

# Unlocking Victoria's Copper-Gold Potential

**June 2015** 

#### **STAVELY MINERALS**



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#### **STAVELY MINERALS**

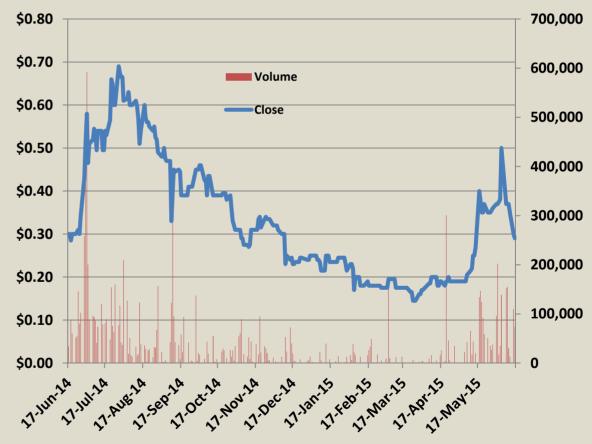


ASX Code – SVY Share Price - \$0.29 Cash (31/03/15) - \$0.95M\* Shares on Issue – 80.8M Market Cap - \$23.4M

Excludes Titeline Drilling agreement\*

#### **Directors**

Bill Plyley
Non-executive Chairman
Chris Cairns
Managing Director
Jennifer Murphy
Technical Director
Peter Ironside
Non-executive Director
Amanda Sparks
Company Secretary



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



# **OUR STRATEGY**

#### **STRATEGY**



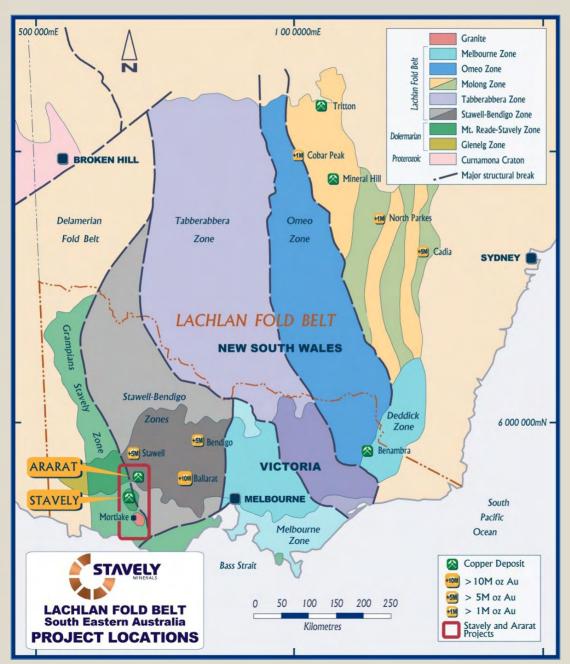
- 1. Acquire copper-gold / base metals projects with quality Mineral Resources with two key attributes:
  - i. The known mineralisation is not sufficient to develop
  - ii. There is excellent exploration upside
- 2. Implement an intensive exploration programme to discover further mineralisation / add to the Mineral Resources
- 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



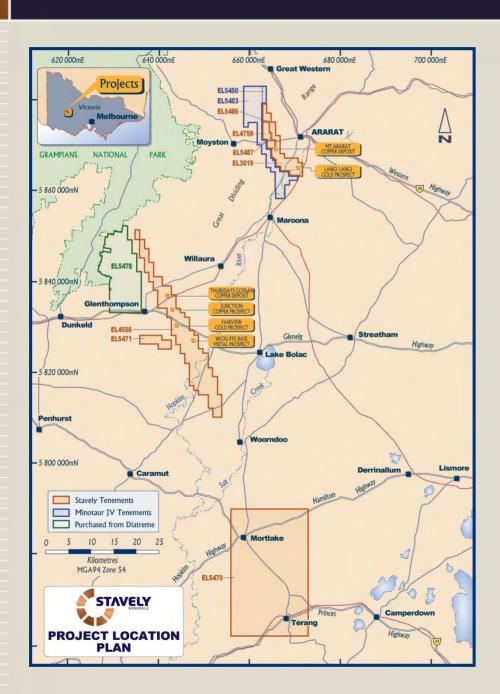


The Ararat Project is in the Moornambool Metamorphic Complex and is prospective for VMS base metals-gold and 'Stawell-style' gold mineralisation.

The Mount Stavely
Volcanic Complex is
prospective for ancient
porphyry copper-gold,
VMS base metals-gold
and intrusive related
gold mineralisation.

#### **PROJECT LOCATION**





900 square kilometres of Stavely Minerals tenure

70 square kilometres of JV tenure

#### MINERAL RESOURCES<sup>1</sup>



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

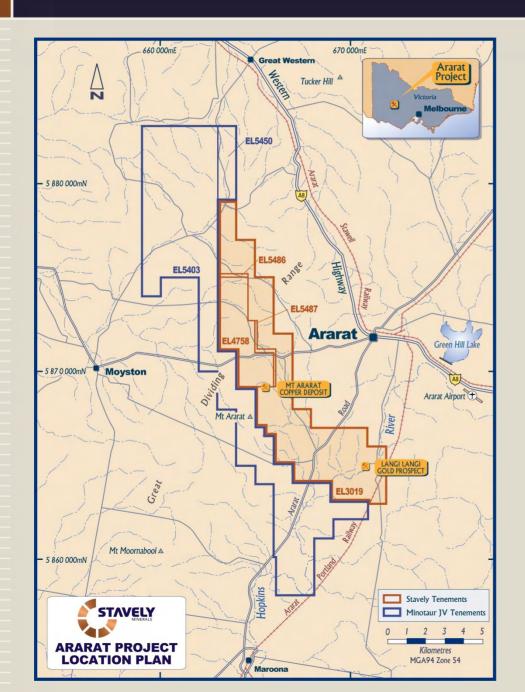
At the Stavely Project hosted in a secondary chalcocite-enriched blanket:

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

<sup>&</sup>lt;sup>1</sup> reported in compliance with JORC 2012, see Stavely Minerals Prospectus dated 26 March 2014 and available from www.stavely.com.au







Hosts the:

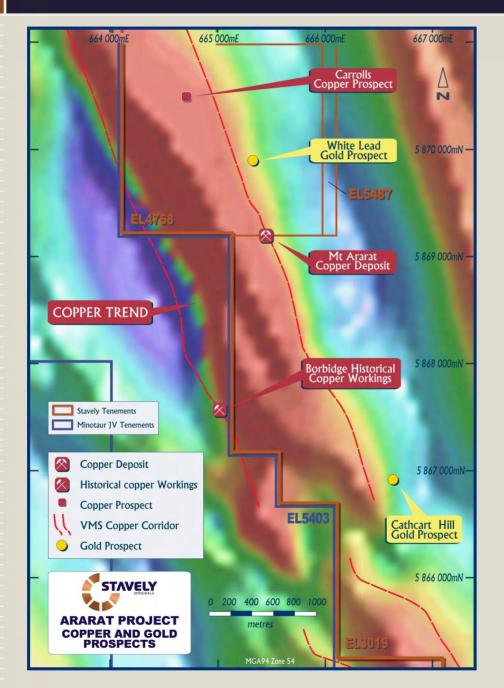
Mt Ararat Besshi-style copper-gold VMS

and 'Stawell-style' gold targets



### **MOUNT ARARAT VMS**

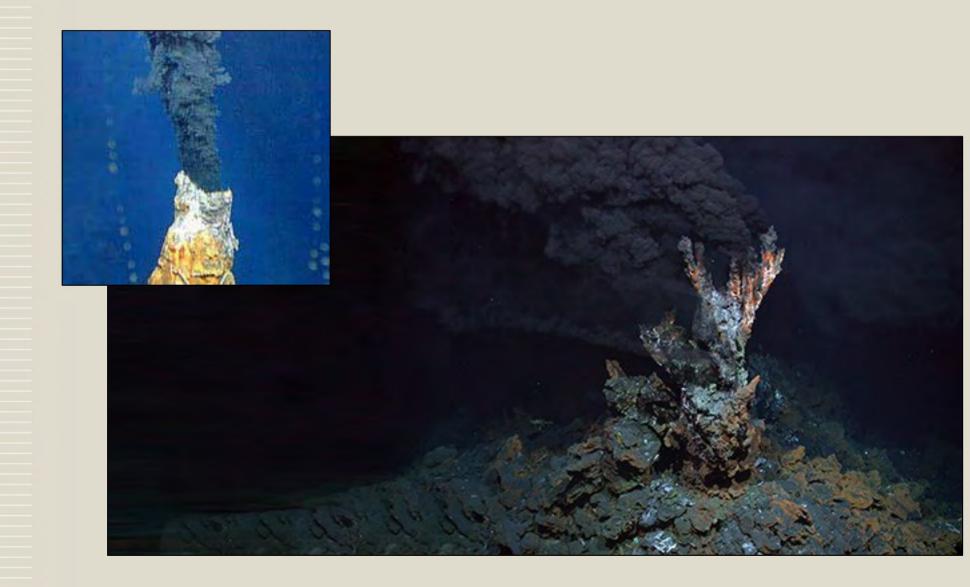




- ✓ Prospective VMS copper gold horizon extends over 15 kilometres within Stavely Minerals tenements.
- ✓ Recent reconnaissance exploration has confirmed the horizon is up to 1km wide
- √ 'Stawell-style' gold /
  arsenic anomalies along
  4-5km of strike and open
  to north and south

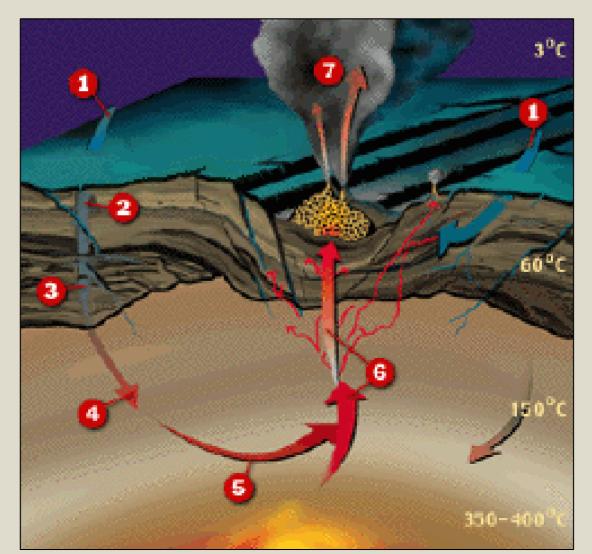


Mt Ararat Besshi-style copper-gold VMS is an ancient seafloor 'black smoker'



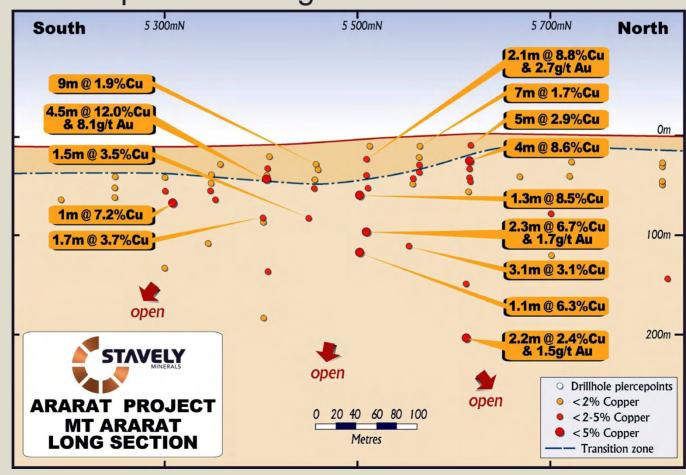


Mt Ararat Besshi-style copper-gold VMS is an ancient seafloor 'black smoker' – they tend to occur in clusters of typically 6-8 deposits





- 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 Degrussa deposit is considered a Besshi-style VMS
- Open at depth and along strike





# 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, new zones of mineralisation recently identified in soil sampling.

<sup>&</sup>lt;sup>1</sup> see ASX announcement dated 10 September 2014 and available from www.stavely.com.au



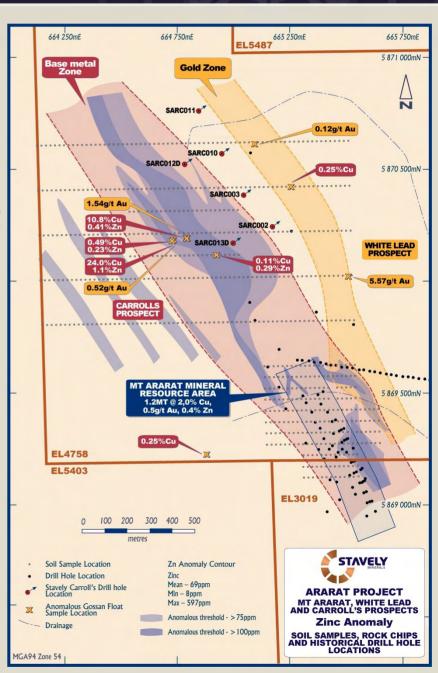
#### **Carroll's Prospect**

Multiple mineralised horizons confirmed with Carroll's Copper prospect re-discovered with rock-chip results including:

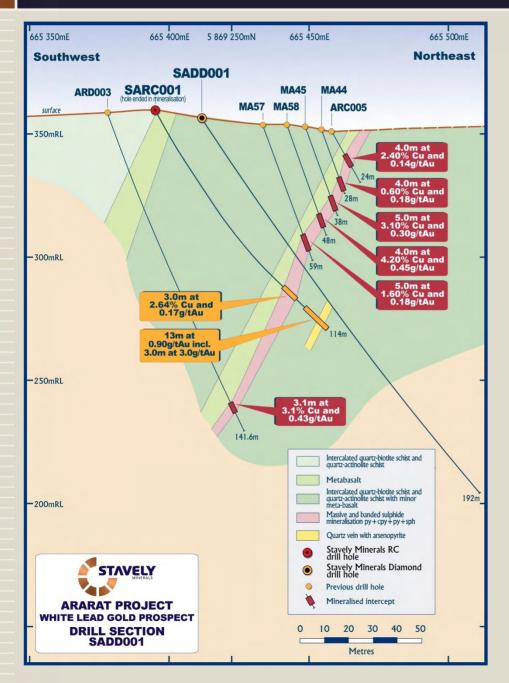
- 10.8% copper, 0.41% Zn and 1.5g/t gold
- 24% copper, 1.1% zinc and 0.52g/t gold



<sup>1</sup> see ASX announcement dated 8 May 2015 and available from www.stavely.com.au







#### Stawell-style gold potential

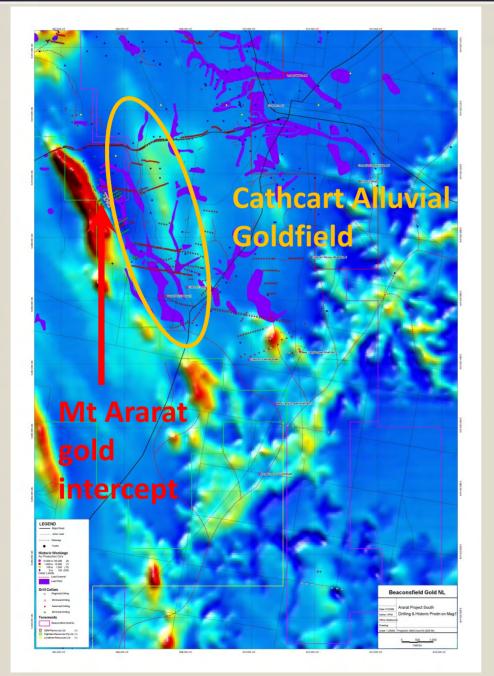
Unexpectedly, drill hole SARC001 also intersected 13m at 1g/t gold (to EoH) including a significant higher grade zone of:

• 3m at 3.04 g/t gold

# 3 follow-up diamond drill holes completed – results pending

<sup>1</sup> see ASX announcement dated 10 September 2014 and available from www.stavely.com.au





#### Stawell-style gold potential

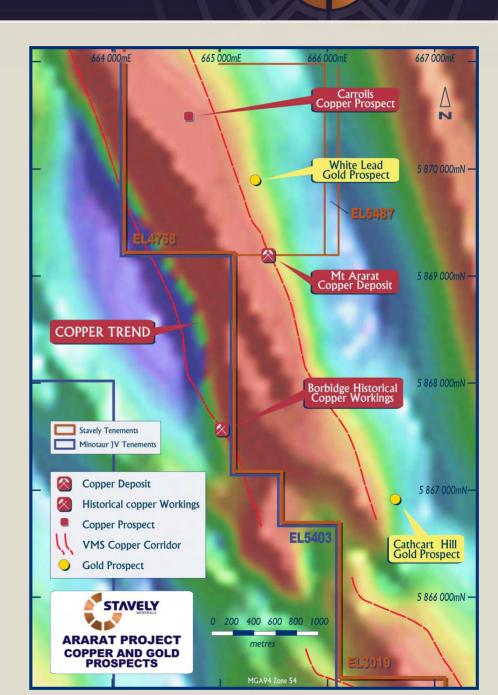
- The Ararat goldfield produced ~640,000oz from alluvials and deep leads
- No hardrock source identified.

#### **ARARAT GOLDFIELD**



Stawell-style gold potential— Two new gold prospects identified in soil sampling

- Cathcart Hill
- White Lead

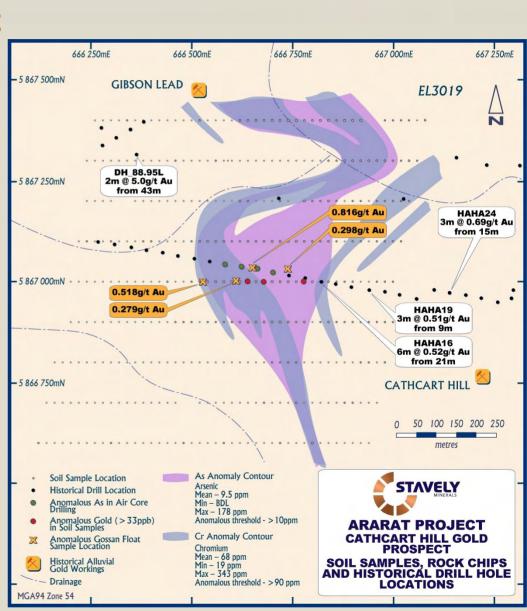




#### **Cathcart Hill Gold Prospect**

- Newly discovered gold prospect
- Arsenic, chromium ('Stawell-signature') soil anomaly 800m long and open to the north and south
- Rock-chips to 0.8g/t gold
- Nearby diamond drill hole intercept 2m at 5g/t gold

<sup>&</sup>lt;sup>1</sup> see ASX announcement dated 29 April 2014 and available from www.stavely.com.au

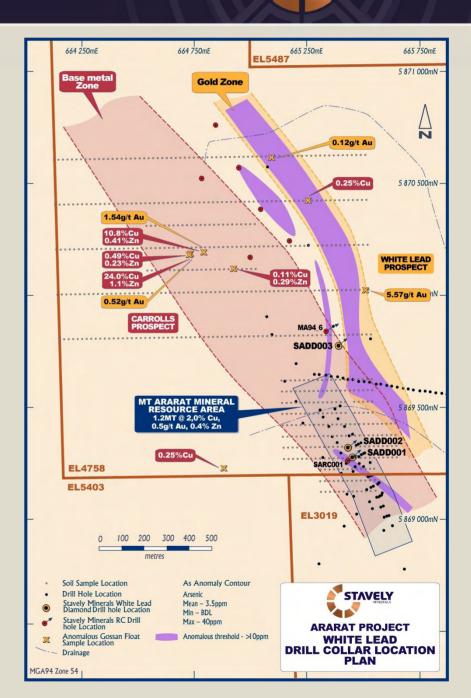




#### **White Lead Gold Prospect**

- Newly discovered gold prospect
- Arsenic, chromium, copper, lead ('Stawell signature') soil anomaly 1km long and open to the north and south
- Rock-chips to 5.6g/t gold
- Likely source of the White Lead alluvial gold production

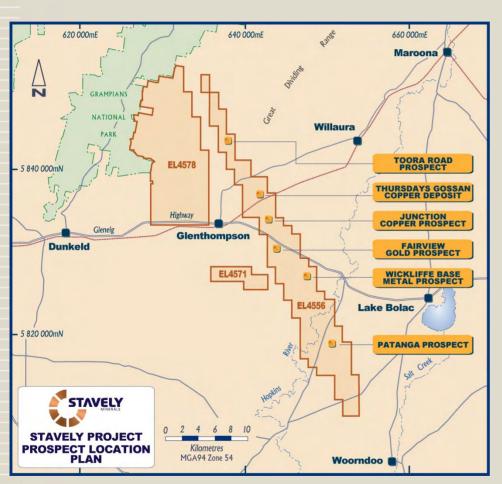
   part of the Cathcart
   Goldfield



<sup>&</sup>lt;sup>1</sup> see ASX announcement dated 8 May 2014 and available from www.stavely.com.au

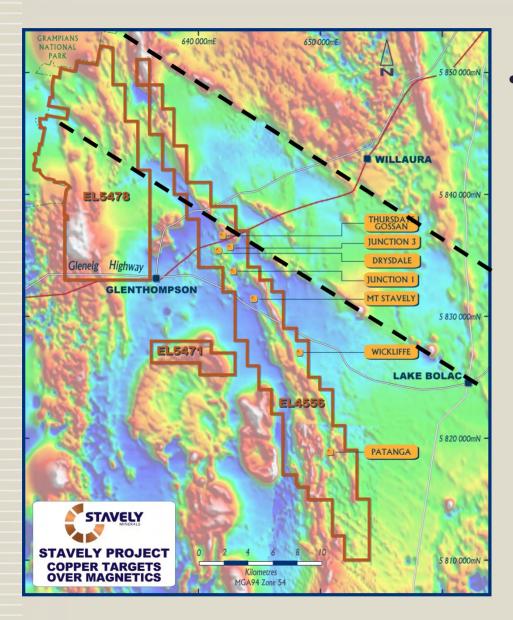






- Thursday's Gossan
   chalcocite enriched blanket
   Inferred Mineral Resource
   of 28Mt at 0.4% copper
   containing 107kt copper
- Thursday's Gossan porphyry
- Junction porphyry
- Fairview Gold prospect
- Wickliffe VMS prospect
- Patanga porphyry prospect



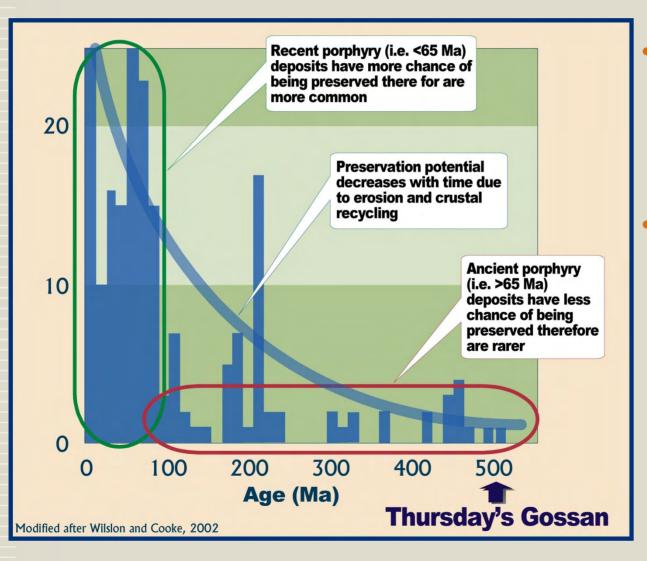


- Similar structural setting to Cadia Valley
  - ~N-S trending volcanic belt
  - Major NW trending structures



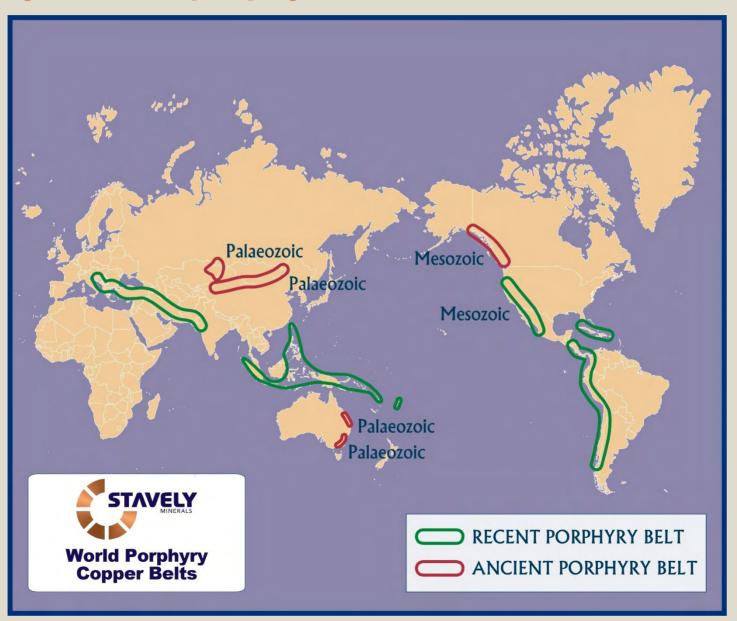
- Porphyries are large metal systems with a well understood alteration zonation typically an order of magnitude larger than the deposit itself – ie. The 'hydrothermal system' has a large footprint that has a recognisable zonation from cooler outer alteration to hotter inner alteration
- There are several types of porphyries copper, coppermolybdenum, 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!



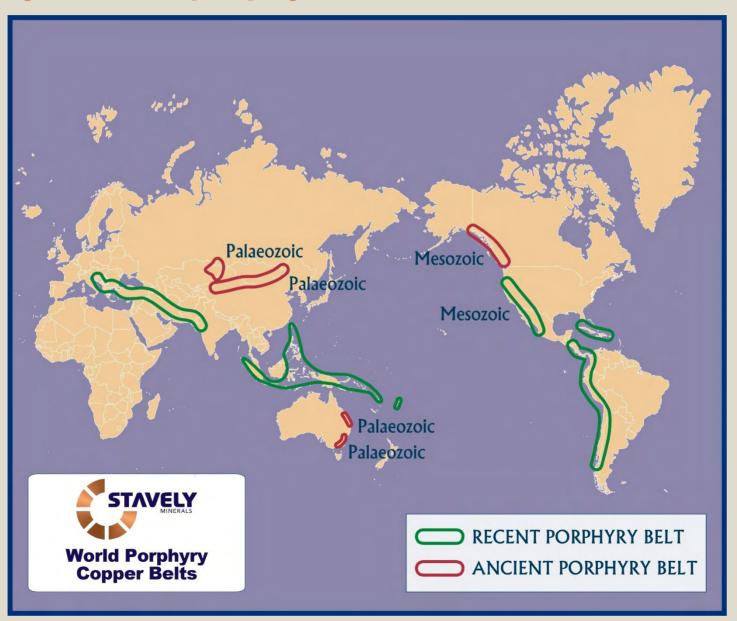


- Porphyry deposit examples from as early as
  Archaean age
- Likelihood of porphyry deposit preservation decreases with age due to erosion and crustal recycling

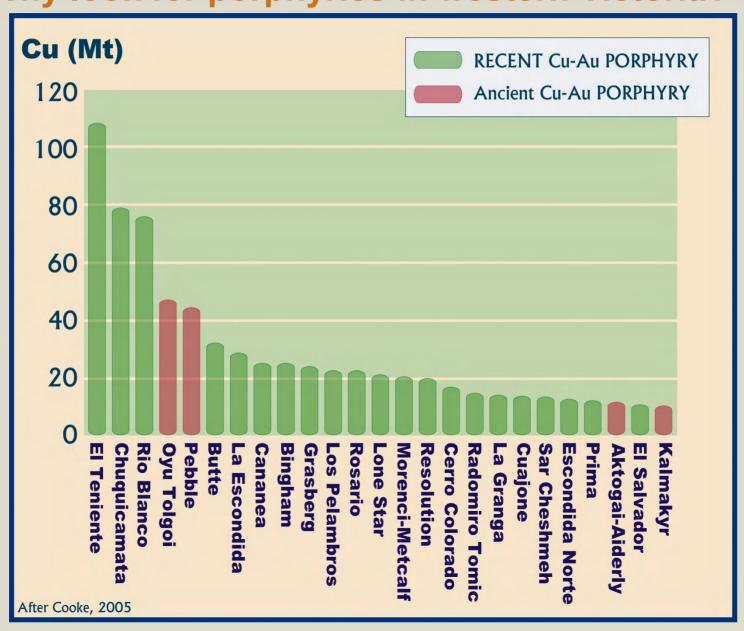




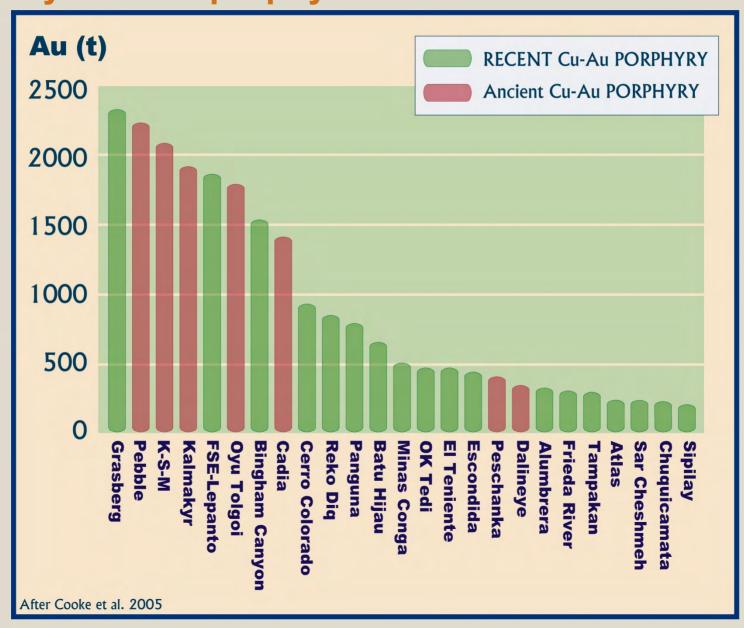














#### Why look for porphyries in western Victoria?

- Despite the reduced likelihood of preservation, the 'ancient' porphyries are disproportionately gold-rich
- The better value per tonne allows development by less obtrusive yet very cost-efficient block-cave mining method
- Alkalic porphyries are characteristically smaller spatially, and can have more limited alteration haloes making them a more difficult exploration target
- 7 phases of drilling lead to the discovery of Cadia Ridgeway
  - initial Mineral Resource:

44Mt at 2.6 g/t gold and 0.82% copper\*

<sup>\*</sup>Discovery of the Cadia Ridgeway gold-copper porphyry deposit, Halliday et al, 1999



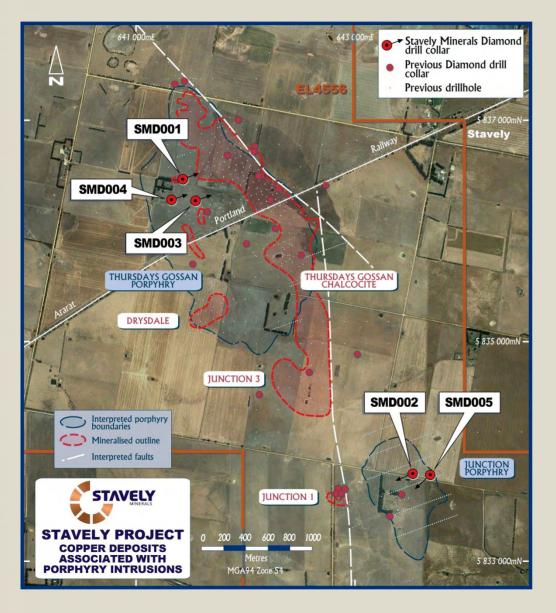
# But what evidence that the Thursday's Gossan porphyry is an alkalic copper-gold porphyry?

- Zones of pervasive hematite alteration
- Strongly negative δ34 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
    - VSTD001 32m at 0.8% copper and 0.4g/t gold
- Geochemical similarity with alkalic 'switch' in the Mt Read Volcanics
  - Tony Crawford, UTAS

<sup>&</sup>lt;sup>1</sup> see ASX announcement dated 12 May 2014 and available from www.stavely.com.au



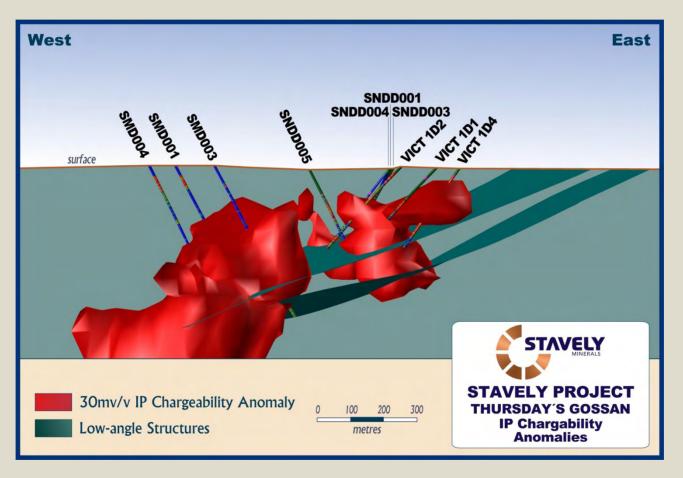
#### **Thursday's Gossan Porphyry**



Stavely Minerals drilled 3 deep diamond drill holes (between 532m to 640m deep) into an induced polarisation (IP) chargeability anomaly



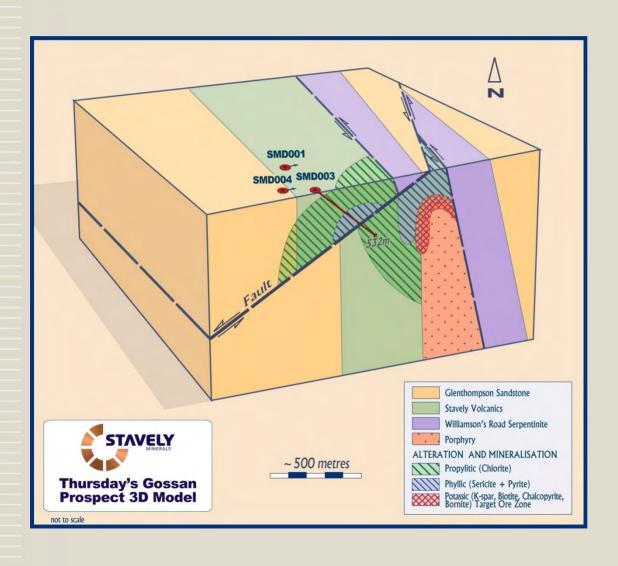
#### **Thursday's Gossan Porphyry**



Drilling intercepted well-developed phyllic alteration (sericitepyrite) which corresponded well with the IP chargeability anomaly

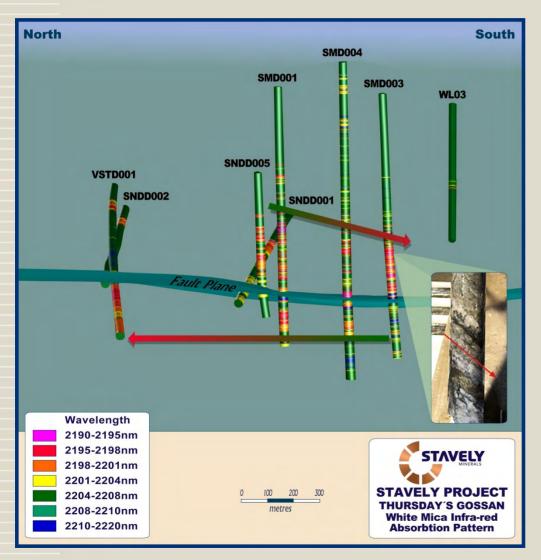


#### **Thursday's Gossan Porphyry**



The three deep diamond drill holes identified a low-angle structural offset to the porphyry system





1 see ASX announcement dated 12 May 2014 and available from www.stavely.com.au

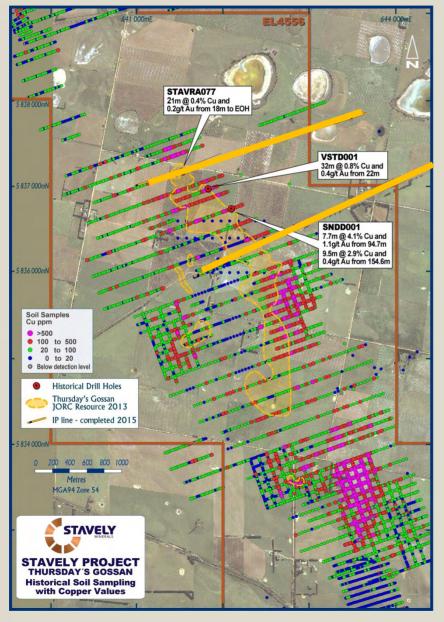
Thursday's Gossan Porphyry
Structural analysis, kinematic indicators, white mica shortwave infra-red absorption features and sulphur isotope results all concur the porphyry 'core' has been transposed north and east beneath the structural zone.

#### What do investors need to take from this?

The target porphyry 'core' is yet to be discovered and we believe we have strong evidence indicating where it has gone.



#### **Thursday's Gossan Porphyry**



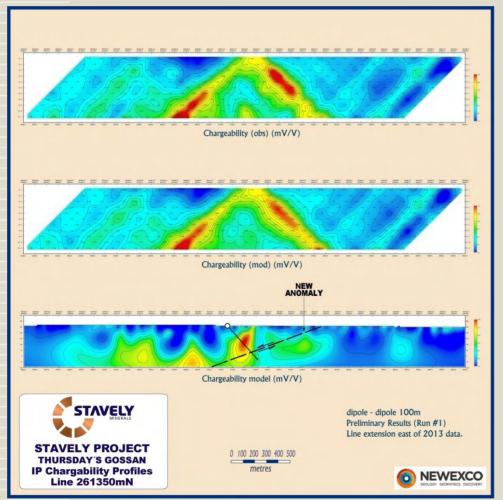
New IP survey lines to extend coverage to east and north where structural model say the target porphyry 'core' has been transposed

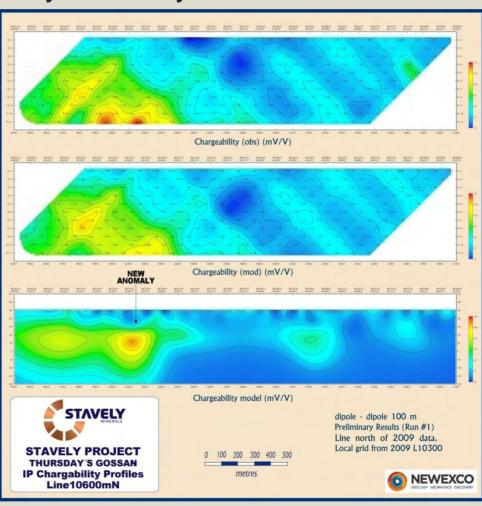


#### **Thursday's Gossan Porphyry**

New IP chargeability anomalies on both lines:

- Line 261350, anomaly under low-angle structure
- Line 10600, strong chargeability anomaly







#### **Thursday's Gossan Porphyry**

#### Results to date:

- ✓ Very positive results from drilling the IP chargeability anomaly – increasingly intense alteration, very 'busy' drill core, low-grade copper mineralisation in peripheral alteration
- ✓ Intercepted a low-angle structure at ~400-480m depth structural interpretation, kinematic indicators, white mica shortwave infra-red absorption features and sulphur isotopes all concur that the porphyry 'core' where best developed copper-gold mineralisation could be expected has been transposed to the north beneath the offset structural zone
- ✓ IP chargeability anomalies in areas predicted to host 'core'



# **WORK PROGRAMMES**

#### **WORK PROGRAMMES**



#### **Work programme for the Ararat Project**

- At Mt Ararat, additional surface geochemistry and IP geophysics to identify additional base metal—gold mineralised horizons in advance of drilling
- Extend soil sample grids, complete IP geophysics in advance of drilling at the new Stawell-style gold prospects
- Reconnaissance soil geochemistry over the 15 km coppergold VMS prospective horizon
- Follow-up of other gold targets in the region

#### Work programme for the Stavely Project

- At Thursday's Gossan, additional IP surveys to refine new anomalies prior to drill testing
- In the region, follow-up of other gold and copper-gold opportunities

Even though the market is crappy for explorers, we are still very busy and getting great results

#### **STAVELY MINERALS**



#### **Thank You**

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