



Havilah Resources NL



# HAVILAH RESOURCES

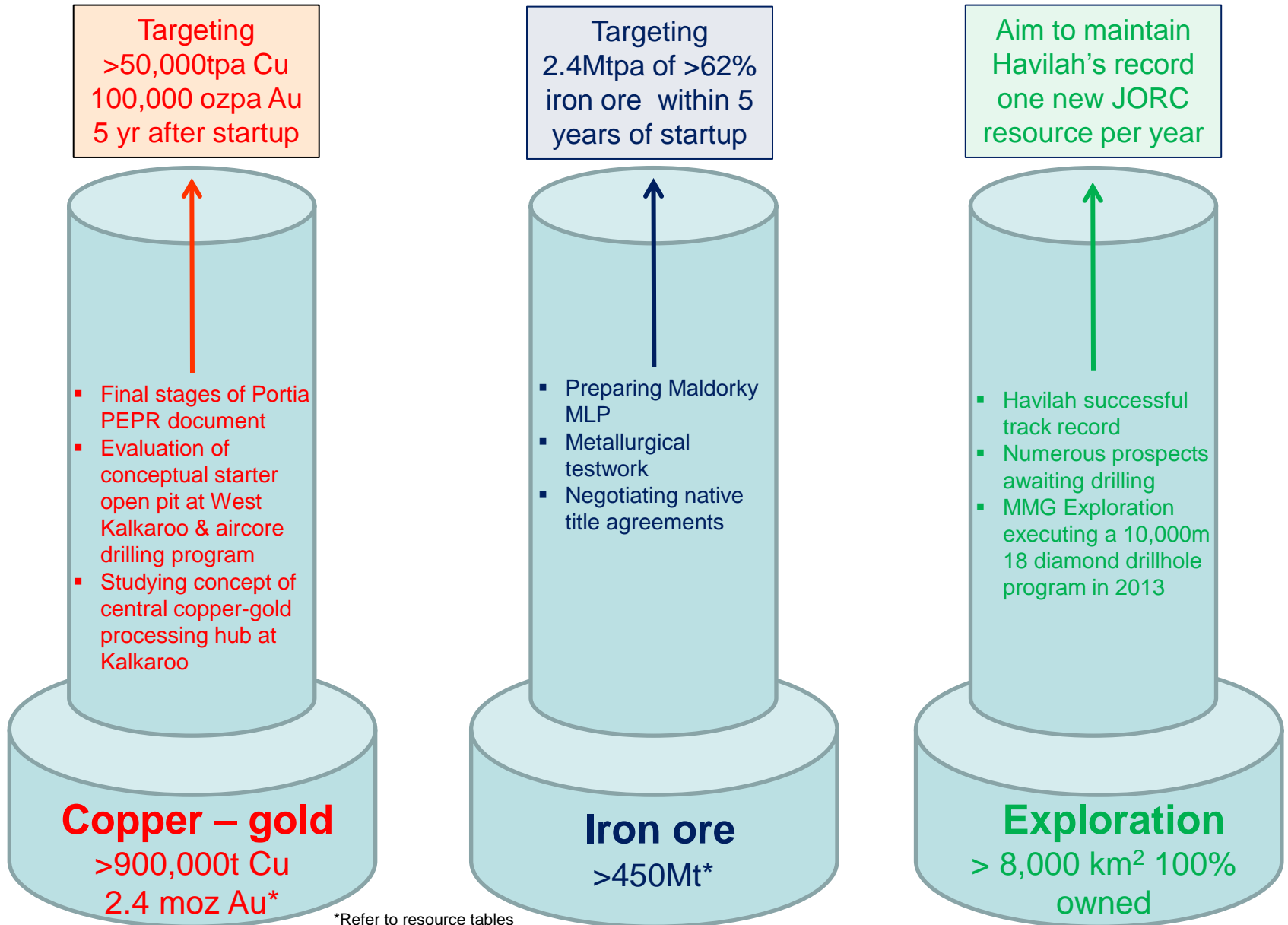
## Three Pillars For Growth

Presentation to EGM by Dr Chris Giles  
Technical Director  
28 August 2013





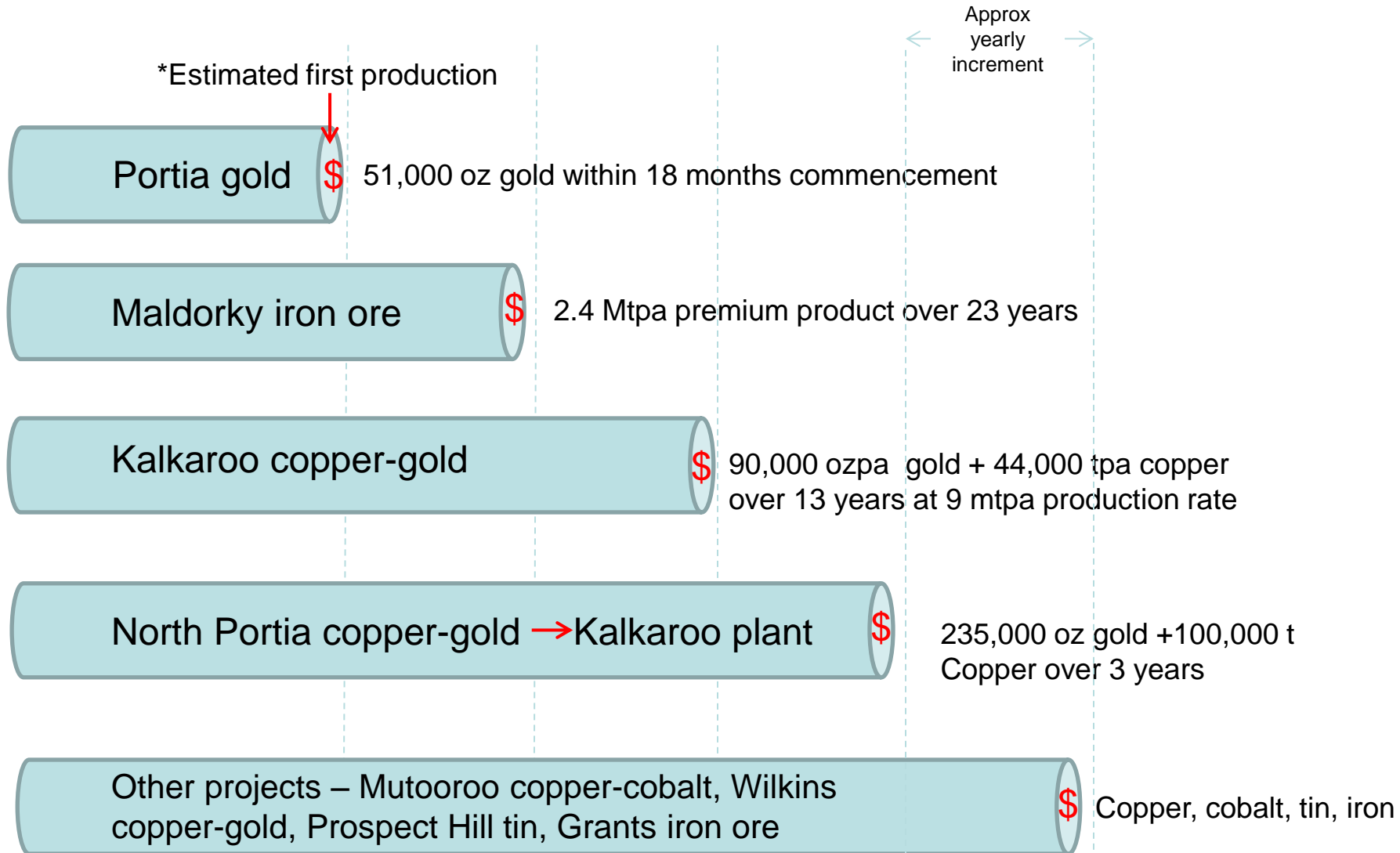
# Havilah's Three Asset Pillars



\*Refer to resource tables



# Pipeline of quality development projects



*\*Estimated first production timing is subject to receipt of timely mining approvals, financing and market conditions*



- Sequentially bring projects into production over the next five years to achieve :
  - 50,000 tpa copper\* and 100,000 oz gold\* plus by-products of molybdenum, cobalt and sulphur (from Kalkaroo, Portia, North Portia projects) within 5 years of start up.
  - 2.4 Mtpa iron ore\* (from Maldorky project) within 5 years of start up.
- Maintain Havilah's current rate of minerals discovery and conversion to resources allowing for expansion of mineral production.

*\*Note that these rates of production can potentially be maintained for at least 15 years for copper-gold and > 50 years for iron ore, based on Havilah's current resources. These production targets are subject to timely receipt of mining approvals, financing, metal prices, exchange rates and general market and economic conditions prevailing from time to time.*







- Complete all mining approval documentation – dedicated staff focused on job
- Raising mine development financing on acceptable terms – aim to minimise shareholder dilution. Introducing large Asian project partners is an option.
- Building a competent, experienced project development team – capable of delivering projects on time and on budget.
- Minimising project risk – by minimising upfront capex and eliminating technical uncertainties as far as possible (eg Kalkaroo shallow gold mineralisation)
- Managing stakeholder interests, including landholders, native title claimants, contractors, government agencies and regulators, shareholders in order to achieve socially acceptable outcomes.





# What we are doing

- Refer to our quarterly reports to see what have achieved in each quarter against what we planned to achieve.
- Portia gold project in final stages of permitting, aiming before end of year
- Kalkaroo recent shallow drilling results are potentially game changing
  - Modelling a low capex starter open pit at West Kalkaroo.
  - Central processing concept at Kalkaroo being evaluated.
  - Negotiating native title agreement with the Adnyamathanha people
- Maldorky mining lease proposal work is taking priority
  - Technical tasks including tailings dam design, site layout
  - Metallurgical work to finalise a processing flow sheet design
  - Negotiations towards native title agreement with the Wilyakali people







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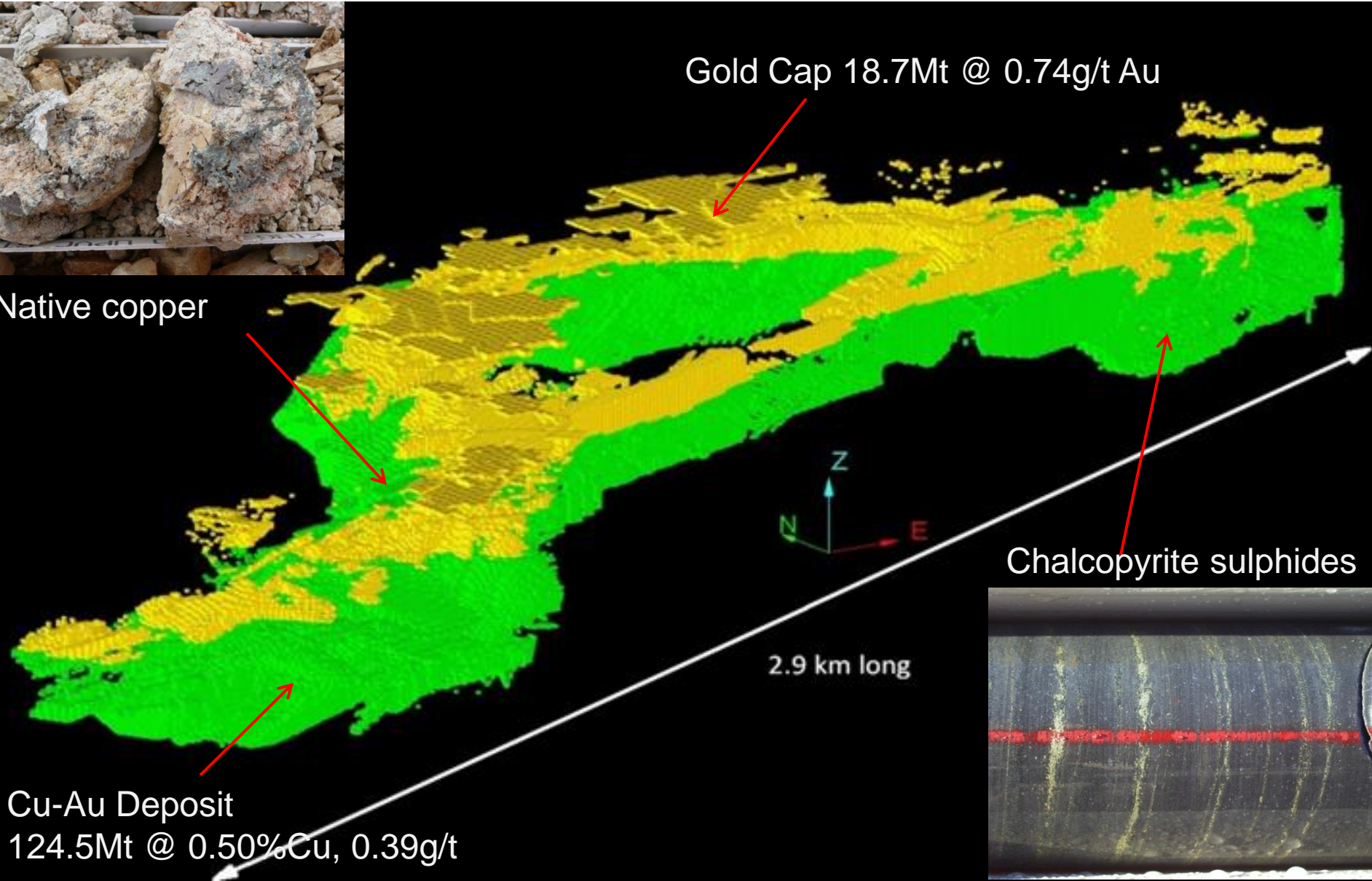
Kalkaroo  
Copper

# A new word about Kalkaroo



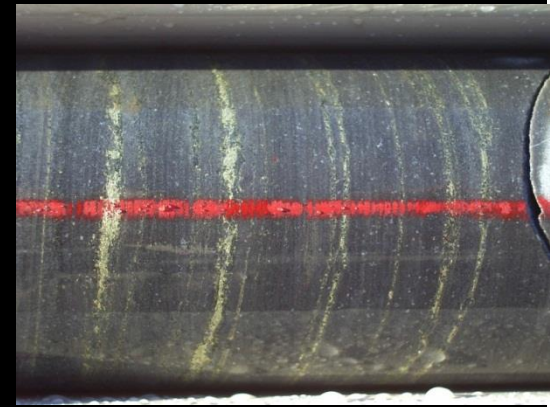
Native copper

Gold Cap 18.7Mt @ 0.74g/t Au



Chalcopyrite sulphides

Cu-Au Deposit  
124.5Mt @ 0.50%Cu, 0.39g/t

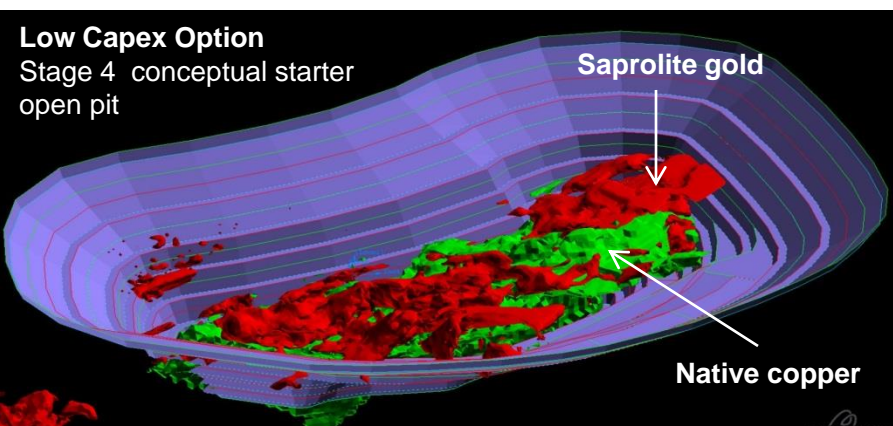
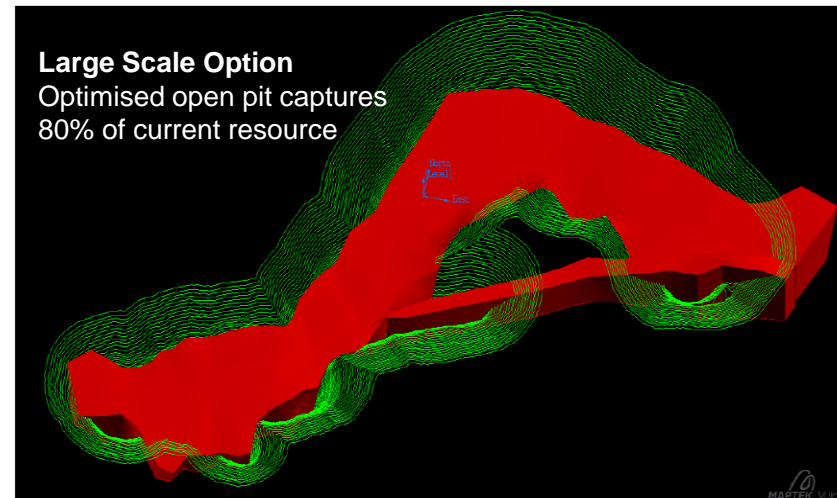




# As it currently stands .....

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- JORC Measured and Indicated Resource of 622,500 t copper and 2 million oz gold
- Layered deposit with enriched oxidised gold cap, native copper zone and chalcocite lying above primary sulphides amenable to a conventional staged processing approach
- **Large scale option** (\$500m capex) : 9Mtpa over 13 year mine life for average annual production of 44,000 t copper in concentrate and 90,000 oz gold
- **Low capex option** (\$50m startup capex): starter open pit on highest grade and shallowest ore at West Kalkaroo, sequentially mining gold cap, native copper and chalcocite ores over first five years



- Allows for progressive construction of processing plant and build up of production from 1Mtpa in Year 1 to 4.5Mtpa in Year 5.
- Slower route, but advantage is that expansion of mine is funded by operating surplus

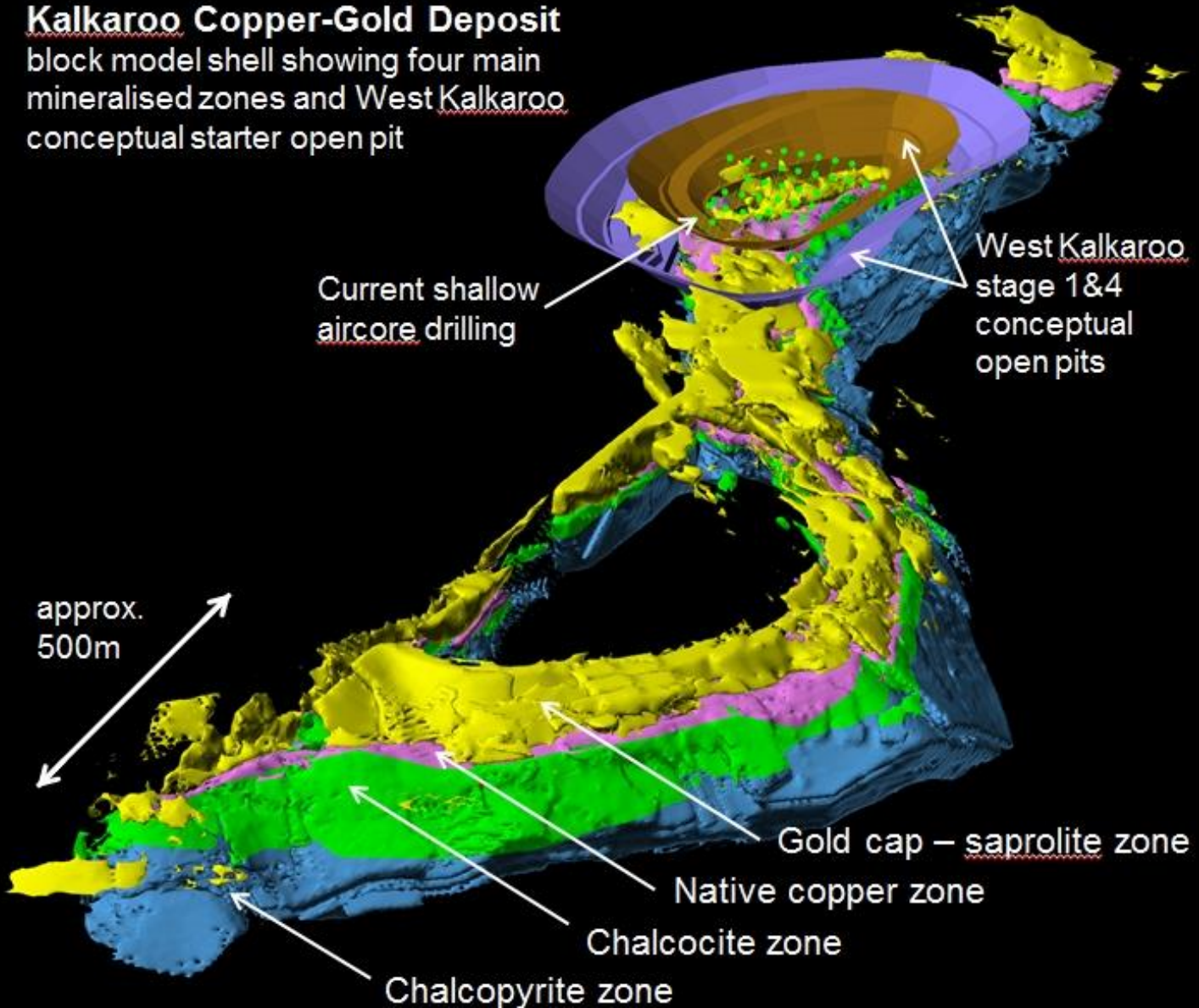




# Starter open pit option at West Kalkaroo

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**Kalkaroo Copper-Gold Deposit**  
block model shell showing four main mineralised zones and West Kalkaroo conceptual starter open pit

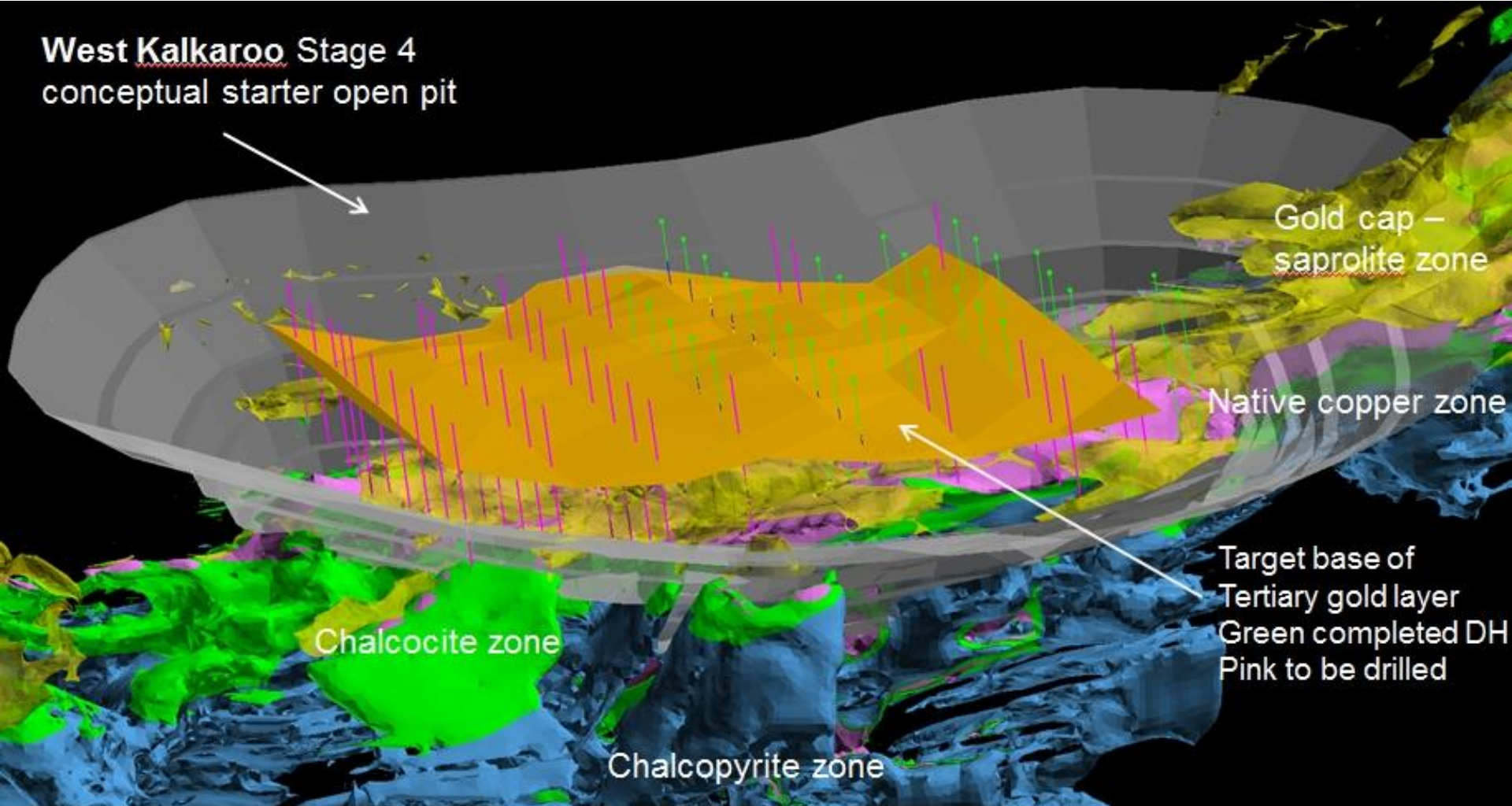




# Targeting shallow gold in Tertiary clays

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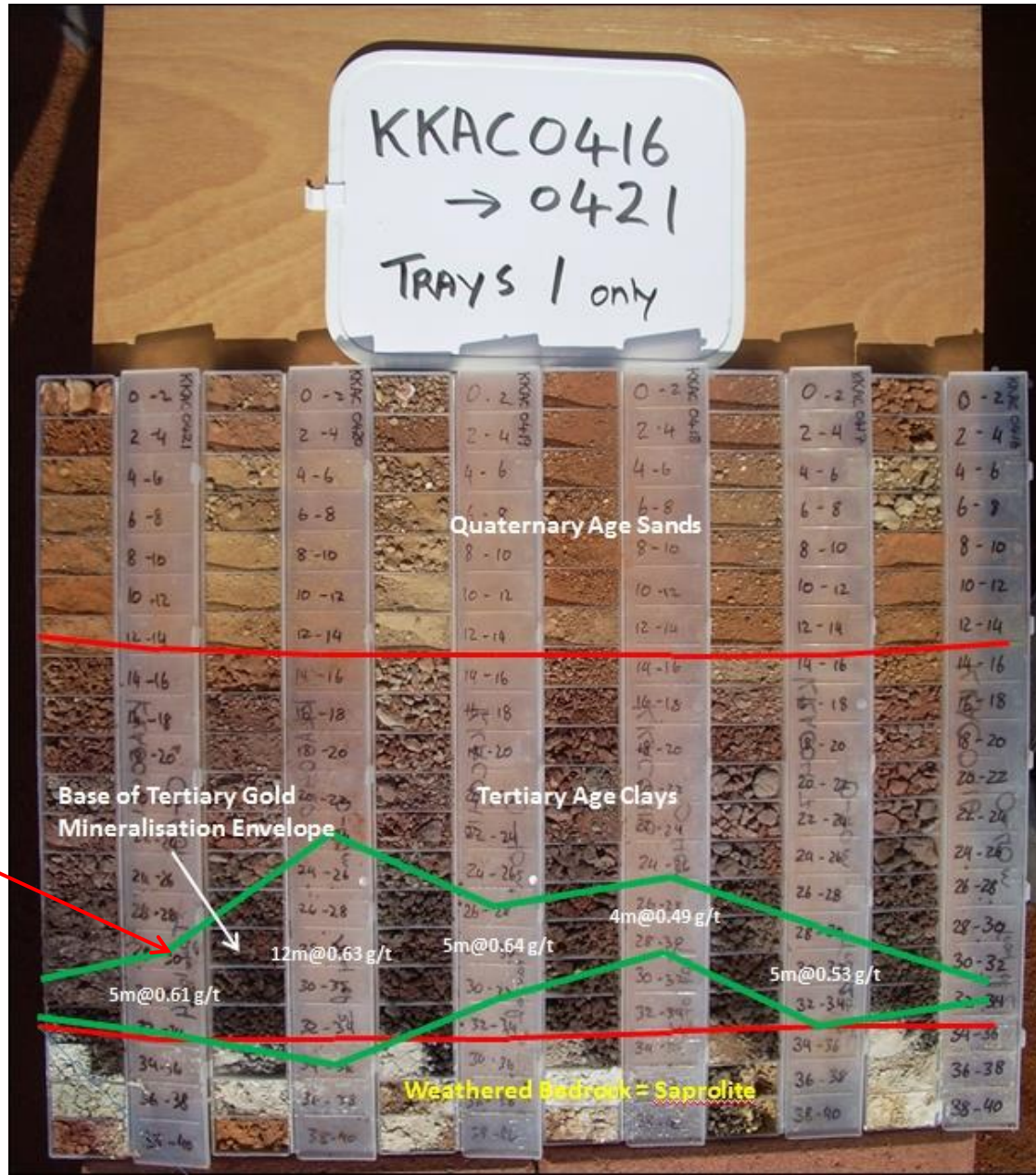
West Kalkaroo Stage 4  
conceptual starter open pit







# Very promising results so far



Gold mineralisation in Tertiary clays in 5 drillholes

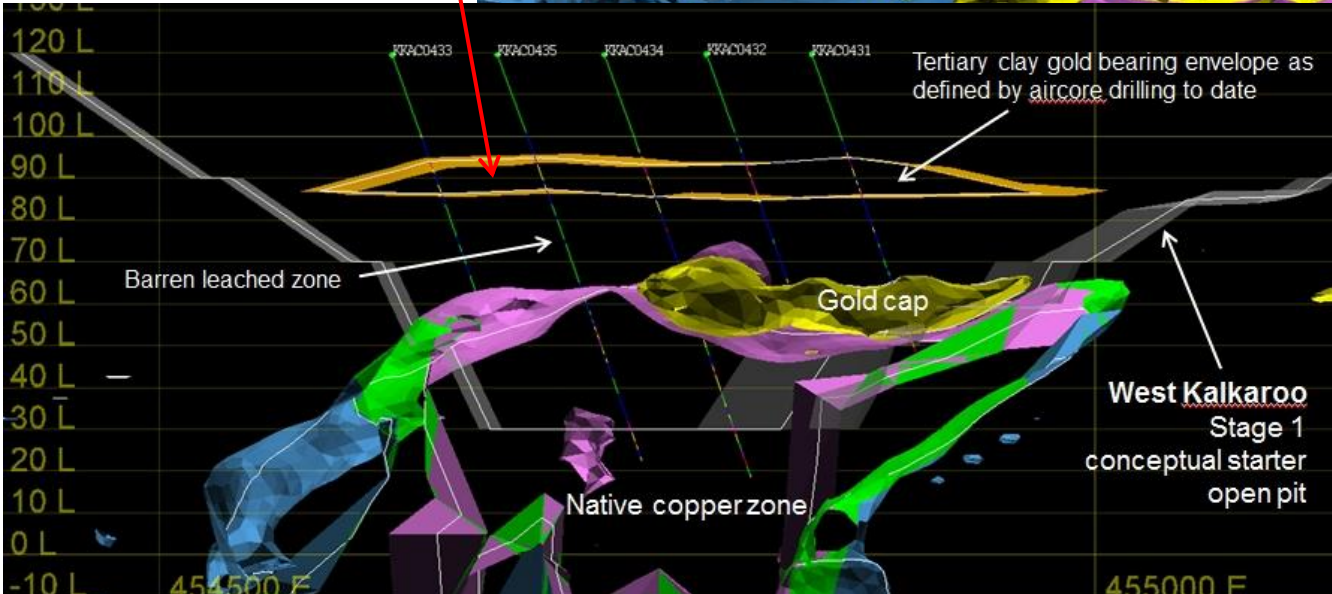
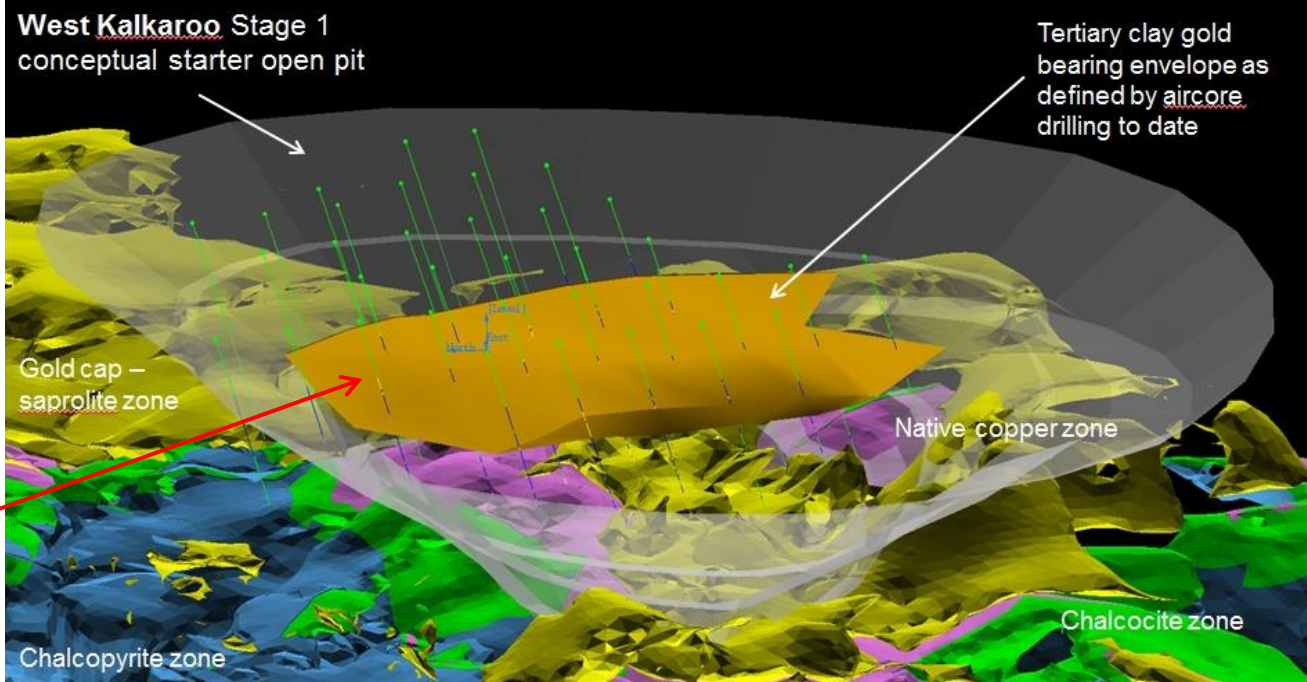




# Expanding gold mineralisation envelope

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Drilling is expanding the shallow gold mineralisation envelope in Tertiary clays above the main Kalkaroo copper-gold resource in the underlying bedrock

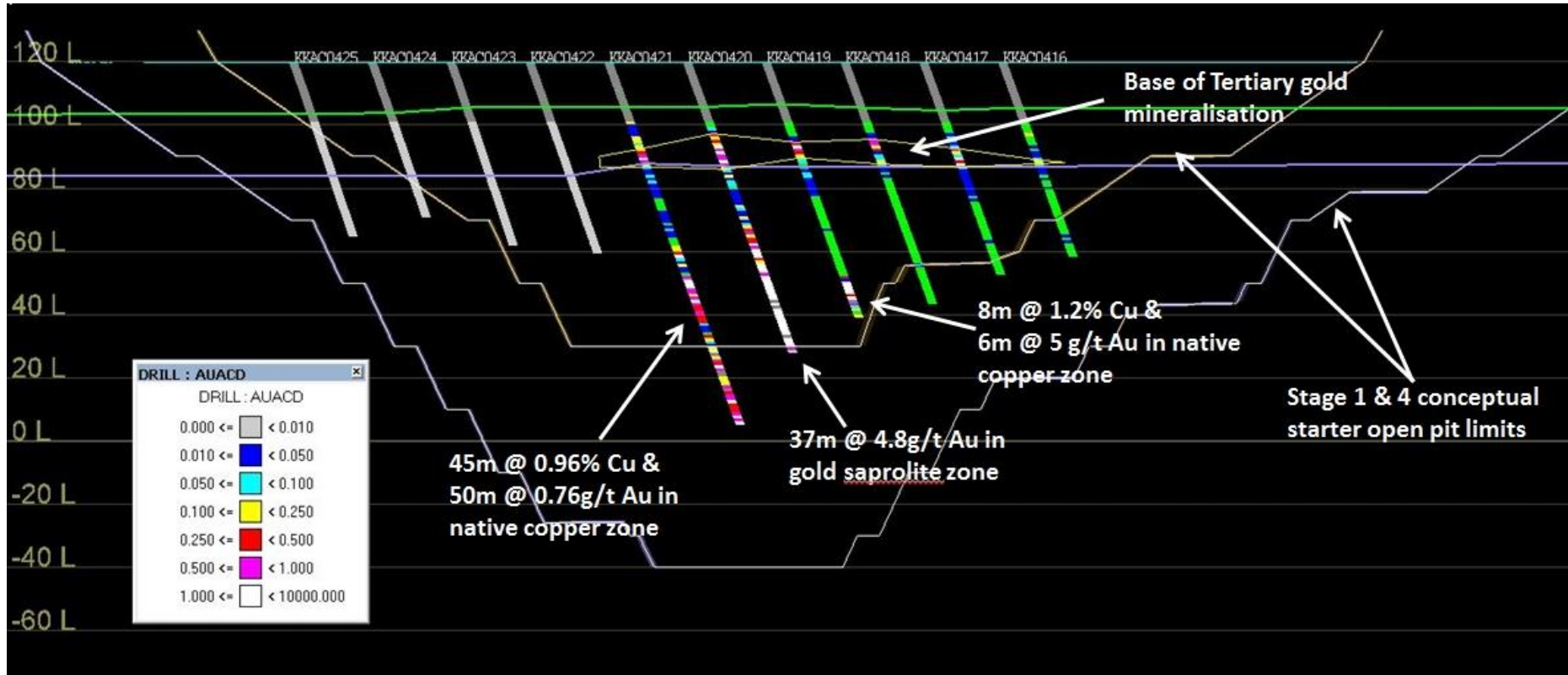




# Key to low capex startup at Kalkaroo

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- Cyanide leach tests indicate >80% gold recovery within 8 hours. No grinding of clays required.
- Access to shallow, easily recovered gold mineralisation could bring forward project revenue.
- This lowers both required start-up capex and project risk

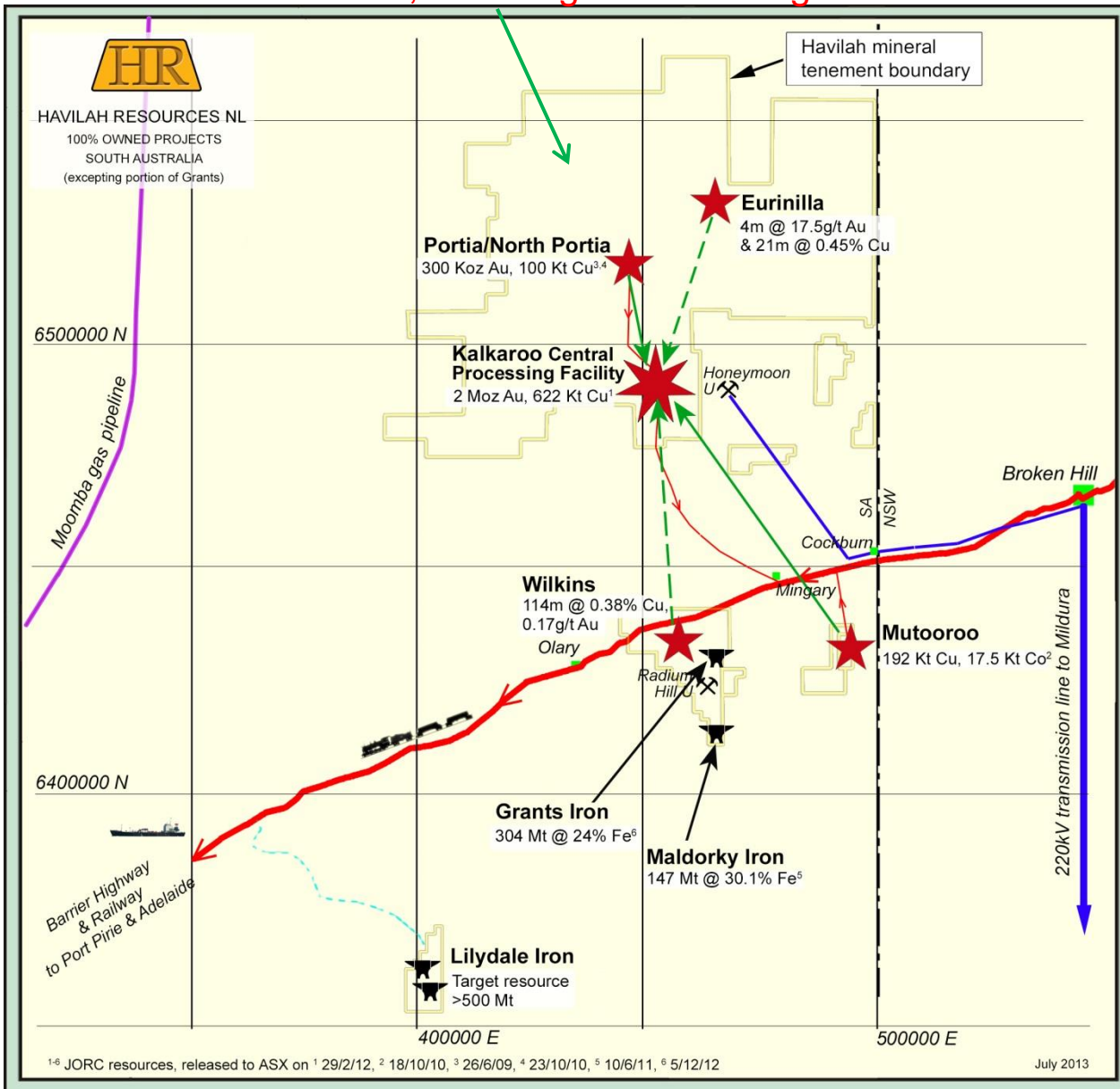




# A central processing facility at Kalkaroo?

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8,000km<sup>2</sup> ground holding



Kalkaroo project is being de-risked by the discovery of shallow gold mineralisation and through improved gold recoveries in sulphide material.

Currently evaluating the economics of a central ore processing facility at Kalkaroo to avoid duplication of plant and to streamline permitting





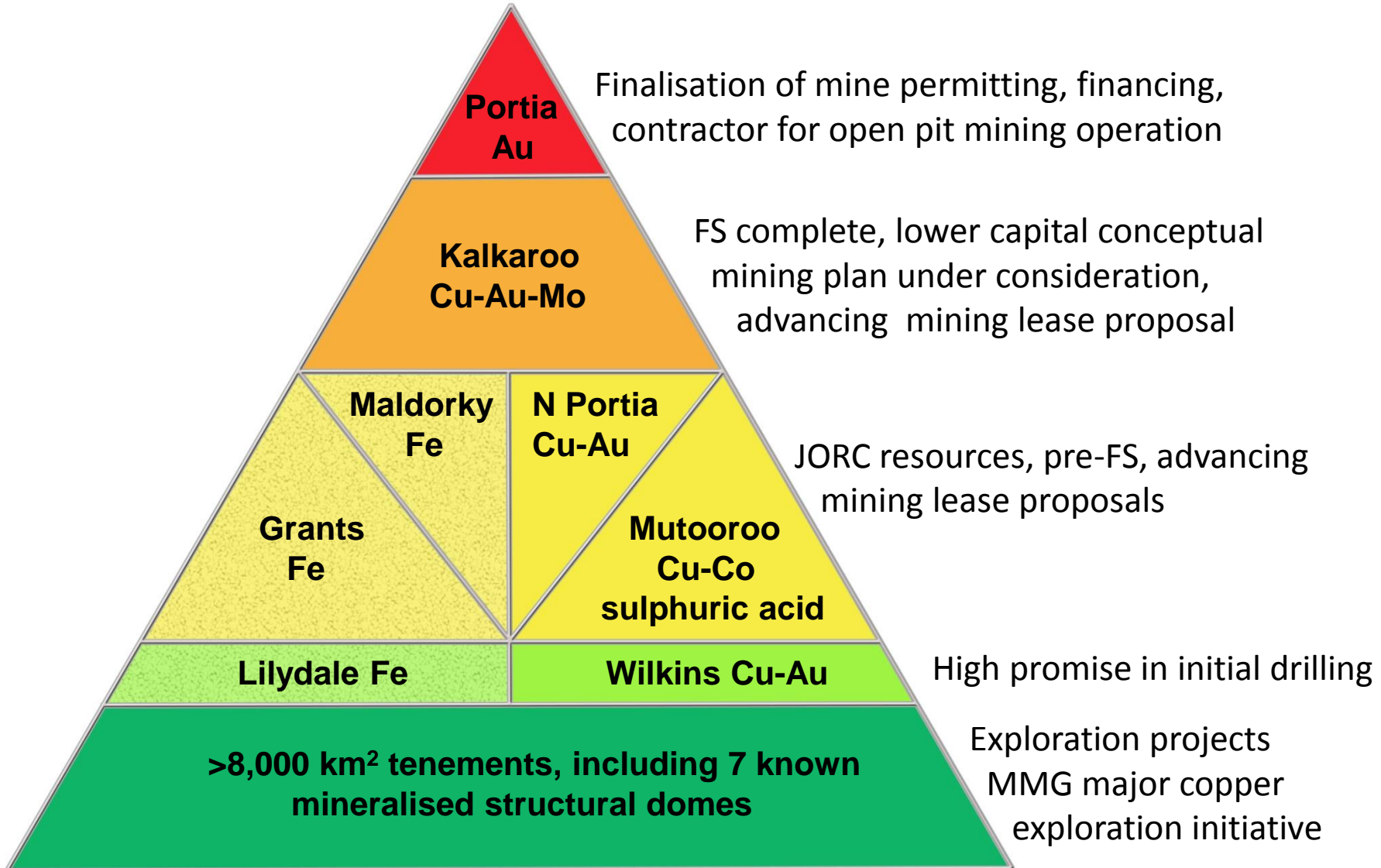
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## **Competent Person Statement**

This presentation is a summary of information extracted from several public reports released by Havilah Resources NL in the period 2008-2013. Information regarding exploration results and mineral resources in this presentation is considered by Dr Bob Johnson who is a member of the AIMM and Dr Chris Giles who is a member of the AIG and who are Competent Persons as defined in the JORC Code 2004, to be a fair and reasonable summary of the information in those public reports. Drs Johnson and Giles consent to the release of the information compiled in this presentation in the form and context in which it appears.



# Mineral project status





# Copper-gold resource metal inventory

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Copper: **915,500 tonnes** (Kalkaroo + Mutooroo + North Portia)

Gold: **2,400,000 ozs** (Kalkaroo + Mutooroo + Portia + North Portia)

Cobalt: **17.5 M Kg** (Mutooroo)

Molybdenum : **8.45 M Kg** (Kalkaroo + North Portia)

Project*	Resource Category	Tonnes (Mt)	Copper (%)	Gold (g/t)	Molybdenum (ppm)	Cobalt (%)	Contained Copper (tonnes)	Contained Gold (ounces)	Contained Moly (kg)	Contained Cobalt (kg)
Kalkaroo <sup>1</sup>	Gold Cap Measured	18,690,000		0.74				445,000		
	CuAu Measured	85,890,000	0.52	0.41			622,500	1,561,000		
	CuAu Indicated	38,620,000	0.45	0.33			Added to above	Added to above		
	Mo Inferred	4,500,000			615				2,768,000	
Portia <sup>4</sup>	Inferred	720,000		2.9				67,000		
North Portia <sup>3</sup>	Indicated (supergene)	2,750,000	1.0	0.65	451		101,000	234,500	5,680,000	
	Inferred (sulphide)	8,610,000	0.85	0.64	531		Added to above	Added to above	Added to above	
	Indicated (supergene Mo only)	7,732,000			340				Added to above	
Mutooroo <sup>2</sup>	Measured sulphide	4,149,000	1.23	0.18		0.14	192,000	92,700		17,540,000
	Indicated sulphide	1,697,000	1.52	0.35		0.14	Added to above	Added to above		Added to above
	Inferred sulphide	6,683,000	1.71	0.21		0.13	Added to above	Added to above		Added to above
	Measured oxide	598,000	0.56	0.08		0.04				
<b>Total all proj.</b>	<b>All categories</b>	<b>172,908,000</b>					<b>915,500</b>	<b>2,400,000</b>	<b>8,450,000</b>	<b>17,540,000</b>

\* Based on JORC resources, details released to ASX on : 1. 29/2/12 2. 18/10/10 3. 23/10/10 4. 26/6/09





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# Iron ore resource inventory

Maldorky : 147,000,000 tonnes of 30.1% Fe

Grants : 304,000,000 tonnes of 24% Fe

Total : 159,000,000 tonnes of premium grade iron ore product

Project*	Resource Category	Tonnes (Mt)	Iron (%)	Iron tonnes	Est Yield
Maldorky <sup>1</sup>	Indicated	147,000,000	30.1%	59,000,000	40%
Grants <sup>2</sup>	Inferred	304,000,000	24%	100,000,000	33%
<b>Total all projects</b>	<b>All categories</b>	<b>451,000,000</b>		<b>159,000,000</b>	

\* Based on JORC resources, details released to ASX on : 1. 10/6/11 2. 5/12/12 , applying an 18% cut-off in both cases