



NEXUS MINERALS

CRITICAL METALS EXPLORATION IN NORTHEAST VICTORIA – BETHANGA DRILLING UPDATE

AIG TECHNICAL PRESENTATION

27-28 JUNE 2024



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- The results are available to be viewed on the Company website www.nexus-minerals.com. The Company confirms that the form and context in which the Competent Persons’ findings are presented have not been materially modified from the original announcements.
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COMPANY PROJECTS

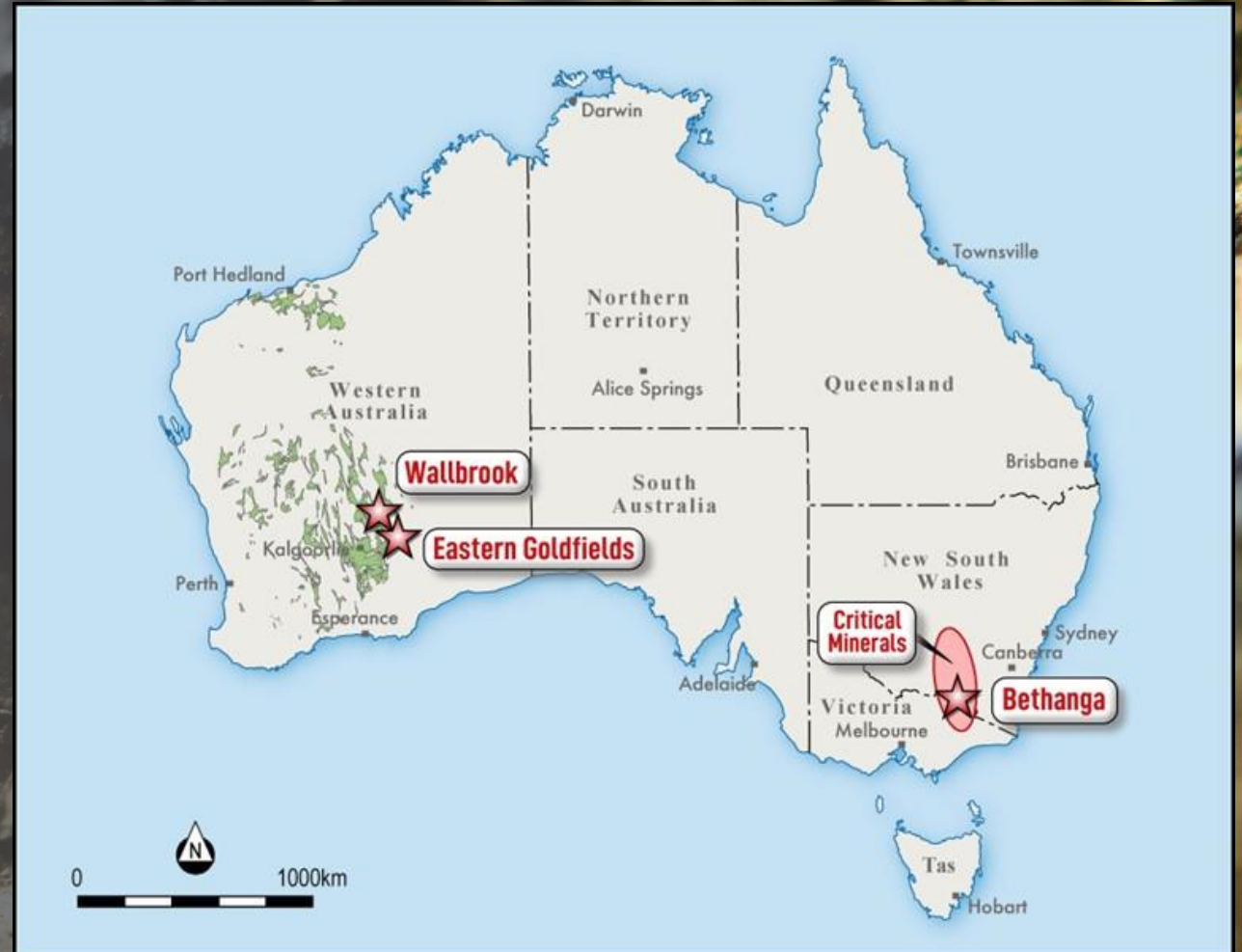
TARGETING:

WESTERN AUSTRALIA

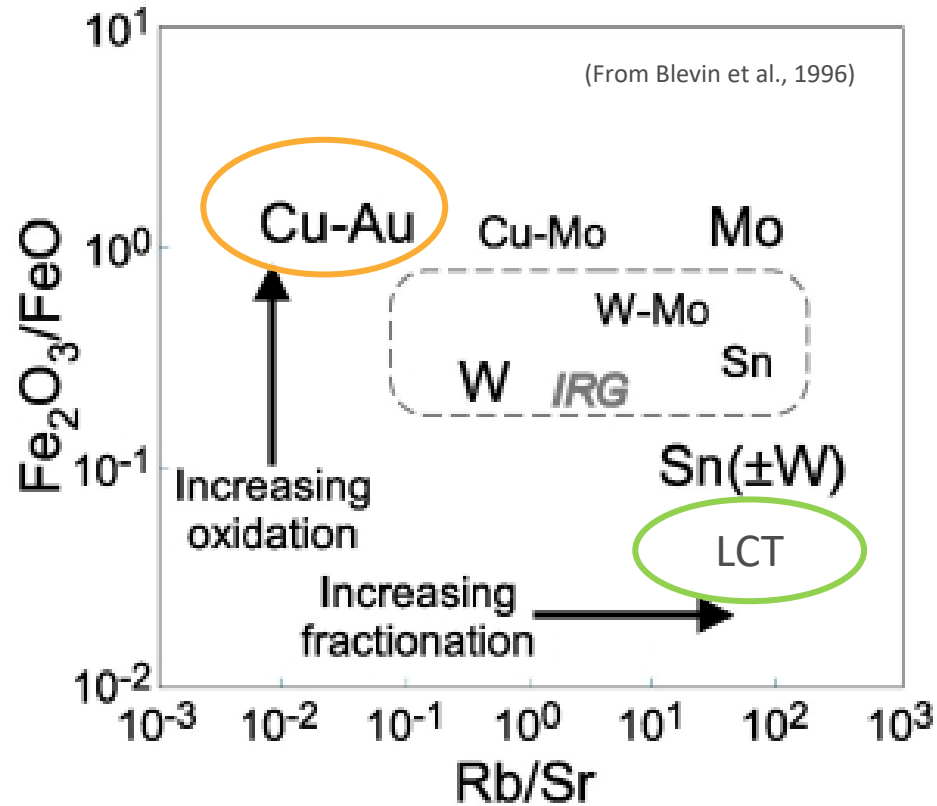
Large scale gold deposits in WA's Eastern Goldfields

VICTORIA & NEW SOUTH WALES

Large Porphyry Copper-Gold, Precious Metals and Critical Minerals - Lithium, Caesium, Tantalum & Tin



MAGMATIC HYDROTHERMAL SYSTEMS

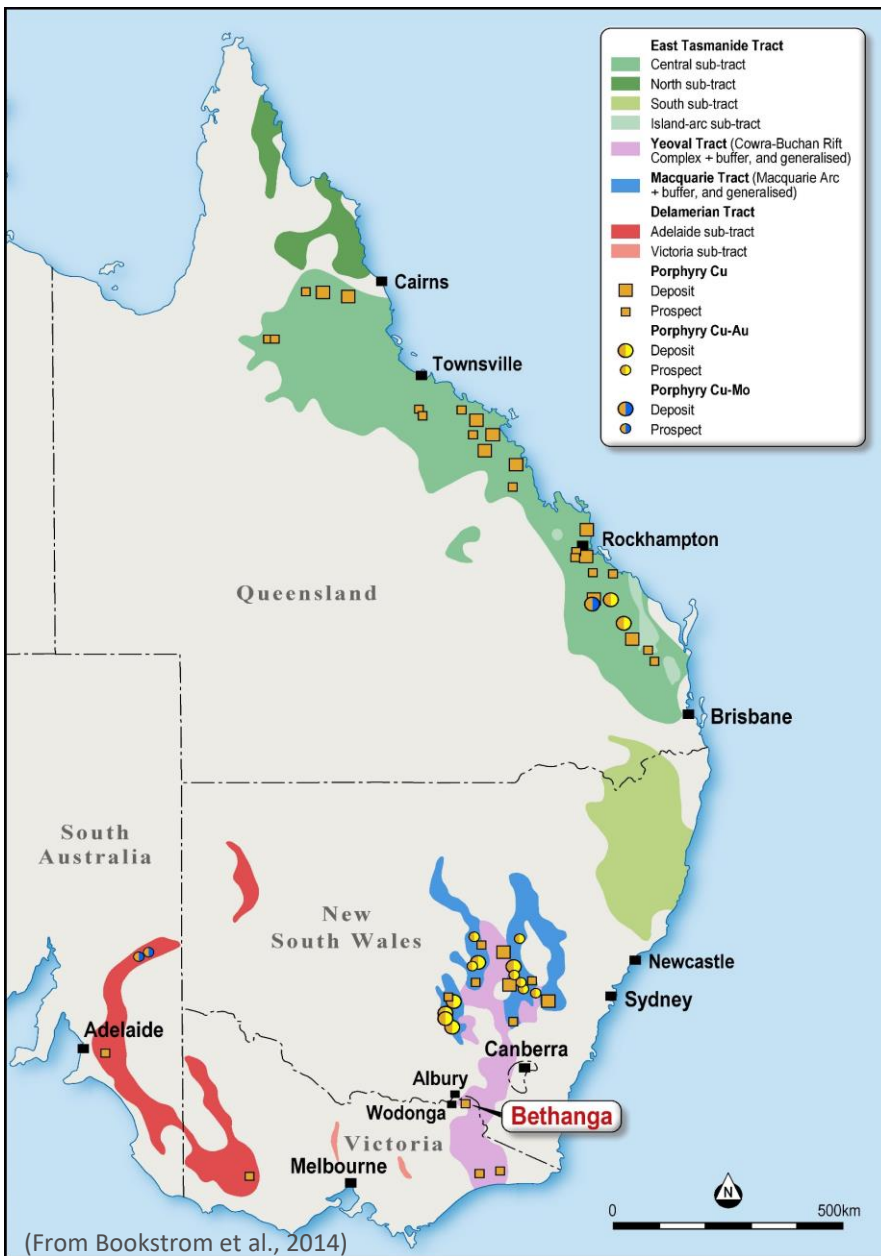


- **Magmas associated with porphyry Cu-Au systems are typically:**

- Oxidised to strongly oxidised (magnetite series)
- Poorly evolved, primitive melts (K/Rb ratio >250)
- Poorly fractionated (Rb/Sr ratio <1)
- Typically, hydrous with Sr/Y ratios >40 (hornblende-bearing)
- I-type metaluminous (Al < (Ca+Na+K))

Magmas associated with Sn +/- W and LCT pegmatites are typically:

- Strongly reduced
- Highly fractionated (Rb/Sr >10)
- Strongly evolved (K/Rb ratio <100)
- Peraluminous, generally S-type (Al > (Ca+Na+K))



COMPANY PROJECTS

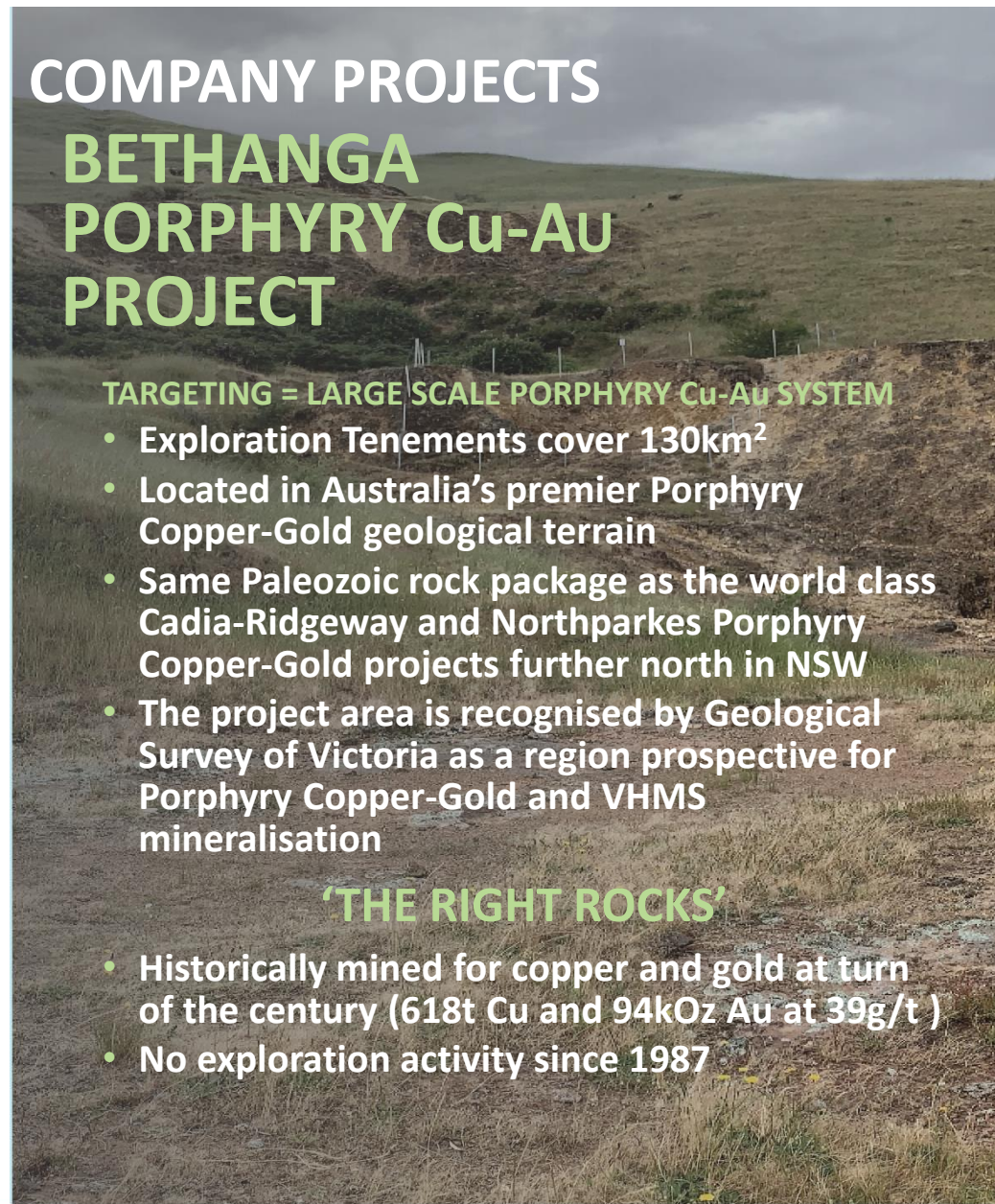
BETHANGA PORPHYRY Cu-AU PROJECT

TARGETING = LARGE SCALE PORPHYRY Cu-Au SYSTEM

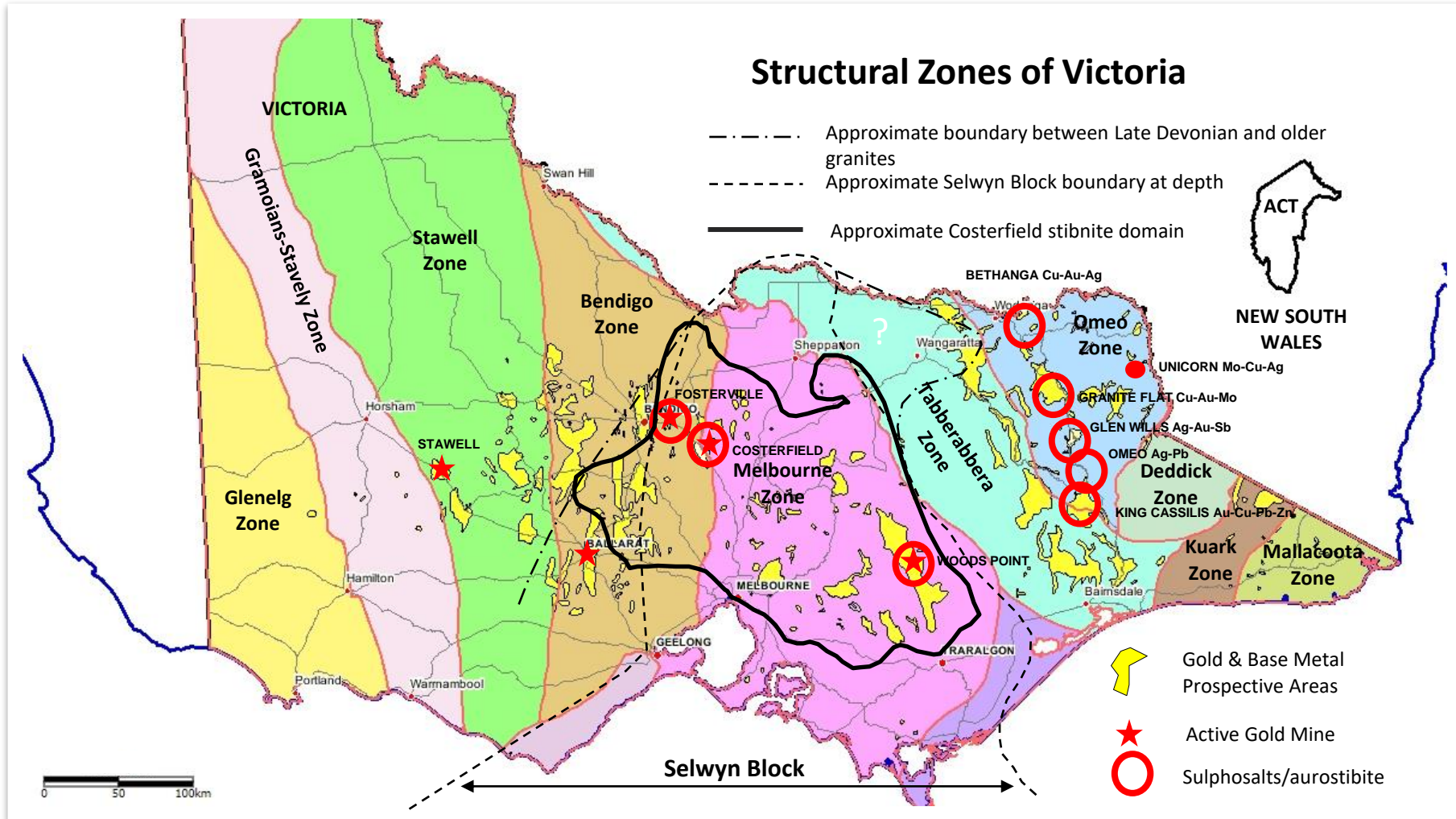
- Exploration Tenements cover 130km²
- Located in Australia's premier Porphyry Copper-Gold geological terrain
- Same Paleozoic rock package as the world class Cadia-Ridgeway and Northparkes Porphyry Copper-Gold projects further north in NSW
- The project area is recognised by Geological Survey of Victoria as a region prospective for Porphyry Copper-Gold and VHMS mineralisation

'THE RIGHT ROCKS'

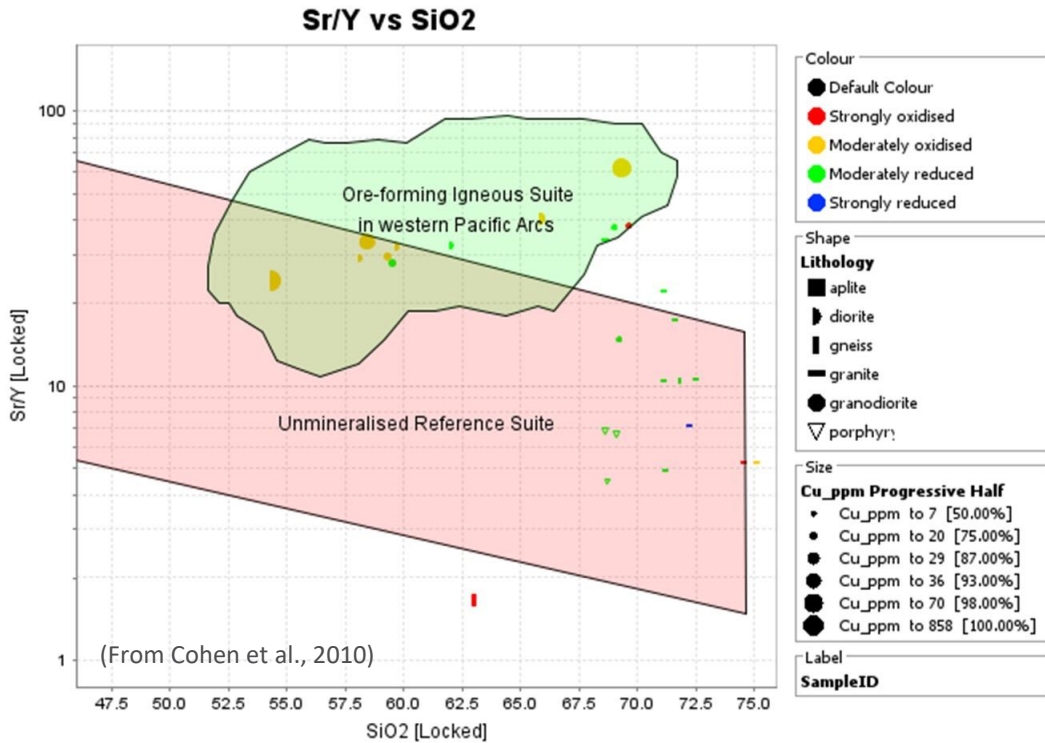
- Historically mined for copper and gold at turn of the century (618t Cu and 94kOz Au at 39g/t)
- No exploration activity since 1987



VICTORIAN OVERVIEW



PORPHYRY Cu-Au

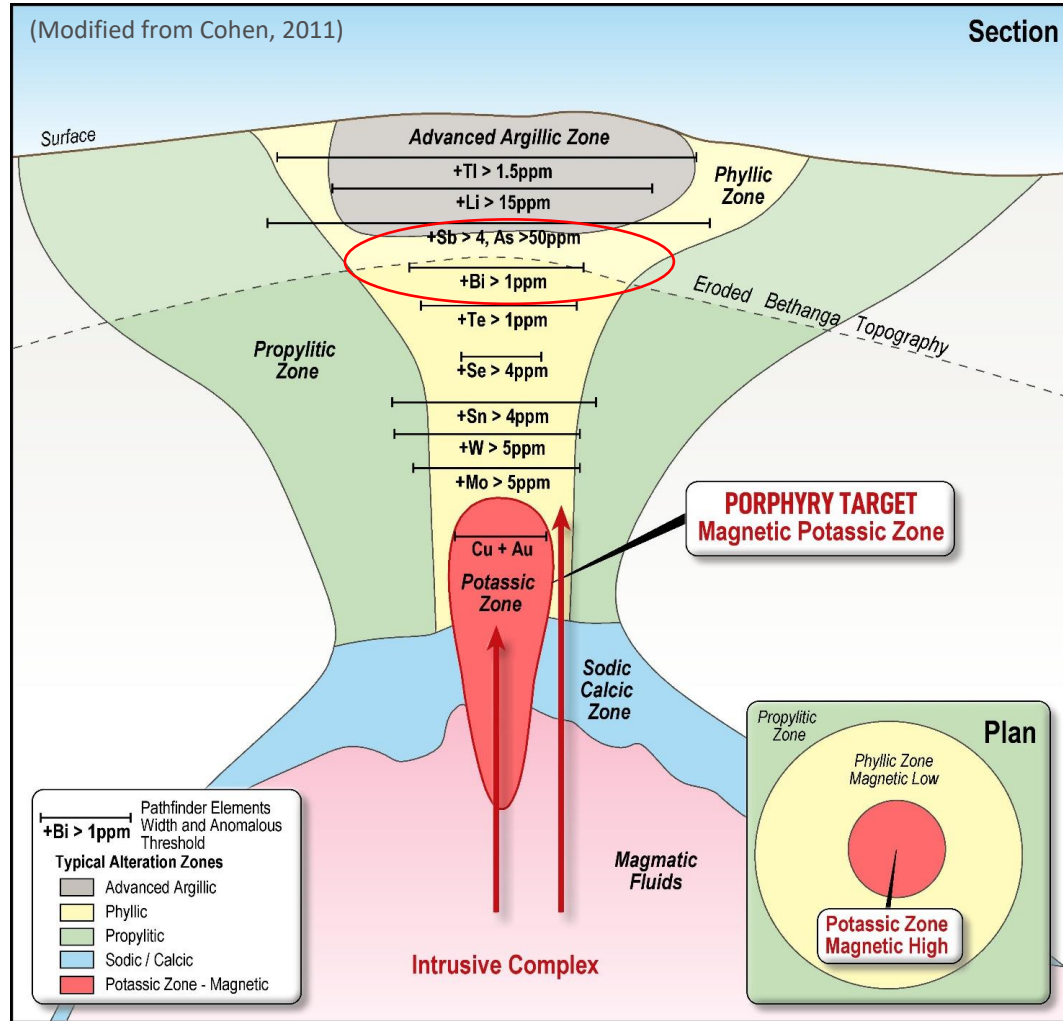


FERTILITY STUDY POSITIVE RESULTS Geochemistry

- Rock samples of hornblende-bearing granodiorite to diorite compositions plot in the prospective field for western Pacific porphyry Cu systems and are moderately oxidised
- Lithochemistry indicates the intrusive rocks are consistent with emplacement into a porphyry tectonic environment (i.e. volcanic arc)
- The lithochemical elemental association is consistent with magmatic–hydrothermal fluids originating from a porphyry Cu system



PORPHYRY Cu-Au

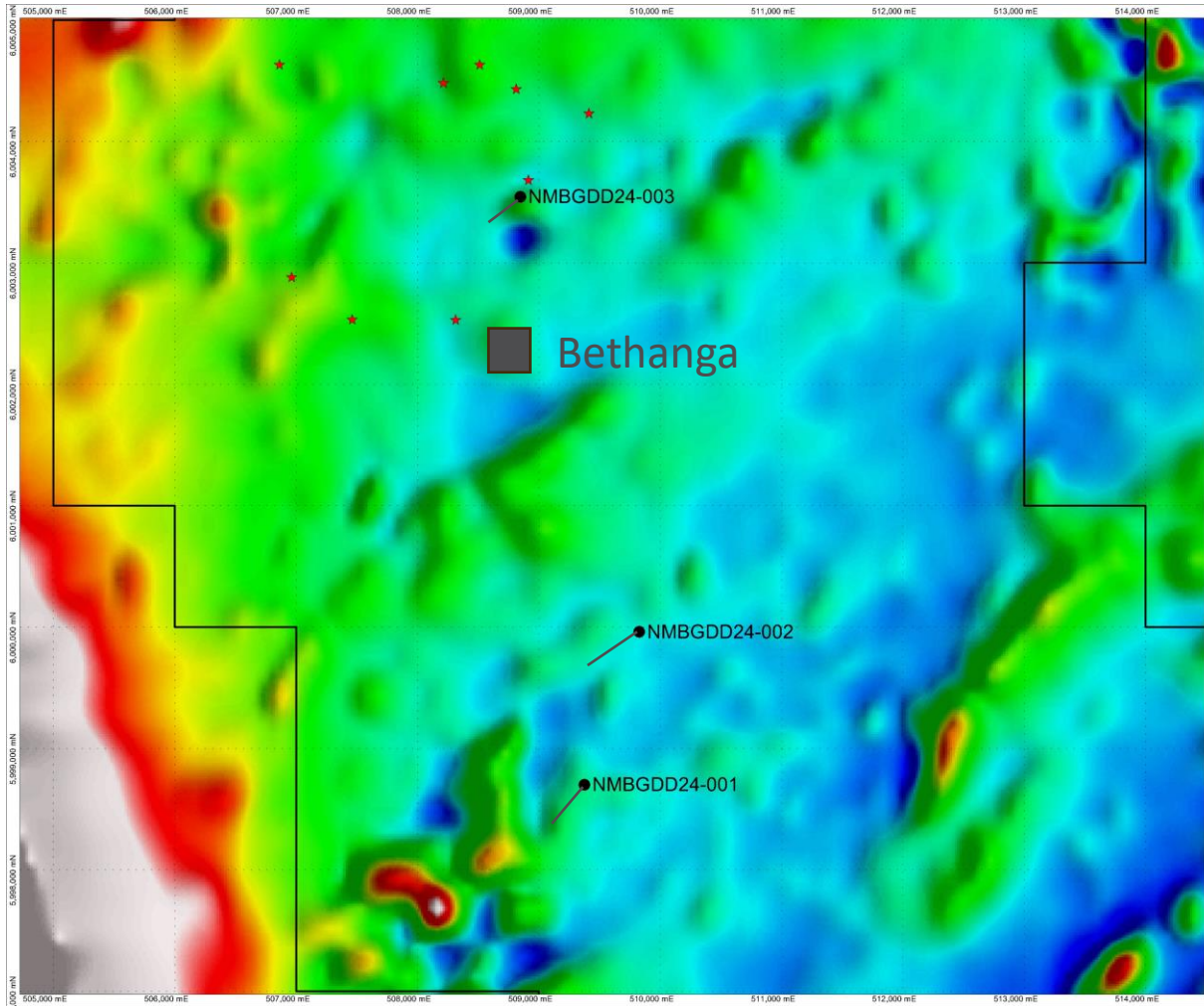


EXPLORATION MODEL

- Inner magnetic potassic core containing alteration minerals magnetite, biotite and K-feldspar.
- Intermediate non-magnetic phyllic zone containing quartz, sericite/white mica (illite/muscovite) and pyrite.
- Outer propylitic zone containing chlorite, epidote and carbonate (the “green” rocks).
- Surface rock chip data from Bethanga show localised highly anomalous Sb & As and weakly anomalous Bi to define an approximate position through an idealised cross section



PORPHYRY Cu-Au

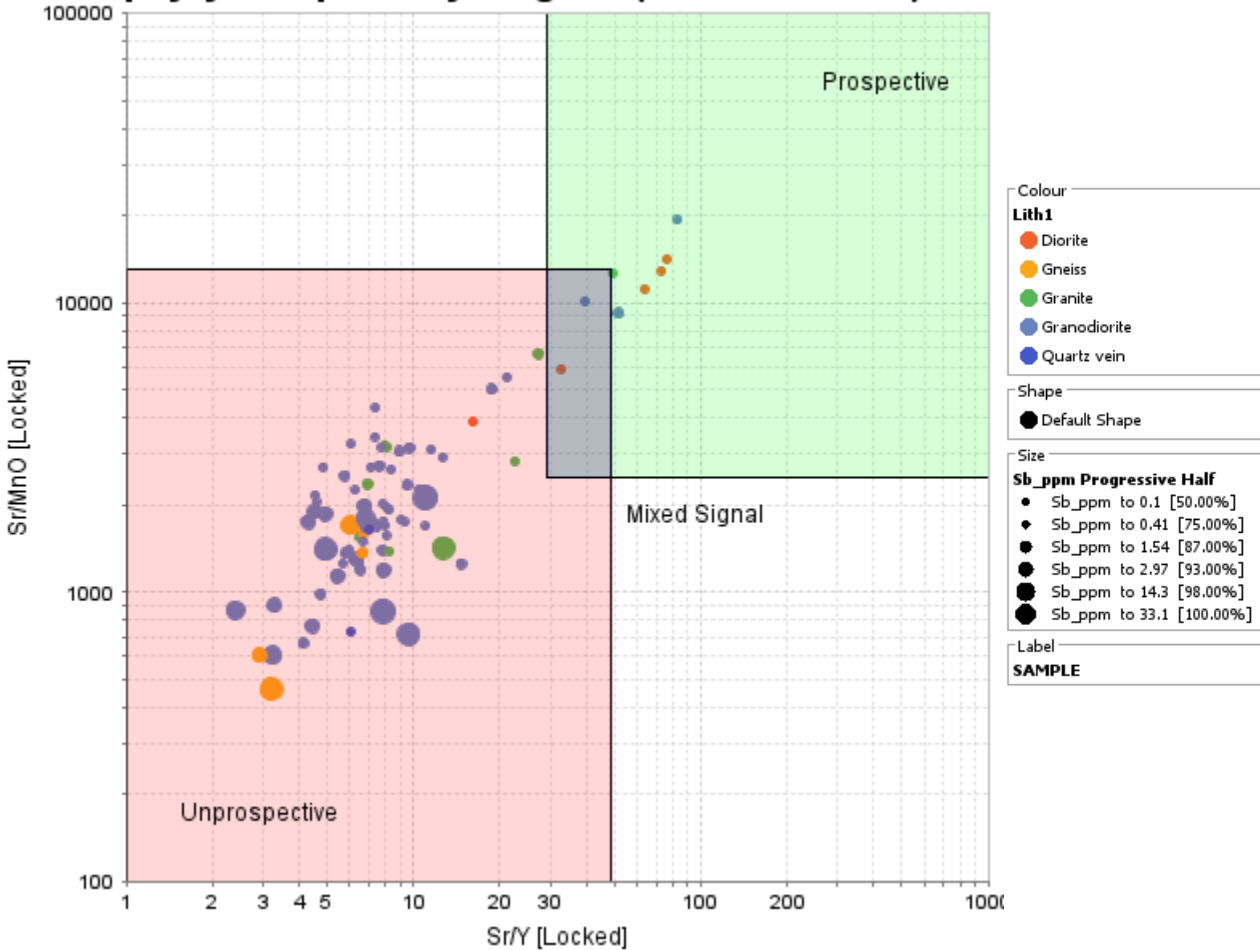


2024 DIAMOND DRILLING

- 1,516 m of diamond drilling in three holes to test magnetic and geochemical targets in the multi-element porphyry target zone and beneath the Welcome Lode
- 84 samples collected for assay and 4-acid lithogeochemical analyses plus hyperspectral analysis (aiSIRIS interp)
- Drilling completed in 1st half of 2024
- Chlorite alteration of biotite is widespread and pervasive

PORPHYRY Cu-Au

Porphyry Prospectivity Diagram (Sr/MnO vs Sr/Y)



PORPHYRY FERTILITY CONFIRMED

- Magnetic, hornblende-bearing diorite and some granodiorite samples plot in the prospective field of Ahmed et al. (2019)
- Some diorite and granodiorite samples also show adakite affinities with Sr/Y ratios >40
- Most granodiorite, granite and gneiss samples are unprospective but are weakly mineralized and hydrothermally altered



PORPHYRY Cu-Au

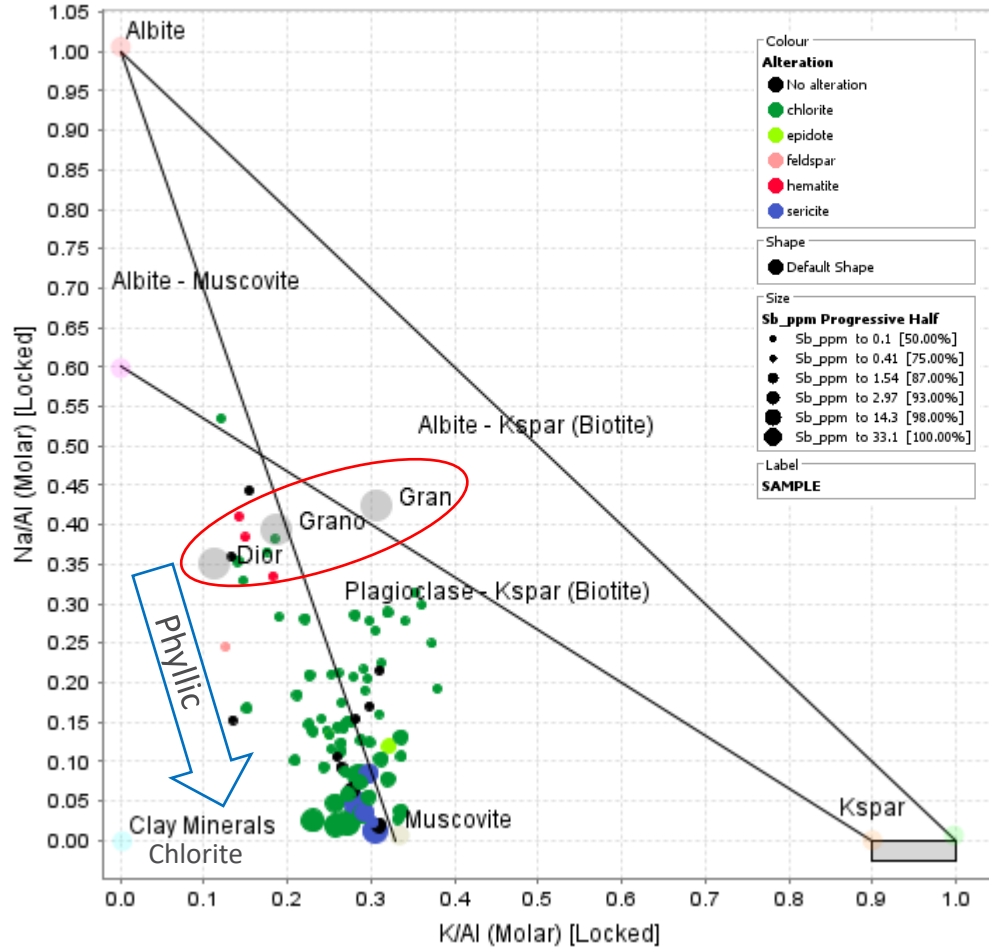
DIORITE INTRUSIVE ROCKS



- Medium to fine grained, hornblende-bearing diorite; hornblende altered to chlorite
- Magnetic susceptibility between 3.32 and 24.9 SI x 10⁻³; may explain local magnetic highs south of Bethanga
- Locally affected by hematite alteration; hyperspectral alteration assemblage is muscovite-chlorite-carbonate

PORPHYRY Cu-Au

Na/Al vs K/Al Molar Ratio Diagram

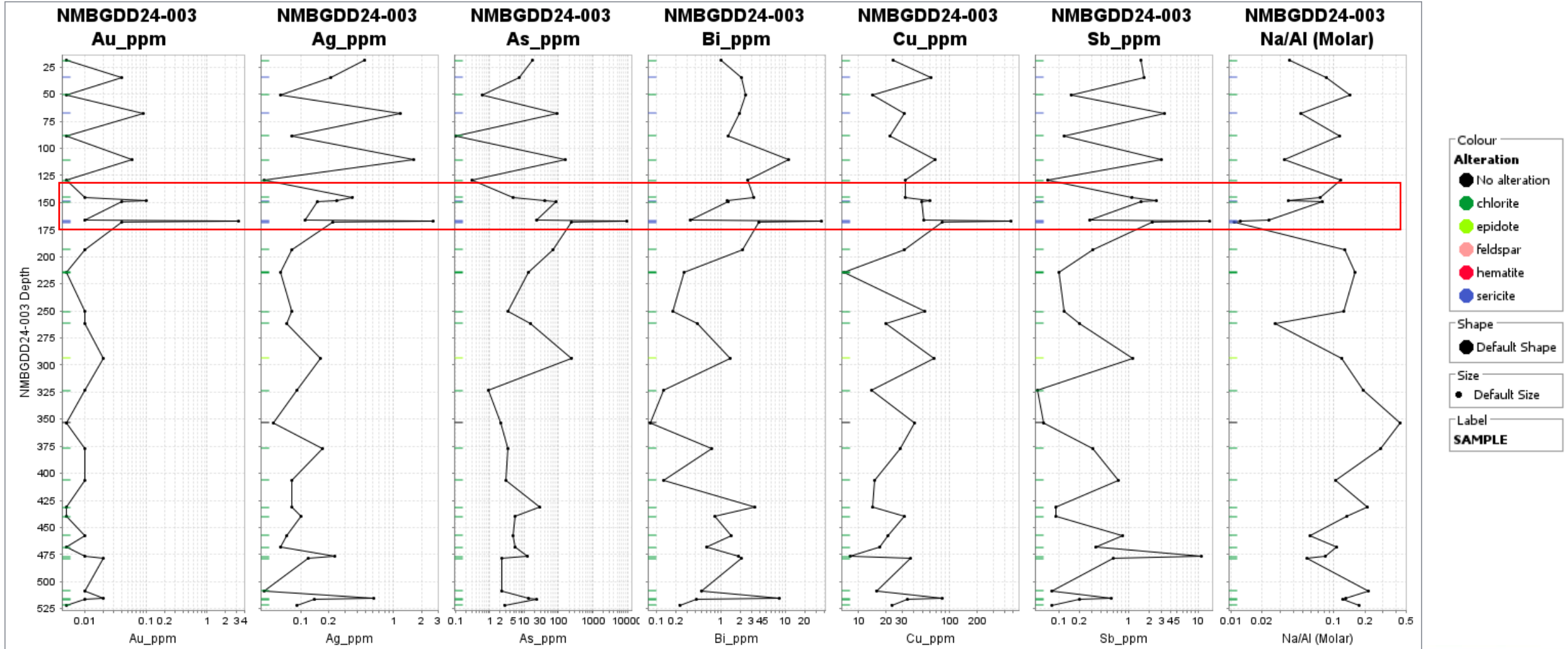


HYDROTHERMAL ALTERATION

- Geochemical data from most samples indicate feldspar-destructive phyllic alteration associated with the highest Sb values (up to 33 ppm)
- Logged alteration varies from chloritic to sericitic
- Hyperspectral aiSIRIS interpretations indicate:
 - Chlorite is intermediate MgFe composition
 - White mica is moderate to well crystallised illite
- Au-Ag-As-Bi-Cu-Sb geochemical association
- Unaltered compositions range from diorite to granite; diorites are unmineralized

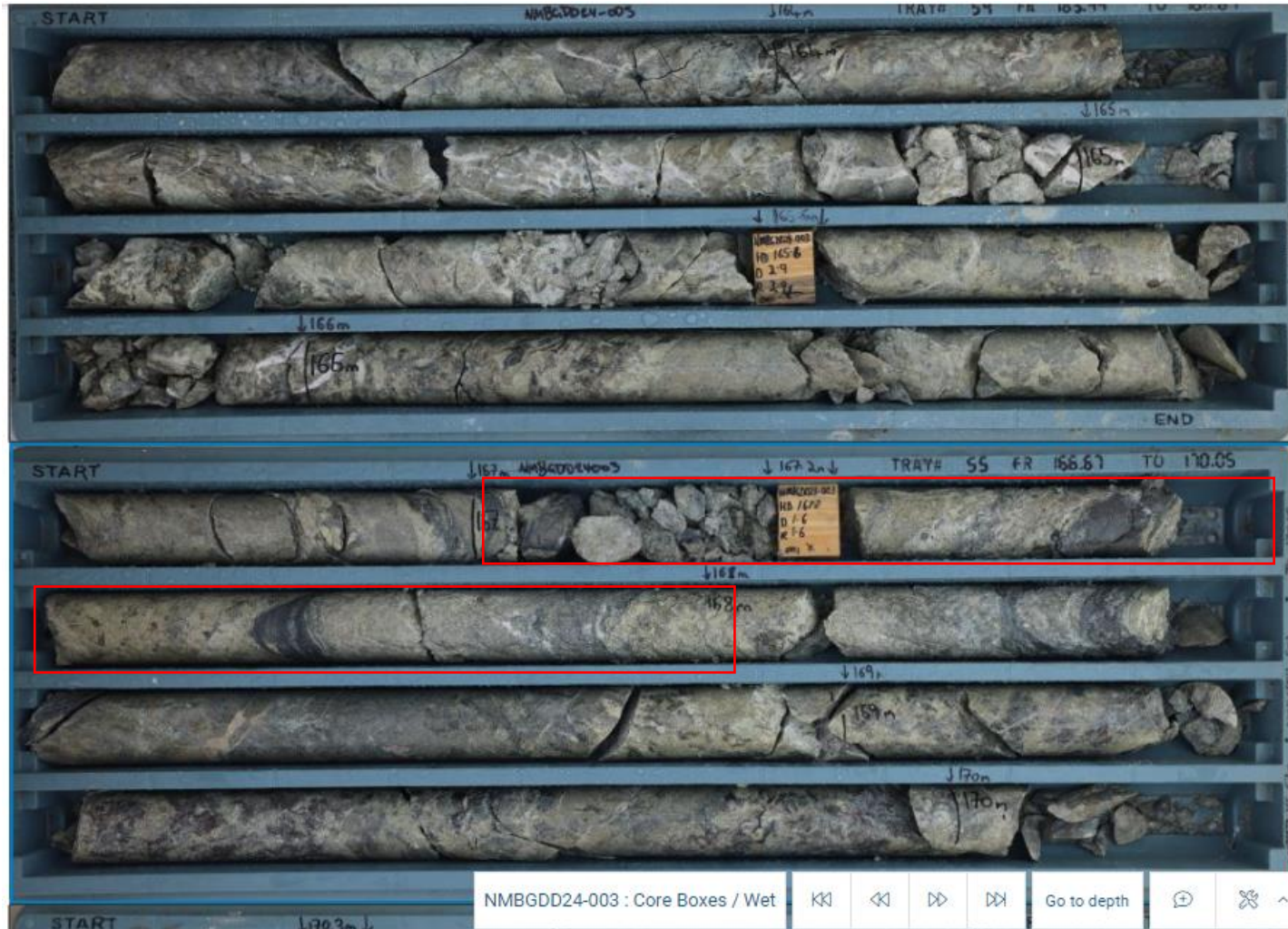
PORPHYRY Cu-Au

NMBGDD24-003 DOWN-HOLE PLOT



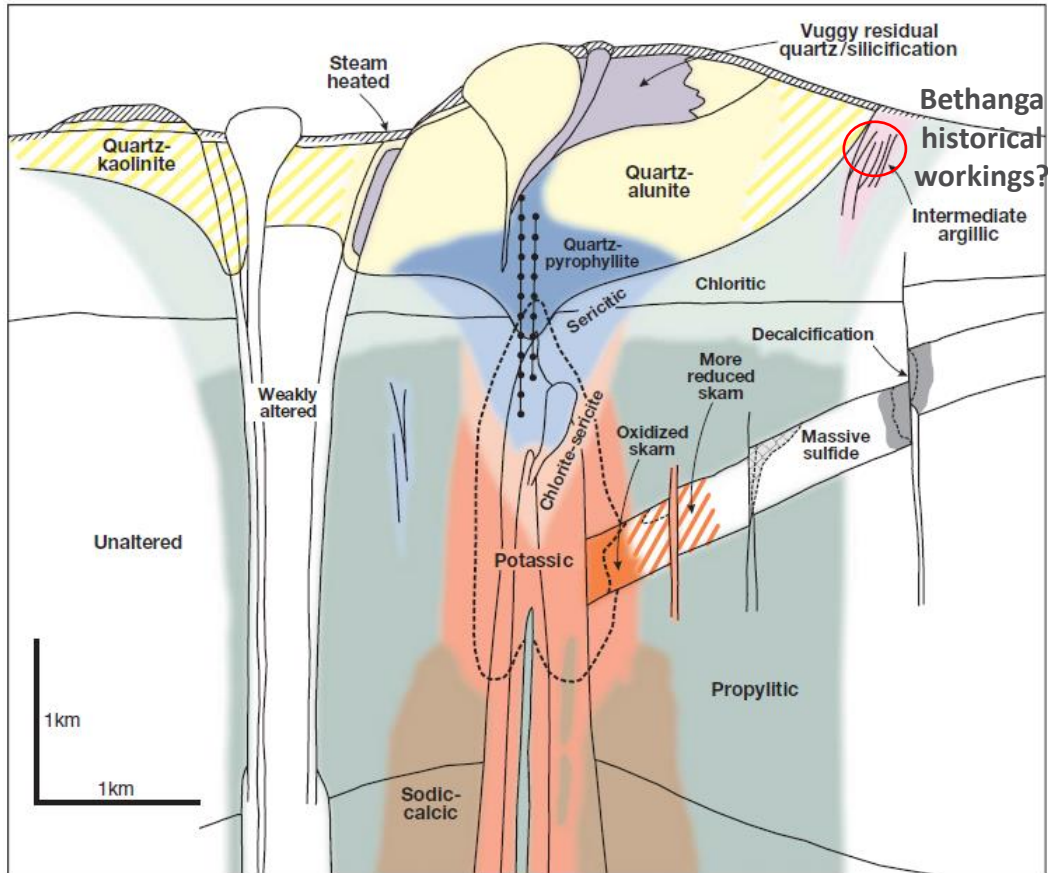
PORPHYRY Cu-Au

NMBGDD24-003 163.5 TO 170.1 M



- Sample NMBG069 (167 – 168 m)
 - 3.23 ppm Au
 - 2.66 ppm Ag
 - 9840 ppm As
 - 36.3 ppm Bi
 - 474 ppm Cu
 - 0.87 ppm Mo
 - 46.4 ppm Pb
 - 14.75 ppm Sb
 - 103 ppm Zn
- Pyrite, illite, kaolinite (?), ferroan carbonate altered breccia

BETHANGA Cu-Au



(From Sillitoe, 2010)

CONCLUSIONS

- Lithogeochemical data from post-Bethanga Gneiss granodiorite to diorite intrusions are consistent with a fertile porphyry Cu magmatic hydrothermal system
- Enrichments of As, Sb and Bi in surface rocks samples suggest shallow exposure of the system
- Recent drilling has confirmed fertility and defined a dominant chlorite-illite alteration assemblage associated with thin quartz-calcite conjugate veins (D-veins?) and breccias locally anomalous in Au-Ag-As-Bi-Cu-Sb

SUMMARY

VICTORIA AND NSW CRITICAL MINERALS

- Bethanga Porphyry Cu-Au project
 - Diamond drill program completed – project review underway
- NSW & Victoria Critical Minerals project – ~15,000km² granted tenure
 - Processing of regional geophysical datasets
 - Ground reconnaissance mapping and sampling commenced

- *Quality Projects*
- *'The Right Rocks'*
- *Professional and Experienced Management Team*
- *Well Funded with*
\$5.5 Million Cash on Hand as of
23/05/2024

THANK YOU

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