

29 January 2021

## HAVILAH COPPER PRESENTATION

Havilah Resources Limited (**Havilah**)(ASX: **HAV**) is pleased to release an updated copper presentation that summarises Havilah's copper assets.

The presentation is opportune given the more than 70% rise in the copper price (in US\$) since March 2020 (see chart below). Most analysts consider that the copper intensive global green energy initiatives will continue to underpin copper demand in the short to medium term. Accordingly, Havilah with over 1.3 million tonnes of JORC copper resources and a large highly copper prospective land holding, located in mining friendly South Australia, is well positioned to benefit from its copper exposure.

The presentation, in conjunction with a new dedicated copper commodity Havilah web page, highlights the high quality, excellent logistics and favourable ESG (environmental, social and governance) credentials of Havilah's copper projects.



1 year US\$ spot price copper chart taken from [macrotrends website](https://www.macrotrends.net).

The chart records the remarkable rise in the copper price from a low of US\$2.10 / lb in March 2020 to its recent high of US\$3.70 / lb, representing a 76% gain in under a year.

This release has been authorised on behalf of the Havilah Resources Limited Board by Mr Simon Gray.

For further information visit [www.havilah-resources.com.au](http://www.havilah-resources.com.au)

Contact: Dr Chris Giles, Technical Director, on (08) 7111 3627 or email [info@havilah-resources.com.au](mailto:info@havilah-resources.com.au)

Registered Office: 107 Rundle Street, Kent Town, South Australia 5067



# Havilah Resources

*A New Mining Force in South Australia*

**HIGHLY LEVERAGED TO COPPER**

**AN ADVANCED STAGE 1.3 MILLION TONNE  
COPPER MINERALS PORTFOLIO**

Low Sovereign Risk, Mining Friendly South Australia



# HAVILAH TICKS KEY INVESTMENT BOXES FOR A QUALITY COPPER STOCK

**1.3 M**

**Tonnes of Copper**

**3.2 M**

**Ounces of Gold**

**43.4 K**

**Tonnes of Cobalt**



## **HIGH QUALITY MINERAL PROJECTS**

1.3 million tonnes of JORC copper resources, contained in two advanced projects with substantial upside (refer to JORC table at end of presentation).



## **ASSOCIATED CONFLICT-FREE, STRATEGIC AND CRITICAL MINERALS**

Including cobalt, molybdenum and potentially rare earth elements (REE).



## **EXPERIENCED TECHNICAL TEAM**

Havilah's technical team has an exceptional track record of exploration success (including discovery of 8 JORC Mineral Resources) and has developed and operated the Portia gold mine. Havilah operates its own drilling crew, which has been a key to its exploration history success.



# LOW SOVEREIGN RISK SOUTH AUSTRALIA

An Ethical, Non-Conflict and Secure Source of Copper



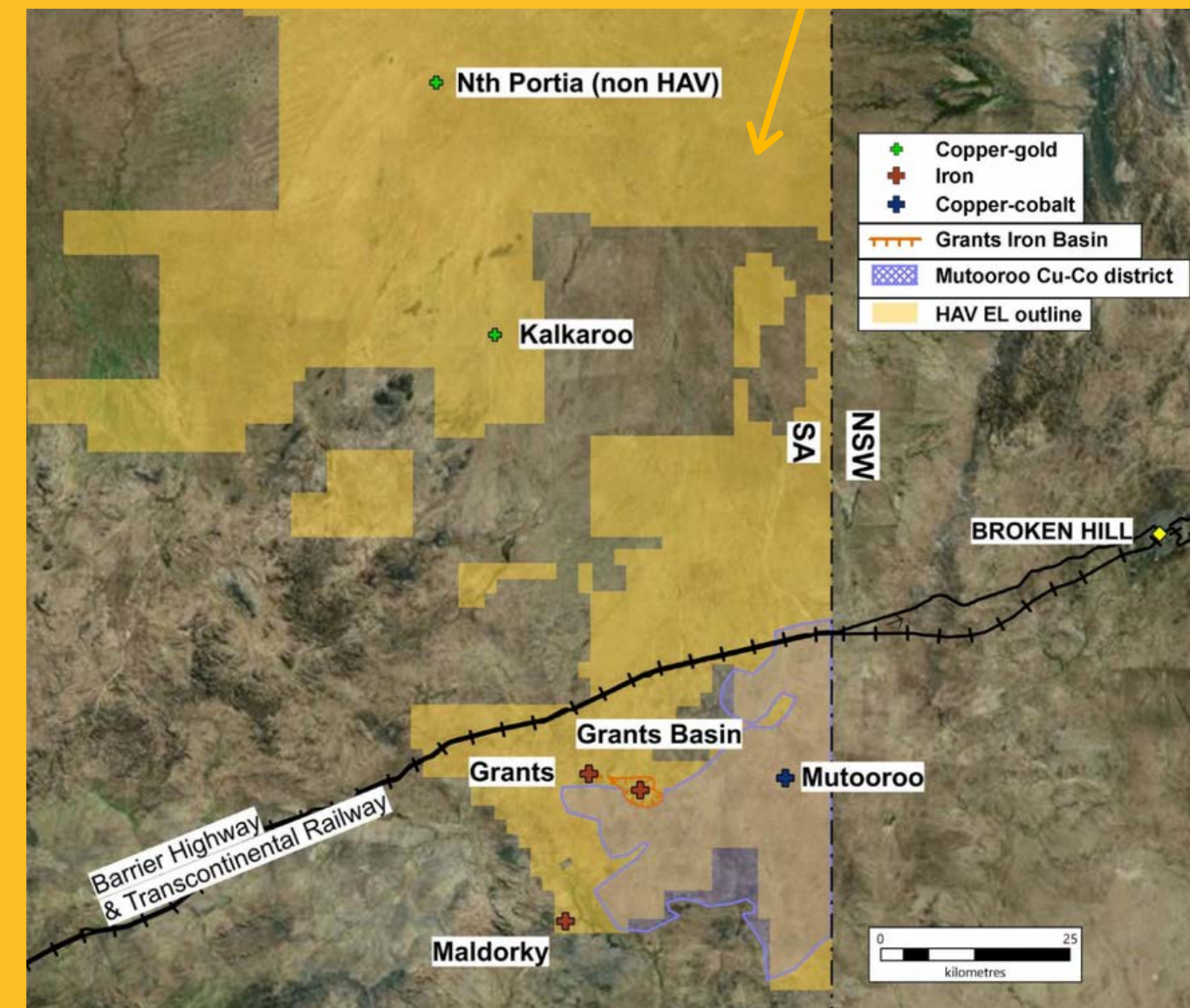
## REGULATION

World's best mining practice and environmental protection are enforced in South Australia.



## LOGISTICS

Close proximity to railway line and regional mining centre of Broken Hill, with its skilled workforce.

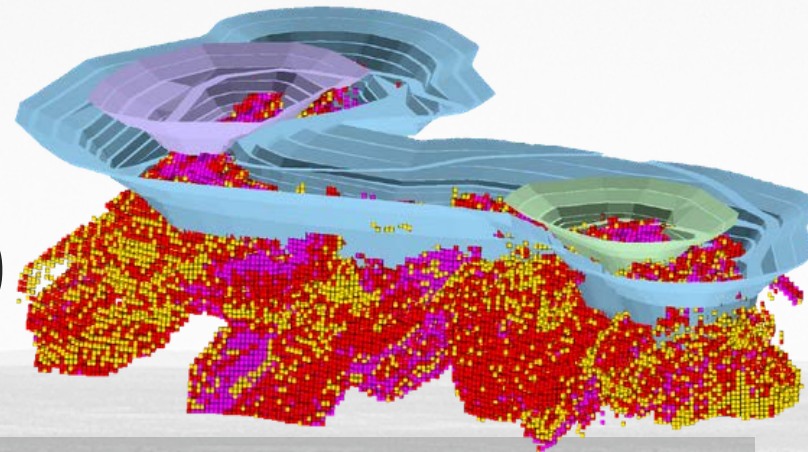




# COPPER MINERAL PROJECTS SUMMARY

A multi-commodity minerals portfolio accumulated over 17 years

## KALKAROO COPPER-GOLD-COBALT PROJECT (REE POTENTIAL)



- Positive independent prefeasibility study (PFS) confirms Kalkaroo as one of the largest undeveloped open pit copper deposits in Australia based on a 100 Mt Ore Reserve (90% Proved) at CuEq 0.89% grade.
- JORC Resources: 1.1 Mt copper, 3.1 Moz gold, 23.2 Kt cobalt.
- Planned average annual production of 30,000 t copper and 72,000 oz gold over a 13 year production period.
- [More Project Information Here \(www.havilah-resources-projects.com/kalkaroo\)](http://www.havilah-resources-projects.com/kalkaroo).

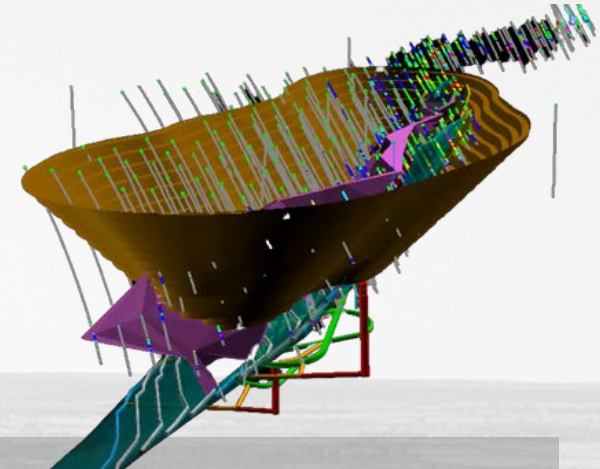
### JORC Mineral Resources

Copper 1.1 Mt

Gold 3.1 Moz

Cobalt 23.2 Kt

## MUTOOROO COPPER-COBALT-GOLD PROJECT



- Comparatively high grade open pit and underground copper deposit (1.53% Cu) with appreciable cobalt.
- One of the largest cobalt sulphide deposits with associated copper in Australia.
- JORC Mineral Resources: 195 Kt copper, 20.2 Kt cobalt and 82.1 Koz gold.
- [More Project Information Here \(www.havilah-resources-projects.com/mutooroo\)](http://www.havilah-resources-projects.com/mutooroo).

### JORC Mineral Resources

Copper 195.0 Kt

Cobalt 20.2 Kt

Gold 82.1 Koz



# KALKAROO: POSITIVE INDEPENDENT PFS

**100 Mt Ore Reserve at 0.89% CuEq grade#** - makes Kalkaroo one of Australia's largest undeveloped open pit copper deposits on CuEq grade basis.

## Key PFS Outcomes

- Pre-tax NPV7.5% of A\$564 million\*
- IRR of 26%\*
- Average annual production:
  - 30,000 t copper
  - 72,000 oz gold
- 13 year production period
- A\$332 million pre-production capex
- De-risked project: granted Mining Lease and ownership of surrounding pastoral property.

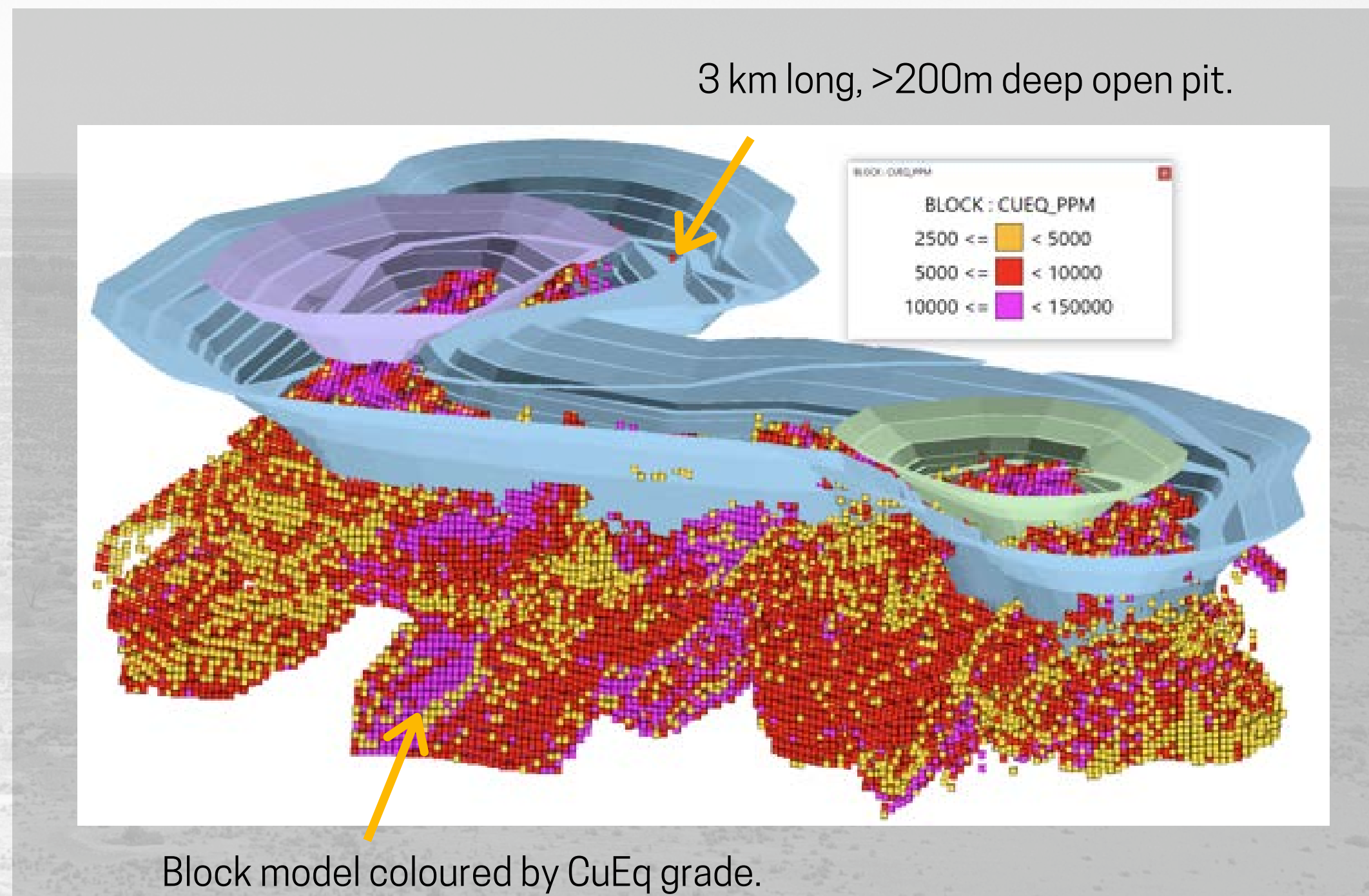
*\*based on US\$6,380/t copper, US\$1,200/oz gold and AUD:USD 0.75 in RPM Global PFS as referred to in ASX release of 18 June 2019.*

## JORC Mineral Resources

**Copper 1.1 Mt**

**Gold 3.1 Moz**

**Cobalt 23.2 Kt**



#CuEq calculation is based on the following formula:  $CuEq = Cu \text{ ore reserve grade} + (\text{value } 1 \text{ g/t Au value of } 1\% \text{ Cu} \times \text{Au ore reserve grade})$ . Assumptions: gold price USD1,900 /oz, copper price USD6,500/tonne, overall metallurgical recoveries for gold and copper are the same based on Kalkaroo PFS, ore metal grades are from published Kalkaroo JORC Ore Reserve table. It is considered that both copper and gold are saleable.



# KALKAROO PROJECT PRE-TAX NPV7.5% VALUE MATRIX

(2 DECEMBER 2020)

Gold price USD/oz and AUD/oz (at AUD:USD exchange rate of 0.75)															
Copper price USD/lb & AUD/lb	USD		\$1,000	\$1,100	\$1,200	\$1,300	\$1,400	\$1,500	\$1,600	\$1,700	\$1,800	\$1,900	\$2,000	\$2,100	\$2,200
		AUD	\$1,333	\$1,467	\$1,600	\$1,733	\$1,867	\$2,000	\$2,133	\$2,267	\$2,400	\$2,533	\$2,667	\$2,800	\$2,933
	2.50	3.33	\$171	\$239	\$308	\$376	\$445	\$514	\$582	\$651	\$719	\$788	\$857	\$925	\$994
	2.70	3.60	\$301	\$369	\$438	\$506	\$575	\$643	\$712	\$781	\$849	\$918	\$986	\$1055	\$1124
	2.89	3.85	\$427	\$496	\$564*	\$633	\$701	\$770	\$839	\$907	\$976	\$1044	\$1113	\$1182	\$1250
	3.10	4.13	\$560	\$629	\$698	\$766	\$835	\$903*	\$972	\$1040	\$1109	\$1178	\$1246	\$1315	\$1383
	3.30	4.40	\$690	\$759	\$827	\$896	\$965	\$1033	\$1102	\$1170	\$1239	\$1308	\$1376	\$1445	\$1513
	3.50	4.67	\$820	\$889	\$957	\$1026	\$1094	\$1163	\$1232	\$1300	\$1369*	\$1437	\$1506	\$1575	\$1643
	3.70	4.93	\$950	\$1019	\$1087	\$1156	\$1224	\$1293	\$1362	\$1430	\$1499	\$1567	\$1636	\$1705	\$1773
	3.90	5.20	\$1080	\$1149	\$1217	\$1286	\$1354	\$1423	\$1491	\$1560	\$1629	\$1697	\$1766	\$1834	\$1903
	4.10	5.47	\$1210	\$1278	\$1347	\$1416	\$1484	\$1553	\$1621	\$1690	\$1759	\$1827	\$1896	\$1964	\$2033

\* [Pre-tax NPV7.5% from PFS \(green\)](#) compared with that at recent long-term forecast (orange) and and recent spot gold and copper metal prices (yellow), as calculated by the PFS financial model.

Note that the orange highlighted long-term metal price, pre-tax NPV7.5% (A\$903 million) in the table is conservative for Kalkaroo as no account has been taken of:

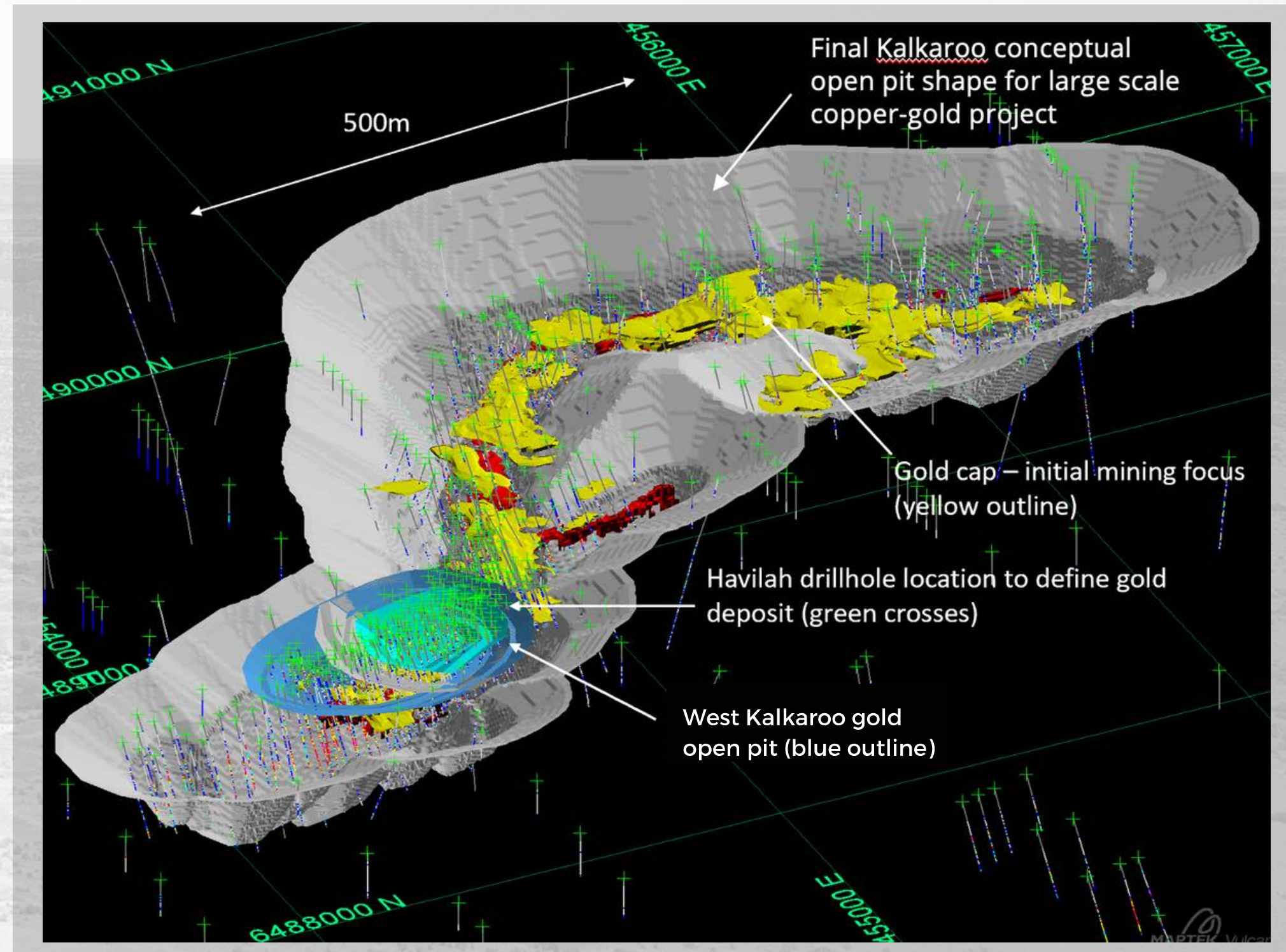
- 1.Improved gold recoveries in the oxidised ore types from 50% in the PFS to >90% based on recent metallurgical test work ([refer to ASX announcement of 9 May 2019](#)).
- 2.Potential revenue contribution from other by-product commodities such as cobalt, rare earth elements and molybdenum due to incomplete metallurgical test work.
- 3.Open pit optimisations have not been re-run for higher long-term forecast gold and copper prices. On the basis that lower grades of ore can be profitably treated if metal prices are higher, it is reasonable to assume (based on constant cost inputs) that re-optimisation would result in a larger open pit and hence improved mining economics and a longer mine life. For the present exercise the published PFS open pit optimisation and RPM financial model have been used.



# WEST KALKAROO GOLD OPEN PIT

Kalkaroo is a large gold deposit in its own right, containing over 3.1 Moz gold

- Initial development plan is to commence a lower capital gold open pit (blue), with approximately 80,000-90,000 ounces of gold production over 3 years, plus some native copper ([refer ASX release 29 July 2020](#)).
- This would mine the shallowest and lowest cost gold and native copper ore via an open pit mine and a combined gravity and cyanide leach gold and native copper recovery processing plant.
- It is a lower capital and lower risk start up alternative that takes advantage of the current high gold price.
- This is only a small part of the deposit and would be followed by the much larger long-term copper-gold development as shown by the grey open pit outline ([refer ASX release 18 June 2018](#)), subject to finalisation of the updated PFS and raising of the required capital.

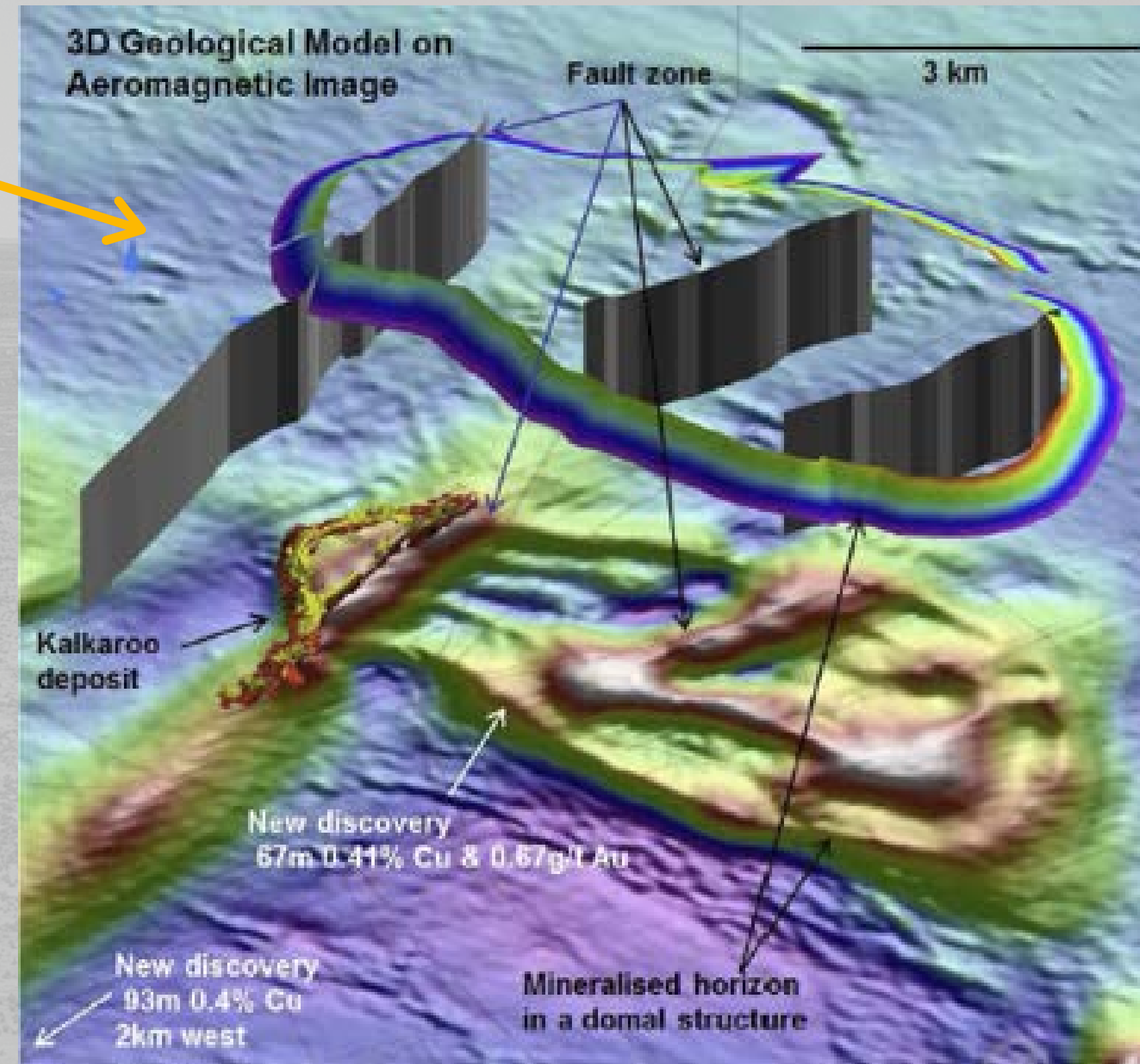
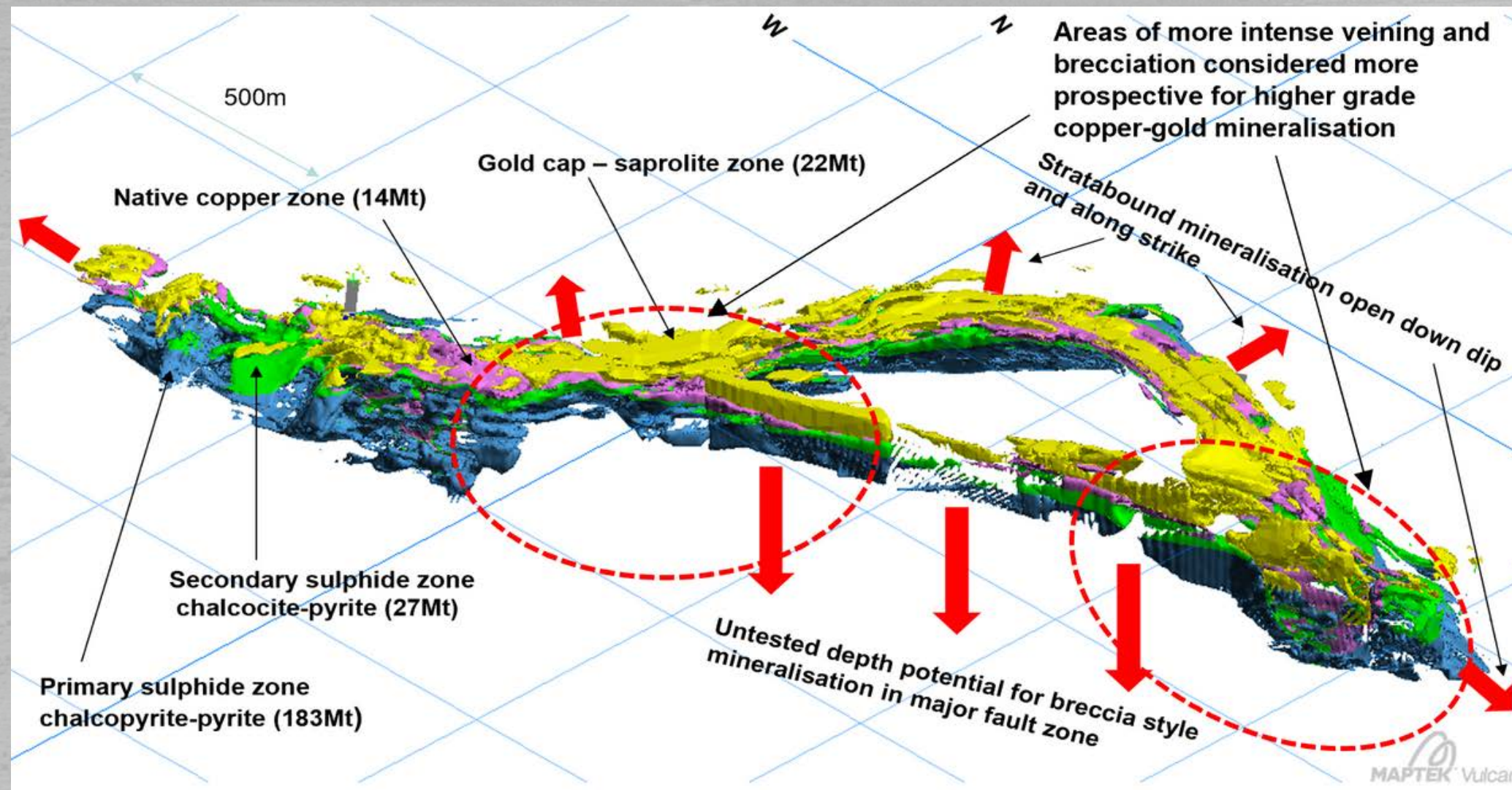




# KALKAROO PROJECT

## Near mine resource expansion potential

- A large copper mineralised system of interest to a major. Conceptually based exploration drilling returned encouraging intersections at three prospects within 5 km of Kalkaroo.
- Untested resource extensions of Kalkaroo deposit where mineralisation is open down-dip, along strike and in main fault ([ASX release 18 June 2019](#)).

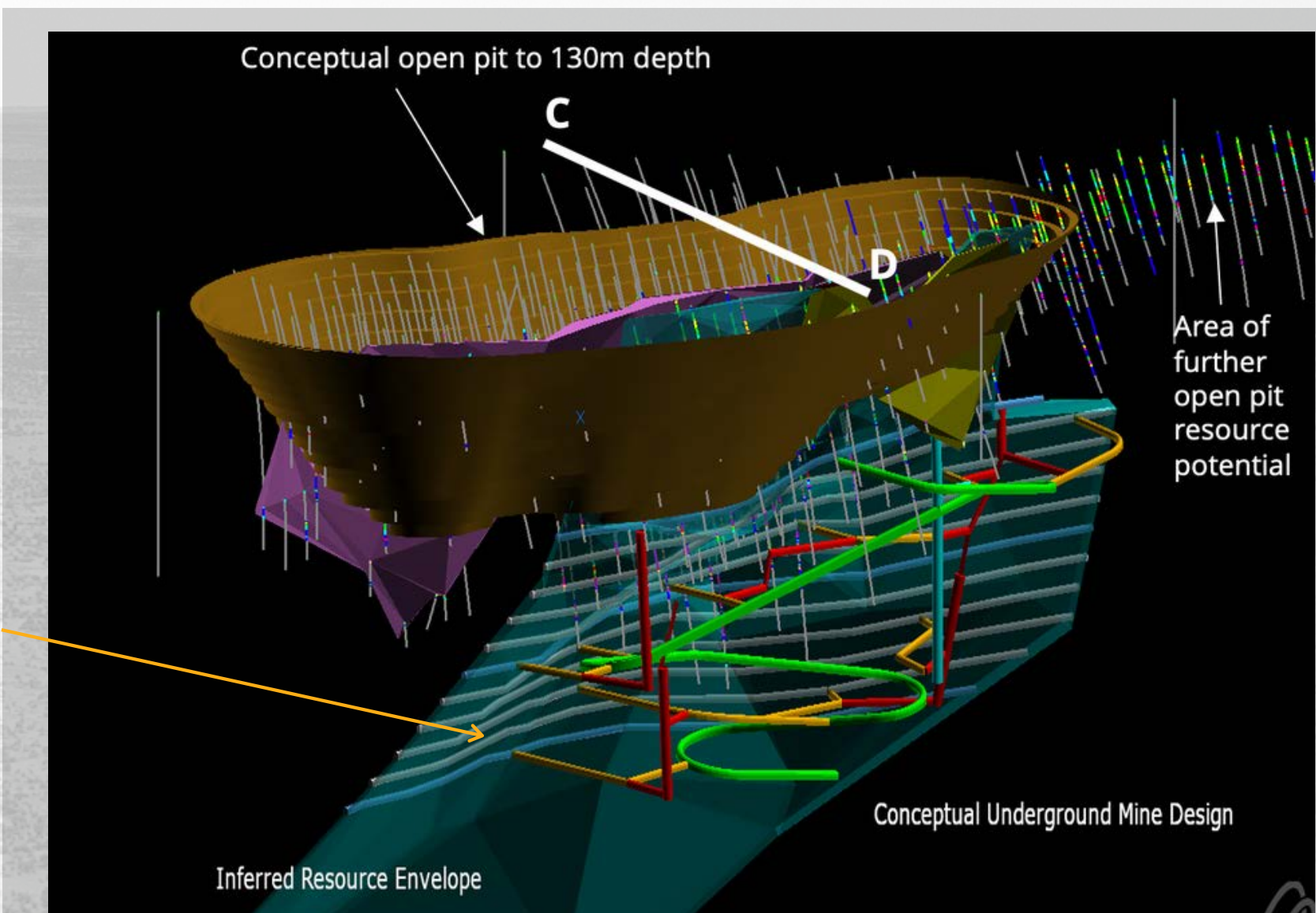
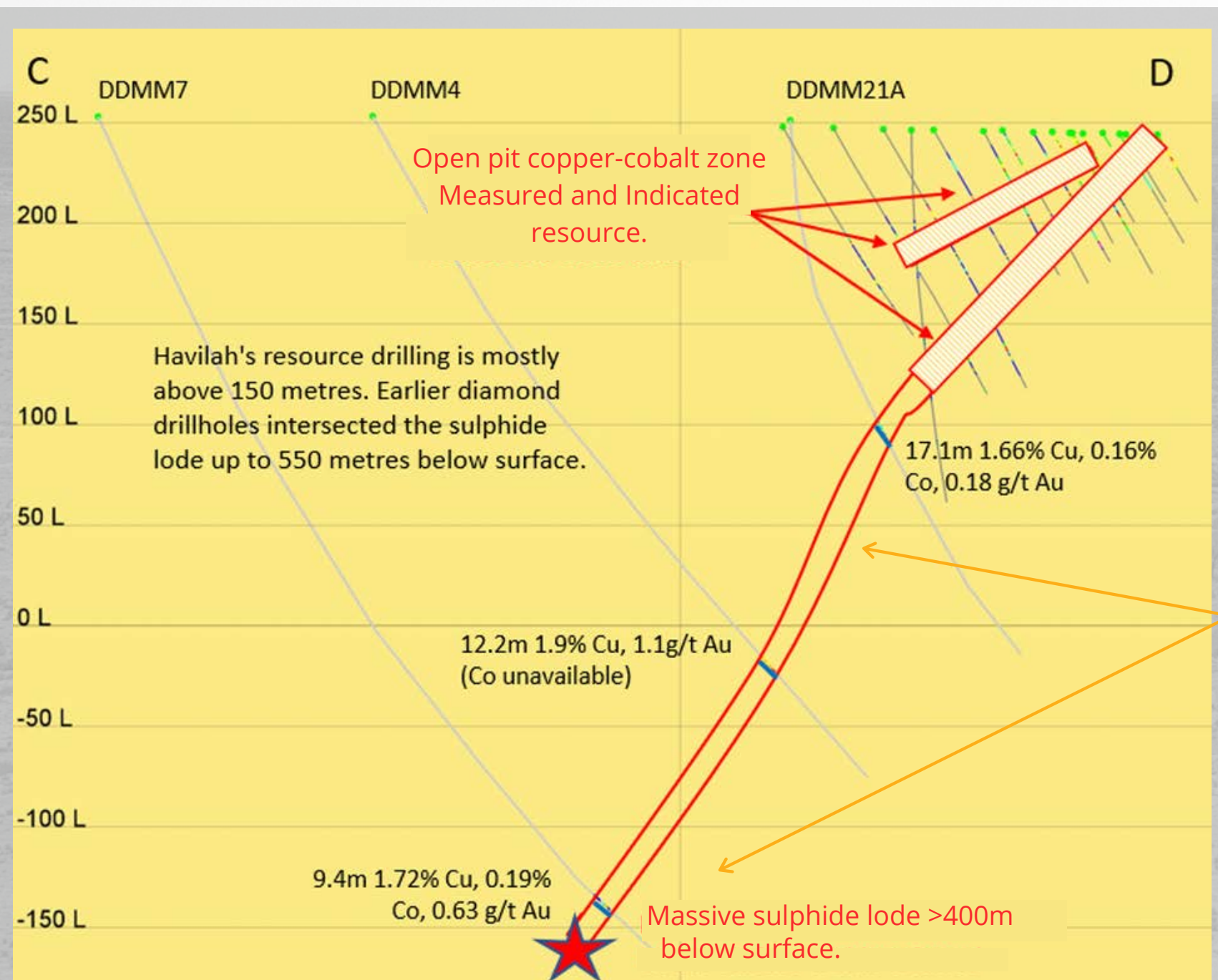




# MUTOOROO PROJECT

High grade open pit copper mine potential

Concept is for an initial shallow open pit **exploiting >1.3% Cu and 0.14% Co Measured and Indicated resources** followed by underground mining of **higher grade Inferred resources >1.7% Cu and 0.17% Co** (refer JORC Mineral Resources table at end).



## JORC Mineral Resources

Copper 195.0 Kt

Cobalt 20.2 Kt

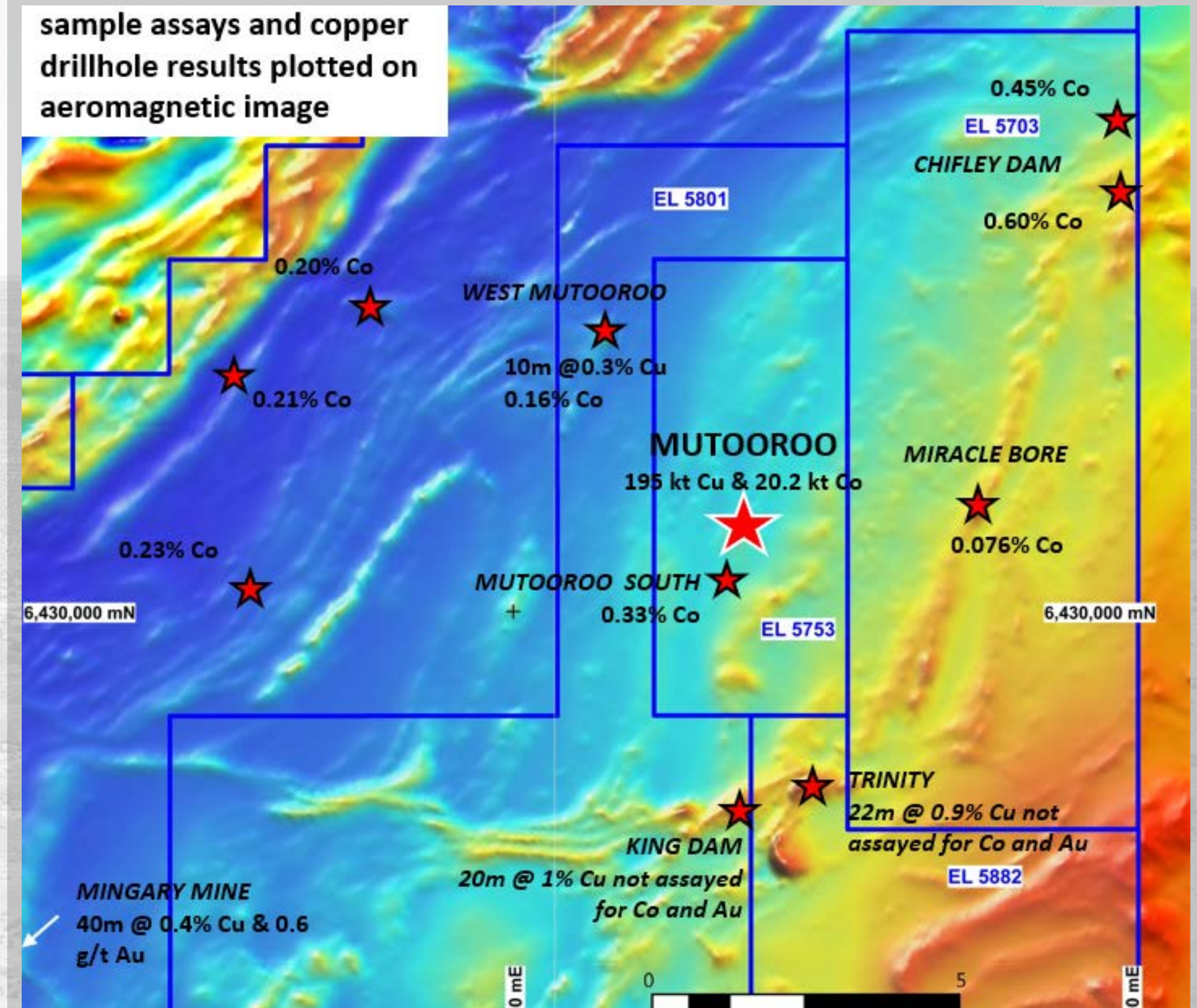
Gold 82.1 Koz



# MUTOOROO COPPER-COBALT DISTRICT PROSPECTIVITY

## RESOURCE UPSIDE FROM MANY UNTESTED PROSPECTS

- Mutooroo lies within a very prospective copper-cobalt district that has high discovery potential.
- Within 10 km of the Mutooroo deposit are numerous prospects dating from the 1960's with potentially ore-grade copper drilling intersections, but never assayed for cobalt or gold nor followed up with drilling for almost 40 years (West Mutooroo, King Dam and Trinity).
- [Widespread high copper and cobalt results](#) in Havilah's surface geochemical sampling have defined a large target area west of Mutooroo. Peak cobalt grades are at economic levels (eg 0.20%-0.60% cobalt at several prospects). Associated highly anomalous copper.
- High potential for discovery of additional resources by drilling nearby prospects.

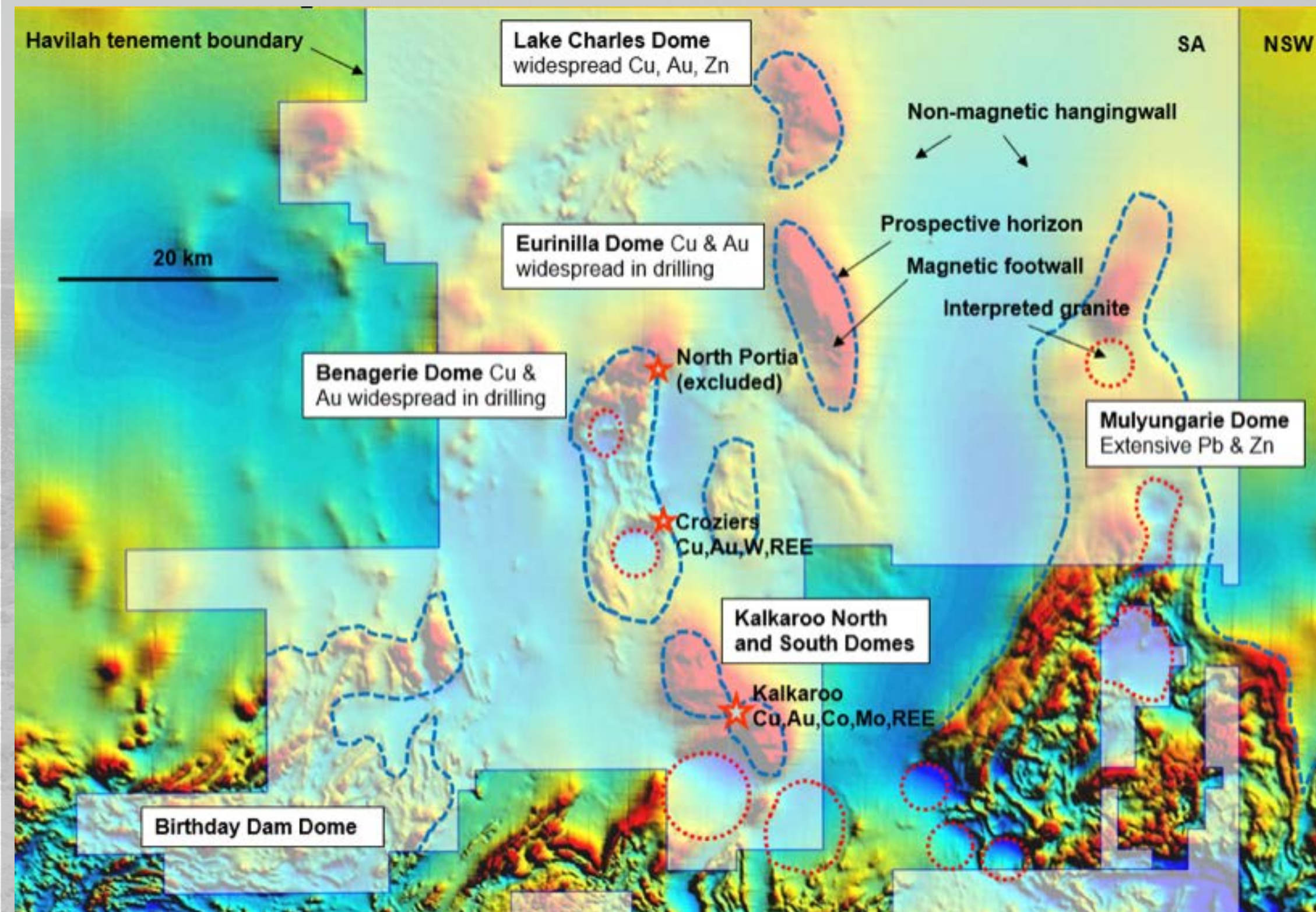




# REGIONAL EXPLORATION: CURNAMONA COPPER BELT

Exploring for Zambian Copper Belt style stratabound replacement copper mineralisation

- Kalkaroo style mineralisation in a > 200 km long, prospective horizon (*blue dashed line*).
- Several well mineralised major structural domes (eg Kalkaroo, Benagerie, Eurinilla, Lake Charles).
- Strong geological analogies to the prolific Zambian Copper Belt.
- Aeromagnetics clearly identifies the prospective mineralised horizon at a regional redox boundary.
- Shallow drilling has identified widespread copper-gold mineralisation and some outstanding drilling targets.
- [More Exploration Information Here \(www.havilah-resources.com/exploration\)](http://www.havilah-resources.com/exploration)





# 2021 COPPER EXECUTION STRATEGY OBJECTIVES

## **West Kalkaroo gold open pit – priority objective**

- Advance feasibility study, permitting work and financing options with the aim of commencing gold mining development activities during 2021 (noting that Havilah retains a high degree of optionality as the large scale Kalkaroo copper-gold sulphide production could potentially be ramped up subject to availability of capital).
- Ongoing resource infill drilling and resource expansion drilling along major mineralised fault zones.
- Continuation of collaborative research to determine the best recovery options for REE from West Kalkaroo oxidised gold ore.

## **Mutooroo copper-cobalt-gold project**

- Advance PFS work to value add, which will include a major component of additional resource drilling and process plant design and testing.

## **Regional exploration**







**(within >16,000 km<sup>2</sup> of highly prospective 100% owned tenements in the Curnamona Craton)**

- Testing of high conviction regional exploration targets that could lead to new discoveries, building on a track record of exploration success.
- Benagerie Dome copper-gold (plus cobalt, REE, tungsten): Drilling several potential replacement style copper targets.
- Mutooroo copper-cobalt-gold: Follow-up ore-grade copper intersections in 1960's drillholes and very high copper/cobalt surface geochemical anomalies.



# COPPER MINING FEASIBILITY STUDY STEPS

Where Havilah's advanced copper projects sit.

	1 - EXPLORATION	2 - METALLURGY	3 - PROCESSING	4 - MINING	5 - PERMITTING / FINANCING	6 - PRODUCTION
						
	Geophysics, geochemistry, drilling promising targets. Resource delineation drilling.	Determine metallurgical recoveries in representative samples.	Testing processing flow sheet to optimise copper concentrate production.	Open pit optimisation studies and mining economic evaluation.	Mining approvals. Financing terms that minimise project risk while maximising shareholder returns.	
KALKAROO	✓	✓	✓	✓	IN PROGRESS	
MUTOOROO	✓	✓	✗	✗	✗	

Ethical copper production from a low sovereign risk, tier 1 ESG location.



A large, stylized black quotation mark icon on a yellow background.

**PARTING WORDS**

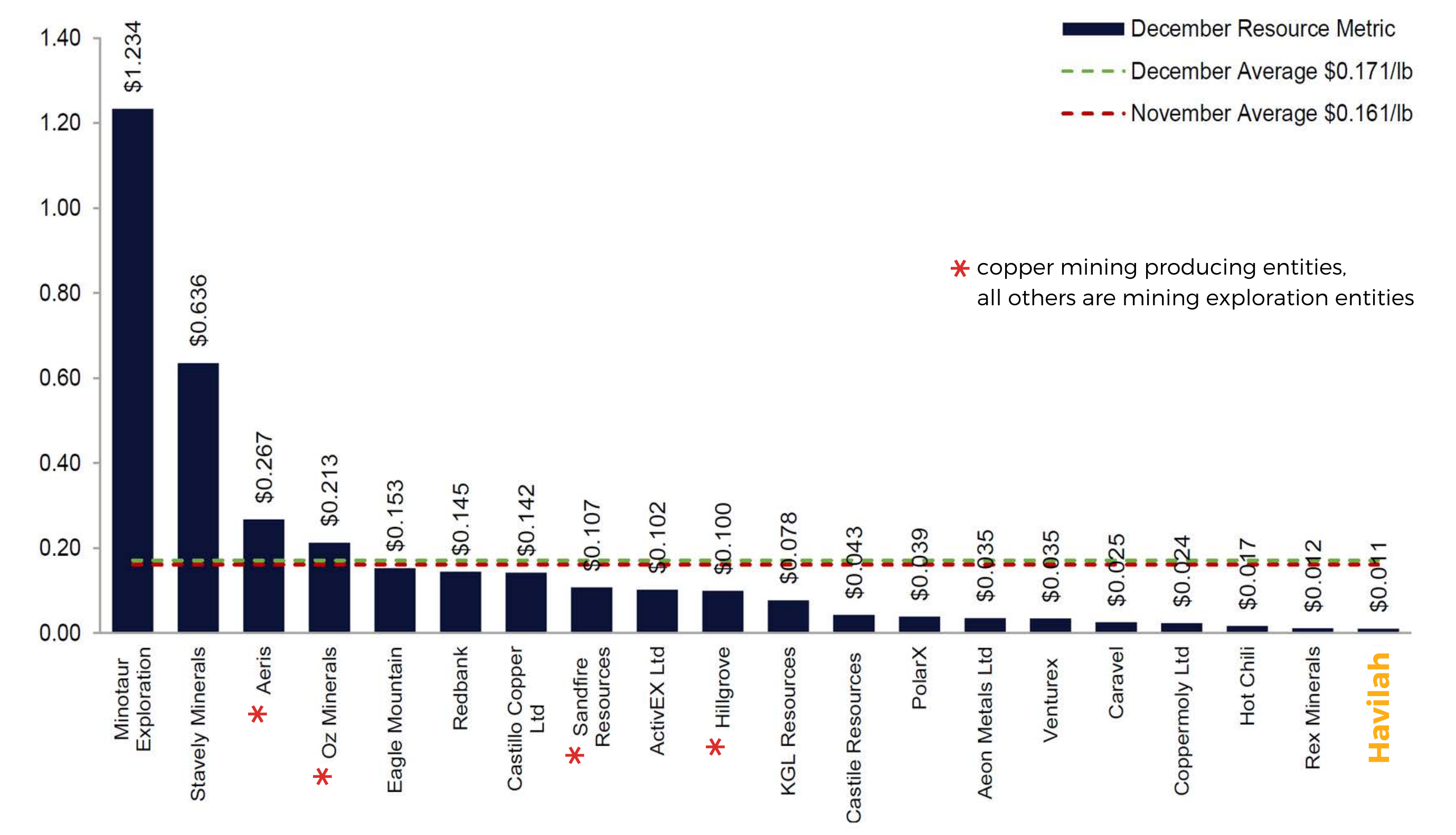
Large scale open pit copper-gold development opportunities in Australia like Kalkaroo are rare, particularly at a time when renewable energy and EVs are adding to the copper demand and gold is touching record highs.

**Dr. Chris Giles - Technical Director.**



# HIGH LEVERAGE TO COPPER BASED ON CUEQ JORC RESOURCES

Amongst its ASX peers shown here, **Havilah** has one of the highest leverages to copper, based on its Enterprise Value / CuEq JORC Resources.

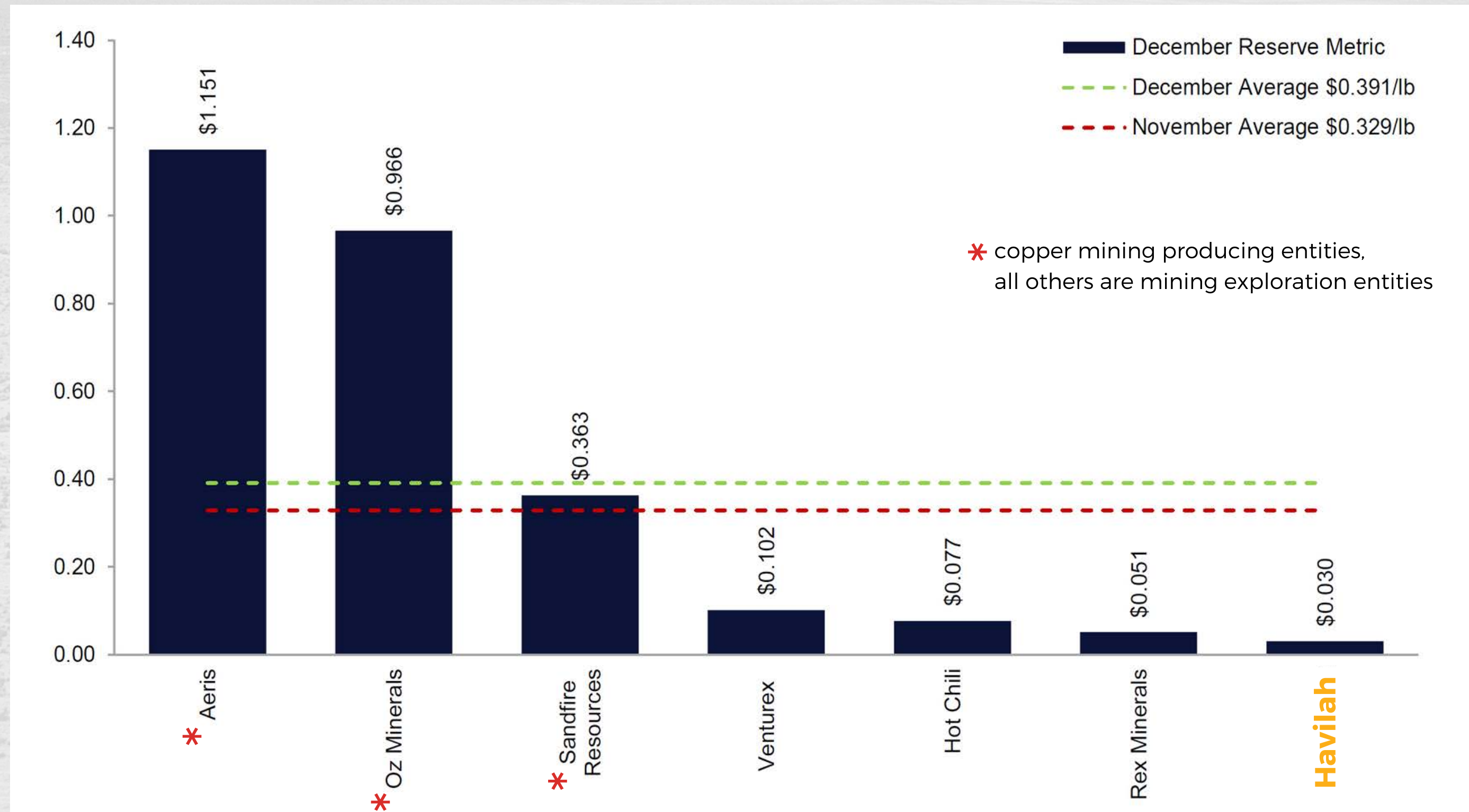


Source: PCF Capital Resources Thermometer January 2021.  
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# HIGH LEVERAGE TO COPPER BASED ON CUEQ ORE RESERVES

Amongst its ASX peers shown here, **Havilah** has one of the highest leverages to copper, based on its Enterprise Value / CuEq Ore Reserves.



Source: PCF Capital Resources Thermometer January 2021.  
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# JORC ORE RESERVE AND MINERAL RESOURCES

## JORC Ore Reserves

Project	Classification	Tonnes (Mt)	Copper %	Gold g/t	Copper tonnes (Kt)	Gold ounces (Koz)
Kalkaroo <sup>1</sup>	Proved	90.2	0.48	0.44	430	1,282
	Probable	9.9	0.45	0.39	44	125
Total		100.1	0.47	0.44	474	1,407

## Footnotes to the JORC Ore Reserve and Mineral Resource Tables

Numbers in tables are rounded

<sup>1</sup> Details released to ASX: 18 June 2018 (Kalkaroo)

<sup>2</sup> Details released to ASX: 18 October 2010 and 5 June 2020 (Mutooroo)

<sup>3</sup> Details released to ASX 30 January 2018 & 7 March 2018 (Kalkaroo)

<sup>4</sup> Note that the Kalkaroo cobalt Inferred resource is not added to the total tonnage

## JORC Mineral Resources

Project	Classification	Resource Category	Tonnes	Copper %	Cobalt %	Gold g/t	Copper tonnes	Cobalt tonnes	Gold ounces
Mutooroo <sup>2</sup>	Measured	Oxide	598,000	0.56	0.04	0.08			
	Total	Oxide	598,000	0.56	0.04	0.08	3,300	200	1,500
	Measured	Sulphide Copper-Cobalt-Gold	4,149,000	1.23	0.14	0.18			
	Indicated	Sulphide Copper-Cobalt-Gold	1,697,000	1.52	0.14	0.35			
	Inferred	Sulphide Copper-Cobalt-Gold	6,683,000	1.71	0.17	0.17			
	Total	Sulphide Copper-Cobalt-Gold	12,529,000	1.53	0.16	0.20	191,700	20,000	80,600
	Total Mutooroo		13,127,000				195,000	20,200	82,100
Kalkaroo <sup>3</sup>	Measured	Oxide Gold Cap	12,000,000			0.82			
	Indicated	Oxide Gold Cap	6,970,000			0.62			
	Inferred	Oxide Gold Cap	2,710,000			0.68			
	Total	Oxide Gold Cap	21,680,000			0.74			514,500
	Measured	Sulphide Copper-Gold	85,600,000	0.57		0.42			
	Indicated	Sulphide Copper-Gold	27,900,000	0.49		0.36			
	Inferred	Sulphide Copper-Gold	110,300,000	0.43		0.32			
	Total	Sulphide Copper-Gold	223,800,000	0.49		0.36	1,096,600		2,590,300
	Total Kalkaroo		245,480,000				1,096,600		3,104,800
	Inferred	Cobalt Sulphide <sup>4</sup>	193,000,000		0.012			23,200	
Total All Projects		All Categories (rounded)	258,607,000				1,291,600	43,400	3,186,900



# CAUTIONARY AND COMPETENT PERSON'S STATEMENTS

## CAUTIONARY STATEMENT

The information contained in this presentation is not financial product advice. The presentation is for information purposes and is of a general and summary nature only. Neither Havilah Resources Limited (Havilah) nor any member of the Havilah Group of companies, gives no warranties in relation to the statements and information in this presentation. Investors should seek appropriate advice on their own objectives, financial situation and needs.

It is not recommended that any person makes any investment decision in relation to Havilah based on this presentation. This presentation should be read in conjunction with the latest Annual Report together with any announcements made by Havilah in accordance with its continuous disclosure obligations arising under the Corporations Act 2001.

This presentation contains certain statements which may constitute 'forward-looking statements'. Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied or projected in any forward-looking statements. Havilah disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

Given the ongoing uncertainty relating to the duration and extent of the global COVID-19 pandemic, and the impact it may have on the demand and price for copper and on global financial markets, the Company continues to face uncertainties with respect to its projects that may impact its operating activities, financing activities and financial results.

## COMPETENT PERSON'S STATEMENT

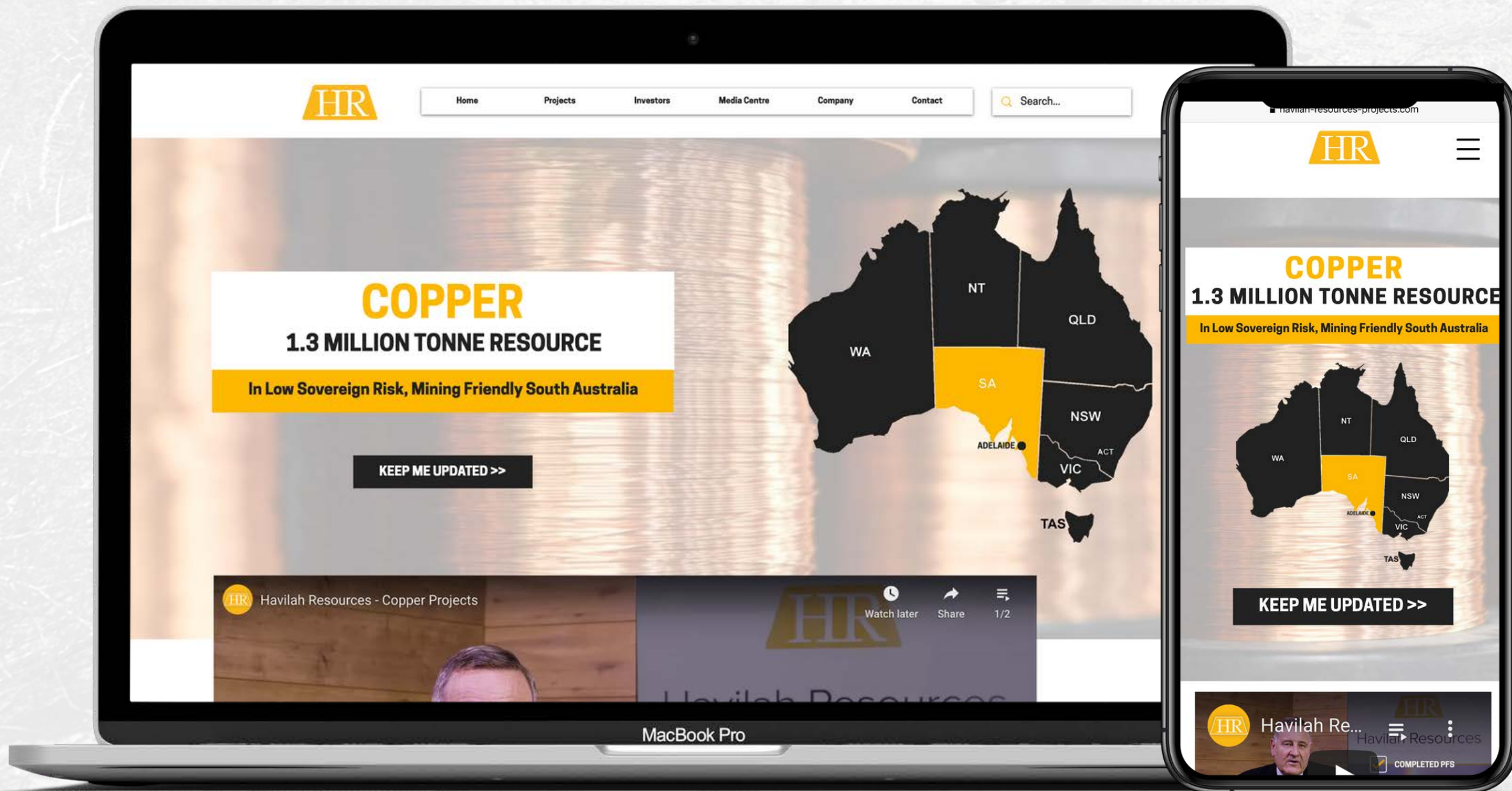
The information in this presentation that relates to Exploration Targets, Exploration Results, Mineral Resources and Ore Reserves is based on data compiled by geologist Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr Giles is Technical Director of the Company, a full-time employee and is a substantial shareholder. Dr Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit and activities described herein to qualify as a Competent Person as defined in the 2012 Edition of 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Giles consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Information for the Kalkaroo Ore Reserve & Mineral Resource and the Mutooroo Inferred cobalt & gold Mineral Resources complies with the JORC Code 2012. All other information was prepared and first disclosed under the JORC Code 2004 and is presented on the basis that the information has not materially changed since it was last reported. Havilah confirms that all material assumptions and technical parameters underpinning the reserves and resources continue to apply and have not materially changed. Except where explicitly stated, this presentation contains references to prior exploration results and JORC Mineral Resources, all of which have been cross-referenced to previous ASX announcements made by Havilah. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant ASX announcements.



# VISIT OUR DEDICATED COPPER WEBPAGE

<https://www.havilah-resources-projects.com/copper>



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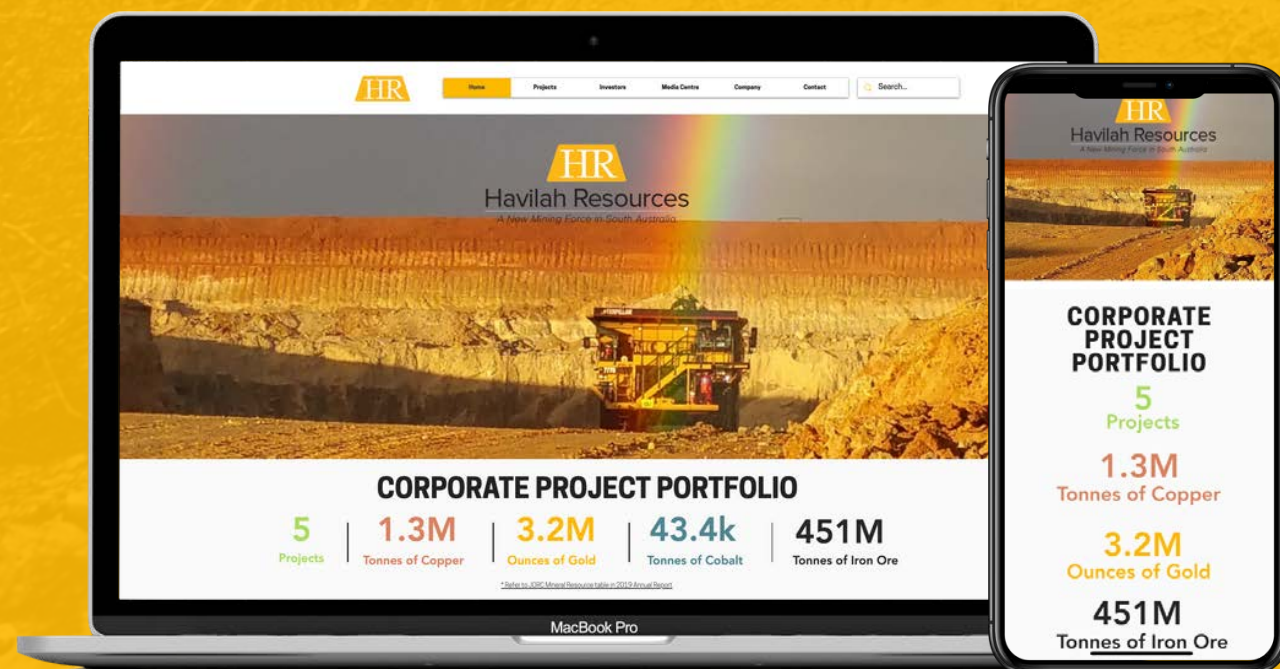
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