

# **2022 drilling program underway at Bottletree**Targeting core of large scale interpreted Cu-Au porphyry system

#### **HIGHLIGHTS:**

- Diamond drilling has commenced at Bottletree, targeting the core of a large scale interpreted Cu-Au porphyry system
- First hole (BTDD005) collared 300m west of 2021 hole, BTDD004, targeting zones to the west and beneath BTDD004. BTDD004 intersected 632m @ 0.21% Cu, 0.03g/t Au, 0.60ppm Ag, 18.0ppm Mo from 5m below surface, including 224m @ 0.40% Cu, 0.05g/t Au, 0.90ppm Ag, 3.5ppm Mo and 103m @ 0.53% Cu, 0.05g/t Au, 1.4ppm Ag, 3.3ppm Mo
- Re-modelling of MIMDAS IP data highlights a 1 km-wide zone of moderate IP chargeability at moderate depth immediately west of BTDD004. The large chargeability anomaly is interpreted as potential mineralisation associated with the core or cores of one or more buried porphyry intrusions
- Initial program of 8 holes planned for a minimum total of 3,700m
- BTDD005 targeting central porphyry core, down-dip extensions to strong mineralisation in BTDD004 and 1km-wide IP chargeability anomaly extending 1km westwards from BTDD004, at 250m down hole depth
- 7 other holes targeting interpreted porphyry intrusions and near-surface Cu-Au mineralisation

#### Superior's Managing Director, Peter Hwang commented:

"We have just commenced the Company's most anticipated and exciting drilling program, targeting what we interpret to be the core zones of multiple copper-gold-molybdenum porphyry intrusions. We have reached this point after only two diamond drilling programs. Notably, last year's program provided numerous ground-breaking findings, including drill hole intersections of very extensive porphyry-style copper-gold mineralisation.

"Our step-by-step approach to this program focuses initially on a compelling and strong central zone of copper-gold-molybdenum soil anomalism, which is supported by a newly remodelled large chargeability anomaly, airborne magnetics and satellite imagery-interpreted intrusion centres. All of this sits down-dip and behind the massive 632 metres of copper mineralisation returned from BTDD004.

"However, the chargeability anomaly is large and extends for about 1 kilometre, so apart from having very large size potential, we do have a lot of ground to cover.

"Apart from the drilling, we will also be extending last year's multi-element soil geochemistry program westwards as indications are that porphyry mineralisation extends significantly further than the 1.5 kilometre soil copper zone that originally defined Bottletree. We will also be extending the MIMDAS IP survey to cover the expanded prospect area.

"We have an exciting few months ahead of us and we will be updating the market regularly as we receive significant visual and laboratory results."



Superior Resources Limited (ASX:SPQ) (Superior, the Company) announced today the commencement of the Company's 2022 diamond drilling program at its Bottletree Copper Prospect, located within the Company's 100%-owned Greenvale Project, 210kms west of Townsville, Queensland (Figure 1).

The program comprises initially, 8 deep diamond holes for a total of 3,700 metres. The drill holes are targeting the core of at least one large interpreted Cu-Au-Mo porphyry system that is coincident with a 1.5km x 1km soil copper anomaly and a 1km-wide induced polarisation (IP) chargeability anomaly.

The first hole, BTDD005, has been collared 300m to the west of BTDD004, which was completed in 2021. BTDD004 was drilled to 658.9m and returned an impressive main copper zone of 224m @ 0.40% Cu, 0.05g/t Au, 0.9ppm Ag, 3.5ppm Mo (molybdenum) within an overall mineralised zone of 632m @ 0.21% Cu, 0.03g/t Au, 0.60ppm Ag, 18.0ppm Mo (Refer ASX announcement, 2 June 2022). Core from BTDD004 is variably mineralised with quartz-chalcopyrite vein sets and disseminated chalcopyrite including the strongly mineralised 224m interval.

Systematic drilling during 2018 and 2021 targeted the most intense IP chargeability anomaly, which is now considered to represent structurally-controlled mineralisation that is distal to at least one large Cu-Au-Mo mineralised porphyry system. Although considered distal to a core porphyry system, significant amounts of copper mineralisation exists, with hole BTDD001 (collared 500m east of BTDD004) returning an overall intersection of 552.6m @ 0.16% Cu, 0.02g/t Au, 0.7g/t Ag from 132m to the end of hole at 684.6m (Refer ASX announcement, 25 January 2022).

Structural information from the extensive mineralisation in BTDD004, together with multi-element soil geochemistry data, detailed surface alteration mapping and remodelled IP data, indicate that the core of a buried porphyry system lies to the west of BTDD004, where better mineralisation is expected (Figures 3 to 9). The current program will test high priority porphyry core targets as well extensive near-surface copper mineralisation that appear to be associated with several interpreted buried porphyry intrusions.

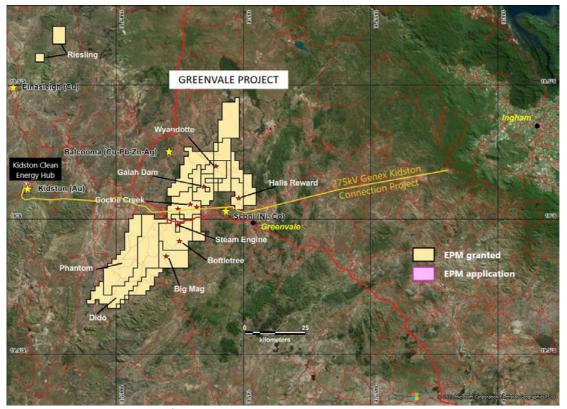


Figure 1. Map showing the locations of the Greenvale Project tenements and select prospects. The Bottletree Prospect, Gregory Highway, Kidston Clean Energy Hub and associated power corridor infrastructure are also indicated.





Figure 2. Associated Exploration Drillers (AED) UDR1000 drill rig commencing hole BTDD005 at Bottletree Copper Prospect, 16 June 2022.

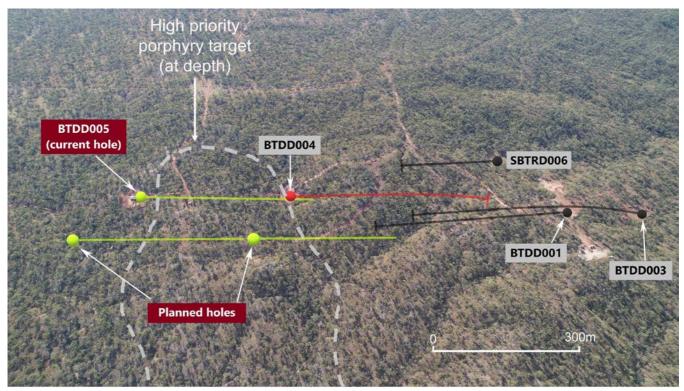


Figure 3. Aerial oblique view of Bottletree Copper Prospect viewed towards north-northwest, showing priority porphyry core target and currently planned drill holes, including 2021 drill holes (BTDD001, BTDD003 and BTDD004) and 2018 drill hole (SBTRD006).



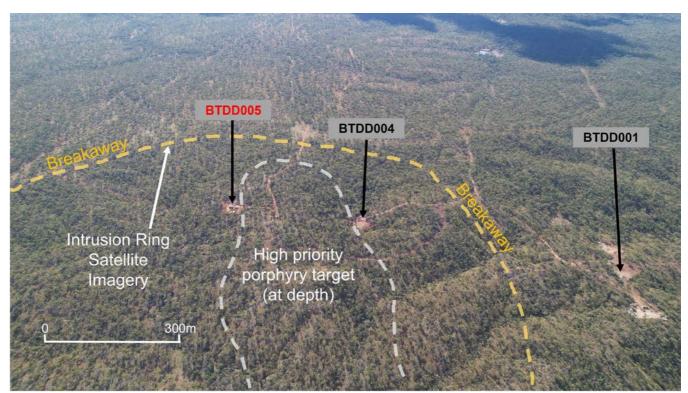


Figure 4. Aerial oblique view of Bottletree Copper Prospect viewed towards north-northwest, showing satellite imagery interpreted 'Intrusion Ring' delineating a general centre of interpreted porphyry intrusion. The Intrusion Ring is also defined by a 'breakaway' within which, increased erosion has created a topographic depression.

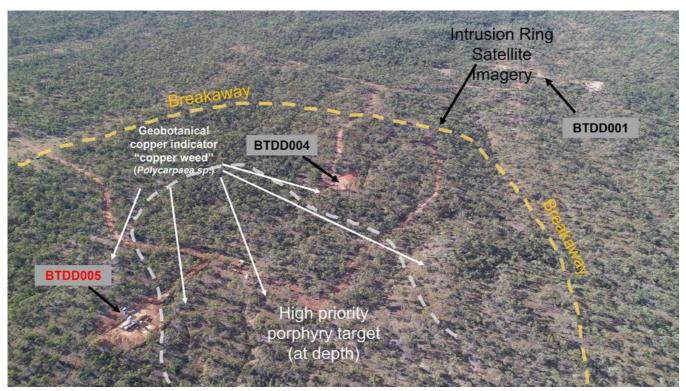


Figure 5. Aerial oblique view of Bottletree Copper Prospect viewed towards north-northeast, showing Intrusion Ring, priority porphyry core and extensive distinct grey coloured ground surface caused by herbaceous plant Polycarpaea Sp., which is tolerant of high copper content in the soil profile and is a geobotanical copper indicator. The geobotanical indications very closely reflect copper anomalism identified within geochemical soil data (refer Figure 6).



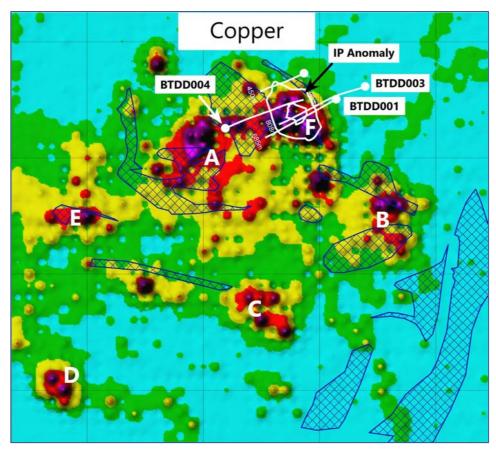


Figure 6. Thematic soil Cu image showing interpreted porphyry core Zones A, B and E, key Cu mineralisation Zones C, D and F and mapped phyllic alteration zones.

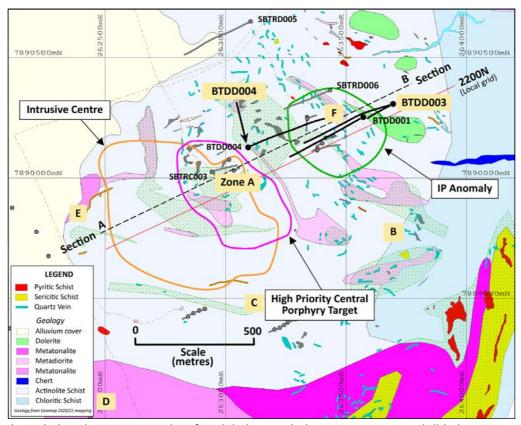


Figure 7. Geological plan showing mapped surface lithology and alteration zones. Key drill holes, interpreted porphyry intrusion system and priority geochemical targets "A" to "F" are also shown.



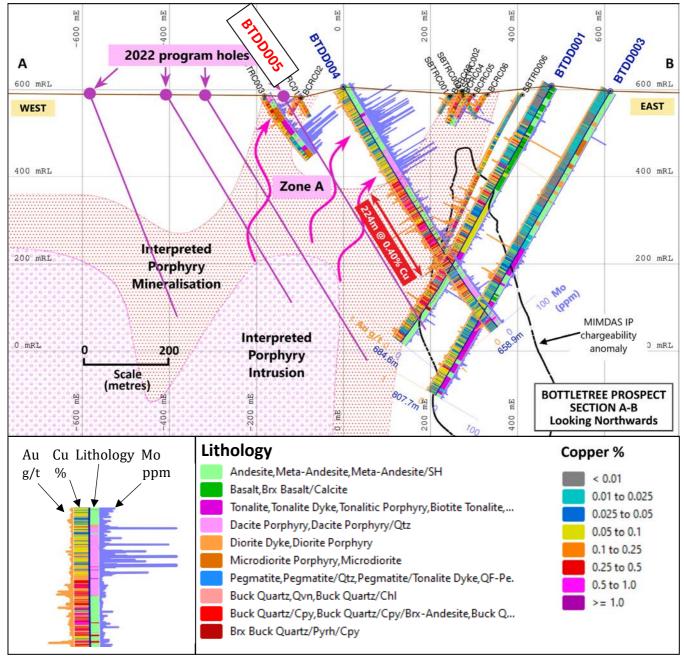


Figure 8. Cross section A-B (refer Figure 7) viewed looking north showing drill hole traces with summary Cu, Au, Mo assays and lithology with diagrammatic cartoon representation of interpreted Zone A porphyry target. Cartoon representation based on drill hole information, soil geochemistry and IP chargeability 2D and 3D models. BTDD005 (currently being drilled) and select planned 2022 diamond holes are also shown.



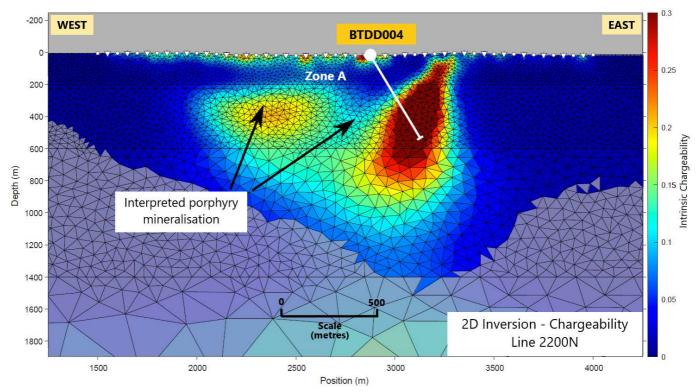


Figure 9. Remodelled 2D MIMDAS IP chargeability model acquired from line 2200N (local grid) showing the interpreted zone of porphyry mineralisation extending approximately 1km west from drill hole BTDD004.

# Background (Bottletree)

Superior has long recognised the significance of Bottletree, which is expressed at surface as a large, zoned copper mineralised system that extends over several square kilometres (Figure 10). As a result of the Queensland native title regime during important commodity boom periods, Bottletree (and other areas in Qld) was effectively quarantined from the exploration sector. Apart from a small number of shallow historic drill holes over the anomalous area, Superior conducted the only deep investigation of the area with three drill holes during 2017 and 2018.

During September 2021 the Company announced<sup>1</sup> the commencement of deep drilling of a large high-order 3D-modelled MIMDAS IP chargeability anomaly located adjacent to a regionally distinct 1.5km by 1km copper and gold soil anomaly (Figure 7). Drilling during 2018 intersected the northern edge of the chargeability anomaly, which returned 292m @ 0.22% Cu, including 18.7m @ 1.12% Cu<sup>2</sup>.

<sup>&</sup>lt;sup>1</sup> Refer ASX announcement dated 17 September 2021

<sup>&</sup>lt;sup>2</sup> Refer ASX announcement dated 25 October 2018



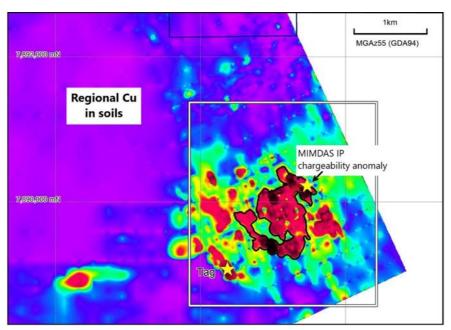


Figure 10. Regional Cu-in-soil processed image showing the large scale Bottletree copper anomaly and location of the MIMDAS IP chargeability anomaly that has been targeted with drilling in 2021.

## 2021 Drilling Program

The 2021 drilling program commenced with the drilling of two holes (BTDD001 and BTDD003) targeting the modelled centre of the chargeability anomaly at different depth levels. Drill holes BTDD001 and BTDD003 confirmed that the intensely chargeable core of the MIMDAS IP chargeability anomaly is not caused by a high degree of copper sulphide mineralisation. In response to this observation, BTDD004 was drilled. The highly successful results from BTDD004 have provided information that has been instrumental to Company's advancement towards realising the porphyry potential at Bottletree. One or more large porphyry systems located to the west and southwest of BTDD004 are considered to be the source of copper mineralisation intersected in the 2021 drill holes.



## **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 <a href="https://www.superiorresources.com.au">www.superiorresources.com.au</a>.

**Reporting of Exploration Results:** The information in this report as it relates to exploration results and geology was compiled by Mr Peter Hwang. Mr Hwang is Managing Director and a shareholder of Superior Resources Limited. Mr Hwang is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Hwang consents to the inclusion in the report of the matters based on the information in the form and context in which it appears

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