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- The information contained in this presentation is not a substitute for detailed investigation or analysis of any particular issue. Current and potential investors should seek independent advice before making any investment decision in regard to the Company or its activities.

### A Modern Australian Copper-Gold Growth Company



- First-mover position largest and most strategic tenement holding in the Stavely Volcanic Belt, western Victoria
- A committed explorer focused on making transformational mineral discoveries since \$6m IPO in 2014
- **Discovery breakthrough** outstanding shallow high-grade coppergold-silver discovery (September 2019), the Cayley Lode
- Resource drill-out underway targeting maiden JORC Resource later this year – access to southern extension secured from 1 December 2021
- New style of mineralisation Magma/Butte copper lode-style system, never before seen in Australia
- Multiple discovery opportunities potential to become a new copper province as additional mineralised positions are tested
- Well-funded \$13.8m in cash (June 2021)







#### How did Stavely Minerals get from here,

SNDD001 drilled by Beaconsfield Gold – April 2008



#### to here?

SMD050 drilled by Stavely Minerals – September 2019





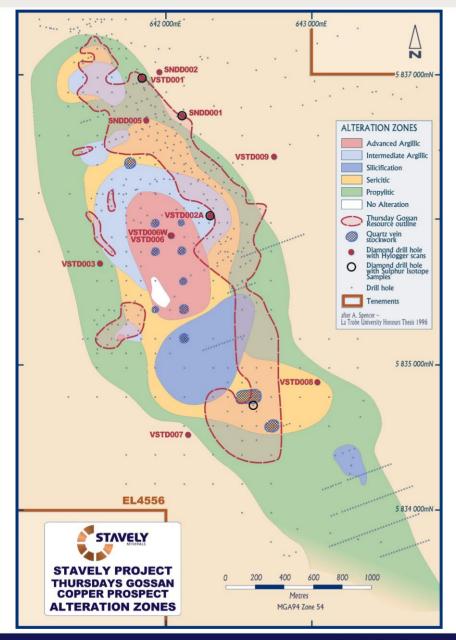




Stavely Minerals geologists Hamish Forgan and Stephen Johnson with large float boulders of Thursday's Gossan

- Stream sediment copper anomalies identified by WMC in 1970's
- 1975-1982 Discovered as a copper prospect by Pennzoil following up the stream sediment anomaly and finds small pile of malachite-stained gossanous float in farmers paddock assaying 2.9% Cu – Thursday's Gossan
  - Did geology mapping, soil surveys, RAB drilling, regional IP, aeromagnetics, ground magnetics, 15 x diamond drill holes – all <180m depth</li>
  - Intersected secondary chalcocite in massive pyrite in a fault zone
  - Interpreted as 'hydrothermal, probably emanating from an intrusive quartz feldspar porphyry'





- 1984-1987 CRA Exploration
  - Looking for Hemlo-style disseminated gold / platinum mineralisation
- 1991-1995 North Limited
  - 436 stream sediment samples, Flew 2,600 line km QuestEM, drilled 10 x RC/DDH drill holes
  - Best result 229m at 0.22% copper in VICT1D2
- 1995-1997 CRA / Rio Tinto JV into North Limited tenure
  - Data review, aircore drilling, reprocessed aeromag, radiometric and EM data, identified 41 mag, 6 radiometric and 28 EM anomalies followed up with aircore drilling
  - Drilled 3 x 300m diamond drill holes
    - Best result 27.7m at 0.24% copper from 38.3m depth

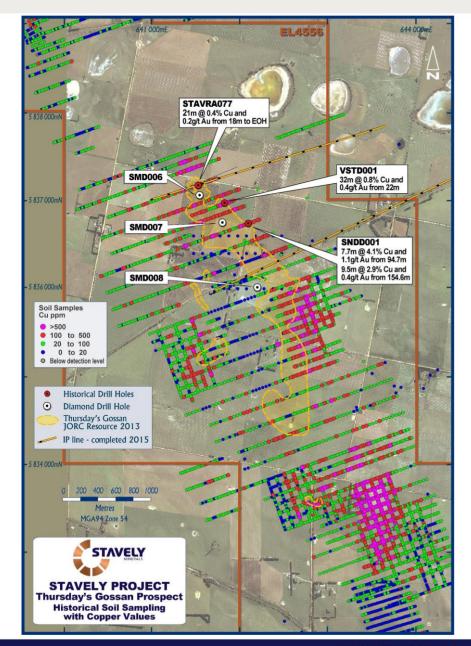




Former North Limited Victoria Exploration Manager Peter Legge (centre) viewing Thursday's Gossan drill core in 2003

- June 1997, last tenement dropped
- North Limited former Victoria Exploration Manager, Peter Legge picks up Thursday's Gossan on application on 9 Feb 2001 for new EL4556 granted to New Challenge Resources
- 2001-2004 Newcrest Operations Limited in Joint Venture with New Challenge Resources
  - Focused almost exclusively on Thursday's Gossan
  - Data compilation, 631 soil samples, 90 aircore drill holes, 10 diamond drill holes (plus 1 diamond drill hole in the Wickliffe copper prospect)
  - Best result 32m at 0.73% copper and 0.41g/t gold from 22m including 8m at 2.4% copper and 1.05g/t gold in VSTD001 believed to be the NW extension of the Cayley Lode





- 2008-2013 BCD Resources (formerly Beaconsfield Gold NL) – initially by way of earn-in then acquisition
  - Drilled 158 vertical aircore holes to define the shallow chalcocite blanket some with gold and silver assays, about 1/3 without why?
  - Employing an Avebury, Tasmania nickel sulphide model
  - Drilled 32 RC drill holes
  - Drilled 9 diamond drill holes
  - Best result SNDD001 (Stavely Nickel Diamond Drill 001)
    - 7.7m at 4.1% copper, 1.1g/t gold and 77g/t silver from 95m, and
    - 9.5m at 2.93% copper, 0.45g/t gold and 42g/t silver from ~150m
    - And other smaller intercepts
- Beaconsfield Gold NL had come out of administration as BCD Resources after the mine disaster and needed cash to fund development of a refractory gold project in Queensland





#### PRIVATE AND CONFIDENTIAL

#### OPPORTUNITY TO ACQUIRE AN ADVANCED EXPLORATION COPPER PACKAGE IN VICTORIA

#### HIGHLIGHTS

- Advanced exploration projects, with excellent prospectivity for copper, well situated with access to key infrastructure.
- Combined JORC Resource of 11.3Mt @ 0.6% Cu for 66,000t contained copper.
- Initial metallurgical testwork support copper recoveries of 85-90% producing a clean concentrate.
- Completed conceptual Scoping Study supportive of development.

PCF Capital Group (ACN 089 188 063) ("PCF") has been appointed to seek expressions of interest in the Stavely and Ararat Projects (the "Projects"), located in Western Victoria, Australia. The Projects comprise three exploration permits covering an area of approximately 278km<sup>2</sup> and are accessible via the Western and Glenelg Highways. An extensive data set has been compiled from previous exploration and the Projects present as an excellent advanced exploration opportunity.

#### The Projects

The Projects host a combined JORC Resource of 11.3Mt @ 0.6% Cu for 66,000 contained tonnes of copper and are well situated with respect to access and infrastructure. Stavely and Ararat are located on freehold land (no native title issues) and are "11km from 62Mw grid power as well as providing good access to rail and roads and are within 50km from the regional centres of Hamilton and Ararat, where an experienced workforce

#### Exploration

Several prospects have been identified to host porphyry copper and VHMS style deposits. Relatively little follow up has been done on the potential for associated structurally controlled higher grade concentrations of mineralisation, although this type of target is considered prospective by the Company. Recent exploration work was focused on aircore drilling at Stavely (JORC Resource 10.6MT @ 0.45% Cu) on the Thursdays Gossan Chalcocite ("TGC") and the Fairview gold prospect. Significant copper intersections include:

- 51m @ 0.77% Cu from 30m (open at depth)
- 30m @ 0.76% Cu from 24m (open at depth)
- 39m @ 0.43% Cu from 27m

Other results at Thursdays Gossan Sulphide ("TGS") include 7.7m @ 4.2% Cu and 35m @ 3.7% Cu from 24m (open at depth) at Junction 1 Copper Deposit. Higher grades have been achieved at Ararat (JORC Resource 0.7MT @ 2.7% Cu, 0.8g/t Au) including:

- 4.5m @ 12.0% Cu and 8.1g/t Au
- 4.0m @ 4.90% Cu
- 4.0m @ 8.60% Cu

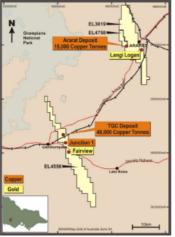


Figure 1: Location

#### The Offer

- BCD Resources mandates PCF Capital to sell the Stavely and Ararat Projects
- On review of the data, not overly excited about the project
  - Best 'porphyry' intercept was North Limited's drill hole VICT1D2 with 229m at 0.22% copper and minor 'spotty' gold
  - Had ~ 30 diamond drill holes between 150m to 400m depth
- But did accept a site visit in January 2013 (the dust had barely settled on the Integra Mining takeover!)

# V<sub>a</sub>,v

#### The Site Visit

- All North Limited and CRA drill core was lost, presumed taken to the tip
- Newcrest drill holes were available but most were at the GSV core storage facility in Werribee
  - But the upper portion of VSTD001, including the interval of
    - 32m at 0.73% copper and 0.41g/t gold from 22m including 8m at 2.4% copper and 1.05g/t gold was not available
- Crucially, BCD Resources drill hole SNDD001 was available and the tale that drill core was telling about the mineralising fluids was unexpected...



SNDD001 - 95m



SNDD001 - 156m



SNDD001 - 269m

# The Cayley Lode Discovery – The Journey So Far



#### The Site Visit – What We Saw:

- Oxidised and low pH fluid = great metal carrying capacity
- Low-pH, hydrothermal fluids had dissociated and produced
   HS and HCI = higher up in the system
- The metal was there, SNDD001
  - 7.7m at 4.14% copper, 1.08g/t gold and 77g/t silver from 94.7m
  - 9.5m at 2.93% copper, 0.45g/t gold and 42g/t silver from 154.6m
- The conclusion was that:
  - Thursday's Gossan was a very large hydrothermal mineralizing system
  - Fluid composition was very favourable
  - There was good metal in the system
  - Likely driven by a fertile porphyry at depth



SNDD001 - 95m



SNDD001 - 156m



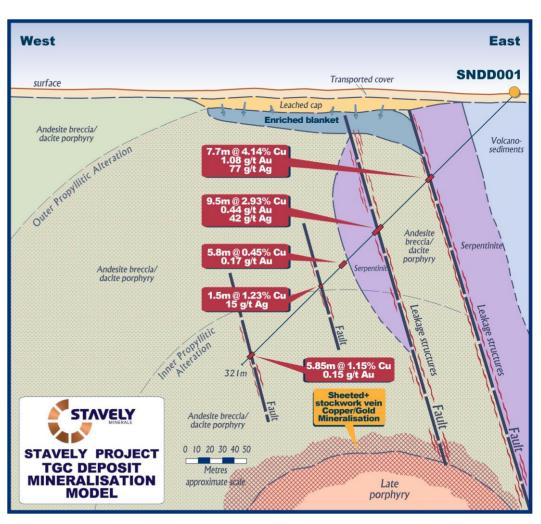
SNDD001 - 269m

### The Cayley Lode Discovery – The Journey So Far



#### **The Site Visit**

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Pre-IPO conceptual model included in 2014 prospectus

# The Cayley Lode Discovery – The Journey So Far





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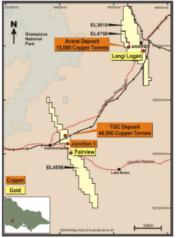


Figure 1: Location

#### The Deal

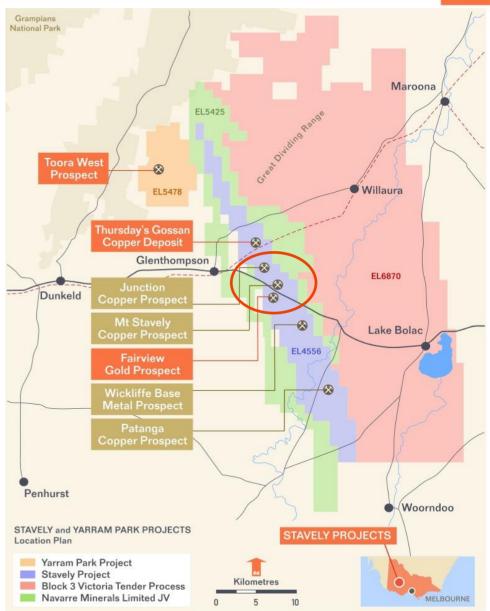
- BCD Resources mandates PCF Capital to sell the Stavely and Ararat Projects
- March 2013, Northern Platinum (later renamed Stavely Minerals Limited) acquires the Stavely and Ararat Projects for total consideration of \$2.8m
- Conducted fieldwork, mapping, IP surveys, gravity survey in the remainder of 2013
- Listed Stavely Minerals Limited on the ASX in May 2014 and raised \$6m to conduct deeper drilling
- Was the only successful Resources Sector IPO in 2014 it was a bleak period in the market at the time
- No institutional investors, all retail 'Mums and Dads' and 'Friends and Family' – thankfully we had a following from Integra Mining

### First-Mover Position in Victoria's Stavely Arc



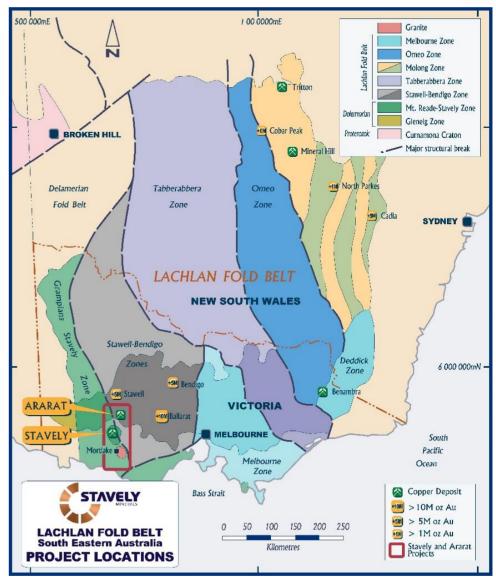
- Two cornerstone assets 100%-owned Stavely and Ararat Projects
- Picked-up EL6870 in Government tender and entered into an Earn-in and JV with Navarre Minerals
- 1,461km² ground position in Australia's new exploration hot-spot of western Victoria (Kirkland Lake Fosterville)
- Majority of exploration since 2014 focused on Thursday's Gossan, targeting a Tier-1, Cadia-style copper-gold porphyry system





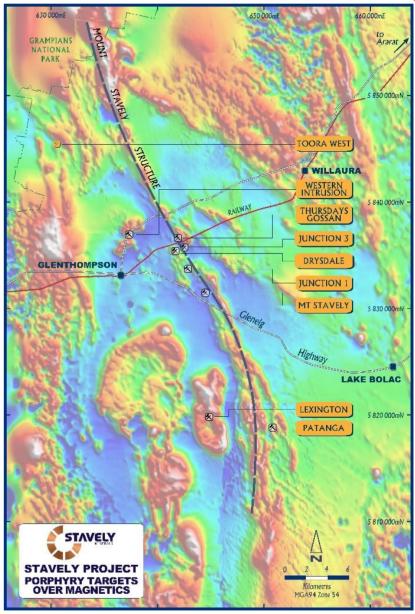


- Located in the Grampians / Stavely Zone
- Host sequence includes (probable) Late-Proterozoic serpentinised ultramafic and Late-Cambrian turbidites, tuffs, andesitic flows (some hyaloclastite) and dolerite, granodiorite, tonalite, diorite and dacite intrusions

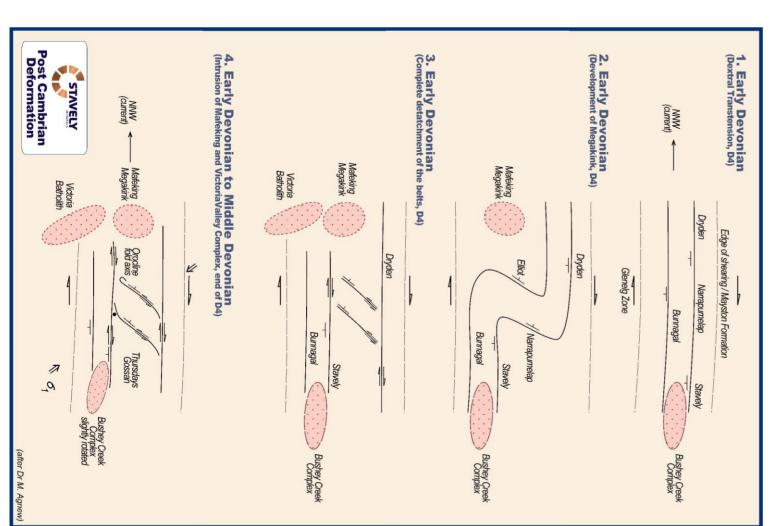


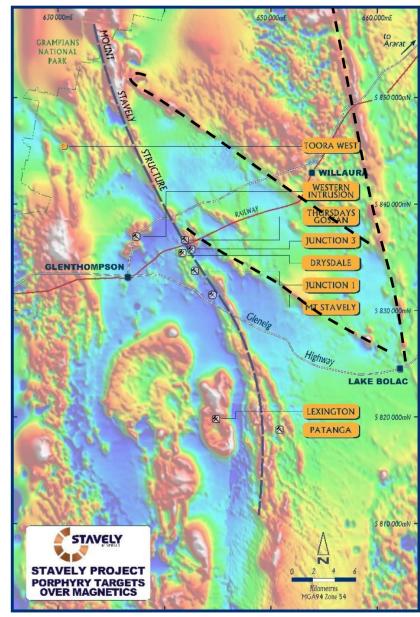


 The Cambrian-age Stavely Volcanic Belt is exposed or under shallow cover for about 30km south of the Grampians



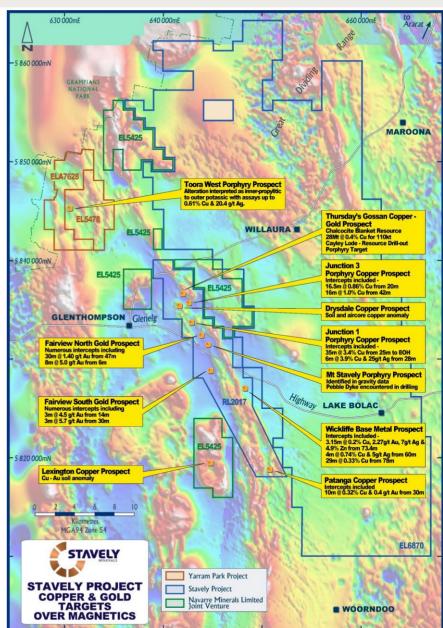




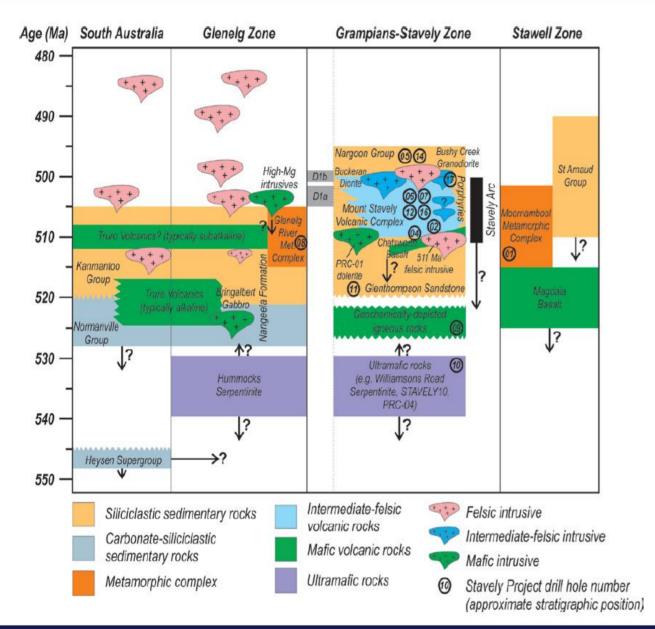


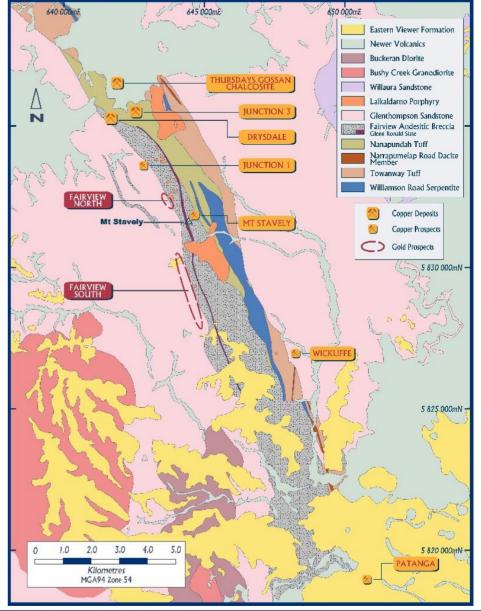


- Thursday's Gossan porphyry
- Toora West porphyry prospect
- Junction porphyry
- Mount Stavely porphyry
- Fairview Gold prospect
- Wickliffe VMS prospect
- Patanga copper prospect





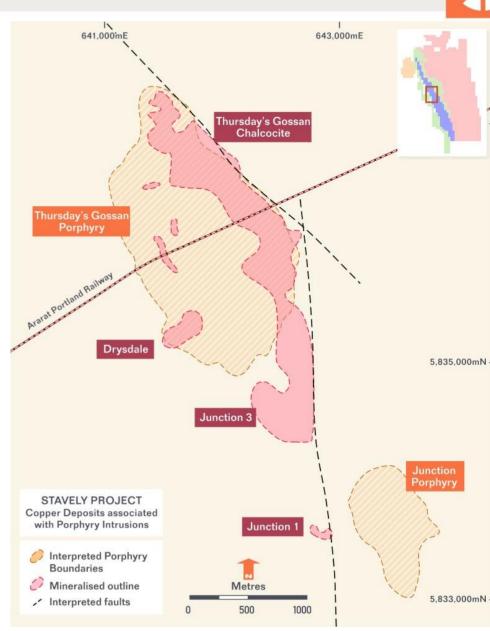






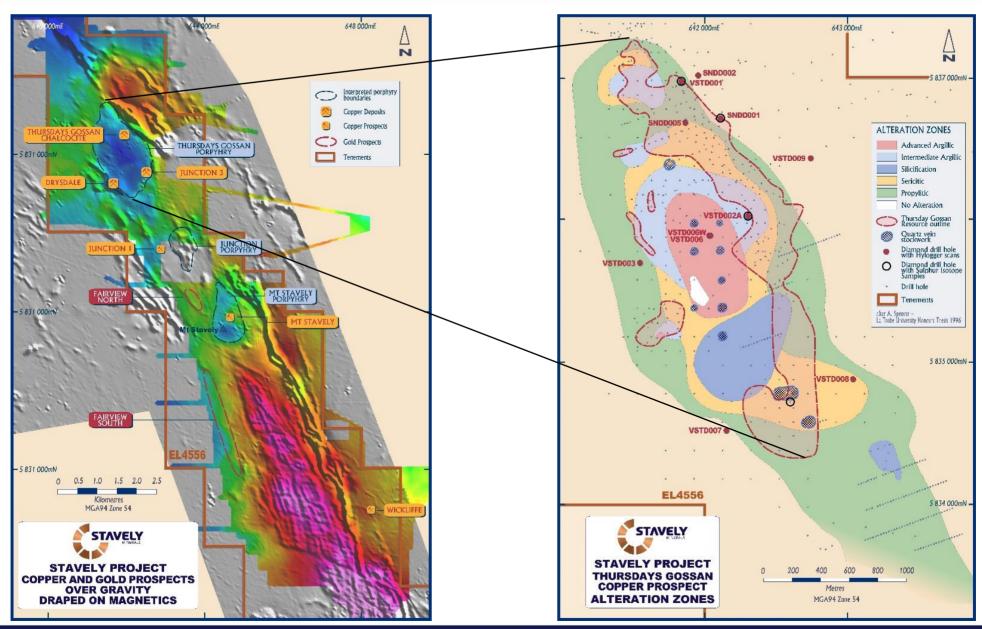
- Thursday's Gossan includes an extensive chalcociteenriched blanket occurring 30m to 80m below surface
- Inferred Mineral Resource of 28Mt at 0.4% copper<sup>1</sup> for 110kt of contained copper
- Developed as the surface expression of high-grade lodestyle copper veins with weathering dispersion of secondary copper sulphides (no oxides or carbonates)

We always knew there was plenty of shallow copper at Thursday's Gossan. But we were looking for a porphyry at depth....



<sup>&</sup>lt;sup>1</sup> reported in compliance with JORC 2012, see ASX announcement 8 September 2015, subsequent Annual Reports and available from www.stavely.com.au

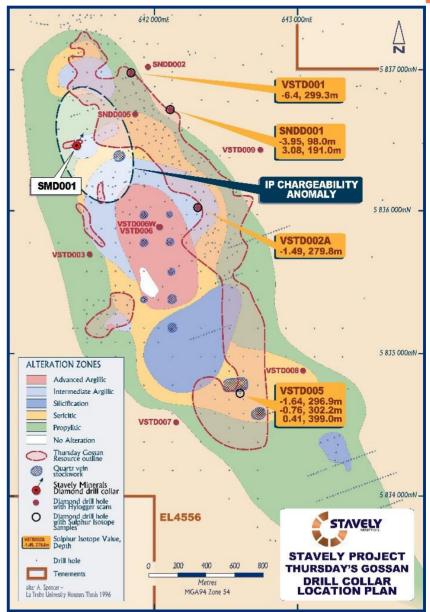






#### **Pre-IPO Induced Polarisation Survey**

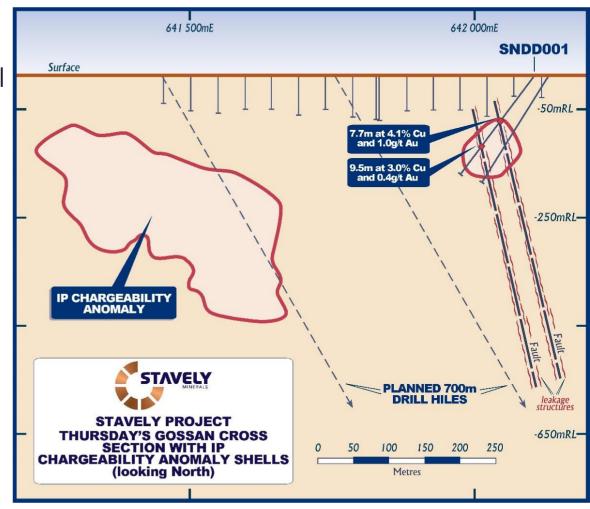
- Identified a +25mV/V chargeability anomaly in the north-central portion of the prospect with no previous drilling >80m depth
- Designed 3x deep diamond drill holes to 600m to test the IP chargeability anomaly





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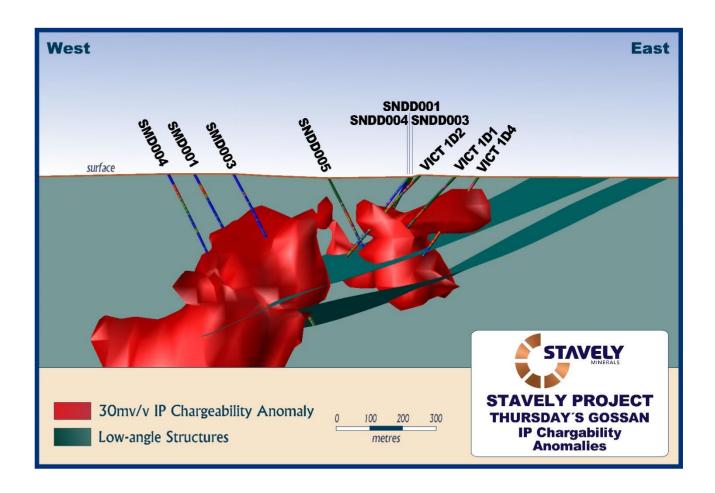
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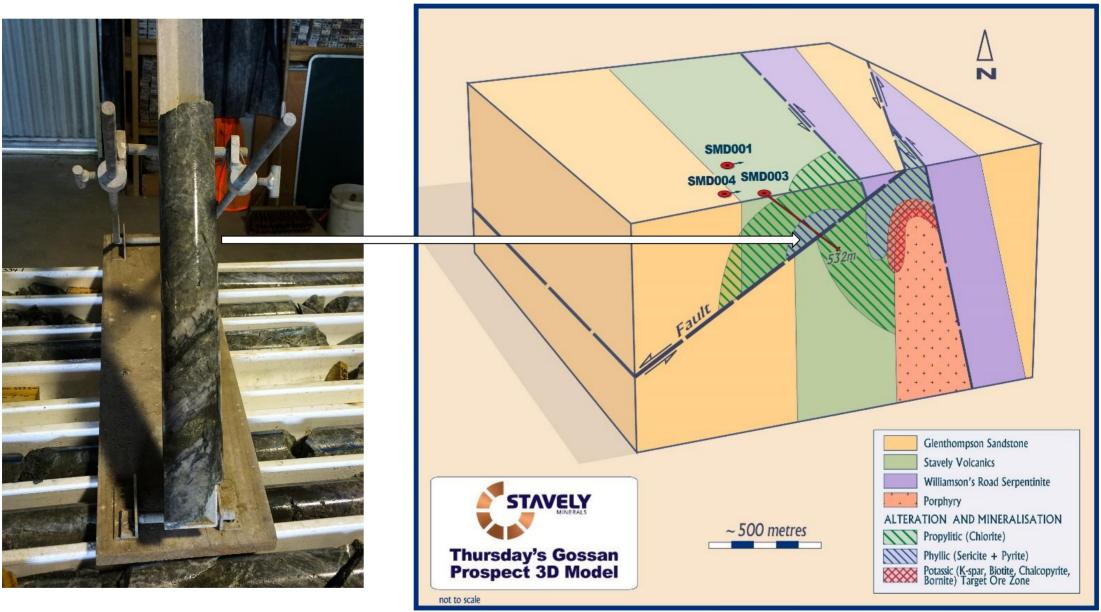


#### First pass drilling

- All 3 initial drill holes intercepted phyllic alteration at expected depths.
- The plan was to drill through this into the potassic zone.
- Hit a low-angle structure instead.

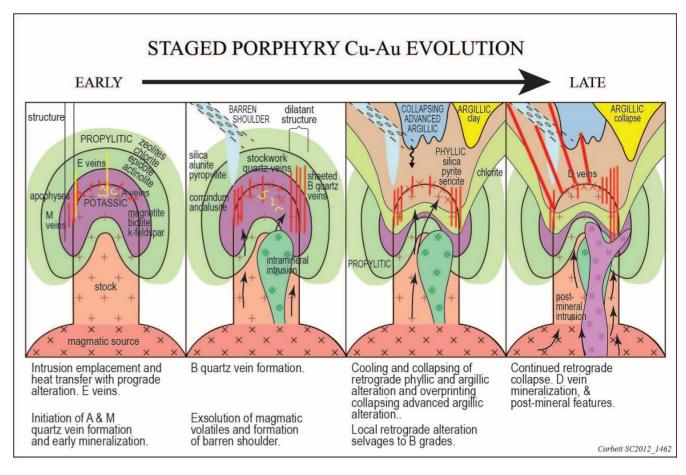








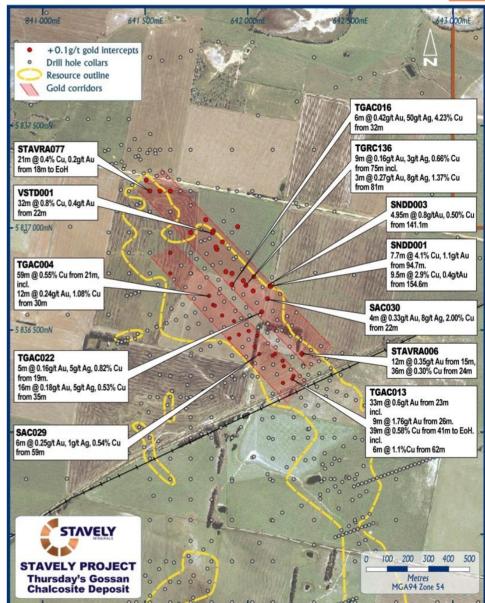
- 'D' veins are late-stage sulphide-rich veins with characteristic sericite alteration selvedges.
- They should be a 'yellow brick road' down to the source porphyry.



After Corbett, 2012

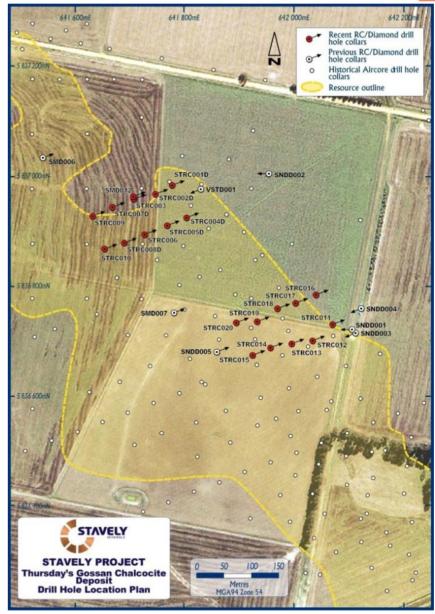


- Thursday's Gossan Chalcocite Blanket not formed on primary low-grade porphyry copper mineralisation
- Two parallel zones of near-surface high-grade copper mineralisation with associated silver and gold....
- Later, it was recognised that these zones correspond to the near-surface expression of sulphide-rich lode-style veins approaching surface





- Completed 20 x drill hole RC drilling programme to target these high-tenor copper, silver and gold zones
- Best described as 'brute force' exploration
- Potential for material impact on Mineral Resources update given NO silver and gold ever estimated within the Mineral Resource
- Objective: Help us understand where the gold and silver are coming from





#### Thursday's Gossan RC drilling results:

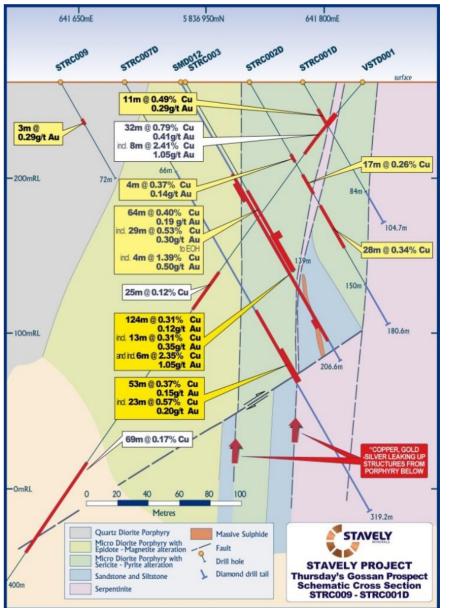
- 24 metres at 0.64% copper and 1.2 g/t gold including:
  - 14 metres at 0.82% copper and 1.99 g/t gold including
    - 1 metre at 0.84% copper and 22.2 g/t gold
- 29 metres at 0.53% copper and 0.30 g/t gold to end of hole (EoH), including
  - 4 metres at 1.39% copper, 0.5 g/t gold and 55 g/t silver
- 25 metres at 0.52% copper and 0.37 g/t gold to EoH
- 3 metres at 4.14% copper, 0.36 g/t gold and 59 g/t silver
- 43 metres at 0.55% copper and 0.11 g/t gold
- 28 metres at 0.59% copper and 0.19 g/t gold
- 8 metres at 0.74% copper and 0.17 g/t gold
- 25 metres at 0.30% copper and 0.29 g/t gold to EoH including
  - 3 metres at 1.24% copper and 1.31 g/t gold

see ASX announcements on 03/07/2017, 23/08/2017 and 05/09/2017 and available from www.stavely.com.au



#### Thursday's Gossan diamond drilling

- Most RC drill holes completed before planned depth due to abundant water
- Commenced extending holes with diamond tails
- SMD012 124m at 0.31% copper and 0.12g/t gold, and
- 53m at 0.37% copper and 0.15g/t gold, including
  - 23m at 0.57% copper and 0.20g/t gold

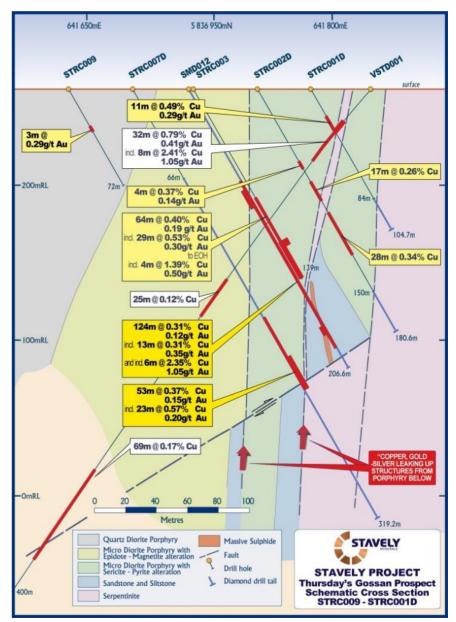


see ASX announcement 23/08/2017 and available from www.stavely.com.au



#### Thursday's Gossan diamond drilling

- Started getting some very large intervals of low-grade mineralisation
- Encouraged to continue on
  - 314m at 0.11% copper
  - 283m at 0.16% copper
  - 194m at 0.16% copper
  - 85m at 0.35% copper and 0.18g/t gold
  - 124m at 0.31% copper and 0.12g/t gold
  - 92m at 0.34% copper and 0.12g/t gold, incl
  - 30m at 0.50% copper and 0.22g/t gold

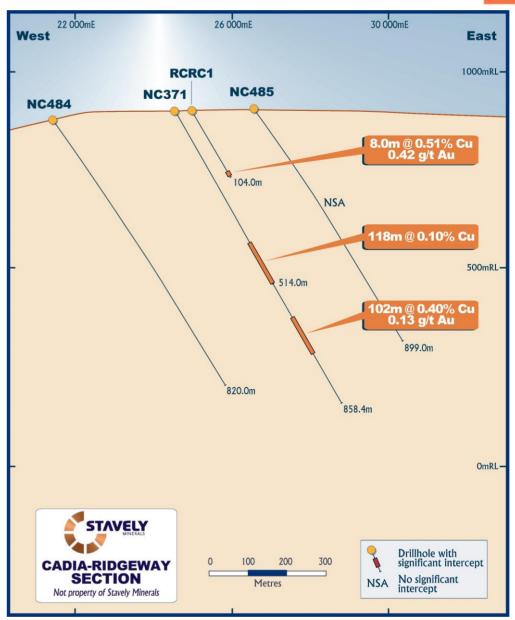


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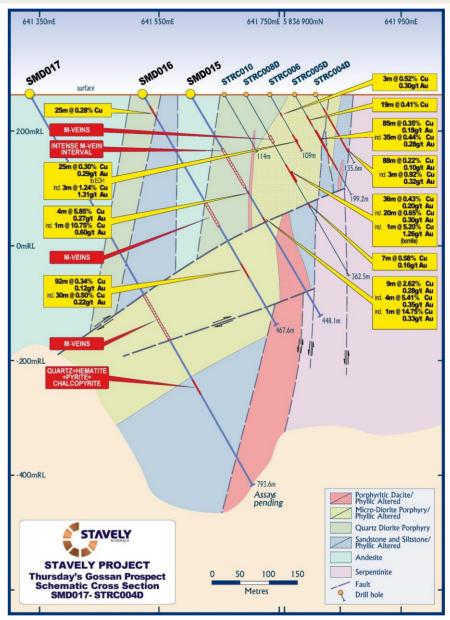
see ASX announcement 19/01/2018 and available from www.stavely.com.au



# Follow-up drilling continued to intercept late 'D' veins (transitioning to HS-style) in SMD015:

- 9m of 2.62% copper and 0.28g/t gold, including
  - 4m of 5.41% copper and 0.35g/t gold, including
  - 1m at 14.75% copper and 0.33g/t gold
- 4m at 5.85% copper and 0.27g/t gold, including
  - 1m at 10.75% copper and 0.60g/t gold

Diamond drill holes SMD015, SMD016 and SMD017 also intercepted significant intervals of porphyry 'M' veins



see ASX announcement 19/01/2018 and available from www.stavely.com.au





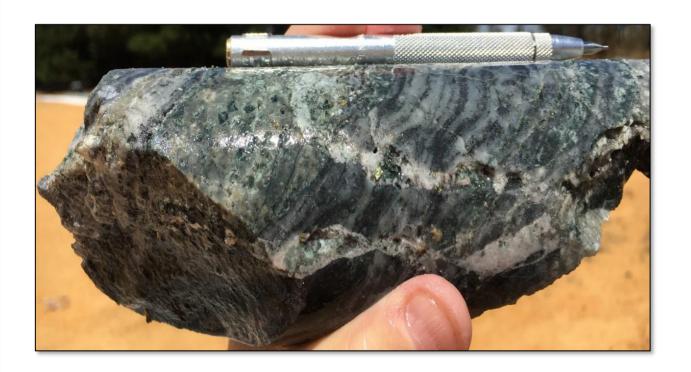
see ASX announcement 16/02/2018 and available from www.stavely.com.au

#### **SMD015**

- +120m intercept of classic porphyry 'M' veins:
- Typical of gold-rich porphyries
- Veins in this photo are similar to the E-1A
   'M' veins at Cadia Ridgeway





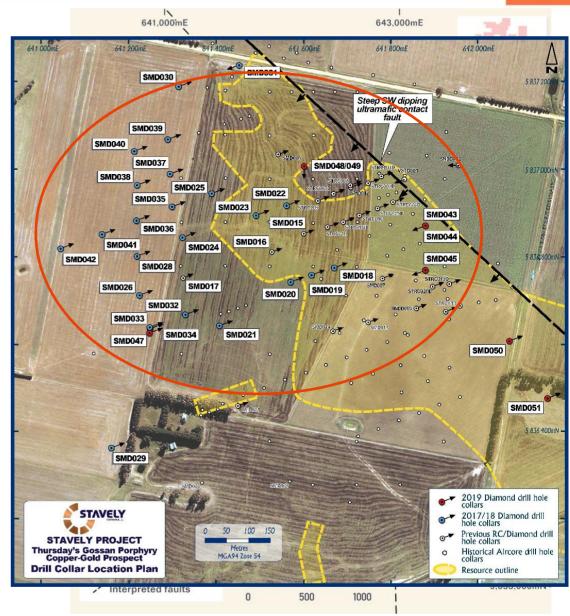


#### **SMD017**

The laminated 'M' vein in this photo has inter-grown chalcopyrite with the magnetite and is similar to Cadia Ridgeway E-2 veins associated with the early copper-gold mineralisation event

see ASX announcement 16/02/2018 and available from www.stavely.com.au

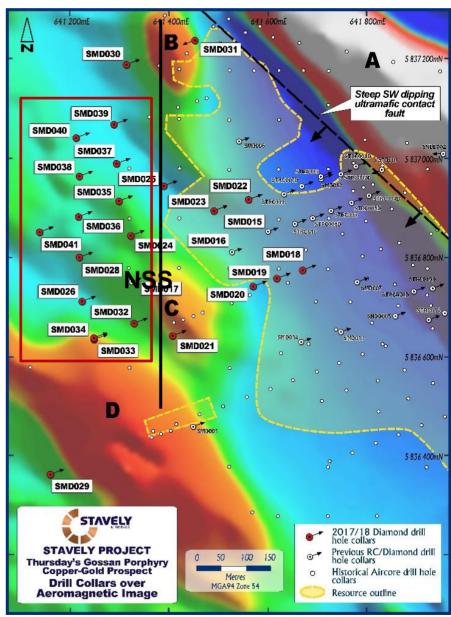
- 49 diamond drill-holes completed to depths of up to 1.8km targeting the elusive "core" of the porphyry system
- Strong indications of proximity to a buried porphyry with significant encouragement from assays, petrology and geochemistry



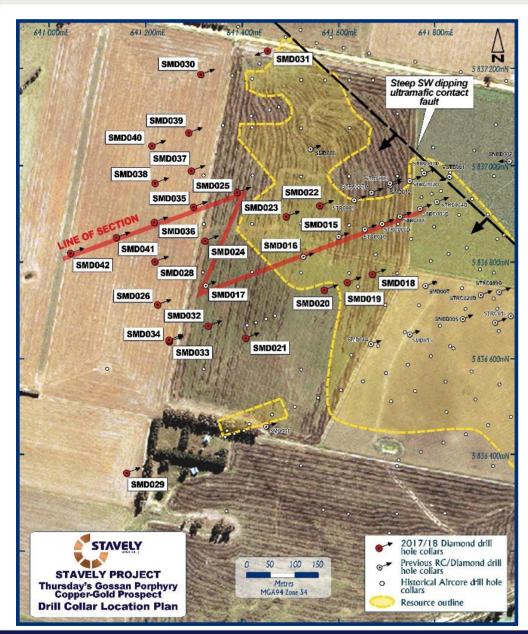


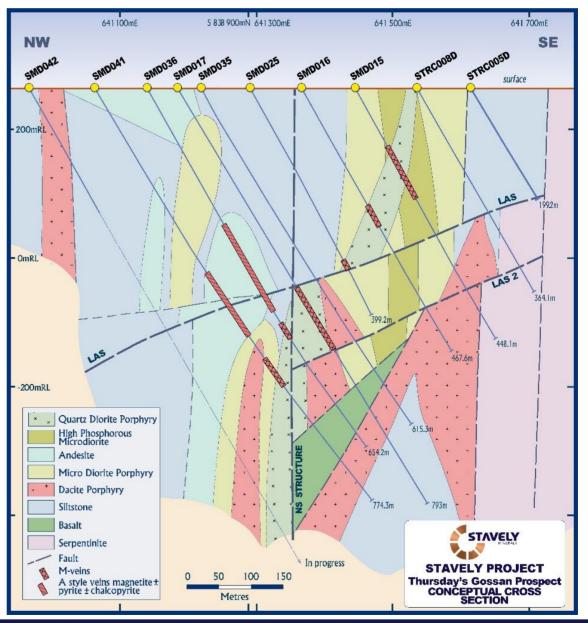
#### **Drill Prospecting the NSS**

- Drilled 6 fences of 2 x holes 'prospecting' the NS structure looking for the hotter portion before drilling deeper
- SMD035 and SMD036 intercepted M veins on the western side of the NS structure
- Drill hole SMD041 also intercepted porphyry A-M veins and aplite vein dykes and porphyry M veins
- Alteration is increasing in temperature from inner propylitic epidote to actinolite ± magnetite with intergrown chalcopyrite

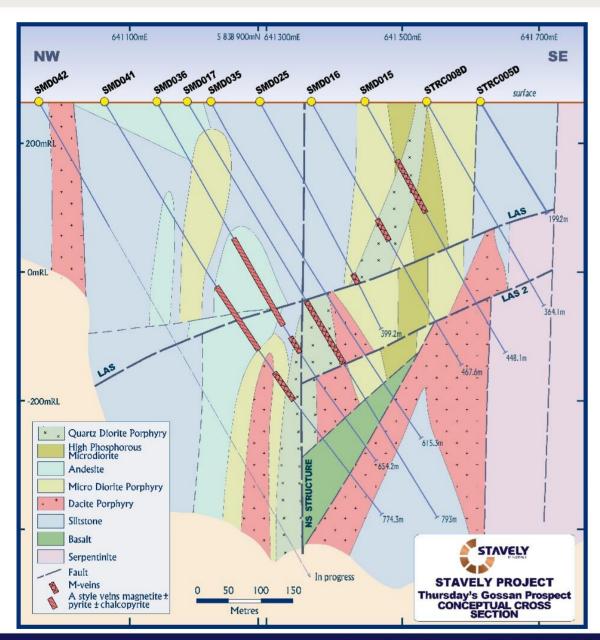








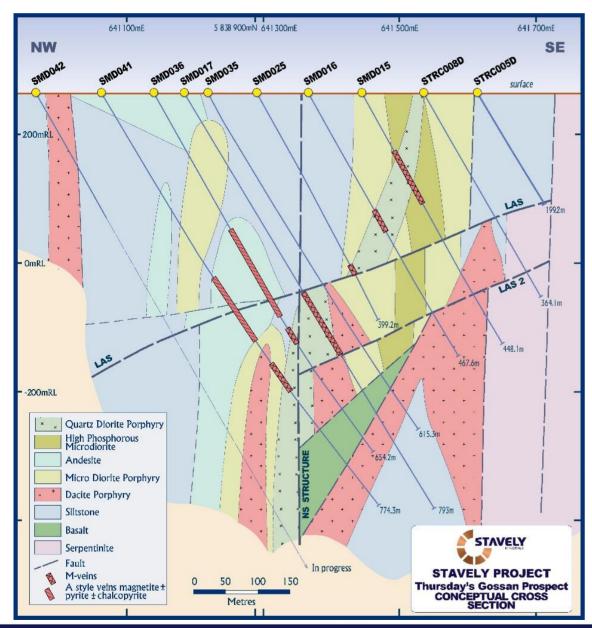




#### **Composite section – key elements**

- Pre-mineralisation host units are:
  - Sandstone/siltstone
  - Andesite flows
  - Serpentinite
- 2. Pre- / Syn –mineralisation intrusions include:
  - Quartz diorite porphyry (porphyry 2)
  - Micro-diorite porphyry
  - High-P microdiorite
  - Dacite porphyry (Victor porphyry porphyry 1)
- Structures are:
  - Serpentinite contact
  - Low-angle structures
  - North-south structure

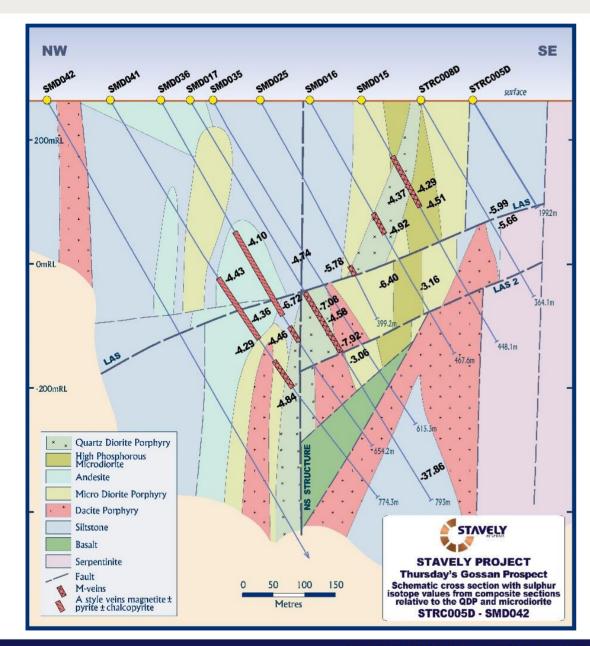




#### **Composite section – key elements**

- 4. Aplite vein-dykes and porphyry A-M veins
- Porphyry M veins in QDP and high-phos microdiorite
  - Magnetite ± quartz
  - Quartz with magnetite margins ± magnetite centrelines
  - Laminated M veins
- Massive to semi-massive porphyry 'D' veins (from porphyry 3?) cut QDP (porphyry 2)
- Porphyry 'D' veins are brecciated / re-opened and infilled by high-tenor copper sulphides (pro-grade porphyry 4 event?)
- Late dacite and lamprophyre dykes



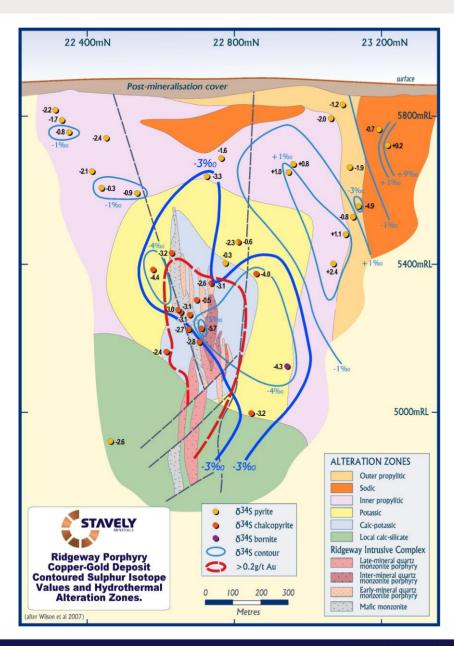


# Lighter S isotopes associated with the later porphyries / M-veins / A-veins / aplite vein dykes

Interpreted to reflect:

- 1. Proximity to the magmatic source
- The strongly oxidised fluid responsible for mineralisation
- Given we are not yet in the 'core' potassic alteration / mineralisation zone, these fluids appear to be especially oxidised enhanced capacity for copper-gold mineralisation





#### Cadia – Ridgeway d34 S Isotopes (diagram adapted from Wilson, 2003)

Broad correlation of copper-gold mineralisation with lighter d34 S isotopes.

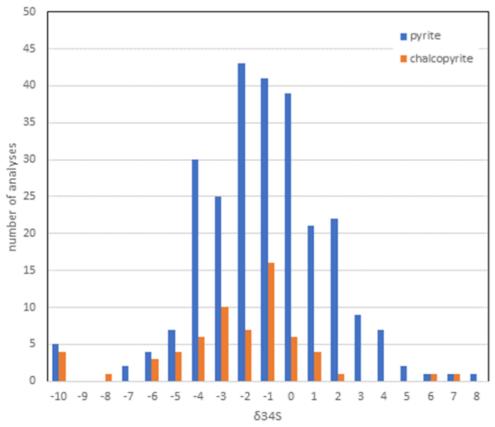
A similar general correlation is demonstrated by a number of British Columbia alkalic copper-gold porphyry systems.

An empirical observation is that the lighter d34 S isotopes are associated with hydrothermal magnetite.

Q: Is this reflecting enhanced fugacity of oxygen in the hydrothermal fluids?

Q: How does this relate to copper-gold fluid carrying capacity?





S ISOTOPE STATI				
Mineral	Number	Mean	S.D.	Skewness
pyrite	260	-1.82	3.87	-4.04
chalcopyrite	65	-3.40	5.97	-2.82
anhydrite	12	17.11	4.41	-0.63
bornite	2	-3.35		
chaclcocite	1	1.46		

## Lighter S isotopes associated with the later porphyries

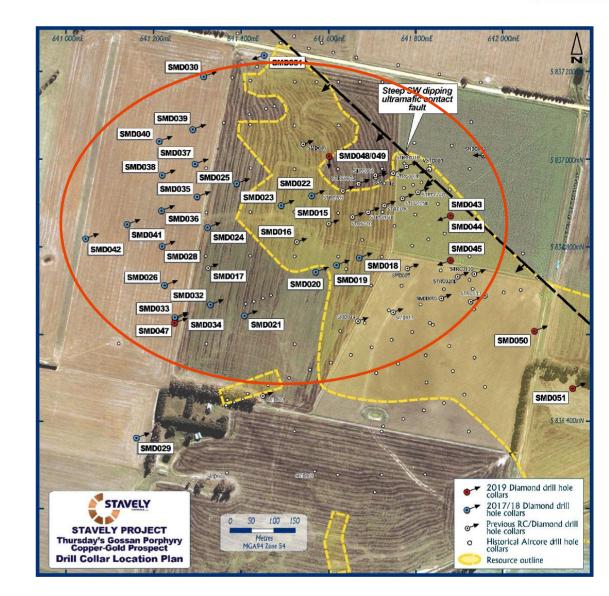
(this dataset includes 105 recently received d34 S determinations from the Cayley Lode)

Interpreted to reflect:

- 1. Proximity to the magmatic source
- The strongly oxidised fluid responsible for mineralisation
- Given we are not yet in the 'core' potassic alteration / mineralisation zone, these fluids appear to be especially oxidised enhanced capacity for copper-gold mineralisation



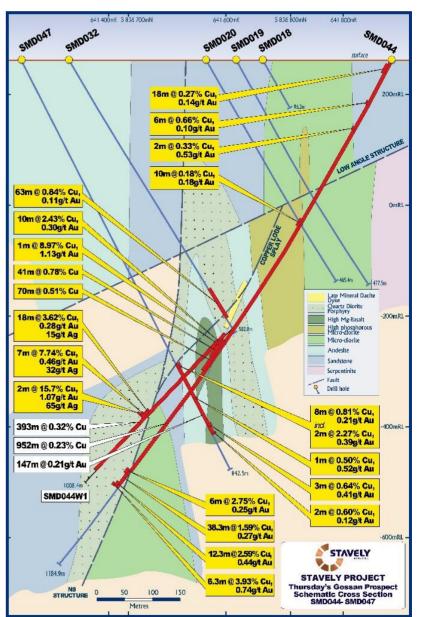
- +40 diamond drill-holes completed to depths of up to 1.8km targeting the elusive "core" of the porphyry system
- Strong indications of proximity to a buried porphyry with significant encouragement from assays, petrology, geochemistry, Sulphur isotopes, white mica short-wavelength features, V/Sc ratios





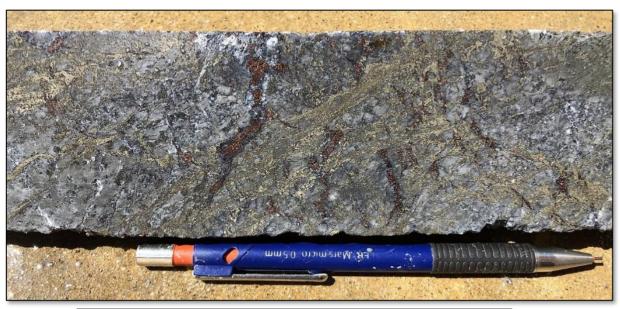
#### SMD044 – turned the rigs around

- Large low-grade intercept of <u>952m at 0.23% copper</u> reflects a very large system
- Included 70m of chalcopyrite mineralisation in the Copper Lode Splay – 70m at 0.51% copper including:
  - 10m at 2.43% copper and 0.30g/t gold from 583m
- Intercepted another interval of chalcopyrite-bornitechalcocite-covellite mineralisation in the North-South Structure:
  - 38.3m at 1.59% copper and 0.27g/t gold from 890m including:
  - 6m at 2.75% copper and 0.25g/t gold, and
  - 12.3m at 2.59% copper and 0.44g/t gold



see ASX announcement 12/03/2019 and available from www.stavely.com.au





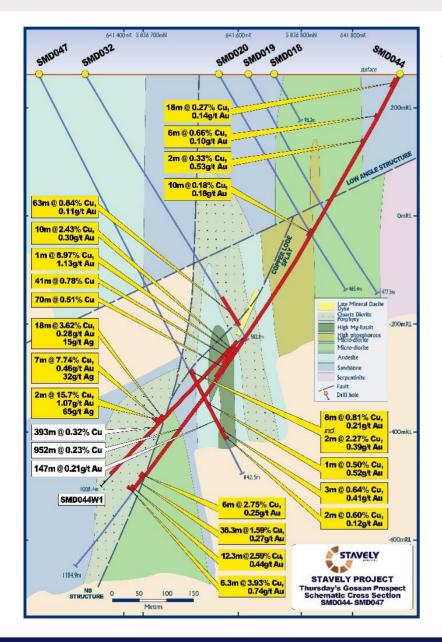


Silica-pyrite mineralisation cut by bornite-chalcocite at 924.3m



see ASX announcement 12/03/2019 and available from <a href="https://www.stavely.com.au">www.stavely.com.au</a>





#### **SMD044W1**

- Large low-grade intercept of 393m at 0.32% copper
- Intercepted another interval of chalcopyrite-bornite-chalcocitecovellite mineralisation in the North-South Structure:
  - 18m at 3.62% copper, 0.28g/t gold and 15g/t silver from 848m including
    - 7m at 7.74% copper, 0.46g/t gold and 32g/t silver, including
      - 2m at 15.7% copper, 1.07g/t gold and 65g/t silver

see ASX announcement 23/04/2019 and available from www.stavely.com.au



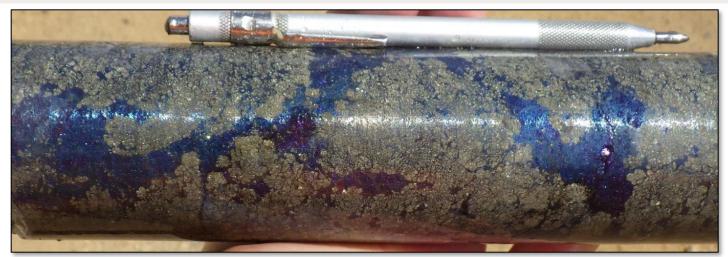


Photo 1. Pyrite vein with bornite-covellite-chalcocite(+-digenite) veining at 859.0m in SMD044W1 – colusite (Cu13VAs3S16) noted in petrology



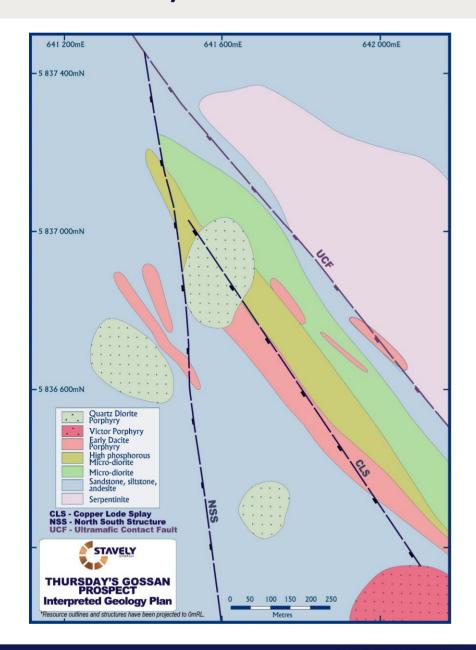
Photo 2. Chalcocite(+-digenite)-bornite-covellite-enargite veining at 859.0m in SMD044W1 (This photo is of the other side of the previous photo)

#### **SMD044W1**

393m at 0.32% copper incl.

- 18m at 3.62% Cu, 0.28g/t Au and 15g/t Ag, including:
  - 7m at 7.74% Cu, 0.46g/t Au and 32g/t Ag, including:
    - 2m at 15.7% Cu, 1.07g/t Au and 65g/t Ag





#### **Copper Lode Splay (CLS)**

Intercepted in a couple of shallower holes:

- > STRC019D 3m at 2.65% copper and 1.17g/t gold
- > SMD015 9m of 2.62% copper and 0.28g/t gold from 248m, including
  - 4m of 5.41% copper and 0.35g/t gold, including
    - 1m at 14.75% copper and 0.33g/t gold
  - 4m at 5.85% copper and 0.27g/t gold, from 196m including
    - 1m at 10.75% copper and 0.60g/t gold
- SMD032 6m at 6.73% copper, 0.84g/t gold from 538m, including
  - 1m at 22.8% copper, 0.91g/t gold





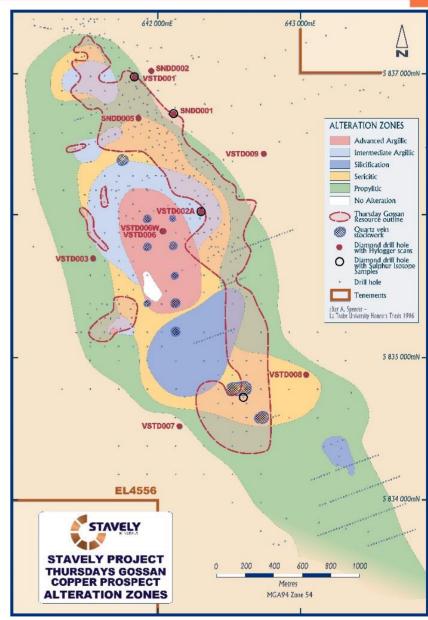
Copper Lode-style sulphide veins: pyrite→chalcopyrite→bornite→covellite→chalcocite mineralisation from 542.5m in SMD032 – 1m at 22.8% Cu, 0.91g/t Au..

see ASX announcement 5/10/2018 and available from www.stavely.com.au



#### **System evolution**

- Early extrusion of primitive sea-floor ultramafic (peridotite) ~ 630Ma basal unit (thrust emplaced)
- Sedimentation of the Glenthompson sandstone and extrusion of the hyaloclastite Fairview Andesite Breccia (plus tuffs and interbedded sediments – minor shale)
- Thrusting and the sequence turned upright
- Intrusion of large composite diorite / granodiorite plutons
- Intrusion of the large, early 'Victor' porphyry characterised as low-grade
   Mo ± Cu with very deep (+300m) clay alteration implication for gravity low
- Intrusion of a series of smaller porphyries on the northern margin of the Victor porphyry
- Porphyry 'D' veins cut Phase 2 porphyries (eg. QDP) implies late-stage
   Porphyry 3 is the source of 'D' veins
- 'D' veins are re-fractured / brecciated and in-filled with high-tenor copper sulphides inferred prograde Porphyry 4 related copper mineralisation





#### **System evolution**

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- 'D' veins are re-fractured / brecciated and in-filled with high-tenor copper sulphides inferred prograde Porphyry 4 related

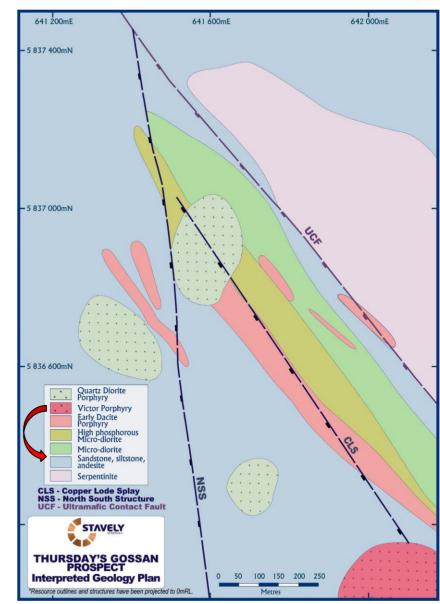






Photo 1. Pyrite vein with bornite-covellite-chalcocite(+-digenite) veining at 859.0m in SMD044W1 – colusite (Cu13VAs3S16) noted in petrology



Photo 2. Chalcocite(+-digenite)-bornite-covellite-enargite veining at 859.0m in SMD044W1 (This photo is of the other side of the previous photo)

#### **Sulphide paragenesis**

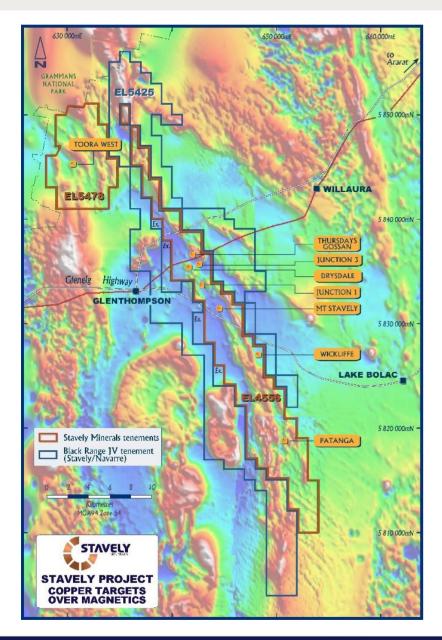
#### **Early pyrite**

- → Chalcopyrite
- → Bornite
- → Chalcocite
- → Tennantite / Enargite / Colusite

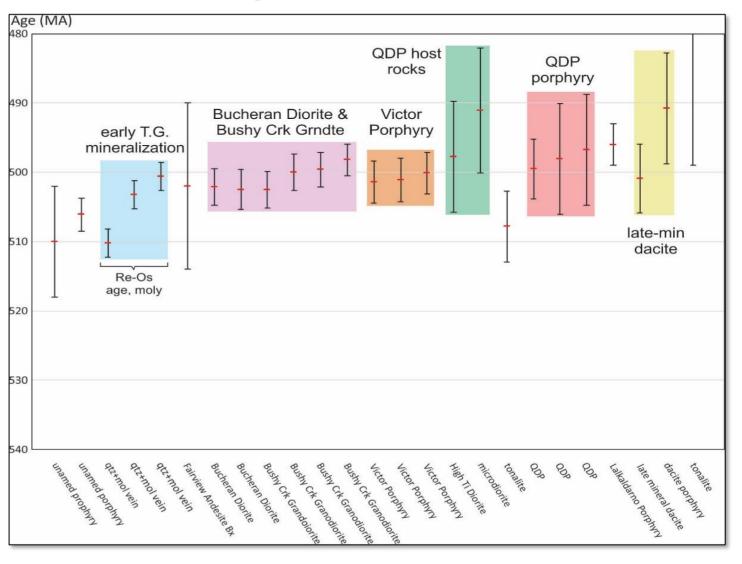
## Sulphides are zoned vertically, laterally and temporally.

(see various reports by Dr Greg Corbett in the Technical Data tab on www.stavely.com.au)

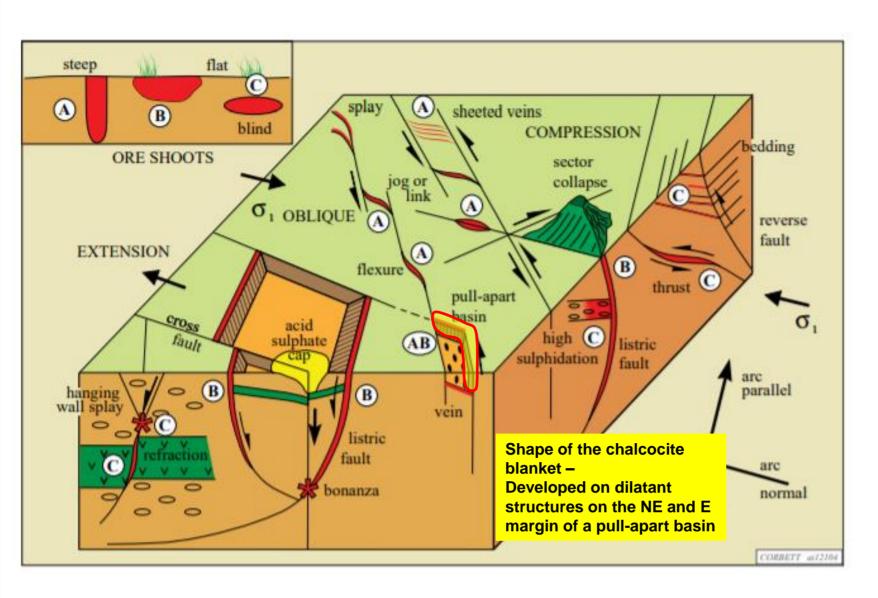




#### **New Age Relationships**







#### **Structural setting**

NS-oriented arc parallel structures

**NW-oriented structures** 

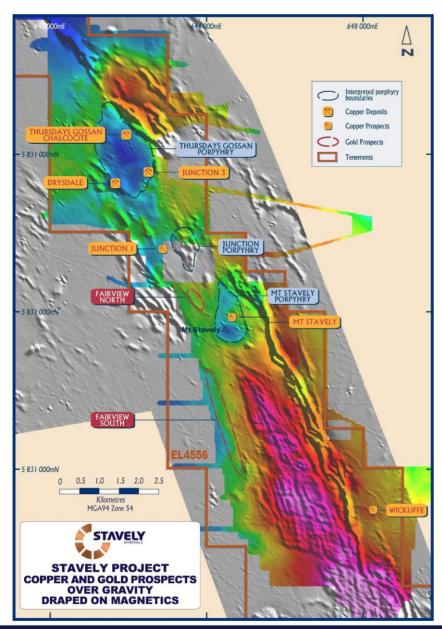
Cambrian NNW-oriented transpression

Sinistral strike-slip on NS arc parallel structures

Left-lateral steps on NW-oriented structures creates a series of pull-apart basins

Makes space for porphyry intrusions and provides a preferred NW orientation for dilatant growth structures





#### **Structural setting**

NS-oriented arc parallel structures

NW-oriented structures

Cambrian NNW-oriented transpression

Sinistral strike-slip on NS arc parallel structures

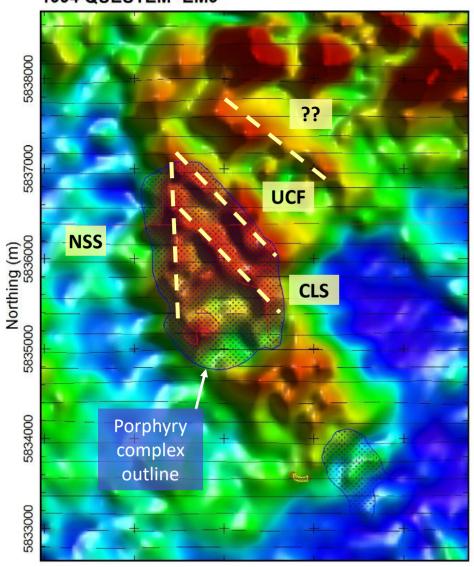
Left-lateral steps on NW-oriented structures creates a series of pull-apart basins

Makes space for porphyry intrusions and provides a preferred NW orientation for dilatant growth structures

## Cayley Lode – Tip of the Iceberg?



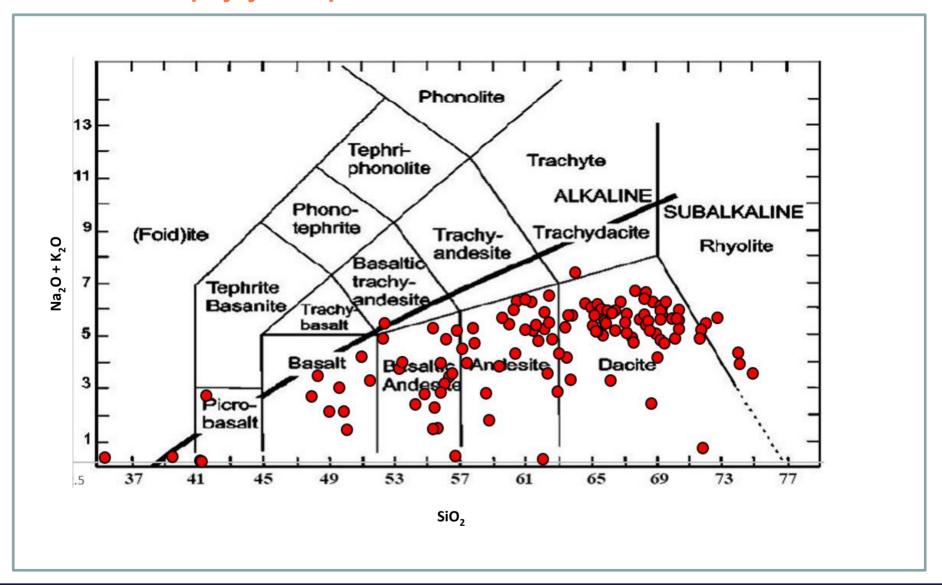
#### 1994 QUESTEM -EM9



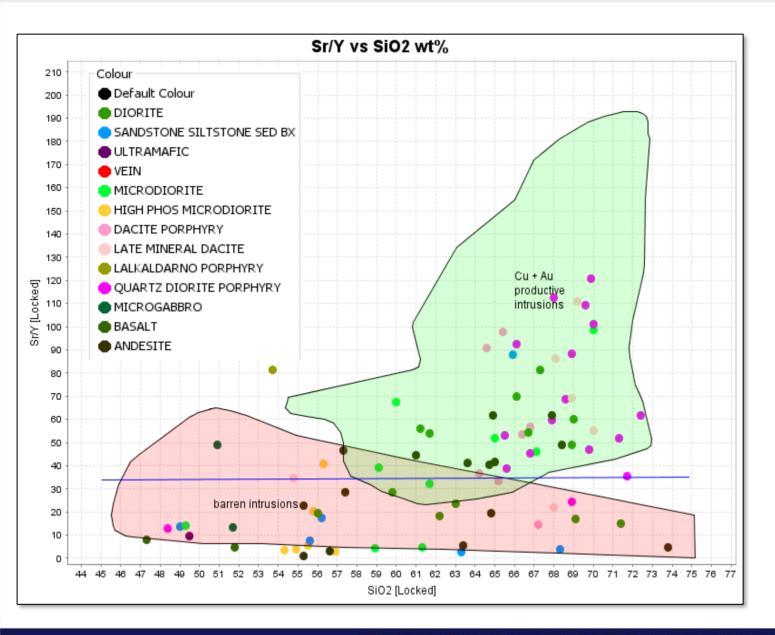
- Three major structurally controlled mineralised structures identified to date:
  - . Ultramafic Contact Fault (UCF) Cayley Lode
  - Copper Lode Splay (CLS)
  - 3. North-South Structure (NSS)
- Significant intercepts achieved on the CLS and NSS during previous drilling targeting a major porphyry at depth



#### **Late Porphyry Compositions**



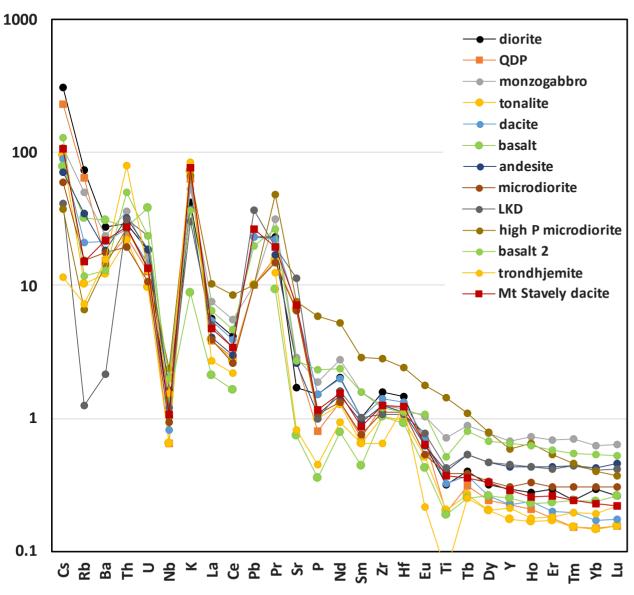




#### **Late Porphyry Compositions**

Plot well into the 'productive' copper-ore-forming arc magmas field (Loucks, 2014)





#### **Late Porphyry Compositions**

Host rocks at Thursdays Gossan have the trace element signature of arc magmas: enriched in K and Pb; depleted in Ti and Nb relative to MORB

Normal fractionation trends

High phosphorous microdiorite is enriched in P, Nd, Sm, Zr, Hf, Eu, Ti and Tb compared to all other rock types:

- indicates magma derived from a heterogenous source region with a greater component of high field strength element-enriched, metamorphosed mantle wedge

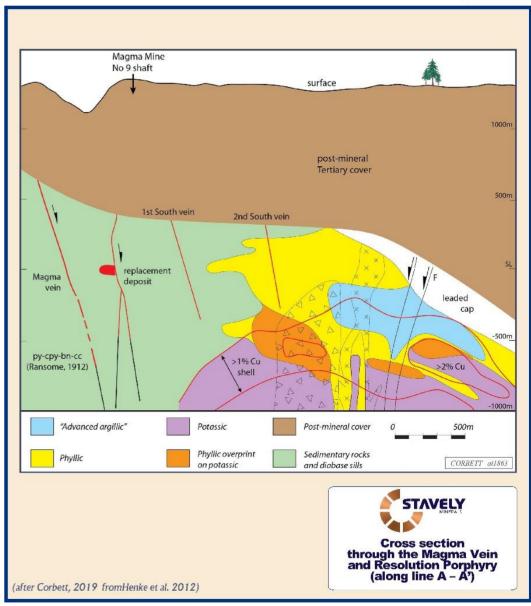
MORB normalised spidergram

## Butte / Magma Copper Lode-Style



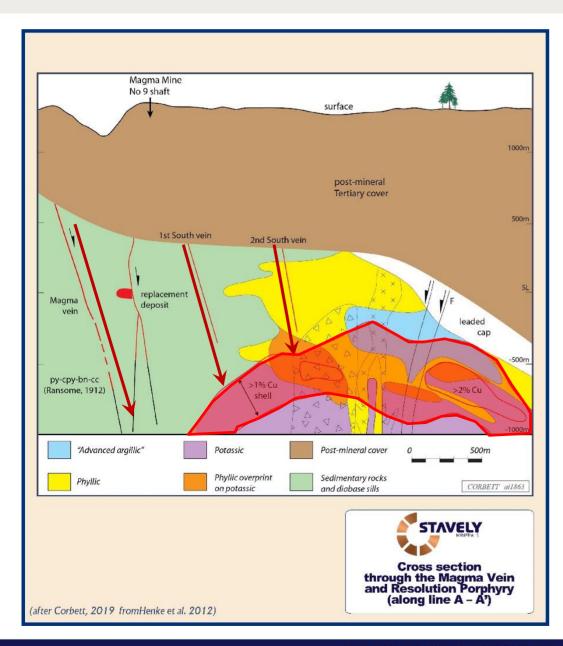
- Mineralisation at Thursday's Gossan is similar to the Butte (Montana) and Magma (Arizona) deposits:
  - 1. High-grade, structurally-controlled lode-style copper-gold-silver systems
  - Vertically and laterally extensive
  - 3. Mineralised on multiple structures
  - 4. Sulphide species are zoned laterally and vertically
  - 5. Metal source at depth (the porphyry)

This style of deposit has never before been seen in Australia and represents a hugely exciting exploration target

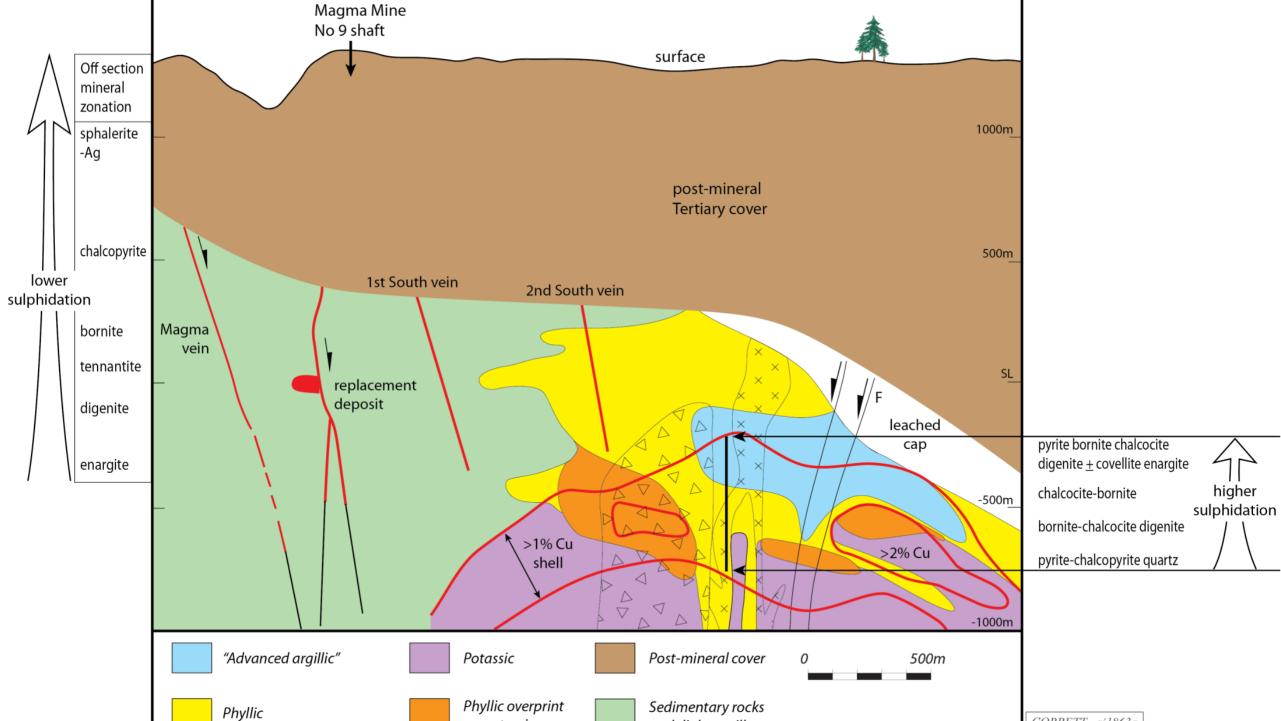


## Butte / Magma Copper Lode-Style



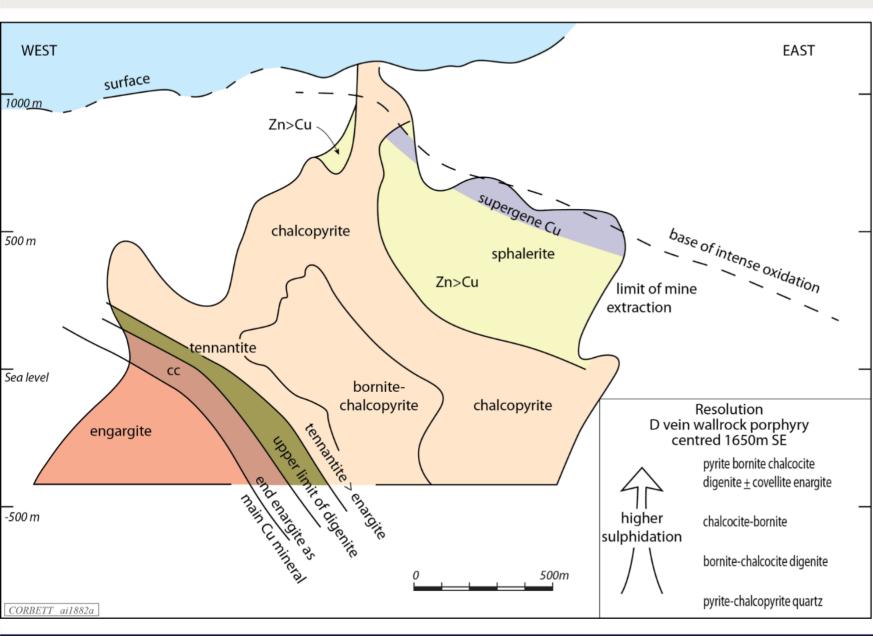


Can follow the Magma copper lode veins down to the Resolution copper porphyry



## Magma, Arizona – Sulphide Zonation



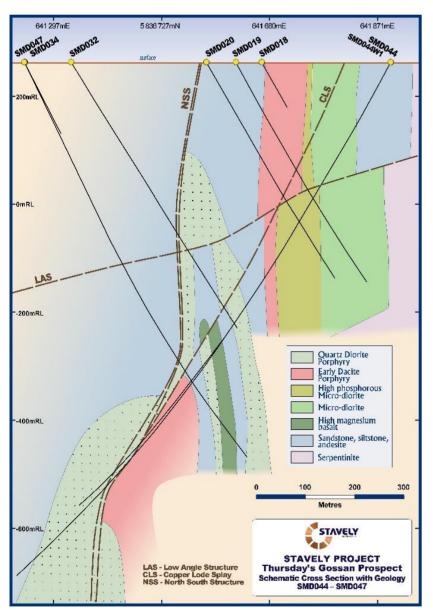


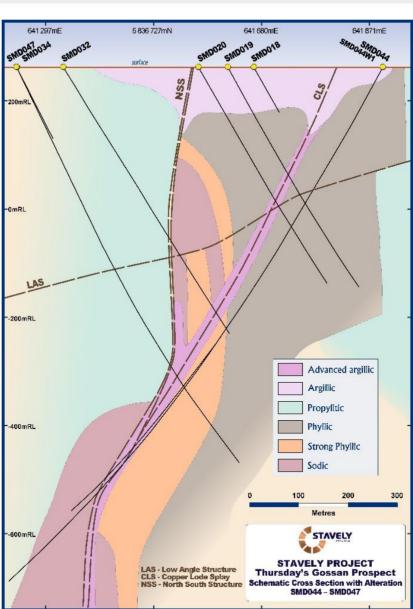
Sulphides are zoned from arsenical copper sulphides typical of high-sulphidation mineralisation through intermediate sulphidation to low sulphidation.

Gold has an affinity with the distribution of bornite.

It should be noted that the high-/ low-sulphidation mineralogy should not be taken to imply a degree of wall-rock reaction common to those epithermal deposit styles.





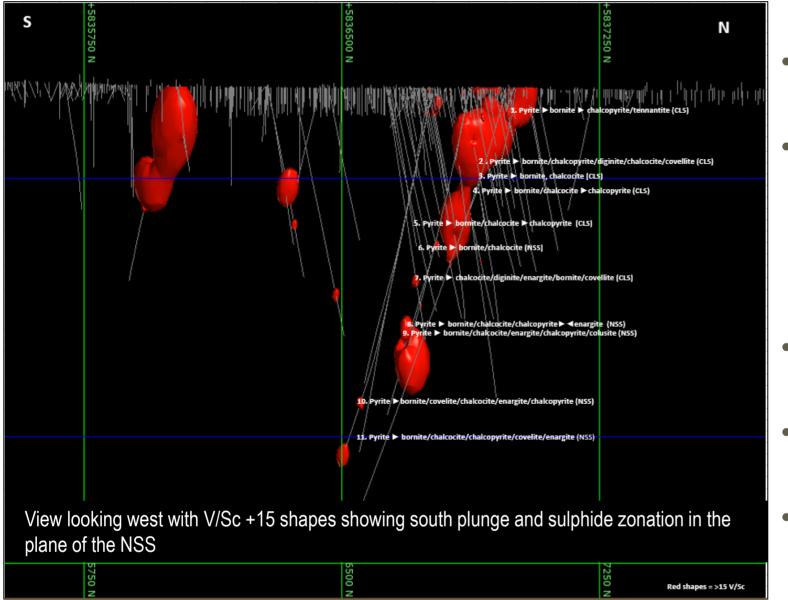


#### **Lode-style alteration**

Peripheral propylitic alteration and broad areas of phyllic alteration in all rock types except late mineral Dacites / Lamprophyres.

Narrower zones of advanced argillic alteration proximal to mineralised structures – dickite, pyrophyllite and rare alunite.



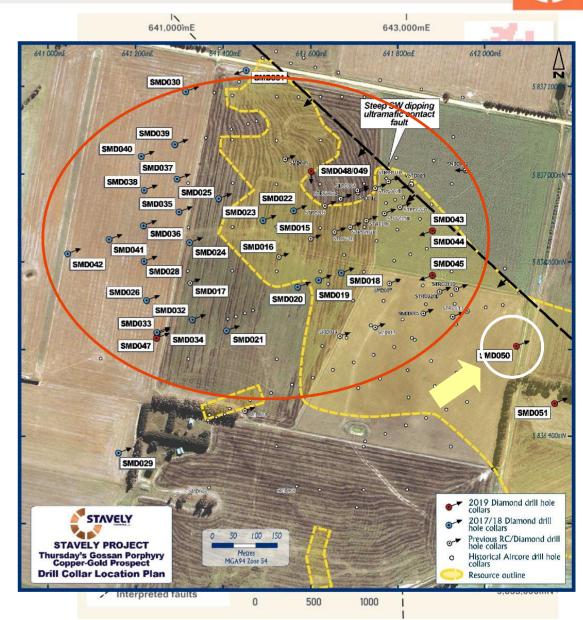


#### **Sulphide zonation**

- Early massive pyrite then brecciated and filled with later copper sulphides.
- Sulphides are zoned from deeper arsenical copper sulphides typical of high-sulphidation mineralisation through intermediate sulphidation to low sulphidation.
- Mineralisation associated with V/Sc ratios >10 and commonly >15
- White mica wavelengths shorter proximal to mineralised structures
- These independent line of evidence highlighted a south plunge towards the fluid source

- 49 diamond drill-holes completed to depths of up to 1.8km targeting the elusive "core" of the porphyry system
- SMD049 drilled straight down the QDP into the deep barren core – albite alteration and low sulphide
- Scott Halley suggests looking for high-grade near surface
- Significant breakthrough in September 2019
  following decision to target a shallow, structurally
  controlled mineralisation along the steeply-dipping
  Ultramafic Contact Fault

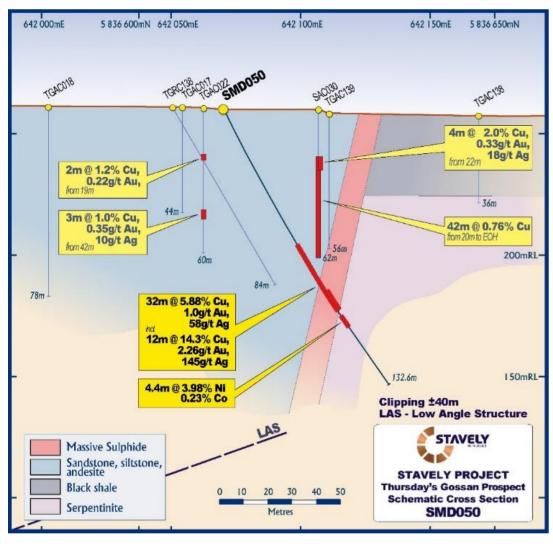
Hole SMD050 was a game changer



See ASX announcement 26/09/2019 and available from www.stavely.com.au

## Discovery Breakthrough - Hole SMD050





#### **SMD050**

- 32m at 5.88% copper, 1.00g/t gold and 58g/t silver, from 62m drill depth, including:
  - 12m at 14.3% copper, 2.26g/t gold and 145g/t silver from 82m, including:
  - 2m at 40% copper, 3.00g/t gold and 517g/t silver
- Surprisingly, SMD050 also intersected:
  - 4.4m at 3.98% nickel, 0.23% cobalt and >1% chrome



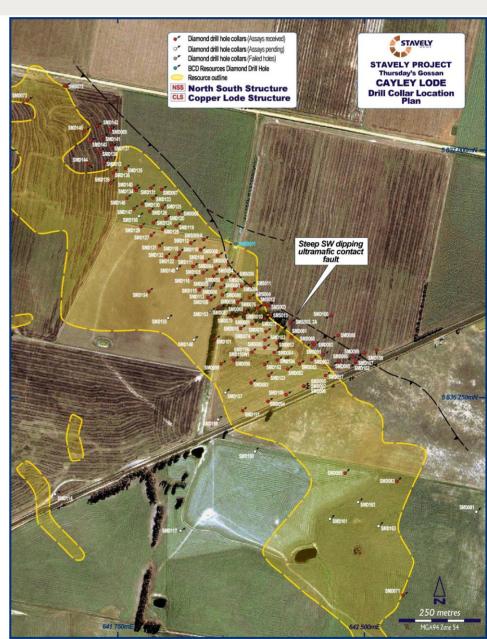


See ASX announcement 26/09/2019 and available from www.stavely.com.au

## Cayley Lode Discovery – Shallow, High-Grade Mineralisation



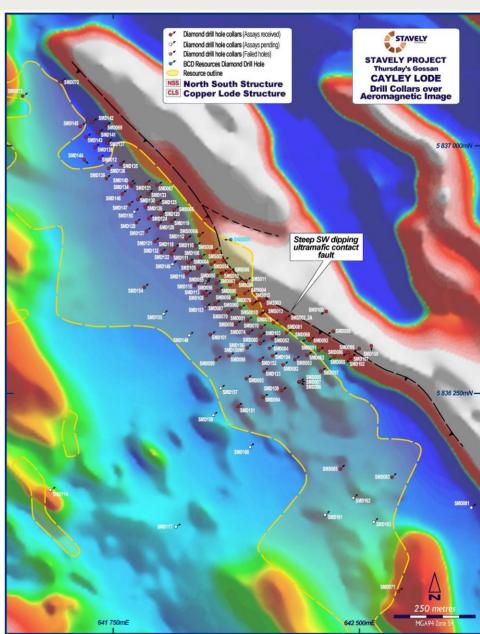
- Magma / Butte copper lode-style system outstanding exploration target never before seen in Australia
- Mineralisation so far defined over ~1.5 km strike length to ~300m depth, averaging 10-50m thickness
- Resource drilling underway on ~40m X 40m drill pattern
- Mineralisation remains open along strike and downdip
- Access to the southern paddock secured from 1
   December 2021- 4 rigs



## Cayley Lode Discovery – Shallow, High-Grade Mineralisation

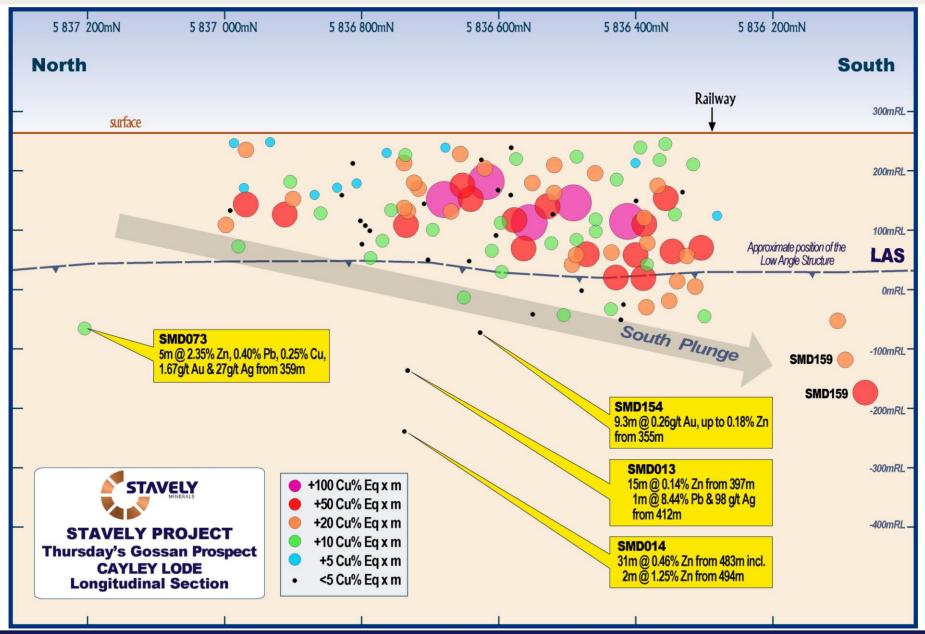


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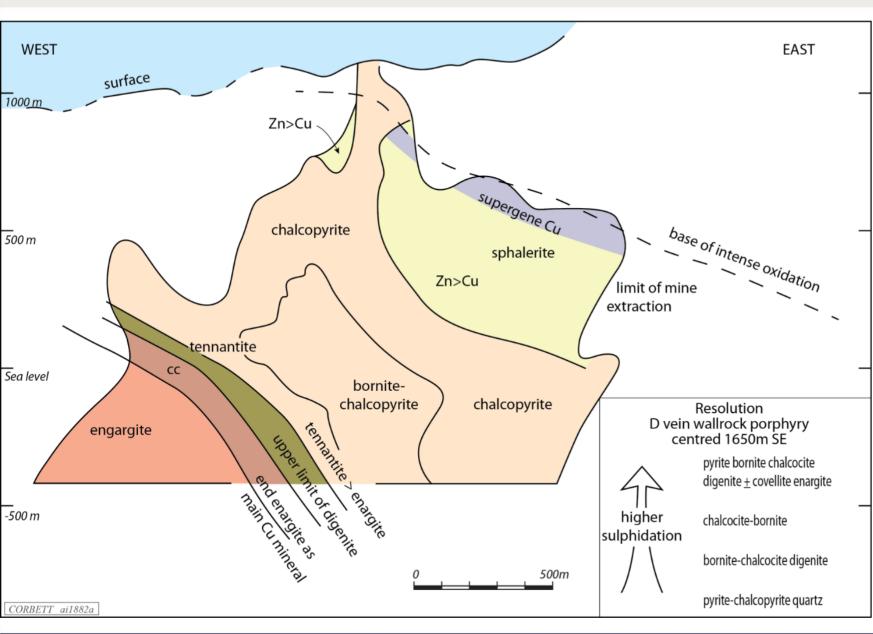
## Cayley Lode Discovery – Resource Drilling Long Section





## Magma, Arizona – Sulphide Zonation





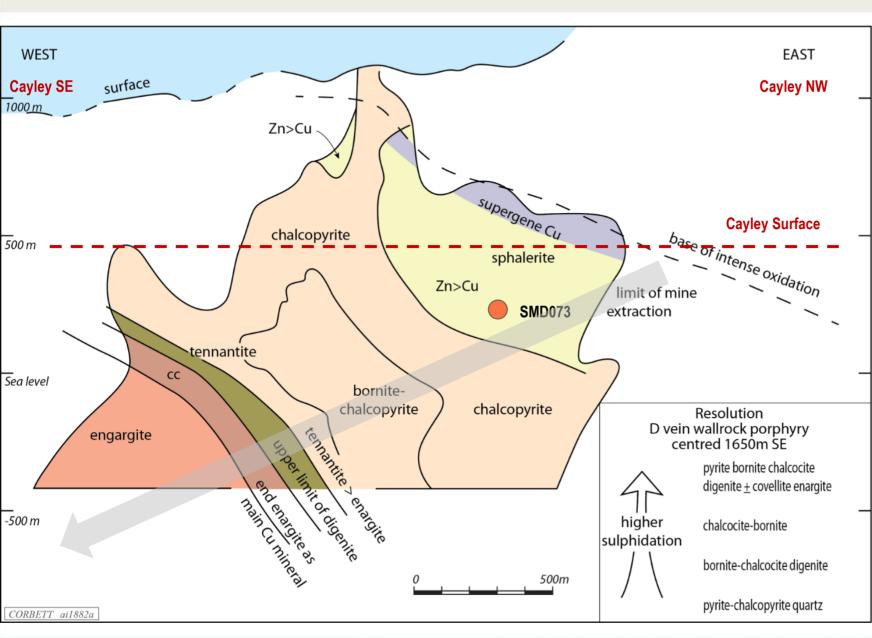
Sulphides are zoned from arsenical copper sulphides typical of high-sulphidation mineralisation through intermediate sulphidation to low sulphidation.

Gold has an affinity with the distribution of bornite.

It should be noted that the high-/ low-sulphidation mineralogy should not be taken to imply a degree of wall-rock reaction common to those epithermal deposit styles.

#### Magma, Arizona – Sulphide Zonation





Sulphides are zoned from arsenical copper sulphides typical of high-sulphidation mineralisation through intermediate sulphidation to low sulphidation.

Gold has an affinity with the distribution of bornite.

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### Cayley Lode Discovery – Amenable to Open Pit and UG

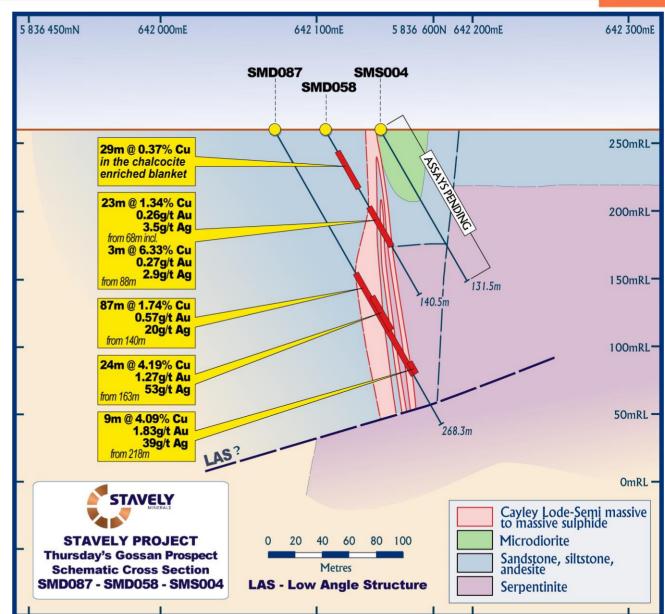


#### **SMD087**

- 87m @ 1.74% Cu, 0.57g/t Au and 20g/t Ag, incl.
  - 24m @ 4.19% Cu, 1.27g/t Au and 53g/t Ag, and
  - 9m @ 4.09% Cu, 1.83g/t Au and 39g/t Ag

Typical of most Cayley Lode intercepts:

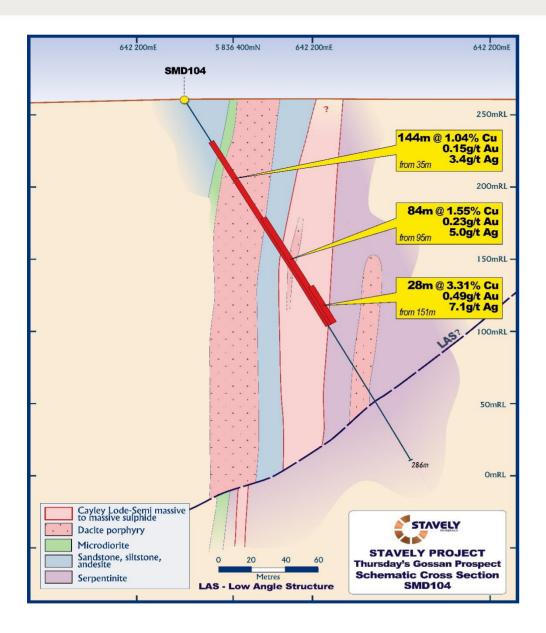
- a large intercept amenable to open pit bulk mining, and
- multiple discrete higher-grade intervals providing a 'sweet spot' of focus for underground mining



See ASX announcement 15/06/2020 and 14/07/2020 and available from www.stavely.com.au

# Cayley Lode Discovery – Recent Big Intercepts





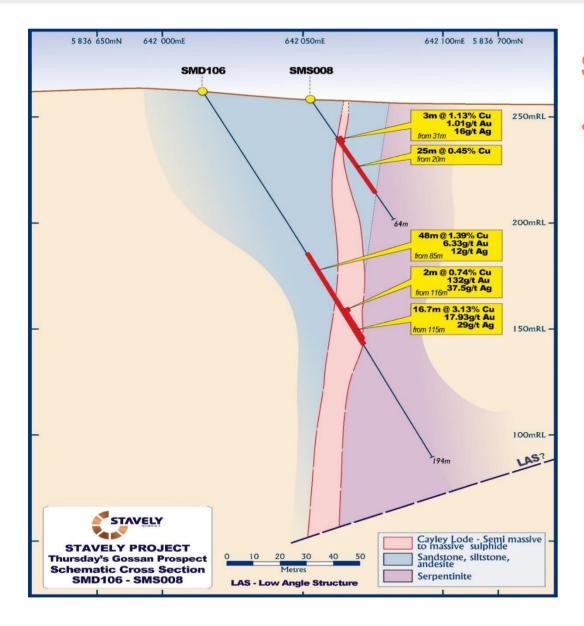
#### **SMD104**

- 144m at 1.04% copper, 0.15g/t gold and 3.4g/t silver, from 35m drill depth, including:
  - 84m at 1.55% copper, 0.23g/t gold and 5g/t silver from 95m, including:
    - 28m at 3.31% copper, 0.49g/t gold and 7.1g/t silver

See ASX announcement 28/10/2020 and available from <a href="https://www.stavely.com.au">www.stavely.com.au</a>

## Cayley Lode Discovery – Recent Big Intercepts





#### **SMD106**

- 48m at 1.39% copper, <u>6.33g/t gold and 12g/t silver</u>, from 85m drill depth, including:
  - 16.7m at 3.13% copper, <u>17.93g/t gold</u> and <u>29g/t silver</u> from 115m, including:
    - 2m at 0.74% copper, <u>132g/t gold</u> and 38g/t silver from 116m, and
  - 0.9m at <u>21.10% copper</u>, <u>17.45g/t gold and</u> <u>232g/t silver</u> from 130.8m

See ASX announcement 02/11/2020 and available from <a href="www.stavely.com.au">www.stavely.com.au</a>



# Summary Table – Samples Scanned for Au grains

Hold ID	Depth (m)	Pixels	Anomalous Pixels/clusters	Elevated Pixels/clusters	Anomalous pixels/million	Pixels Clusters	Mineral Association
SMD015	196.7	812,580	2	1	2.46	no	Bornite, chalocpyrite
SMD016	336.8	317,500	0	1	0.31	no	chalcopyrite
SMD032		779,913	0	0	<0.25	no	not detected
SMD044W1	858.65	661,744	6	8	9.07	YES	Bornite, chalocpyrite, pyruet & quartz
SMD050		793,383	1	9	1.26	no	Bornite (quartz)
SMD051	149.8	444,000	7	11	15.8	YES	Bornite
SMD064	128.8	202,648	0	0	<0.25	no	not detected
SMD073	361.15	313,200	0	0	<0.25	no	not detected
SMD082	245.1	1,164,930	1	10	0.86	no	Chalcopyrite/quartz
SMD085	358.9	683,200	0	3 0.44 no Quartz/		Quartz/Chalcopyrite	
SMD106	116	194,300	7	0 <b>36.0 YES</b> Quartz/pyrite/grou		Quartz/pyrite/groundmass interface	

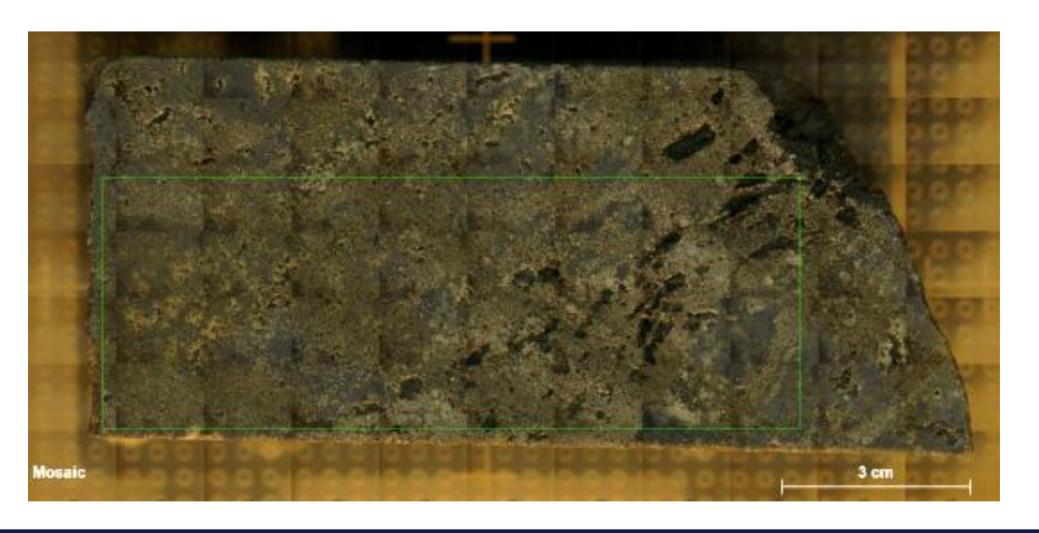
#### NOTES

- This evaluation looks for anomalous Au counts within the raw data.
- Anomalous pixels are Au counts > 100
- Elevated pixels are Au counts >~40 & < 100</li>
- Anomalous (and elevated) pixels per million pixels is calculate. **This is NOT a gold grade** however the values should show a relationship to Au grade.
- A cluster is where two or more pixels lie adjacent to each other



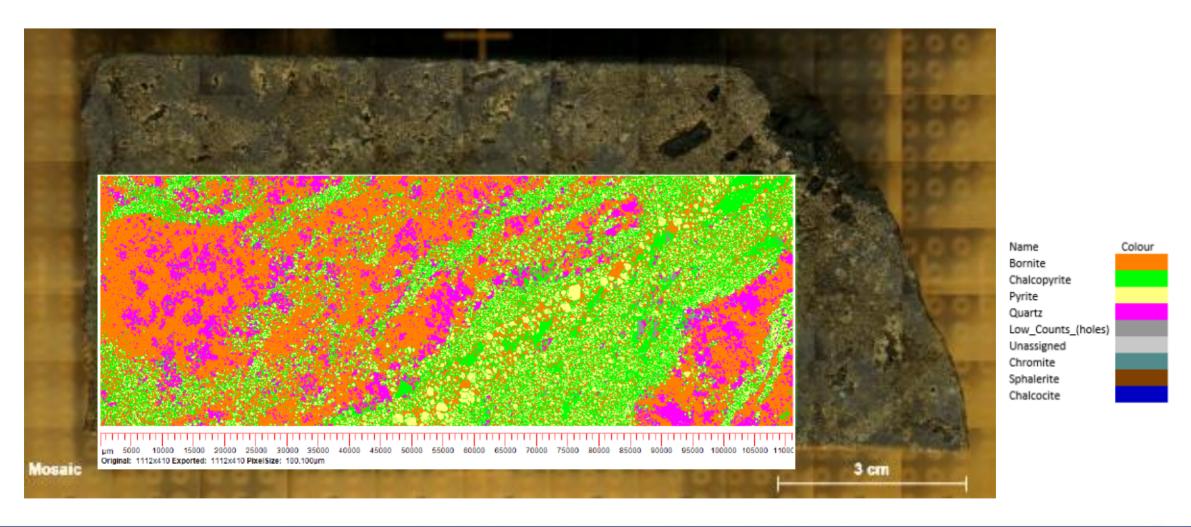


#### SMD051 149.8m (3.33g/t Au) µXRF at 100µm

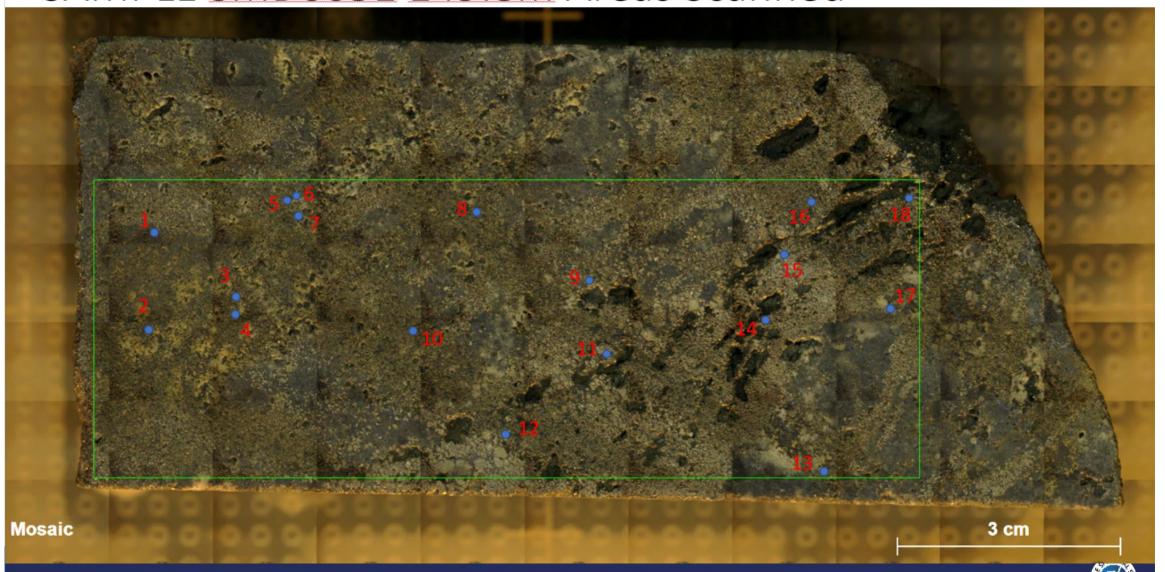




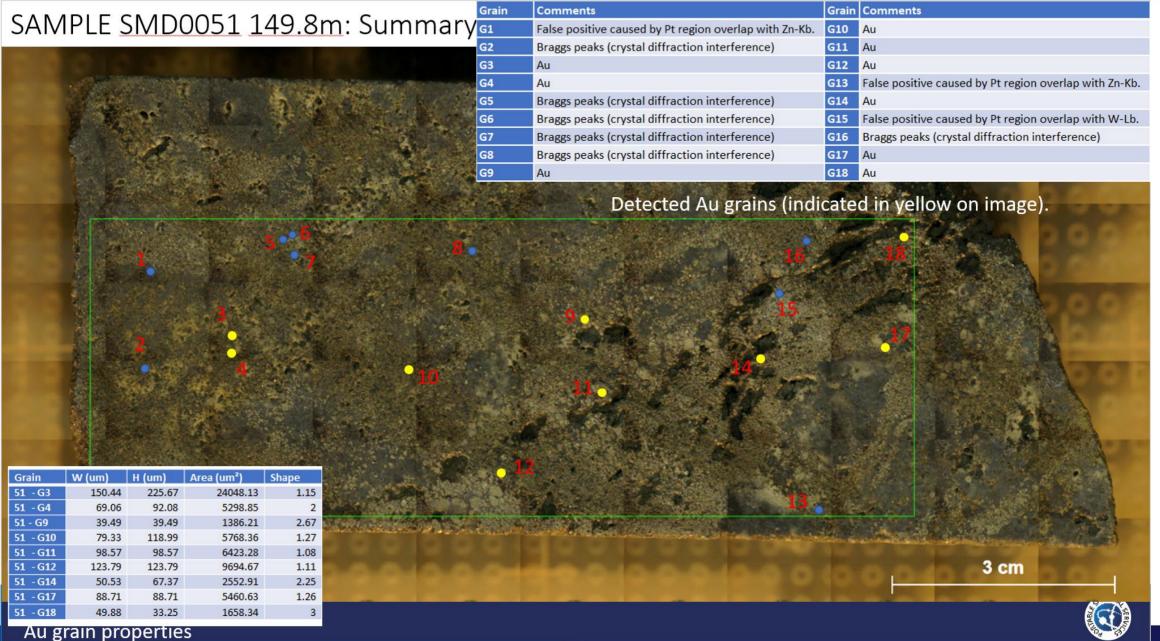
#### SMD051 149.8m (3.33g/t Au) µXRF at 100µm



# SAMPLE SMD0051 149.8m Areas Scanned

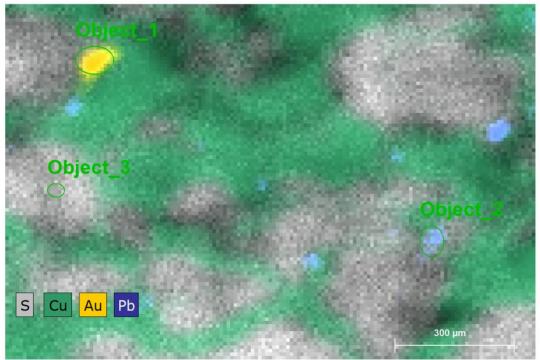








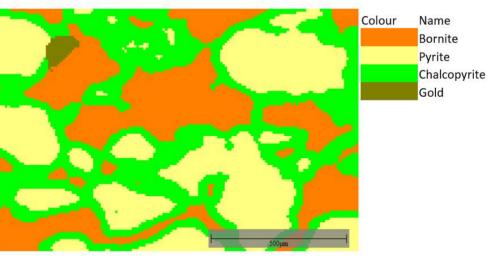
#### SMD0051 149.8m (AU Grain 12)



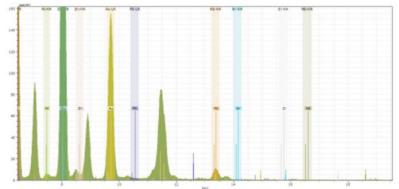
Element distribution map overlay of S-Cu-Au-Pb.

Grain	W (um)	H (um)	Area (um²)	Shape
51 - G12	123.79	123.79	9694.67	1.11

Au grain properties.



Mineralogy map of scanned area.

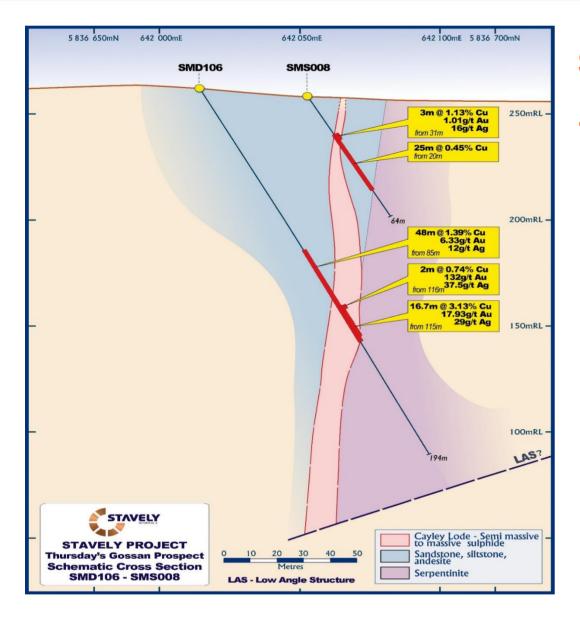


Object 1 from element distribution map.

Ì	Element	Ca_pct	Cu_pct	Fe_pct	S_pct	Si_pct	Ti_pct	Zn_pct	K_pct	Au_pct	Pb_pct	Sn_pct	Ni_pct	Cr_pct	Total
Ì	Object 1	0.00	18.00	24.39	27.52	1.08	0.03	0.04	0.00	28.38	0.00	0.41	0.15	0.00	100.00
	Object 2	0.00	27.38	36.76	32.37	1.86	0.05	0.17	0.00	0.10	0.72	0.36	0.20	0.02	100.00
	Object 3	0.00	4.89	52.47	40.85	0.92	0.01	0.09	0.02	0.03	0.01	0.32	0.39	0.00	100.00







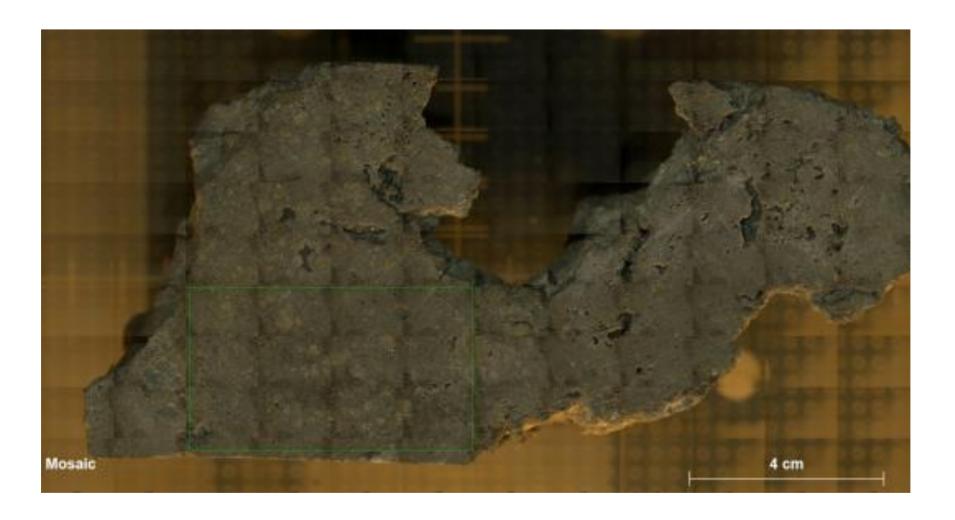
#### **SMD106**

- 48m at 1.39% copper, <u>6.33g/t gold and 12g/t silver</u>, from 85m drill depth, including:
  - 16.7m at 3.13% copper, <u>17.93g/t gold</u> and <u>29g/t silver</u> from 115m, including:
    - 2m at 0.74% copper, <u>132g/t gold</u> and 38g/t silver from 116m, and
  - 0.9m at <u>21.10% copper</u>, <u>17.45g/t gold and</u> <u>232g/t silver from 130.8m</u>

See ASX announcement 02/11/2020 and available from <a href="https://www.stavely.com.au">www.stavely.com.au</a>

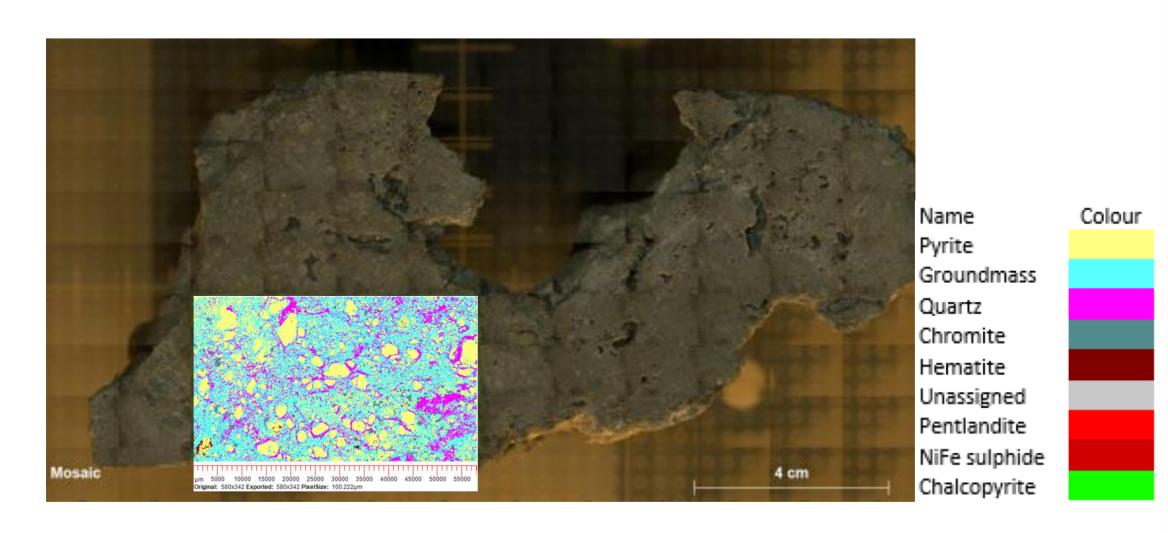


#### SMD106 116m (173.5g/t Au) μXRF at 100μm

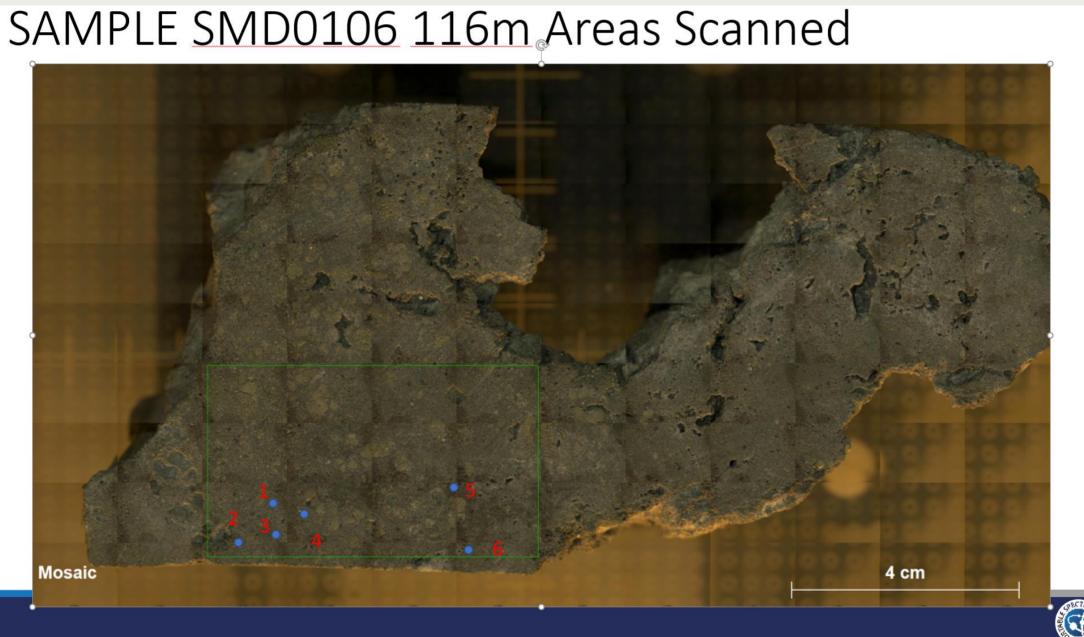




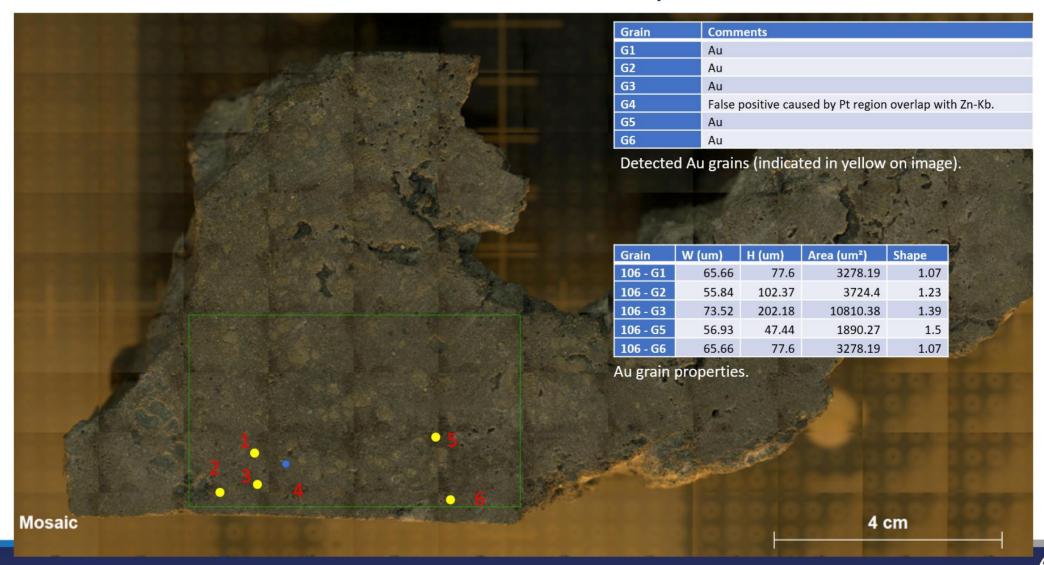
#### SMD106 116m (173.5g/t Au) µXRF at 100µm







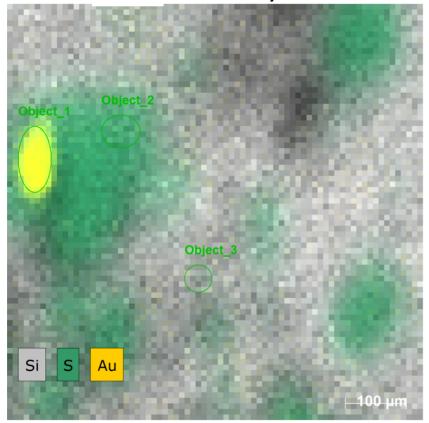
# SAMPLE SMD0106 116m: Summary



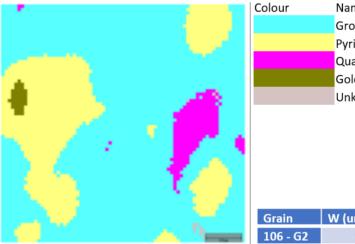




#### **SMD106 116m AU Grain 2)**



Element distribution map overlay of Si-S-Au.

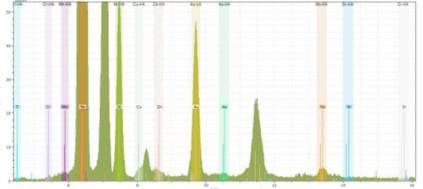






Grain	W (um)	H (um)	Area (um²)	Shape
106 - G2	55.84	102.37	3724.4	1.23

Au grain properties.



Object 1 from element distribution map.

Element	Ca_pct	Cu_pct	Fe_pct	S_pct	Si_pct	Ti_pct	Zn_pct	K_pct	Au_pct	Ni_pct	Cr_pct	Mg_pct	Al_pct	Cl_pct	Mn_pct	As_pct	Total
Object 1	0.05	0.11	41.01	36.72	10.49	0.02	0.07	0.00	7.01	2.83	0.01	0.80	0.79	0.04	0.00	0.04	100.00
Object 2	0.03	0.22	38.93	41.19	12.66	0.02	0.02	0.00	0.00	6.70	0.03	0.00	0.18	0.00	0.00	0.02	100.00
Object 3	0.03	0.01	13.04	8.66	75.40	0.00	0.02	0.03	0.00	0.67	0.09	0.29	1.20	0.56	0.00	0.01	100.00

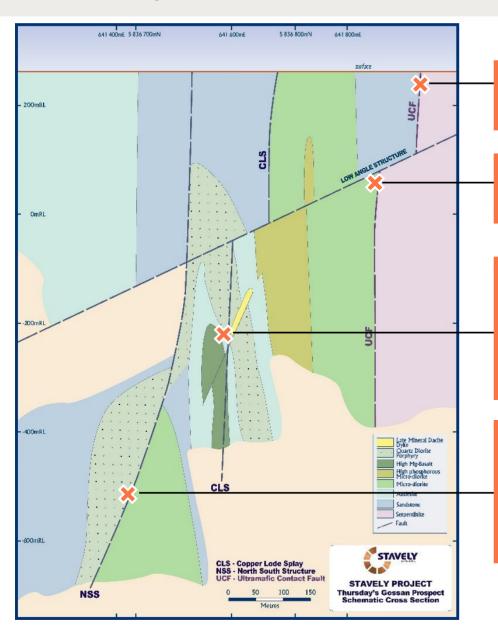




- Selected drill core samples scanned at 100µm looking for gold 'peaks'
- > Those gold 'peaks' then scanned at 25µm to identify the deportment / association of the gold
- ✓ Of the 'normal' Cayley Lode mineralisation, typically 0.1-0.5g/t but can be up to 5.0g/t, gold is most commonly associated with bornite and chalcopyrite
- However, for extremely high grades (say +10g/t), it would appear the gold is associated with a late quartz-pyrite phase probably related to a cooler base-metal / precious metal style of mineralisation
- X The quartz-pyrite associated high-grade gold is unlikely to report to a sulphide concentrate
- The implication is that the high gold grades must be tightly constrained / severely top-cut in the resource to ensure the 'unrecoverable' (rare) high grades are not smeared through the Mineral Resource estimate so that they are not misrepresented as recoverable metal
- There is an option to include a gravity circuit in the process plant design to capture the highgrade gold - bonus

#### Vertically Extensive – With Multiple Discovery Opportunities





SMD050: 32m at 5.88% copper, 1.00g/t gold and 58g/t silver, from 62m drill depth on the UCF

SMD059: 18m at 1.00% copper, 0.1g/t gold and 3g/t silver, from 235m drill depth on the UCF underneath the LAS

SMD032: 6m at 6.73% copper, 0.84g/t gold and 15g/t silver, from 538m drill depth on the CLS

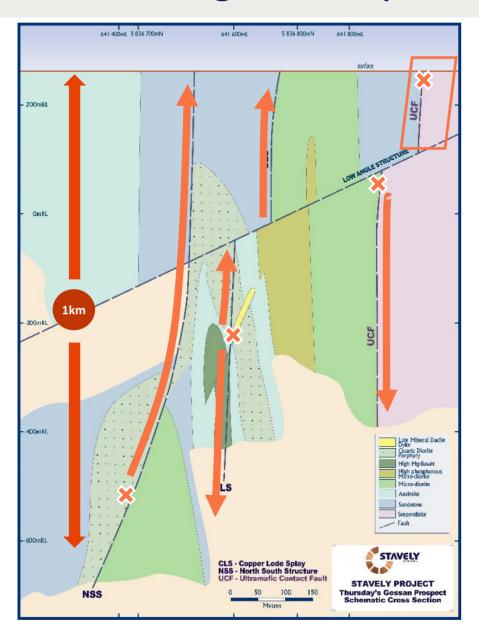
SMD044: 10m at 2.43% copper, 0.30g/t gold and 11g/t silver, from 583m drill depth on the CLS

SMD044: 38.3m at 1.59% copper, 0.27g/t gold and 8g/t silver, from 890m drill depth on the NSS SMD044W1: 18m at 3.62% copper, 0.28g/t gold and 15g/t silver, from 848m drill depth on the NSS

See ASX announcements 17/12/2019, 26/09/2019, 23/04/2019, 12/03/2019, 18/12/2018 and available from www.stavely.com.au

#### Current Programs – Systematic Exploration Approach

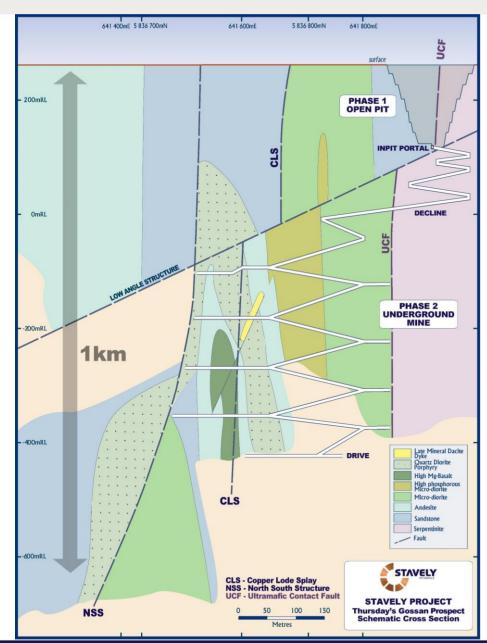




- Complete shallow Resource drill-out on Ultramafic Contact Fault (Cayley Lode)
- Continue to define mineralisation on the Ultramafic Contact Fault below the Low Angle Structure
- 3. Bring mineralisation in the Copper Lode Splay closer to surface
- 4. Extend the Copper Lode Splay at depth
- 5. Bring mineralisation in the North-South Structure closer to surface
- 5. Test regional targets
  - Big Bang opportunity find the porphyry, it's still out there!

#### Current Programs – How do we see this as a possible development?





- 1. A Phase-1 open pit based on high-grade structurally-controlled mineralisation drives an open pit that also captures a significant proportion of the 28Mt at 0.4% copper secondary chalcocite-enriched blanket
- 2. A Phase-2 underground is developed from the base of the Phase-1 open pit and spirals between mineralised lodes on either side of the decline
- 3. Additional lodes are accessed from existing infrastructure
- If continuity of mineralisation is confirmed to depths in excess of 1km and we have intercepted mineralisation at ~1,150m drill depth in SMD045W2\* then at a vertical rate of mining advance of 50m-60m per year, we can envisage a multi-decade underground mine life after the Phase-1 open pit

\*See ASX announcement 18 June 2019 and available from www.stavely.com.au

#### Summary – Key Takeaways



- ✓ First-mover position (1,461km²) in a potential new world-class copper province
- Recent discovery of structurally-controlled high-grade lode-style copper-gold-silver mineralisation similar to the Magma (Arizona) and Butte (Montana) deposits
- ✓ Intercepts across three structures ranging from 62m to almost 1,000m drill depth "tall' system"
- ✓ Shallow resource drill-out underway targeting ~20% of one of the three mineralised structures identified to date
- ✓ Large low-grade chalcocite-enriched blanket offers massive leverage to coper price upside
- ✓ Outstanding potential for additional discoveries from regional targets eg. Toora West
- ✓ Cayley Lode likely sourced from a late-stage porphyry that is yet to be drilled it's still out there!







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