lb	\$0.93/lb <sup>(3)</sup>
Peak Funding	\$1,099M	\$1,099M
After-tax NPV <sub>8%</sub> <sup>(4)</sup>	\$5,440M	\$10,030M
IRR (Real %) <sup>(4)</sup>	46.9%	40.9%

**3.8 Mtpa + 3.8 Mtpa  
capacity<sup>(5)</sup>**

**\$1.3Bn initial  
capex<sup>(5)</sup>**

1. First ten year average.
2. Life-of-mine average.
3. Cash cost after acid credits (before credits: \$1.04/lb Cu).
4. Consensus long-term copper price of \$3.10/lb and \$250/t acid. Includes the impact of the 2018 DRC Mining Code. Does not incorporate revised capex and 3.8 Mtpa throughput guidance announced on November 8, 2019.
5. Initial capex and plant capacity guidance revised in November 8, 2019 quarterly results announcement.

# KAMOA-KAKULA: OUTSTANDING FINANCIAL RETURNS

Large Resource

Very High Grade

Low Cost

Low Capital Intensity

Phase 1<sup>(1)</sup> – February 2019 PFS

Phase 2,3<sup>(2)</sup> – February 2019 PEA

**47% IRR<sup>(3)</sup>**

**US\$5.4 billion After-Tax NPV<sup>(3)</sup>**

- \$1.1 billion peak funding capex
- 6 Mt per year steady state production
- 6.4% Cu feed grade
- 391 ktpa Cu concentrate produced
  - 224 ktpa Cu metal produced
  - Peak production: 360 ktpa (yr4)
- \$1.11 /lb total cash cost

**\$1.3Bn initial capex<sup>(4)</sup>**

**3.8 Mtpa + 3.8 Mtpa capacity<sup>(4)</sup>**

**41% IRR<sup>(3)</sup>**

**US\$10.0 billion After-Tax NPV<sup>(3)</sup>**

- \$1.1 billion peak funding capex
- 18 Mt per year steady state production
  - Kakula, Kamoa and Kakula West (6+6+6Mt)
- 5.7% Cu feed grade
- 1,055 ktpa Cu concentrate produced
  - 472 ktpa Cu metal produced
  - Peak production: 740 ktpa (yr12)
- \$0.93 /lb total cash cost

**Note:** First 10 year averages shown for copper feed grade and total cash cost. Life-of-mine average shown for production metrics.

1. 100%, Feb-2019 Pre-Feasibility Study.

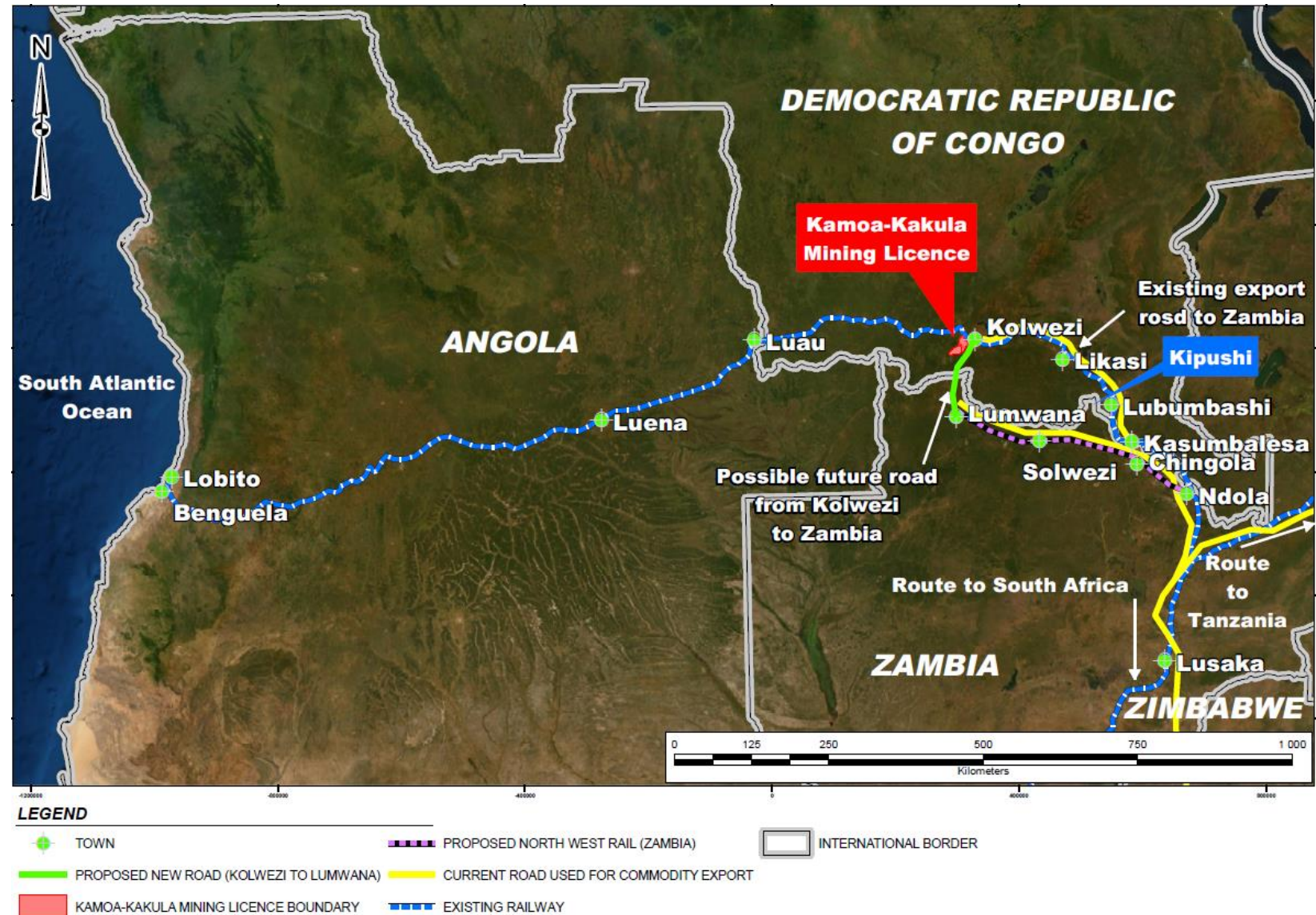
2. 100%, Feb-2019 Preliminary Economic Assessment.

3. Does not incorporate revised capex and 3.8 Mtpa throughput guidance announced on November 8, 2019.

4. Initial capex and plant capacity guidance revised in November 8, 2019 quarterly results announcement.

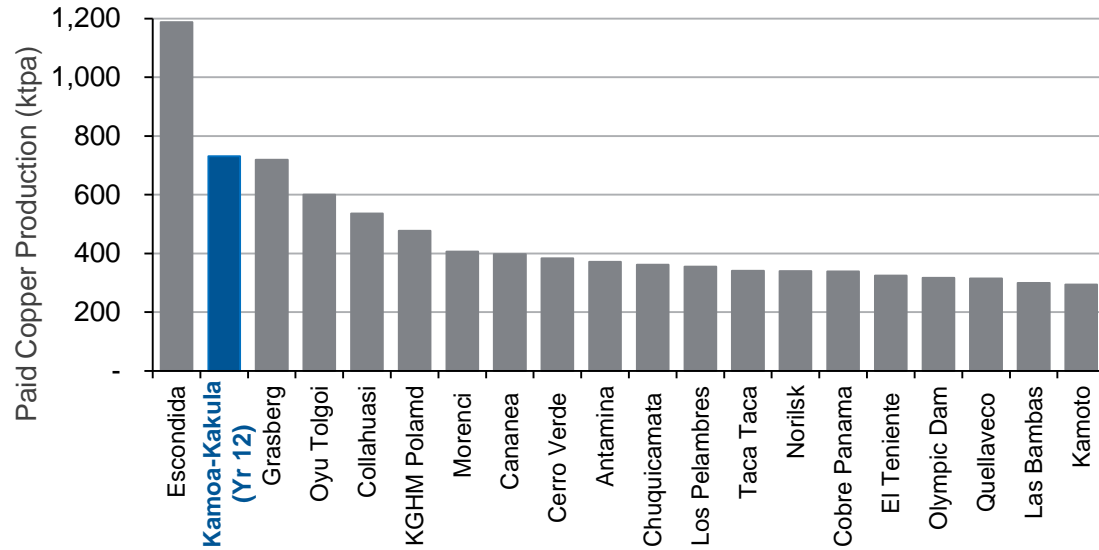


# Operational railway linking DRC mines with Angola's Atlantic port of Lobito

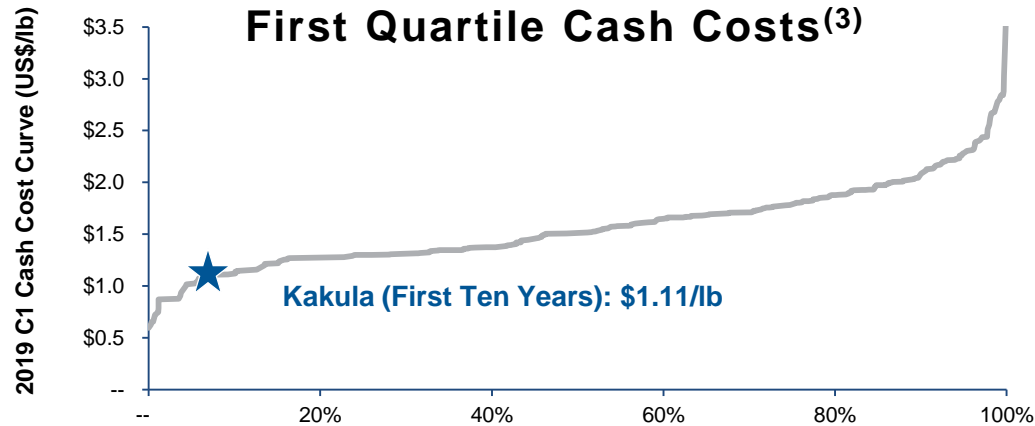
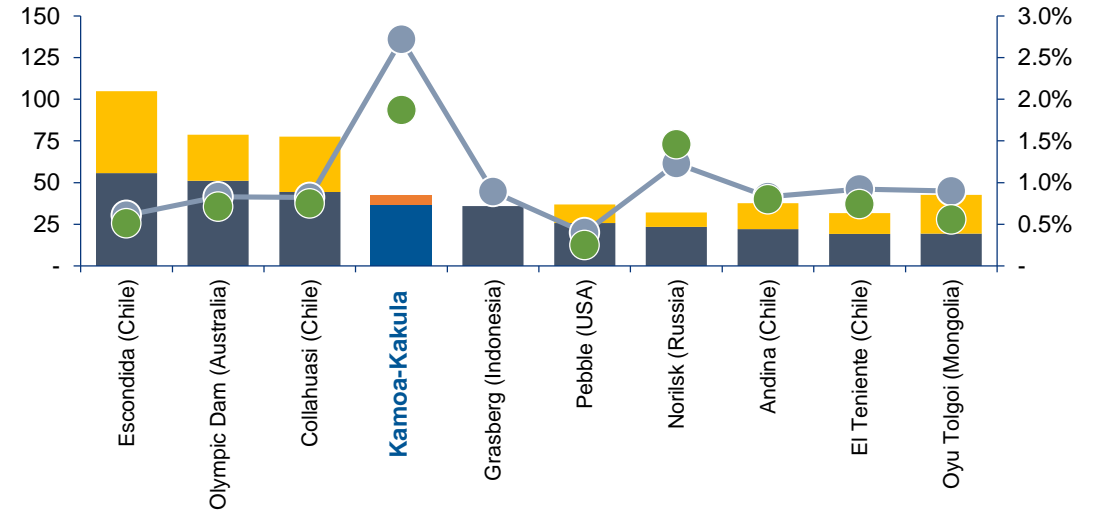


# KAMOA-KAKULA: THE WORLD'S NEXT GREAT COPPER MINE

## One of the World's Largest Copper Mines<sup>(1)</sup>

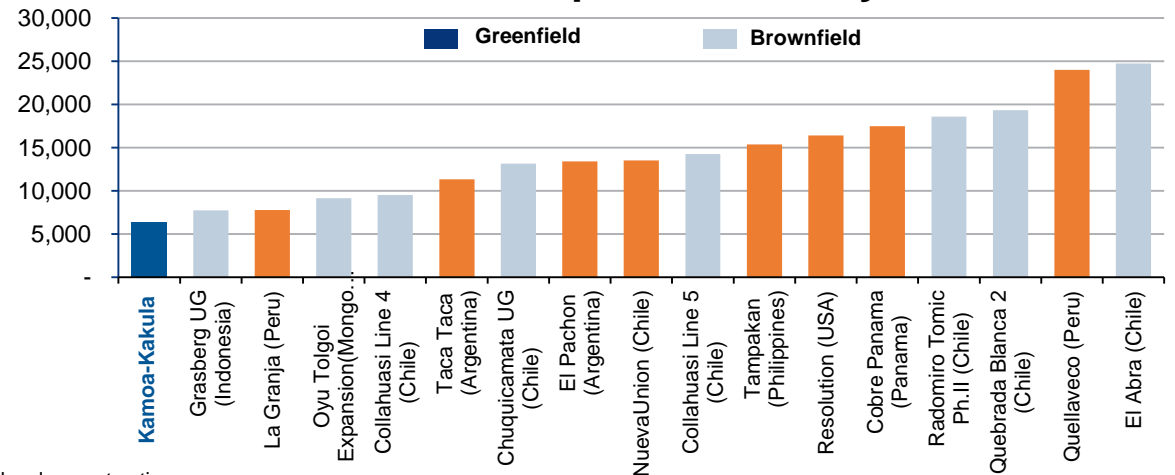


## The World's Largest High-Grade Copper Deposit<sup>(2)</sup>



## First Quartile Cash Costs<sup>(3)</sup>

## Lowest Capital Intensity<sup>(4)</sup>



Source: Company filings, Wood Mackenzie.

1. Kamoa-Kakula 2019 PEA production based on projected peak copper production (which occurs in year 12) of the 18 Mtpa alternative development option.

2. Selected based on copper contained in Measured & Indicated Mineral Resources, inclusive of Mineral Reserves.

3. Represents Wood Mackenzie C1 pro-rata cash costs. Kakula is based on the average total cash cost during the first 10 years as detailed in the Kakula 2019 PFS.

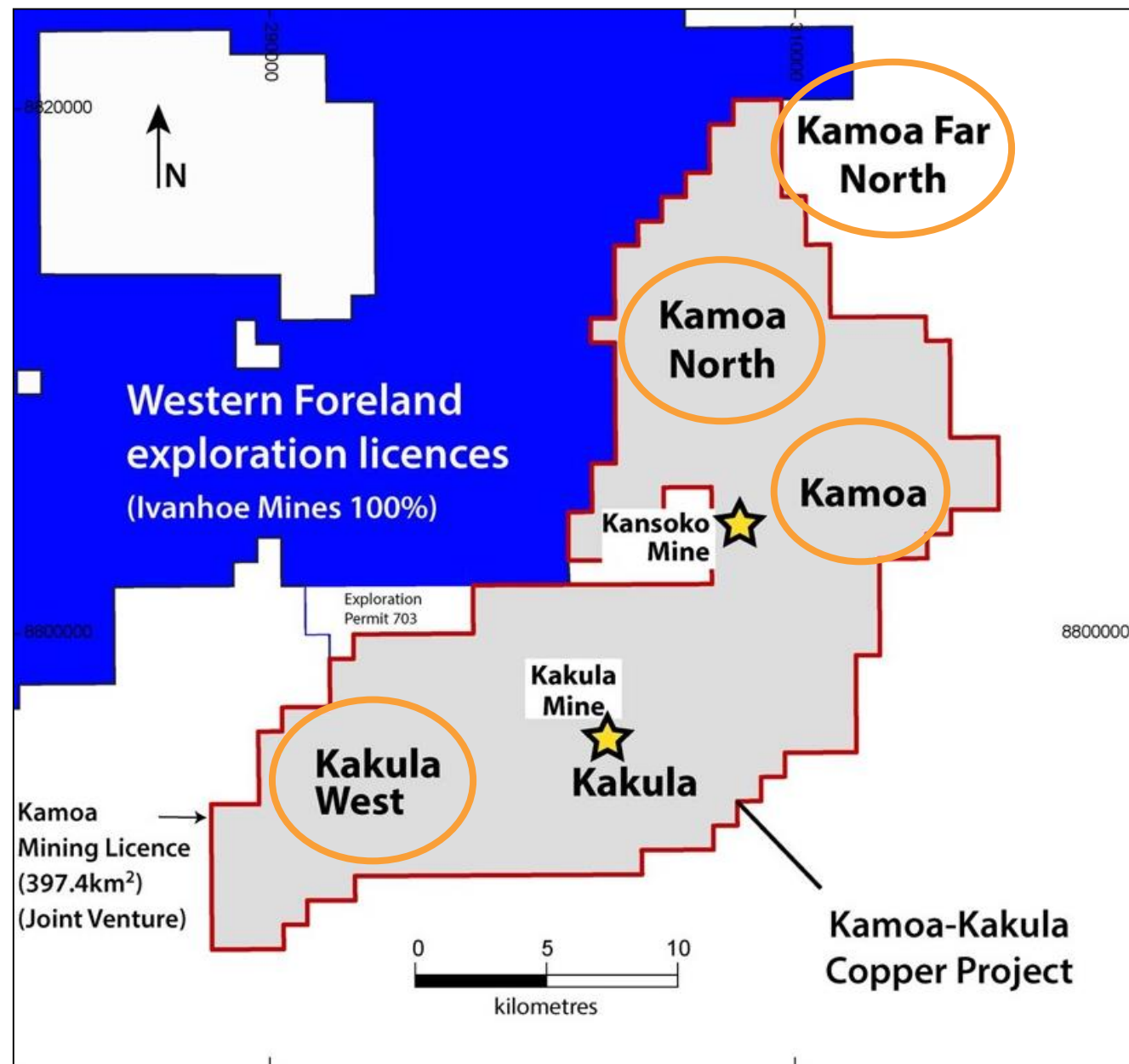
4. Recently approved, probable and possible projects with nominal copper production capacity in excess of 200 kt/a. Kamoa-Kakula Project based on a Kakula 6 Mtpa mine, with initial and expansion capital of \$1,856M and 10 year average copper production (291 ktpa), as detailed in the Kakula 2019 PFS.

# EXPLORATION AND **WESTERN FORELAND**

## Offers Significant Upside to The Quality and Economics of Our Copper Assets

- Significant exploration potential remains on both our Kamo-Kakula joint venture, and 100%<sup>(1)</sup> owned Western Foreland ground
- Significant potential for mineralization continuing from JV ground to Western Foreland ground
- New resource discovered on Western Foreland
- Recent new discovery of Kamo Pyrite Siltstone (KPS) has delivered further ultra high-grade results, and promises continued future success

1. Will require a sell-down to 90%.

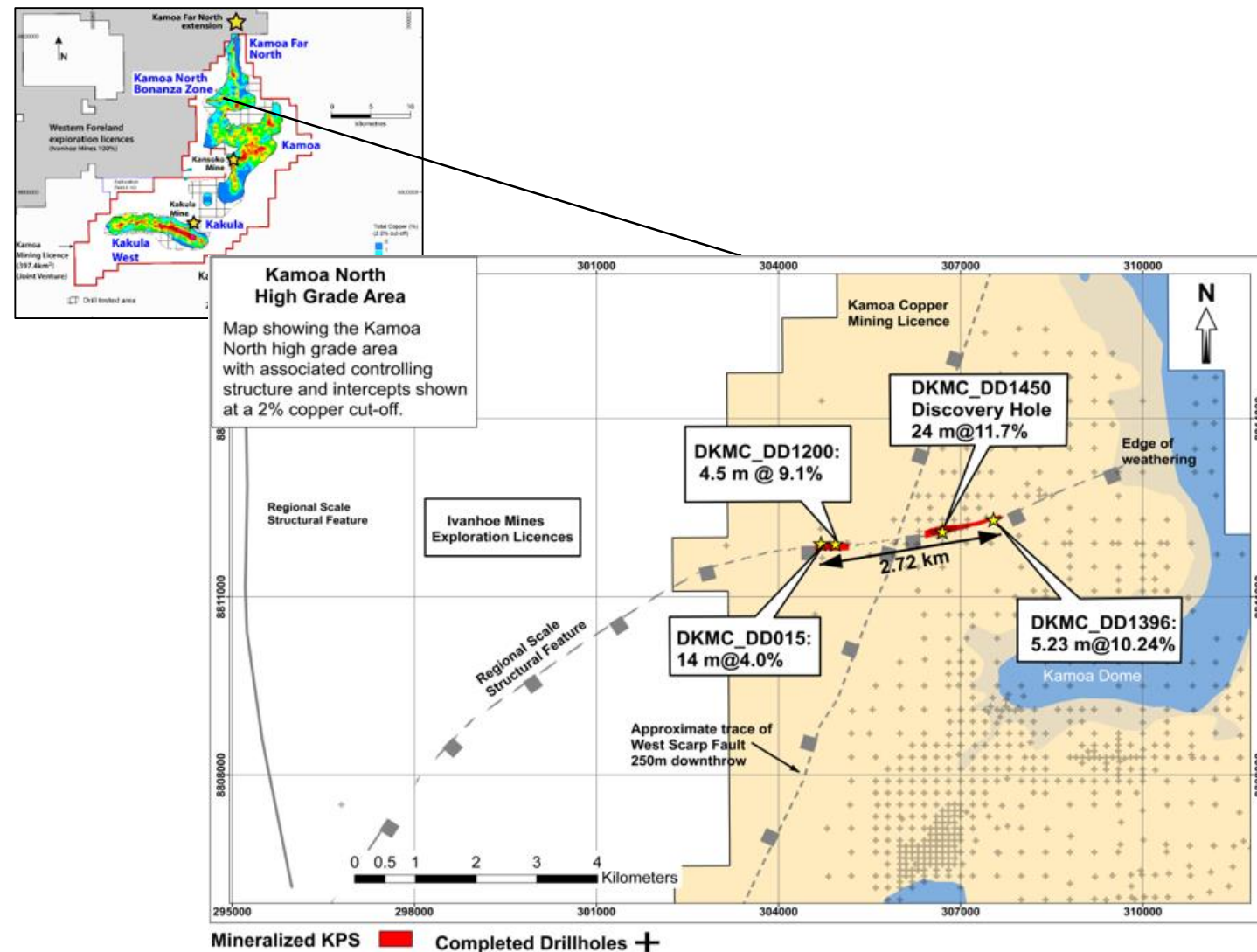




# EXPLORATION AND WESTERN FORELAND

Significant recent drilling intercepts (at the 3%, 2% and 1% copper cut-off) from Kamoa North Bonanza Zone

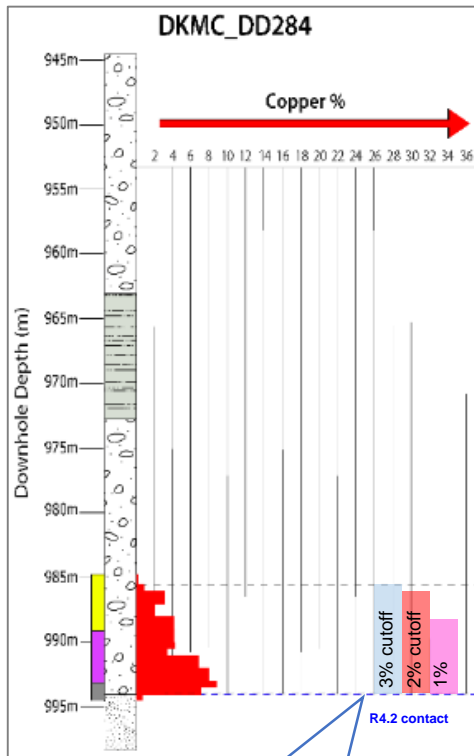
- DD1450 intersected 22.3 meters of 13.05% copper
- DD1486 intersected 16.70 metres of 15.84% copper
- DD1494 intersected 13.15 metres of 9.88% copper
- DD1497 intersected 13.60 metres of 18.48% copper
- DD1498 intersected 16.48 metres of 10.94% copper
- DD1499 intersected 16.93 metres of 11.31% copper
- DD1504 intersected 21.25 metres of 13.32% copper
- DD1571 intersected 18.86 meters of 18.0% copper (Niton analysis)



Exploration results have been excellent and the exploration process remains in its early stages

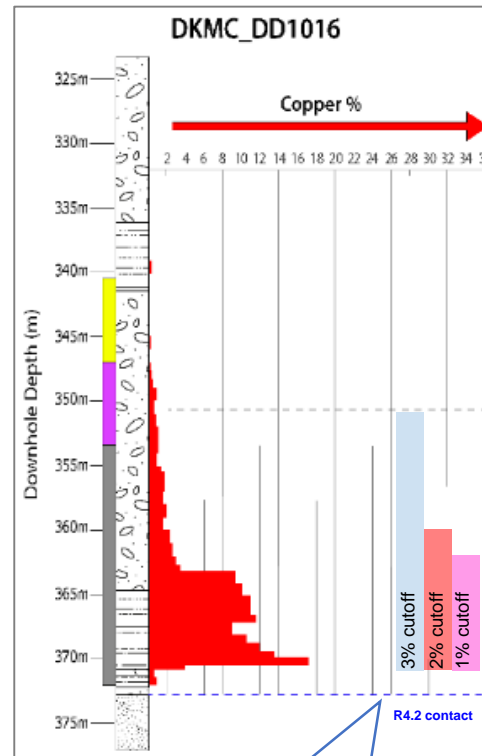
# WE ARE FINDING MORE BONANZA-GRADE ORE AS OUR KNOWLEDGE OF THE DEPOSIT INCREASES

## Kansoko



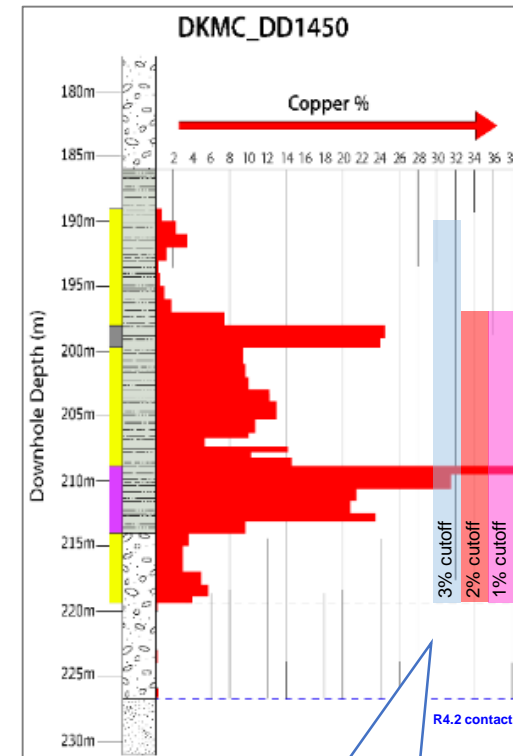
9.0m @ 4.83% Cu  
8.1m @ 5.98% Cu  
6.1m @ 5.98% Cu

## Kakula

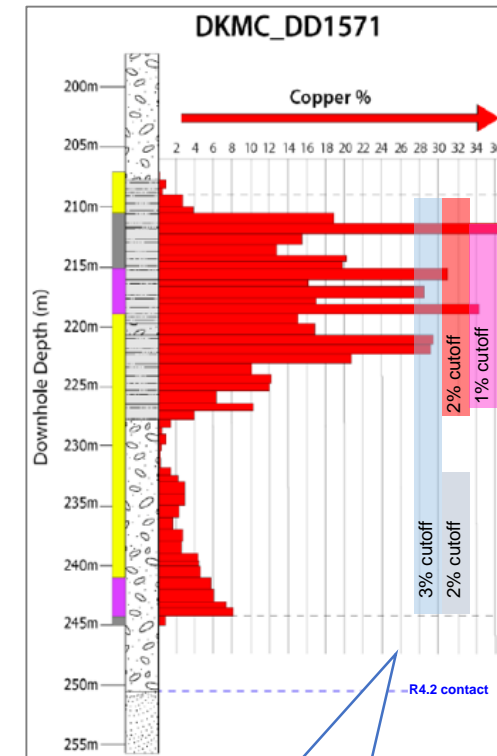


19.8m @ 5.32% Cu  
10.8m @ 8.49% Cu  
9.8m @ 9.90% Cu

## Kamoa North



29.4m @ 5.32% Cu  
22.4m @ 13.05% Cu  
22.4m @ 13.05% Cu



35.3m @ 11.0% Cu  
18.9m @ 18.0% Cu  
11.8m @ 3.9% Cu  
16.5m @ 20.1% Cu

For reference, the worlds largest mine, Escondida, has an LOM grade of 0.5% copper

# PLATREEF

## The world's largest undeveloped precious metal deposit

**Note:** The Platreef mine is not currently in production, but once in production it is expected to be among the largest and lowest cost primary PGM mines.

1. Life of mine average, net of by-products.

### LARGE, HIGH-GRADE DEPOSIT

- 346Mt M&I Resources at 3.77 g/t 3PE+Au, and 506Mt Inferred Resources at 3.24g/t 3PE+Au, with significant base metal endowment: >0.3% Ni and >0.15% Cu on average
- Significant exploration upside; deposit open along strike and down dip for several kms

### ONE OF WORLD'S LARGEST PRIMARY PGM MINES

- Initial 4Mtpa operation, with metal production of 476Koz of 3PE+Au, would rank Platreef among the world's largest primary PGM mines
- At 12Mtpa Platreef would be the largest primary PGM mine globally

### PHASED APPROACH TO MANAGE CAPITAL

- Start-up mine minimises initial capital requirement and without the need to pre-commit to smelting & refining capacity
- Subsequent expansions to 8Mtpa, and then 12Mtpa, largely funded by initial operation

### LOW CASH COSTS

- Near the bottom of the global cash cost curve
- High concentrations of copper and nickel contribute to cash cost of \$326/oz 3PE+Au<sup>(1)</sup>, and \$351/oz 3PE+Au including sustaining capital

### HIGHLY MECHANIZED AND SAFE MINING

- Platreef's average thickness of 19m is amenable to the use of highly productive mining methods, such as long-hole stoping
- Mechanized mining methods conducive to safe working conditions
- The future of South African PGM mining will be on the Northern Limb

### STRONG AND STABLE PARTNERS

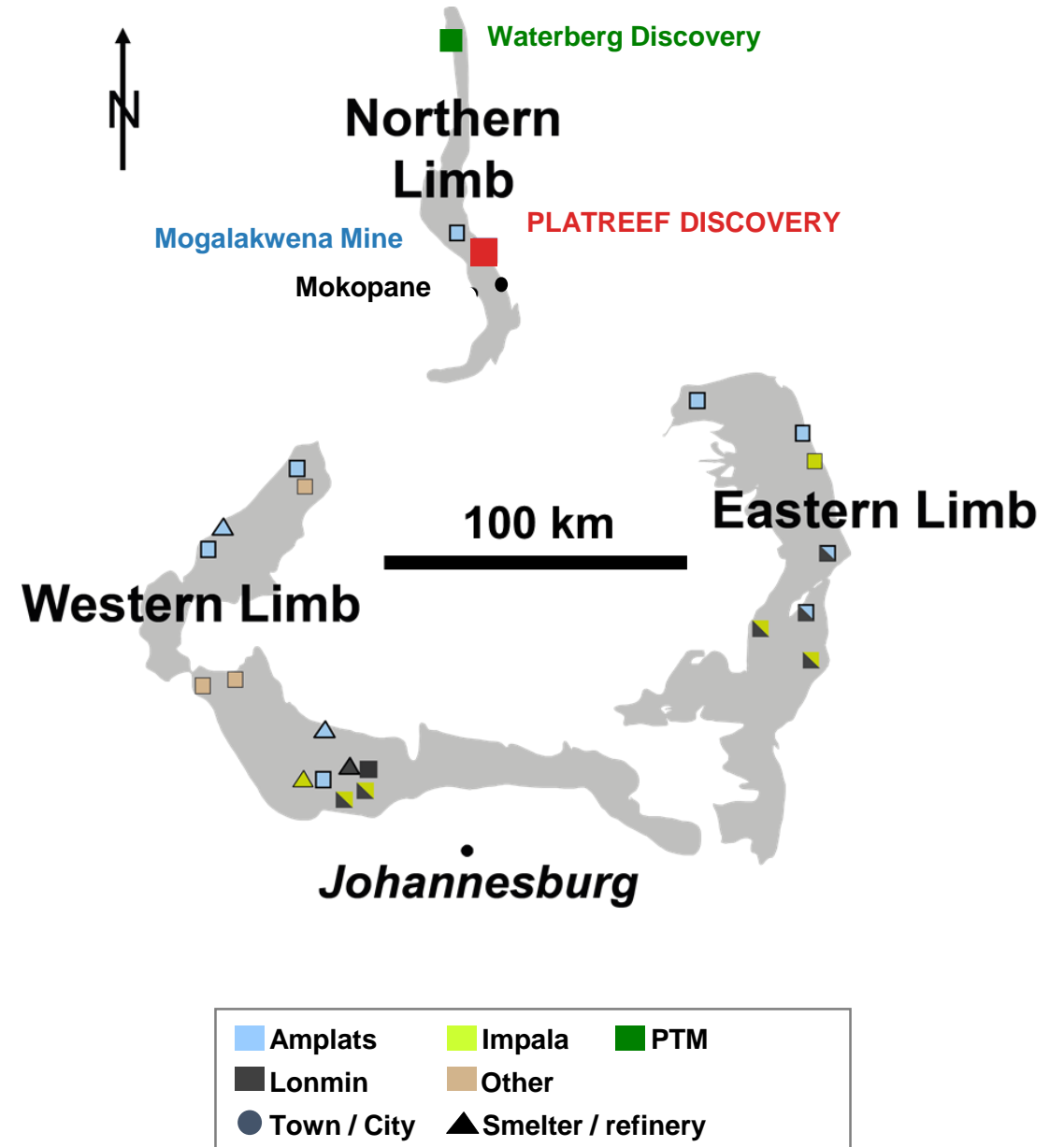
- Industry leading B-BBEE structure established: 20% to benefit 20 local communities (of ~150,000 people), 3% to HDSA employees and 3% to 187 local entrepreneurs
- Strong Japanese corporate (Itochu and JGC) and government (JOGMEC) support, who invested \$280M for an 8% stake in 2011



# BUSHVELD COMPLEX

The Bushveld Complex  
produces ~70%  
of global platinum

Source: Company filings, Wood Mackenzie.

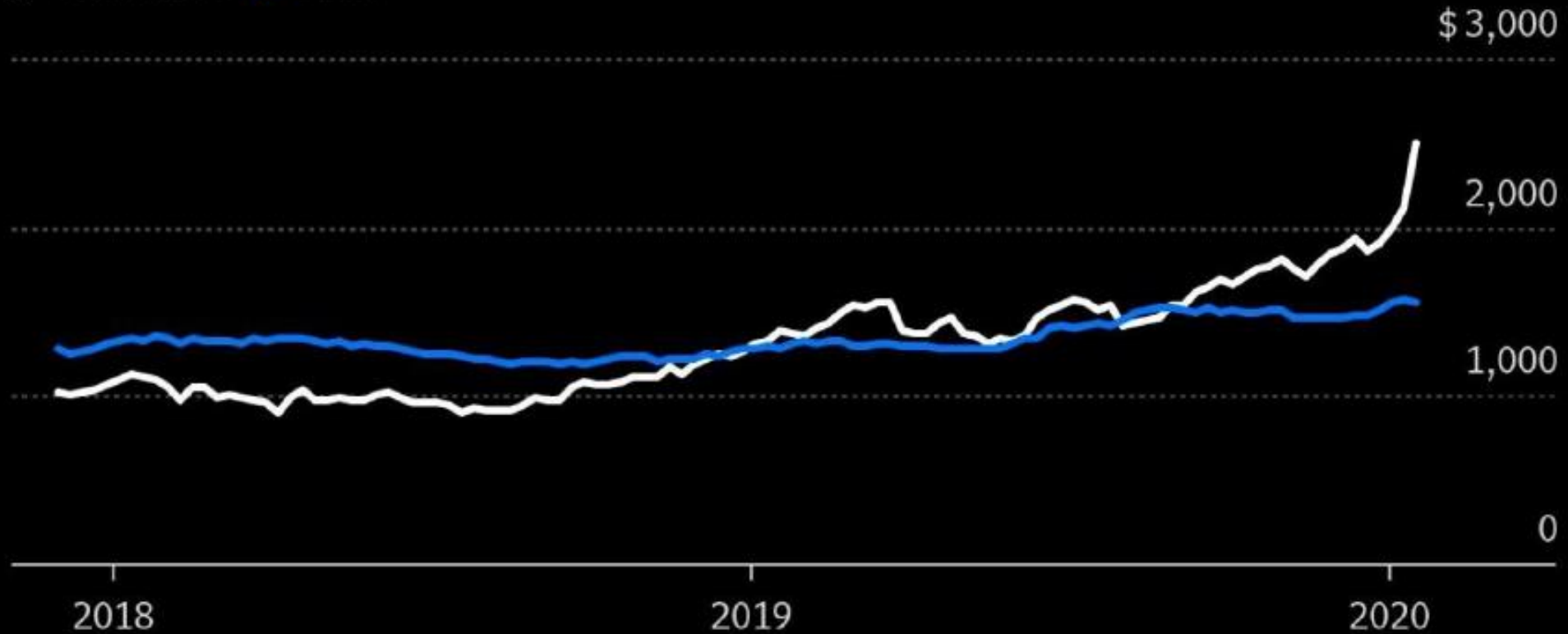


# PALLADIUM IS NOW MORE EXPENSIVE THAN GOLD HAS EVER BEEN

## Most Precious

Palladium prices have soared to a record on supply shortages

↗ Palladium ↘ Gold



Source: Bloomberg

BloombergQuickTake



# PRICES FOR THE WORLD'S MOST PRECIOUS METAL ARE SOARING

## Rocketing Rhodium

Prices jump, building on last year's rally



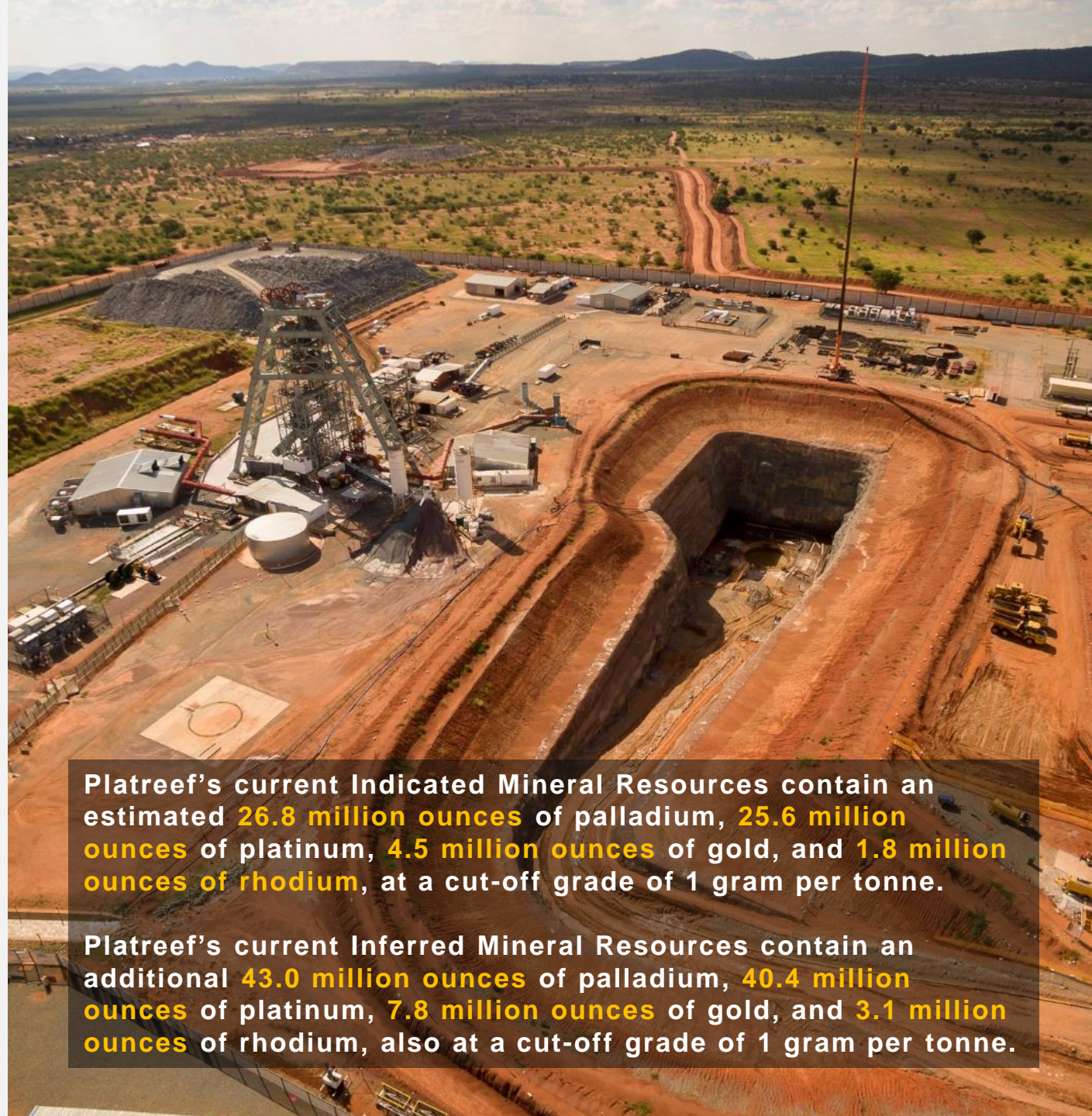
# PLATREEF

## Mineral Reserves and Resources

Tonnage and Grades				
	Mt	3PE+Au (g/t)	Cu (%)	Ni (%)
Probable Mineral Reserves				
Total	125	4.40	0.17	0.34
Indicated Mineral Resources (inclusive of Reserves)				
3.0 g/t cut-off (3PE+Au)	204	4.70	0.18	0.35
2.0 g/t cut-off (3PE+Au)	346	3.77	0.16	0.32
Inferred Mineral Resources				
3.0 g/t cut-off (3PE+Au)	225	4.29	0.17	0.35
2.0 g/t cut-off (3PE+Au)	506	3.24	0.16	0.31
Contained Metal				
Cut-off Grade (3PE+Au)		3PE+Au (Moz)	Cu (Mlb)	Ni (Mlb)
Probable Mineral Reserves				
Total		17.6	457	932
Indicated Mineral Resources (inclusive of Reserves)				
3.0 g/t cut-off (3PE+Au)		30.9	800	1,597
2.0 g/t cut-off (3PE+Au)		41.9	1,226	2,438
Inferred Mineral Resources				
3.0 g/t cut-off (3PE+Au)		31.0	865	1,736
2.0 g/t cut-off (3PE+Au)		52.8	1,775	3,440

Platreef's current Indicated Mineral Resources contain an estimated **26.8 million ounces** of palladium, **25.6 million ounces** of platinum, **4.5 million ounces** of gold, and **1.8 million ounces of rhodium**, at a cut-off grade of 1 gram per tonne.

Platreef's current Inferred Mineral Resources contain an additional **43.0 million ounces** of palladium, **40.4 million ounces** of platinum, **7.8 million ounces** of gold, and **3.1 million ounces** of rhodium, also at a cut-off grade of 1 gram per tonne.





# PLATREEF: STRONG RETURNS AND VERY LONG LIFE

## Highly Significant Production Scale

### Preliminary Economic Assessment<sup>(1)</sup>

**14.9% IRR**

**US\$2.2 billion After-Tax NPV**

- \$1.85 billion peak funding capex
- 12 Mt per year steady material treated
- 3.87 g/t feed grade (3PE+Au)
- 413 ktpa concentrate produced (83 g/t)
  - 1,109 kozpa metal produced (3PE+Au)
- \$371 /oz cash cost<sup>(3)</sup> (3PE+Au)
  - \$465 / oz cash cost + sust. capex

## Minimal First Quartile Cash Costs

### Feasibility Study<sup>(2)</sup>

**14.2% IRR**

**US\$916 million After-Tax NPV**

- \$1.5 billion peak funding capex
- 4 Mt per year steady state material treated
- 4.40 g/t feed grade (3PE+Au)
- 174 ktpa concentrate produced (85 g/t)
  - 476 kozpa metal produced (3PE+Au)
- \$326 /oz cash cost<sup>(3)</sup> (3PE+Au)
  - \$351/ oz cash cost + sust. capex

**Notes:** Life-of-mine averages shown.

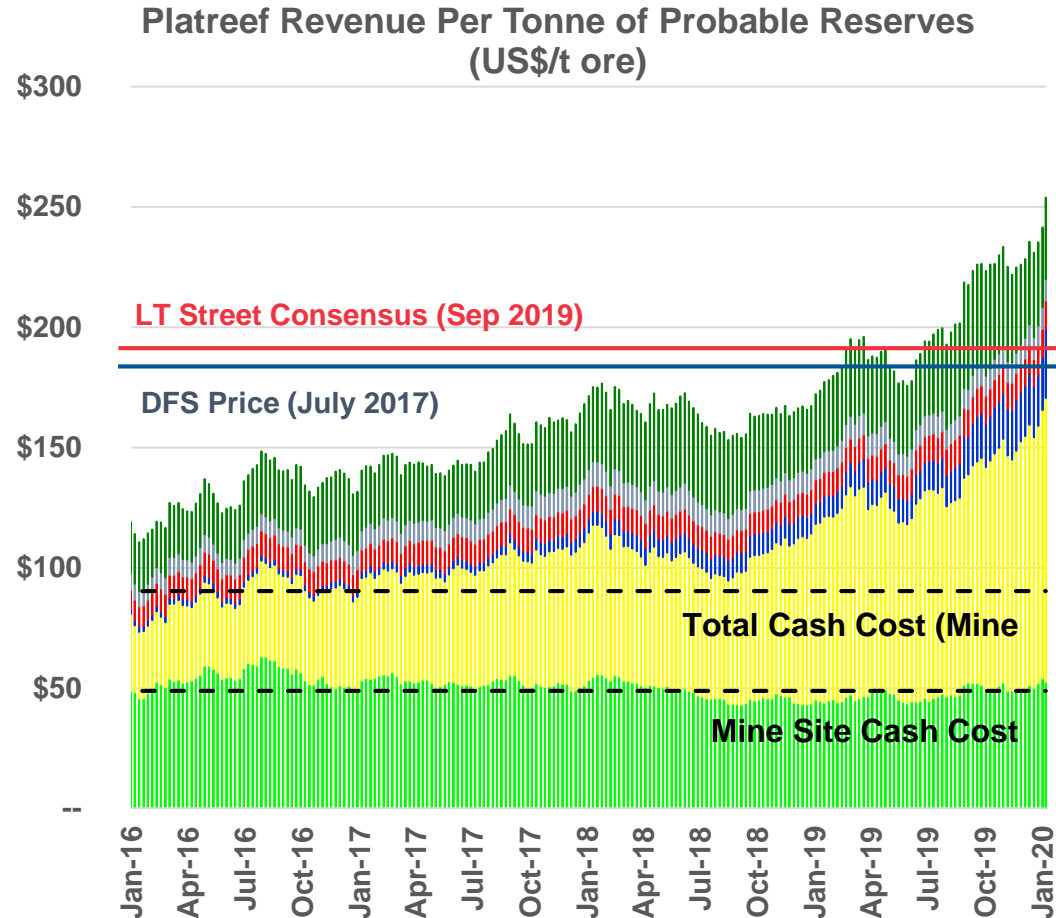
1. Metal price assumptions used for the PEA economic analysis: US\$1,700/oz Pt, US\$820/oz Pd, US\$1,300/oz Au, US\$1,700/oz Rh, US\$8.35/lb Ni, US\$3.00/lb Cu.

2. Metal price assumptions used for the FS economic analysis: US\$1,250/oz Pt, US\$825/oz Pd, US\$1,300/oz Au, US\$1,000/oz Rh, US\$7.60/lb Ni, US\$3.00/lb Cu.

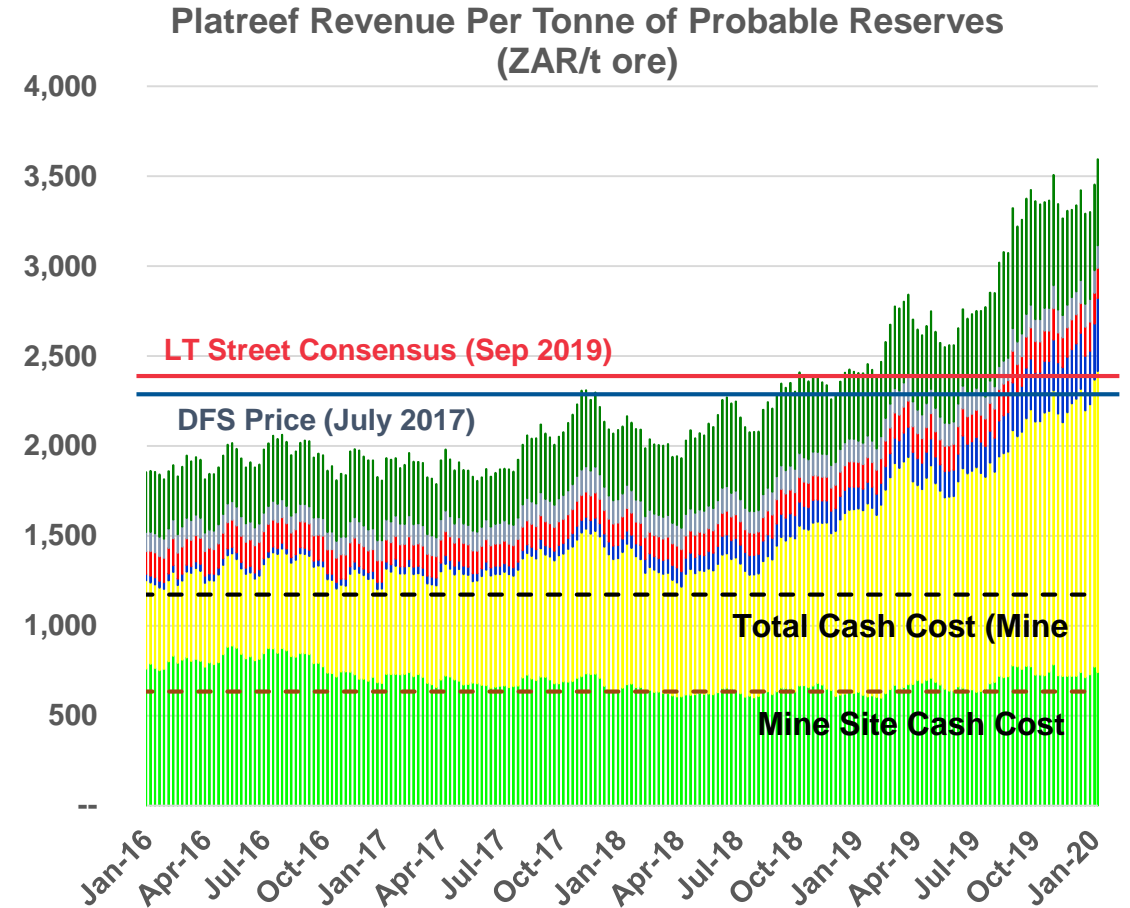
3. Life of mine average cash cost after nickel and copper credits (before credits: \$854 and \$751 per oz 3PE+Au for PEA and FS respectively).



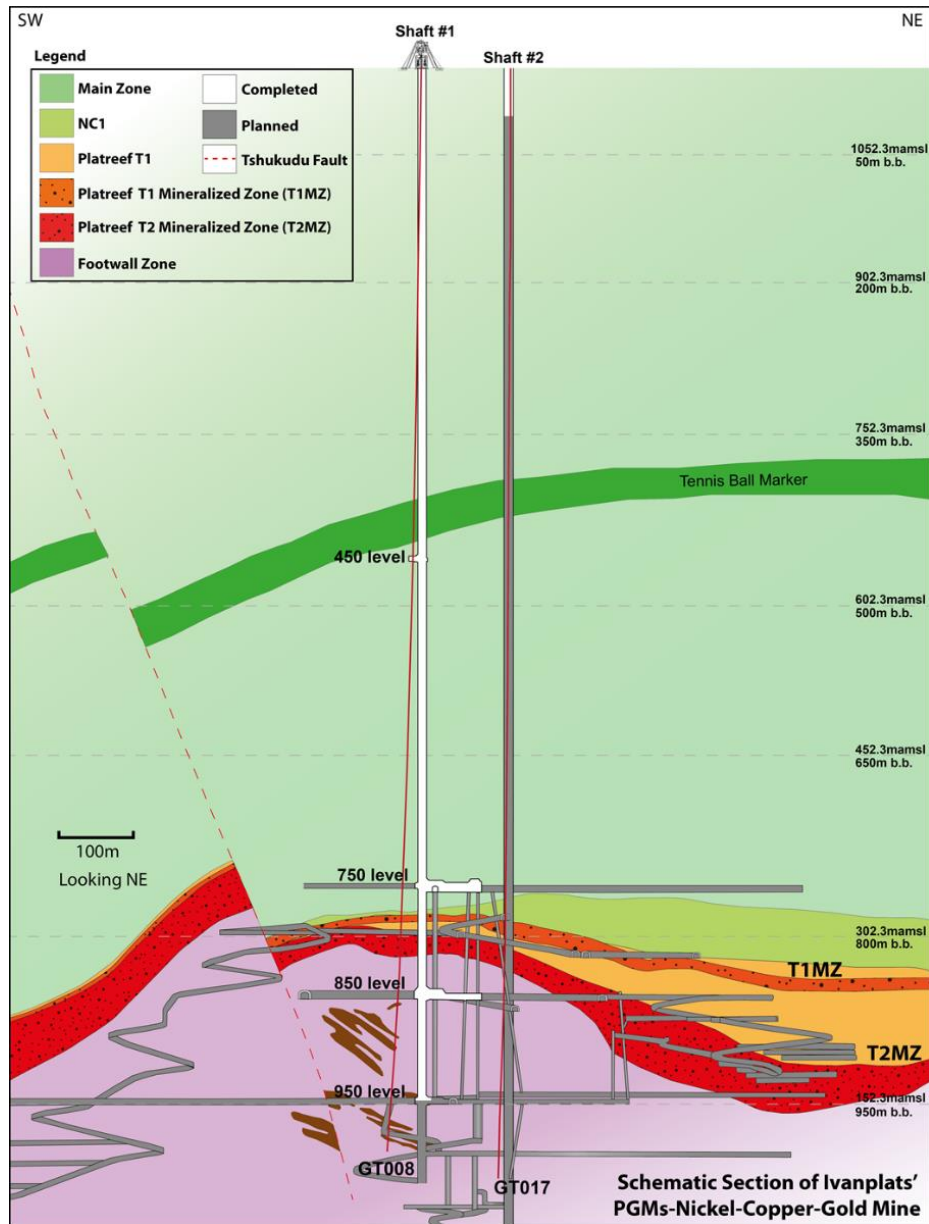
# PLATREEF IN-SITU VALUE OF RESERVES



Platinum Palladium Rhodium Gold Copper Nickel



Platinum Palladium Rhodium Gold Copper Nickel



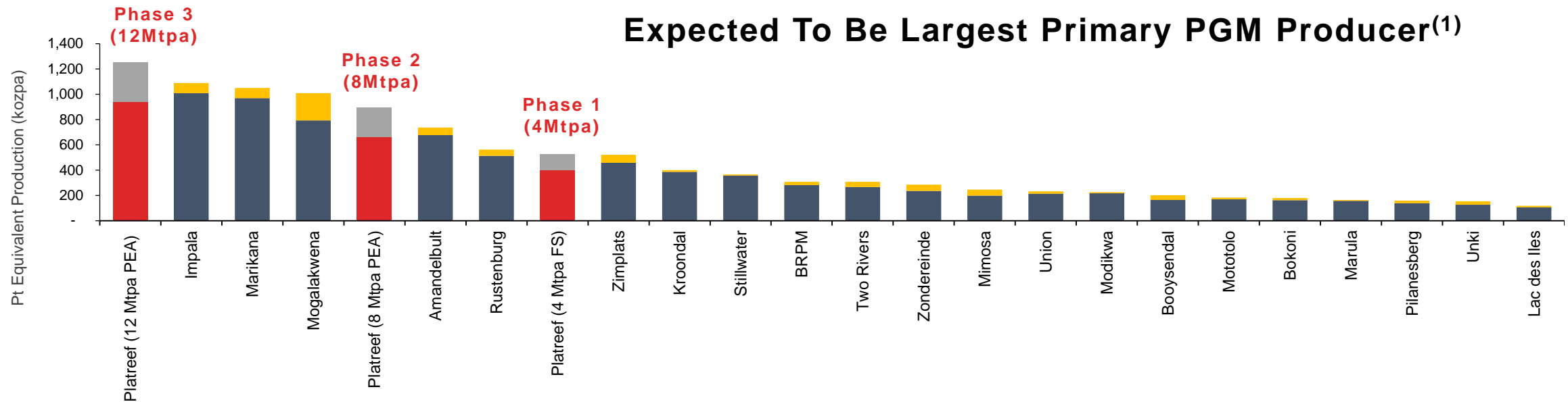
## SHAFT 1 NOW EXTENDS TO A DEPTH OF MORE THAN 957 METRES

Mineralized orebody at Shaft 1 is 29 metres thick (T1 & T2).

With grades up to 11 g/t 3PE (platinum, palladium and rhodium) plus gold, as well as significant quantities of nickel and copper.

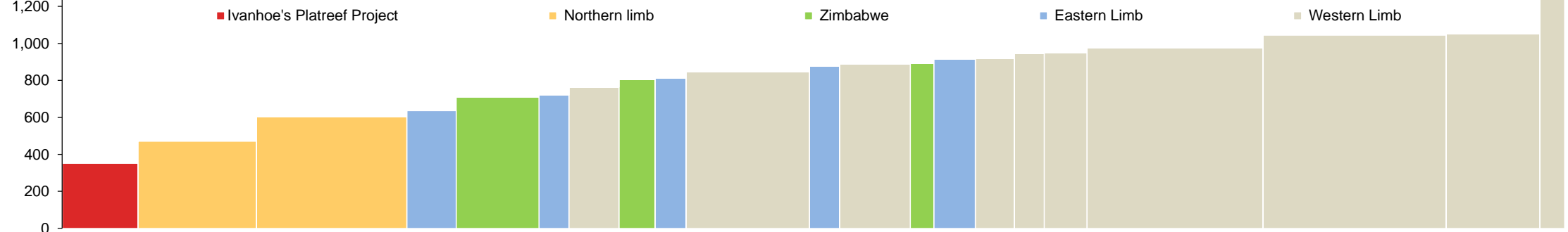
# PLATREEF POSITIONED TO BECOME A LEADING PGM PRODUCER

## Expected To Be Largest Primary PGM Producer<sup>(1)</sup>



## Minimal First Quartile Cash Costs<sup>(2)</sup>

2017 Cash Costs + SIB (net of by-products), \$/oz 3PE+Au



Source: Company filings, Wood Mackenzie.

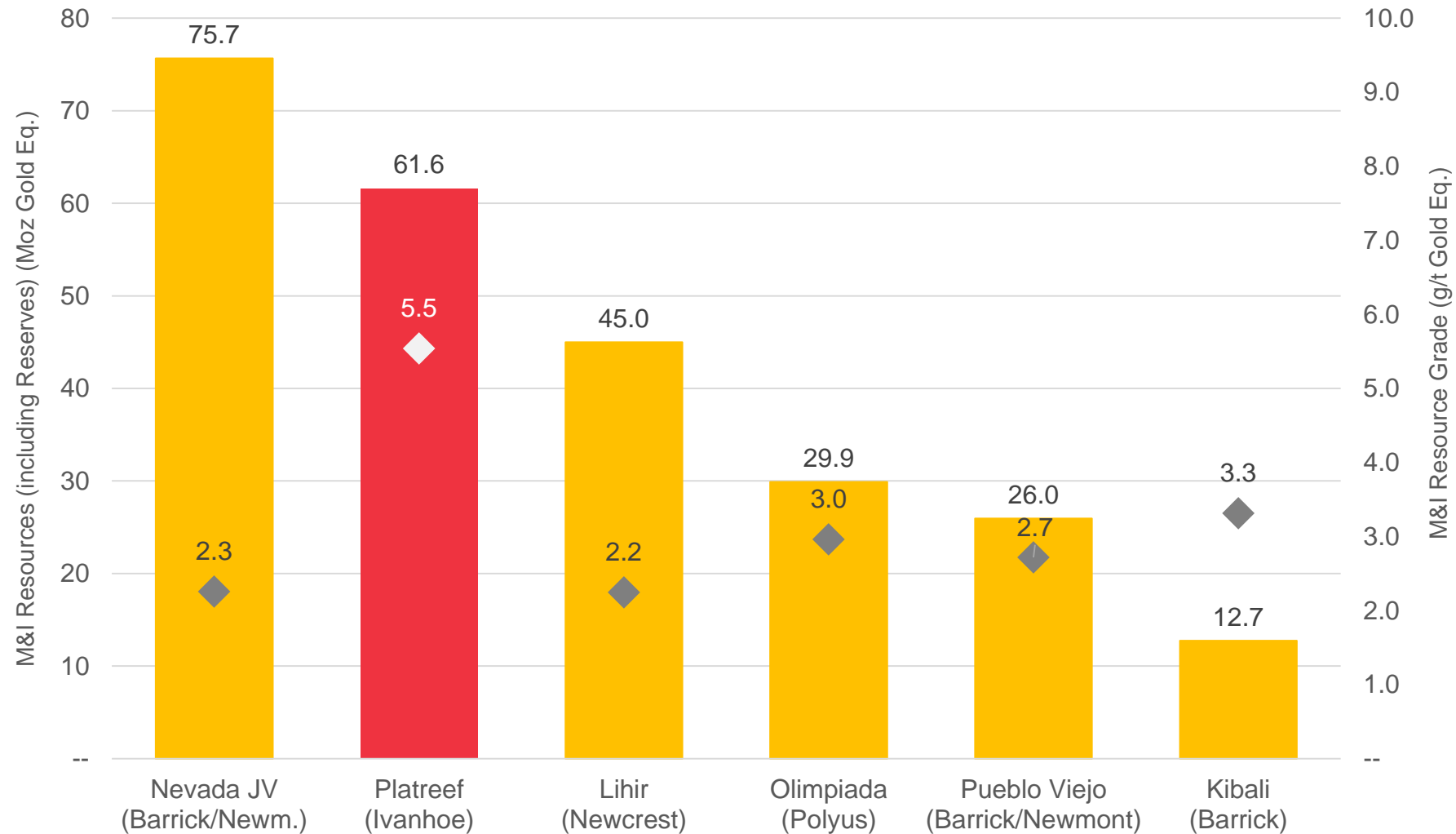
1. The Platreef mine is not currently in production, but once in production it is expected to be among the world's largest primary PGM producers.
2. SFA (Oxford). Data for Platreef Project is based on reported DFS and PEA parameters, and is not representative of SFA's view.

Production (koz 3PE+Au)



# PLATREEEF IN CONTEXT

## Spot Gold Equivalent M&I Resources Compared to Top 5 Gold Producers



**Source:** Company Disclosure.

**Notes:**

1. Gold equivalent calculation based on spot prices of Au: \$1,561/oz; Ag: \$17.90/oz; Pt: \$1,029/oz; Pd: \$2,245/oz; Rh: \$8,900/oz; Ni: \$13.745/t; Cu: \$6,158/t.
2. M&I Resources inclusive of P&P Reserves. All Resources are gold only, with the exception of those in footnotes 3 and 4.
3. Platreef Indicated Resources of 18.7Moz Pt (1.7g/t), 18.9Moz Pd (1.7g/t), 3.1Moz Au (0.3g/t), 1.2Moz Rh (0.1g/t), 0.6Mt Cu (0.16%) and 1.1Mt Ni (0.32%).
4. Pueblo Viejo Measured & Indicated Resources of 24.3Moz Au (2.5g/t) and 144.2Moz Ag (15.1g/t).



THANK YOU

