

# HILLGROVE RESOURCES

## HILLGROVE RESOURCES AGM

STEVEN MCCLARE ||||| CEO & MANAGING DIRECTOR

24 MAY 2018



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All currency referred to is Australian dollars (\$) unless otherwise indicated (e.g. US\$).



### **Competent Person's Statement**

The information in this release that relates to the 2016 Mineral Resource Estimate for Giant is based upon information compiled by Mr Peter Rolley, who is a Member of The Australian Institute of Geoscientists. Mr Rolley is a full-time employee of Hillgrove Resources Limited and has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code)'. Mr Rolley has consented to the inclusion in the release of the matters based on their information in the form and context in which it appears.

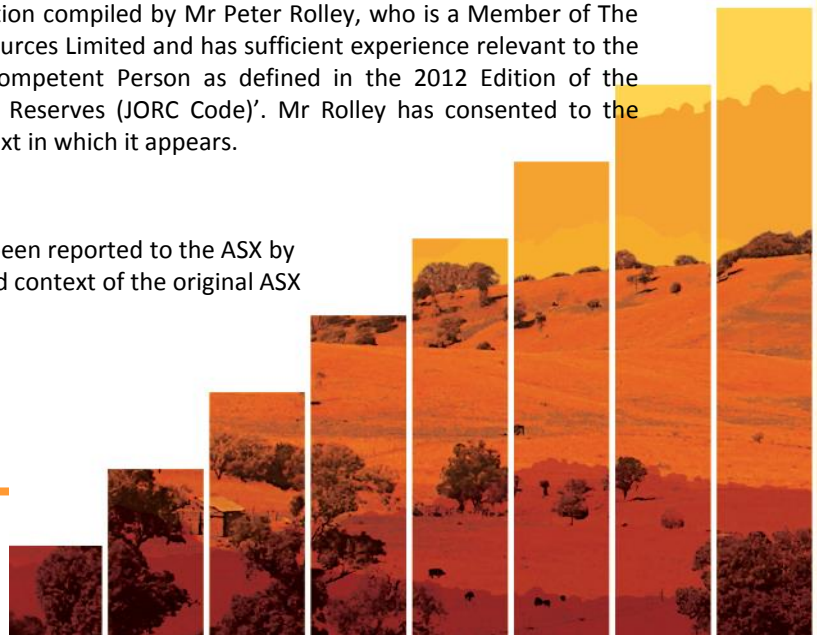
The information in this release that relates to the 2013 Mineral Resource not including Giant is based upon information compiled by Ms Michaela Wright, who is a Member of The Australasian Institute of Mining and Metallurgy. Ms Wright is a former full-time employee of Hillgrove Resources Limited and has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code)'. Ms Wright has consented to the inclusion in the release of the matters based on their information in the form and context in which it appears.

The information in this release that relates to Ore Reserves is based upon information compiled by Mr Lachlan Wallace, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Wallace is a full-time employee of Hillgrove Resources Limited and has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code)'. Mr Wallace has consented to the inclusion in the release of the matters based on their information in the form and context in which it appears.

The information in this release that relates to Exploration Results is based on information compiled by Mr Peter Rolley, who is a Member of The Australian Institute of Geoscientists. Mr Rolley is a full-time employee of Hillgrove Resources Limited and has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code)'. Mr Rolley has consented to the inclusion in the release of the matters based on their information in the form and context in which it appears.

### **Exploration Results Here-In**

All exploration drill results, soil sampling images, and rock chip results have previously been reported to the ASX by Competent Person at the time. The results reported herein are reported in the form and context of the original ASX releases of , 15 May 2015, 18 Oct 2016, 25 May 2017, 20 Oct 2017.





# HILLGROVE RESOURCES CONTENTS



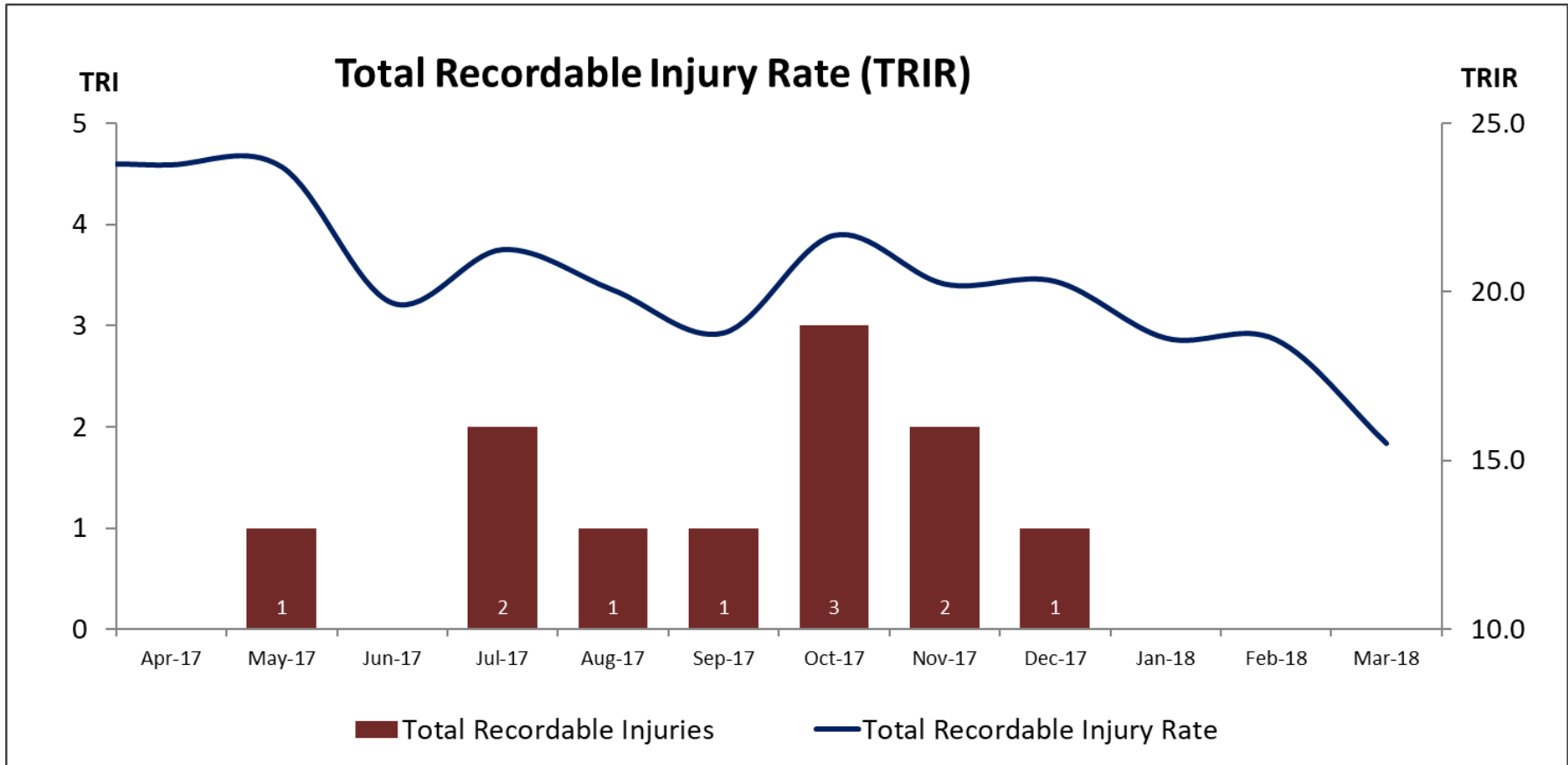
1. Safety, environment and community
2. Strategy and direction
3. Operational performance
4. The year ahead
5. Creating Company transforming mining projects





# **SAFETY, ENVIRONMENT AND COMMUNITY**

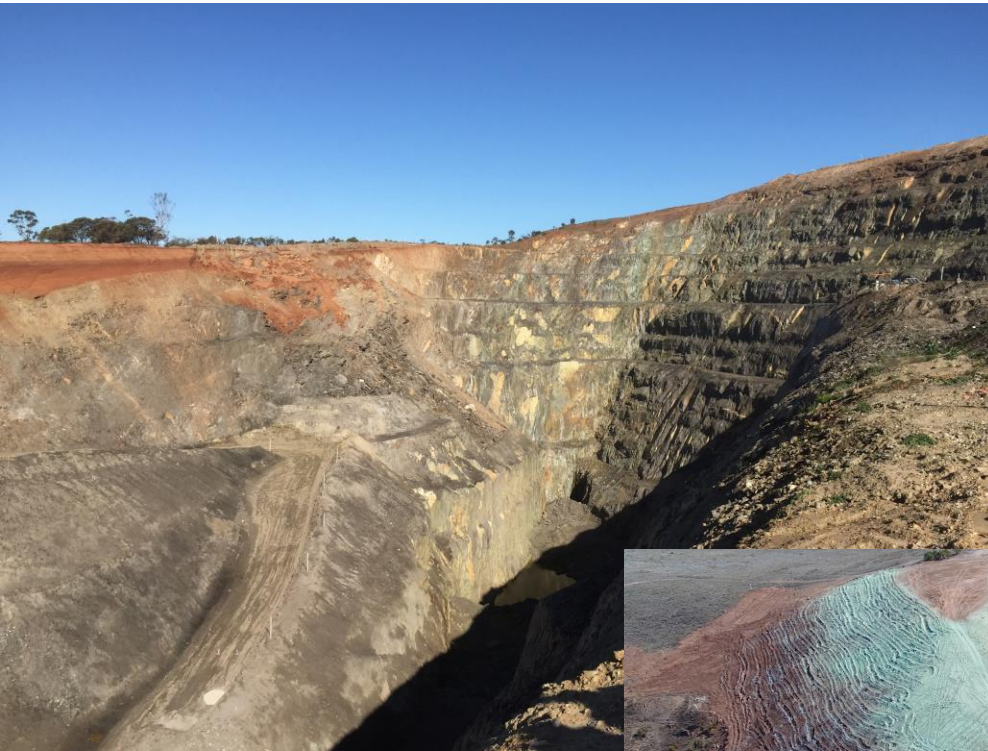




■ Significant improvement in total recordable injury rate.







- Nugent Pit mined in 2015/16
- Backfilled 2016
- Rehabilitation commenced 2017







- Active community working with the Mine to have a Master Plan for the District
- Planning includes rehabilitation, growth concepts and post closure optionality



# STRATEGY AND DIRECTION



## Strategy

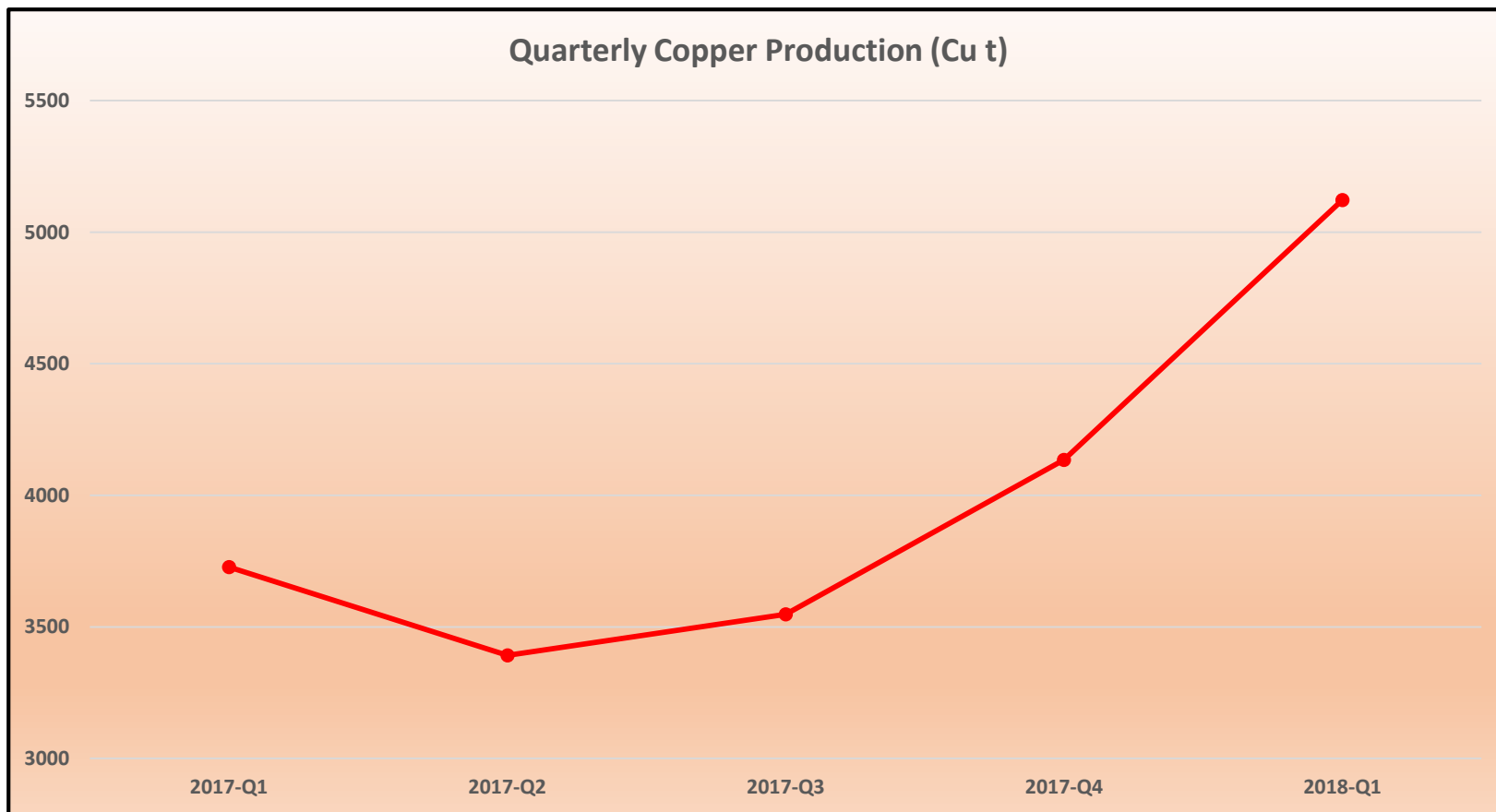
- Utilise existing infrastructure and assets
- Deliver value at Kanmantoo
  - Mineral Resource Estimate (achieving entire resource in Giant Pit – including inferred category)
  - Mining production delivery (cutback completed)
  - Progressive rehabilitation (Nugent and Emily Star backfilled)
  - Assets in good condition (primary crusher repair completed 23/5/18)
  - Stockpile generation to de-risk (5 months mill feed available)
- Depart Indonesia exploration (Project value written off in 2015)
- Continue to enhance Balance Sheet (repay debt & normalise creditors in 2018)
- Utilise existing assets as an enabler to unlock value
- Continue building geological comprehension and exploration capability targeting near region





# OPERATIONAL PERFORMANCE





- Copper output progressively climbing towards annual guidance (22-24 kt Cu)







Jan 2017



- January 2017 multiple levels and plan restricted by cashflow
- May 2018 flat working area and sequential mining



May 2018



# THE YEAR AHEAD





## The Year Ahead

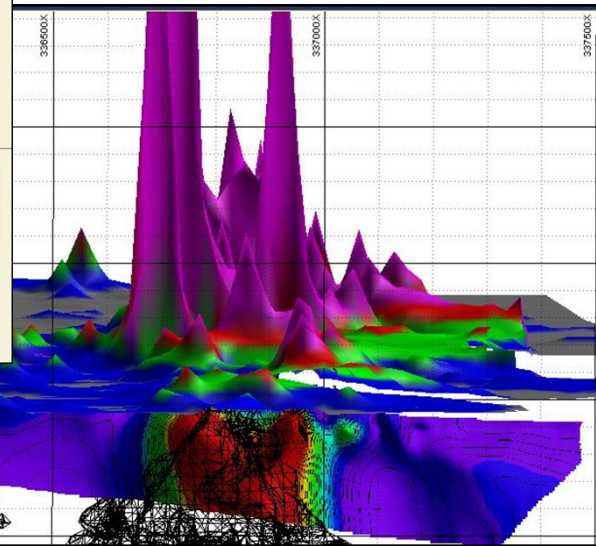
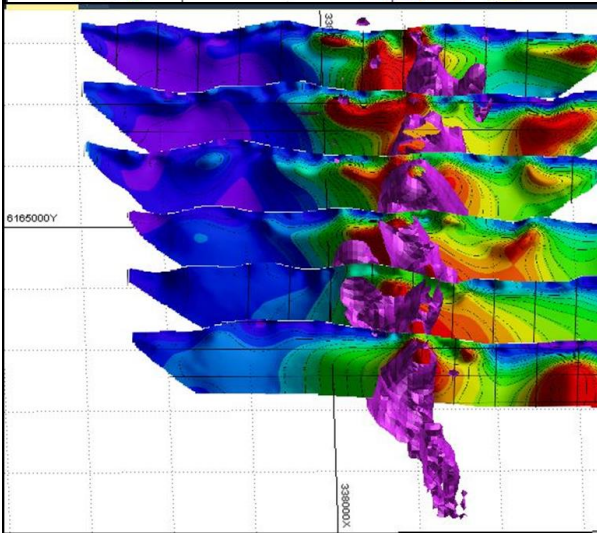
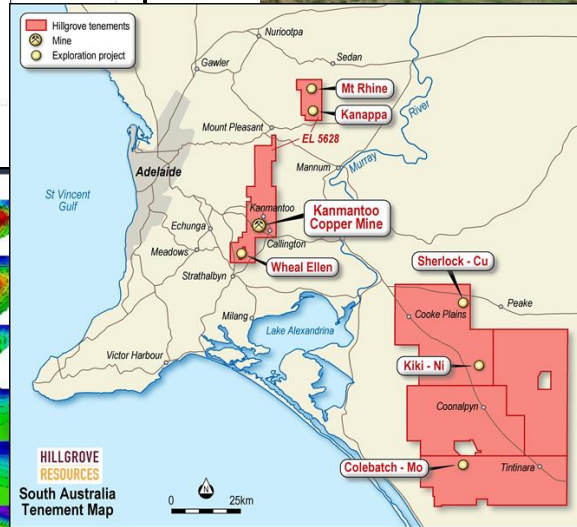
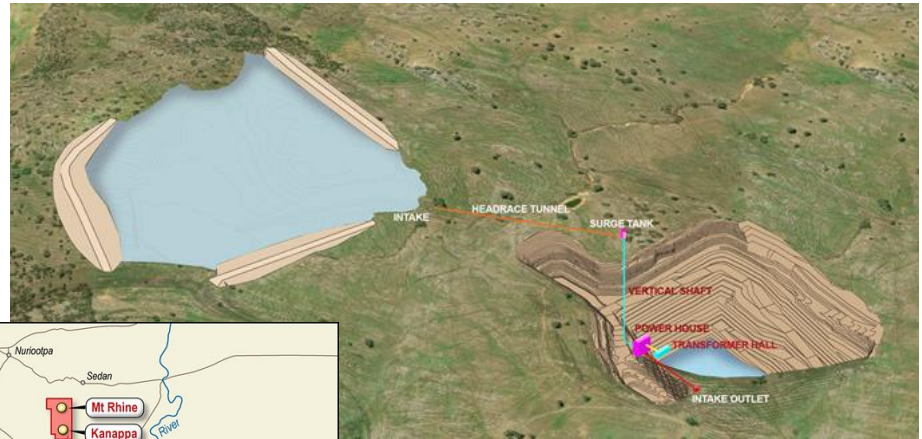
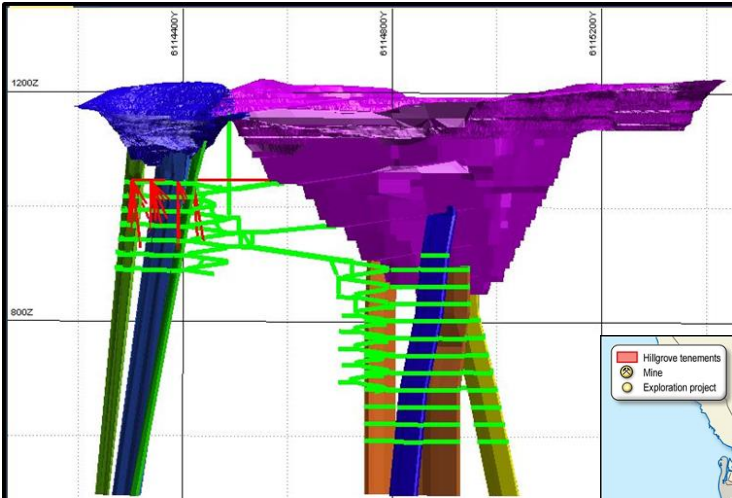
- Mining efficiency will continue to taper as working area reduces
- Persist with two excavators then revert to single unit
- Cash expenditure on mining reduces and then ceases in mid 2019
- Continue building stockpiles – will increase to an entire years milling
- Increase exploration activity commencing with Kanappa drilling in Q3 2018
- Kanmantoo Deeps
  - Conduct optimisation study
  - Consider trade off to PHES
- Pumped Hydro Energy Storage
  - Refine studies
  - Formal process to unlock value – Key Pacific Advisory Partners



# CREATING COMPANY TRANSFORMING MINING PROJECTS







# HILGROVE RESOURCES

## EXPLORATION PRESENTATION

PETER ROLLEY ||||| CHIEF GEOLOGIST

24 MAY 2018







- 
- 1. KANMANTOO MINE – the cornerstone**
  - 2. EXPLORATION UNDER & ADJACENT TO THE MINE**
  - 3. EXPLORATION NEAR THE MINE (<3KMS)**
  - 4. EXPLORATION IN THE REGION**

*Utilising existing infrastructure and cash flow at Kanmantoo to create Company transforming mining projects*





# A COPPER – GOLD PRODUCER THE CORNERSTONE





Hillgrove Resources Ltd (ASX:HGO) operates the Kanmantoo Copper-Gold Open Pit in the south-east of South Australia.

**Mineral Resource Estimate<sup>1</sup> of**  
**Meas+Ind 19.6Mt @ 0.6% Cu, 0.1g/t Au**  
**Inf 12.3Mt @ 0.6% Cu, 0.1g/t Au**

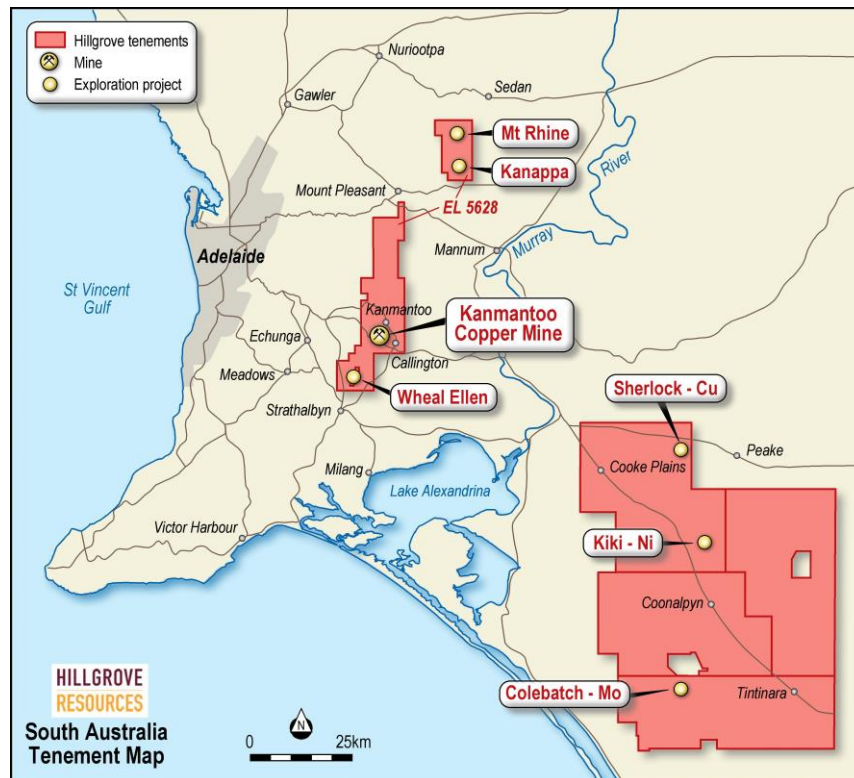
Located approx. 55kms from Adelaide

Grid power, water on site

Local labour force

Awards for Community Consultation

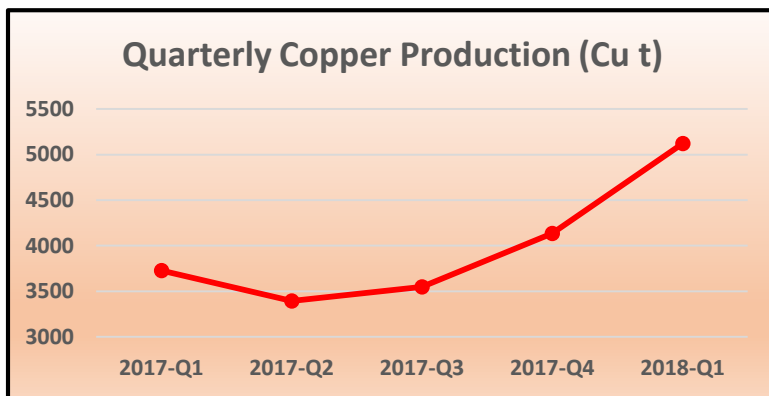
Leader in Environmental Rehabilitation practises



### KEY TAKEAWAYS

- Infrastructure fully operational and permitted
- Ideal location for services and on-site labour





Quarterly copper production at Kanmantoo continues to improve as a significant pit cut-back is now completed

<b>Last Quarter</b>	
<b>C1 cash cost</b>	<b>US\$1.86/lb Cu</b>
<b>Total costs</b>	<b>US\$2.27/lb Cu</b>
<b>Milling Costs</b>	<b>A\$7.41/tonne</b>



The production cash-flow is now enabling HGO to advance its growth projects:-

**Under and adjacent to the Open Pit Mine**

**Near the Mine (within 3kms)**

**Within the Region**

### KEY TAKEAWAYS

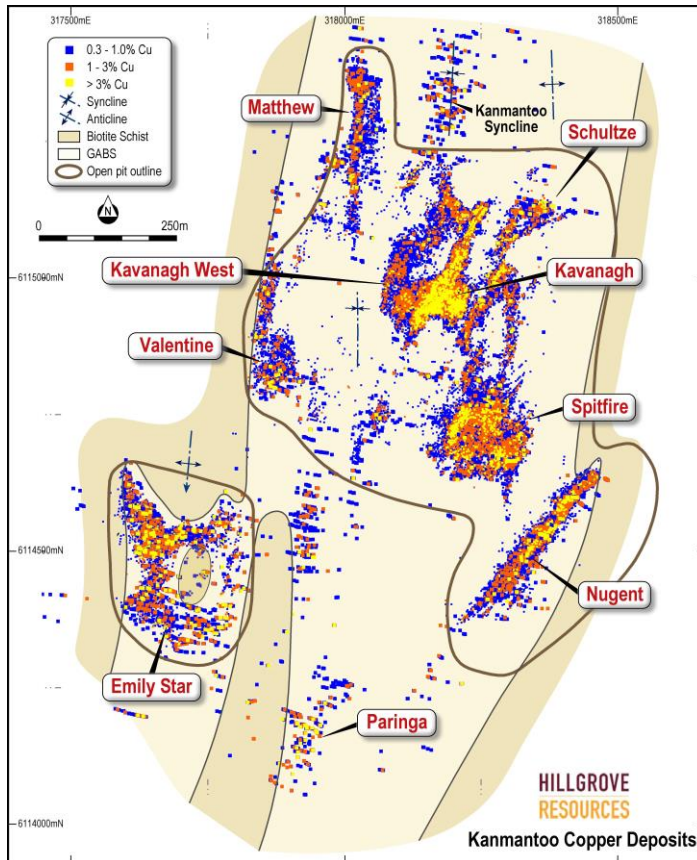
- Open Pit now generating significant cash flow
- Low cost milling and strong knowledge of operating conditions





# EXPLORATION UNDER AND ADJACENT TO THE MINE





Cu grades from blast hole and exploration data

Kanmantoo is a copper-gold mine with a large number of structurally controlled Cu-Au ore zones

Tenor of Gold can be significant, but varies across lodes. Not previously fully understood

Best copper-gold intercepts below or adjacent to the final pit include

**12m @ 2.8% Cu, 0.7g/t Au at 480m below surface**  
KTDD071

**16m @ 2.4% Cu, 3.5g/t Au –KTDD133**

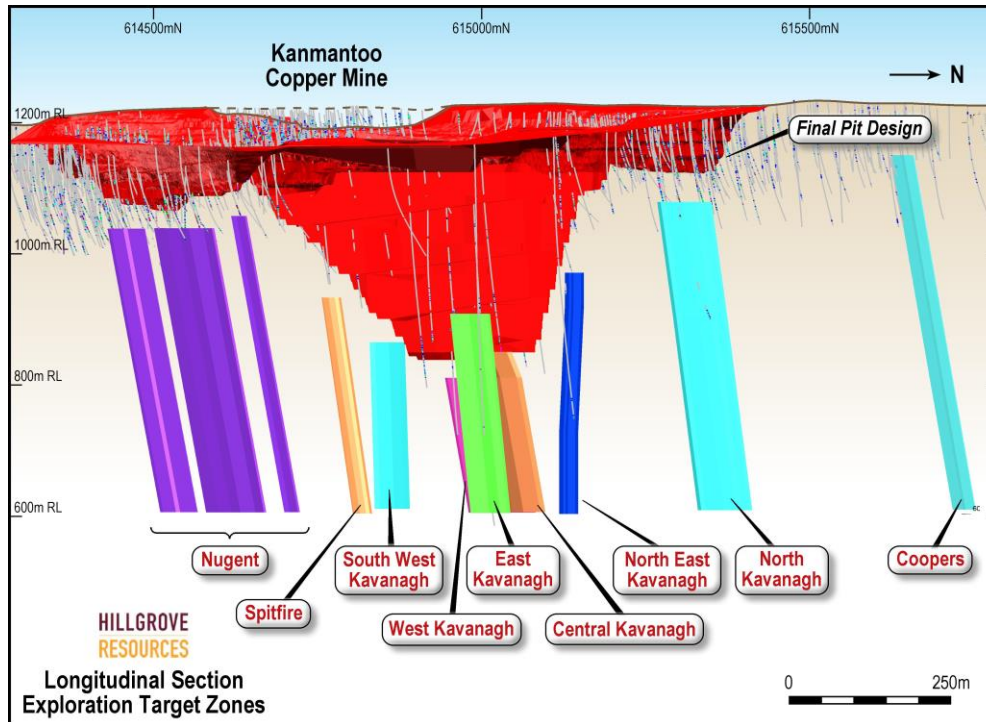
**5m @ 0.3% Cu, 32.3g/t Au –KTDD154**

**12m @ 2.2% Cu, 7.9g/t Au –KTDD141**

## KEY TAKEAWAYS

- Continuous high grade Cu-Au zones are targets for UG mining evaluation
- High grade gold zones more common in mining than in DFS drilling
- Cu-Au zones persist over 480m vertically and continue





HGO has demonstrated the extension of several high grade copper-gold zones beyond the final pit design with exploration drilling e.g.

**37m @ 1.1% Cu, 1.9g/t Au**

**5m @ 32.3g/t Au**

**12m @ 2.2% Cu, 7.9g/t Au**

Resulting in an Exploration Target of **5-10Mt @ 1.7-2.2% Cu, 0.4-1.0g/t Au**

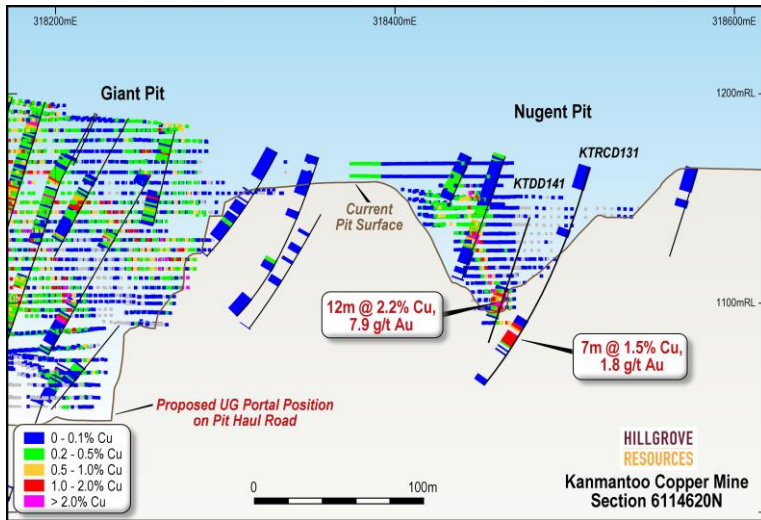
Note – lack of drilling at depth

### KEY TAKEAWAYS

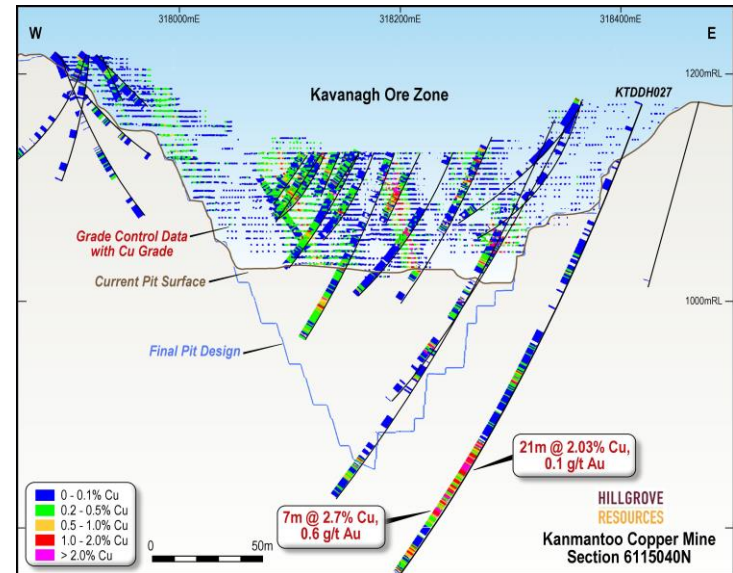
- An increase in mine life may be possible at Kanmantoo
- The target is based on higher-grade Cu-Au zones that have already been mined in the open pit, and projecting these to depth where supported by exploration drilling
- Development of the targets can utilise existing Haul Road as a decline access

*The Exploration Target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the determination of a Mineral Resource. ASX 25 May 2017*





The first UG target is the Nugent copper-gold zone  
Located 180m from the Pit Haul Road  
The Ore zones in Nugent Pit are up-to 20m wide  
**Nugent 12m @ 2.2% Cu, 7.9g/t Au**



Kavanagh target is only 150m from Haul Road  
**21m @ 2%Cu, 0.1g/t Au** and  
**7m @ 2.7% Cu, 0.6g/t Au**

Other targets within 100m of Haul Rd include  
**Spitfire – KTDD133 16m @ 2.4% Cu, 3.5g/t Au**

## KEY TAKEAWAYS

- Targets are down-dip of known ore zones, but poorly drilled
- Targets are located near existing Haul Road, which can be used as a quasi-decline





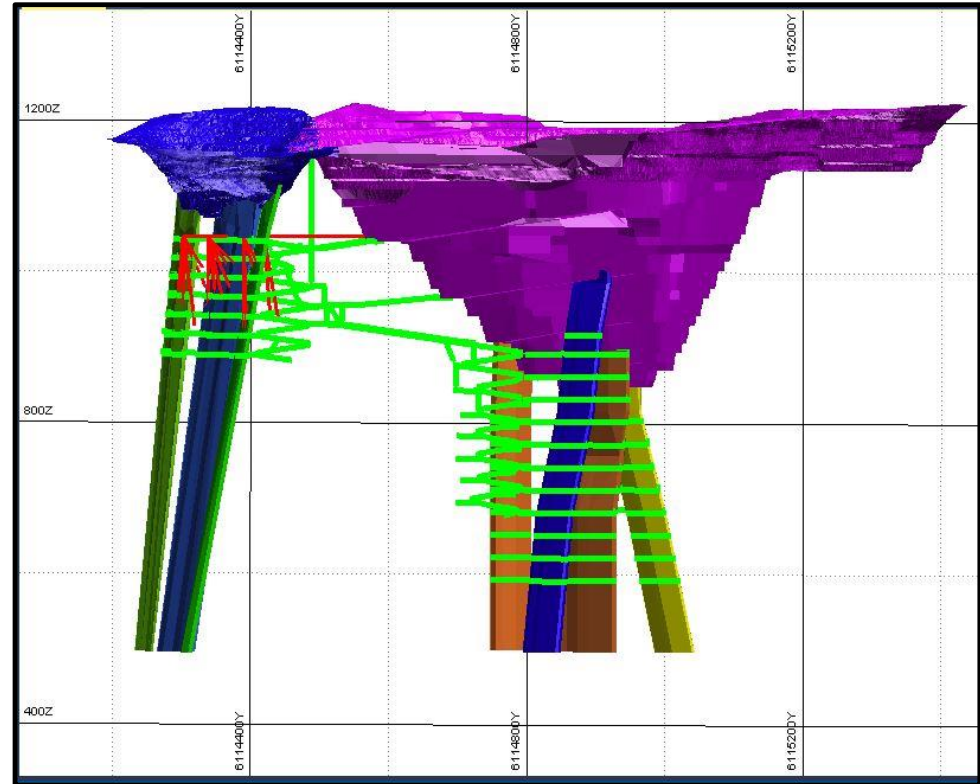
**The Exploration Target;**

is based on utilising the final in-pit haul road as a quasi-decline that will extend from surface down to 350m depth

Therefore minimal capital will be required to develop the UG

Development of the UG will benefit from the existing low cost milling, Tailings Storage Facility and Mining Lease permits

**Is planned to be drilled in Q3 - 2018**



**KEY TAKEAWAYS**

- Significant sunk infrastructure
- Low hurdles to bring zones to production through incremental capital development

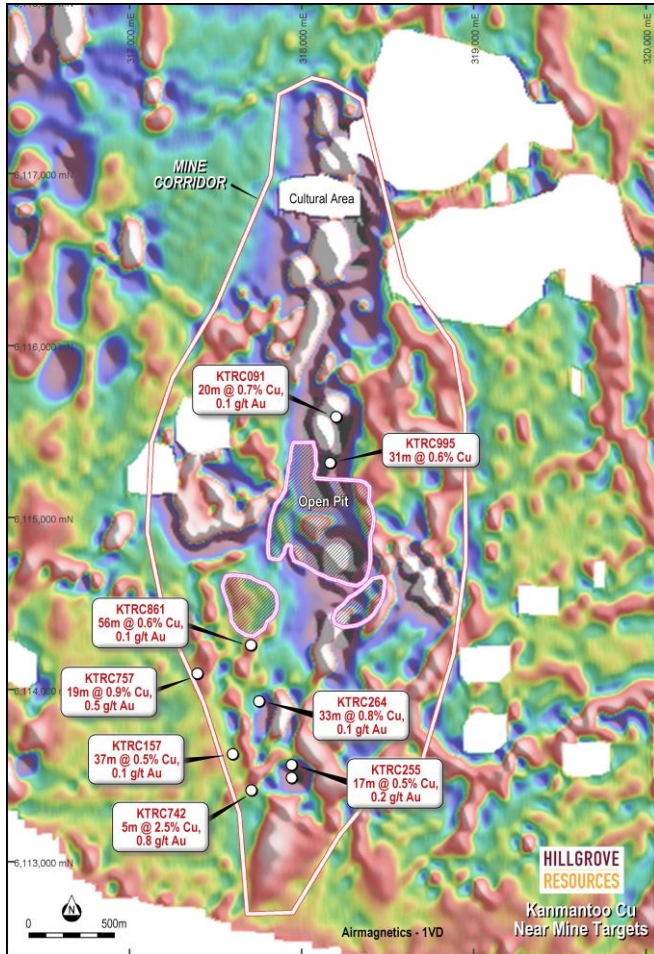


# NEAR MINE EXPLORATION PROJECTS

Within 3 kms of processing plant







The Mine Corridor has not seen any systematic exploration since 2008 when the focus was on permitting the Kanmantoo open pit operations

**The Mine Corridor is ~5kms long,  
owned 100% by HGO**

Significant drill intercepts have not been followed up, including

**KTRC742 5m @ 2.5% Cu, 0.8g/t Au**

**KTRC757 15m @ 1.0% Cu, 0.6g/t Au**

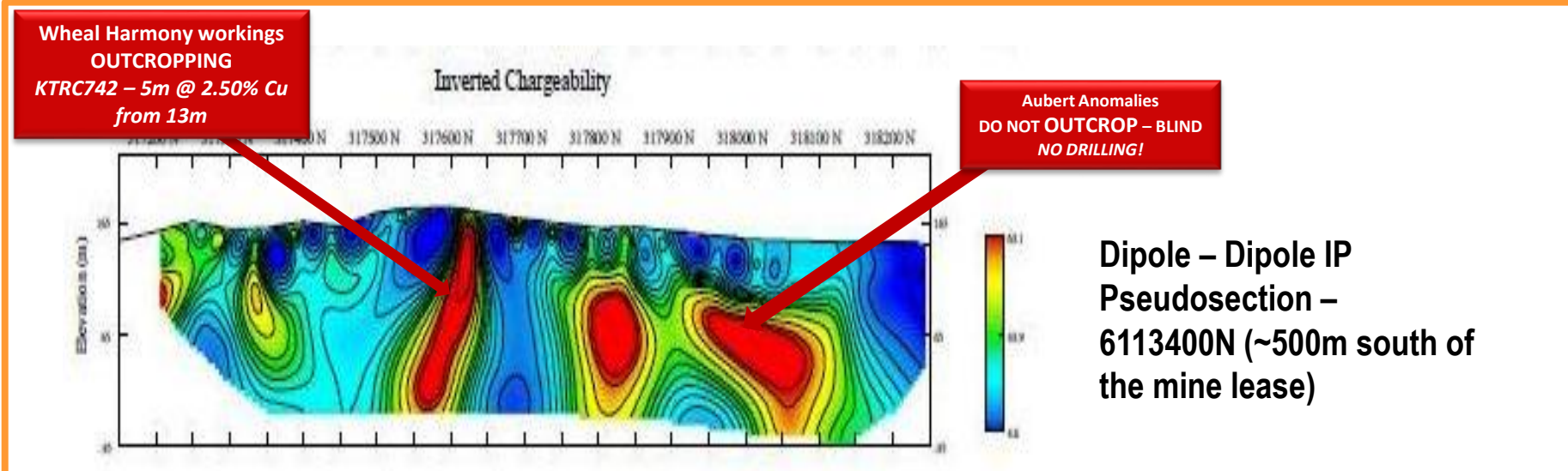
**KTRC264 10m @ 1.7% Cu, 0.1g/t Au**

Not previously recognised is the strong structural control on the spatial continuity of the ore zones, opening up new opportunities for exploration within the Mine Corridor

## KEY TAKEAWAYS

- Targets are prioritised along structural corridors with high Au
- Targets are located near existing infrastructure





**Near Mine Targets**

There are a number of IP and magnetic anomalies that have either not been drilled or only partially drilled within 3 kms of existing processing plant

The recent recognition of high grade gold zones with minimal copper sulphides has resulted in a re-evaluation of past exploration methods and results

**KEY TAKEAWAYS**

- Objective is to define a series of higher grade Cu-Au targets for a cluster of UG mines
- **Drill ready targets in Q4 2018**





# REGIONAL EXPLORATION PROJECTS

Within 100kms of Kanmantoo

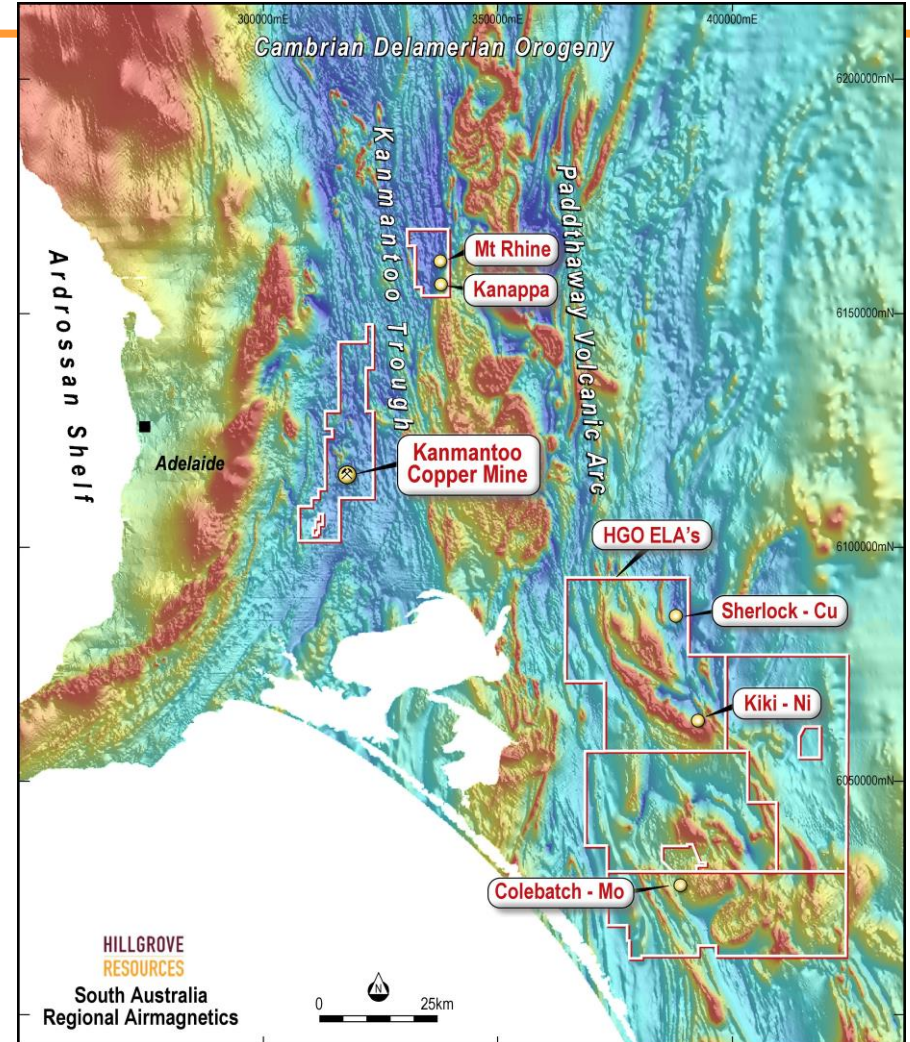


The Kanmantoo Copper-Gold Mine is located in the Delamerian Orogeny of south-east South Australia.

This zone is contiguous with the western Victoria and western Tasmania tectonic zones hosting Stavely, Mt Lyell, Roseberry, Hellyer and Henty copper-gold and base-metal deposits

Significant projects for Hillgrove to date include

- Kanappa Cu - Au**
- Mt Rhine Cu - Au**



### KEY TAKEAWAYS

- Targets large scale anomalies and geologic models
- Exploration to utilise low overhead mine base and services



The Kanappa Cu-Au zone is 50kms from Kanmantoo

A series of pegmatites and aplites intrude into a sequence of potassic altered schists and carbonates

Soil copper zone 4.4kms long

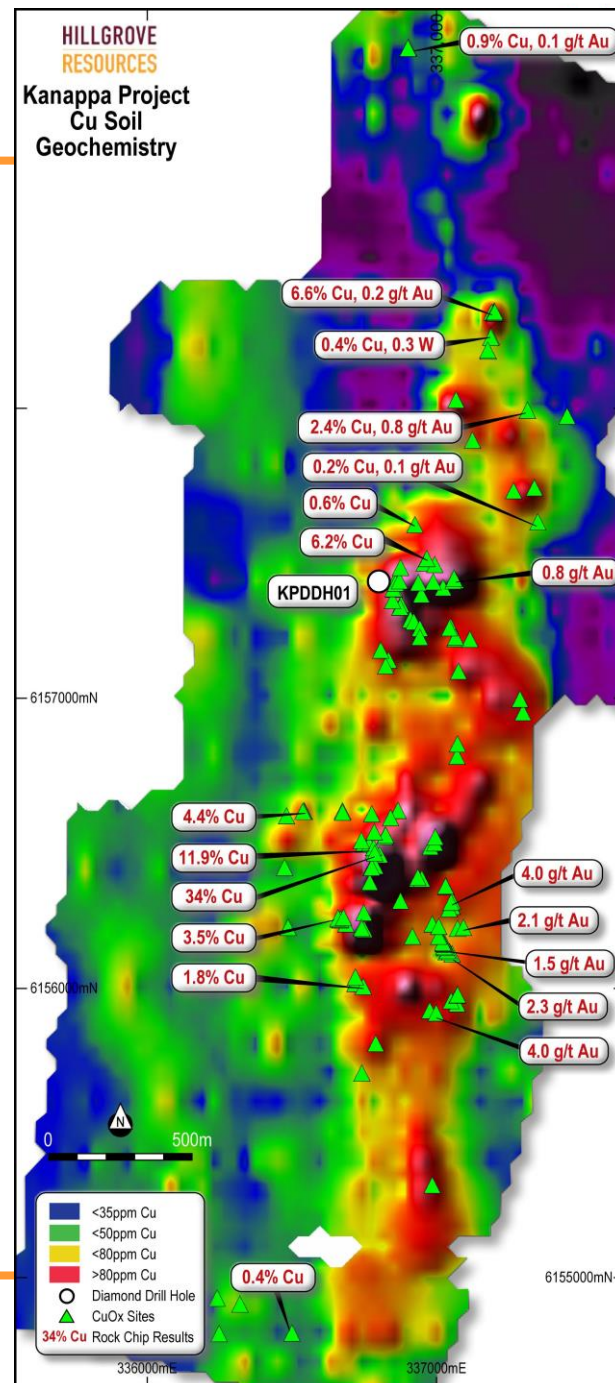
Geochem zoning from west to east  
**Cu-Zn => Cu-Bi => Cu-Au => Au**

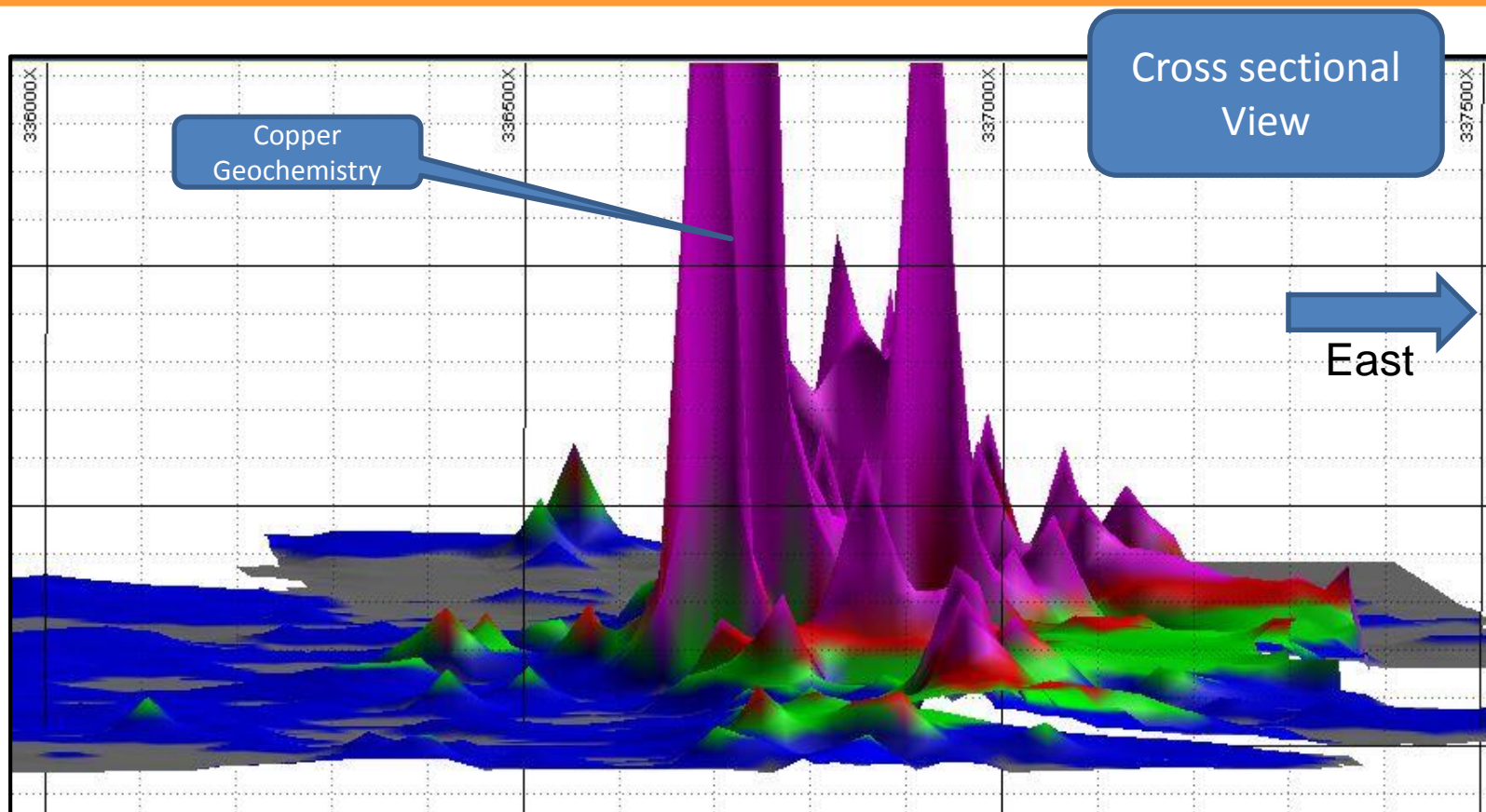
Alteration over 1km width from west to east  
**Carbonates+/- magnetite, to white mica schists, to Fe-Ox schists, to quartz-carbonate veins**

**Peak rock chips of 34% Cu 4.0g/t Au** (separate samples)

### KEY TAKEAWAYS

- Large hydrothermal alteration and Cu-Au mineralised system



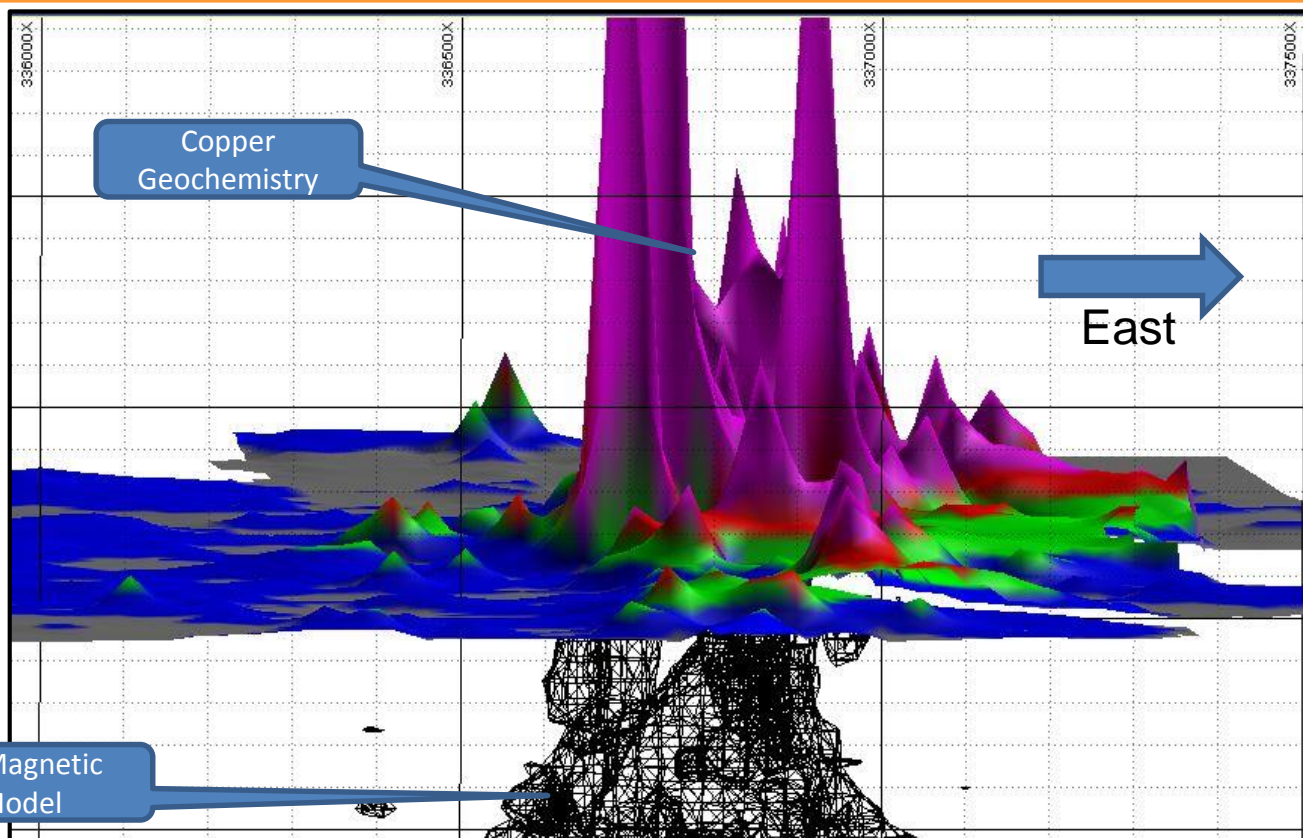


### KEY TAKEAWAYS

Soil copper geochemistry is strong and in a linear zone over 4kms long  
Best geochemistry is over 2kms



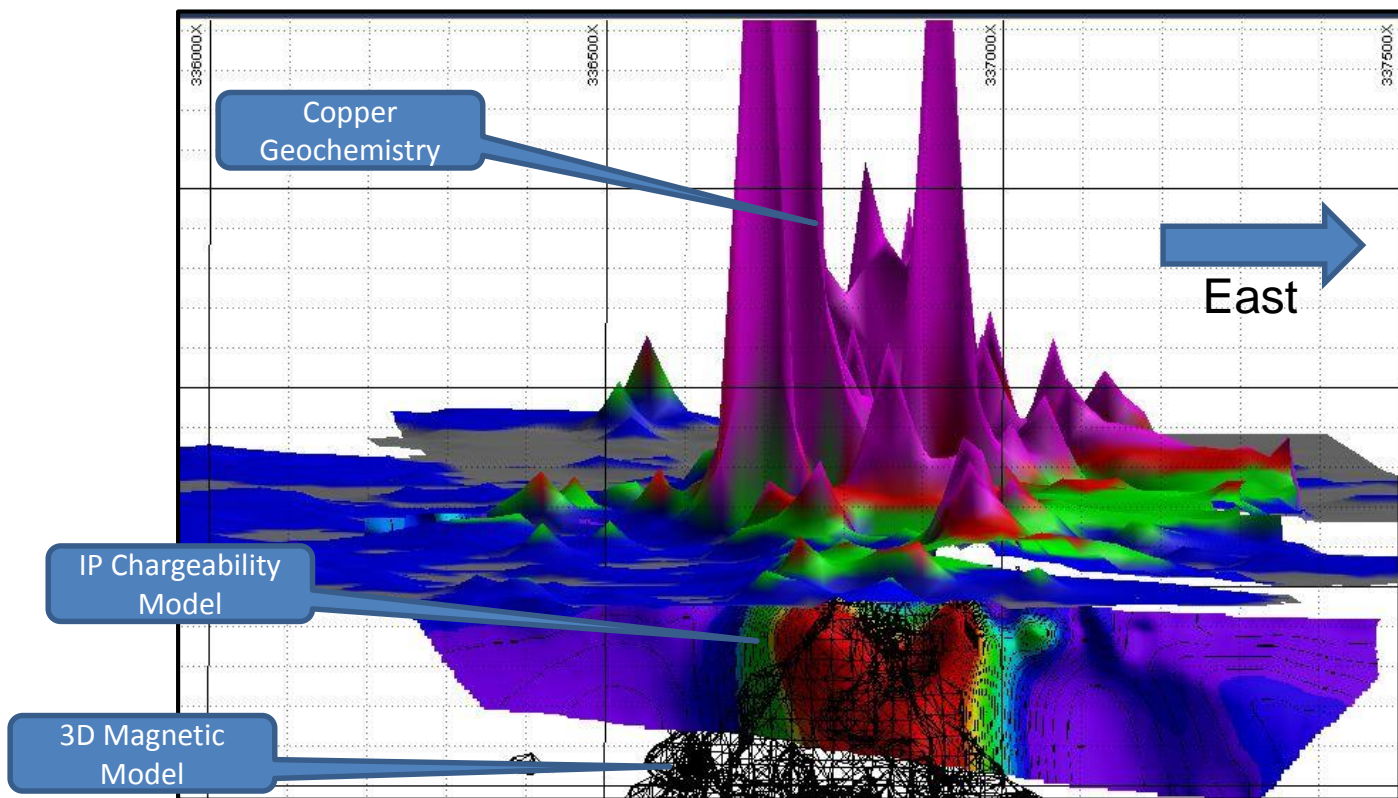




## KEY TAKEAWAYS

Magnetic anomalism is strong and not related to rock types, implying it is alteration related  
Best magnetic zones are correlated with the best geochemistry over 2km strike length



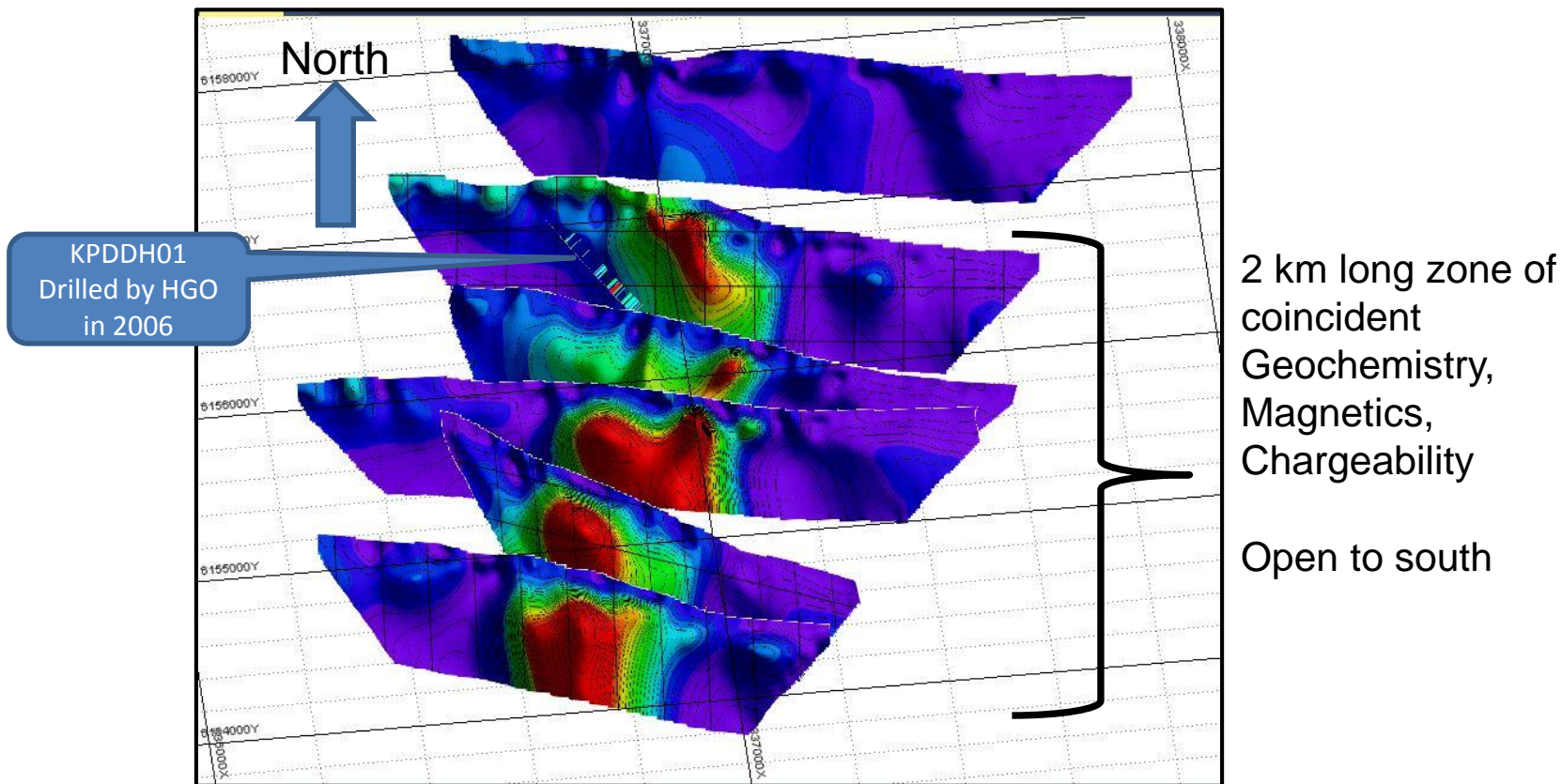


## KEY TAKEAWAYS

The IP chargeability zone is discrete and strong over a 250m width  
Best Chargeable zones are correlated with best magnetic and Cu geochemistry over 2kms



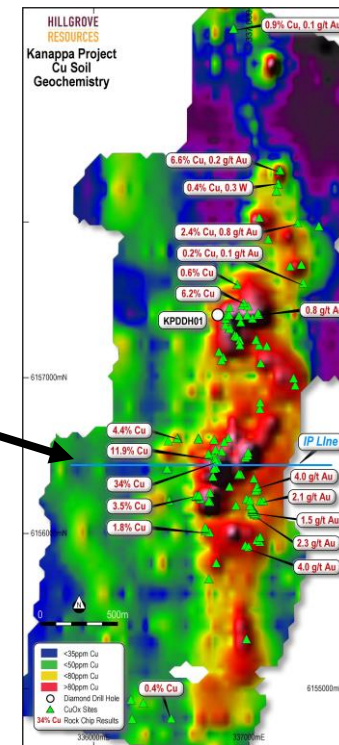
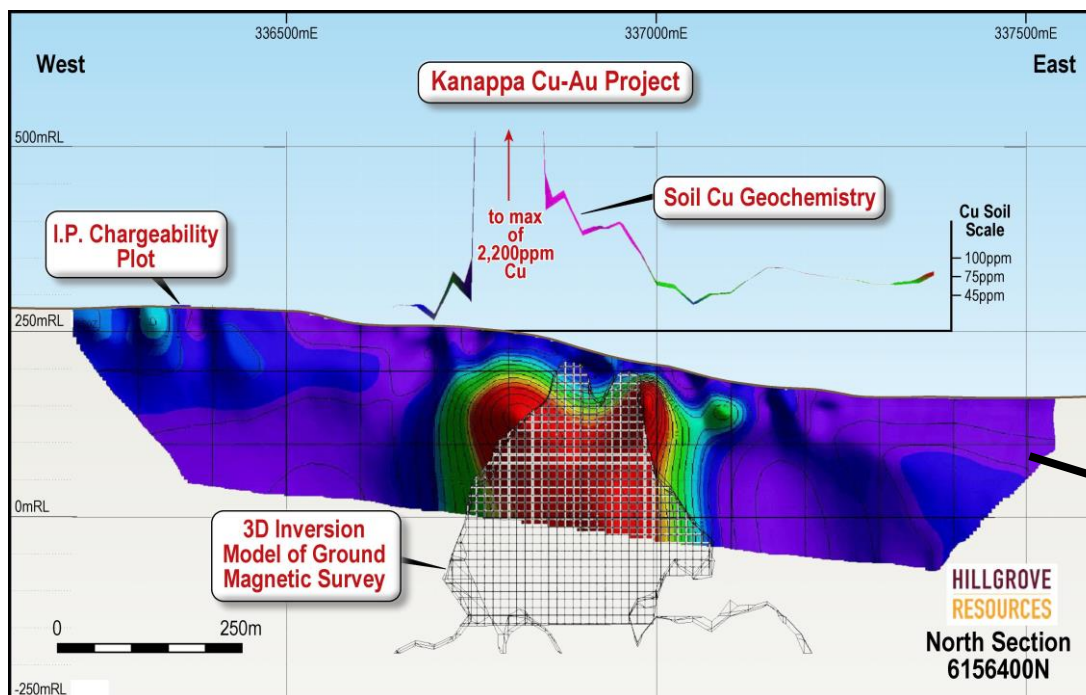




### KEY TAKEAWAYS

This isometric view of all IP lines shows strong continuity of the IP chargeability zone  
 Note that the location of the single HGO drill hole, drilled in 2006 before the magnetics and IP surveys were undertaken, has not tested the IP, magnetics, Cu geochemistry target





Kanappa is a large and strong zone of alteration and copper-gold anomalism

It is the highest ranked Cu-Au exploration project for Hillgrove

### KEY TAKEAWAYS

- Large scale coincident Cu-Au geochem, magnetics, and IP anomaly
- Drilling to commence as soon as Gov't permit granted (2 months)





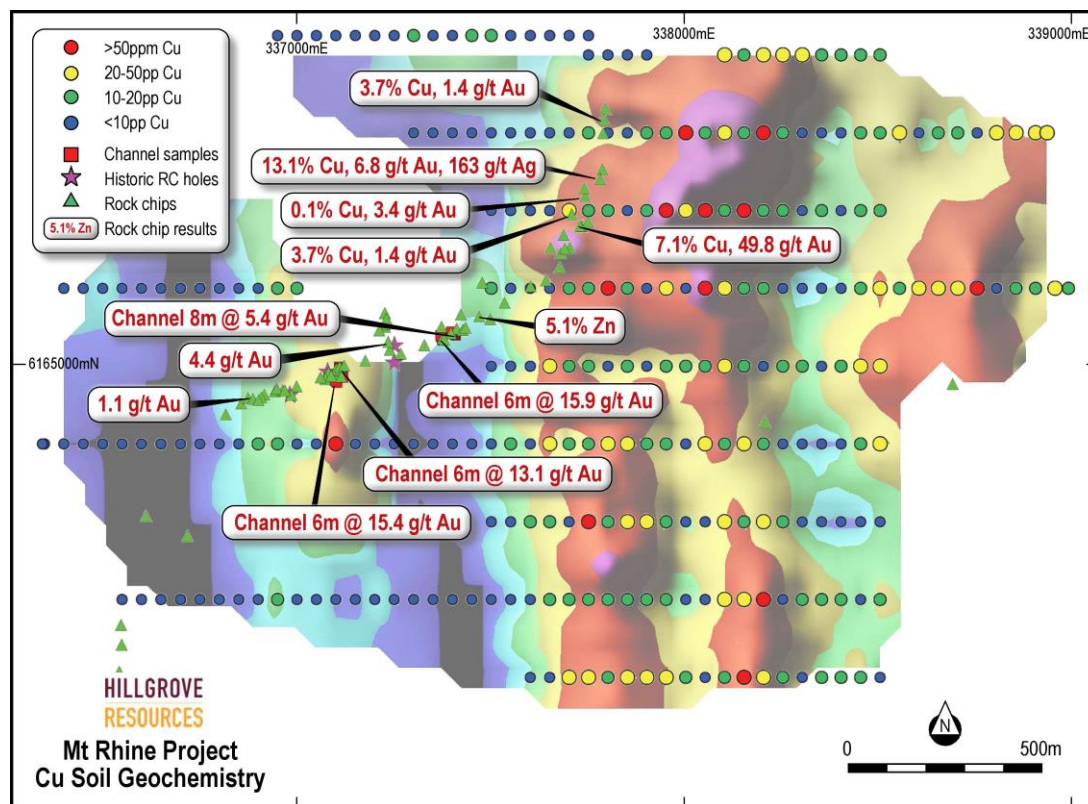
The Mt Rhine copper-gold zone is 10kms from Kanappa

Soil copper zone **1.7kms** long

Peak rock chips of **13% Cu 49.8g/t Au** (separate samples)

Peak Channel Sampling of 6m @ 15.9g/t Au

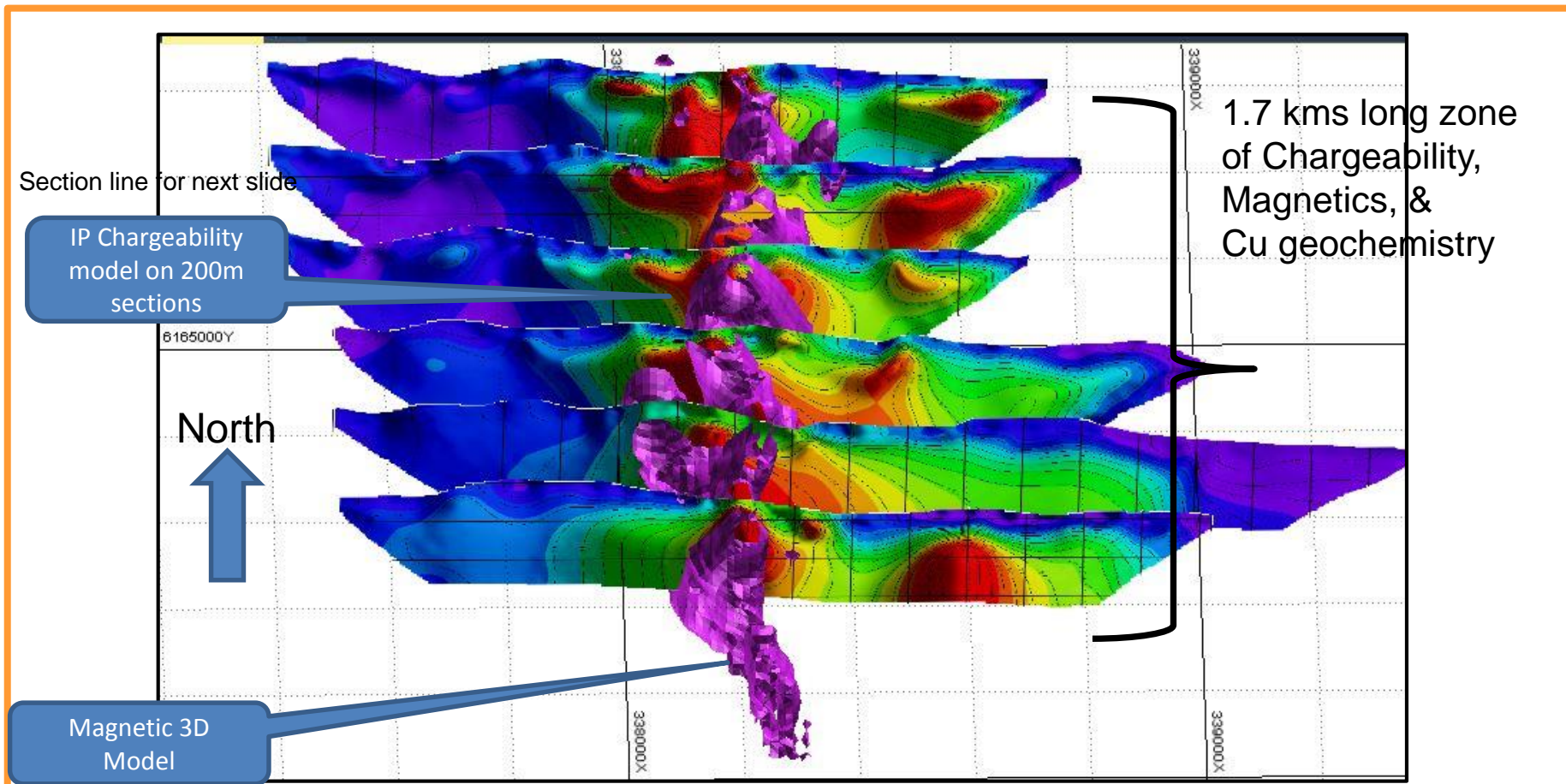
Much higher gold tenor of Kanappa



## KEY TAKEAWAYS

- Large scale alteration system with
- Zone of Cu, IP and magnetic anomalism over 1.7kms long and 500m wide



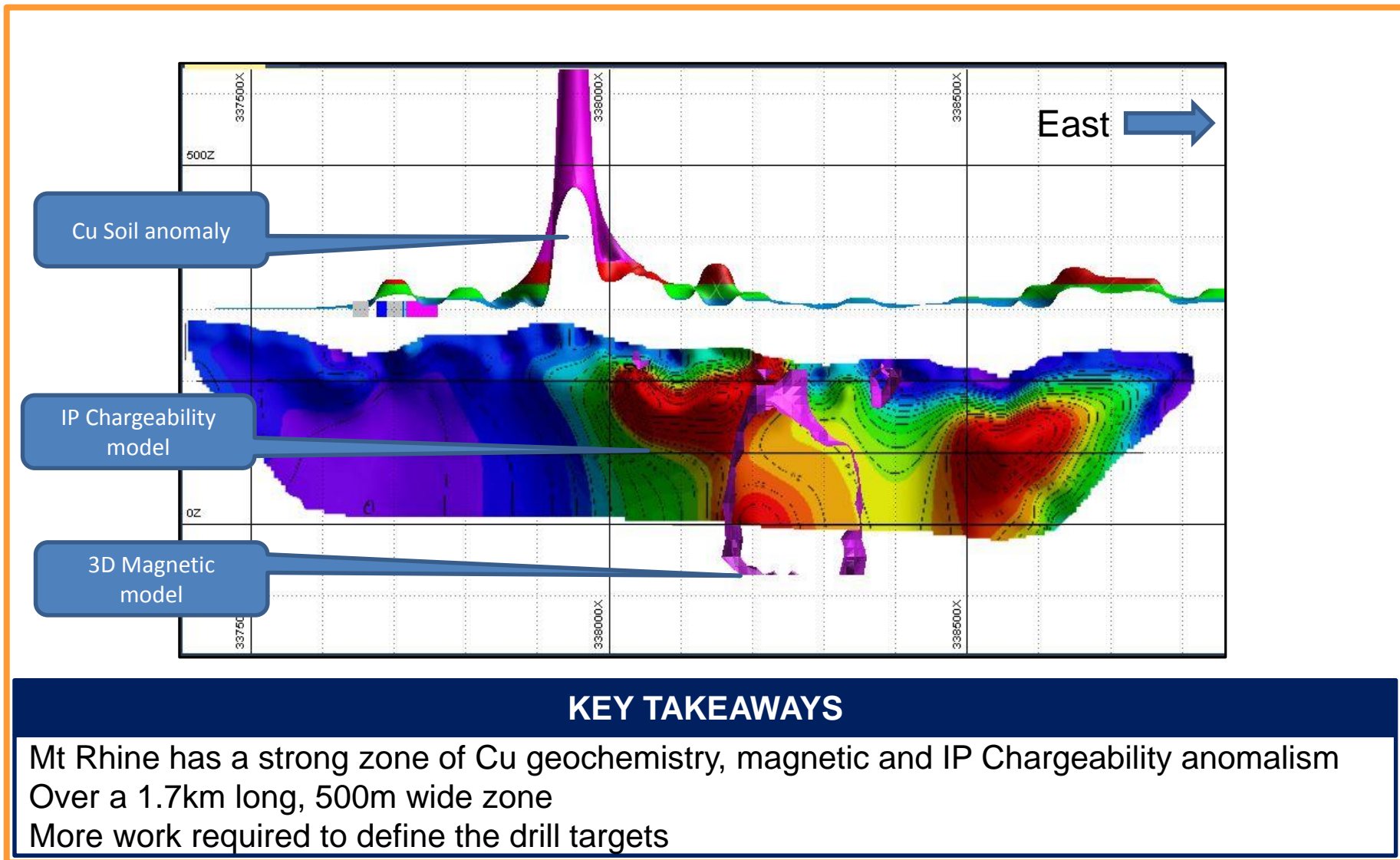


### KEY TAKEAWAYS

Stacked sections of IP chargeable model, with 3D magnetic model superimposed  
Continuous zone of IP and magnetic anomalism







## **UNDER MINE COPPER-GOLD EXPLORATION TARGETS**

- Utilising the Open Pit Haul Road as a quasi-decline in potential UG development
- Exploring ore zones already known from open pit mining
- Projections supported by diamond drilling under & adjacent to the Pit including
  - 37m @ 1.1% Cu, 1.9g/t Au
  - 5m @ 32.3g/t Au
  - 12m @ 2.2% Cu, 7.9g/t Au

## **NEAR MINE COPPER-GOLD EXPLORATION OPPORTUNITIES**

- Significant copper and gold targets for drilling
- All within 3 kms of existing processing plant

## **REGIONAL COPPER-GOLD PROJECTS**

- Magmatic copper-gold zones with high tenor copper – gold
- Large scale targets for drilling
- Kanappa drill ready and to commence in 2 months



***Utilising existing infrastructure and cash flow at Kanmantoo to create  
Company transforming mining projects***



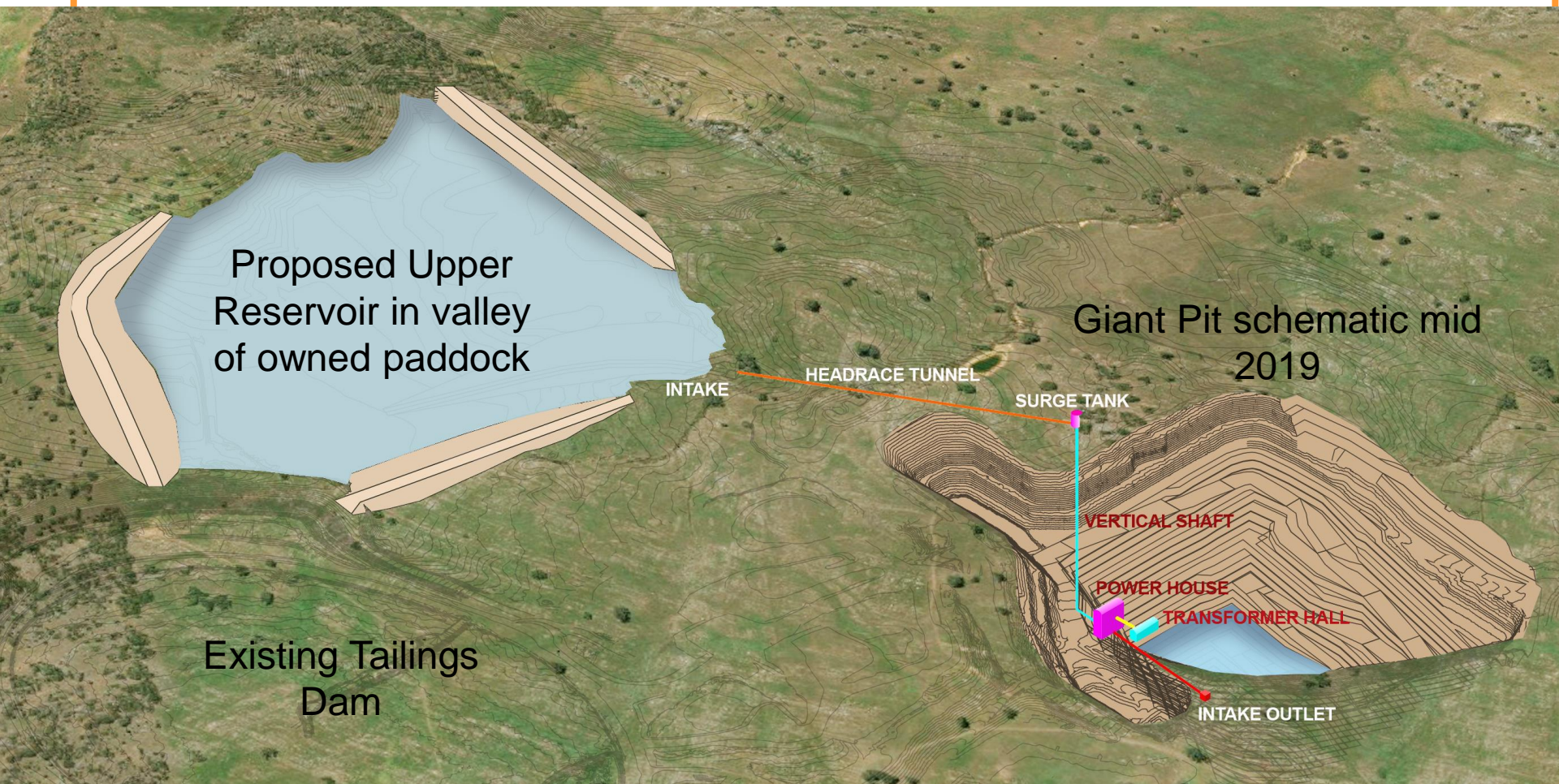


# **PUMPED HYDRO ENERGY STORAGE**

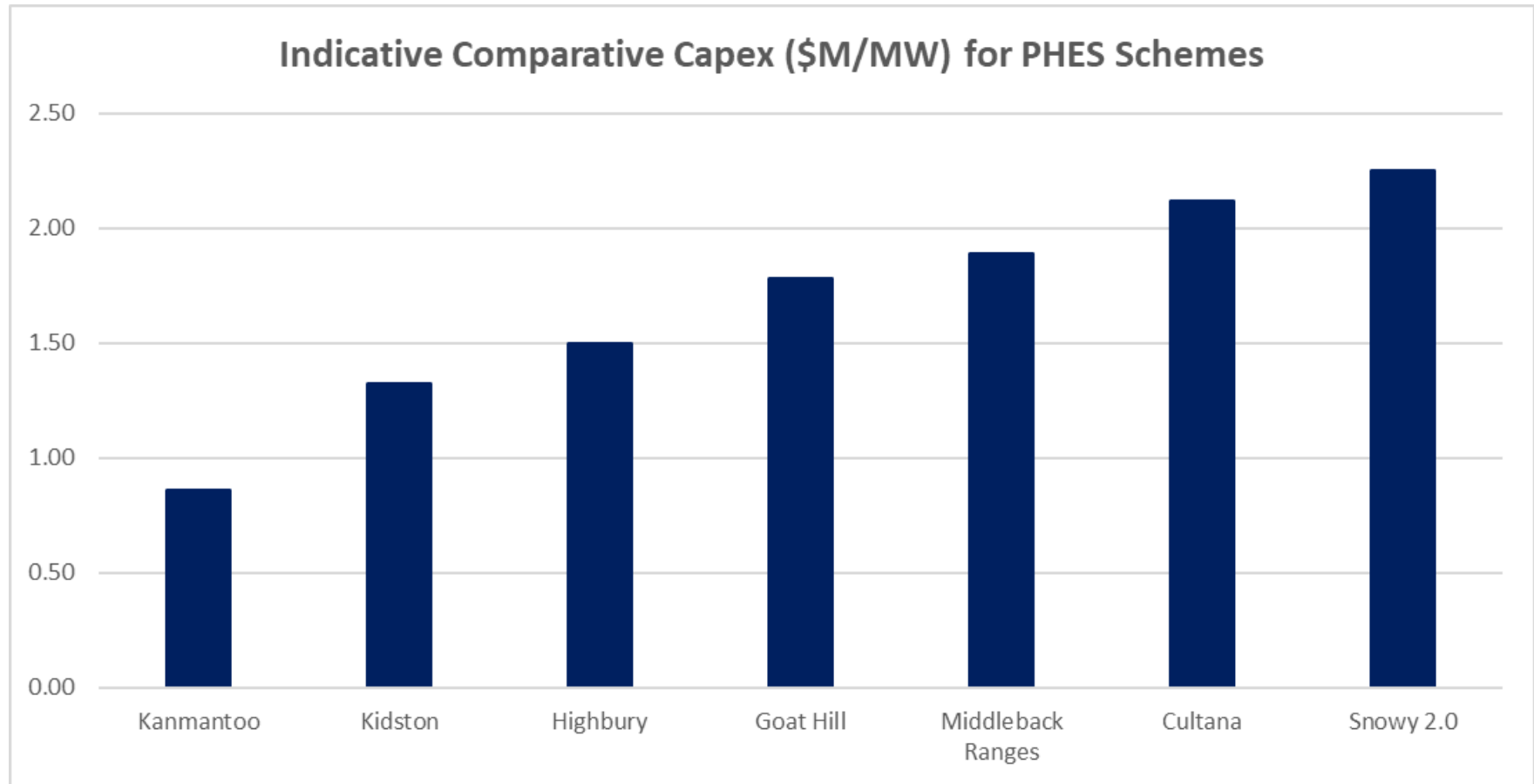
**(CEO & MD – CONT'D)**











Source: public data.



One of the best sites for Pumped Hydro Energy Storage in Australia;

- Very low capital cost at < \$0.9M / MW and < \$140 / kWh.
- Potential to be first to market; commissioned by end 2021.
- Infrastructure already in place (lower pond, water, buildings, roads, power).
- Proximity to grid and proposed renewable energy projects.
- Existing studies and knowledge (environmental, geotechnical, geology, hydrogeology).
- Long established social licence to operate.
- Project site 100% owned freehold land.
- Responsiveness to provide spot market arbitrage and FCAS opportunities.
- Low technology risk.

Not core business for Hillgrove, Key Pacific Advisory Partners appointed to conduct a formal evaluation process.





# SUMMARY

*Utilising existing infrastructure and cash flow at Kanmantoo to  
create Company transforming mining projects*



## **KANMANTOO ENABLING NEW GROWTH**

- Cash flow from operations
- Increased Geologic understanding of ore controls from production
- Owned, permitted and operating site
  - Quasi decline (haul road)
  - Processing and Tailings Facilities
  - Infrastructure suitable for further mining and/or processing
- Potential to pay fully franked dividends
- Able to use tax losses to offset future profits

## **GROWTH OPPORTUNITIES**

- Copper and gold underground exploration targets
- Near mine copper and gold exploration opportunities
- Prospective region for copper and gold
- Pumped hydro - cash injection or revenue stream





***Utilising existing infrastructure and cash flow at Kanmantoo to create Company transforming mining projects***

