



**Carawine  
Resources**

# Insights into the Jamieson gold and base metal district, Victoria

**DISCOVERIES IN THE  
TASMANIDES**

M.Cawood

*Exploration • Gold • Copper • Base Metals*

# Compliance, Disclaimer and Cautionary Statements



These Presentation Materials include information that relates to Exploration Results prepared and first disclosed under the JORC Code (2012). The information was extracted from the Company's previous ASX Announcements as follows:

- Placement: "Carawine to Raise \$3m to Advance Paterson and Jamieson Projects" 20 September 2019
- Jamieson: "Copper-gold Porphyry Targets at Hill 800" 11 September 2019
- Various: "Quarterly Activities Report For The Period Ended 30 June 2019" 31 July 2019
- Jamieson: "New Gold Prospects Defined at Jamieson" 15 July 2019
- Jamieson: "Gold Zone Extended With Latest Results From Hill 800" 27 May 2019
- Jamieson: "New Drill Holes Confirm High Grade at Hill 800" 3 May 2019
- Various: "Quarterly Activities Report For The Period Ended 31 March 2019" 29 April 2019
- Jamieson : "New Gold Zone Discovered at Hill 800" 5 February 2019
- Jamieson : "Second Round of Diamond Drilling Underway at Hill 800" 28 November 2018
- Jamieson : "Strong Finish to Maiden Drilling Program at Hill 800" 20 August 2018
- Jamieson : "Latest Results Increase Strike Potential at Hill 800" 6 August 2018
- Jamieson : "Record High-Grade Gold Intersection from Hill 800" 10 July 2018
- Jamieson : "New High Grade Gold-Copper Zone at Hill 800" 25 June 2018
- Jamieson: "Exceptional First Results from Hill 800 Drilling" 7 June 2018
- IPO Prospectus: "Carawine Resources Prospectus" 12-Dec-17

Copies of these are available from the ASX Announcements page of the Company's website: [www.carawine.com.au](http://www.carawine.com.au)

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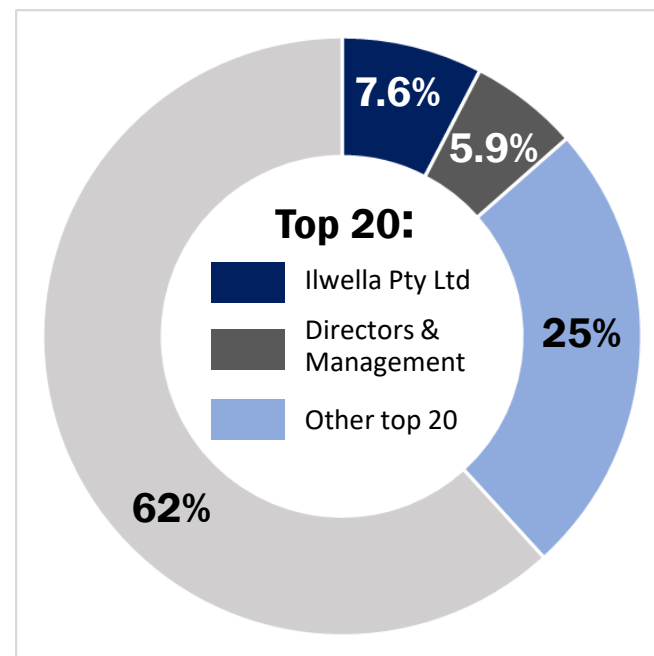
# Carawine Resources

## Corporate Snapshot\*



ASX CODE	ISSUED SHARES <sup>1</sup>	SHARE OPTIONS <sup>2</sup>	SHARE PRICE	MARKET CAP.	CASH (at 30/06/19)	ENTERPRISE VALUE	TOP 20 HOLDERS
<b>CWX</b>	<b>55.8M</b>	<b>12.3M</b>	<b>\$0.18</b>	<b>\$10M</b>	<b>\$1.2M</b>	<b>\$8.8M</b>	<b>38%</b>

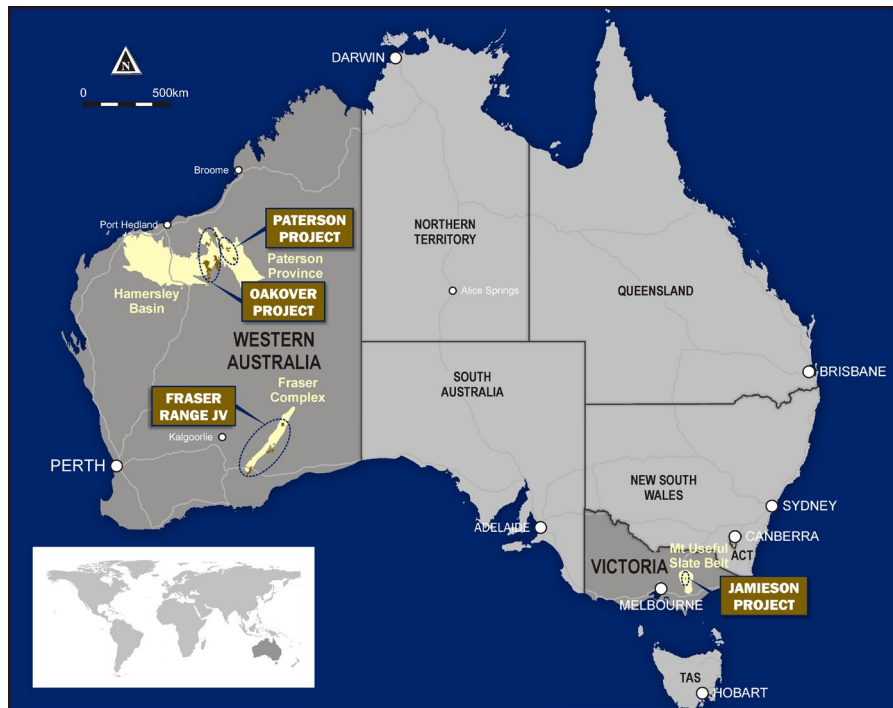
### PLACEMENT TO RAISE \$3M IN TWO TRANCHES ANNOUNCED 20 SEPTEMBER, 2019



**\*Note: This slide has not been updated for the recent capital raising, refer ASX Announcement 20 September 2019 for details.**

All figures as at 11-Sep-19 unless stated otherwise. <sup>1</sup> includes 2.3M shares escrowed to December 2019. <sup>2</sup> average exercise price \$0.30 – does not include 1.9M Performance Rights





## Jamieson Project – Au and base metals

- Wide and high-grade drill intervals at Hill 800
  - **92.7m @ 3.22g/t Au** from 2.3m incl. **31m @ 6.64g/t Au (H8DD006)**
  - **50.1m @ 3.08g/t Au** from 17m incl. **22.7m @ 4.82g/t Au (H8DD009)**
  - **43m @ 4.24g/t Au, 0.3% Cu** from 177m incl. **10m @ 5.66g/t Au, 0.9% Cu** and **5m @ 24.1g/t Au, 0.4% Cu (H8DD002)**
- Main zone: 170m along strike, 175m down dip, average 35m width, open
- Significant Potential Zn-Au-Ag VHMS at Rhyolite Creek
  - **1.4m @ 15.6% Zn, 1.5% Pb, 0.5% Cu, 7.4g/t Au and 113g/t Ag** from 223m (RCD001)

## Paterson Project – Au and base metals

- Telfer style Au-Cu, Nifty style Cu(-Co)
- Large, strategic tenement holding

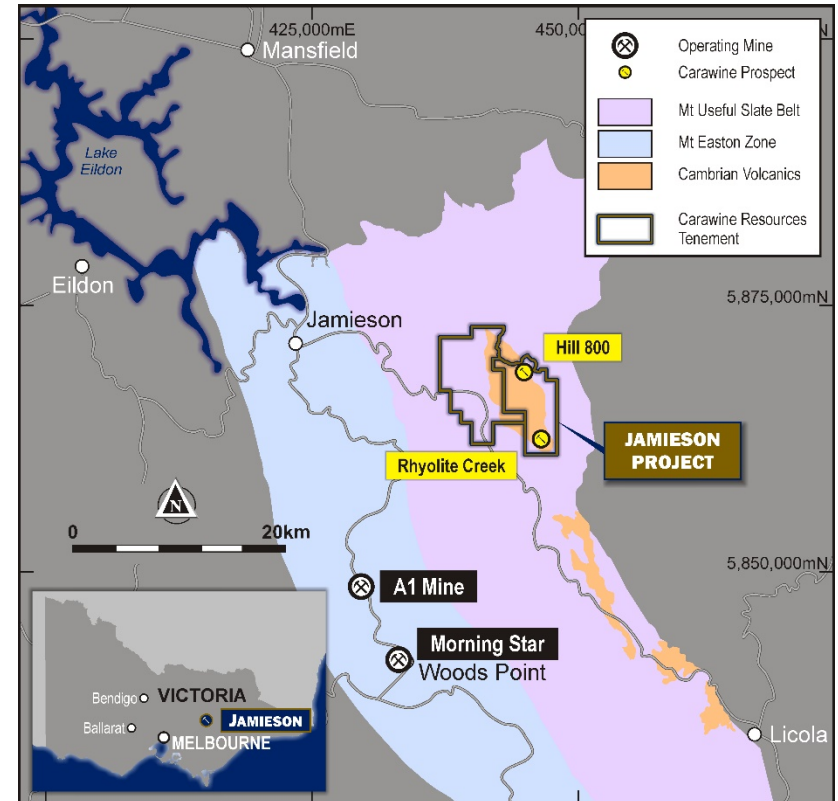
## Oakover Project – Mn, Fe, Co & Cu

- One of few junior-held world-class manganese provinces in Australia
- Significant low-impurity, high grade iron potential

## Fraser Range Project – Ni, Cu & Co

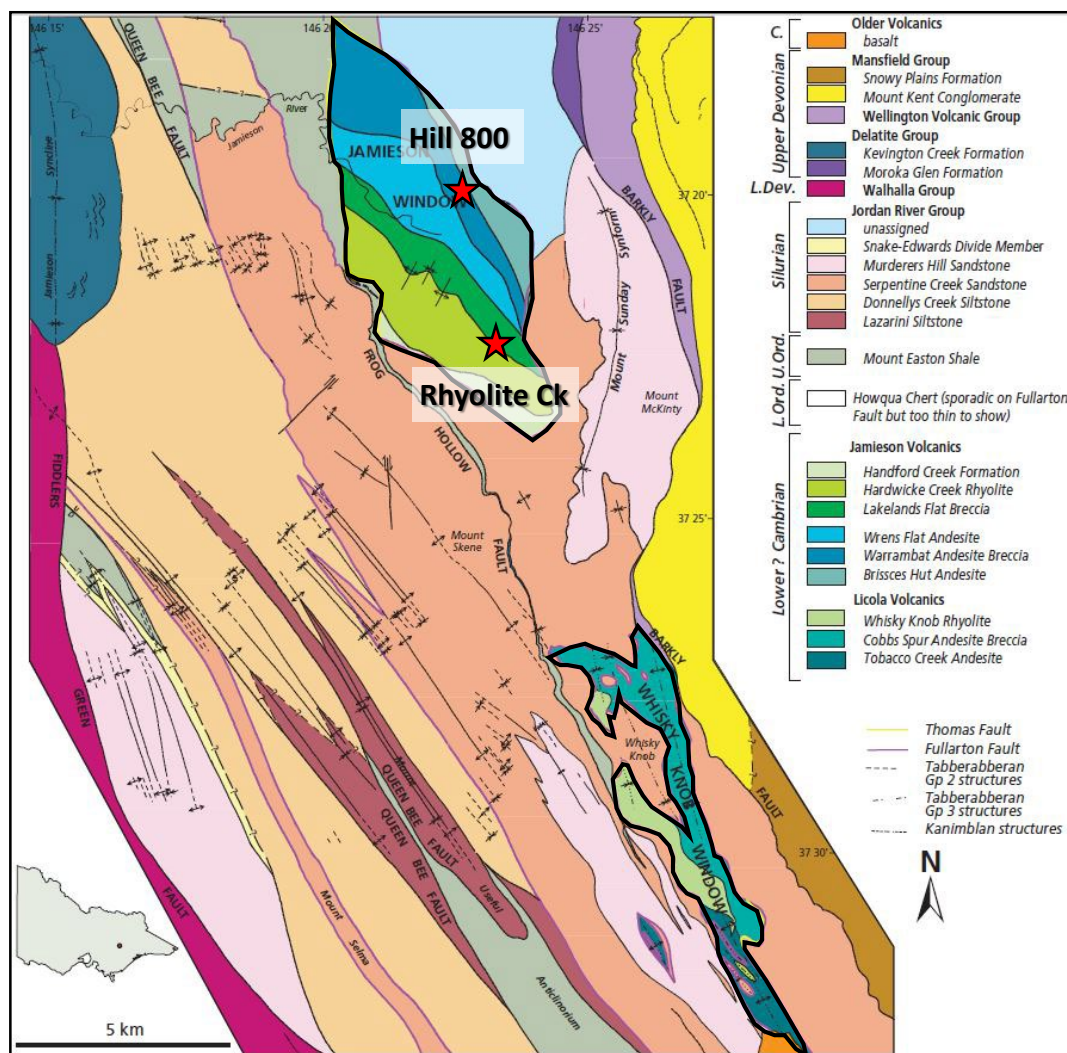
- JV with Independence Group NL (IGO), active explorers
- IGO 51%, earning to 70%

# Jamieson Project Location



- 120km ENE of Melbourne, 20km east of Jamieson
  - State Forest, accessed by logging tracks – not populated
  - Mining active in area (A1 and Morning Star mines)
  - Within Mount Useful Slate Belt – eastern most part of Melbourne Zone

# Jamieson Project Geology



Modified from Vandenberg 2003

- Located in a Cambrian fault slice (Jamieson Window)
- Silurian thrust over Cambrian (Devonian Tabberabberan event)
- Subsurface link likely between Jamieson & Whisky Knob windows
- Hill 800 hosted by med-K calc-alkalic andesites
- Rhyolite Creek hosted by rhyolite and med-K calc-alkalic andesites



# Hill 800

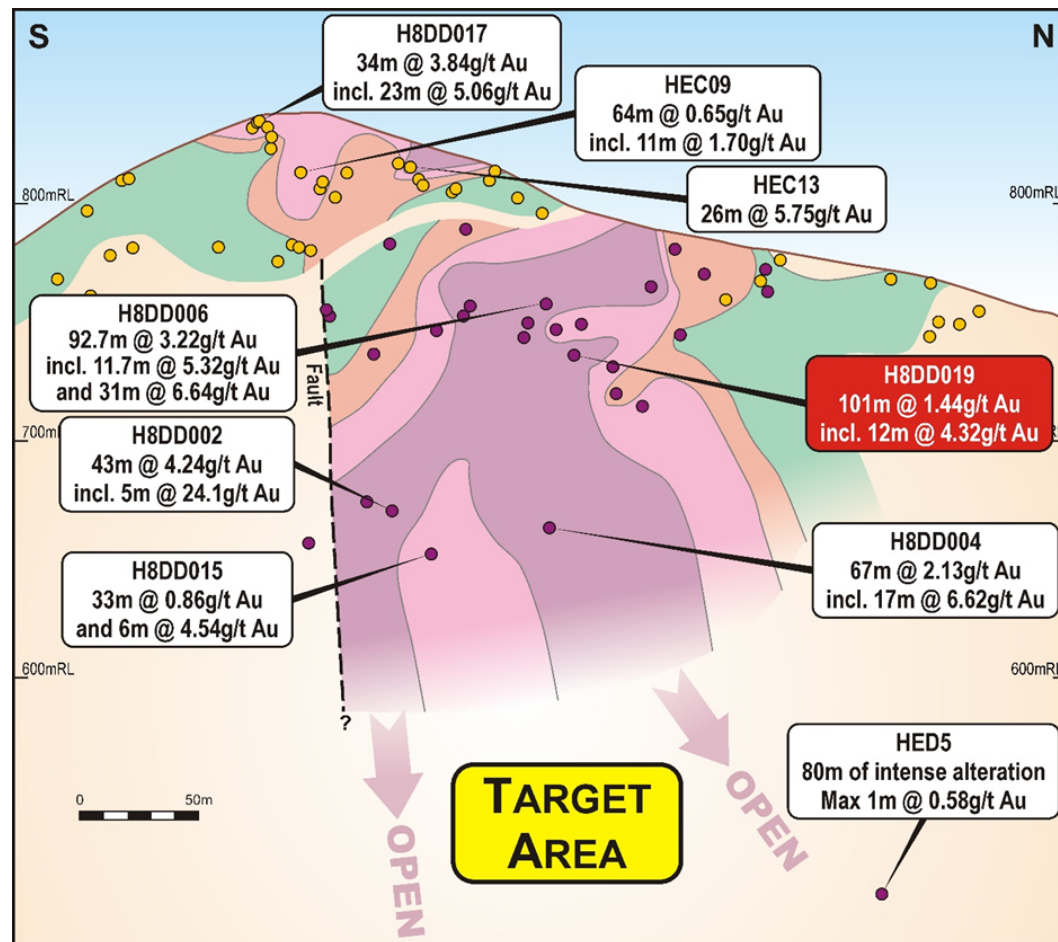
## Mineralisation – current interpretation

### Historic drilling

- 51 RC holes for 4,305m
- 6 diamond holes for 2,003m
- Hole orientations limited by drill method and access

### Carawine drilling

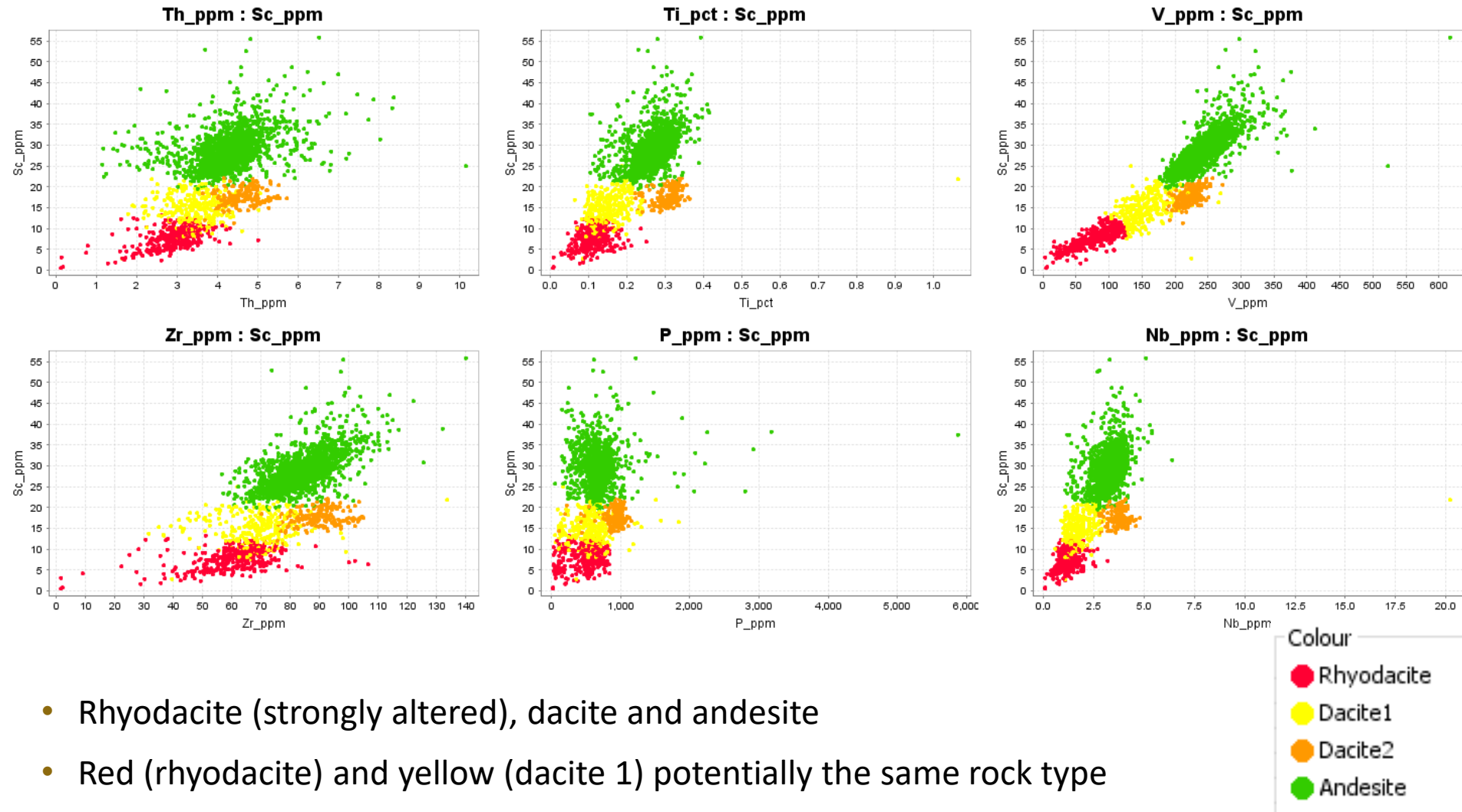
- 19 diamond holes for 3,678m
- Small track mounted diamond rig enabled flexible drilling orientations from existing sites
- Majority of drilling <200m below surface
- 2 zones identified to-date; 800 and Main Zone
- Potential lithological and structural controls
- Best intervals:
  - **92.7m @ 3.22g/t Au** from 2.3m (H8DD006) *incl. 31m @ 6.64g/t Au*
  - **43m @ 4.24g/t Au, 0.3% Cu** from 177m (H8DD002) *incl. 10m @ 5.66g/t Au, 0.9% Cu and 5m @ 24.1g/t Au, 0.4% Cu*



Hill 800 long section (+/- 60m), looking west with selected intervals labelled

# Hill 800

## Geochemical Analysis- Scott Halley



- Rhyodacite (strongly altered), dacite and andesite
- Red (rhyodacite) and yellow (dacite 1) potentially the same rock type

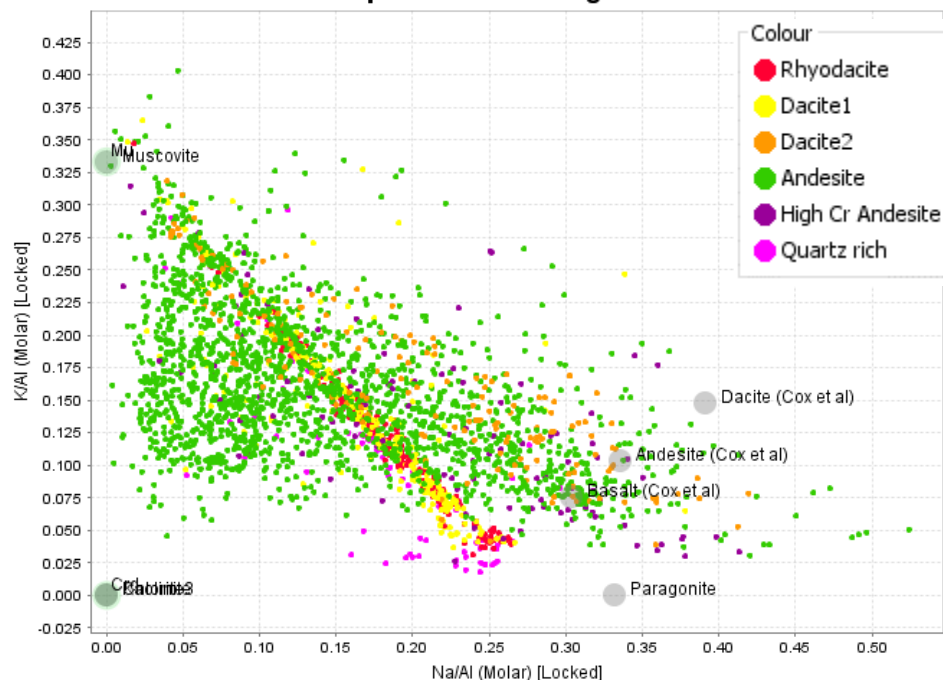


# Hill 800

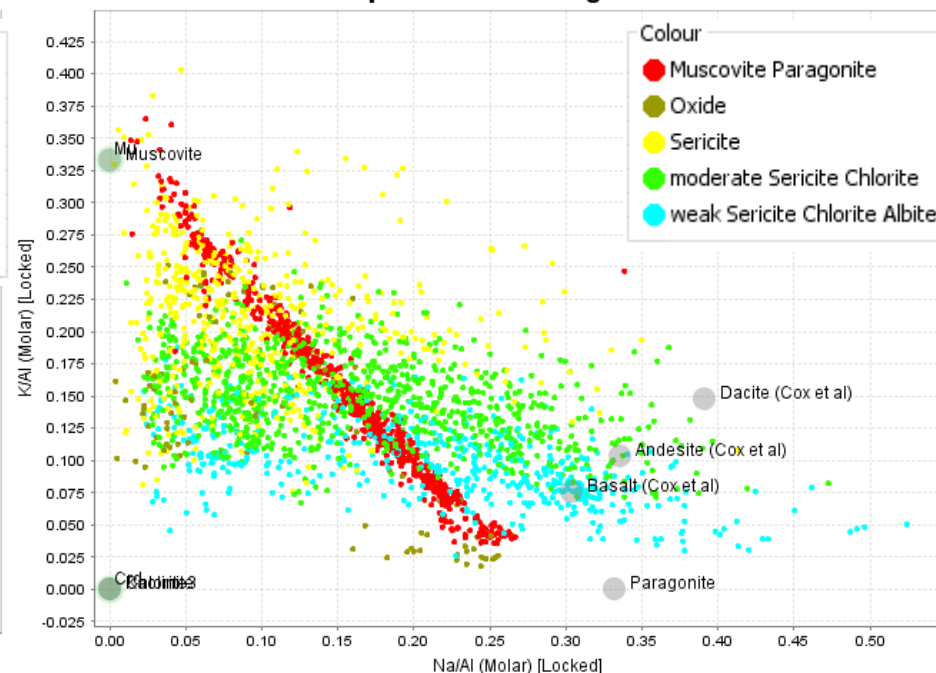
## Alteration mineralogy

- Altered rocks contain a mixture of muscovite (potassic) and paragonite (sodic)
- Paragonite likely to come from dehydration of smectite (Tabberaberan orogenic event?)
- Metamorphic water released from smectite → paragonite potentially remobilised gold (coarse gold in andesites)

Feldspar Na-K GER Diagram



Feldspar Na-K GER Diagram



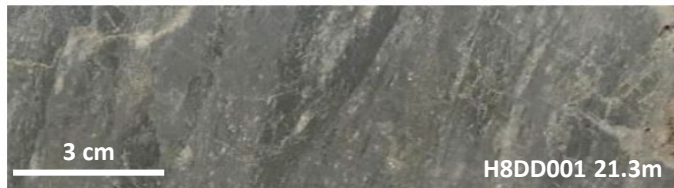
# Hill 800

## Rhyodacite & Dacite – Strongly altered

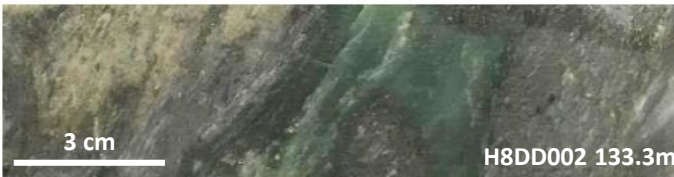
Sericite dominant



Increasing silica  
↓



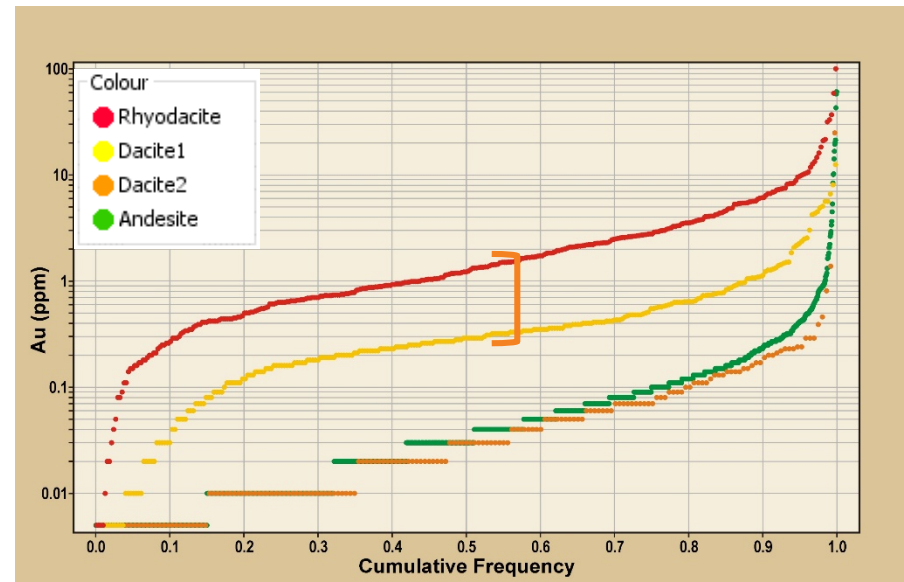
Chlorite-sericite-silica



Silica dominant

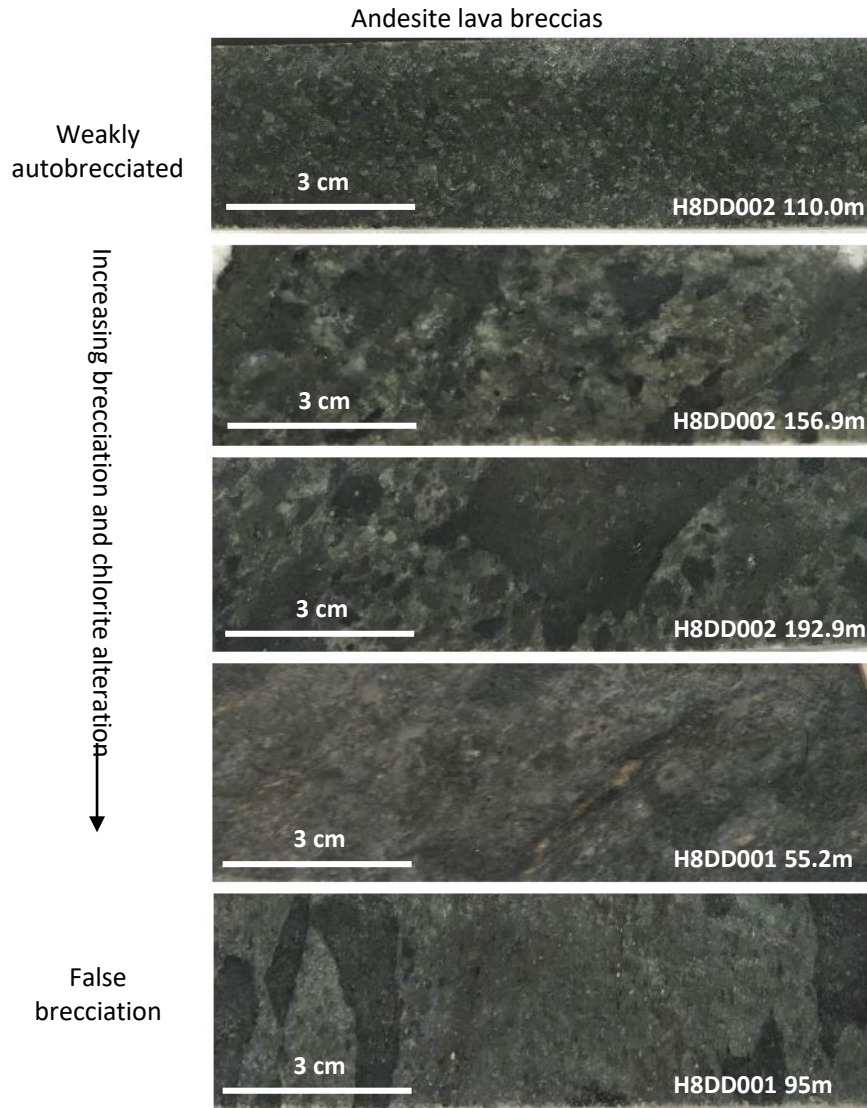


- Core of mineralised system dominated by early silica-sericite-pyrite altered rhyodacite and dacite
- Strongly lithological control on mineralisation – Upper region



Majority of gold occurs in rhyodacite

# Hill 800 Andesites

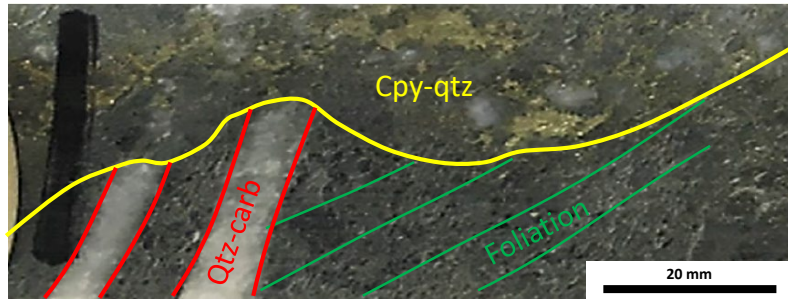


- Autobrecciated andesite lavas
  - Plagioclase +/- pyroxene phyrlic
  - Glassy aphyric
- Monomictic andesite volcaniclastics
- Minor polymictic volcaniclastics
  - Minor rhyolite and dacite component
- Rare interbedded clastic sediments



# Hill 800

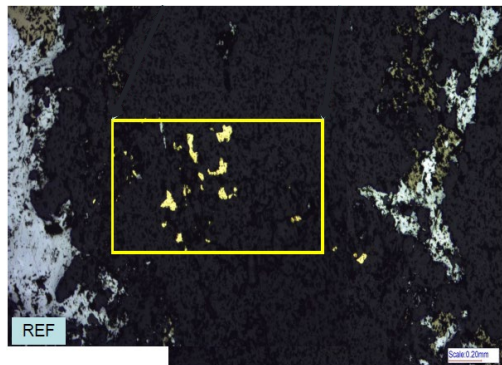
## Alteration – Andesite Remobilised Zone



Hand specimen – qtz-carb vein cutting foliation, cut by stringer



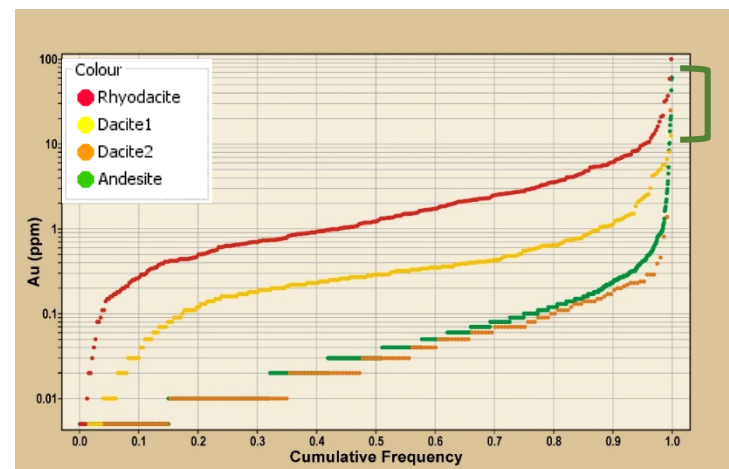
Thin section – sericitic selvage to qtz-cpy-asp vein (XPL)



Thin section – gold in quartz (REF)

All images from H8DD002 – 191.7m

- Host rock is chlorite altered andesite lava breccia
- Mineralisation within chalcopyrite-quartz veins
- Associated minerals include minor arsenopyrite and galena
- Sericite selvage common
- “Free” gold detected
- Mineralised veins cut foliated andesite, and late planar quartz-carbonate veins
- *Potentially remobilised by metamorphic water – smectite to paragonite*

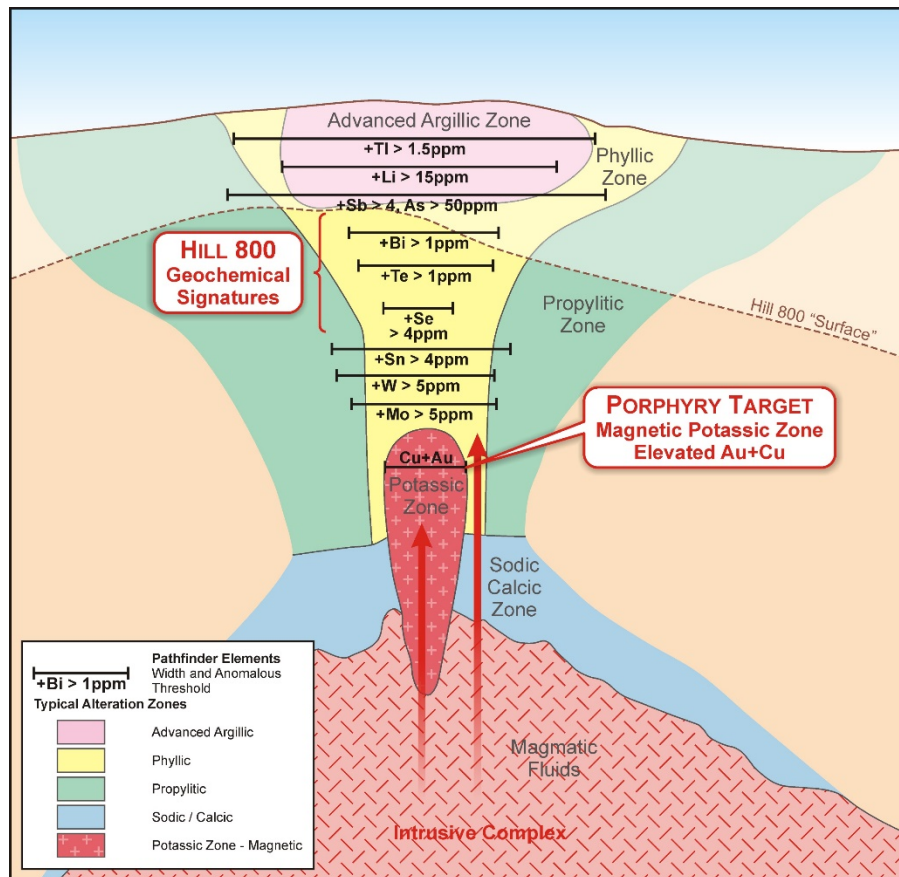




# Hill 800

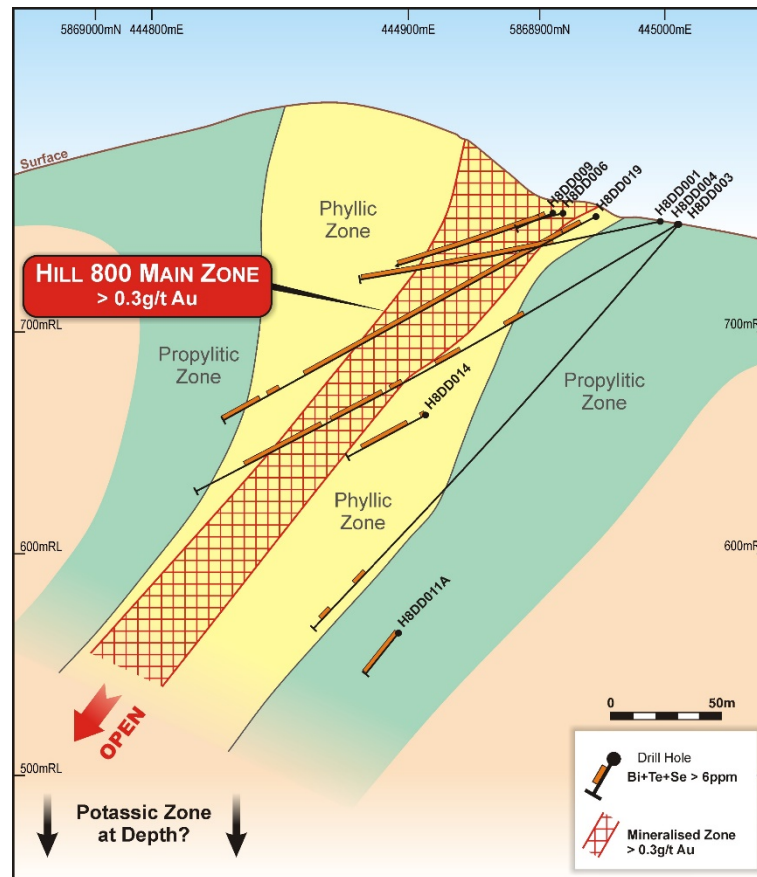
## Porphyry Signature – Pathfinder Elements

### Schematic alteration and geochemical vector relationships



Modified from; Halley SW, Dilles JH, Tosdal RM (2015) Footprints: hydrothermal alteration and geochemical dispersion around porphyry copper deposits. SEG Newsletter 100(1):12–17

### Hill 800 Cross Section – Bi + Te + Se > 6ppm defines phyllic zone

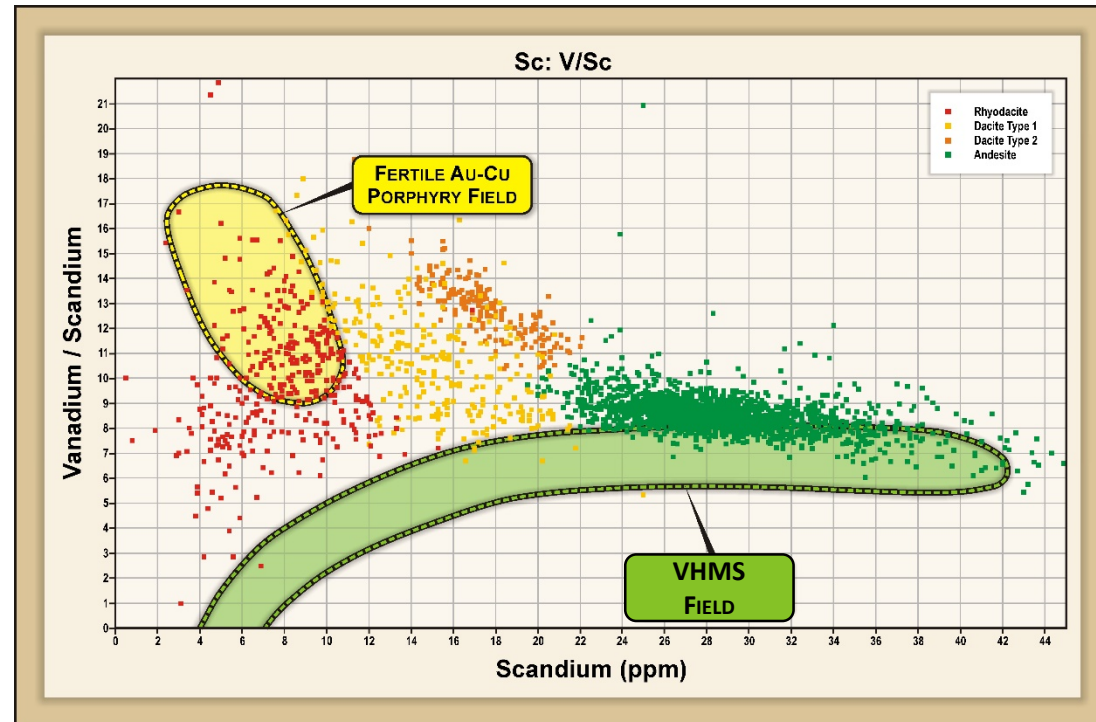


- Pathfinder elements Bi, Se and Te are elevated – consistent with fertile porphyry source
- H8DD006: 92.7m @ 3.22g/t Au, **43ppm Te, 1.1ppm Bi & 22ppm Se**

# Hill 800

## Evidence for Deep Crustal Melt

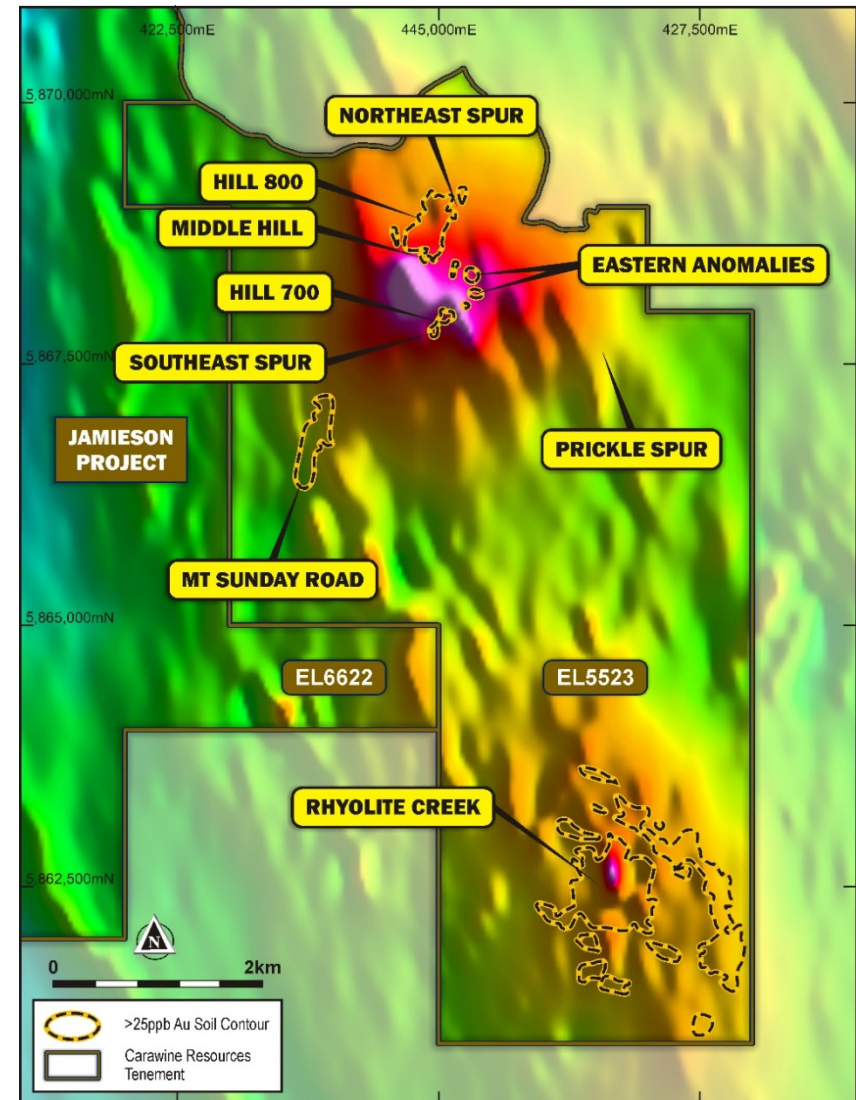
- Porphyry Cu-Au form from deep crustal - high pressure oxidised hornblende bearing melts
- VHMS environments form from mid crustal - lower pressure magnetite bearing melts
- Magnetite fractionation leads to V depletion
- At Hill 800, high V content indicates fractionation of hornblende
- The most felsic Hill 800 rocks have a porphyry magma signature



# Hill 800

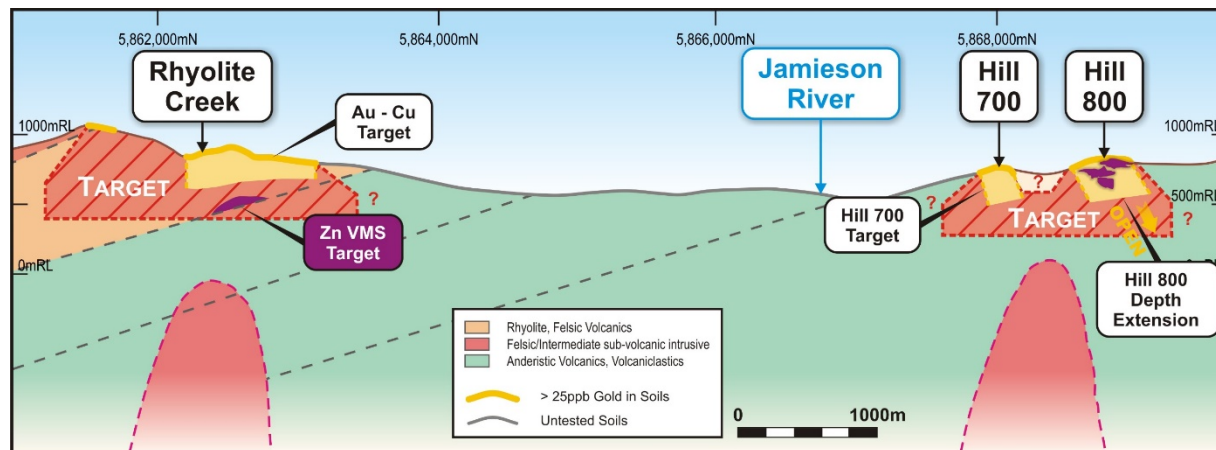
## Magnetics Highlight Potential Potassic Zone

- Primary porphyry Cu-Au magmas are magnetic
- The magnetic anomalies below Hill 800 and Rhyolite Creek are likely highlighting the source of the shallow mineralisation drilled to date
- The target associated with the magnetic anomaly at Hill 800 is potentially porphyry Cu-Au-Mo rather than Au-Te-Bi intersected near surface
- The magnetic anomalies are high priority targets



*Volcanic-hosted, semi-massive sulphide deposit formed in a sub-seafloor environment above a fertile porphyry intrusive system*

- Alteration consistent with epithermal/porphyry model
- Te-Bi-Se association
- $\delta^{34}\text{S} = -5.58$  to  $0.82\%$  (cf. Cambrian VHMS  $\delta^{34}\text{S} = 6$  to  $17\%$ )<sup>1</sup>. Magmatic input
- Magnetic anomaly at depth (likely associated with porphyry-potassic alteration)



Schematic model for Hill 800 and Rhyolite Creek prospects

1. Ropli R., 2018. Age and paragenesis of the Hill 800 Prospect, Victoria. BSc(Hons) thesis, UTAustralia (Unpublished)



## Mineralisation Models

- Volcanogenic Hosted Massive Sulphide (VHMS) Zn-Au-Ag
- Porphyry/Epithermal related Au-Cu

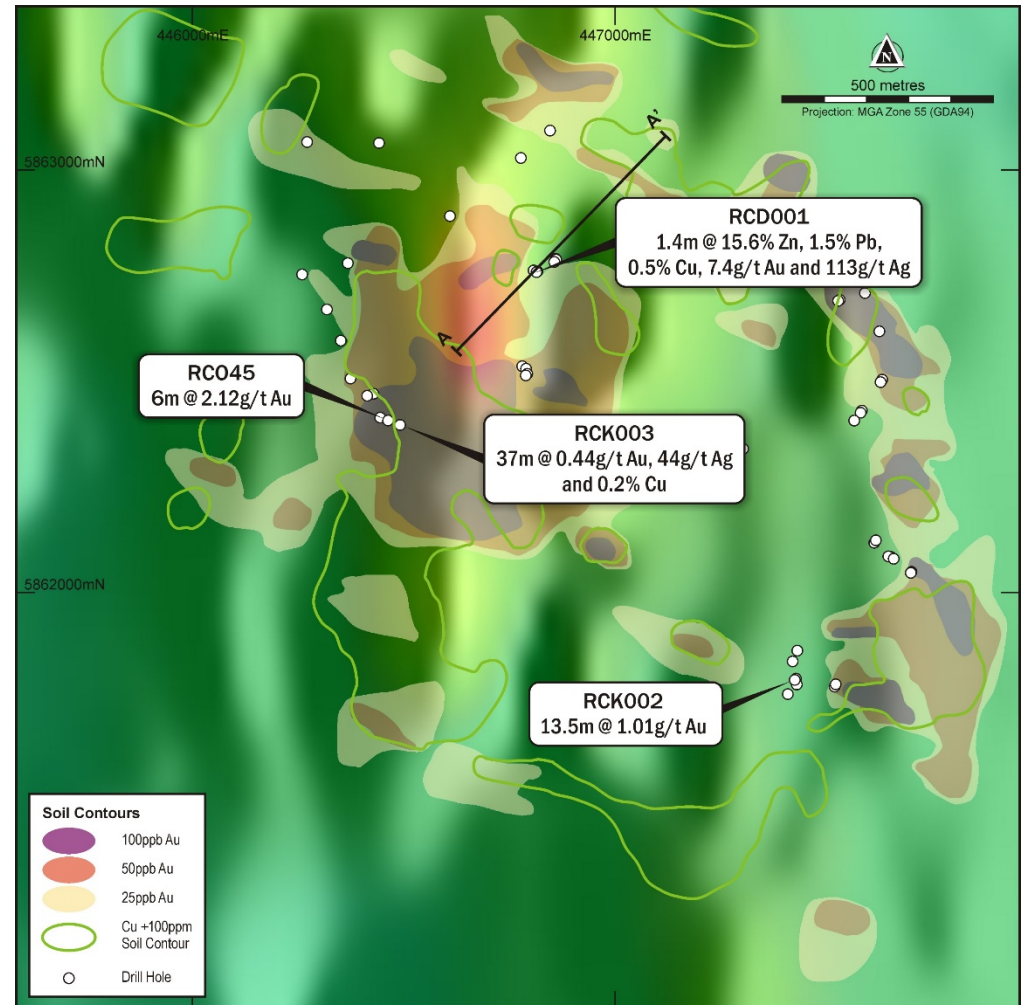
## VHMS seafloor position

- 1.4m @ 15.6% Zn, 7.4g/t Au, 113g/t Ag** from 223m1 (RCD001)
- Occurs above a 59m zone averaging 0.5% Zn

## Large, low grade, near surface porphyry / epithermal system

- Au-Cu Soil anomalism over 1km x 1km area
- 37m @ 0.44g/t Au, 0.2% Cu, 44g/t Ag** from 67.5m (RCK003)

## Sparse, shallow drilling to date





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**THANK YOU!**

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