

Queensland Government backs Bottletree drilling with CEI Critical Minerals Funding Grant

HIGHLIGHTS:

- Superior has been awarded a \$300,000 Collaborative Exploration Initiative (CEI) grant for the drilling of two critical diamond holes at the Bottletree porphyry Cu-Au-Mo discovery
- CEI grant awarded under the Queensland Government's QLD Resources Industry Development Plan and is administered by the Department of Resources
- Proposed holes will be the most critical to date, targeting the modelled core of the Bottletree porphyry system with two deep holes totalling 1,700m of drilling
- The target is supported by several coincident circular anomalies, including a broad magnetic low anomaly, extensive 2.0km x 2.5km Cu soil anomaly and a gravity high anomaly
- The CEI program was competitive and the award strongly validates the flagship Bottletree Prospect and the significance of the Greenvale Terrane, being an important and previously unrecognised Cu-Au porphyry belt. In the period of three years, Superior has confirmed the existence of two large porphyry Cu-Au-Mo systems and several other likely porphyries
- 2024 Bottletree drilling program, including the CEI holes, is expected to commence as soon as weather and ground conditions permit

Superior's Managing Director, Peter Hwang commented:

"We are very pleased to have secured the maximum grant allocation of \$300,000 under the Queensland Government's CEI program and importantly, to see the ground-breaking significance of Bottletree being recognised by the Queensland Government.

"The CEI program is a direct result of the Queensland Government's commitment to building the foundation for a globally-leading critical minerals jurisdiction and considering Queensland's mineral endowment, there is no doubt there is real potential to achieve this goal. Such initiatives and policies are vital to a successful and vibrant mineral exploration sector, which in turn has become critical for the future of Queensland.

"At Superior we are contributing directly to the critical minerals future as we continue to make discoveries of major copper and nickel mineral systems and identify new mineral provinces. The porphyry copper-gold discovery at Bottletree and our exploration work over the greater Greenvale Project are progressively unlocking the multi-porphyry potential of the newly recognised Greenvale porphyry belt.

"The timing of the CEI grant couldn't be better and will fund the drilling of the two most critical deep holes directly targeting the modelled core of the Bottletree porphyry system. Modelling of the potential location of the core has been made possible from the culmination of the geological data obtained from the 2022 and 2023 drilling campaigns.

"We eagerly look forward to expediting the commencement of the CEI drilling. Watch this space as we update the market with new findings and the roll-out of our 2024 exploration programs."

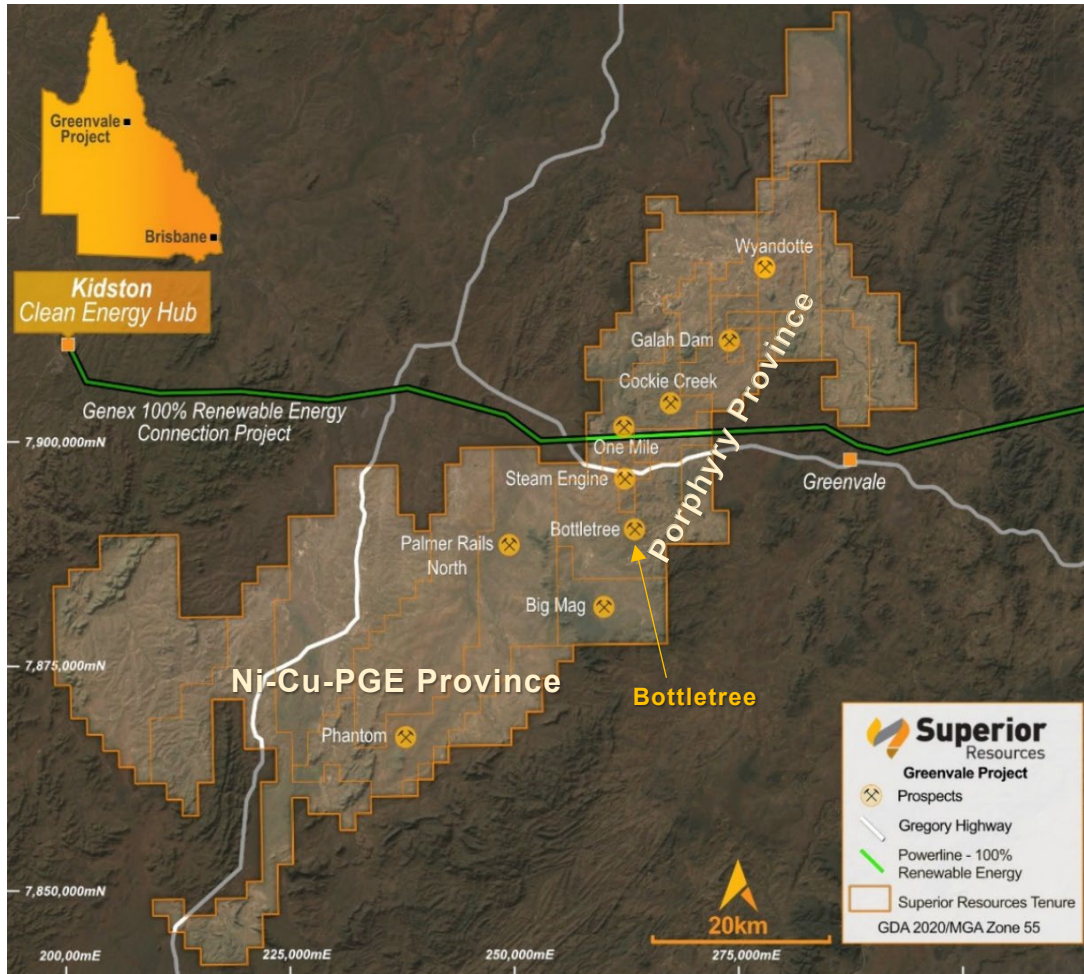


Figure 1. Map showing the locations of the Greenvale Project tenements and select prospects. The Gregory Highway, Kidston Clean Energy Hub and associated power infrastructure corridor are also indicated.

CEI-Funded Deep Drilling to Identify a Buried Porphyry Deposit

Two deep CEI-funded diamond drill holes will target a large untested area located approximately 400 metres to the southwest of all prior drilling conducted between 2021 to 2023 (Figs. 2 to 4).

The target area has been determined as having high potential for the presence of a large, buried, Cu-Au mineralised porphyry intrusion (also commonly referred to as a “porphyry core”).

Modelling of extensive geological information yielded from the 2021 to 2023 drilling campaigns shows that the target area is associated with a large circular magnetic low anomaly (Fig. 2) that is coincident with highly significant Cu, Mo and Au soil geochemistry anomalies (Figs. 3 and 4) and a broad gravity anomaly.

The identification of hydrothermal alteration patterns has been an important outcome from the Bottletree drill holes. In particular, strong potassic and calcic alteration zones that are common in the deep, high temperature cores of some porphyry systems, dominate in some of the Bottletree holes. This supports the interpretation that a buried porphyry system lies within the target area.

In terms of characterising the target, which is best delineated by the magnetic low, a large, multiphase, non-magnetic, ilmenite-bearing, reduced I-type granite is interpreted to be the source of the extensive Cu-Au-Mo mineralisation at Bottletree.

The mineralisation at Bottletree is very significant and comprises extensive, broad-scale copper-gold mineralisation with substantial molybdenum. The drilling to date has intersected outer-zone wall rock mineralisation and has included:

- **632m @ 0.21% Cu, 0.03g/t Au, 0.60ppm Ag, 18.0ppm Mo** from 5m below surface (BTDD004) (refer ASX announcement dated 2 June 2022), including;
 - **224m @ 0.40% Cu, 0.05g/t Au, 0.90ppm Ag, 3.5ppm Mo** from 242m.

Spectacularly high-grade molybdenum mineralisation with **up to 5.2% Mo** (BTDD010, 1m assay) was also intersected during the 2022 program and appears to be associated with a late-stage tonalite porphyry intrusion event (refer ASX announcement dated 12 April 2023).

The mineralisation identified to date is considered to be wall rock porphyry mineralisation located on the margins of the porphyry system. The two CEI-funded holes targeting the modelled porphyry core, are therefore the most critical holes to be drilled at Bottletree.

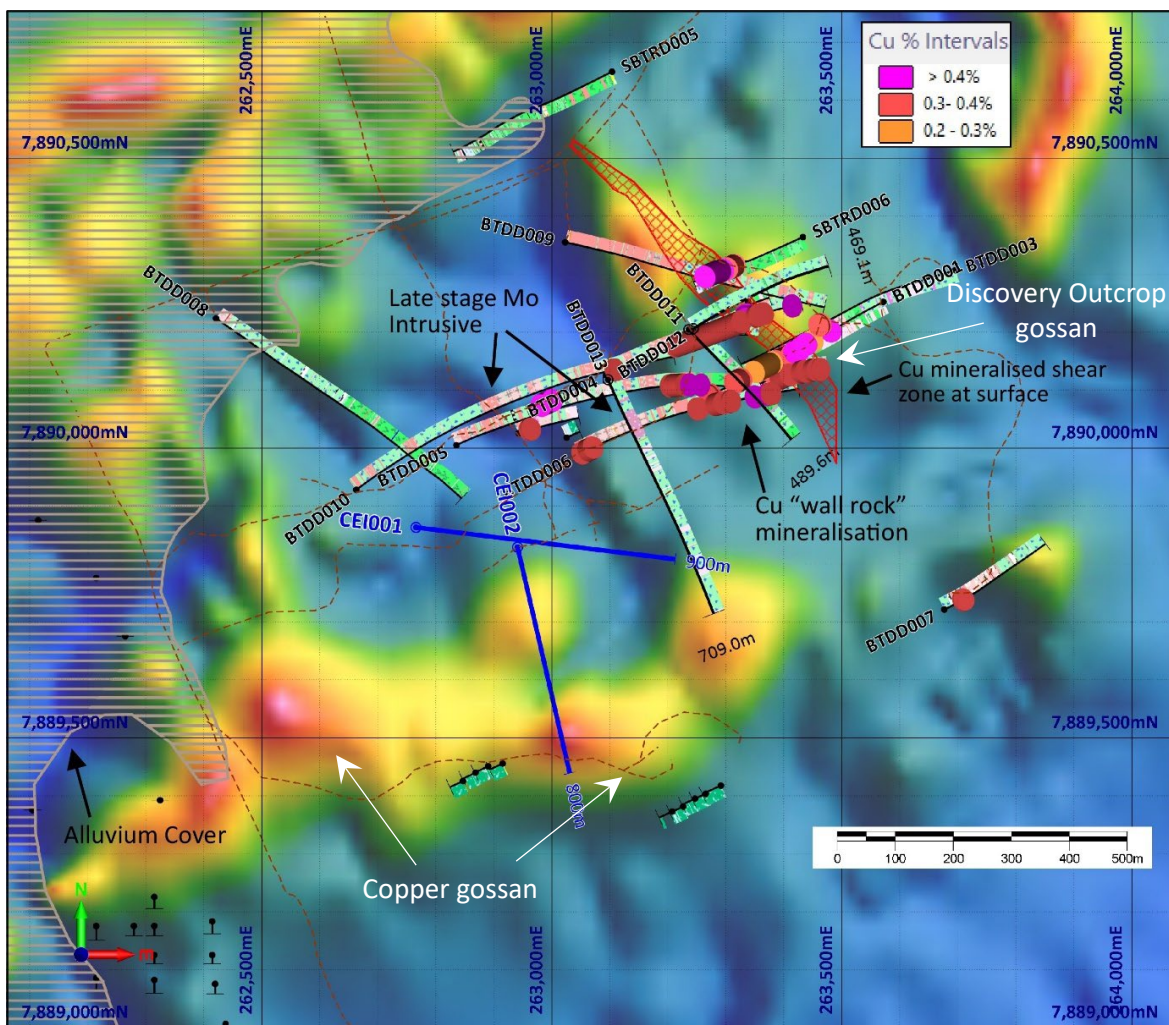


Figure 2. Plan of proposed CEI diamond drill holes CEI001 and CEI002 (blue lines) over a Tdr Vi NSSF processed aerial magnetic image. Drill holes target the centre of a broad circular magnetic low to the southwest of all previous drill holes. It is interpreted to represent the top of a large non-magnetic ilmenite-bearing, reduced I-type granite that could be the source of Cu-Au-Mo mineralisation at Bottletree. Drillhole CEI002 also targets the western extension of an E-W-trending copper gossan in the southern part of the prospect at depth. The several modest magnetic highs (“red pimples”) could represent magnetic pyrrhotite-pyrite-chalcopyrite mineralisation surrounding the main porphyry system forming the broad circular magnetic low to the immediate north. The coloured circles along the drill hole traces represent composite Cu % intervals (15 m) from assay data. Colouring along the right-hand side of the existing drill hole traces represents lithology (rock type).

Testing of Copper Gossans to the South

The two CEI-funded drill holes will also test an east-west trending copper gossan located in the southern part of the Bottletree Prospect area (Fig. 2). Limited historical reverse-circulation (RC) drilling of the gossan zone to maximum depths of approximately 60 metres demonstrated that the gossan is mineralised below surface but is completely untested at depth. Moreover, the area also coincides with highly anomalous copper and molybdenum soil geochemistry (Figs. 3 and 4).

Several modestly high magnetic anomalies along this east-west copper gossan could represent magnetic pyrrhotite-pyrite-chalcopyrite mineralisation (Fig. 2).

The copper gossan zone is considered to be a second wall-rock porphyry style mineralised zone similar to the “Discovery Outcrop” zone that has been the focus of the Company’s prior drilling programs. This zone could represent a second distal Cu-Au-Mo halo zone surrounding a large, buried porphyry system to the north (i.e. the CEI target area).

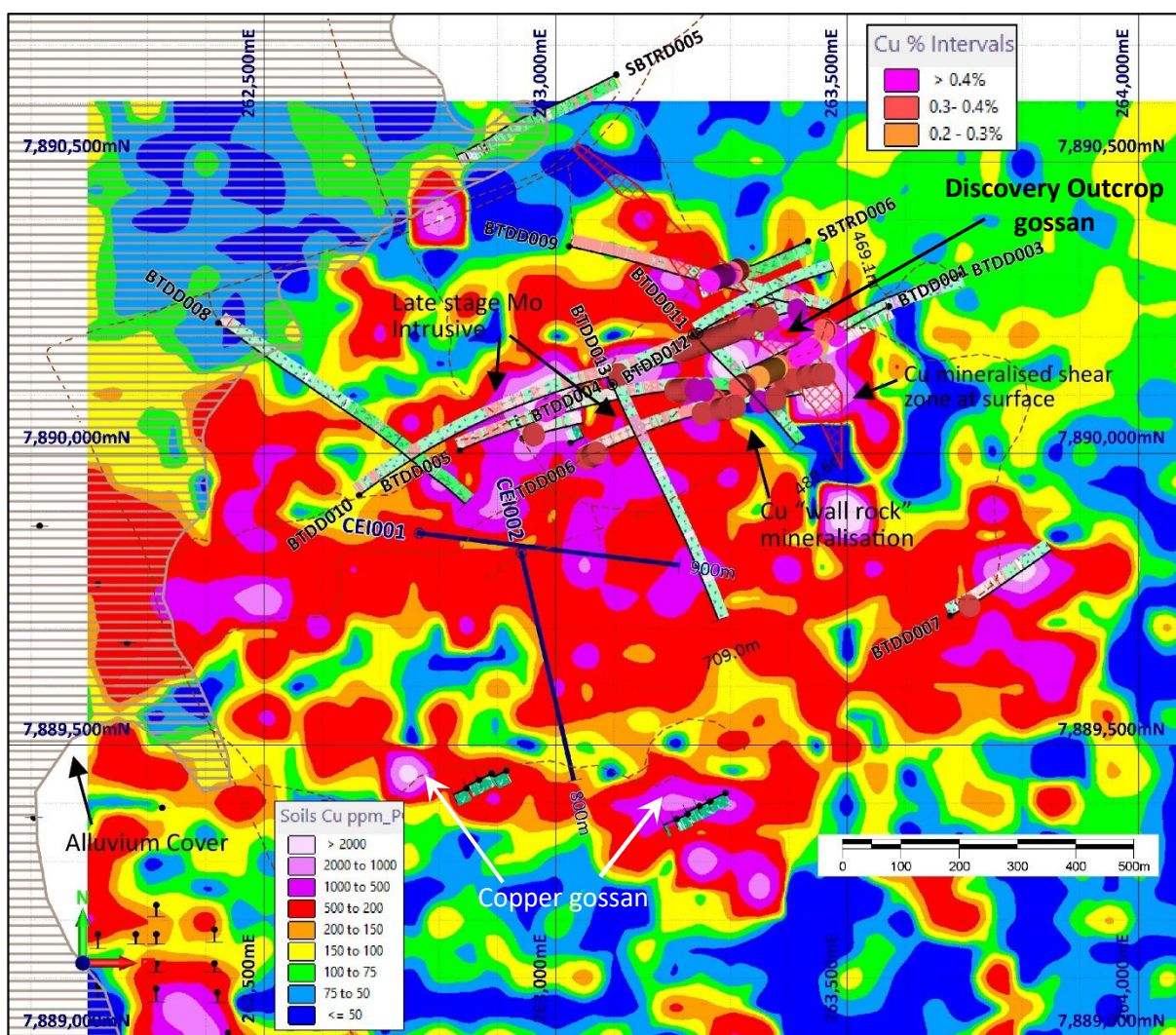


Figure 3. Plan of proposed CEI diamond drill holes CEI001 and CEI002 (blue lines) as in Figure 2 with the Cu-in-soils data displayed. Note the strong Cu anomalism over the magnetic low shown in Figure 2 and where CEI001 and CEI002 are to be drilled. The coloured circles along the drill hole traces represent composite Cu % intervals (15 m) from assay data. Colouring along the right-hand side of the existing drill hole traces represents lithology (rock type).

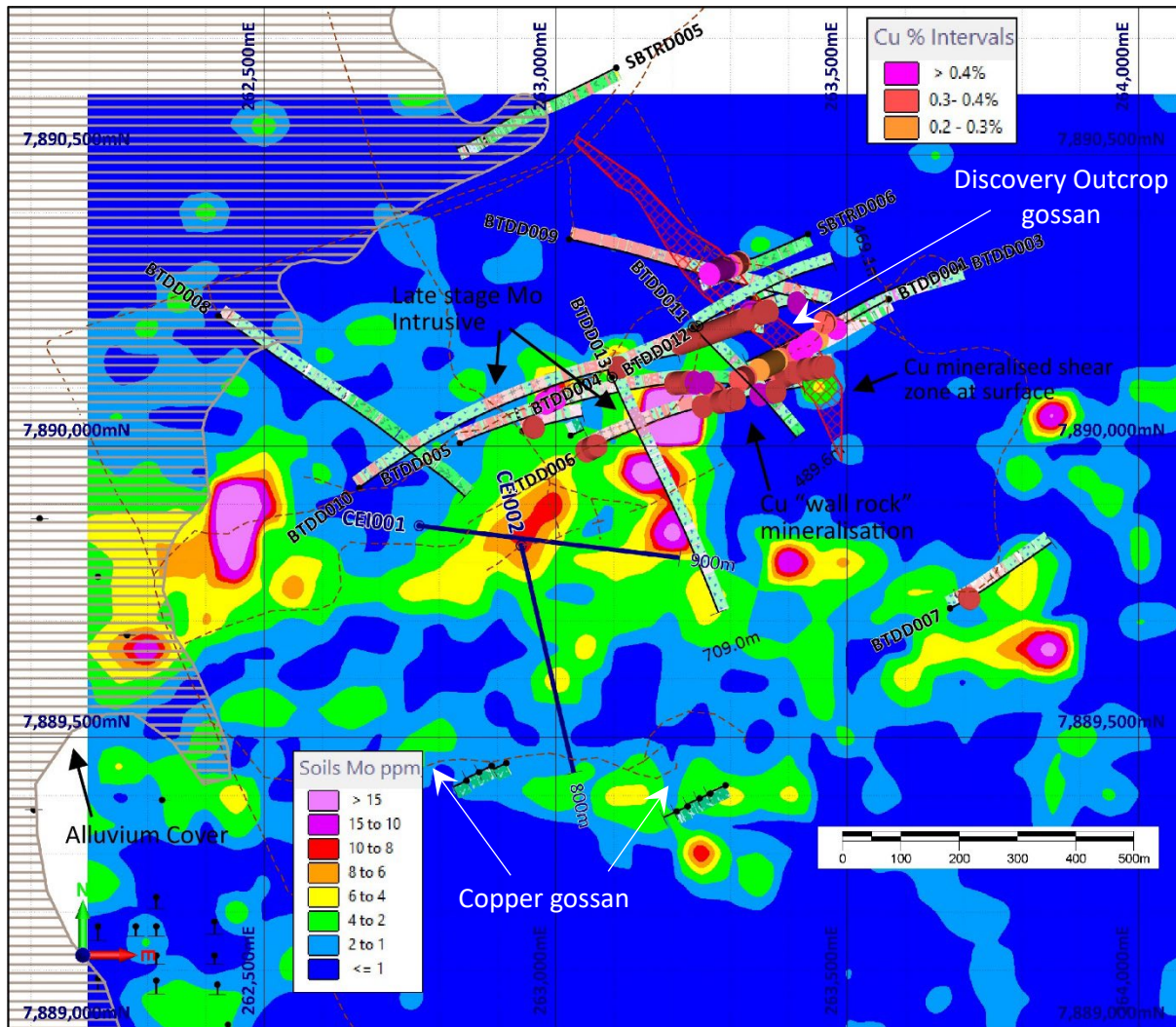
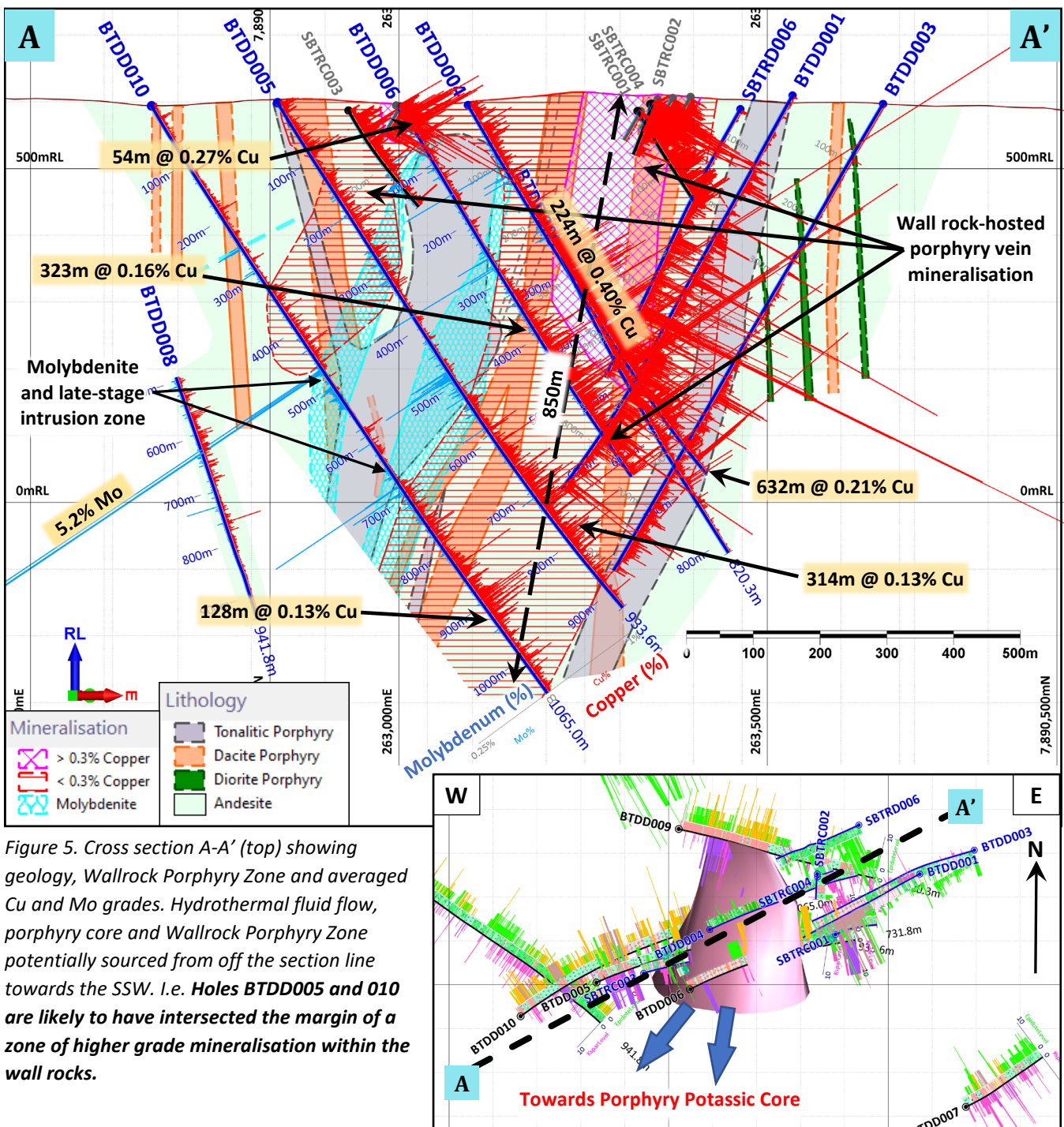


Figure 4. Plan of proposed CEI diamond drill holes CEI001 and CEI002 (blue lines) as in Figures 2 and 3 with the Mo-in-soils data displayed. Note the modest Mo anomalism over the magnetic low shown in Figure 2 and where CEI001 and CEI002 are to be drilled. The coloured circles along the drill hole traces represent composite Cu % intervals (15 m) from assay data. Colouring along the right-hand side of the existing drill hole traces represents lithology (rock type).

BOTTLETREE BACKGROUND

Exploration at Bottletree is at an early stage with only four holes targeting a porphyry core having been completed. Extensive wall rock-hosted mineralisation within a large porphyry-style alteration shell has been intersected (Fig. 5):

- BTDD004: 632m @ 0.21% Cu, incl. 224m @ 0.40% Cu (refer ASX announcement dated 2 June 2022);
- BTDD005: 314m @ 0.13% Cu (refer ASX announcement dated 12 April 2023);
- BTDD010: 73m @ 1,229.5ppm Mo, incl. 14m @ 6,000ppm Mo and 6m @ 13,900ppm Mo; and
- SBTRD006: 292m @ 0.22% Cu (refer ASX announcement dated 25 October 2018).



Each of the 2022 holes were drilled along one east-west aligned line with the same hole directional parameters, which limits the amount of 3D vector interpretation available at this stage. However, from other structural information, it appears that **the main copper-mineralising fluid flow pathways are likely to be moving off the section line A-A' (as defined by holes BTDD004, 005 and 010) towards either a north-westerly or south-westerly direction (Fig. 5)**. In other words, BTDD010 and possibly BTDD005 may have intersected the northern margin of the higher-grade wall rock-hosted copper zones and overall potassic alteration zone (Figs. 5 and 6).

The Company considers that the latest drilling has reached a point that is potentially within “close” proximity to either a source potassic core zone of a mineralised porphyry system or large zones of mineralisation related to one or more of the porphyry intrusions that have been identified during the 2022 program.

Importantly, uranium-lead radiometric dating of zircon and rhenium-osmium radiometric dating of molybdenite will be obtained in order to determine the age of the mineralisation system, which is currently considered to be Ordovician (485-444Ma). Such a date would correlate the intrusive system with the Ordovician Macquarie Arc, which hosts the Cadia-Ridgeway mine.

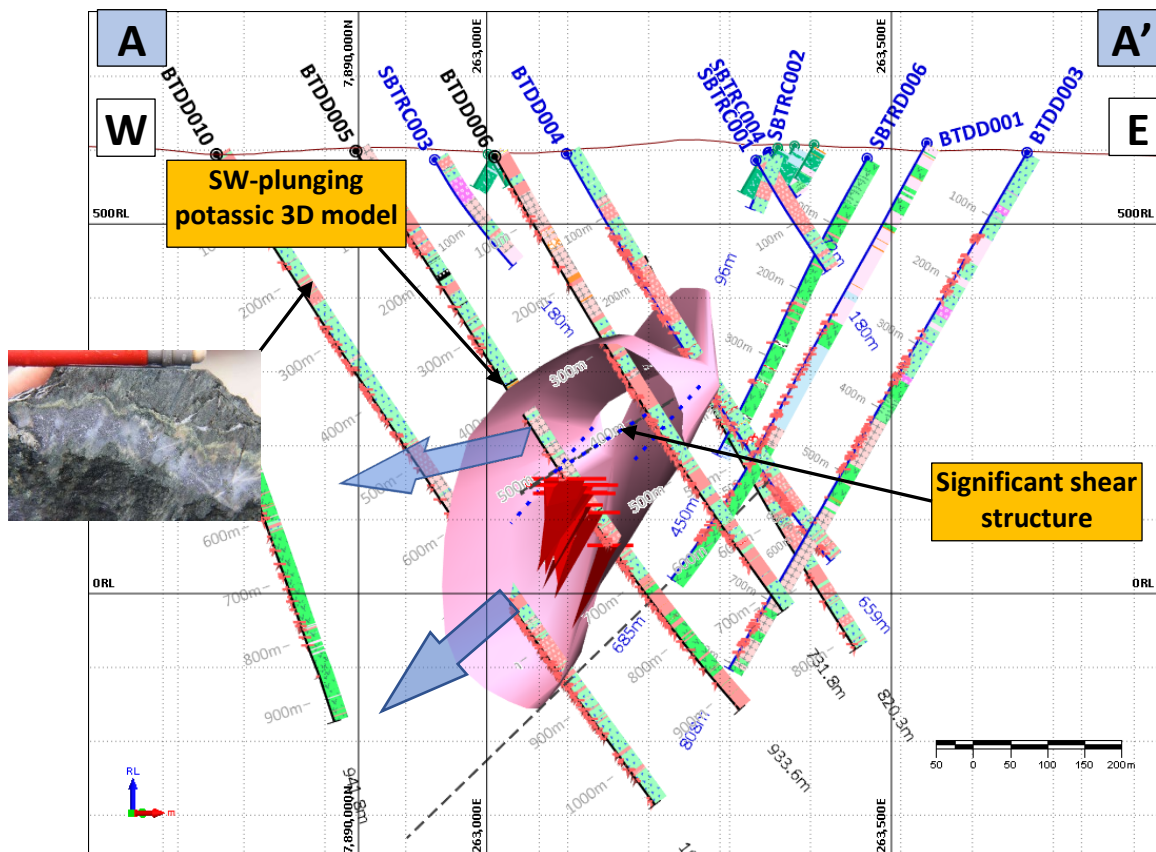
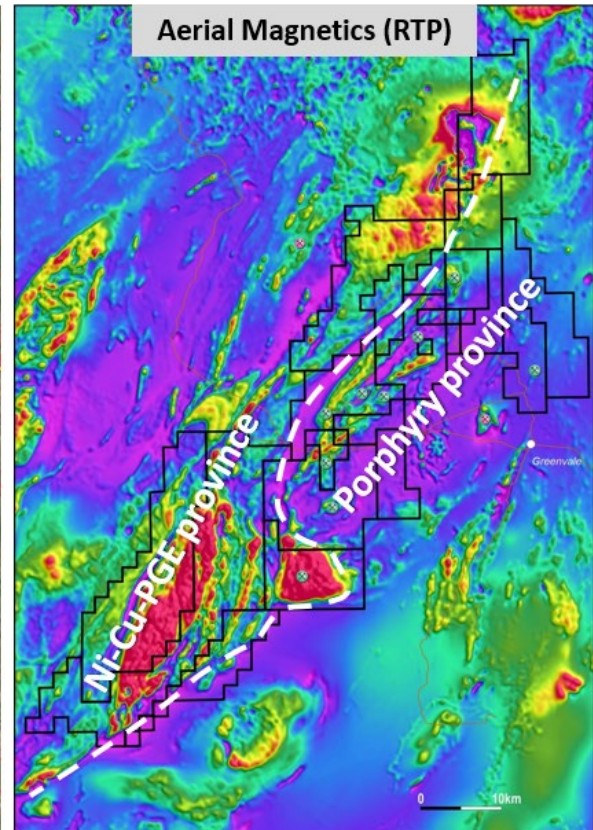
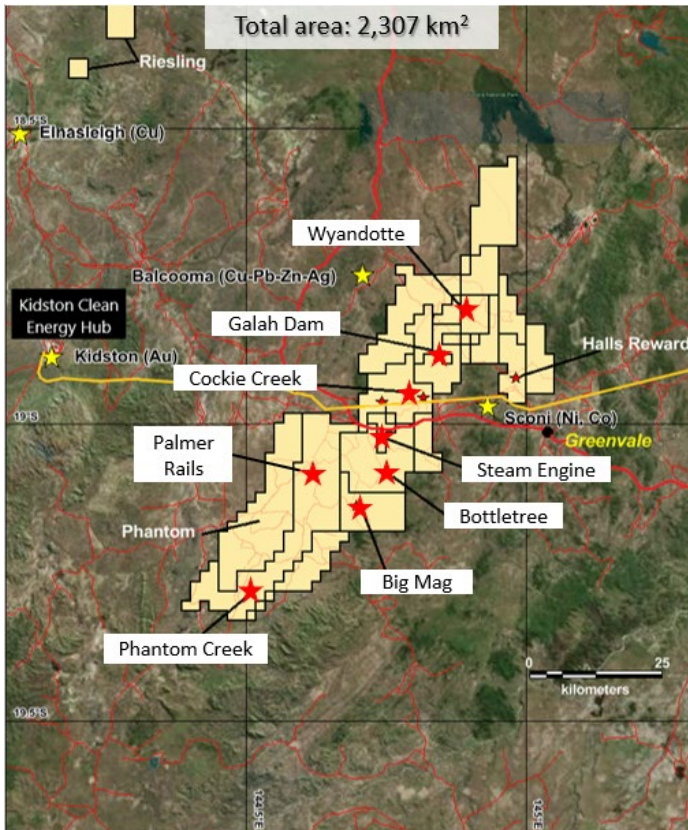


Figure 6. Cross section A-A' showing 3D model of the general zone of main potassic alteration which, based on alteration and structural information, plunges with a range of dips towards the south-southwest. Large blue arrows indicate possible vector directions towards a porphyry potassic core. An early-stage quartz-chalcopyrite vein is also shown.

Greenvale – Juxtaposed porphyry and magmatic Ni-Cu-PGE sulphide provinces

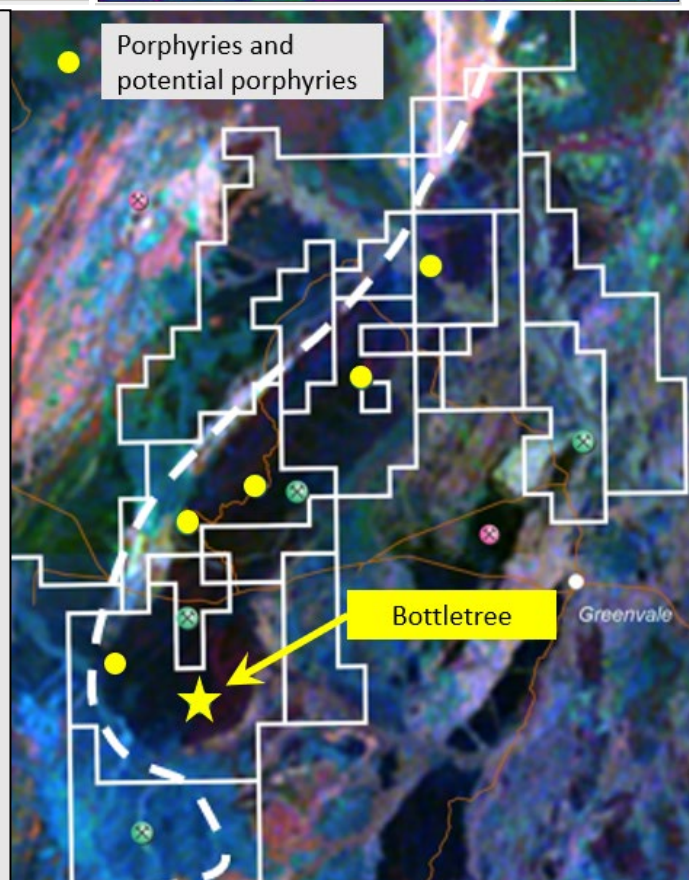


Superior has long recognised the copper potential within the Lucky Creek Corridor. However, recent exploration drilling at Bottletree, coupled with regional geological investigations over several years has enabled the characterisation of the Lucky Creek Corridor as a fossil island arc porphyry province, hosting numerous porphyry and potential porphyry systems recurring along a 50 km zone.

Superior is taking the lead with Tier-1 potential copper-gold porphyry exploration in this part of Australia.

Juxtaposed against the Greenvale Porphyry Province is a second province formed by a completely different geological genesis model. Originally formed at a much deeper crustal level, the Greenvale Magmatic Nickel-Copper-PGE Sulphide Province has been technically proven in terms of the presence of such mineralising systems. However, the province remains practically unexplored.

Superior enjoys a first mover advantage over the entire province, which presents as one of the best sulphide Ni-Cu-PGE propositions in Australia.



About Superior Resources

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large lead-zinc-silver, copper, gold and nickel-copper-cobalt-PGE deposits in northern Queensland which have the potential to return maximum value growth for shareholders. The Company is focused on multiple Tier-1 equivalent exploration targets and has a dominant position within the Carpentaria Zinc Province in NW Qld and Ordovician rock belts in NE Qld considered to be equivalents of the NSW Macquarie Arc. For more information, please visit our website at www.superiorresources.com.au.

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