

# IVANHOE MINES

NEW HORIZONS

- 24 years in Southern Africa.
- 3 advanced, unique projects.
- Positioned to realize urbanization's resource opportunities with minerals to help build a better world.



# Forward-looking statements & Qualified Person

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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 the feasibility study at the Platreef Project; and (iii) statements regarding ongoing upgrading and development work and the pre-feasibility study at the Kipushi Project. As well, the results of the prefeasibility study and PEA of the Kamoa-Kakula Project, the prefeasibility study of the Platreef Project and the PEA 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, 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 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. Ivanhoe has prepared a NI 43-101 compliant technical report 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.

Building futures  
for our stakeholders,  
*today,*  
in Southern Africa's  
storied mineral fields

### KAMOA-KAKULA

Copper  
39.6%-owned  
Democratic Republic  
of Congo's Central  
African Copperbelt

### PLATREEF

Platinum-group elements  
& gold-nickel-copper  
64%-owned  
South Africa's  
Bushveld Complex

### KIPUSHI

Zinc-copper-  
silver-germanium  
68%-owned  
D.R. Congo's  
Copperbelt



**IVANHOE MINES**  
NEW HORIZONS

# Kamoa Mine Development & Kakula Discovery

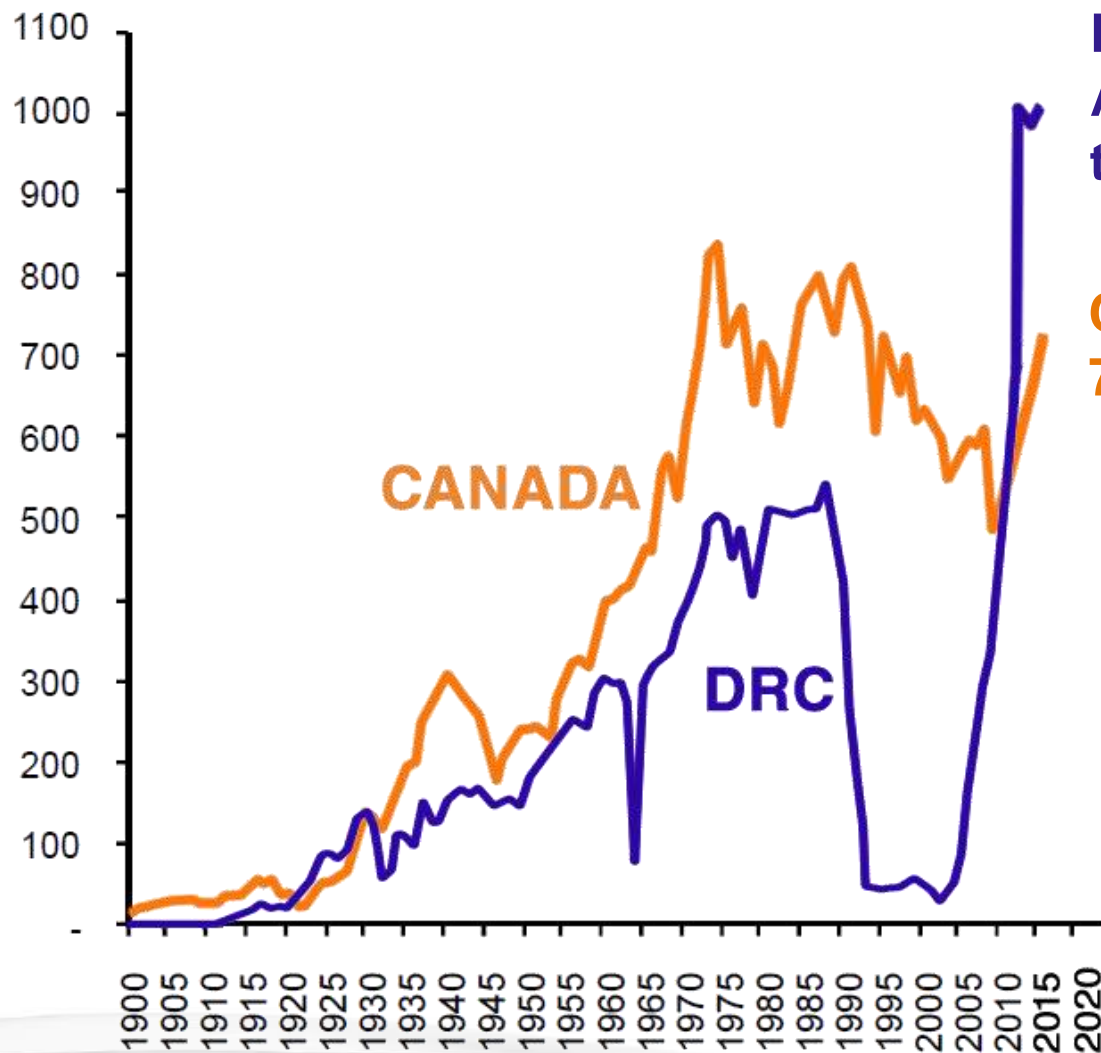
Democratic Republic of Congo



# Congo produces more copper than Canada!

KAMOA-KAKULA

Mined copper  
output (kilotons)

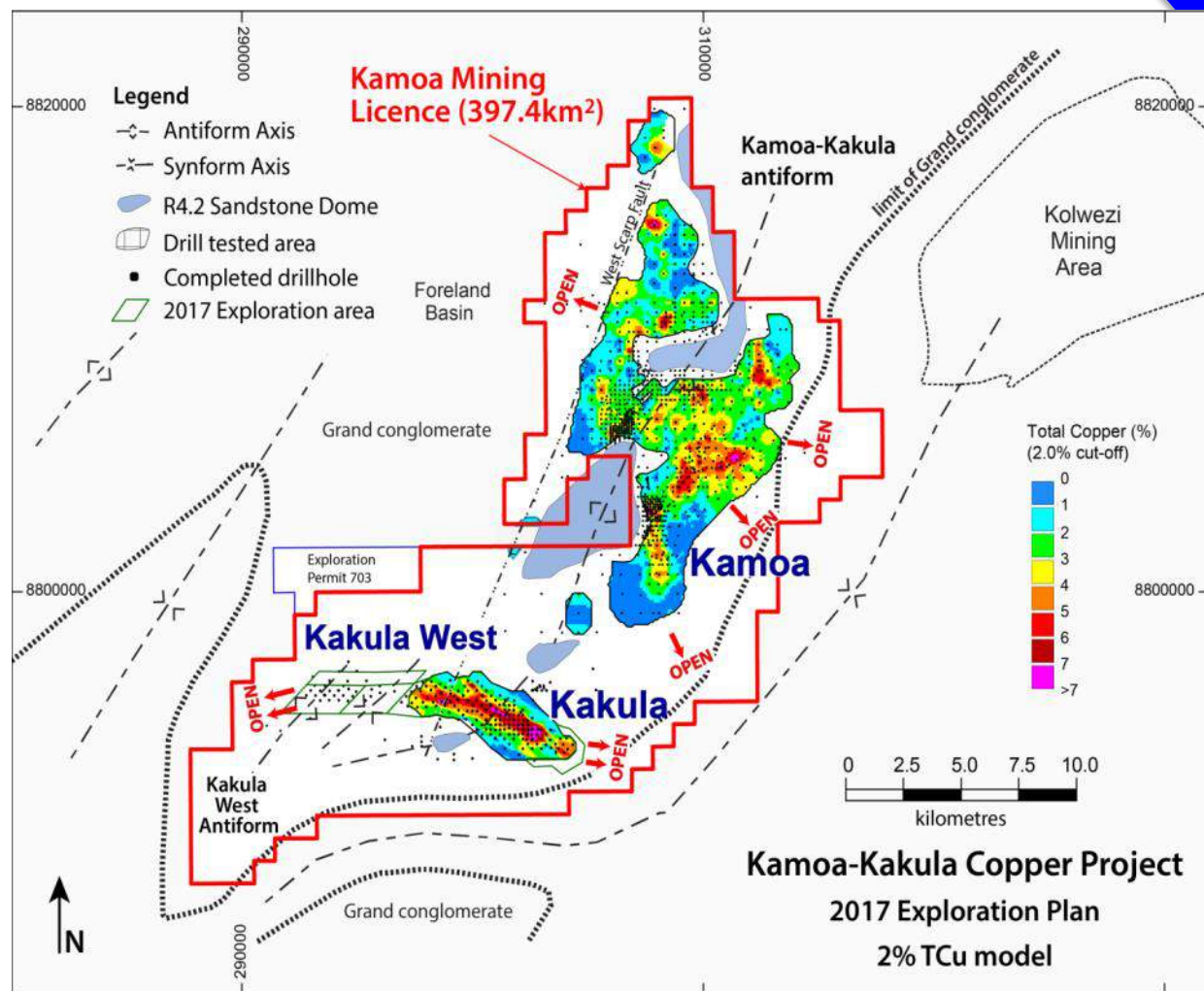


**DRC:**  
Approx. 1,000,000  
tonnes

**Canada:**  
720,000 tonnes

# Kakula & Kakula West – re-writing the Kamoa Story

- **Kakula** is substantially richer, thicker and more consistent than other mineralization found elsewhere on the Kamoa Project.
- **Kakula West** is a new high-grade extension of Kakula.
- **14 rigs drilling** at Kakula, Kakula West and other targets.
- **Looking for another Kakula.**



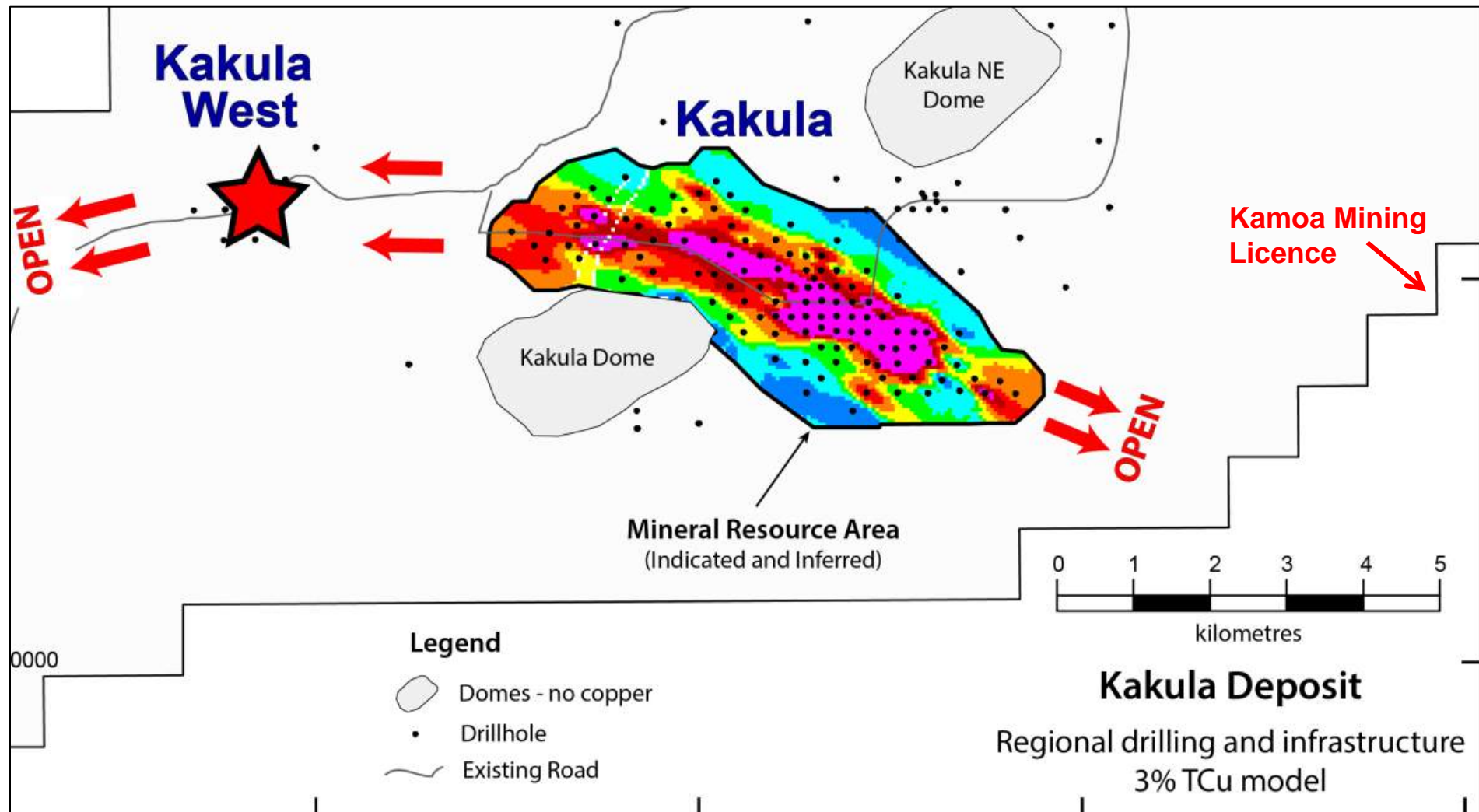


## **September 2017:** Kakula West confirmed as significant new discovery and potential new high-grade mining area

- Potential new high-grade mining area at **similar grades to Kakula**.
- New Kakula resource estimate by end of 2017 based on Kakula's entire strike length of at least 12 kilometres, **60% longer** than the 7.7-kilometre strike length used for the May 2017 resource estimate.
- Copper-rich intercepts at Kakula West up to **50 metres thick**.

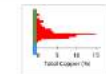
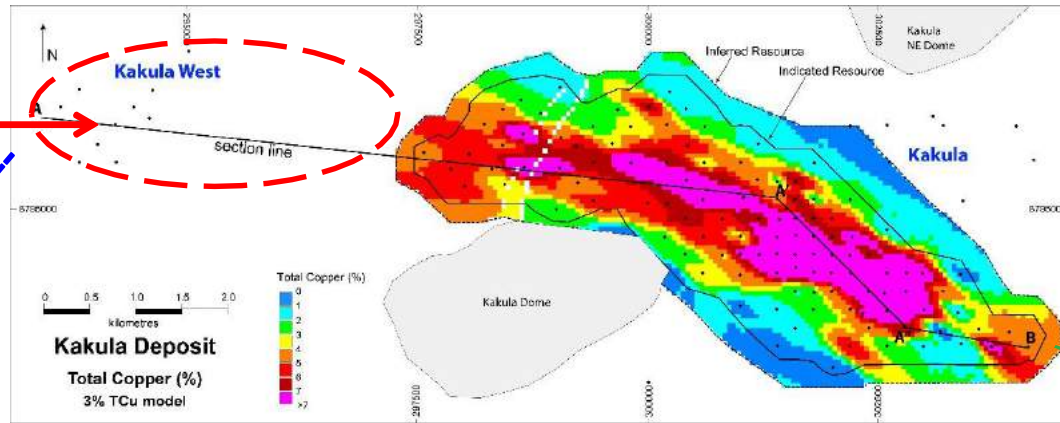


The Kakula mineralized system  
is at least 12 kilometres long  
 and is still open in both directions



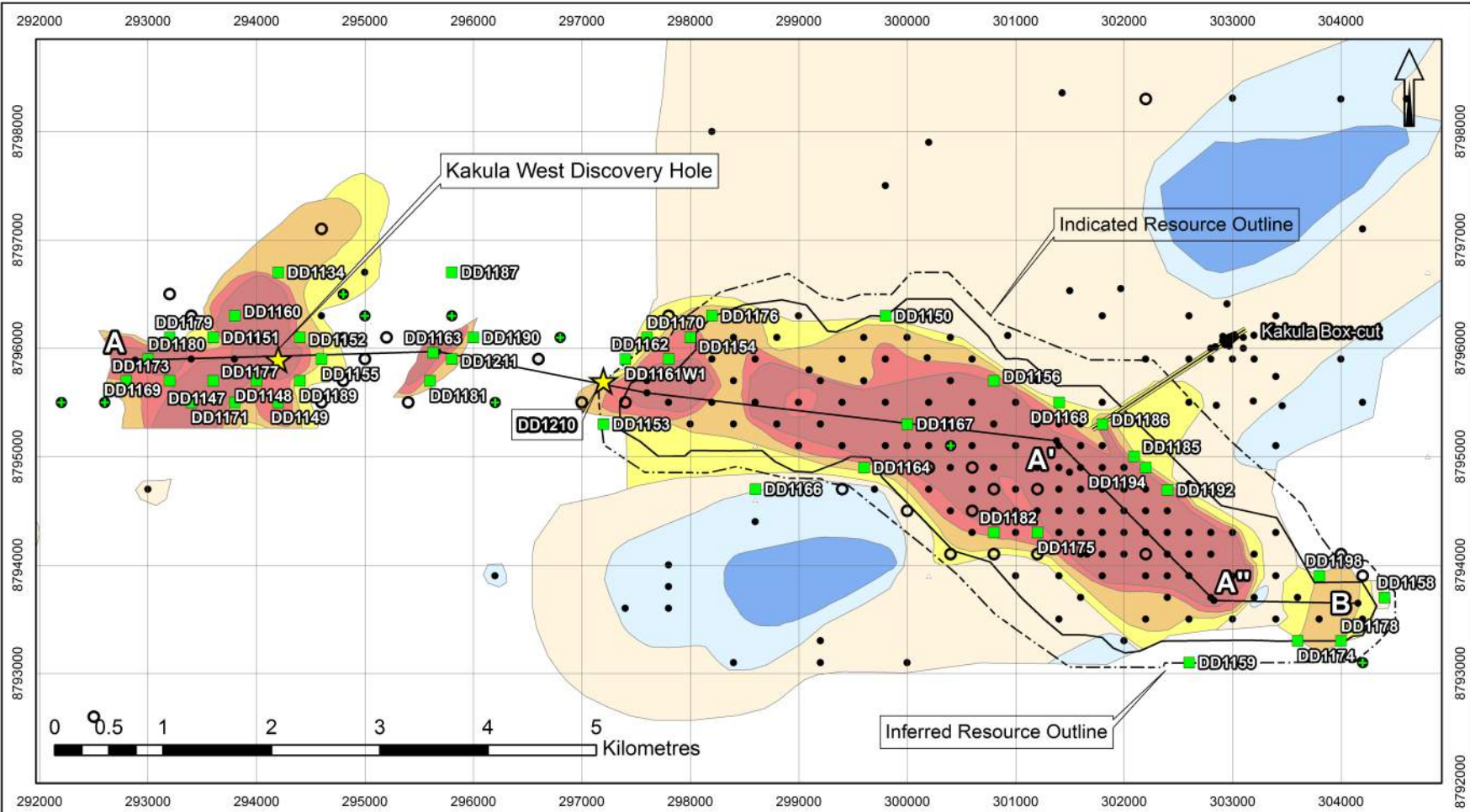


**KAMOAKAKULA**



# IVANHOE

# Drill-hole location plan for the Kakula resource area and Kakula West 1% composite grade thickness



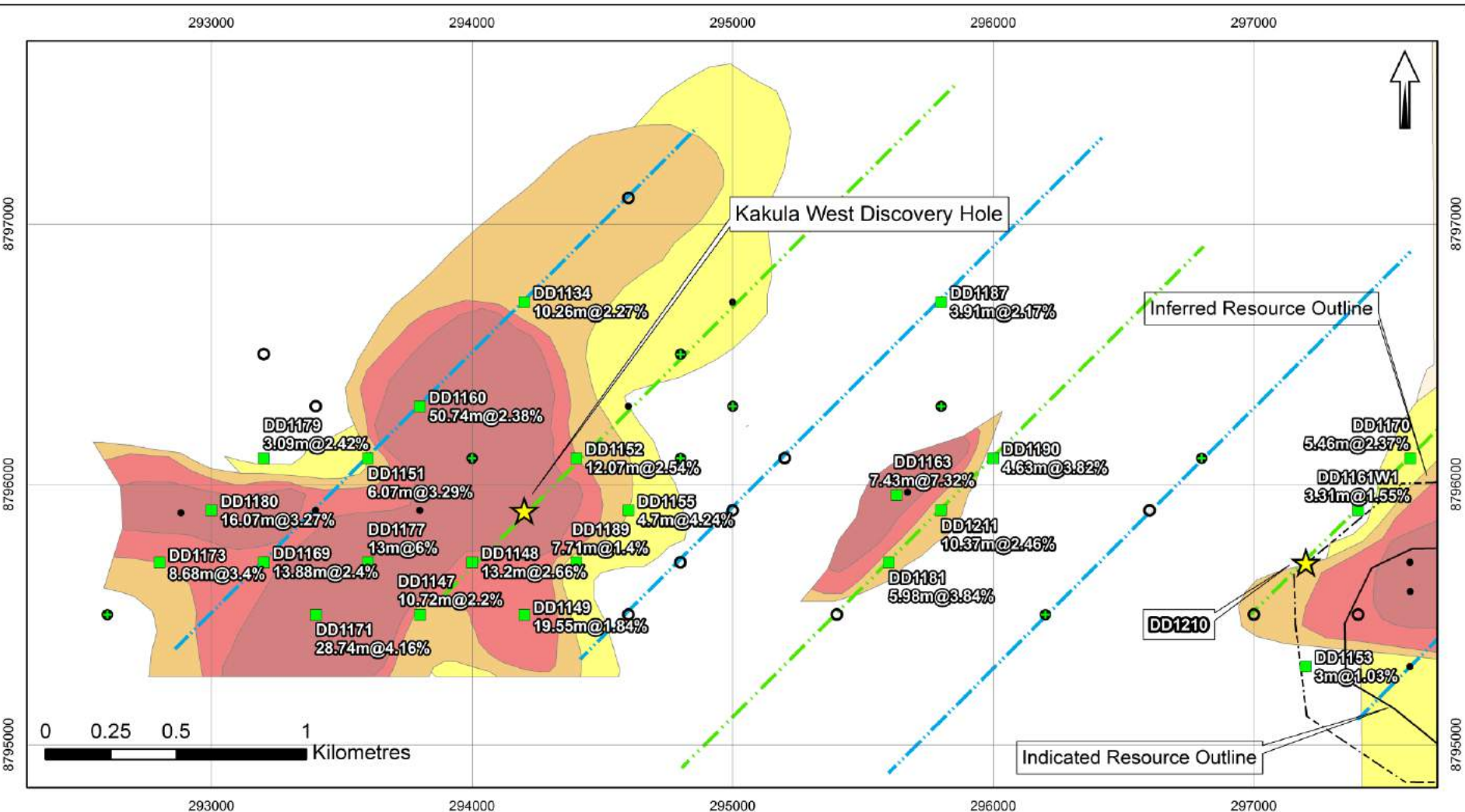
**Kakula Drilling Results Status**

○ Waiting for Results    ⊕ In Progress    ● Completed    ■ Assay Received

**Grade x Thickness (m%) - SMZ10**

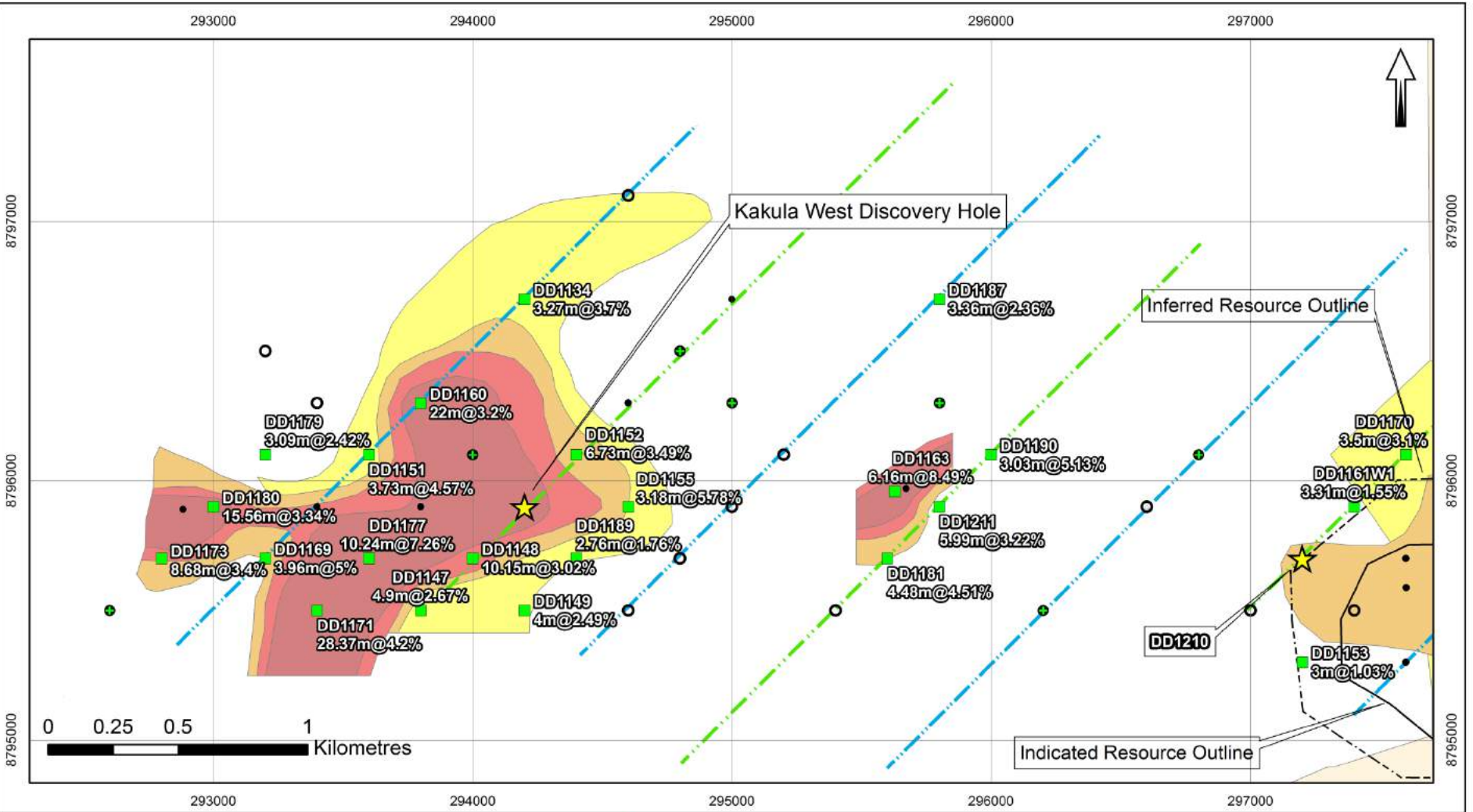
■ >40m%   
 ■ 30-40m%   
 ■ 20-30m%   
 ■ 10-20m%   
 ■ 1-10m%   
 ■ 0-1m%   
 ■ R4.2 Sandstone Domes

# Kakula West drill-hole location plan superimposed on 1% composite grade thickness contours





# Kakula West drill-hole location plan superimposed on 2% composite grade thickness contours



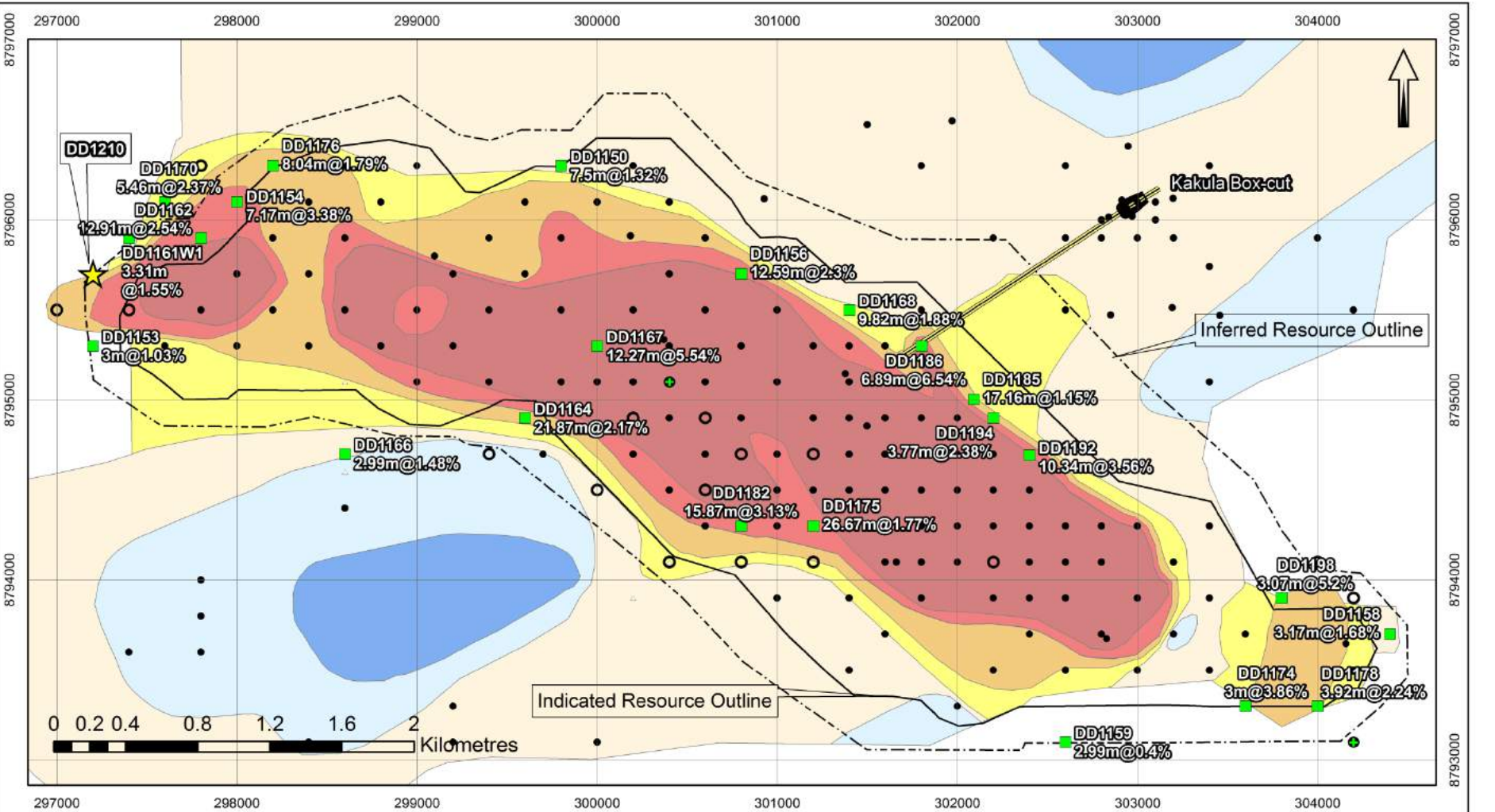
**Kakula Drilling Results Status**

- Waiting for Results
- ⊕ In Progress
- Completed
- Assay Received

**Grade x Thickness (m%) - SMZ20**

- >40m% (Dark Red)
- 30-40m% (Red)
- 20-30m% (Orange)
- 10-20m% (Yellow)
- 1-10m% (Light Yellow)
- 0-1m% (Light Blue)
- R4.2 Sandstone Domes (Dark Blue)

# Kakula resource area drill-hole location plan superimposed on 1% composite grade thickness contours



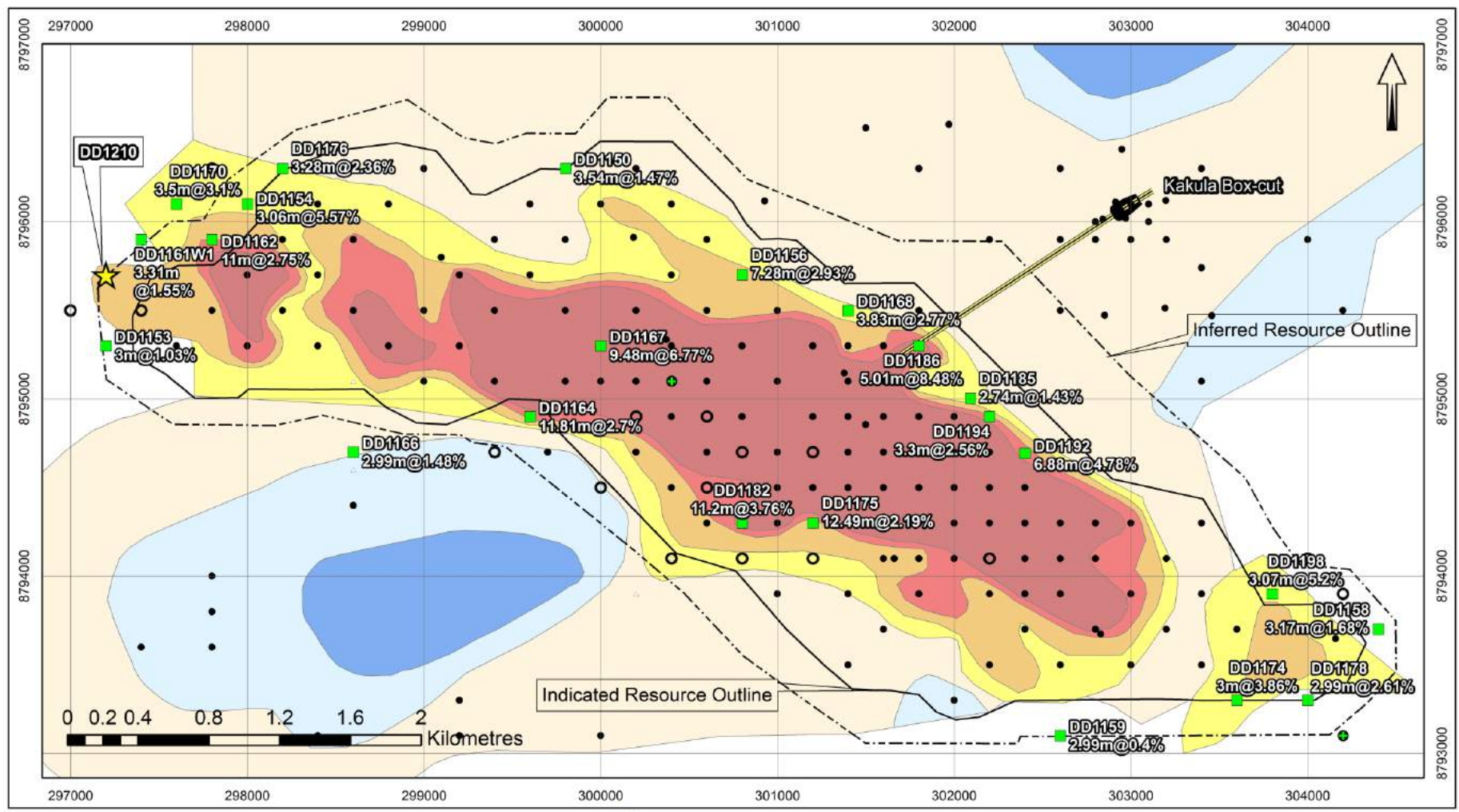
**Kakula Drilling Results Status**

**Grade x Thickness (m%) - SMZ10**

- Waiting for Results
- ⊕ In Progress
- Completed
- Assay Received
- >40m%
- 30-40m%
- 20-30m%
- 10-20m%
- 1-10m%
- 0-1m%
- R4.2 Sandstone Domes



# Kakula resource area drill-hole location plan superimposed on 2% composite grade thickness contours



**Kakula Drilling Results Status**  
**Grade x Thickness (m%) - SMZ20**

○ Waiting for Results

⊕ In Progress

● Completed

■ Assay Received

>40m%

30-40m%

20-30m%

10-20m%

1-10m%

0-1m%

R4.2 Sandstone Domes



# Chalcocite-rich drill core at a depth of 938 metres from DD1210 drilled at the western edge of the Kakula resource area

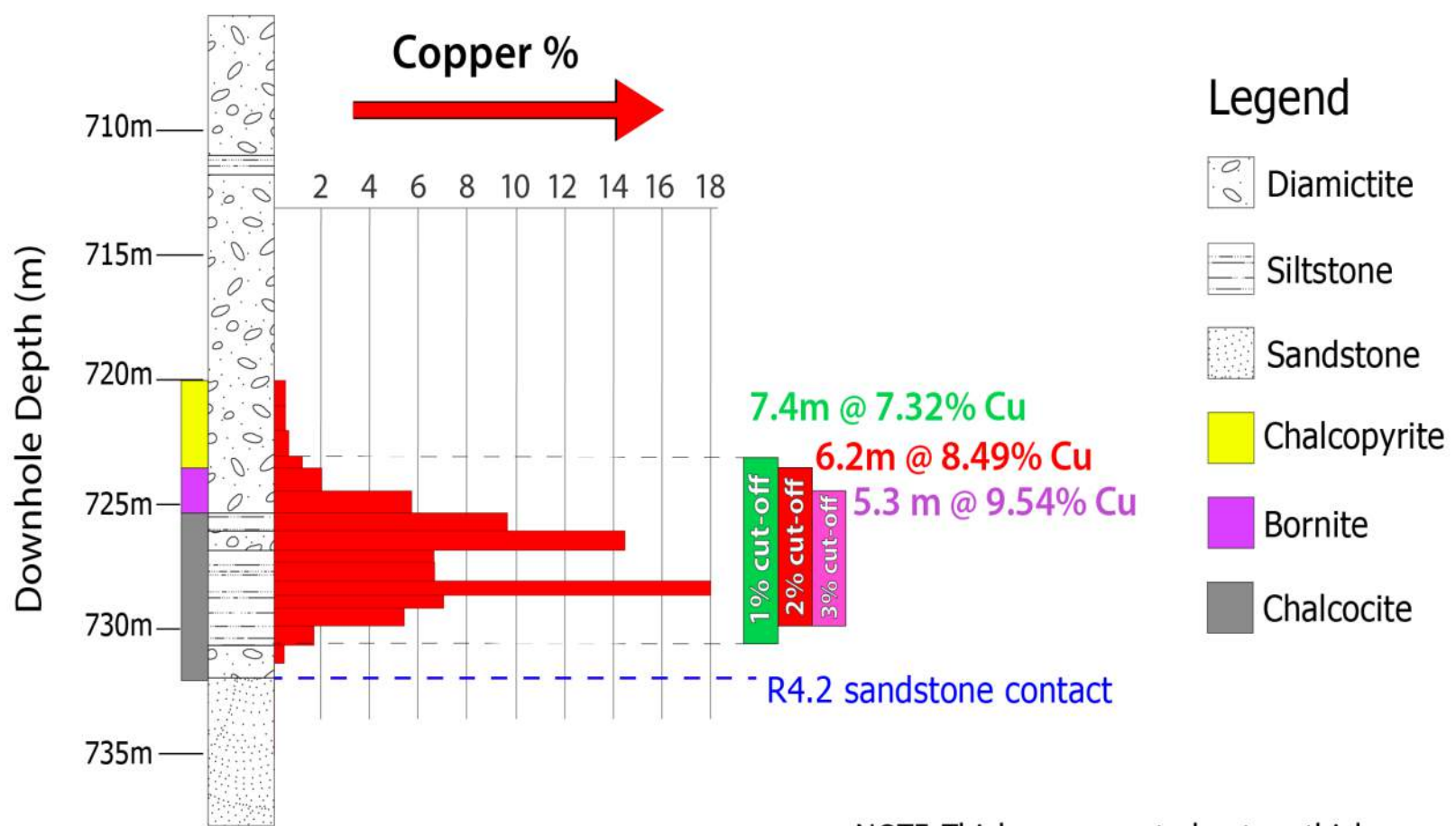
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*Chalcocite (copper sulfide,  $\text{Cu}_2\text{S}$ ) is opaque and dark-grey to black and is 80% copper by weight).*



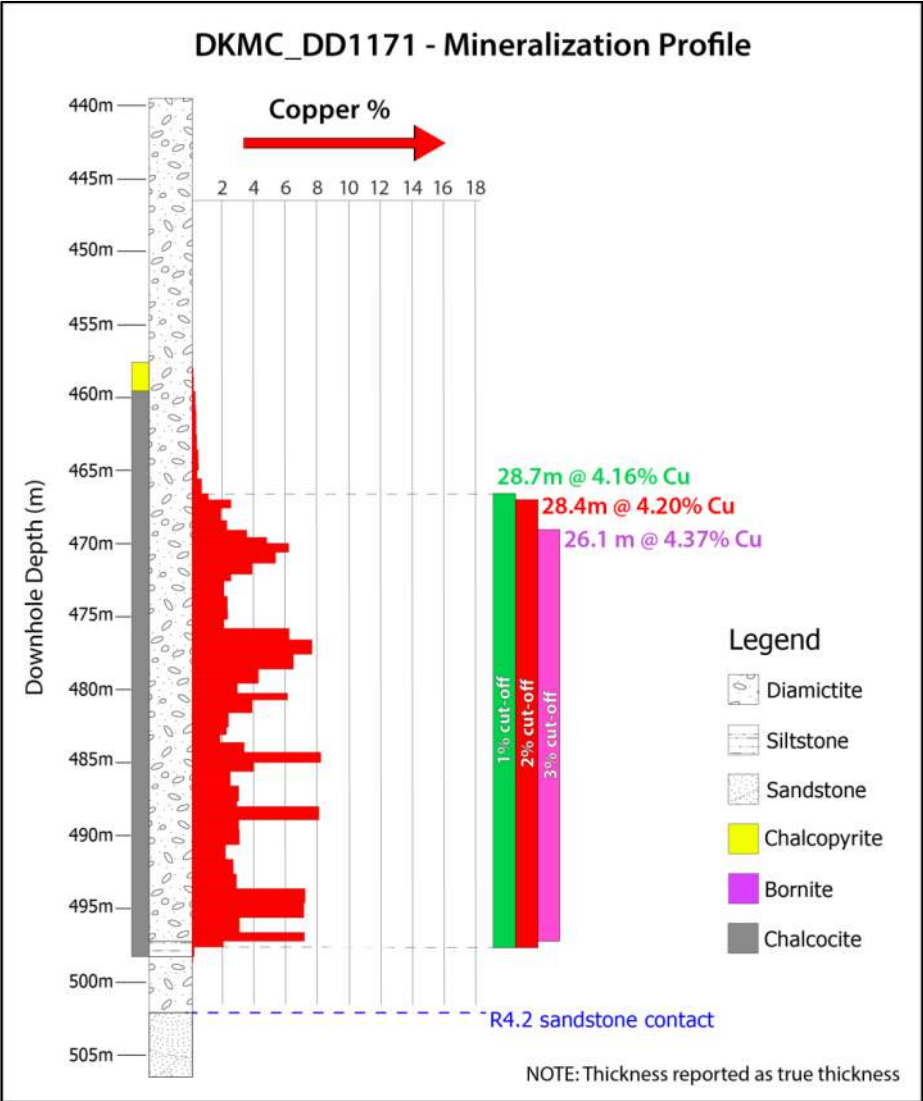
**Consistently high grade and bottom-loaded**  
**DD1163 on the eastern edge of Kakula West;**  
**More than five metres of 9.5% copper.**

DKMC\_DD1163 - Mineralization Profile



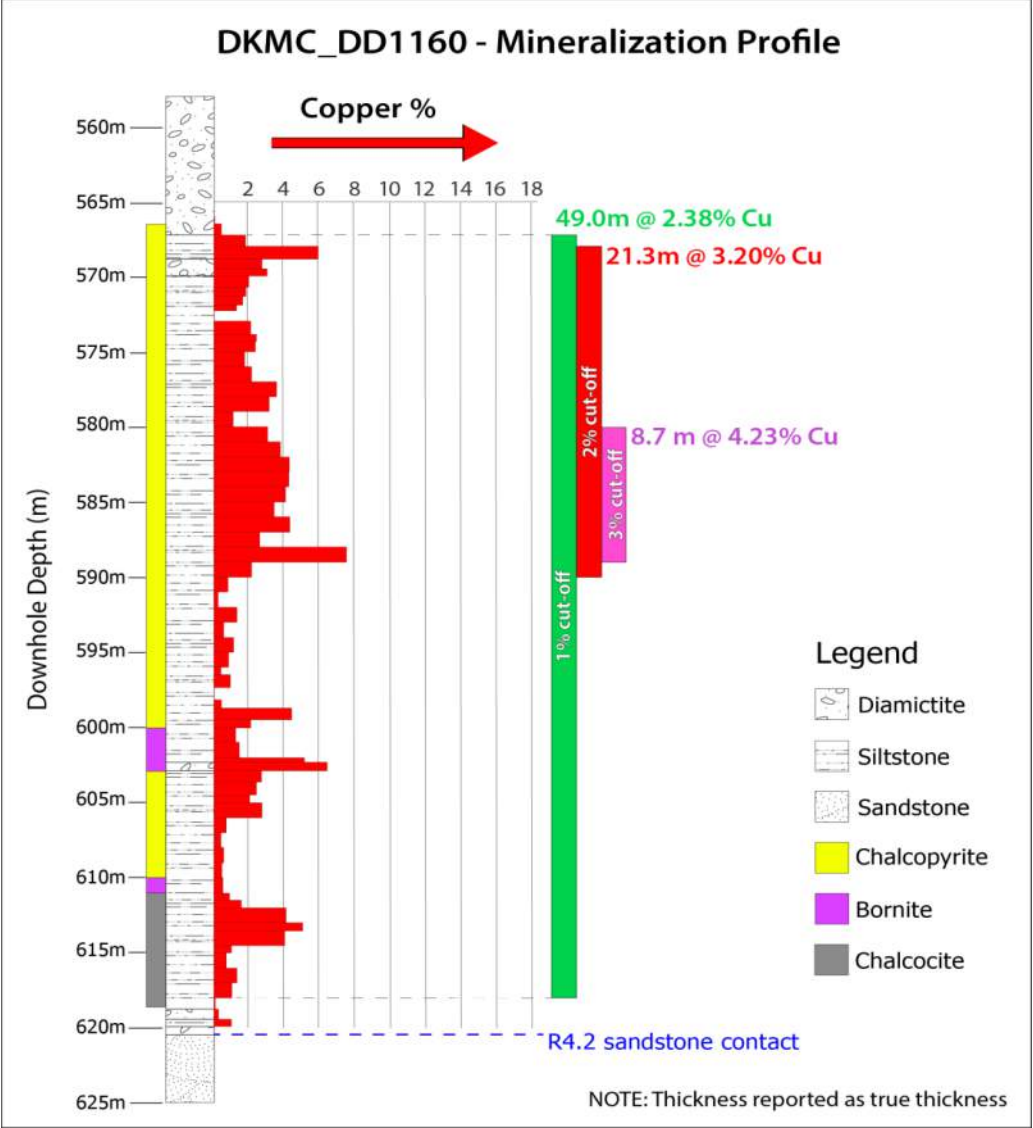
NOTE: Thickness reported as true thickness

**Almost 30 metres of 4.2% copper in DD1171!**  
**One of several Kakula West holes that have discovered massive copper-rich areas between 20 and 50 metres thick**





**Almost 50 metres of 2.3% copper in DD1160!**  
**One of several Kakula West holes that have discovered massive copper-rich areas between 20 and 50 metres thick**

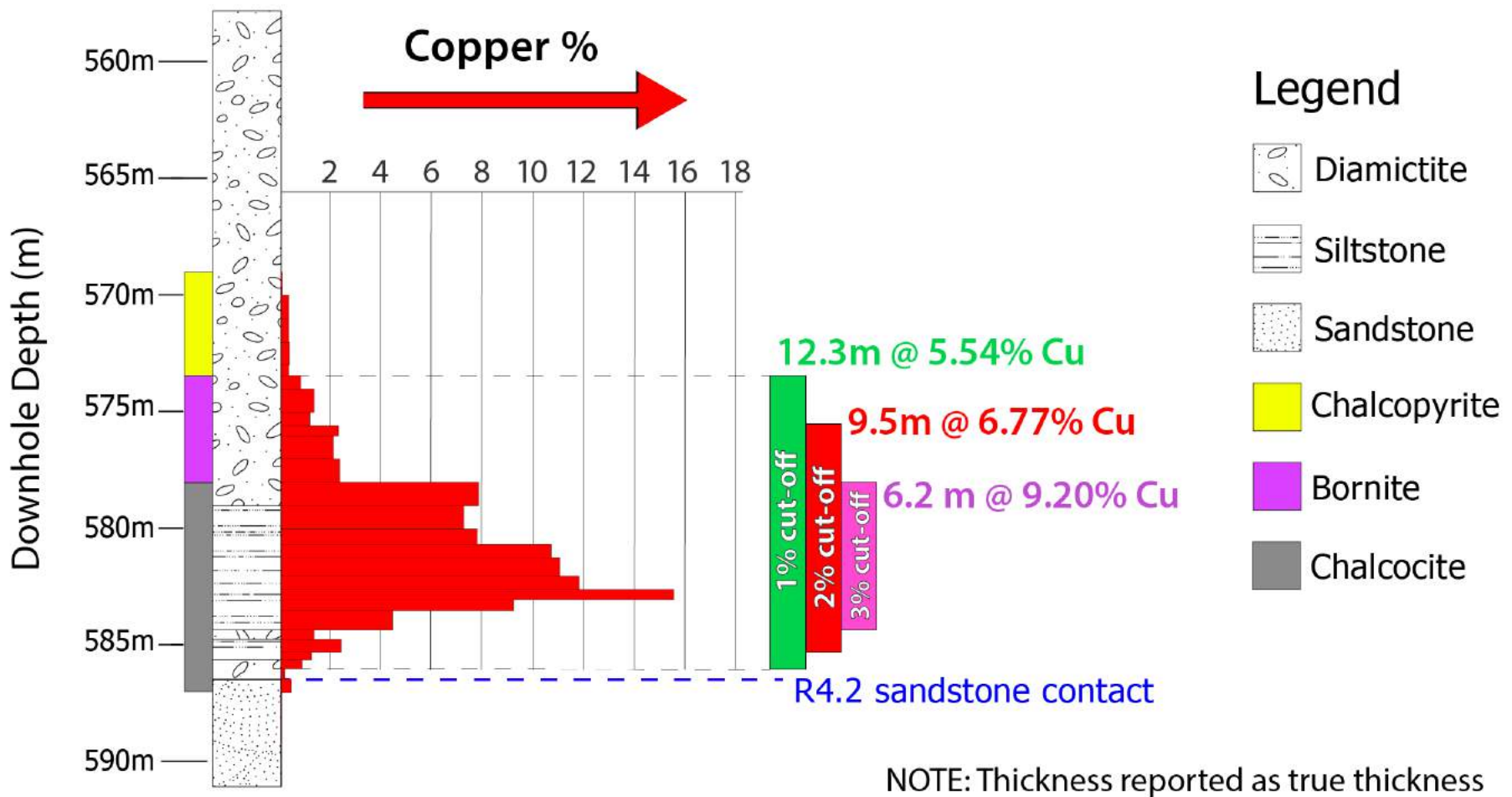


**More than 6 metres of 9.2% copper!**

**DD1167 on the northwest portion of Kakula resource area**

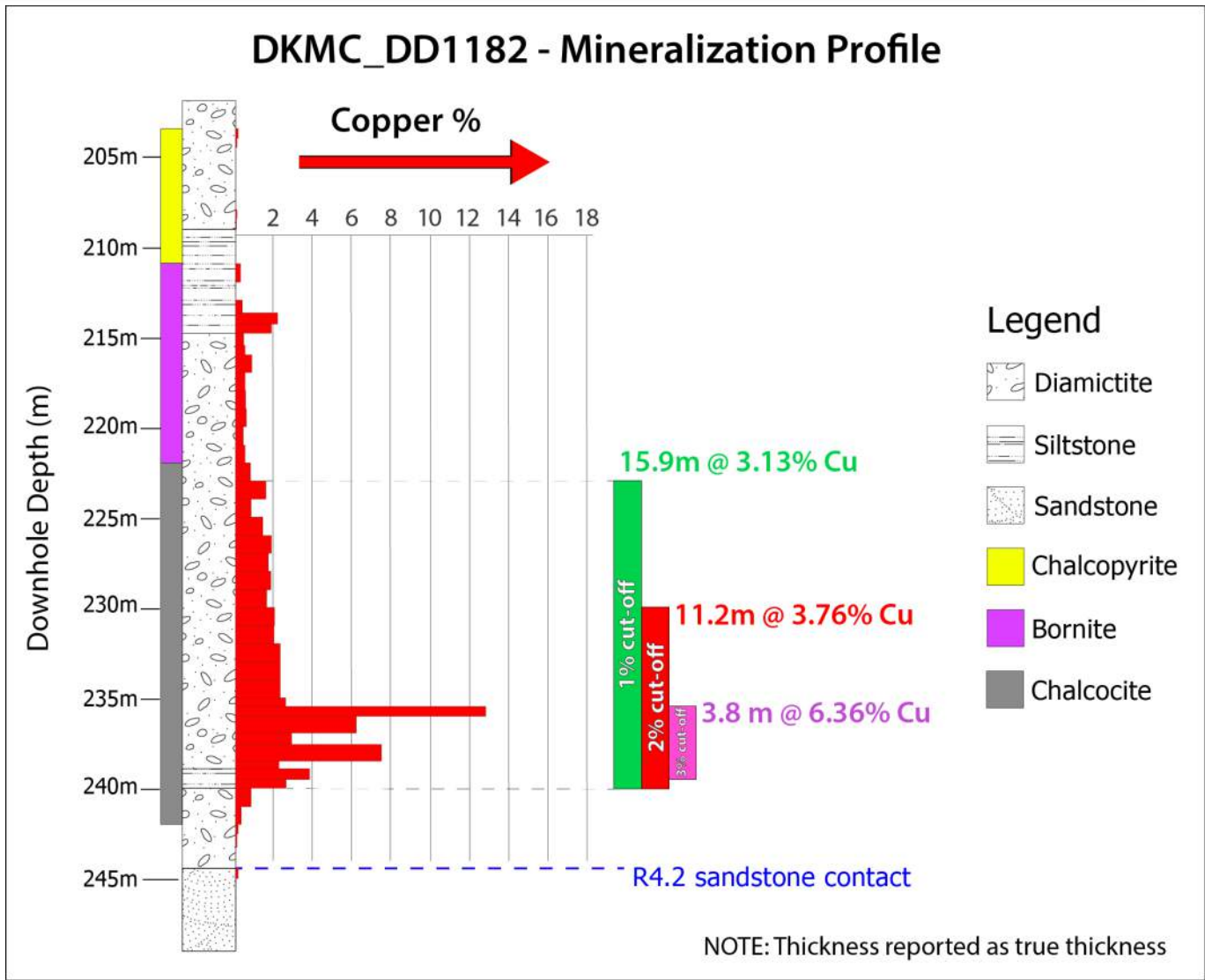
KAMO-A-KAKULA

DKMC\_DD1167 - Mineralization Profile



# 16 metres of 3.1% copper!

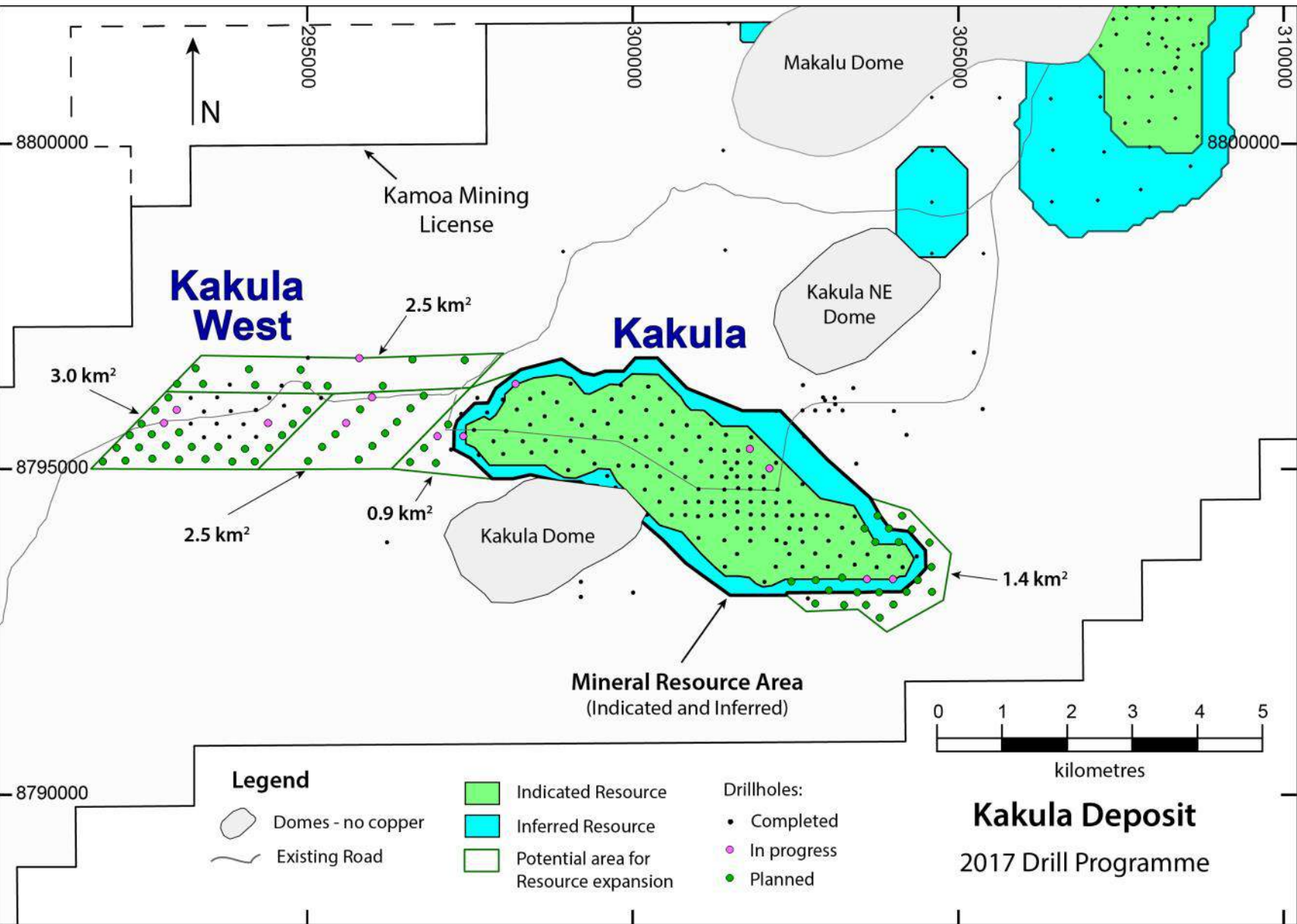
DD1182 on the south-western limit of the Kakula resource area





# Planned infill drilling at Kakula and saddle area

KAMOA-KAKULA





# Drilling at the Kakula West Copper Discovery

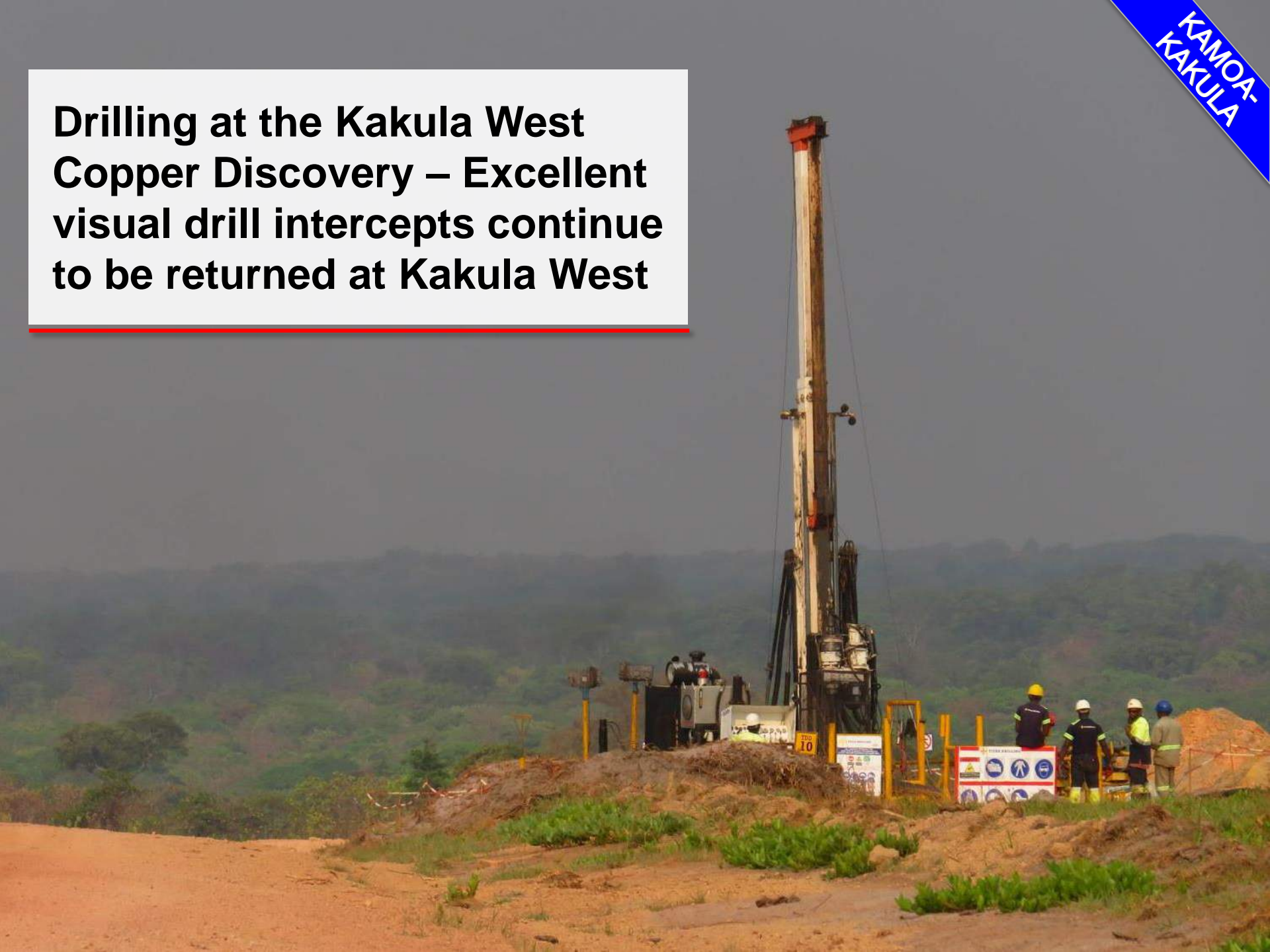
KAMOA-  
KAKULA





**Drilling at the Kakula West  
Copper Discovery – Excellent  
visual drill intercepts continue  
to be returned at Kakula West**

**KAMOA-  
KAKULA**





**Bornite and chalcocite in vein intersected in DD1174 from a moderate to strong zone of mixed chalcocite from Kakula West**

**KAMOA-KAKULA**





## **Massive chalcocite in a recent drill hole from Kakula West**

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Results show a rapidly growing area of shallow copper mineralization characterized by finely disseminated chalcocite in siltstone and maroon diamictite. The style and overall geometry of mineralization are typical of the high-grade Kakula trend to the east.



# **+12% copper in hole DD1041**

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**Massive chalcocite**

**Disseminated  
massive  
chalcocite**







Fine-grained chalcocite mineralization in siltstone intersected in a recent hole **drilled between Kakula and Kakula West.**

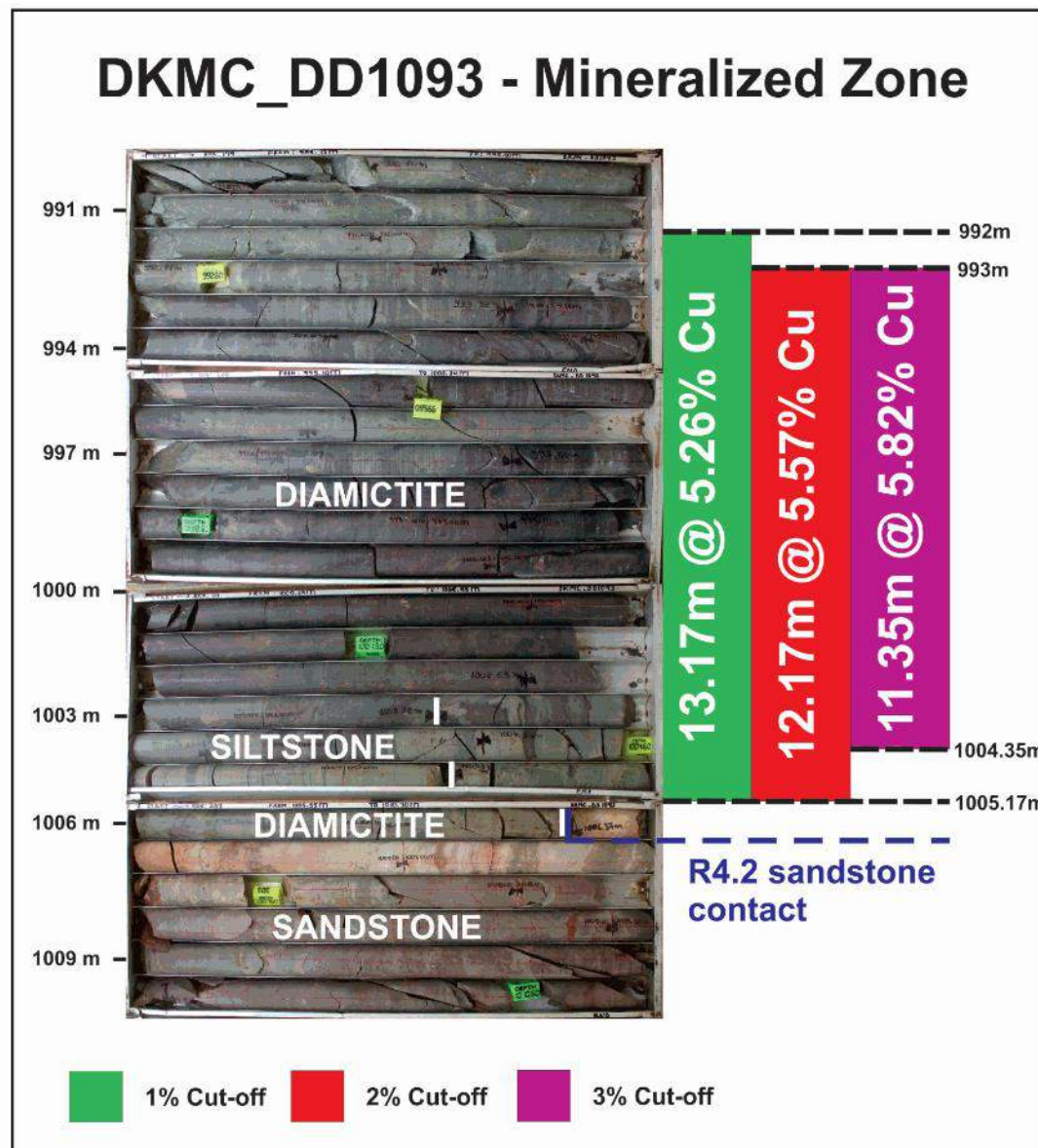


Drilling results from Kakula West show a rapidly growing area of shallow copper mineralization characterized by finely disseminated chalcocite in siltstone and maroon diamictite.

**Chalcocite is approximately 80% copper by weight.**

# High-grade copper intersection in drillhole DD1093

KAMOA-KAKULA



# May 17, 2017: Updated Mineral Resource estimate for the high-grade Kakula Discovery

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- Kakula's Indicated Resources total **349 million tonnes** at a grade of **3.23% copper**, containing **24.9 billion pounds** of copper at a 1% copper cut-off. At a 3% copper cut-off, Indicated Resources total **116 million tonnes** at **6.09% copper**, containing **15.6 billion pounds** of copper.
- The combined Kamoa-Kakula Indicated Mineral Resources now total **approximately 1.0 billion tonnes** grading **3.02% copper**, containing **66.3 billion pounds** of copper, at a 1.4% copper cut-off.
- Kamoa-Kakula also has Inferred Mineral Resources of **191 million tonnes** grading **2.37% copper** and containing **10.0 billion pounds** of copper, at a 1.4% copper cut-off.

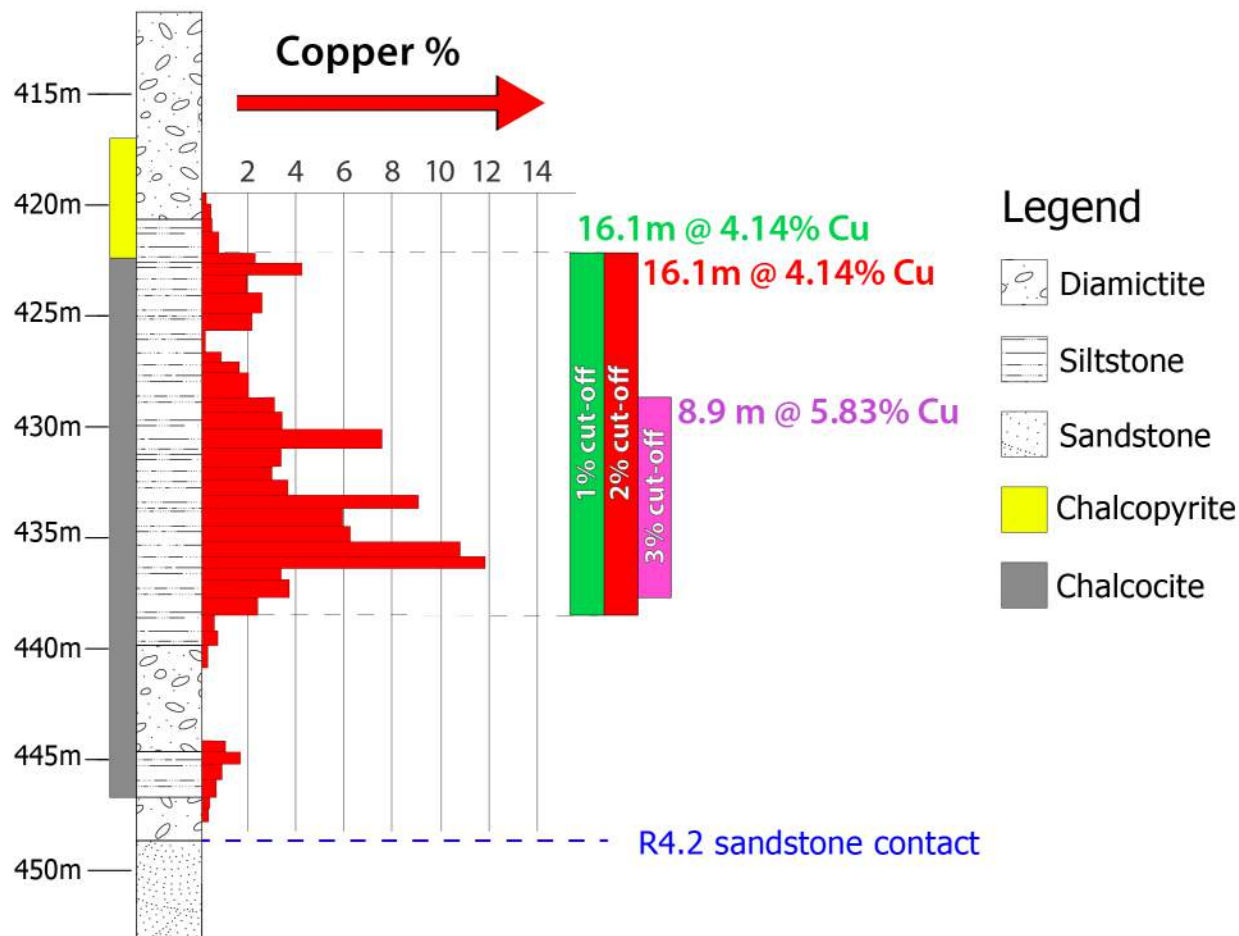
**Kamoa-Kakula now ranks among the five largest copper deposits in the world, and is the largest copper discovery ever made on the African continent.**



# Strip-log of drill hole DD1124 showing high-grade copper assays and a typical Kakula-style mineralization profile

KAMOA-KAKULA

DKMC\_DD1124 - Mineralization Profile



# Consolidated Mineral Resource Statement, Kamoa-Kakula Project – May 16, 2017, 1% copper cut-off over an approximate minimum thickness of 3 metres

| Deposit             | Category  | Tonnes (millions) | Area (Sq. km) | Copper Grade | True Thickness (metres-m) | Contained Copper (kTonnes) | Contained Copper (billion lbs) |
|---------------------|-----------|-------------------|---------------|--------------|---------------------------|----------------------------|--------------------------------|
| Kamoa               | Indicated | 752               | 50.5          | 2.67%        | 5.2 (m)                   | 20,110                     | 44.3                           |
|                     | Inferred  | 185               | 16.8          | 2.08%        | 3.8 (m)                   | 3,840                      | 8.5                            |
| Kakula              | Indicated | 349               | 9.8           | 3.23%        | 12.0m                     | 11,281                     | 24.9                           |
|                     | Inferred  | 59                | 3.0           | 2.26%        | 6.4m                      | 1,338                      | 3.0                            |
| Total Kamoa Project | Indicated | 1101              | 60.3          | 2.85%        | 6.3m                      | 31,391                     | 69.2                           |
|                     | Inferred  | 244               | 19.8          | 2.12%        | 4.3m                      | 5,178                      | 11.5                           |

Notes to accompany Kamoa Project Mineral Resource Table:

- Ivanhoe's Mineral Resources Manager, George Gilchrist, Professional Natural Scientist (Pr. Sci. Nat) with the South African Council for Natural Scientific Professions (SACNASP), estimated the Mineral Resources under the supervision of Dr. Harry Parker and Gordon Seibel, both RM of Society of Mining, Metallurgy and Exploration (SME), who are the Qualified Persons for the Mineral Resource estimate. The effective date of the estimate is May 16, 2017. Mineral Resources are estimated using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves.
- Mineral Resources are estimated assuming underground mining methods, a copper price of US\$3.30/lb (Kamoa) and US\$3.00/lb (Kakula Deposit), a cut-off of 1% total copper, an approximate minimum thickness of 3 m, and that concentrates will be produced and sent to a smelter.
- Tonnage and contained-copper tonnes are reported in metric units, contained-copper pounds are reported in imperial units and grades are reported as percentages.
- Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content.

# 2016 Kakula PEA – alternate development scenarios

KAMOA-KAKULA

| Mine                                       | Kakula                       | Kakula + Kansoko                    |
|--|------------------------------|-------------------------------------|
| Annual mining rate                         | 4 million tonnes             | 4 + 4 million tonnes <sup>(1)</sup> |
| Average head grade; first 10 years         | 6.90% copper                 | 5.81% copper                        |
| Annual copper production first 10 years    | 216,000 tonnes               | 292,000 tonnes                      |
| Mine-site cash cost first 10 years         | \$0.37/lb copper             | \$0.42/lb copper                    |
| Initial capex                              | \$1.0 billion                | \$1.0 billion                       |
| NPV <sub>8</sub> @ \$3.00/lb Copper        | \$3.7 billion <sup>(2)</sup> | \$4.7 billion <sup>(2)</sup>        |
| Internal rate of return @ \$3.00/lb copper | 38% <sup>(3)</sup>           | 34.6% <sup>(3)</sup>                |
| Payback period @ \$3.00/lb copper          | 2.3 years <sup>(3)</sup>     | 3.5 years <sup>(3)</sup>            |

All in US dollars, unless otherwise indicated

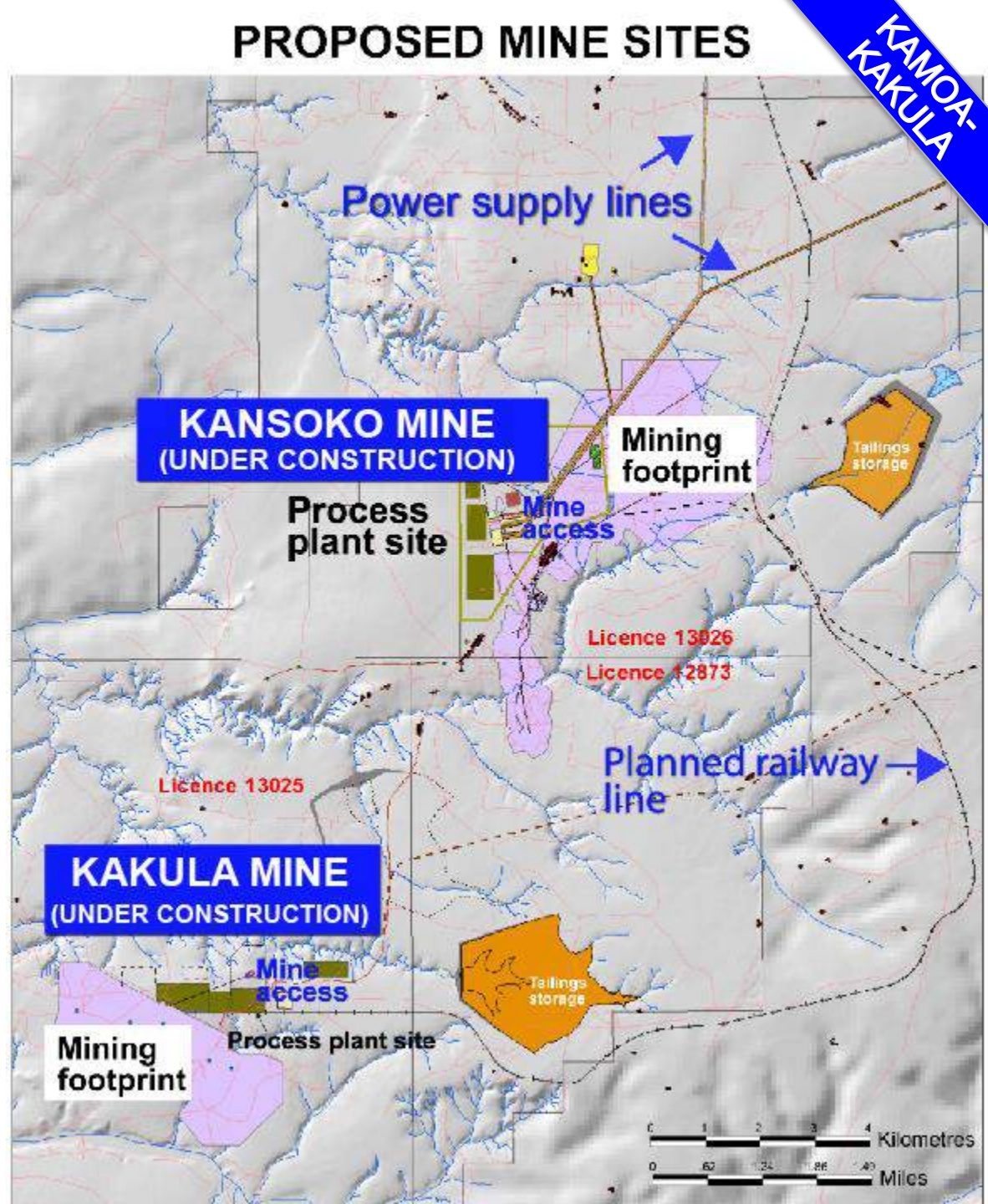
The Kakula 2016 PEA is preliminary in nature and includes an economic analysis that is based, in part, on Inferred Mineral Resources. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would allow them to be categorized as Mineral Reserves, and there is no certainty that the results will be realized. Mineral Resources do not have demonstrated economic viability and are not Mineral Reserves.

1. Two-stage development of both Kakula and Kamoa deposits.
2. After-tax NPV, discounted at 8%, assuming a long-term copper price of US\$3.00/lb.
3. After tax.



# Planned Kakula 2016 PEA development and infrastructure for Kakula and Kansoko mines

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# 2017 PEA

## **Two** six-million-tonne-per-year mines !!

- A new PEA is being worked on based on the May 2017 Kakula Mineral Resource estimate.
- Kakula – mine capacity of approximately **6 Mtpa.**
- Kansoko Mine – mine capacity of approximately **6 Mtpa.**



KAMOA-KAKULA



# SECOND BLAST AT KAKULA BOX CUT

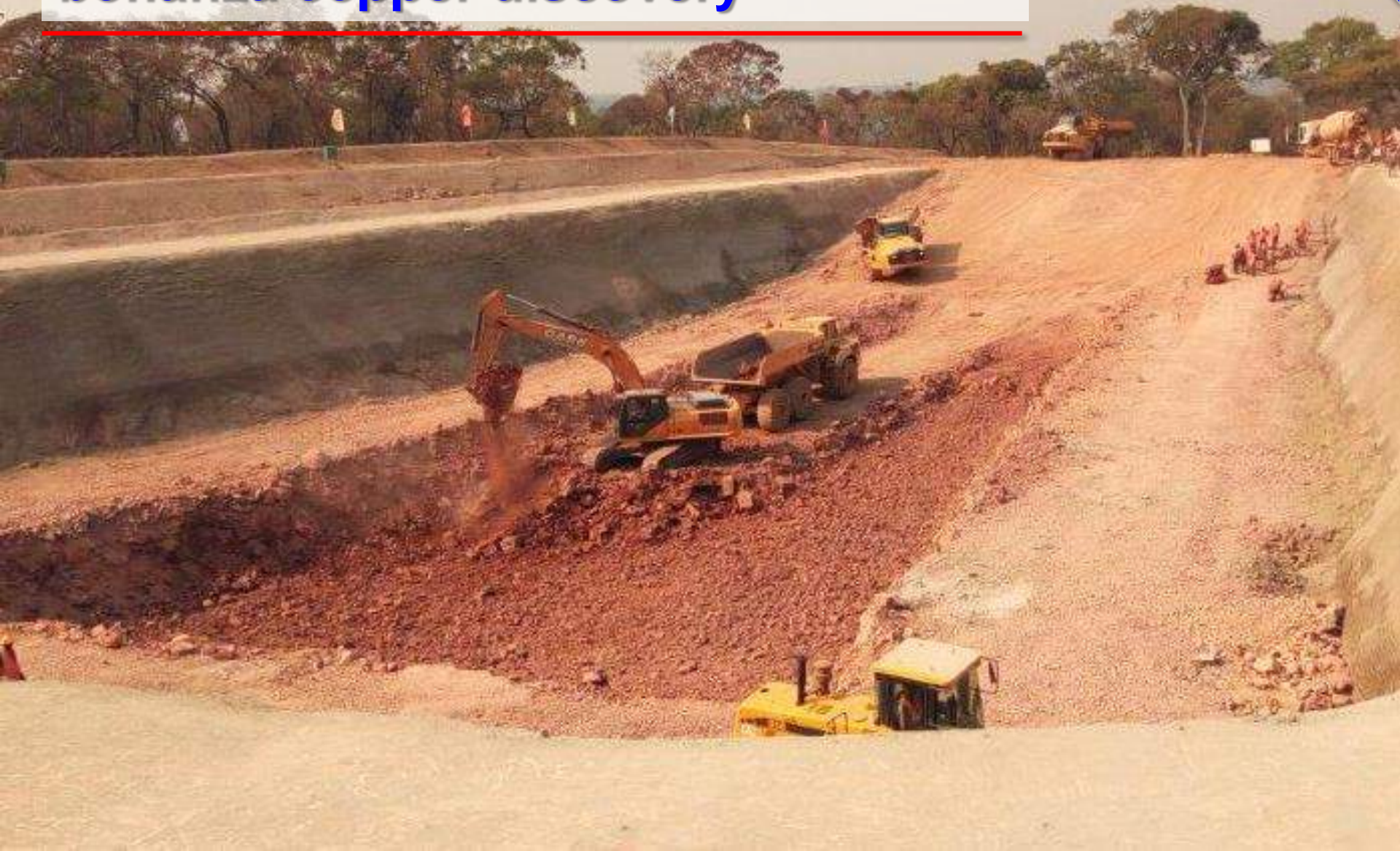
**The second blast at the box cut for the Kakula Mine was detonated on August 16, 2017**



**Box cut construction underway now  
at Kakula to provide access to the  
**bonanza copper discovery****

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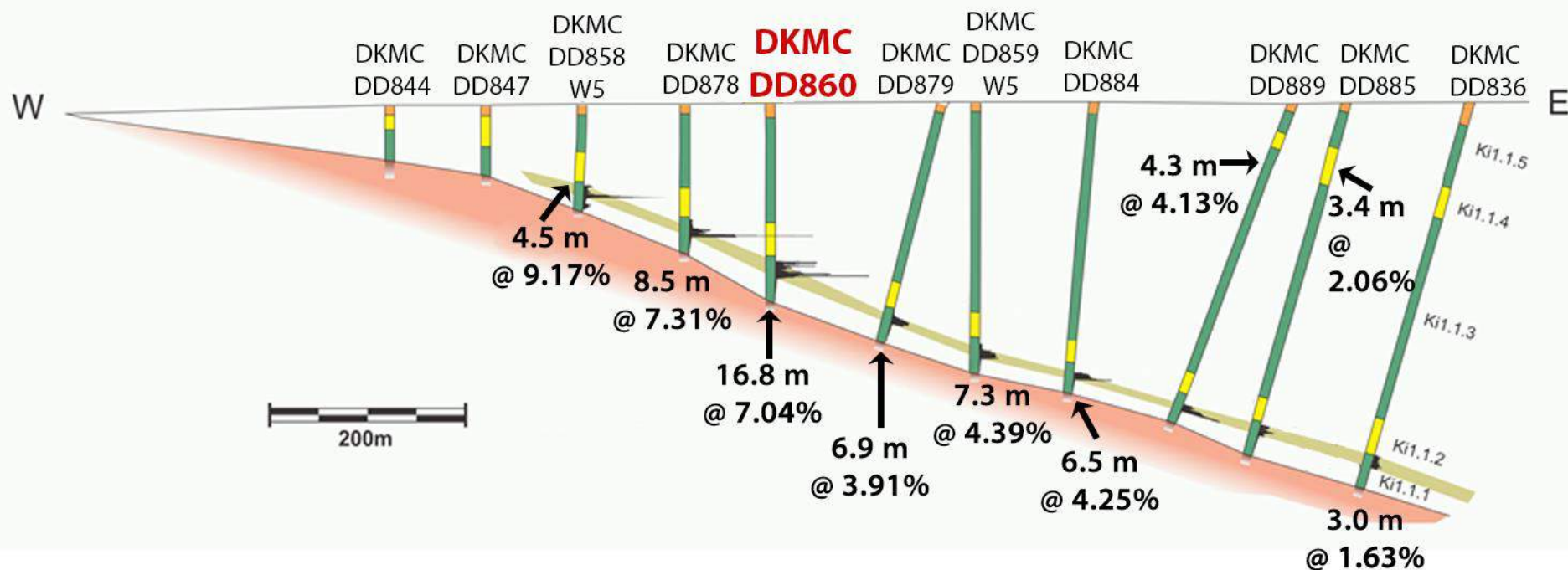
KAMOA-  
KAKULA



# Kansoko Sud section line looking north, showing 1.5% copper cut-off composites

KAMOA-KAKULA

(Looking North)





# Removing broken rock from the declines at the Kansoko Mine

KAMO-A-  
KAKULA





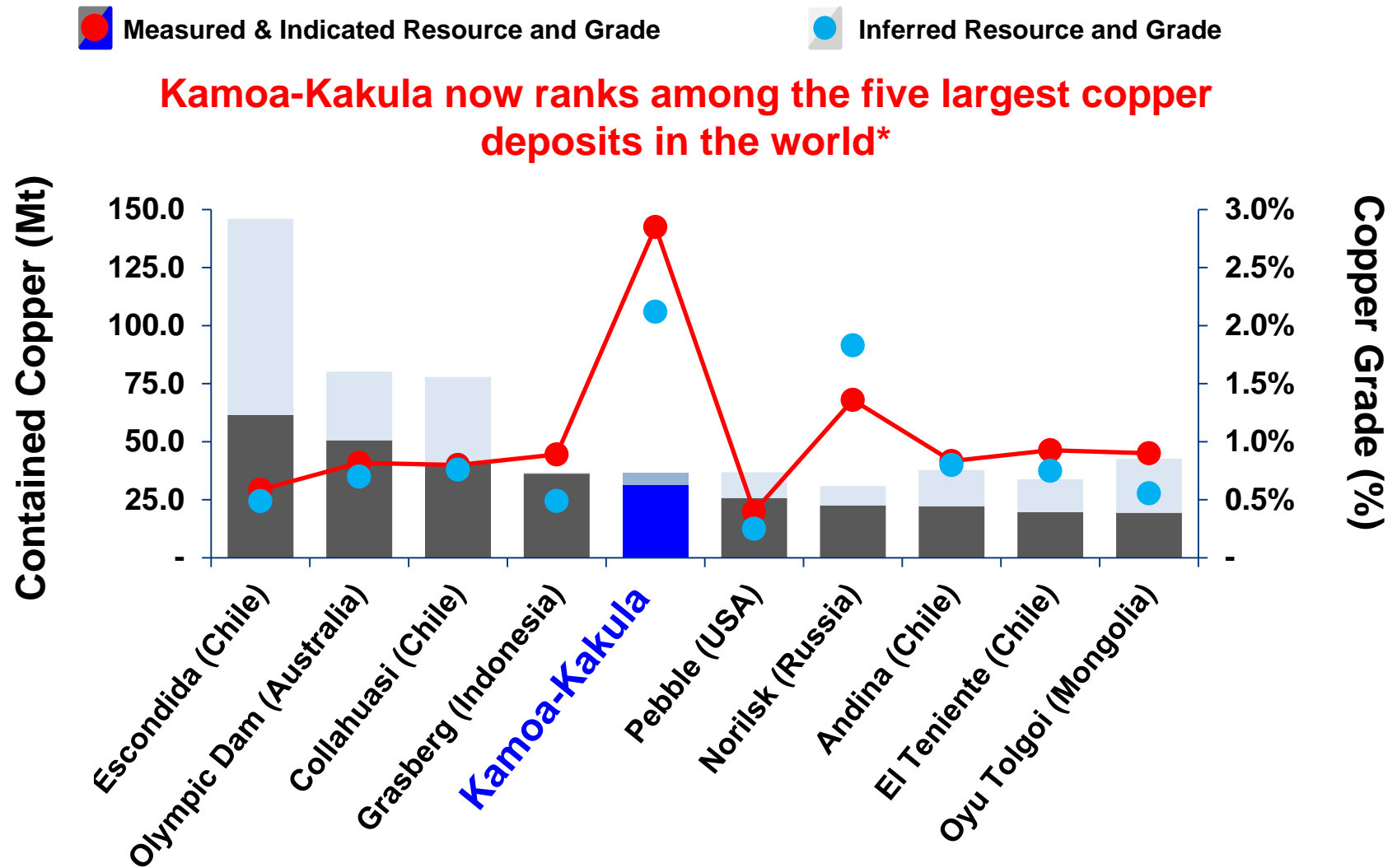
# High-grade development ore stockpiled from construction of the Kamo-a-Kakula

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KAMOA-  
KAKULA



# Among the world's largest copper deposits, Kamo-a-Kakula also has the highest copper grades

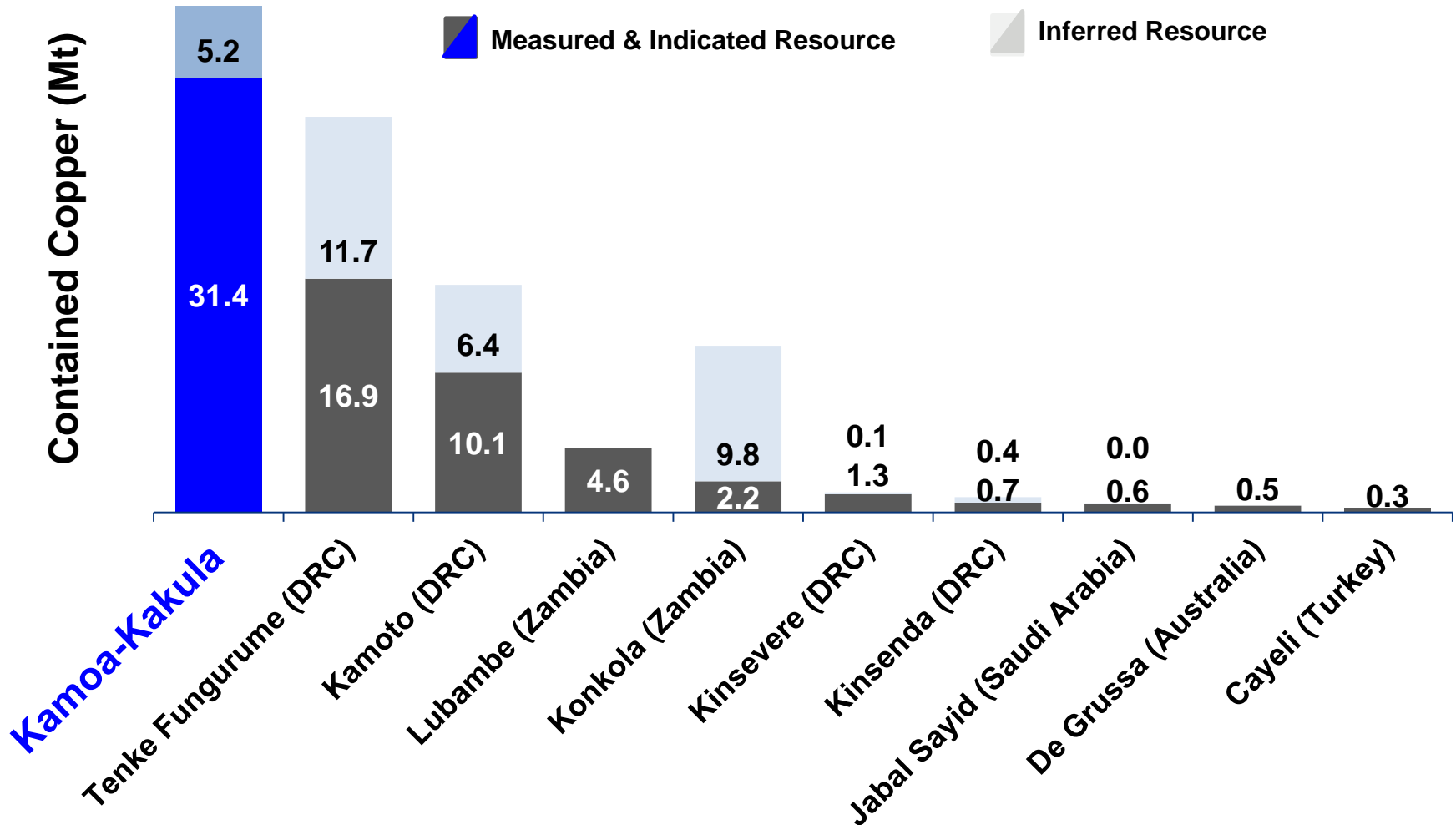


\* Source: Wood Mackenzie

Note: Selected based on contained copper (Measured & Indicated Mineral Resources, inclusive of Mineral Reserves, and Inferred Mineral Resources), ranked on contained copper in Measured and Indicated resources (2017)

# Kamoa-Kakula is the largest high-grade copper deposit in the world

KAMOA-KAKULA

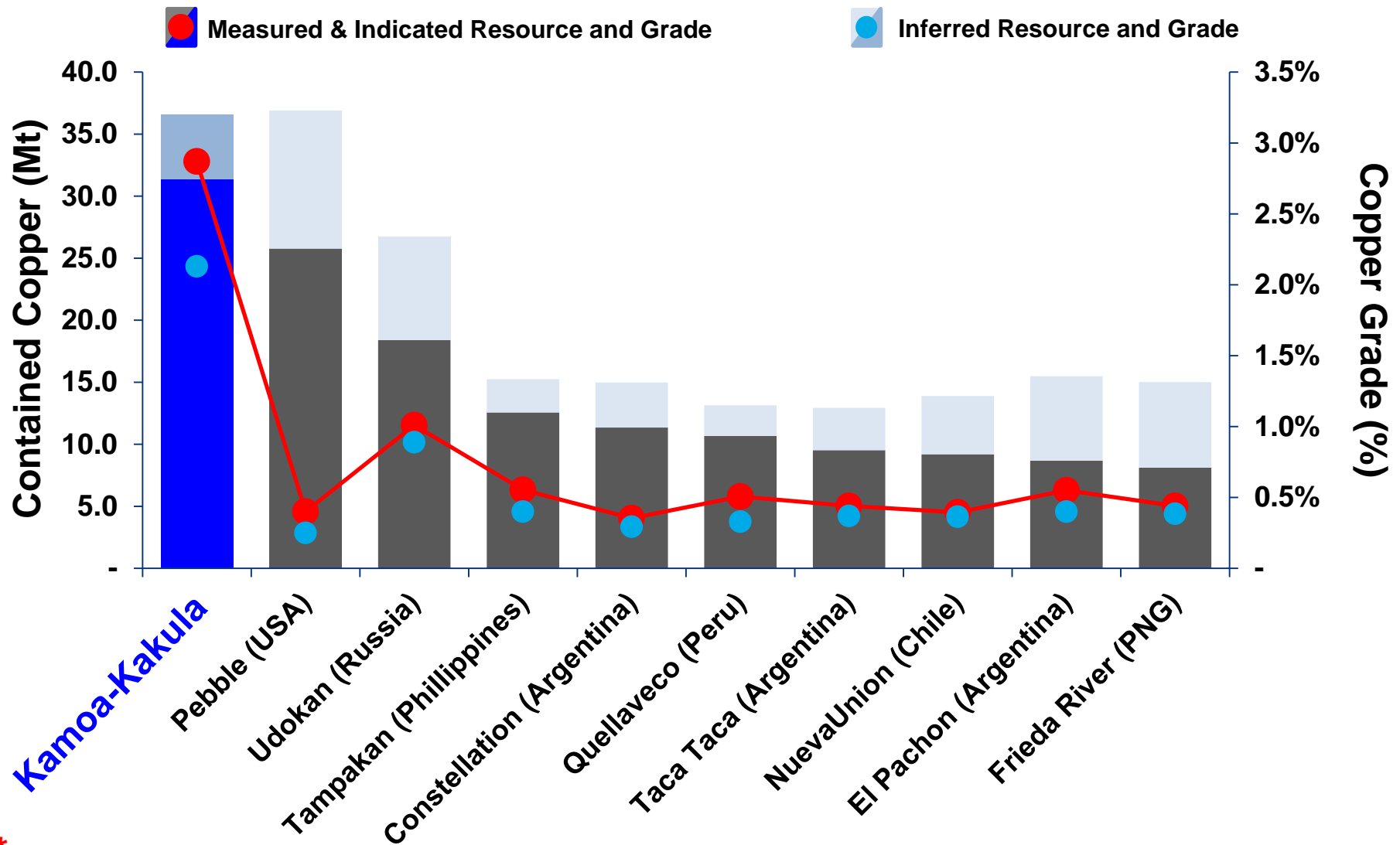


Source: Wood Mackenzie

\*Note: Contained copper in high-grade deposits (Measured & Indicated Mineral Resources, inclusive of Mineral Reserves, and Inferred Mineral Resources) with grades above 2.5% copper (2017)



# Kamoa-Kakula is the largest undeveloped copper deposit in the world

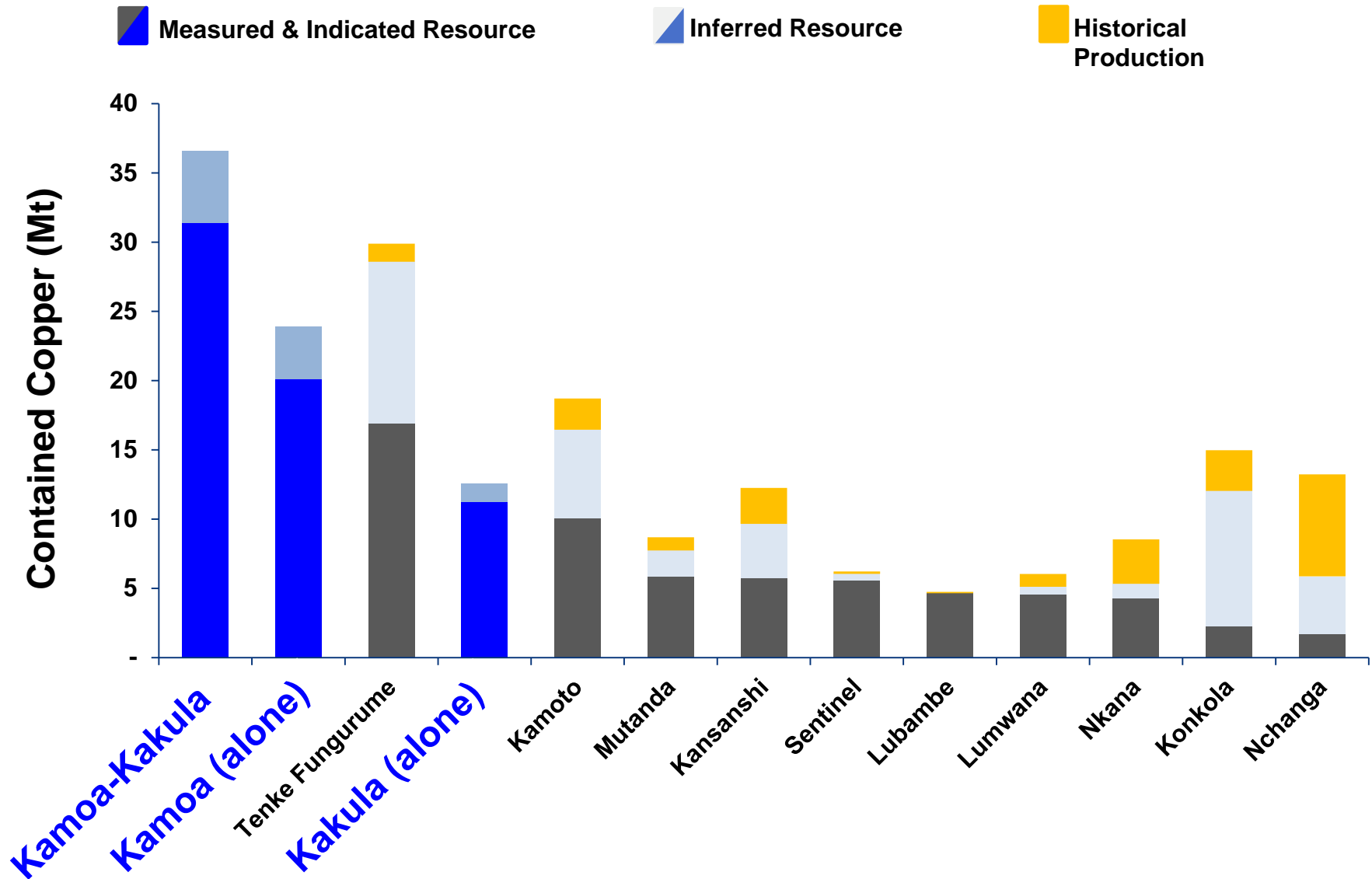


\* Source: Wood Mackenzie

Note: Contained copper in undeveloped deposits (Measured and Indicated Resources, inclusive of Mineral Reserves, and Inferred Resources) ranked by contained copper in Measured and Indicated Resources (2017).

# Kamoa-Kakula is the largest copper discovery ever made on the African continent

KAMOA-KAKULA



# Mwadingusha hydroelectric power station

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KAMOA-  
KAKULA

- Mwadingusha is the first of three hydroelectric power plants in the DRC that Ivanhoe will upgrade to secure a supply of **clean, sustainable electricity for the development of Kamo**a.
- The supply of the initial 11 MW of electricity to the grid commenced in September 2016.
- The three plants, once fully reconditioned, will produce **a combined 200 MW** for the grid.





# 120kV power line at the Kamoa Project

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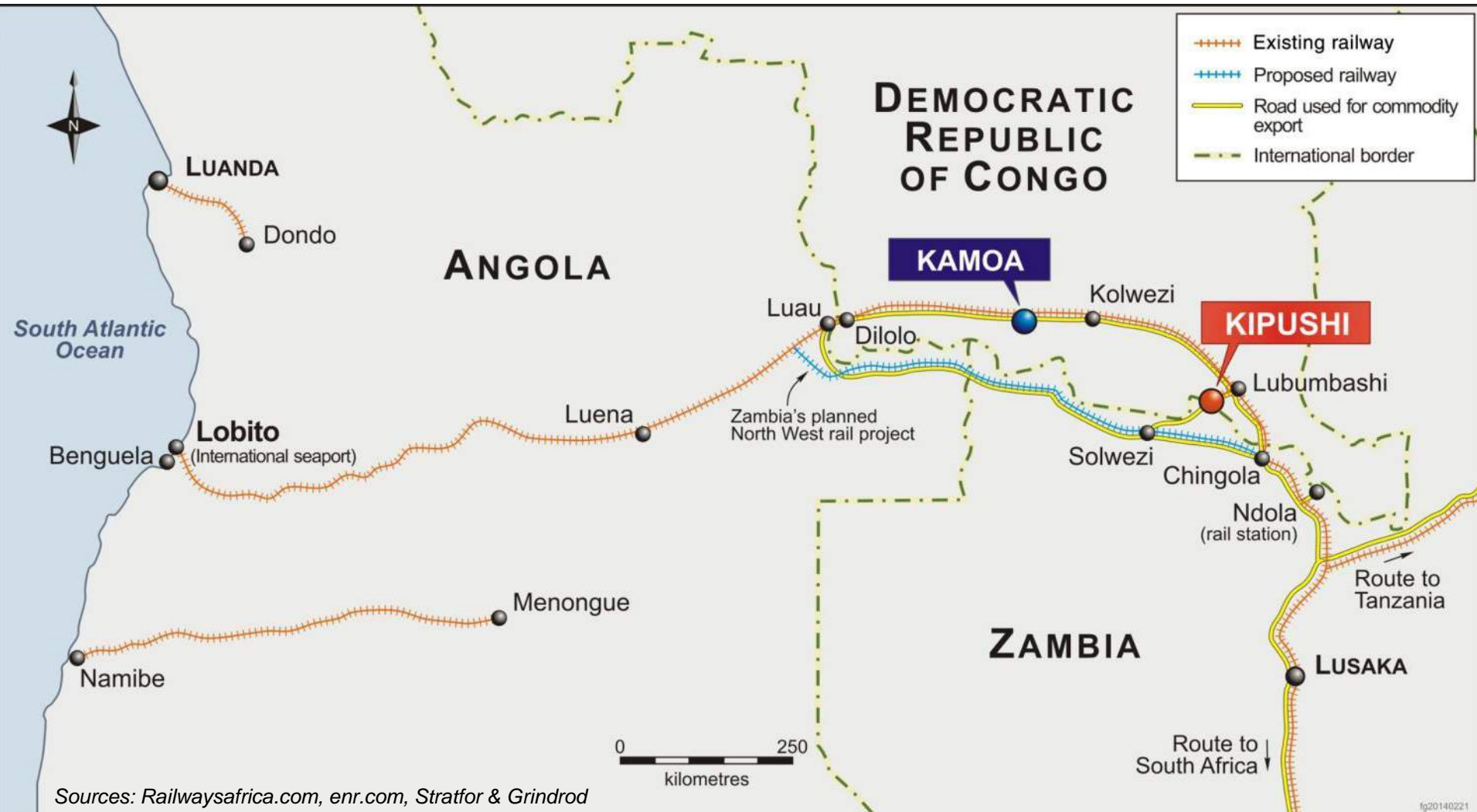
KAMOA-  
KAKULA



# Rebuilt railway to link DRC mines with Angola's Atlantic port of Lobito

Reconstruction completed to Dilolo station in DRC.

KAMOA-KAKULA





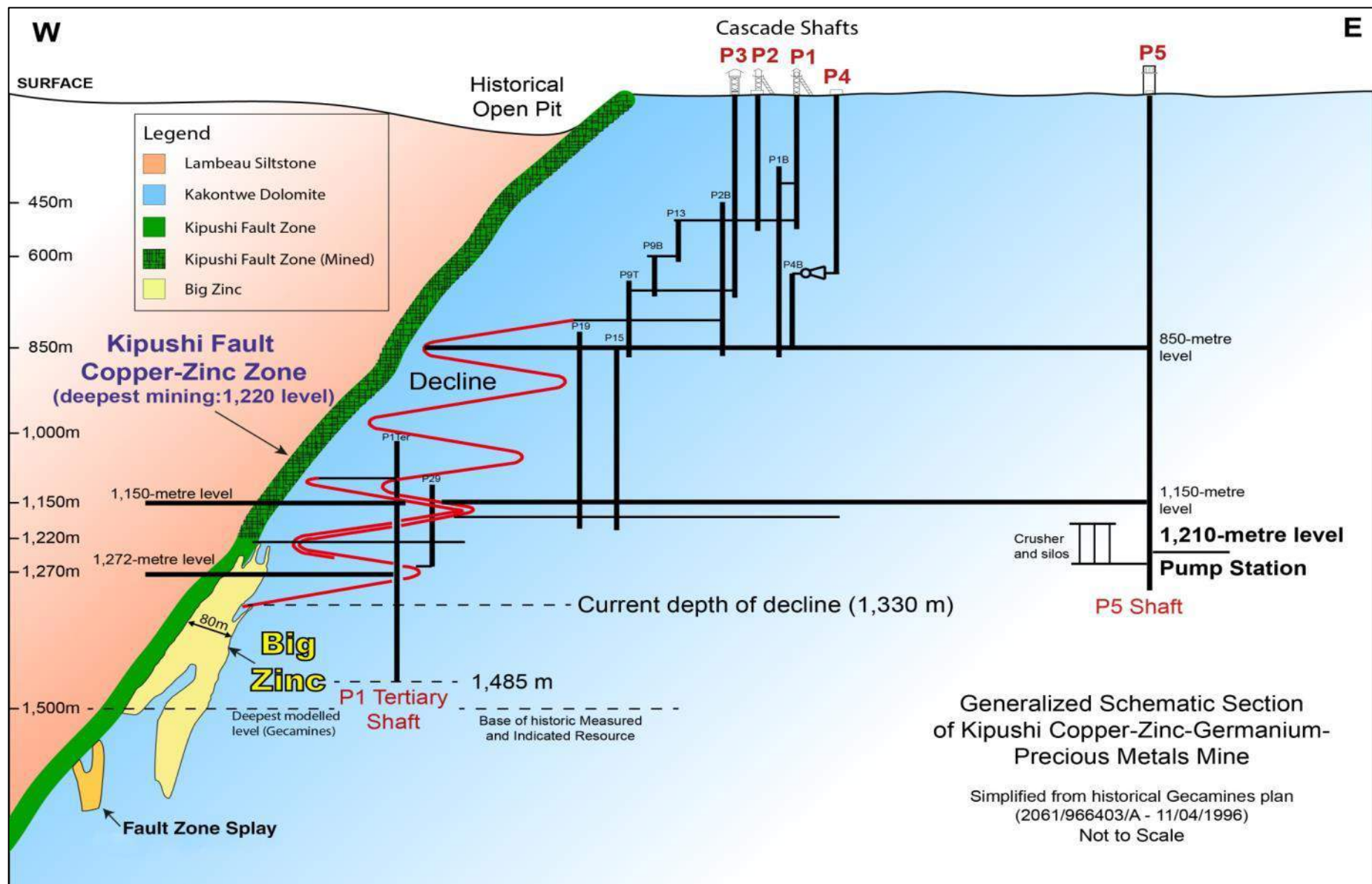


# Kipushi Mine Exploration and Upgrading

Democratic Republic  
of Congo

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NEW HORIZONS





- Kipushi Fault Zone was mined 1924-1993 to approx. 1,150-metre level.
- Big Zinc discovered prior to 1993 closure; never mined.

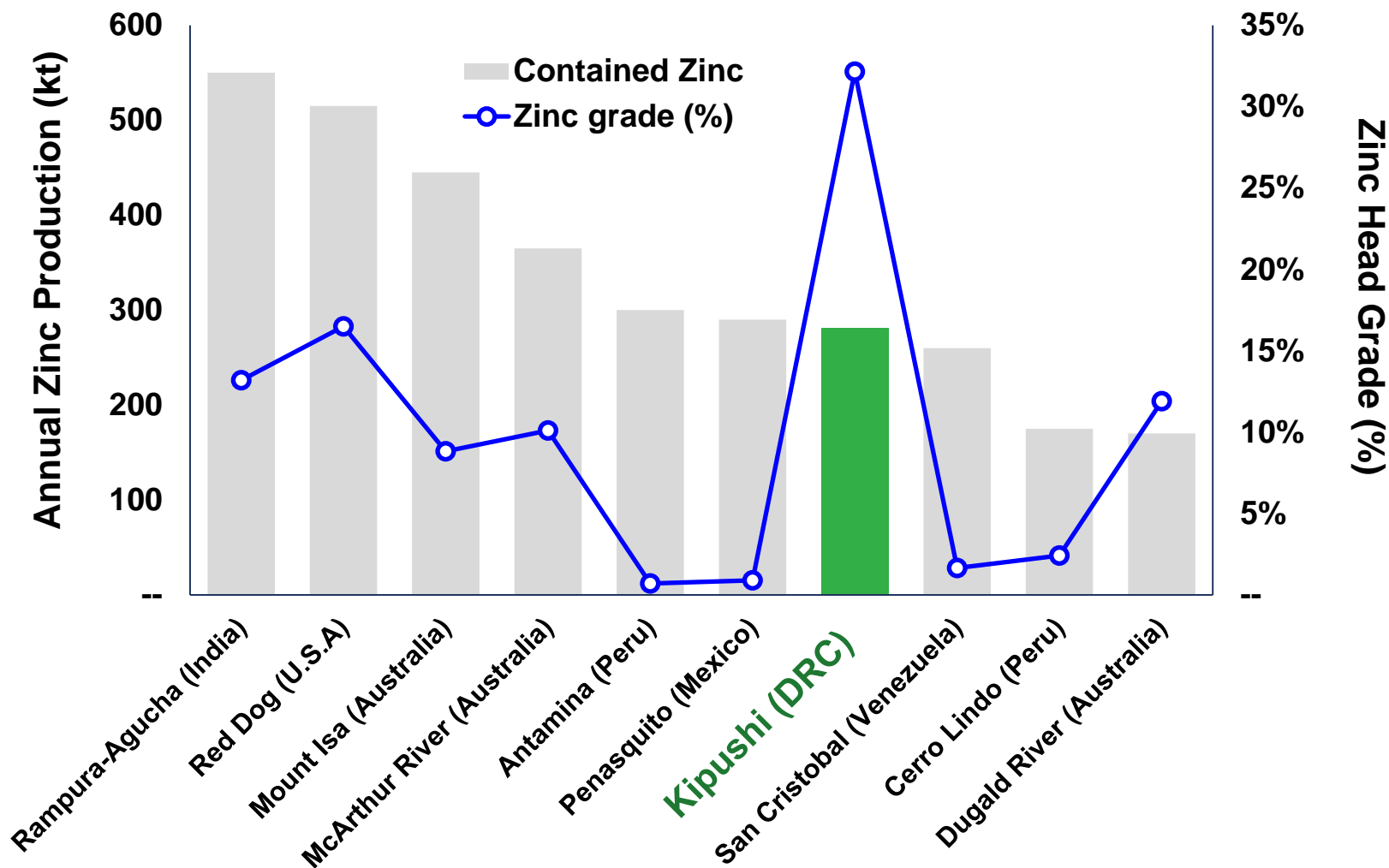
# The birth of a spectacularly high-grade mine

KIPUSHI

In 1924, Kipushi began mining 18% copper from a surface open pit, before transitioning to Africa's richest underground copper, zinc and germanium mine. Mining continued until 1993.



# World's major zinc mines, showing estimated annual zinc production and zinc head grades



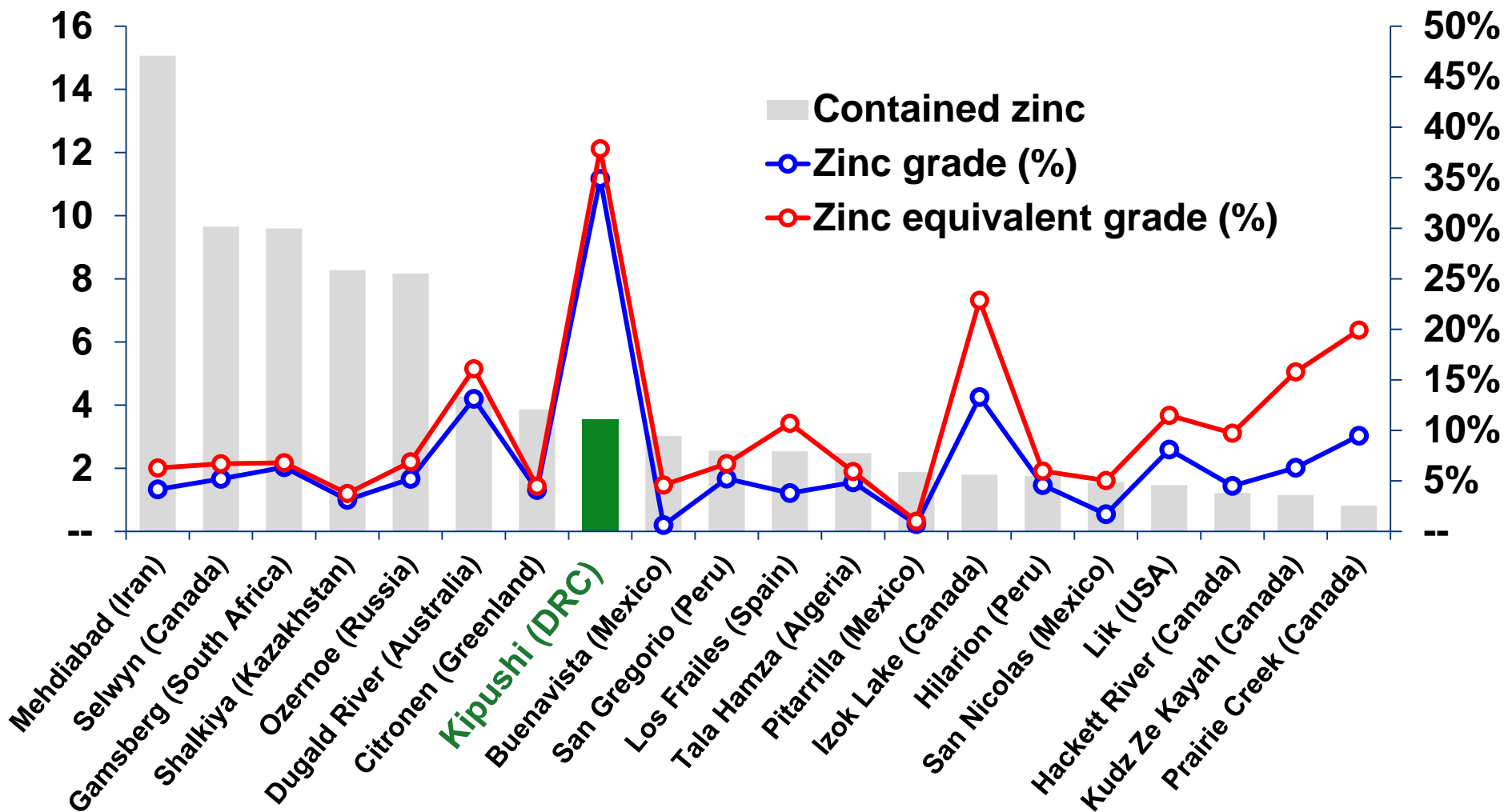
Source: Wood Mackenzie. World's major zinc mines defined as the world's 10 largest zinc mines ranked by forecasted production by 2018. Note: Independent research by Wood Mackenzie concludes that at the forecast production and head grade, the Kipushi Project could be expected to rank among the world's 10 largest zinc mines. Wood Mackenzie compared the Kipushi Project's life-of-mine average annual zinc production and zinc head grade of 281,000 tonnes and 32%, respectively, against production and zinc head grade forecasts for 2018.



# Top 20 zinc projects by contained zinc

Contained zinc in Measured & Indicated resources (Mt)

Zinc grade (%)



Source: Wood Mackenzie. Note: All tonnes and metal grades of individual metals used in the equivalency calculation of the above-mentioned projects (except for Kipushi) are based on public disclosure and have been compiled by Wood Mackenzie. All metal grades have been converted by Wood Mackenzie to a zinc equivalent grade at Wood Mackenzie's respective long-term price assumptions.

# 2016 Kipushi PEA

KIPUSHI

|   |                                      |
|---|--------------------------------------|
| Steady-state mining rate                    | 1.1 million tonnes/year              |
| Average head grades                         | <b>32.2% zinc and 5.4% copper</b>    |
| Zinc concentrate production                 | 530,000 tonnes/year @ 53% zinc       |
| Total cash costs (after credits)            | \$0.54/lb zinc                       |
| Initial capex                               | \$409 million                        |
| After-tax NPV <sub>8</sub> @ \$1.01/lb zinc | \$533 million <sup>(1)</sup>         |
| After-tax NPV <sub>8</sub> @ \$1.25/lb zinc | <b>\$1.03 billion <sup>(1)</sup></b> |
| Internal rate of return @ \$1.25/lb zinc    | <b>30.9% <sup>(2)</sup></b>          |
| Payback period @ \$1.25/lb zinc             | <b>2.2 years <sup>(1)</sup></b>      |

All in US dollars, unless otherwise indicated. The Kipushi 2016 PEA is preliminary in nature and includes an economic analysis that is based, in part, on Inferred Mineral Resources. There is no certainty that the PEA results will be realized.

1. Assuming a long-term copper price of US\$3.00/lb and a long-term zinc price of US\$1.01/lb and US\$1.25/lb, respectively.
2. After tax.



# Members of the Titan underground drilling team at Kipushi's 1,274-metre-level

KIPUSHI





# Control room operator at Kipushi's Shaft 5

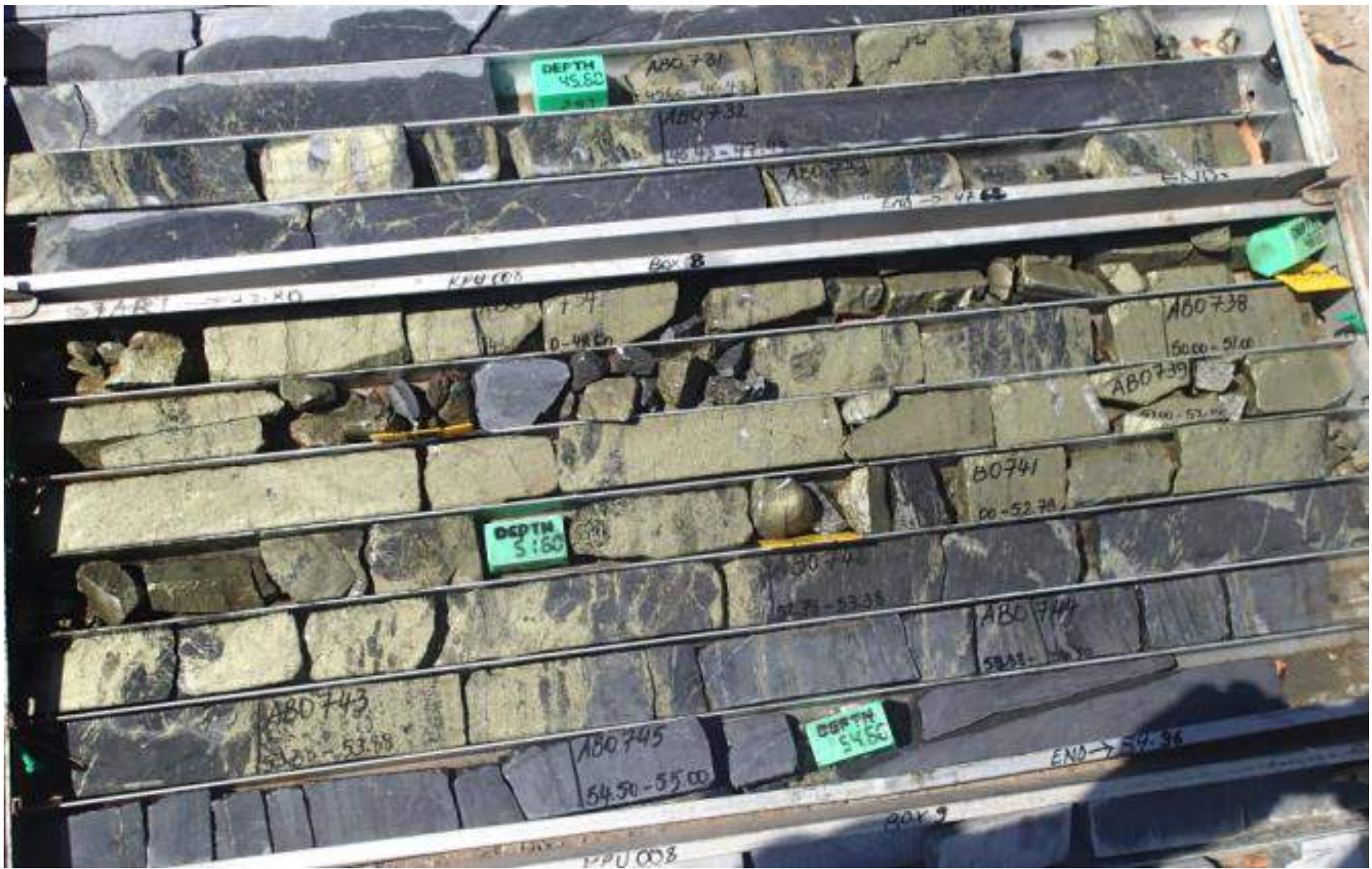
KIPUSHI





# Core from Hole KPU008 in the Serie Recurrente zone - 11 metres of 17% copper and 89.6 g/t silver

KIPUSHI





## World's best drill hole?

Our geology team holding hands and showing  
Big Zinc intersection of **44.8% zinc over 340 metres.**

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# Platreef Discovery & Mine Development

## South Africa





# July 31, 2017: Definitive feasibility study issued for Platreef Project

PLATREEF

- First phase envisages annual throughput rate of 4Mtpa, producing **476,000 ounces of platinum, palladium, rhodium and gold, plus 33 million pounds of nickel and copper.**
- Projected to be Africa's lowest-cost producer of PGMs, with a cash cost of **US\$351 per ounce** of 3PE+Au.

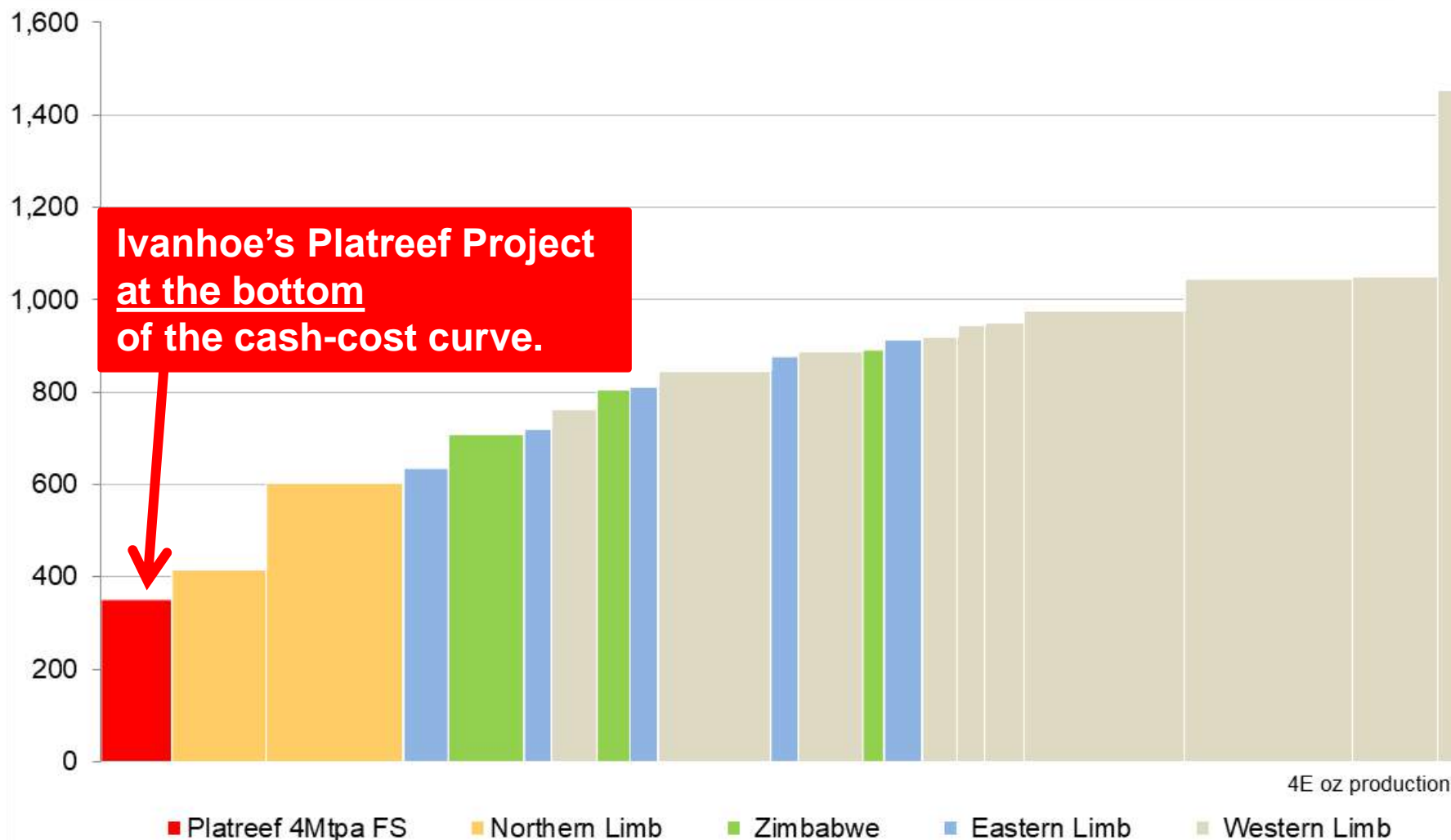


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# Platreef's potential US\$351 per 3PE+Au ounce (net of base-metal by-products) at the bottom of the world's cash-cost curve

PLATREEF

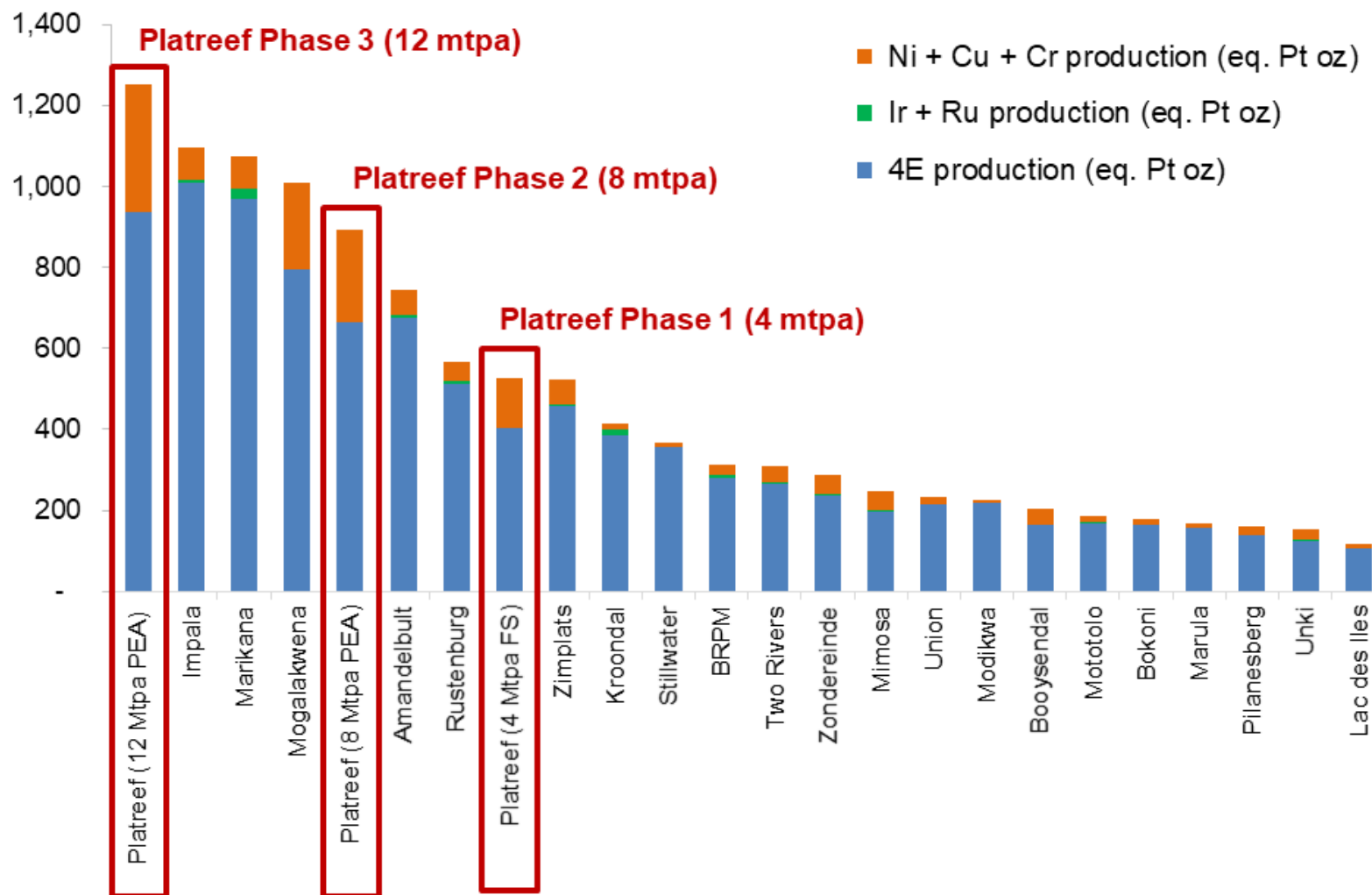


Source: SFA (Oxford). Data for Platreef Project and Waterberg are based on each project's reported DFS and PFS parameters respectively, and are not representative of SFA's view.

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# At 12 million tonnes/year, Platreef will be world's largest platinum-group metals mine

PLATREEF



Source: Production estimates for projects other than Ivanhoe's Platreef Project have been prepared by SFA (Oxford). Production data for the Platreef Project (platinum, palladium, rhodium, gold, nickel and copper) is based on reported DFS and PEA data and is not representative of SFA's view. All metals have been converted by SFA (Oxford) to platinum equivalent ounces at price assumptions of US\$1,076/oz platinum, US\$761/oz palladium, US\$1,235/oz gold, US\$821/oz rhodium, US\$5.07/lb nickel and US\$2.42/lb copper. Note: As the figures are platinum equivalent ounces of production they will not be equal to 3PE+Au production.

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**July 2017 – A site visit by German, Swedish and Canadian government institutions appointed to arrange debt financing for Platreef. Expressions of interest received for approximately US\$900 million of a US\$1 billion finance package.**

**PLATREEF**



**IVANHOE**



**April 2017:** Ivanhoe announces start of surface construction for Shaft 2, which will be Platreef's main production shaft with a hoisting capacity of six million tonnes a year.

Illustration shows two perspectives of Shaft 2's  
← 103-metre-tall concrete headgear and internal permanent hoisting facilities.



# Work underway for Shaft 2 early-works construction

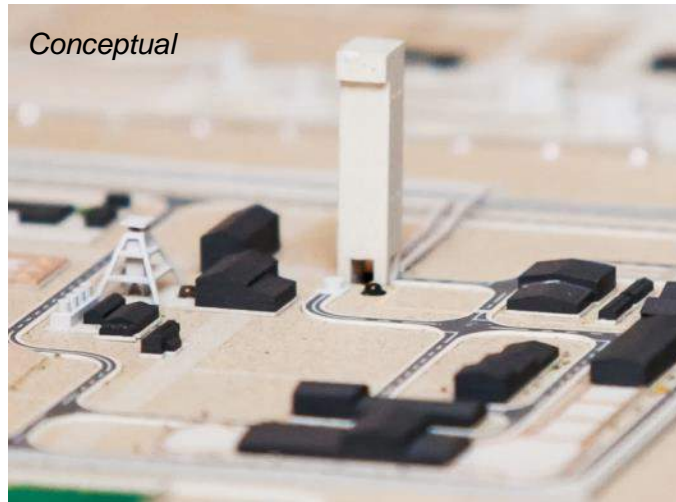


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## Ivanhoe's Shaft 2

vs.

## Impala's Shaft 16



Purpose

Production shaft

Production shaft

Location

Northern Limb of Bushveld  
Complex

Western Limb of Bushveld  
Complex

Total depth

Approx. 1,100 metres

1,657 metres

Diameter

10 metres

10 metres

Hoisting capacity

6 million tonnes/year

2.7 million tonnes/year

Start of construction

2017

2004

Operation date

2019 est.

November 2014

**IVANHOE**



# May 2016: **42 million oz. of PGMs** in Indicated plus **58 million oz. of PGMs** in Inferred Resources

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- Indicated Mineral Resources contain an estimated **42.0 million oz. of PGMs plus gold – a gain of 45% –** with an extra **52.8 million ounces** in Inferred Resources, at the base case cut-off grade of 2 g/t.
- Indicated Mineral Resources contain an estimated **58.8 million oz. of PGMs plus gold**, plus an estimated additional **94.3 million ounces** in Inferred Resources, at 1 g/t cut-off grade.
- Amec Foster Wheeler has defined four targets for further exploration totalling between **245 – 410** million tonnes in areas that are contiguous with the current Mineral Resource areas.
- In addition, there are approximately **48 km<sup>2</sup>** of unexplored ground beyond these exploration target areas on the property under which the prospective stratigraphy is projected to lie.

# May 2016 resource update

PLATREEF

- Potential for safe, mechanized mining and substantial by-product credits.
- Significant exploration upside; open along strike for several km.

Platreef 43-101-Compliant Mineral Resource, April 22, 2016 @ 2 g/t 3PE+Au cut-off

| Tonnage<br>(Mt)    | 3PE+<br>Au<br>(g/t) | Nickel<br>% | Copper<br>% | Contained Metal |                   |                   |
|--------------------|---------------------|-------------|-------------|-----------------|-------------------|-------------------|
|                    |                     |             |             | 3PE+Au<br>(Moz) | Nickel<br>(M lbs) | Copper<br>(M lbs) |
| Indicated Resource |                     |             |             |                 |                   |                   |
| 346                | 3.8                 | 0.32        | 0.16        | 42.0            | 2,438             | 1,226             |
| Inferred Resource  |                     |             |             |                 |                   |                   |
| 506                | 3.2                 | 0.31        | 0.16        | 52.8            | 3,440             | 1,775             |

Note: Mineral Resources estimated assuming underground selective mining methods. 3PE+Au = (Pt+Pd+Au+Rh).  
Nominal cut-off criteria for 2 g/t grade shell is minimum 3 metres.

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# Platreef vs. Mogalakwena



| Measured & Indicated Resources                 | Platreef                             |        | Mogalakwena                   |
|--|--------------------------------------|--------|-------------------------------|
| Tonnes (Mt)                                    | 346                                  |        | 2,521 <sup>(3)</sup>          |
| Grade (g/t 3PE + Au)                           | 3.77                                 |        | 2.61 <sup>(3)</sup>           |
| Nickel (%)                                     | 0.32                                 |        | 0.18                          |
| Copper (%)                                     | 0.16                                 |        | 0.10                          |
| Prill Split (%) - Pt / Pd / Rh / Au            | 45 / 45 / 3 / 7                      |        | 42 / 50 / 3 / 5               |
| Platinum Equivalent Grade (g/t) <sup>(1)</sup> | 3.17                                 |        | 1.99                          |
| Nickel Equivalent Grade (%) <sup>(1)</sup>     | 0.74                                 |        | 0.46                          |
| Implied Value (US\$ / t) <sup>(1)</sup>        | \$124 <sup>(2)</sup>                 |        | \$78 <sup>(4)</sup>           |
| Inferred Resources                             | 506 Mt at 3.2 g/t 3PE + Au           |        | 1,175 Mt at 1.86 g/t 3PE + Au |
| Exploration Potential – Target I               | 150 – 250 Mt at 2.6 – 4.3 g/t 3PE+Au |        | --                            |
| Exploration Potential – Target II              | 50 – 90 Mt at 2.9 – 4.9 g/t 3PE+Au   |        | --                            |
| Exploration Potential – Target III             | 5 – 10 Mt at 2.7 – 4.6 g/t 3PE+Au    |        | --                            |
| Production Statistics                          | Platreef<br>(2015 PEA)               |        | Mogalakwena<br>(2015A)        |
| Tonnes Mined (ktpa)                            | 8,000                                | 12,000 | 11,725                        |
| Head Grade (g/t 3PE + Au)                      | 3.87                                 | 3.87   | 3.09                          |
| 3PE + Au Production (kozpa)                    | 785                                  | 1,109  | 941                           |
| Nickel Production (ktpa)                       | 18                                   | 24     | 15                            |

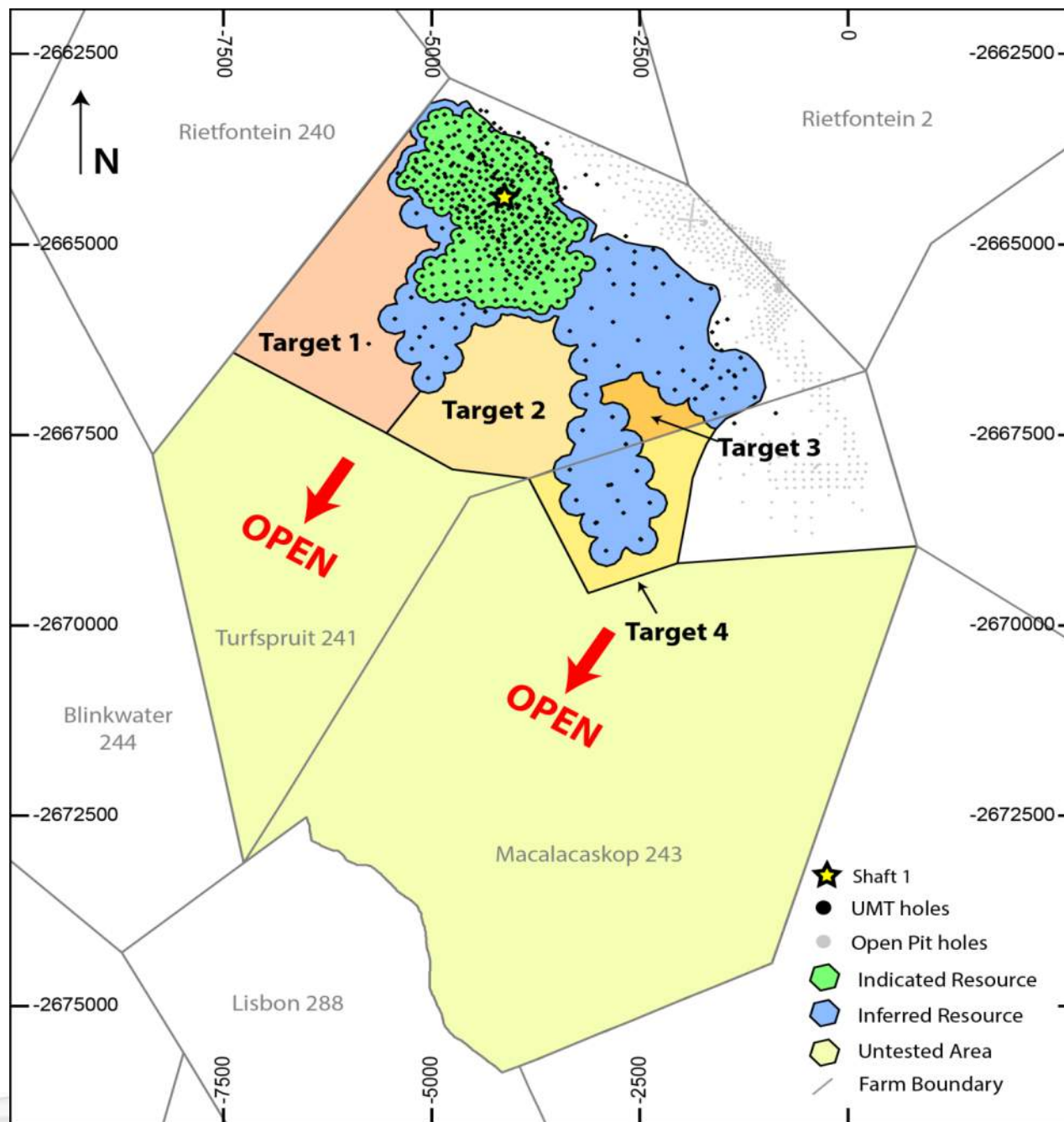
Source: Platreef 2015 Pre-Feasibility Study; Mineral Resources have an effective date of April 22, 2016; Platreef Project – NI 43-101 Technical Report on Updated Mineral Resource Estimate, April 2016; all available at [www.sedar.com](http://www.sedar.com).

1. Using long-term consensus commodity prices: \$1,222/oz Pt, \$761/oz Pd, \$1,235/oz Au, \$1,097 /oz Rh, \$7.67/lb Ni and \$2.83/lb Cu

2. Using for Platreef: 86% 3PE + Au, 69% Ni and 88% Cu metallurgical recovery and 82% payability

3. 2014 Mineral Reserve and Resource Statement

4. Using for Mogalakwena: 83% 3PE + Au, 69% Ni and 88% Cu metallurgical recovery and 82% payability



Open to expansion to the south and west, beyond the area of the current Indicated Resources (in green) and Inferred Resources (in blue).

Four target areas contain an estimated **245 – 410** million tonnes.

Approximately 48km<sup>2</sup> of unexplored ground beyond these exploration target areas.



# Sinking platform in operation in Shaft 1

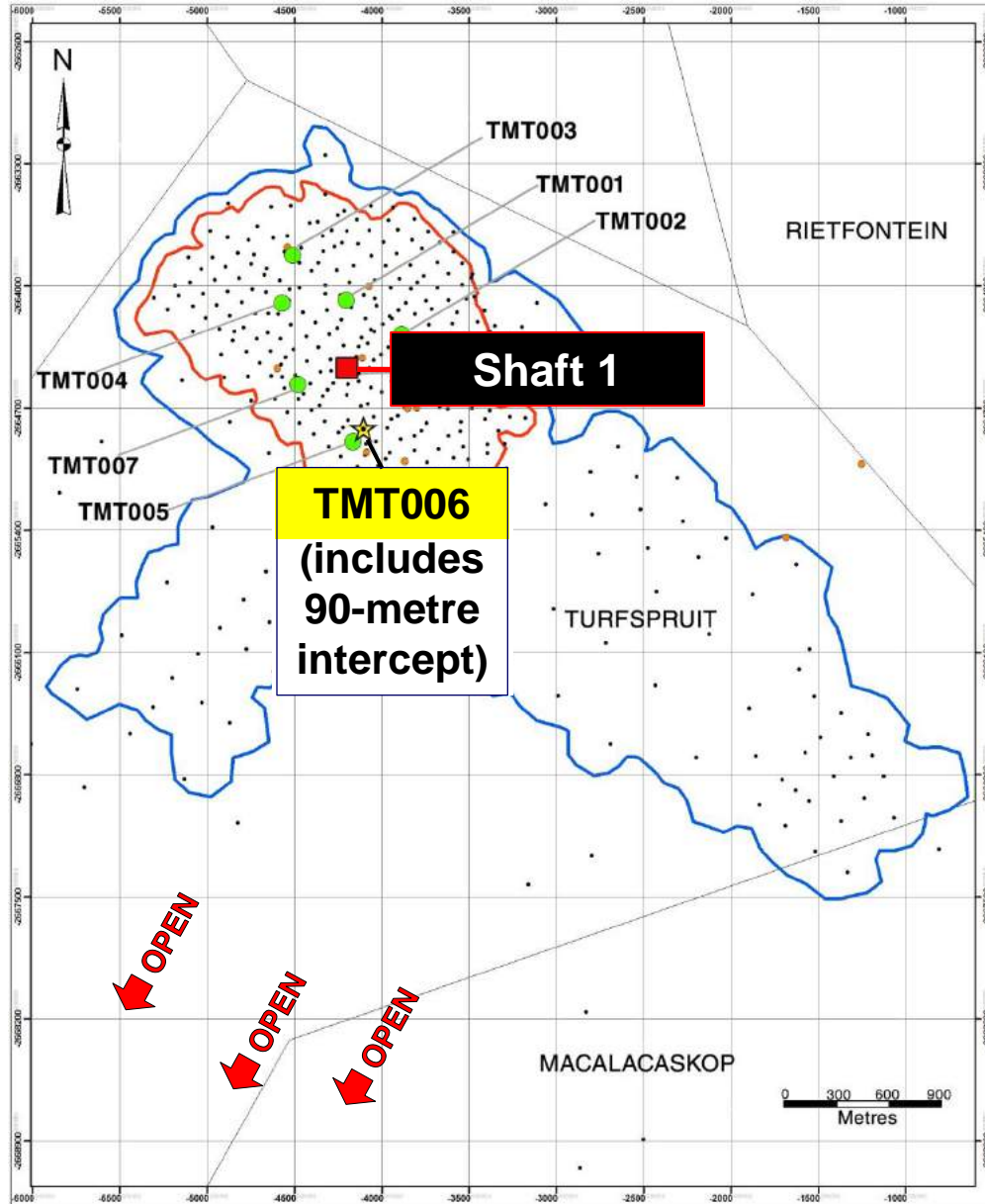
PLATREEF

Shaft 1 is expected to reach its projected, final depth of 980 metres below surface in 2018.

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# Extraordinary 90-metre intercept reported in October 2013



## LEGEND

- |   |   |
|---|---|
| <span style="color: red;">■</span> Shaft 1  | <span style="color: red;">—</span> Indicated Resource outline   |
| <span style="color: yellow;">★</span> Metallurgical drill hole (special interest) | <span style="color: blue;">—</span> Inferred Resource outline   |
| <span style="color: green;">●</span> Metallurgical drill hole                     | <span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Licence boundary |
| <span style="color: orange;">●</span> Geotechnical drill hole                     |   |
| <span style="color: black;">•</span> UMT collars                                  |   |

- 90-metre intersection includes:
  - 4.51 g/t of platinum, palladium, rhodium and gold (3PE+Au) over 90.64 metres (297 feet) at a 1 g/t 2PE+Au cut-off;
  - 40.79 metres (134 feet) grading 6.88 grams per tonne 3PE+Au at a 3 g/t 2PE+Au cut-off;
  - 0.37% nickel and 0.20% copper, plus a platinum-to-palladium ratio of approximately 1 to 1, over the entire 90-metre intersection.



# Flatreef: Merensky Grades at Platreef Widths

## Typical Merensky Reef, Western Limb



## Drill hole UMT378



1091.63m



1117.00m

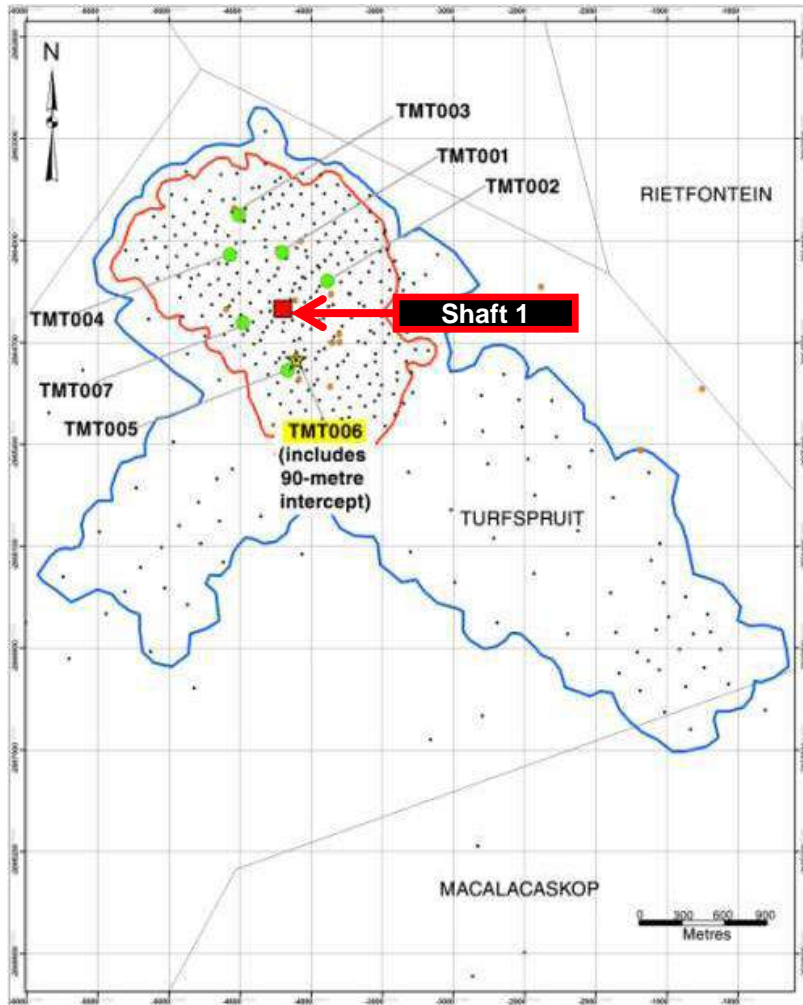
|                           | Merensky Reef  | Flatreef <sup>(1)</sup> |
|---------------------------|----------------|-------------------------|
| Grade                     | 4 - 10 g/t 3PE | 3.8 g/t 4PE             |
| True thickness            | ~ 0.4 – 1.5 m  | 19 m                    |
| Grade - thickness (m-g/t) | < 5 - 15       | 85.6                    |

**25-metre intercept @ 9.90 g/t 4PE, 0.45% Ni & 0.22% Cu grade thickness 248 m-g/t**

(1) Indicated Mineral Resource, cumulative TCU only, Based on a 2g/t 4PE (Pt + Pd + Rh + Au) cut-off, T2MZ Thickness and TCU grade used. m-g/t calculated from all data.

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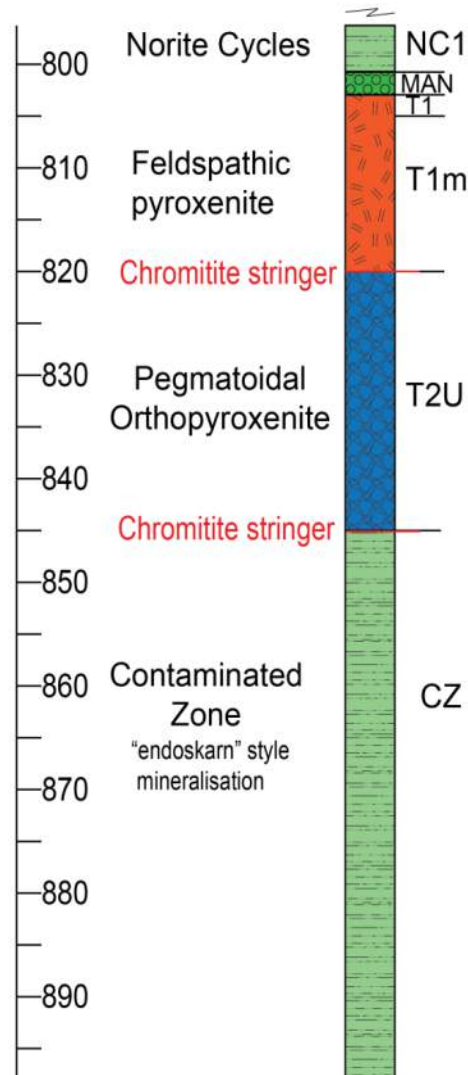
# Drill hole TMT006 – lithology and grade profile



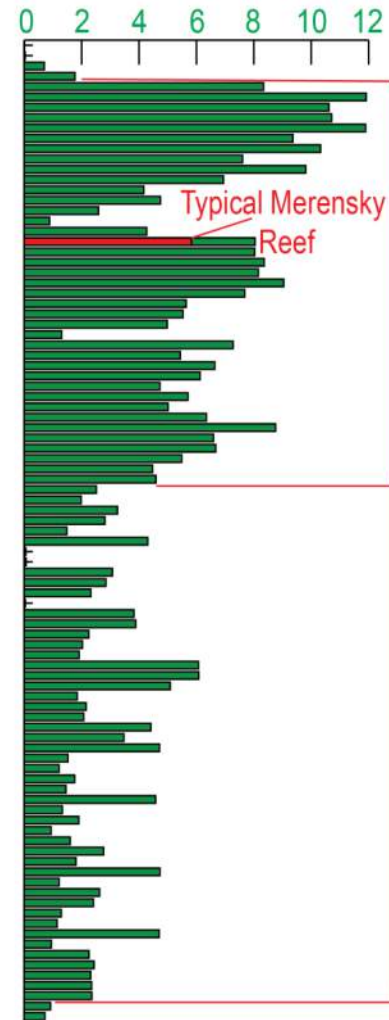
## LEGEND

- Indicated Resource outline
- ★ Metallurgical drill hole (special interest)
- Inferred Resource outline
- Metallurgical drill hole
- Licence boundary

Metres



PGE (g/t)



40.67m  
6.88 g/t

90.64m  
4.51 g/t

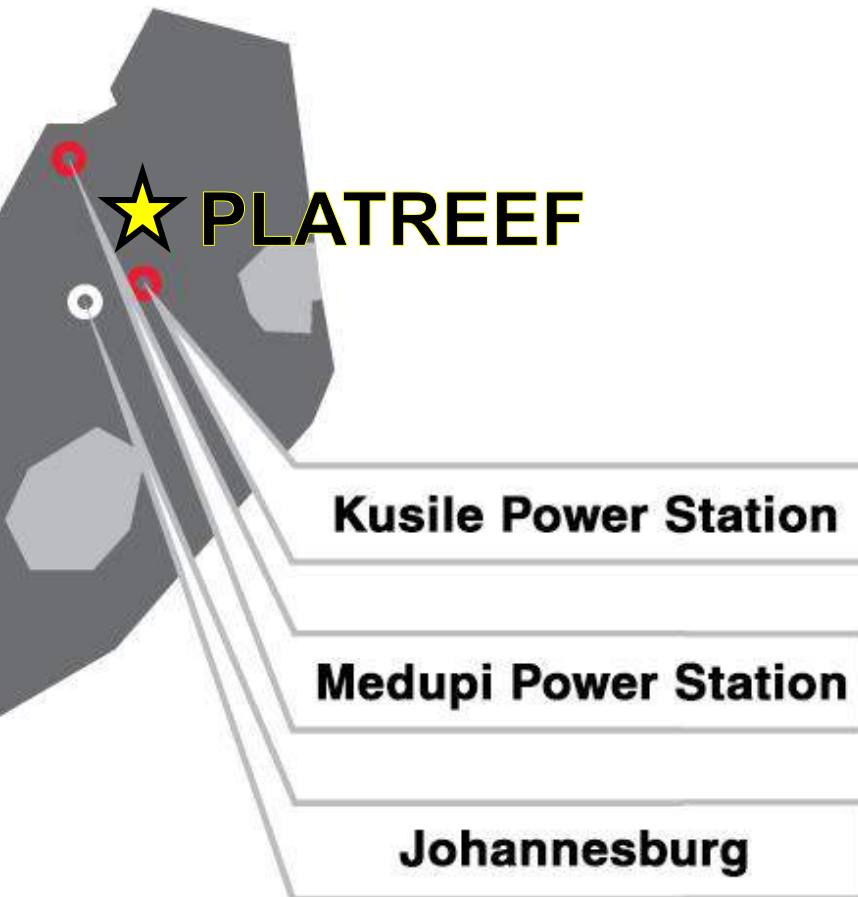


# **Bulk power from Eskom, South Africa's state utility**

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**Medupi power station started generating power in March 2015; expected to be fully operational by 2020, providing 4,800 MW of power to national grid.**

**Kusile started generating power in Dec 2016; expected to provide a total of 4,800 MW of power by 2022.**



# Flatreef mining method: long-hole stoping

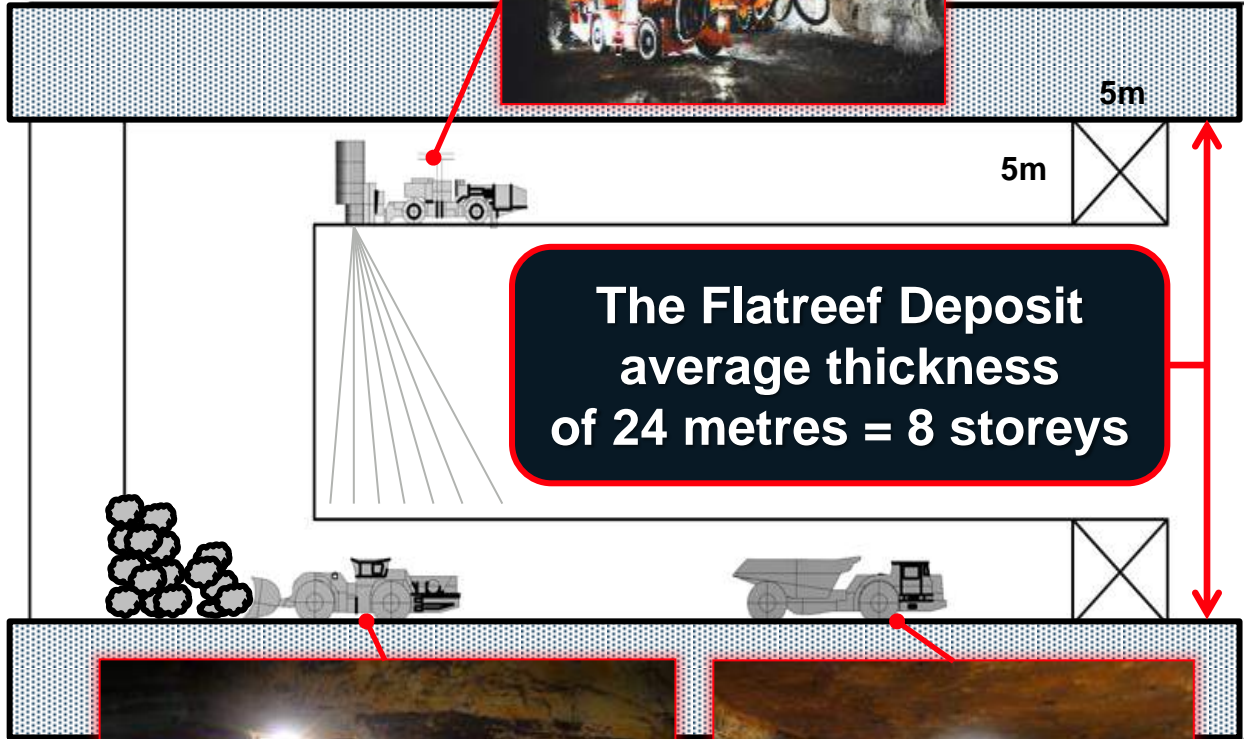
PLATREEF

**Highly mechanized mining**



**Safe working conditions**

Blast-hole drifts



**The Flatreef Deposit  
average thickness  
of 24 metres = 8 storeys**

Mucking drifts

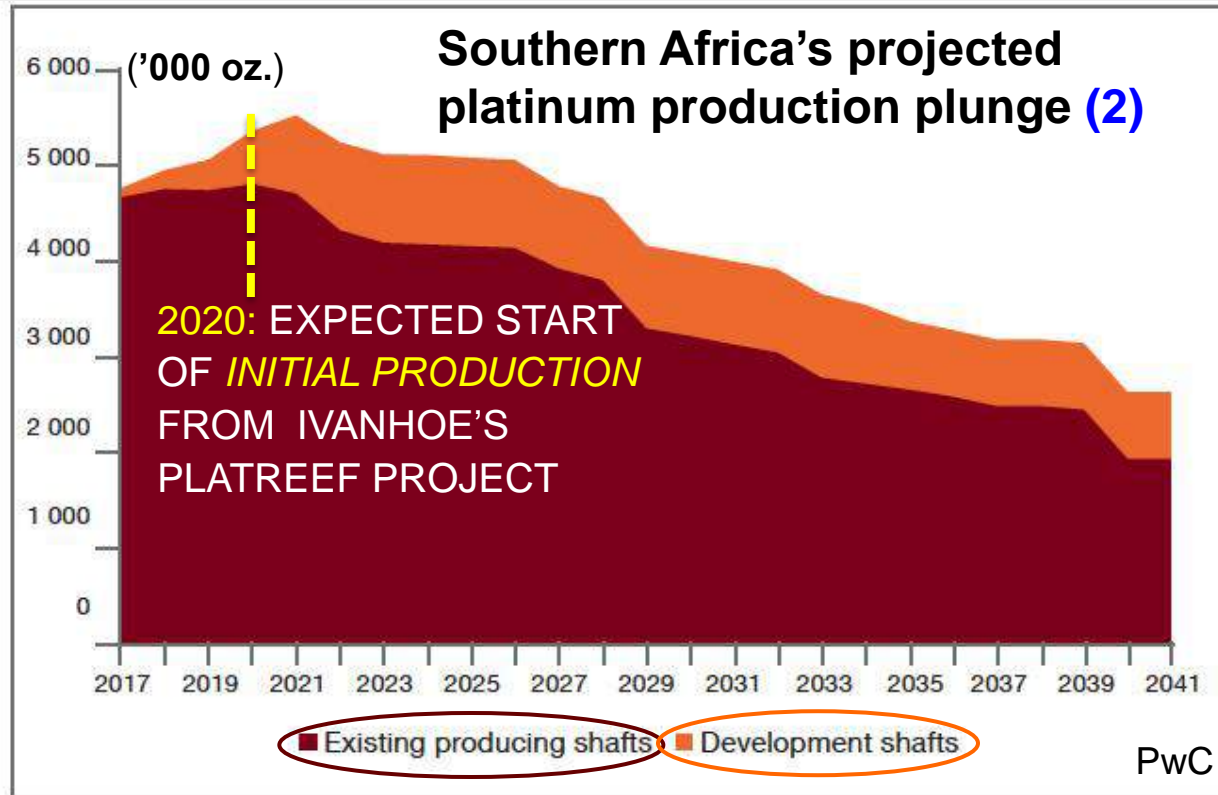


**Highly skilled operators**

IVANHOE



# Even new production now under development likely to provide only short-lived lift in platinum output



- Ivanhoe's Platreef is among new projects whose ramp-up outputs will slightly lift regional supply until 2021 – when the decline will resume.
- Projected 2021 peak output of 5.5 million ounces, even plus global supply, still will be below the average demand, net of recycling, of the past 3 years.



Thank you.

**IVANHOE** MINES  
NEW HORIZONS