



# AGM Presentation

**20 November 2014**  
**BDO Offices**  
**38 Station Street**  
**Subiaco**

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# STAVELY MINERALS



ASX Code – SVY

Share Price - \$0.34

Cash (30/09/14) - \$2.27M

*Excludes Titeline Drilling agreement\**

Shares on Issue – 80.4M

Market Cap - \$27.34M

## Directors

Bill Plyley

*Non-executive Chairman*

Chris Cairns

*Managing Director*

Jennifer Murphy

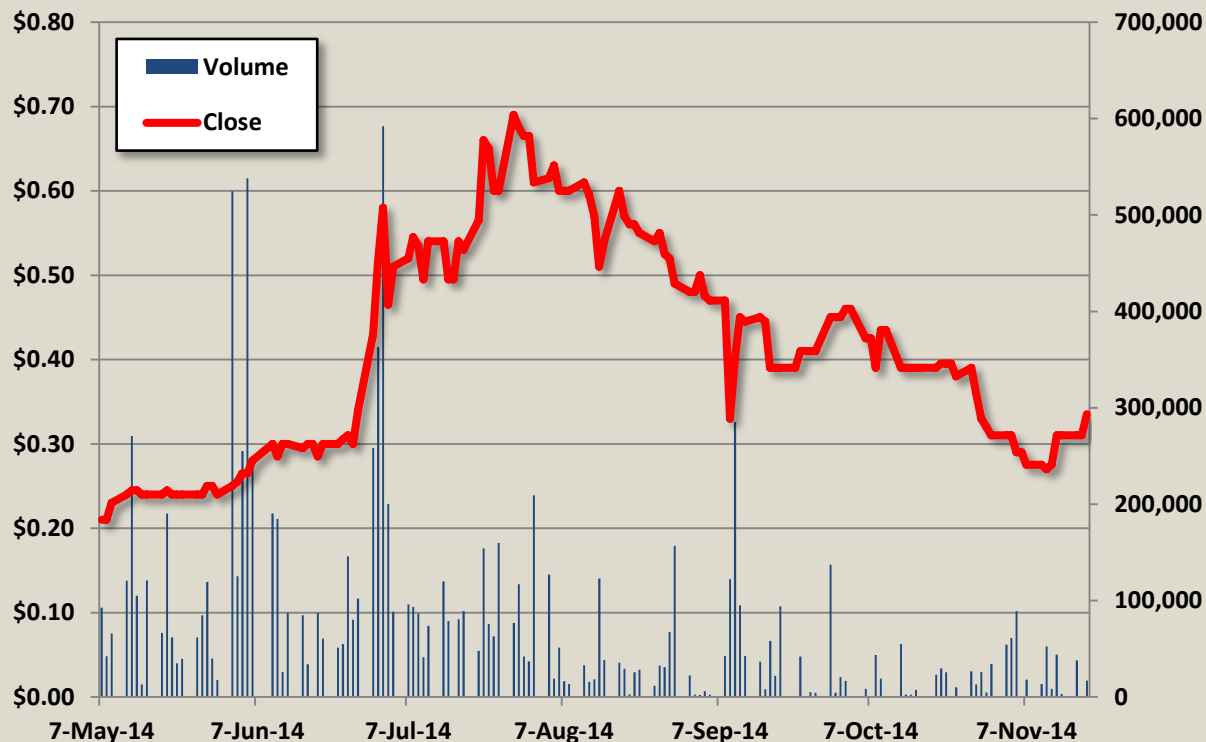
*Technical Director*

Peter Ironside

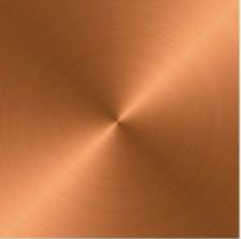
*Non-executive Director*

Amanda Sparks

*Company Secretary*



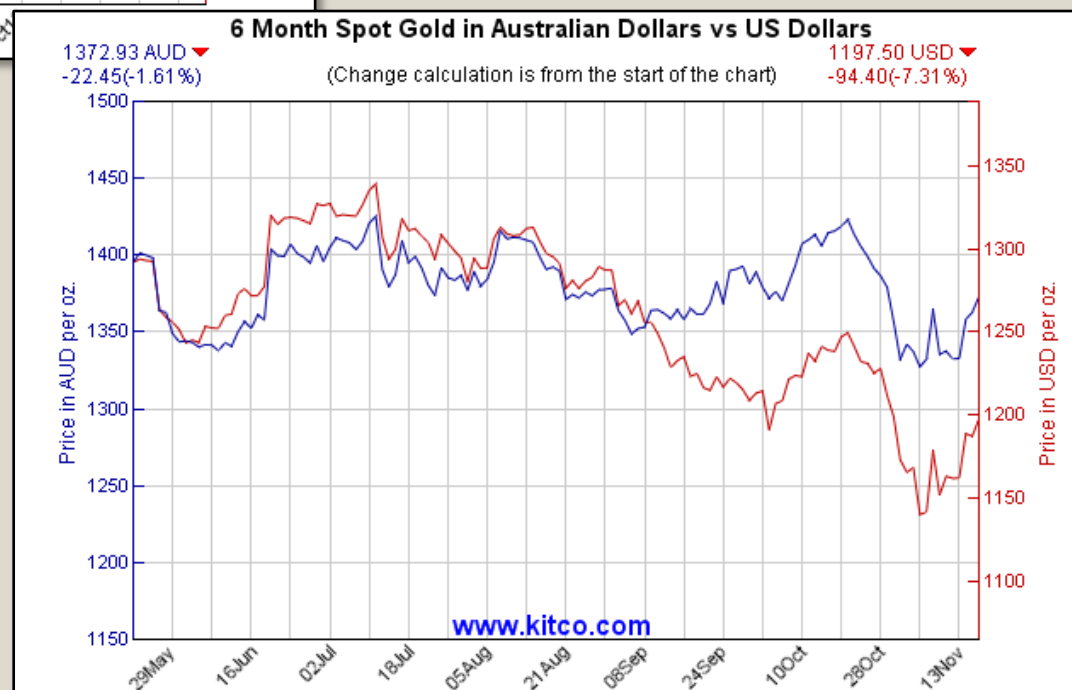
\*\$2m share subscription agreement with Titeline Drilling Pty Ltd announced to the ASX on 7 October 2014



# WHY COPPER?



**Gold not  
attractive – price  
in US\$ down  
~40% from high**



# STAVELY MINERALS



**Iron Ore even less attractive – down over 50% from high**

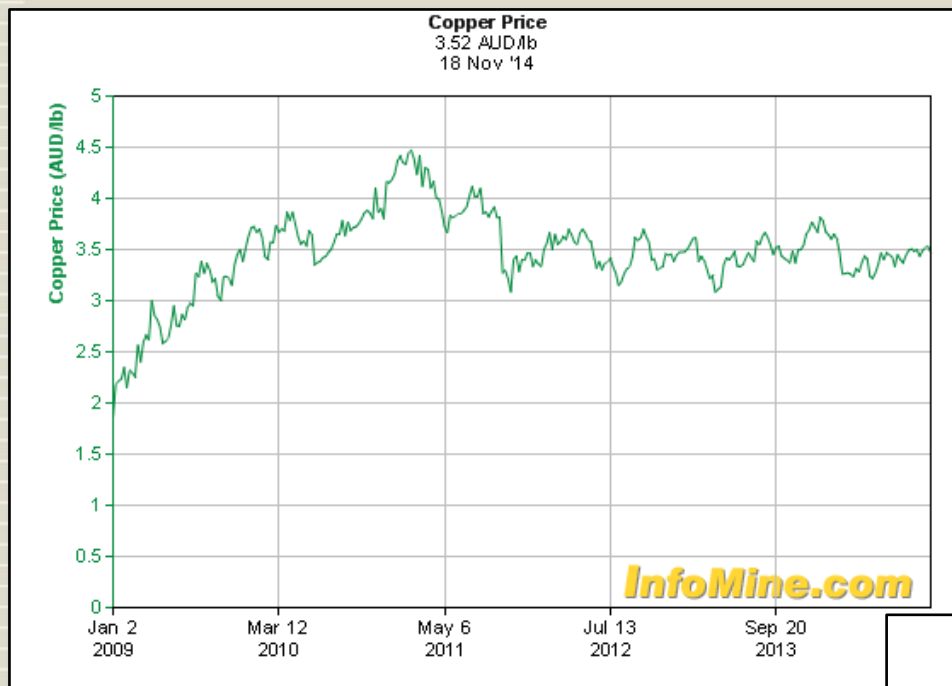
## Under pressure

Share price hit since August

Yesterday's close

	BHP Billiton	\$32.67	▼17.7%
	Rio Tinto	\$57.98	▼14.5%
	Fortescue	\$2.74	▼44.8%
	BC Iron	57.5¢	▼83.1%
	Atlas Iron	20.5¢	▼71.1%
	Mt Gibson	40¢	▼47.7%
	Gindalbie	2.5¢	▼57.3%

**Copper though has been remarkably steady in A\$ terms and has increased over the past 6 months**





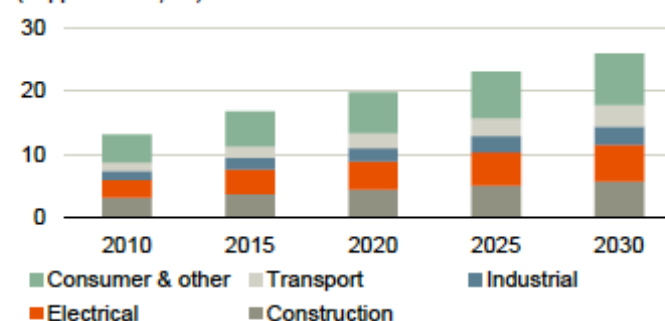
## Copper will remain supply constrained and a deficit is expected beyond 2018



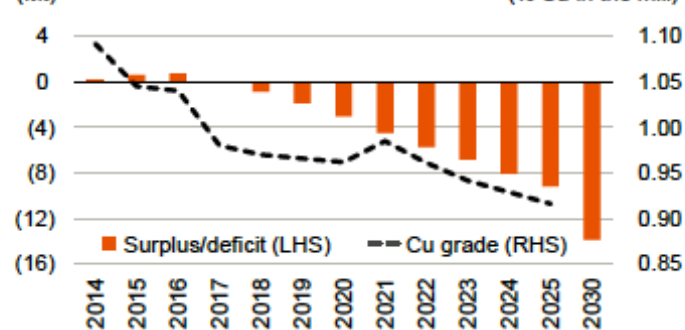
- The outlook for copper demand remains compelling as emerging economies transition to consumption-led growth
  - Chinese copper semis intensity is equivalent to Japan's in the 1960s
  - global copper demand is expected to grow at a CAGR of 2.3% to 2030
- In the near term, new supply induced by high prices will marginally exceed demand growth
- Beyond 2016, a significant deficit is expected to emerge
  - grade decline remains an ongoing challenge
  - existing and new greenfield supply will face a shortage of ready-made power and water supply
  - these factors will also significantly impact the cost of global supply

### Strong consumption growth from Asia (ex-Japan)

(copper semis, Mt)



### Copper grade<sup>1</sup> decline will lead to a market in deficit

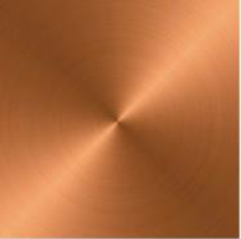


Source: BHP Billiton; Wood Mackenzie.

1. Production from current operating mines and committed new projects, copper grade data only available until 2025.

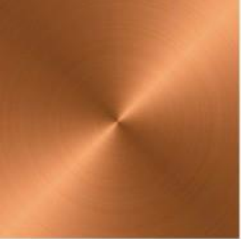
Should copper become supply constrained and the lower prices for coal, iron ore and gold result in a depreciation of the A\$, the A\$ copper price could see a material price appreciation.





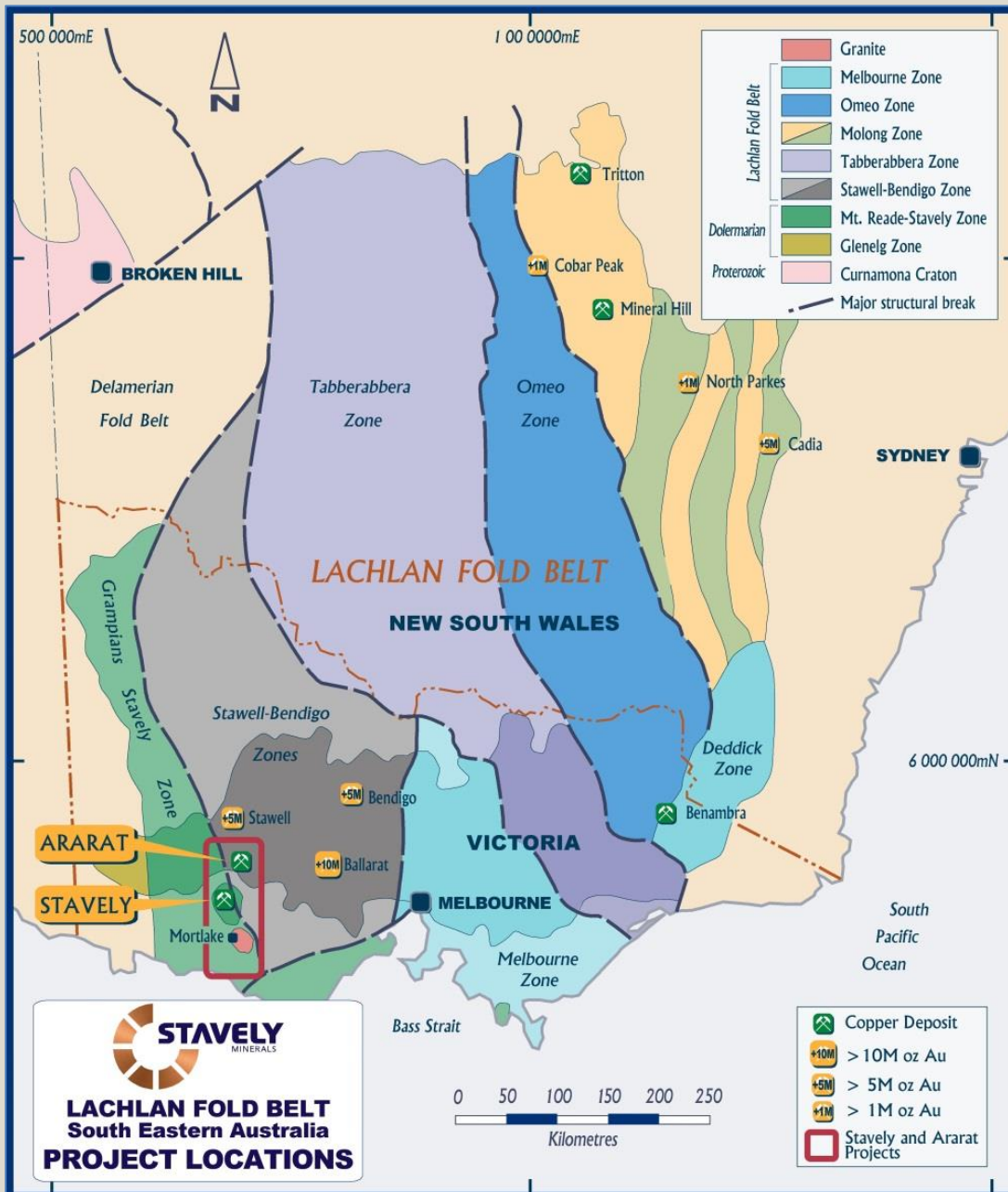
# OUR STRATEGY

1. Acquire copper / copper + other metals projects with quality Mineral Resources with two key attributes:
  - i. The known mineralisation is not sufficient to develop
  - ii. There is excellent exploration upside
2. Implement an intensive exploration programme to discover further mineralisation / add to the Mineral Resources (we are here with the current Projects)
3. When the project has sufficient Mineral Resources defined to an appropriate level of confidence, commence scoping / feasibility studies towards demonstrating the economic case for development
4. Develop the asset



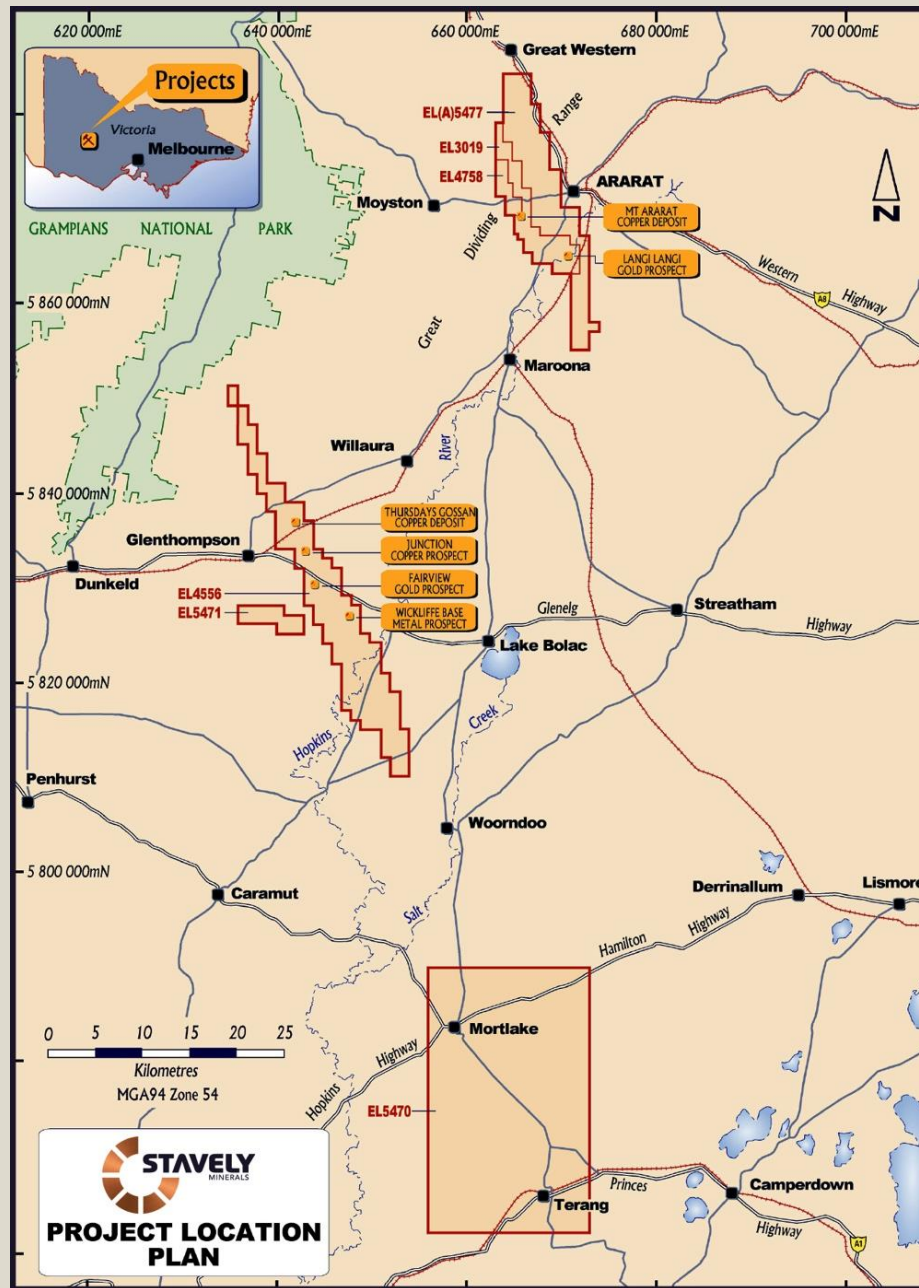
# PROJECTS

# PROJECT LOCATION



The Mount Stavely Volcanic Complex is considered a northern extension of the Mt Read Volcanics in Tasmania

# PROJECT LOCATION



Total area owned and  
applied for tenure:  
**770 square kilometres**

At the Ararat Project, hosted in Besshi-style VMS:

- Inferred Mineral Resources of 1.2Mt at 2.0% copper, 0.5 g/t gold, 0.4% zinc and 6 g/t silver for 30kt of contained copper

At the Stavely Project hosted in a secondary chalcocite enriched blanket:

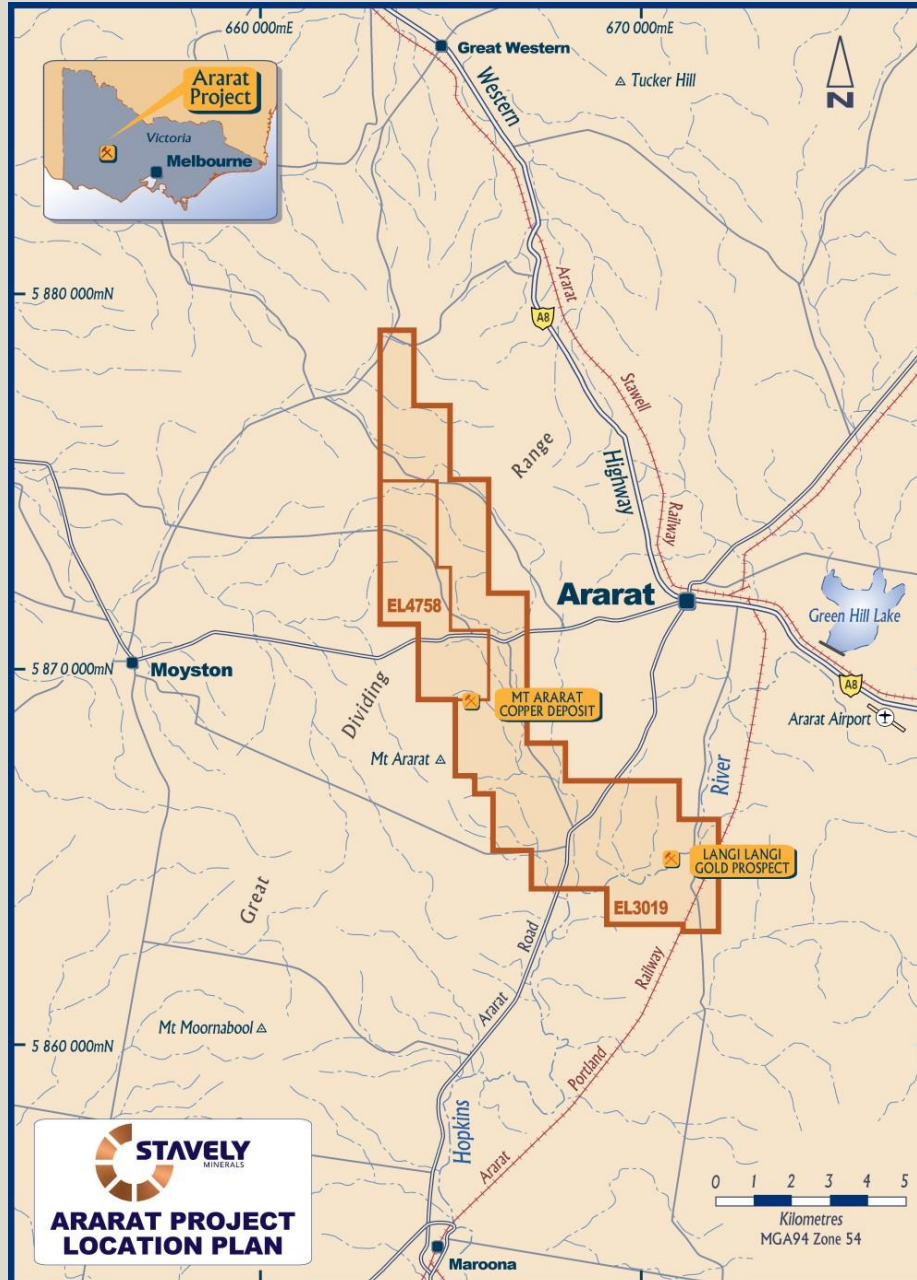
- Inferred Mineral Resources of 28Mt at 0.4% copper for 110kt of contained copper

<sup>1</sup> reported in compliance with JORC 2012, see Stavely Minerals Prospectus dated 17 March 2014 and available from [www.stavely.com.au](http://www.stavely.com.au)

# ARARAT PROJECT



# ARARAT PROJECT



Hosts the:  
Mt Ararat Besshi-style  
copper-gold VMS

and the

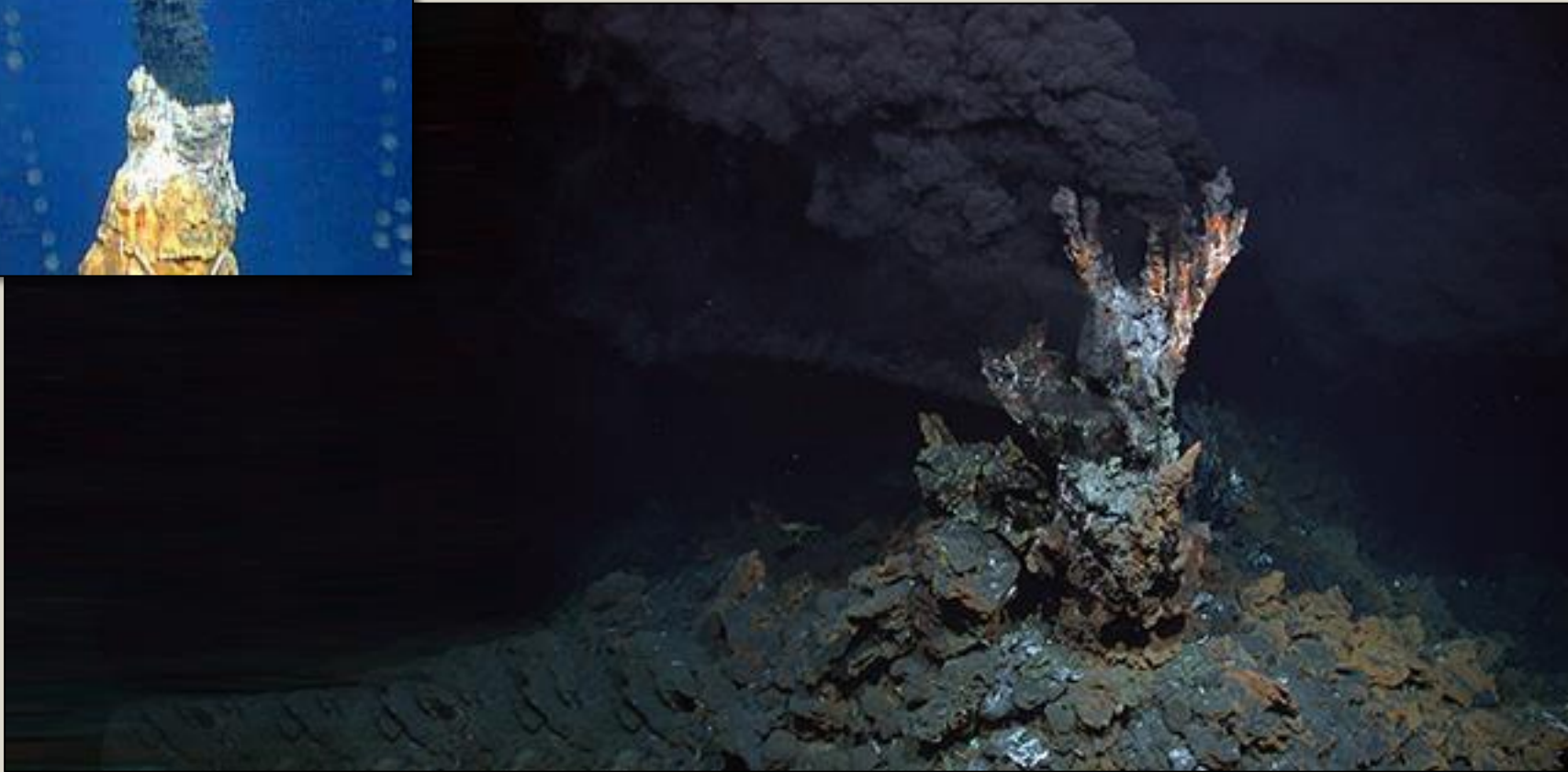
Langi Logan - Stawell Gold  
Mine look-alike target

# MOUNT ARARAT VMS

# ARARAT PROJECT



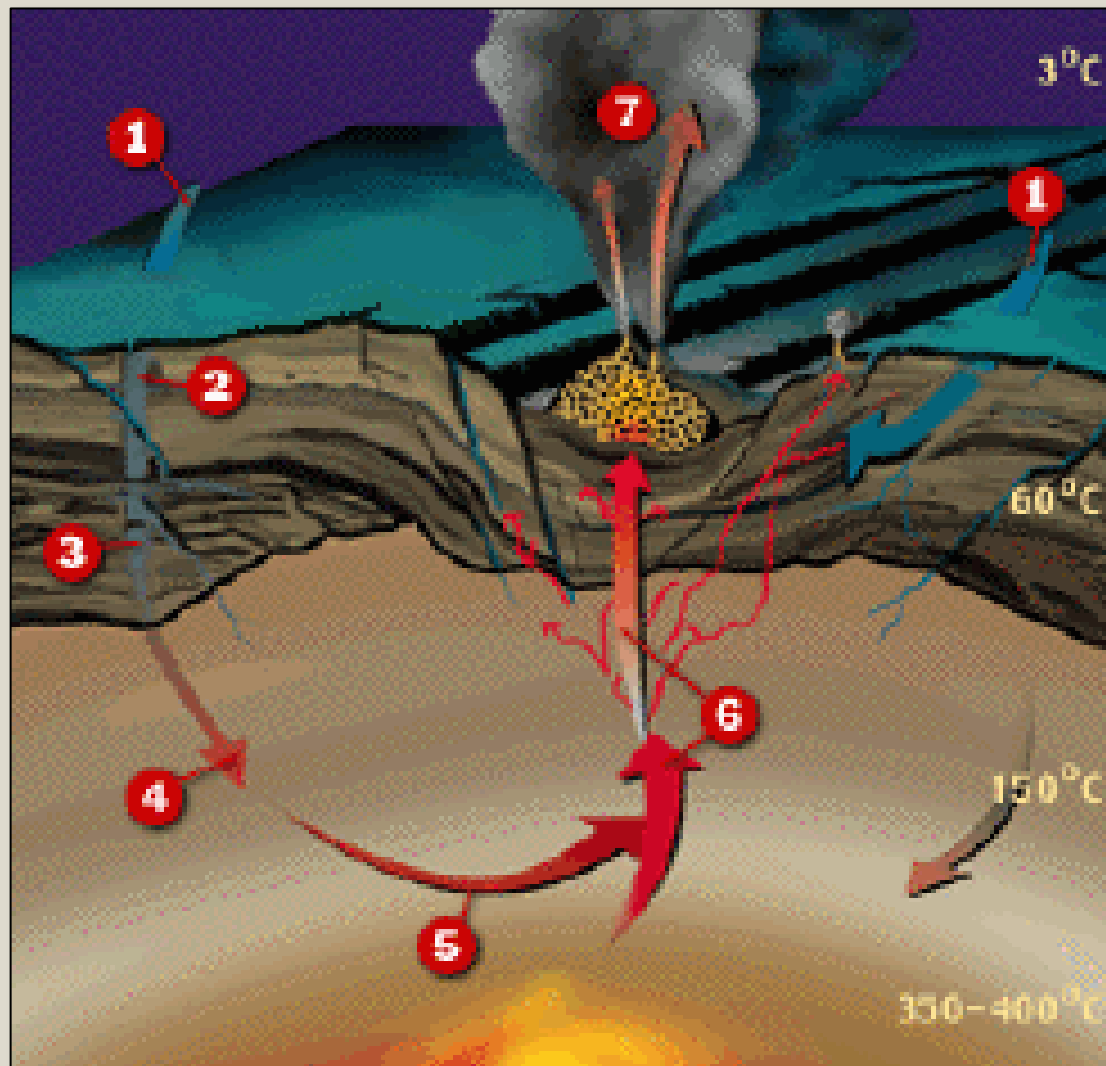
Mt Ararat Besshi-style copper-gold VMS is an ancient sea-floor 'black smoker'



# ARARAT PROJECT



Mt Ararat Besshi-style copper-gold VMS is an ancient sea-floor 'black smoker' – they tend to occur in clusters of typically 6-8 deposits

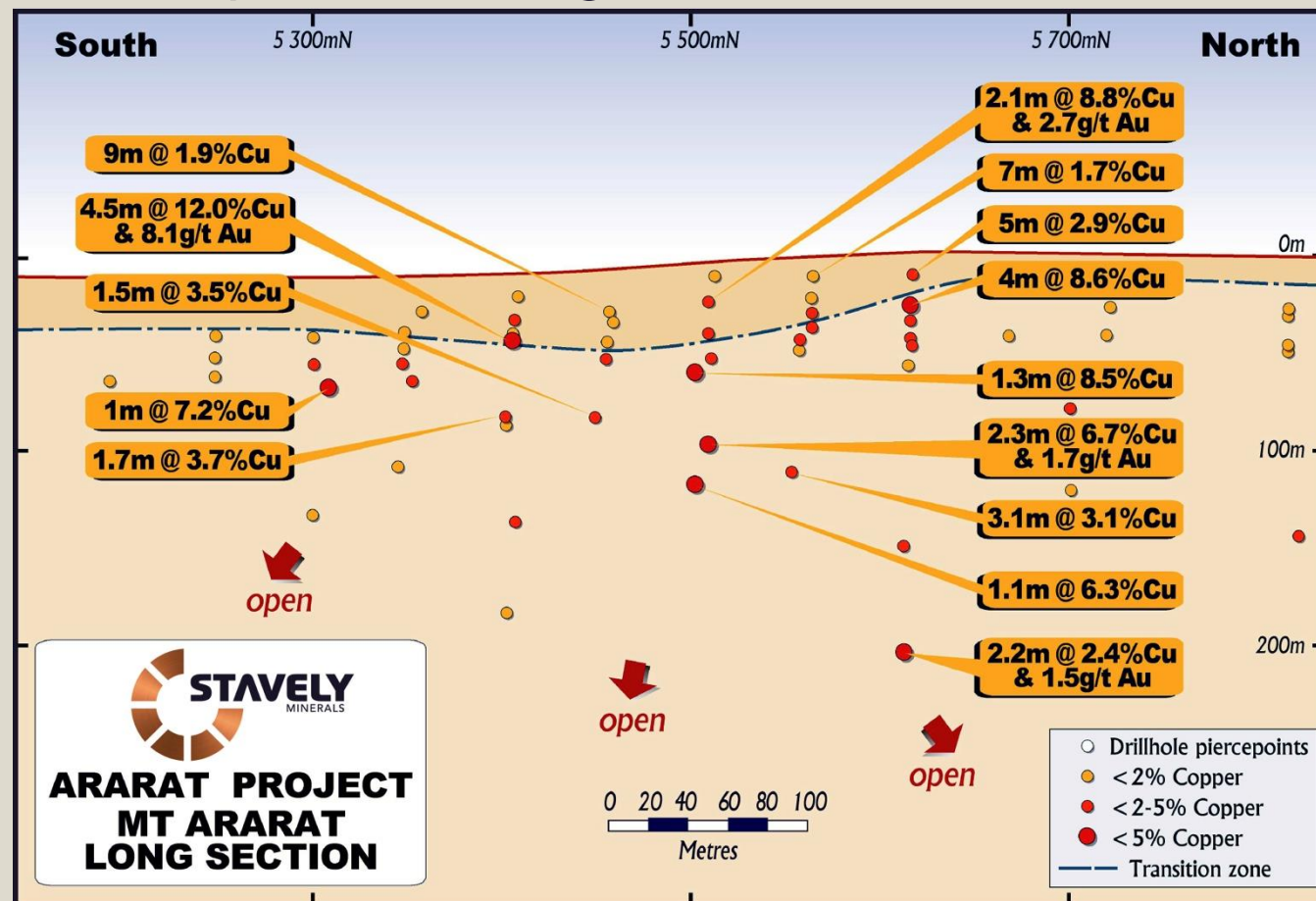




# ARARAT PROJECT



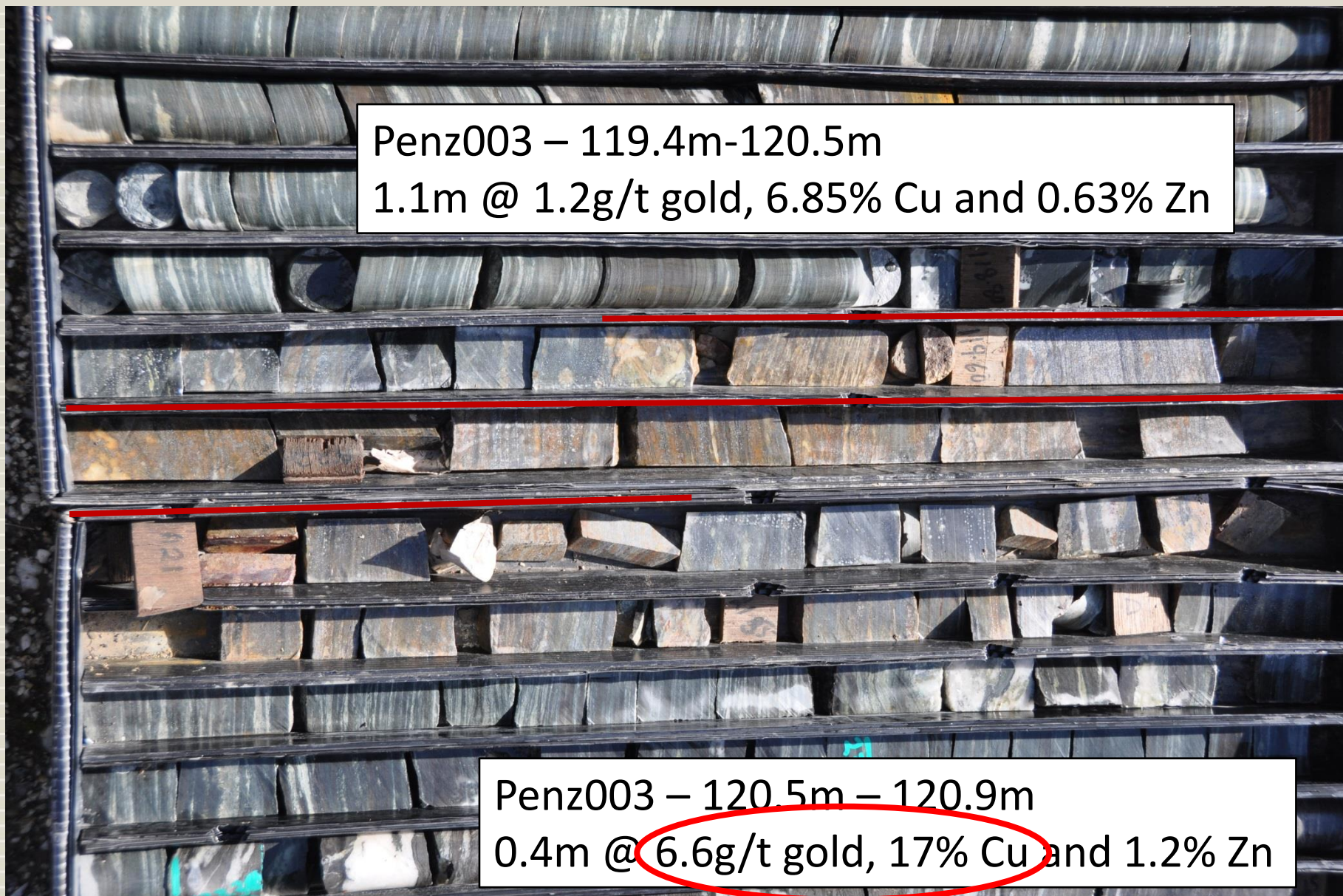
- Mt Ararat Besshi-style VMS – Inferred Mineral Resource of 1.2Mt at 2.0% copper, 0.5g/t gold, 0.4% zinc and 6g/t silver
- The Degruusa deposit is considered a Besshi-style VMS
- Open at depth and along strike



# ARARAT PROJECT



Known mineralisation looks distal but can be very good tenor when massive



Penz003 – 119.4m-120.5m

1.1m @ 1.2g/t gold, 6.85% Cu and 0.63% Zn

Penz003 – 120.5m – 120.9m

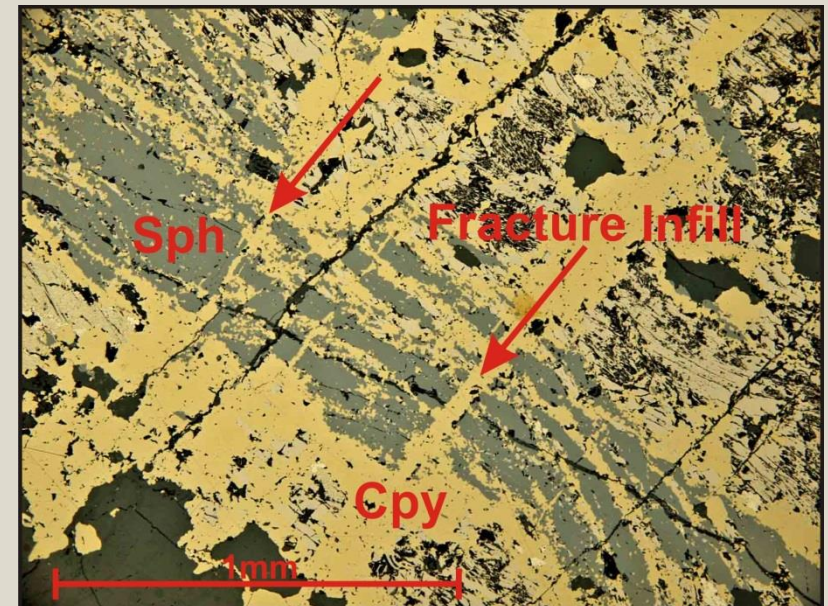
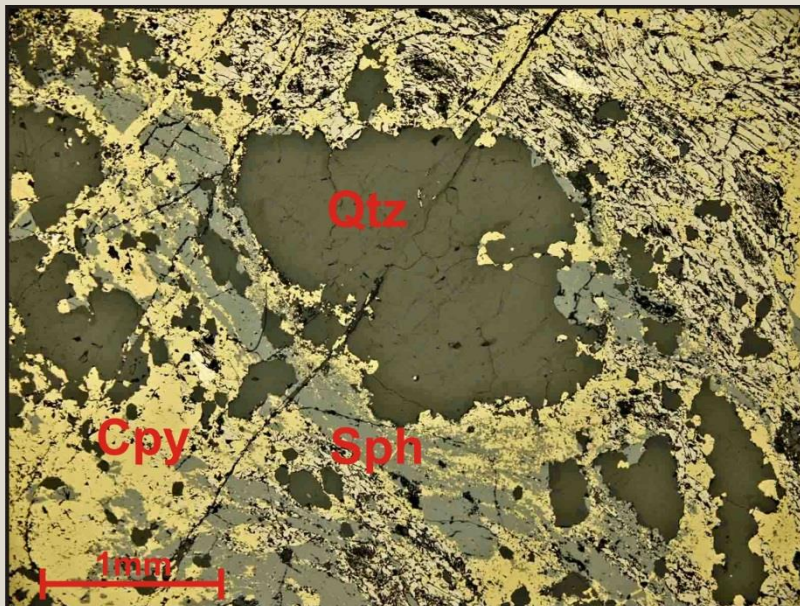
0.4m @ 6.6g/t gold, 17% Cu and 1.2% Zn



# ARARAT PROJECT

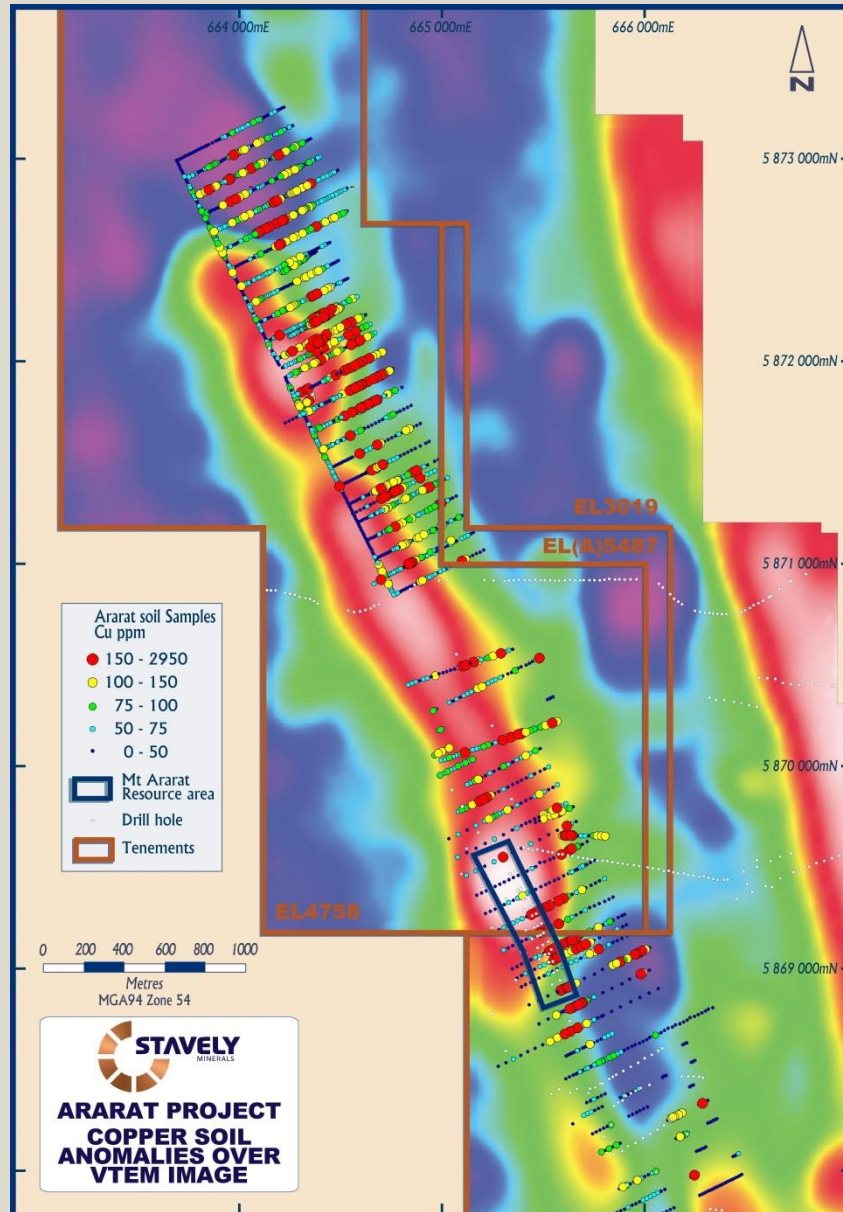


- Known mineralisation expressed as fine sulphide laminations interlayered with pelitic sediments – quiescent distal interpretation
- More massive zones can have exceptional grades:
  - ✓ MA28 – 4.45m at 8.1g/t gold and 12% copper from 32.25m
- **The prize is the thicker massive sulphide ‘outflow’ zone**





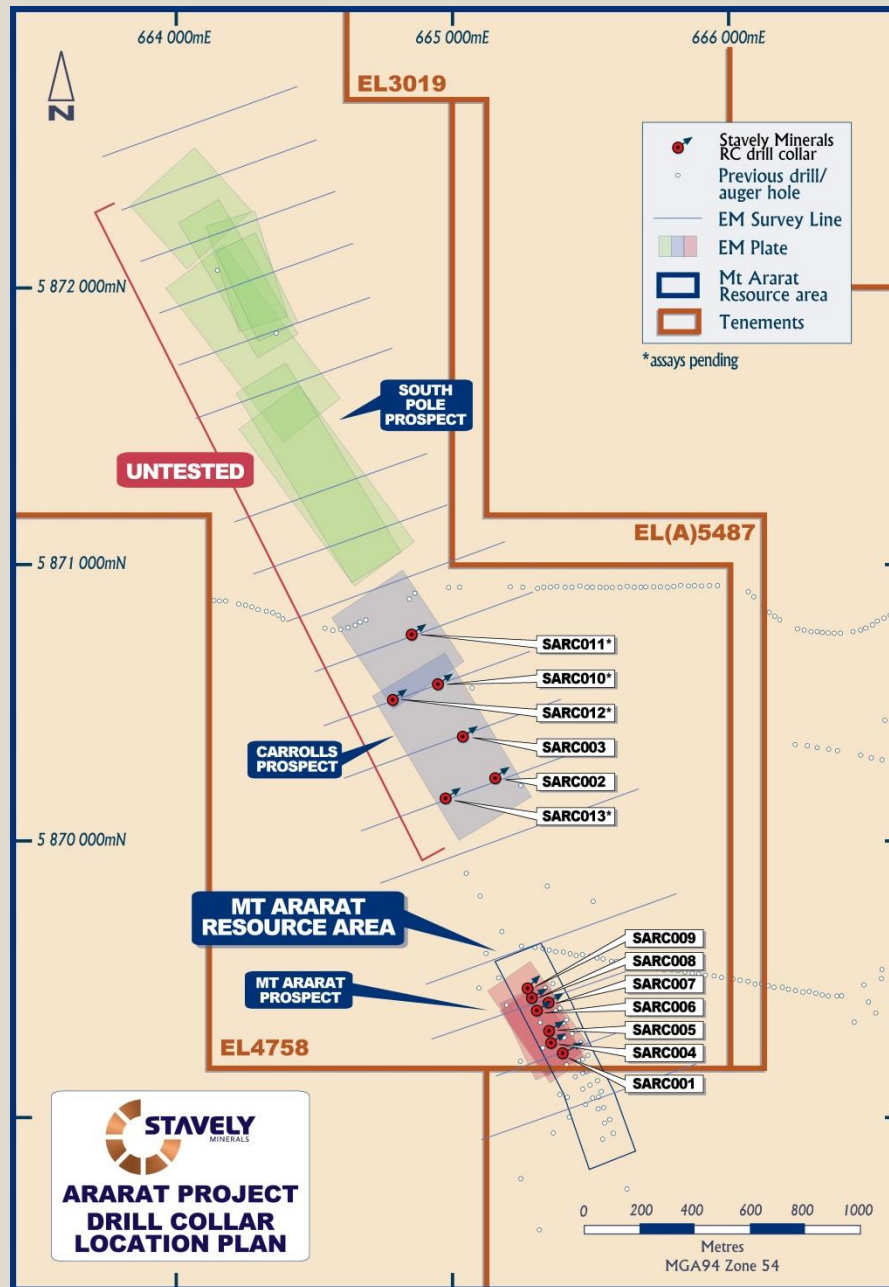
# ARARAT PROJECT



Mt Ararat Mineral Resource is over 350m strike extent at the southern end of a 4 kilometre long airborne VTEM conductor and coincident soil copper-zinc anomalism (gold not analysed).

Ground EM confirms significant undrilled extensions to the north of the existing resource with noted gossans and historic copper workings.

# ARARAT PROJECT



## Mt Ararat VMS ground EM conductor plates

- Mt Ararat existing Mineral Resource has a ground EM conductor to 500m depth (red).
- Carroll's prospect (blue) has a ground EM conductor 2km along strike and to 800m depth.
- South Pole prospect (green) has ground EM conductors 1.2km along strike to 500m depth.

## Mt Ararat VMS has compelling exploration potential

Immediately along strike to the north from an Inferred Mineral Resource with attractive grades of 1.2Mt at 2% copper, 0.5 g/t gold and 0.4% Zn:

- ✓ VTEM conductors confirmed by ground EM over 3.5 km long
- ✓ Coincident copper and zinc soil geochemistry (gold not analysed)
- ✓ Noted gossans
- ✓ Chlorite / actinolite alteration – possible VMS feeder zone alteration

....and effectively undrilled, until now.

## Recent RC drilling results<sup>1</sup> from northern extensions to the Mt Ararat Mineral Resource:

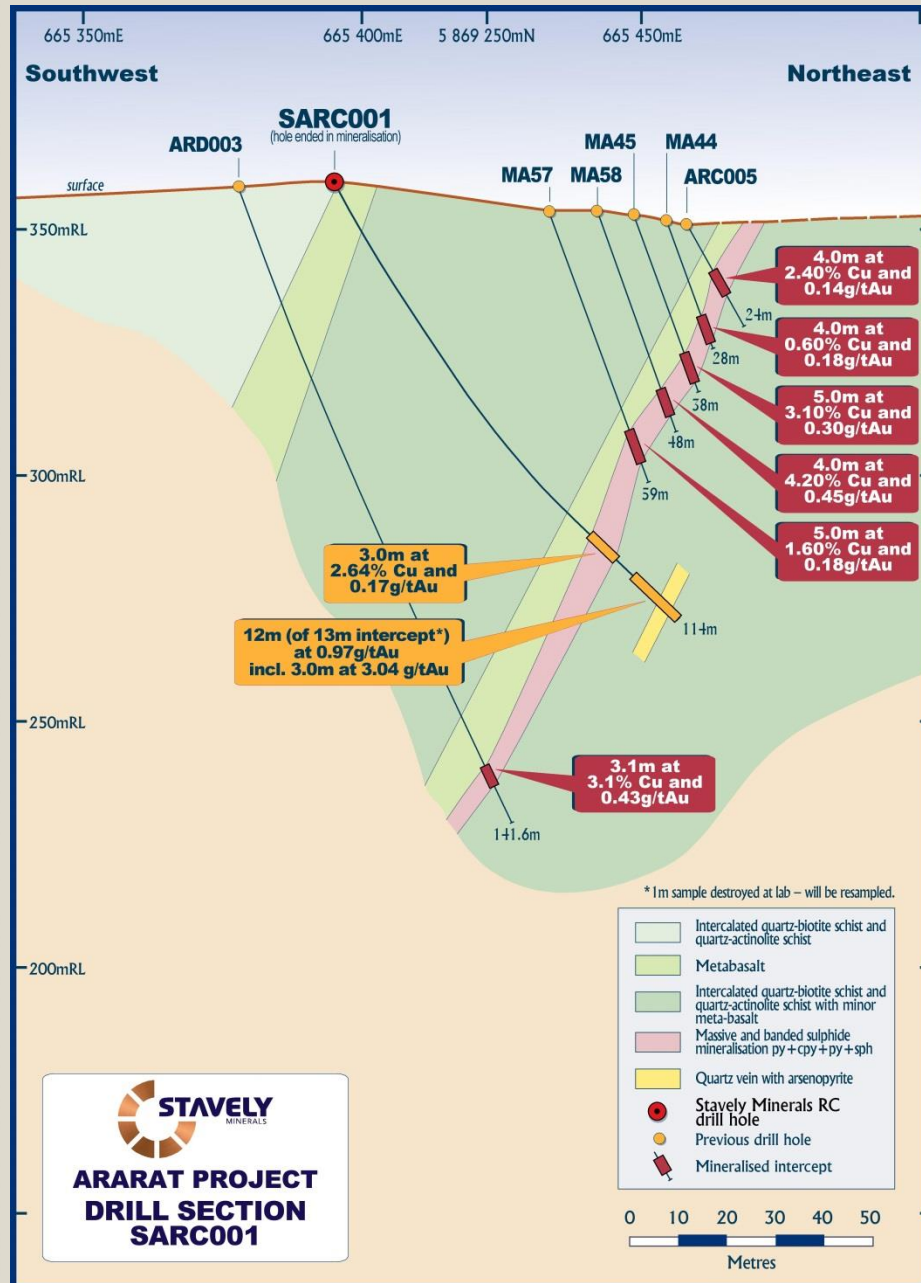
- 5m at 2.10% copper, 0.56 g/t gold, 0.48% zinc and 9 g/t silver, including
  - 2m at 3.37% copper, 0.73 g/t gold, 0.47% zinc and 14 g/t silver
- 3m at 2.64% copper, 0.17 g/t gold, 0.31% zinc and 3 g/t silver
- 1m at 5.89% copper, 0.55 g/t gold, 2.31% zinc and 17 g/t silver

**At the Carroll's prospect, RC drilling and diamond tails set the platform for DHEM surveying (just completed).**

<sup>1</sup> see ASX announcement dated 10 September 2014 and available from [www.stavely.com.au](http://www.stavely.com.au)



# ARARAT PROJECT



## Recent Drilling

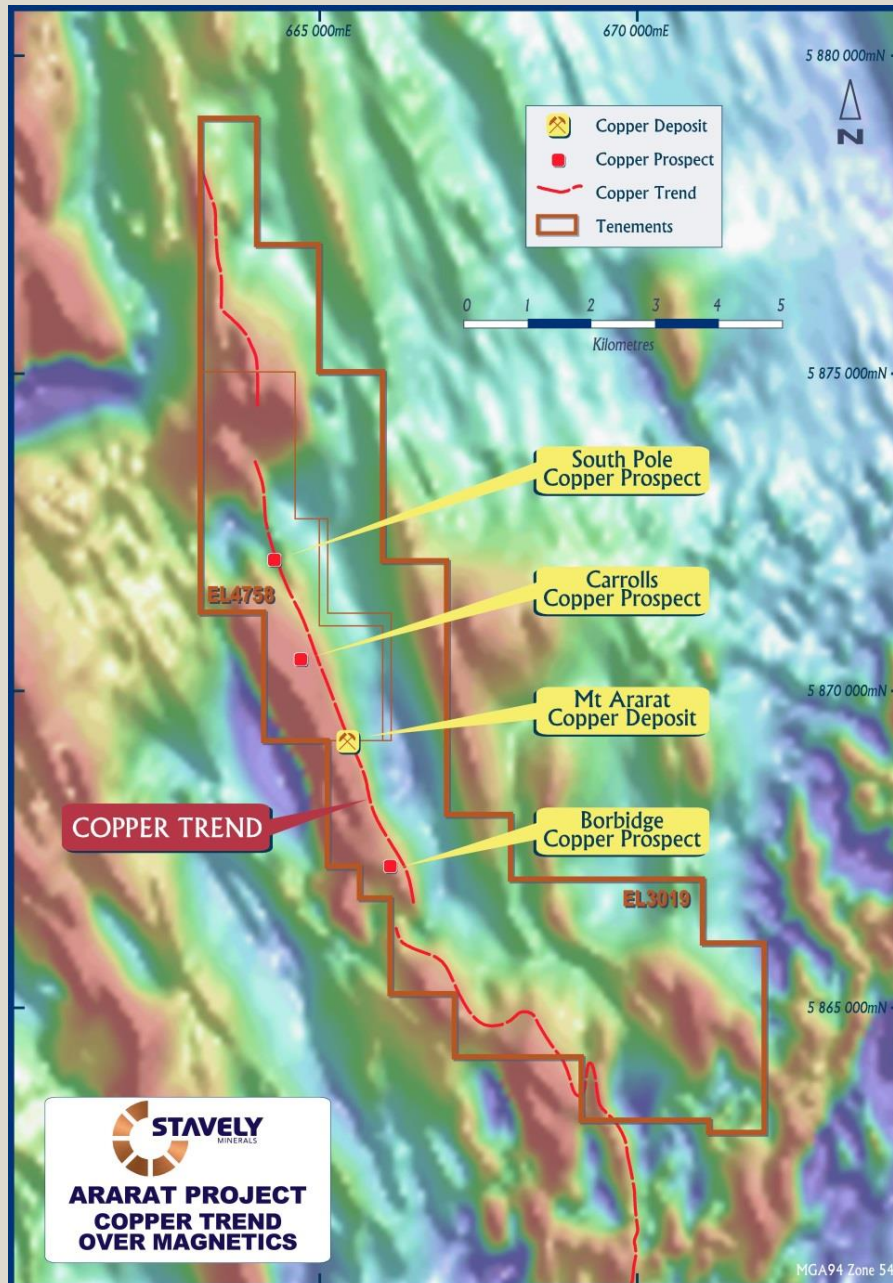
Unexpectedly, drill hole SARC001 also intersected 12m @ 0.97 g/t gold (to EoH) within a broader 13m interval\*, including a significant higher grade zone of:

- 3m at 3.04 g/t gold

\*one x 1 metre sample was destroyed at the lab and is being re-sampled to allow the grade of the full 13m interval to be re-quoted. EoH = end of hole

<sup>1</sup> see ASX announcement dated 10 September 2014 and available from [www.stavely.com.au](http://www.stavely.com.au)

# ARARAT PROJECT

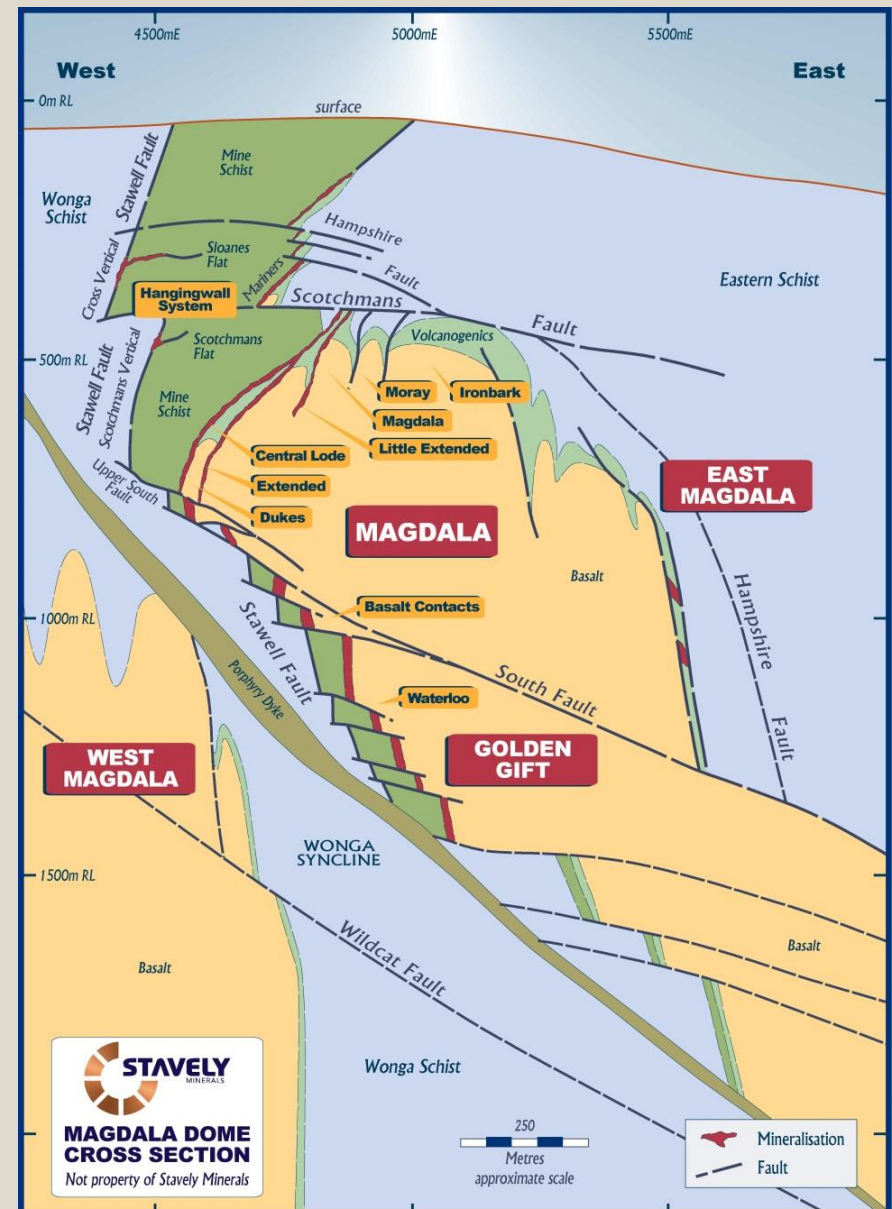
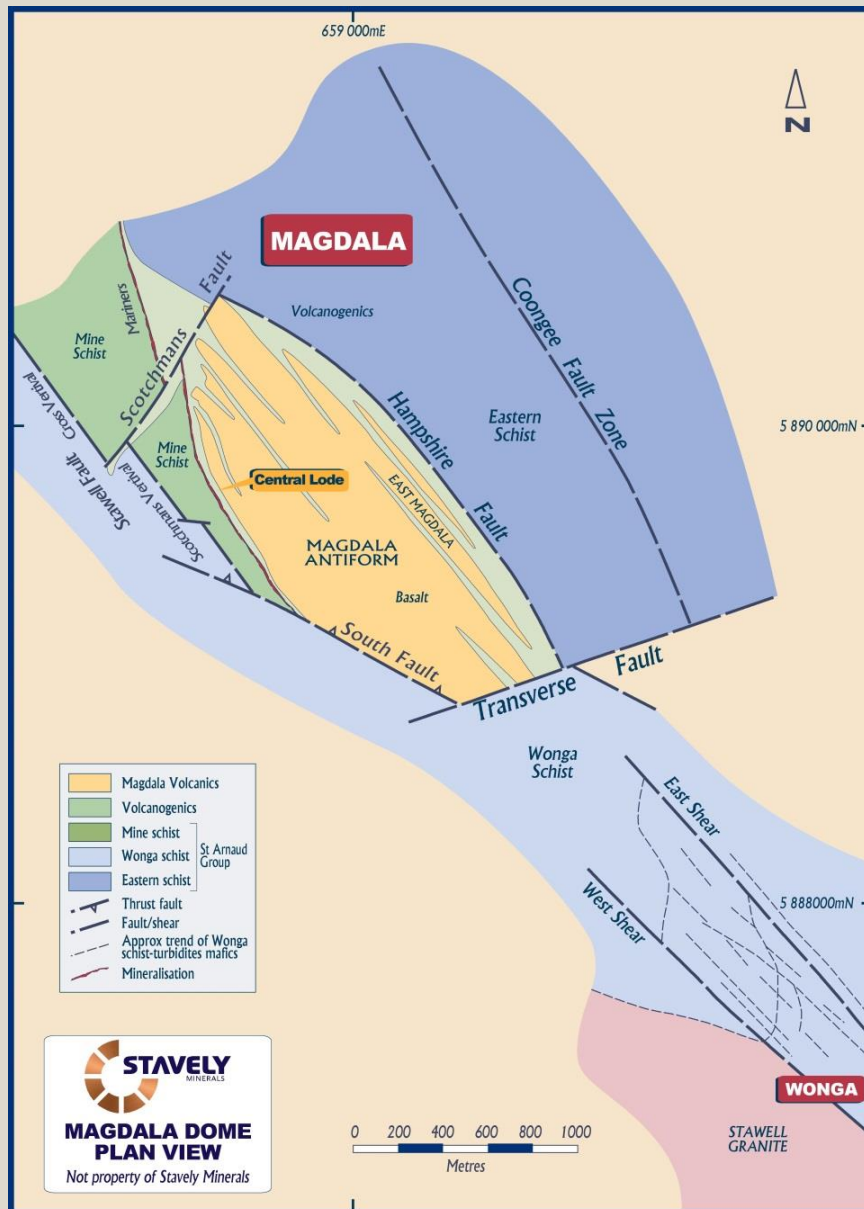


- Prospective VMS copper-gold horizon extends over 15 kilometres within Stavely Minerals tenements.
- Very little exploration under shallow cover.

# LANGI LOGAN GOLD TARGET



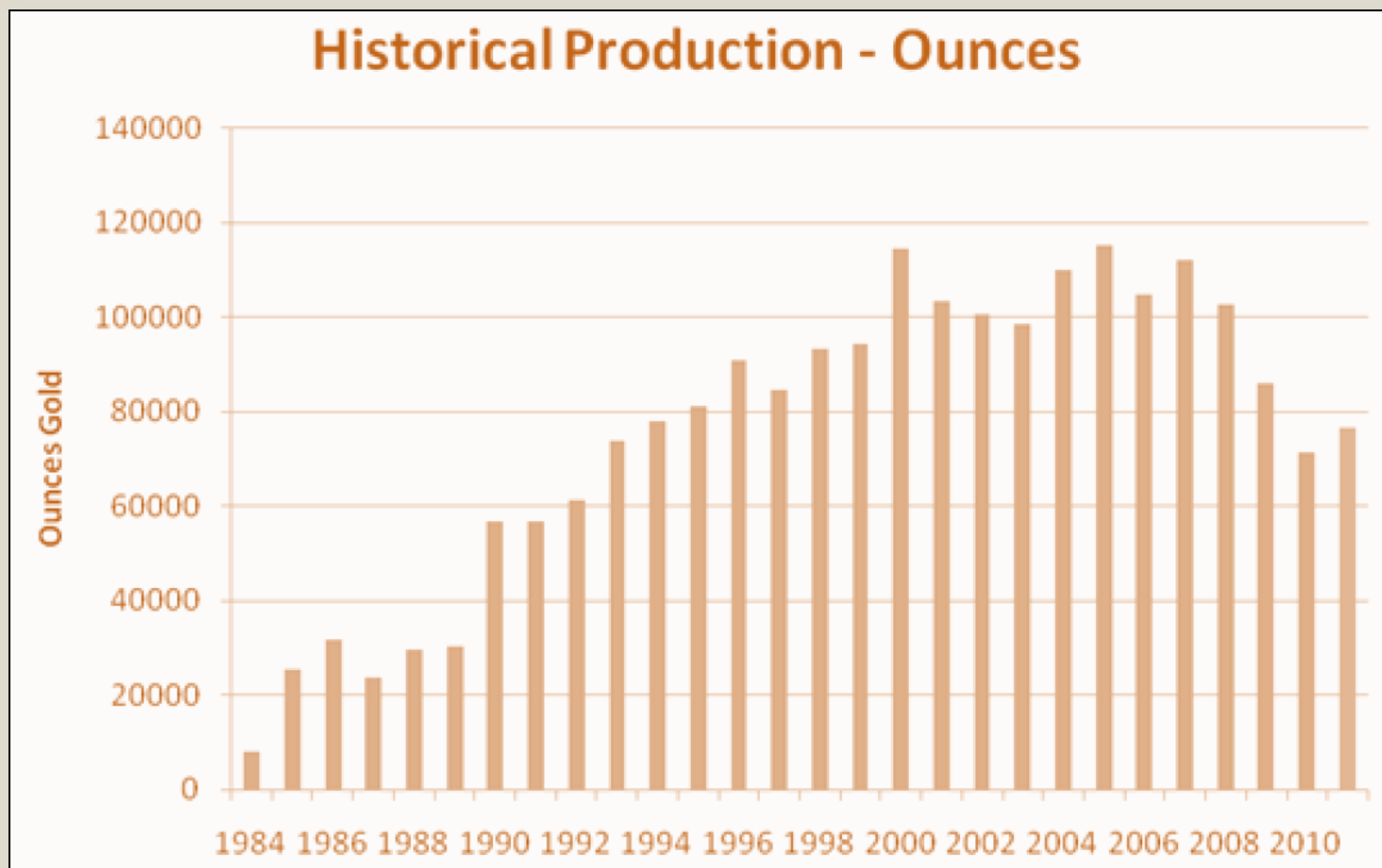
# STAWALL GOLD MINE



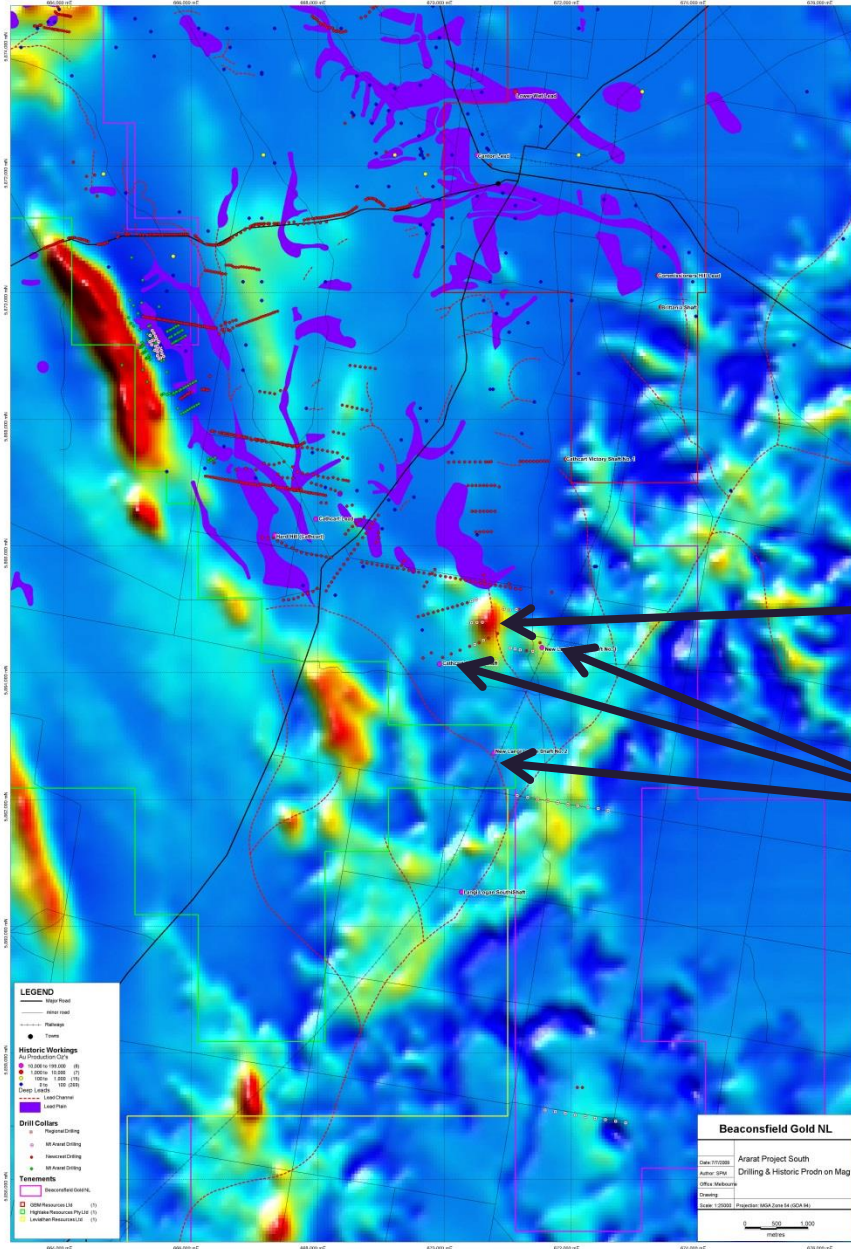
# STAWALL GOLD MINE



- Not a 'nuggety' Bendigo / Ballarat 'ladder reef' type mine
- A much more continuous style of contact mineralisation = very consistent production = far more desirable!



# ARARAT GOLDFIELD



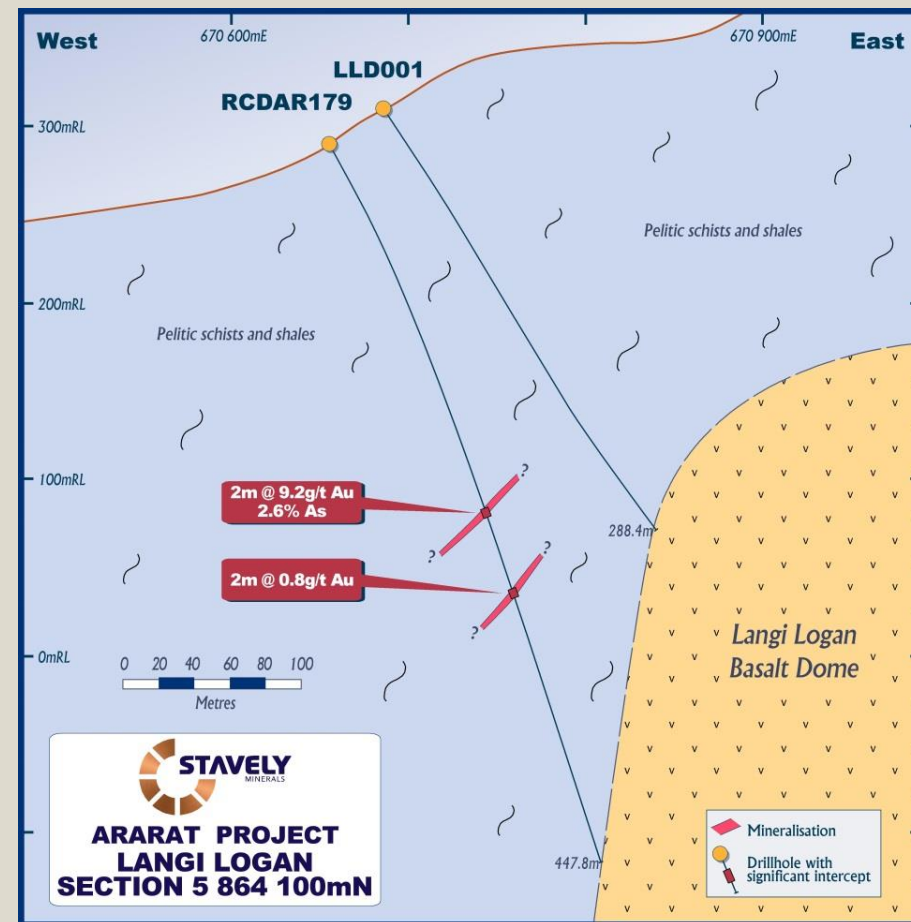
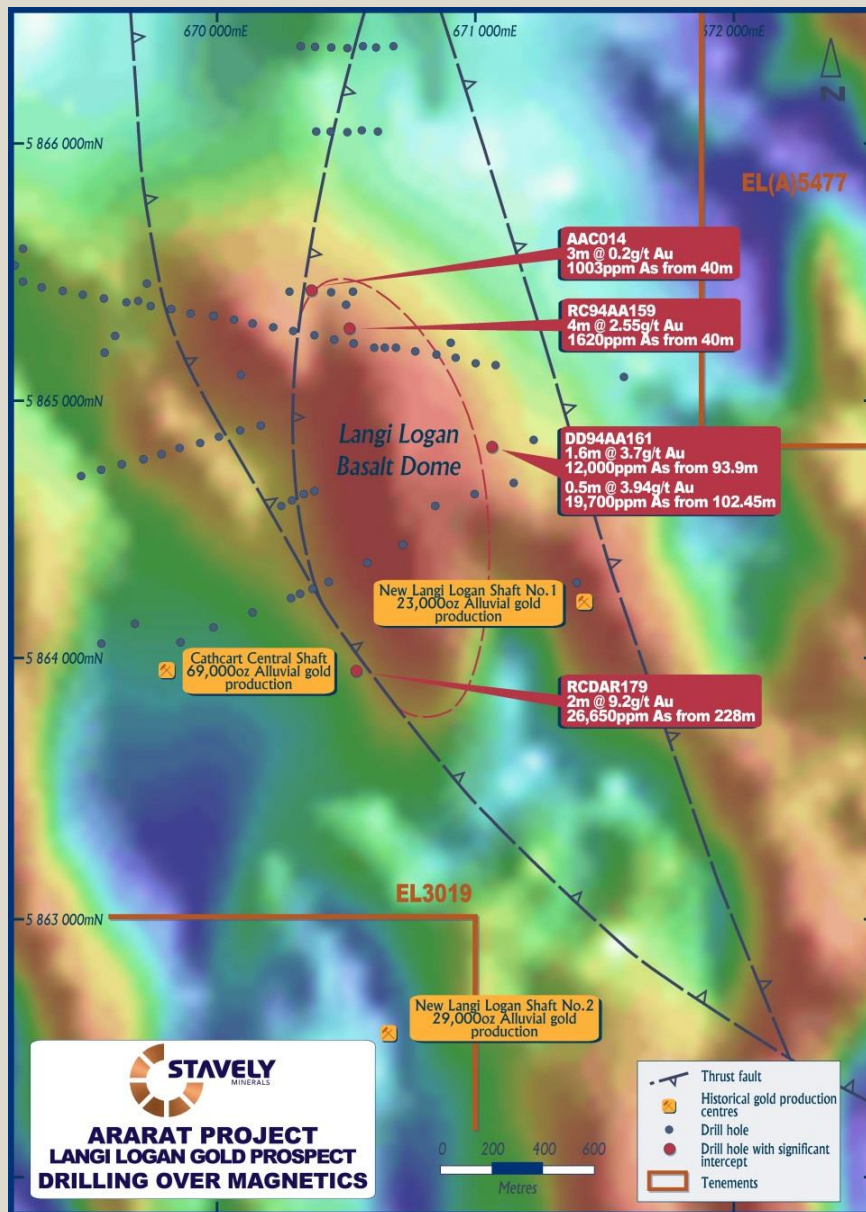
- Produced +600,000oz
- No hardrock source identified.

Langi Logan basalt dome

Major deep lead production shafts

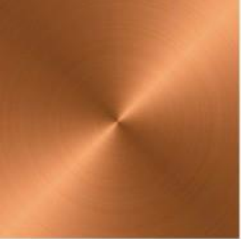


# LANGI LOGAN



## Work programme status for the Ararat Project

- At the Mt Ararat VMS prospect, drill ground EM conductors 3.5 kilometres along strike to the north of the existing resources
  - 5,000 metres of RC drilling - **Phase 1 complete**
  - Diamond tails - **Complete**
  - DHEM survey - **Complete**
  - 2,000 metres of diamond drilling - **Dependent on EM targets**
- At the Langi Logan gold prospect
  - Three lines of IP to confirm location of sulphidic sediment / basalt NW contact - **Complete**
  - Diamond drilling of anomalies - **Complete**



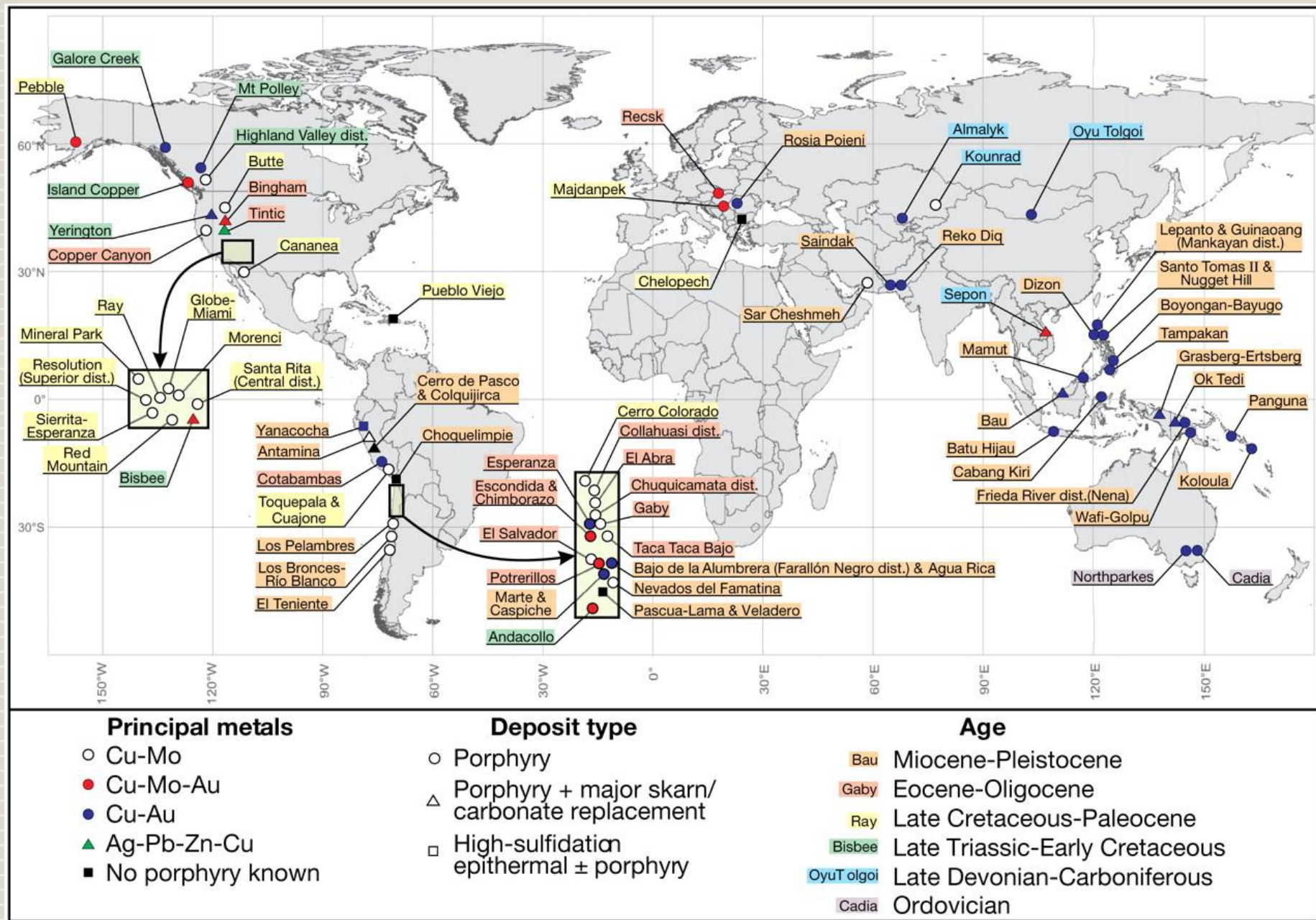
# STAVELY PROJECT

## Why look for porphyries in western Victoria?

- Porphyries are the major deposit type for global copper production
- Porphyries are large metal systems with a well understood alteration zonation typically an order of magnitude larger than the deposit itself – ie. The ‘hydrothermal system’ has a large footprint that has a recognisable zonation from cooler outer alteration to hotter inner alteration
- There are several types of porphyries – copper, copper-molybdenum, copper-gold, molybdenum etc
- Many are operated as large open pits but a special class are attractive as underground ‘block cave’ operations – those deposits are alkalic copper-gold porphyries typically with higher copper and/or gold grades and this is what we are looking for!



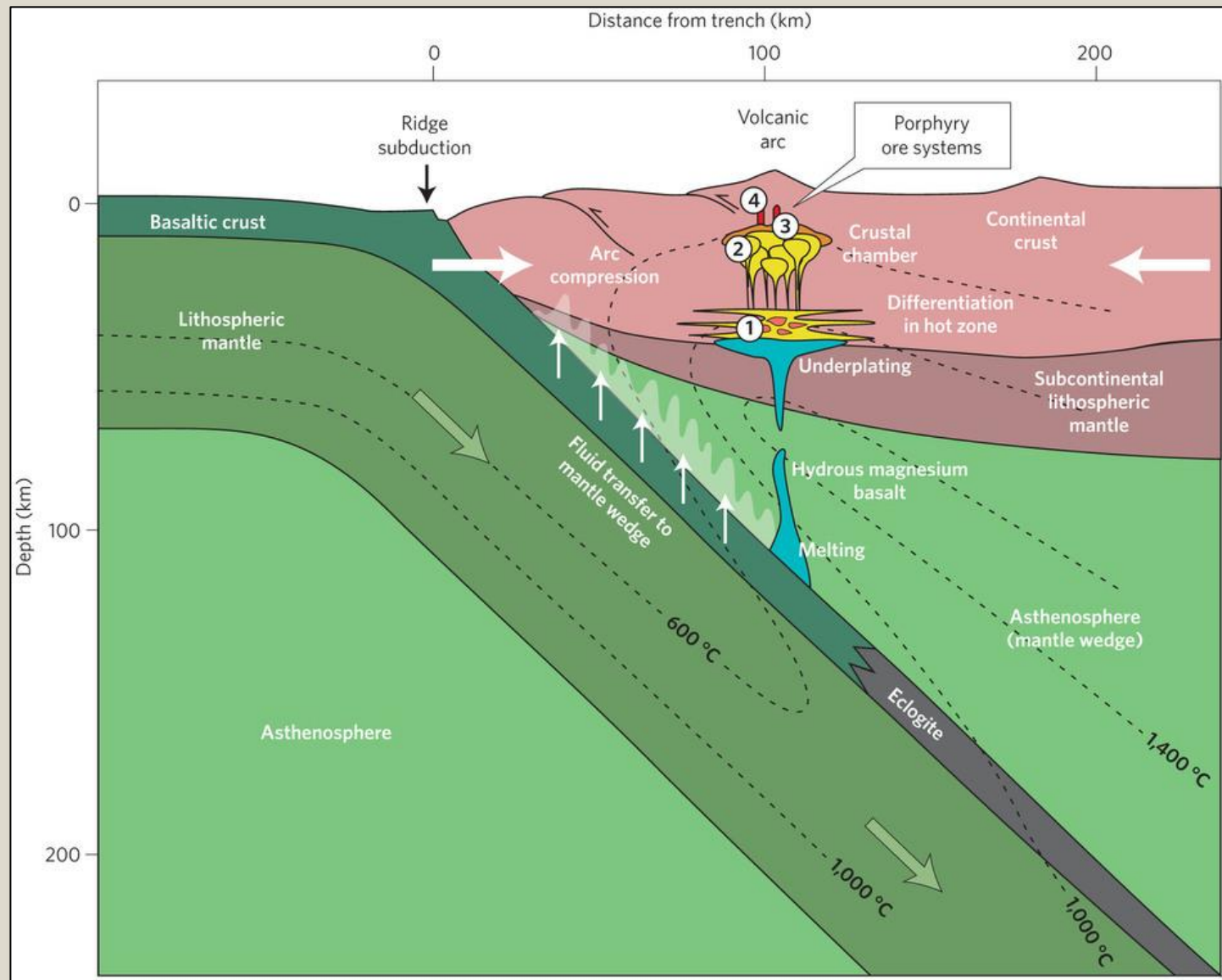
# STAVELY PROJECT

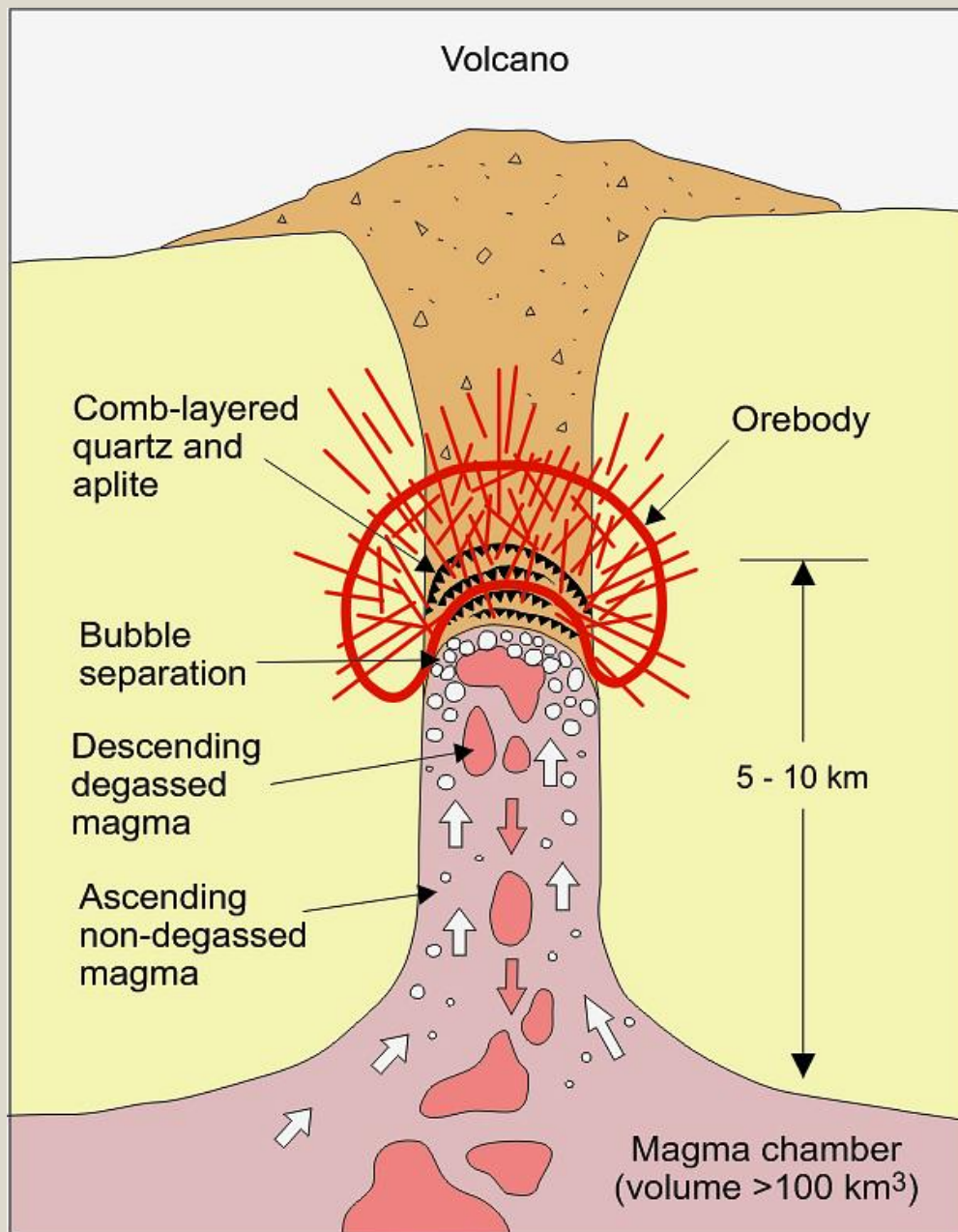


# STAVELY PROJECT



Porphyry copper +/- gold deposits form above subduction zones

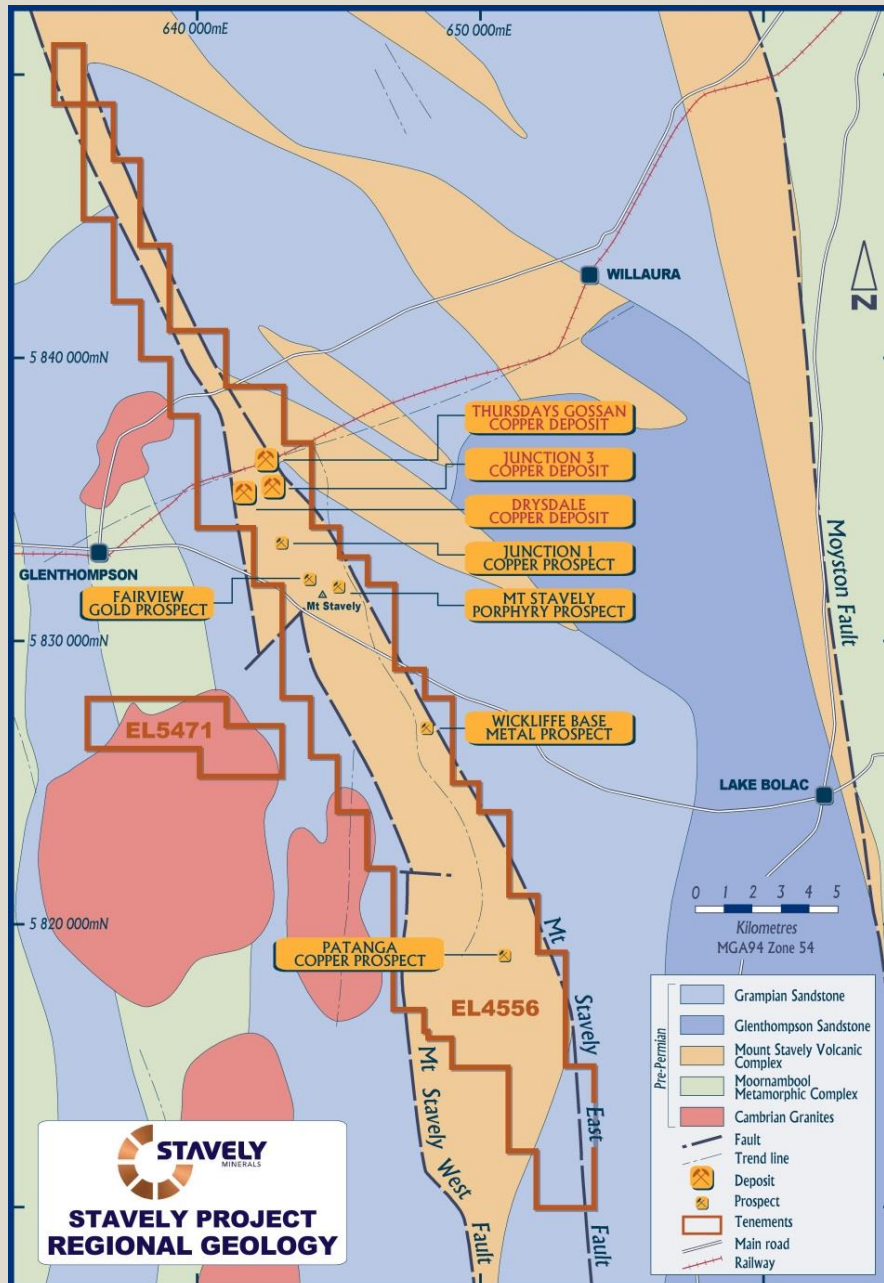




Porphyry copper deposits form above subduction zones

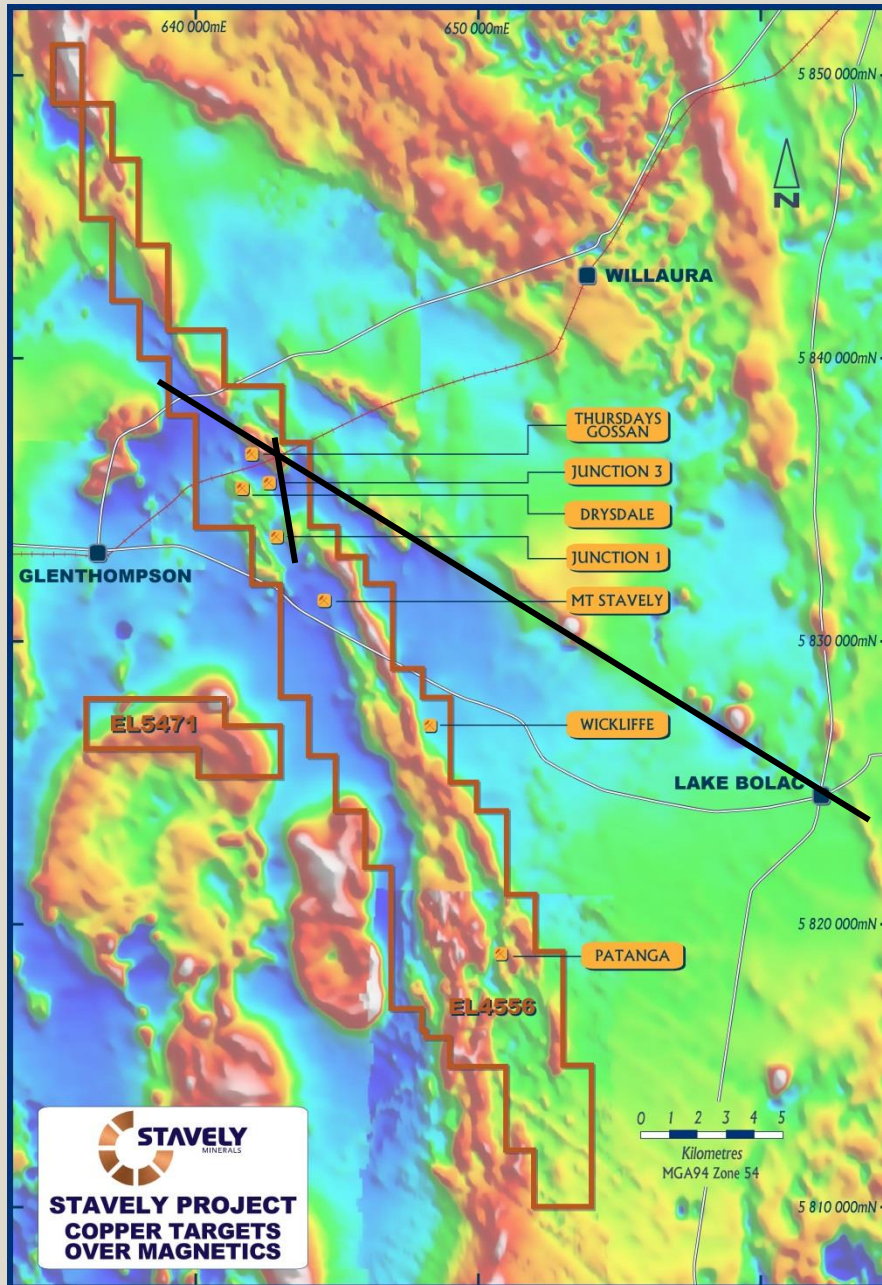


# STAVELY PROJECT



- Thursday's Gossan chalcocite enriched blanket – Inferred Mineral Resource of 28Mt at 0.4% copper containing 107kt copper
- Thursday's Gossan porphyry
- Junction porphyry
- Newly interpreted Mt Stavelly porphyry
- Fairview Gold prospect
- Wickliffe VMS prospect
- Patanga porphyry prospect

# STAVELY PROJECT



- Mt Stavely Volcanic Complex considered the northern extension of the Mt Read Volcanics in Tasmania – demonstrated by Tony Crawford.
- MRV hosts the Mount Lyell, Rosebery, and Henty copper-gold deposits.
- In the Thursday's Gossan area a very major intersection of N-S and NW oriented structures.



# STAVELY PROJECT



Thursday's Gossan chalcocite blanket (red) and location of porphyry intrusion at depth (blue) controlled by long-lived structures – regional structural controls expressed at local scale.



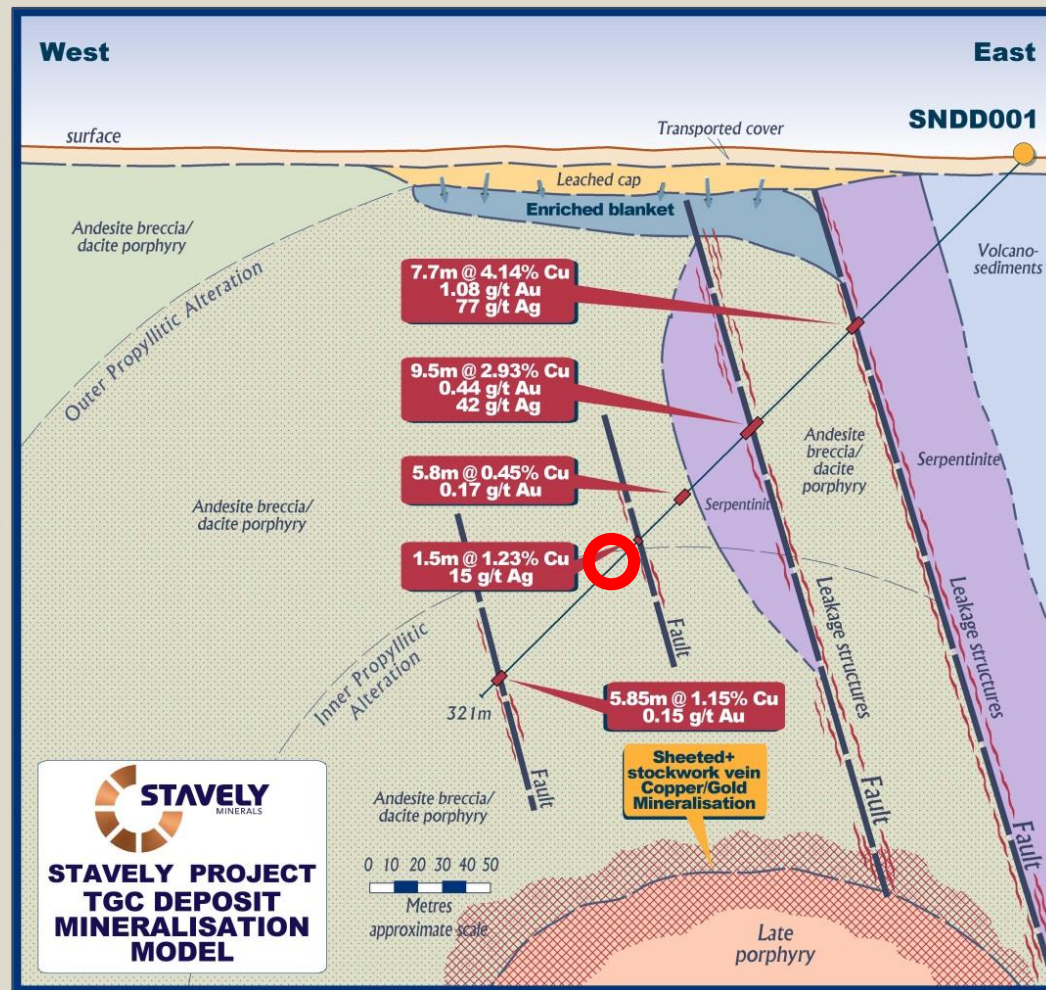
# STAVELY PROJECT



- Stavely bought these projects primarily for the exploration upside.
- Stavely's premise was that previous explorers had failed to recognise the high-level of exposure – ie. The porphyry was down deeper than existing drilling.



# STAVELY PROJECT



Significant drill intercepts into 'leakage' structures:

- 'D' veins in the porphyry terminology of Gustafson and Hunt, 1975
- 7.7 metres at 4.14% copper, 1.08 g/t gold and 77g/t silver
- 9.5 metres at 2.93% copper, 0.44g/t gold and 42 g/t silver

## But what evidence that the Stavely Volcanic Belt hosts alkalic copper-gold porphyries?

- Zones of pervasive hematite alteration
- Strongly negative  $\delta^{34}$  sulphur isotope values
- Metal ratios – gold and silver rich
  - 5m @ 1.4% copper, 0.25g/t gold and 11 g/t silver from the Junction deposit
  - D-veins from Thursday's Gossan
    - 7.7 metres at 4.14% copper, 1.08 g/t gold and 77g/t silver
    - 9.5 metres at 2.93% copper, 0.44g/t gold and 42 g/t silver
- Geochemical similarity with alkalic 'switch' in the Mt Read Volcanics – Tony Crawford



# STAVELY PROJECT



First drill holes into the Thursday's Gossan prospect intercepted broad intervals of low-level 'wall rock' copper mineralisation in phyllic over propylitic alteration:

- *82.3m at 0.12% copper*
- *45.9m at 0.19% copper, and*
- *196m at 0.13% copper*

First drill hole into the Junction prospect also intercepted broad intervals of low-level copper mineralisation in phyllic over propylitic alteration:

- *62m at 0.17% copper*
- *44.8m at 0.15% copper, and*

In potassic alteration:

- *5m at 1.4% copper, 0.25g/t gold and 11g/t silver*



see ASX announcements dated 28 August 2014 and 29 September 2014 and available from [www.stavely.com.au](http://www.stavely.com.au)

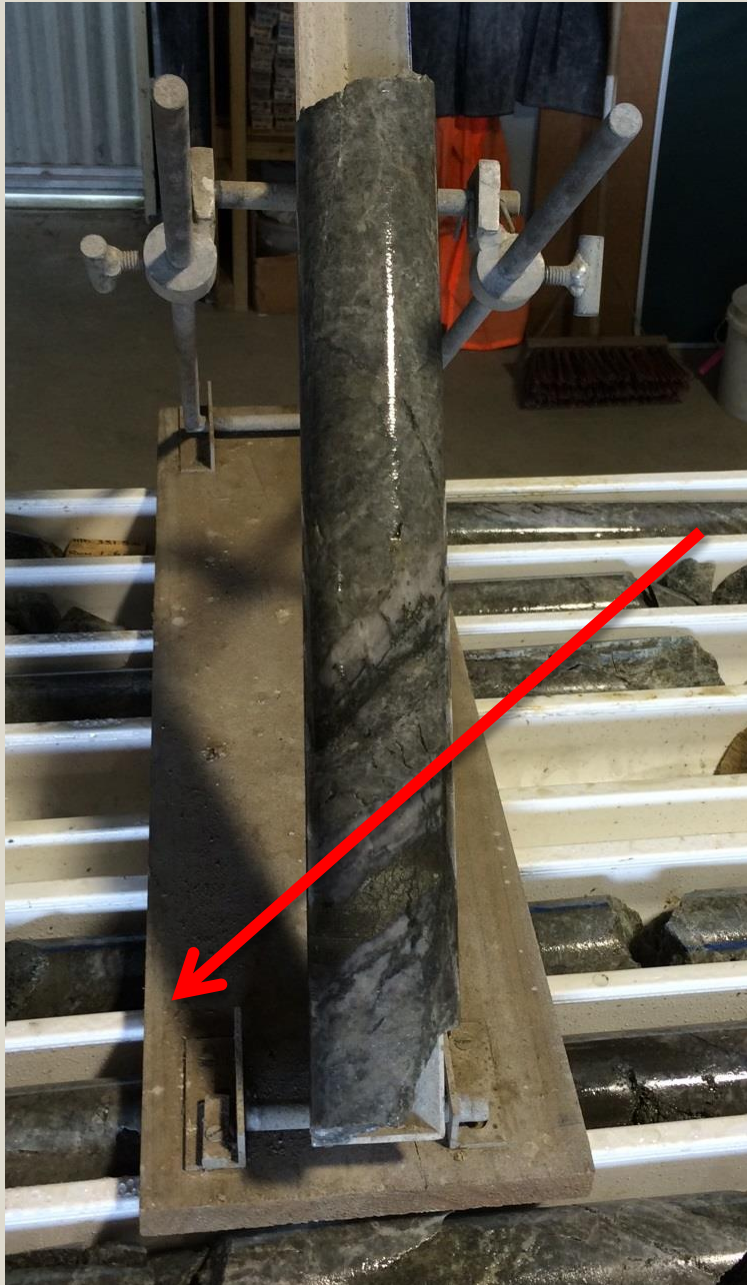


## Stavely has compelling exploration potential

Porphyry targets with:

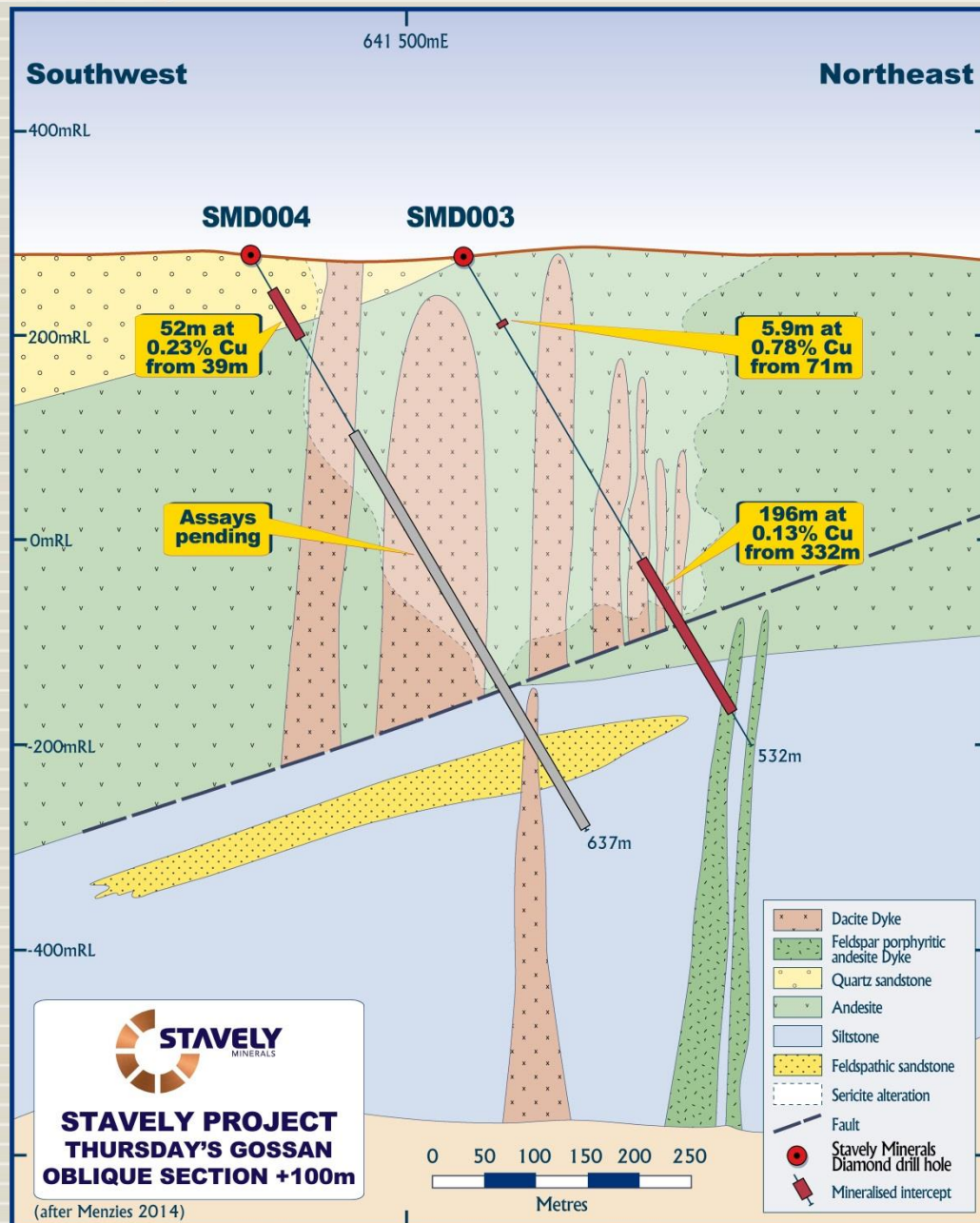
- ✓ Gravity lows
- ✓ IP chargeability anomalies
- ✓ Alteration mineralogy indicating high-level of exposure in porphyry system
- ✓ Almost no drilling below 250m depth in key areas
- ✓ Sulphur isotope values consistent with magmatic source – importantly, sparse data indicates Thursday's Gossan IP chargeability anomaly could be close to mineralised 'core'
- ✓ Haematite alteration - a possible indicator of a fertile copper-gold 'alkalic' system
- ✓ Attractive metal ratios

# STAVELY PROJECT



- ✓ Drill hole SMD004 at Thursday's Gossan was providing an excellent 'vector' towards the porphyry core at depth to the south but this would be disrupted by the low-angle structure at ~400m depth
- ✓ We were very close, now to use every piece of evidence we can get to indicate the direction of offset on the structure and then pursue the porphyry beneath the structure

# STAVELY PROJECT



- ✓ Drilling intercepted low-angle structure at ~400m depth
- ✓ Alteration and sulphides were indicating close proximity to target potassic core
- ✓ Challenge can be overcome with good geology – we have the tools we need

see ASX announcements dated 28 August 2014 and 29 September 2014 and available from [www.stavely.com.au](http://www.stavely.com.au)

## Results to date

### Thursday's Gossan

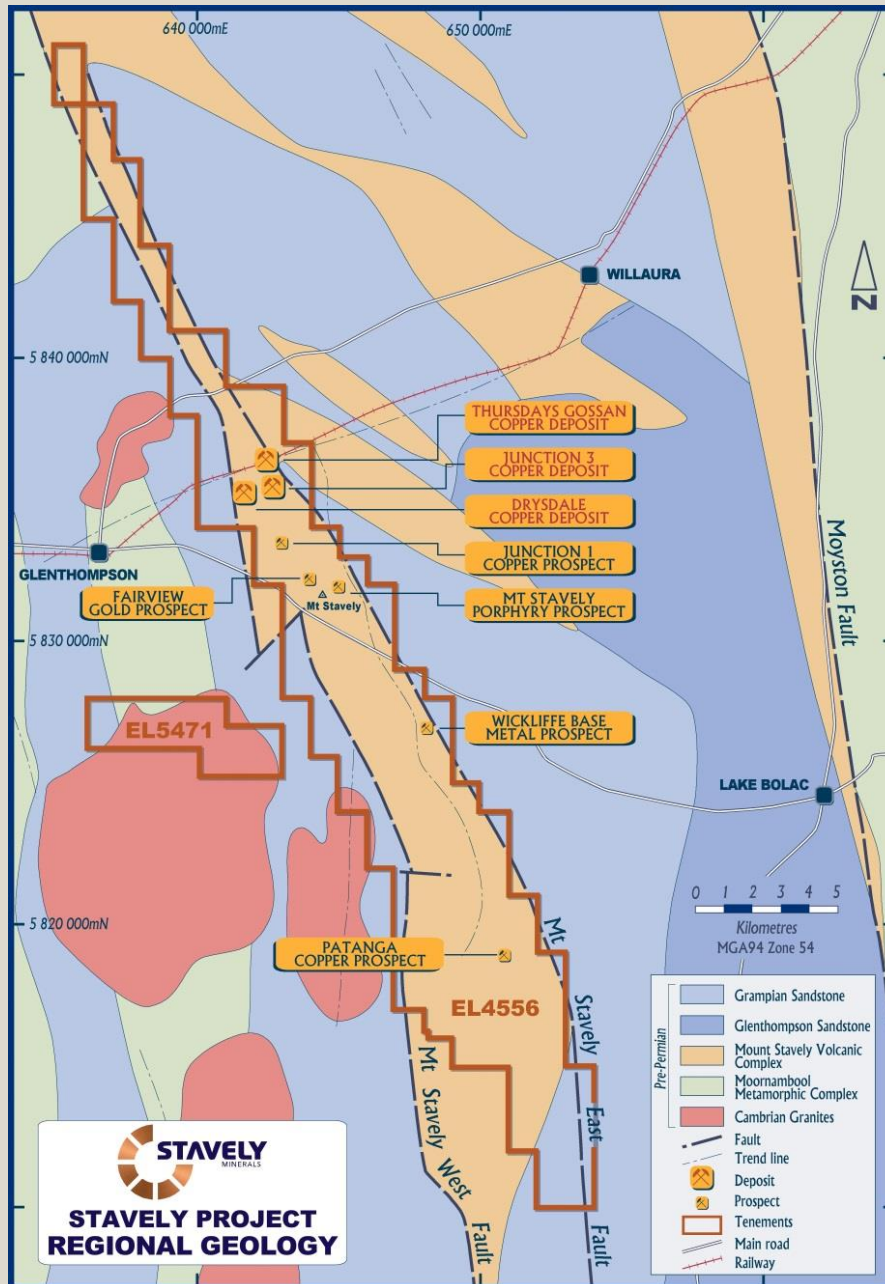
- ✓ Very positive results from drilling the IP chargeability anomaly – increasingly intense alteration, very 'busy' core, low-grade copper mineralisation
- ✓ Intercepted a low-angle structure at ~400m depth – now using alteration zonation, geochemistry, marker units, 3D structural interpretation and geophysics to vector beneath the structure

### Junction

- ✓ Short interval of good grades intercepted, need much bigger intervals considering geophysics in this area given the success of IP at Thursday's Gossan



# STAVELY PROJECT



## Other targets:

- Patanga porphyry target – drill intercept of 10 metres at 0.32% copper and 0.4 g/t gold
- Wickliffe VMS target – drill intercept of 3.15 metres at 2.27 g/t gold, 4.9% zinc, 0.2% copper and 7 g/t silver

## Thank You

Contact Us:

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Nedlands WA 6009

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Ph: 08 9287 7630

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