Superior Resources | ASX Announcement

25 January 2022

First 2021 Bottletree hole builds confidence in porphyry system

SUMMARY:

- **2021 diamond hole BTDD001 (and BTDD003) tested the core of a large MIMDAS IP chargeability anomaly located on the outer edge of the Bottletree Prospect area, defined by a 1.5km x 1km soil copper anomaly**
- **Mineralisation in the hole is a combination of disseminated copper as well as late-stage copper veins in chloritic shears, interpreted to have formed distal to the core of a buried mineralised porphyry where higher copper grades are expected**
- **The primary target at Bottletree is the buried Cu-Au-Mo porphyry with the core interpreted to be located about 500m southwest of the IP anomaly**
- **Higher grade sheeted and stockwork porphyry-style Cu-Au-Mo mineralised veins are expected to be developed at moderate depths within the porphyry**
- **Although not the primary target, the Distal Copper Zone tested by BTDD001 is, nevertheless, significant with variable grade mineralisation over 550m down-hole, open to the west at depth and northwest and southeast along the 750m strike of the structural corridor. Results from BTDD001 include:**
    - **552.6m @ 0.16% Cu, 0.02g/t Au, 0.7g/t Ag** from 132m to EOH (684.6m), including
        - **10m @ 0.72% Cu, 0.08g/t Au, 2.1g/t Ag** from 309m
        - **5m @ 1.14% Cu, 0.13g/t Au, 3.3g/t Ag** from 310m
        - **87m @ 0.28% Cu, 0.03g/t Au, 1.0g/t Ag** from 432m
        - **20m @ 0.44% Cu, 0.06g/t Au, 1.6g/t Ag** from 565m
    - **Peak values of:**
        - **4m @ 1.32% Cu, 0.16g/t Au, 3.9g/t Ag** from 313m
            - **incl 1m @ 2.79% Cu, 0.24g/t Au, 7.8g/t Ag** from 313m
        - **2m @ 1.45% Cu, 0.33g/t Au, 5.5g/t Ag** from 580m
- **Good potential exists at the Distal Copper Zone for the delineation of a Cu-Au resource of significant grade and volume; the zone is only partly tested with 4 holes, including 2018 hole SBTRD006 located 180m to the northwest of BTDD001; a rock chip with 11.34% Cu suggests higher grade mineralisation present**
- **Third hole (BTDD004, yet to be assayed), collared 200m west of the Distal Copper Zone and drilled as a scissor hole to BTDD001 and BTDD003, confirmed extensive mineralised, porphyry-type vein sets, 200m above intense mineralisation intersected at the bottom of BTDD001[1]**
- **Four other large near-surface high order copper zones, including the central porphyry target, exist within the Bottletree area and are also considered primary targets as they appear to exhibit porphyry geochemical indicators and carry higher gold grades**

[1] Refer ASX announcement dated 21 December 2021

- **Awaiting results of the new soil geochemical survey over Bottletree that will give a clearer picture of zonation to assist targeting of mineralised porphyries**
- **Large multi-stage drilling program planned for the end of Q1 2022**

Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) announced today the first assay results from a 2,300m diamond drilling program at its Bottletree Copper Prospect, which forms part of the Company's 100%-owned Greenvale Project, approximately 210kms west of Townsville, Queensland (Figure 1). Assay results for rock chip samples taken from the Bottletree area are also reported.

BTDD001, drilled to 684.6m, is one of two deep core holes testing a large MIMDAS induced polarisation (**IP**) chargeability anomaly located on the outer edge of a 1.5km x 1km soil copper anomaly, which defines the Bottletree Prospect. The IP chargeability anomaly highlighted a part of a large zone of disseminated and vein copper mineralisation that extends for 750m within a major northwest-striking mineralised structural corridor (Figures 2 and 3).

The hole intersected extensive disseminated and vein copper-gold-silver mineralisation over variably broad intervals from 132m to 681m, with individual intervals ranging up to 87m. The disseminated zones include numerous zones of high grade, intensely mineralised shear-related chalcopyrite-pyrrhotite-quartz veins returning up to 2.79% Cu.

Drilling confirmed that the extensive copper mineralisation highlighted by the chargeability anomaly does not represent part of the main mineralised porphyry stock, but late-stage mineralisation sourced from a large copper-gold porphyry system located nearby and to the west of the anomaly. Significantly, a new understanding of the polymetallic veining suggests the mineralisation has affinities with late-stage shear veining in some Central European porphyry deposits that are developed after the main stockwork and sheeted vein mineralisation stages of the porphyry[2].

In addition, the mineralisation is more extensive than indicated by the chargeability anomaly and crops out at surface. Although the drilling did not identify the targeted porphyry stock, the amount of copper mineralisation is considerable and is currently observed over at least 750m surface strike, 500m width and 600m vertical extent.

Superior's Managing Director, Peter Hwang commented:

"Each of the three holes drilled at Bottletree last year has taken our understandings of the mineralisation system and the prospect to new levels. Our initial focus was on the large MIMDAS IP anomaly, but the turn of events that directed us westwards to a much larger and higher potential target was exciting to see.

"Although the mineralisation associated with the IP anomaly is not the targeted porphyry deposit, the amount of copper being identified there is significant, starts from surface and there is good potential to define a sizeable deposit.

"While new multi-element soil data is awaited to give a better idea of zonation and vectors to porphyry mineralisation, the historical data shows at least four other zones of copper - gold ± molybdenum interest that have the potential to produce shallow copper-gold resources. The presence of anomalous molybdenum in several of these may also suggest connection to other buried porphyry intrusions.

"We are now well placed to test a central porphyry target where there is a large oval satellite feature supported by coincident significant copper and gold in soils and significant anomalous molybdenum in historical hole SBTRC003 that may correlate with molybdenite in hole BTDD004 some 250m to the east. Because molybdenum occurs proximal to the core of a mineralised porphyry intrusive, and there is no

[2] Refer Drew, L.J., USGS Scientific Investigations Report 2005-5272

antimony in rock chips to indicate high levels in a zoned porphyry system, we are confident of intersecting a buried porphyry and associated mineralisation at more moderate rather than substantial depths.

"Bottletree represents the first of several opportunities for Superior to discover and develop large copper-gold and nickel-copper-PGE deposits within the richly endowed mineralised belts secured by the Company's Greenvale Project tenements.

"These new findings bode well for confirming whether other copper prospects in the Company's portfolio including Cockie Creek, Wyandotte and Galah Dam have porphyry associations.

"Together with the recent positive developments at the nearby Steam Engine Gold Project, Superior is in an excellent position to build value in its projects during 2022, as we assemble growing resources of copper, gold and other key minerals in an environment of rising demand."

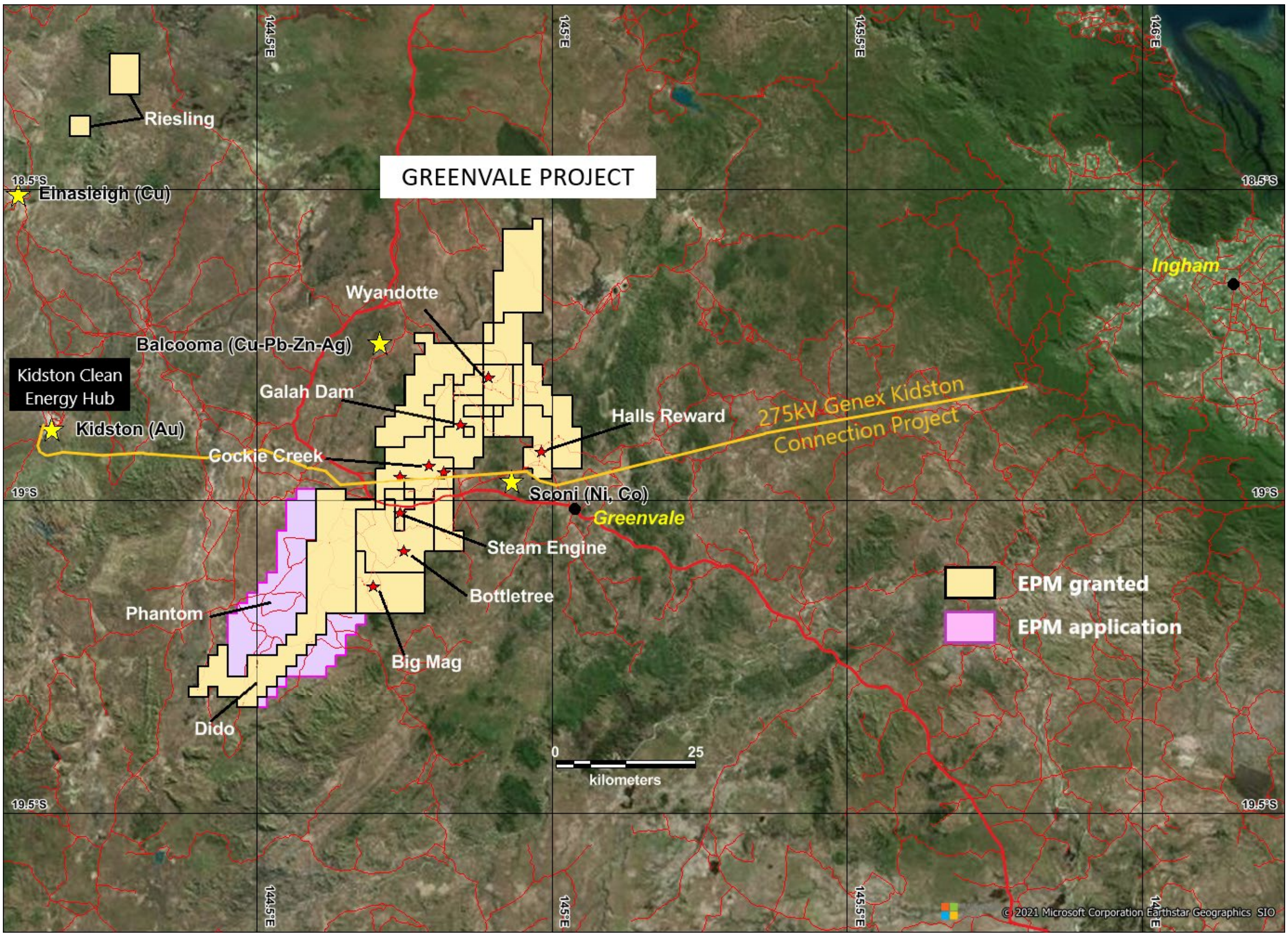

Figure 1. Location of exploration permits comprising the Greenvale Project. Select prospects are marked with a red star. The Greenvale township and existing historic mines (yellow stars) are also indicated.

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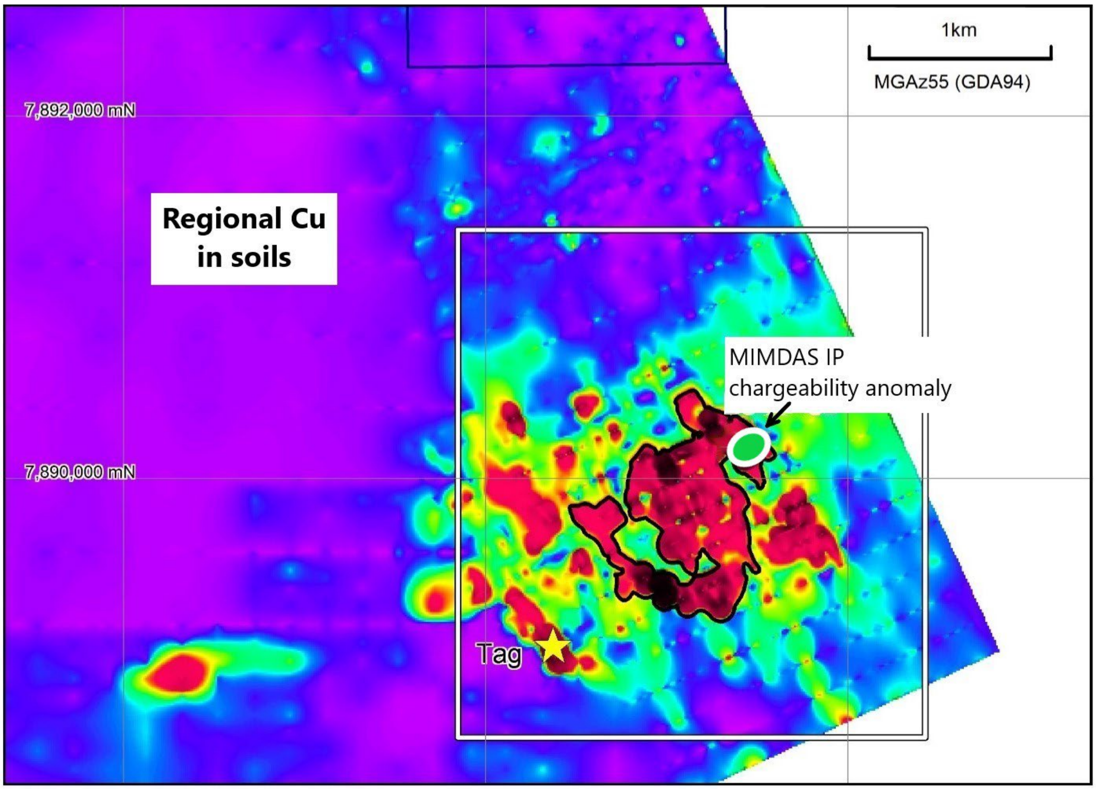

Figure 2. Regional Cu-in-soil processed image showing the large scale Bottletree copper anomaly and the location of the MIMDAS IP chargeability anomaly that was targeted with drilling during 2021.

BTDD001 assays and historic hole SBTRC003

BTDD001 was drilled to test the MIMDAS IP chargeability high that occurs in part of a 750m northwest striking mineralised structural corridor with associated copper soil anomalism (**Distal Copper Zone**) (Figures 2 and 4). The hole intersected mainly disseminated chalcopyrite mineralisation in variably broad intervals from 132m to 684.6m (End of Hole). Coherent individual intervals range up to 87m.

Several zones of intensely mineralised shear related chalcopyrite-pyrrhotite-quartz veins were also intersected within the disseminated zones. The disseminated mineralisation was observed to correlate closely with the 3D-modelled outer (50mV/V) iso-surface of the IP chargeability model (Figure 3). The bottom 20m of the hole intersected chalcopyrite veining of a different character and more akin to that the upper half of hole BTDD004 where quartz-chalcopyrite and quartz-chalcopyrite-molybdenite veins appear more porphyry-style.

Assays show a general low Cu and Au tenor with the highest Cu related to coarse buck quartz-chalcopyrite-pyrrhotite in shears (Table 1). However, the down-hole thickness of copper mineralisation is considerable, with 132m – 684.60m (**552.6m @ 0.16% Cu, 0.02g/t Au, 0.7g/t Ag**) punctuated by these coarse veins which locally produce usually narrow intervals of higher grade.

Mo values are mostly below detection (<2ppm), but with a few higher values including 526-527m, 1m @ 63ppm Mo and 607-608m, 1m @ 26ppm Mo. This is in contrast to higher Mo values expected in hole BTDD004 (yet to be assayed) where visible molybdenite was logged (Figure 3).

The high Mo values prompted a review of historical hole SBTRC003 to the west of the Distal Copper Zone and west of BTDD004, as some significant Mo assays were noted. These include a 42m interval averaging 79.7ppm Mo (Table 2). The importance of these results is that a possible porphyry source to the molybdenite veining may lie at depth beneath hole SBTRC003 or further west, as anomalous Mo is characteristically proximal to the core of any mineralised porphyry intrusion (Figures 3 and 4).

Table 1. Summary Cu, Au and Ag geochemistry for hole BTDD001.

Hole ID		From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)
BTDD001		132	684.6	552.6	0.16	0.02	0.7
		146	161	15	0.23	0.04	1.6
	incl	156	158	2	0.73	0.15	4.9
		212	216	4	0.59	0.09	3.0
		282	294	12	0.27	0.03	1.0
		309	319	10	0.72	0.08	2.1
	incl	310	315	5	1.14	0.13	3.3
	incl	313	314	1	2.79	0.24	7.8
	incl	313	317	4	1.32	0.16	3.9
		432	519	87	0.28	0.03	1.0
	incl	458	469	11	0.30	0.04	1.0
	incl	479	482	3	0.66	0.08	2.1
	incl	493	503	10	0.45	0.05	1.6
	Incl	493	494	1	1.29	0.07	4.5
	incl	506	519	13	0.35	0.03	1.2
		528	533	5	0.34	0.03	1.1
		536	544	8	0.29	0.03	0.9
		565	585	20	0.44	0.06	1.6
	incl	580	582	2	1.45	0.33	5.5
		666	675	9	0.40	0.06	1.6
	incl	666	670	4	0.60	0.08	2.5
	incl	667	668	1	1.30	0.10	4.7
		673	679	6	0.32	0.03	1.1

Table 2. Summary Mo geochemistry for hole SBTRC003.

Hole ID		From (m)	To (m)	Interval (m)	Mo (ppm)
SBTRC003		40	44	4	53
		112	154	42	79.7
	incl	112	116	4	93.5
	incl	130	136	6	307.3
	incl	142	144	2	149

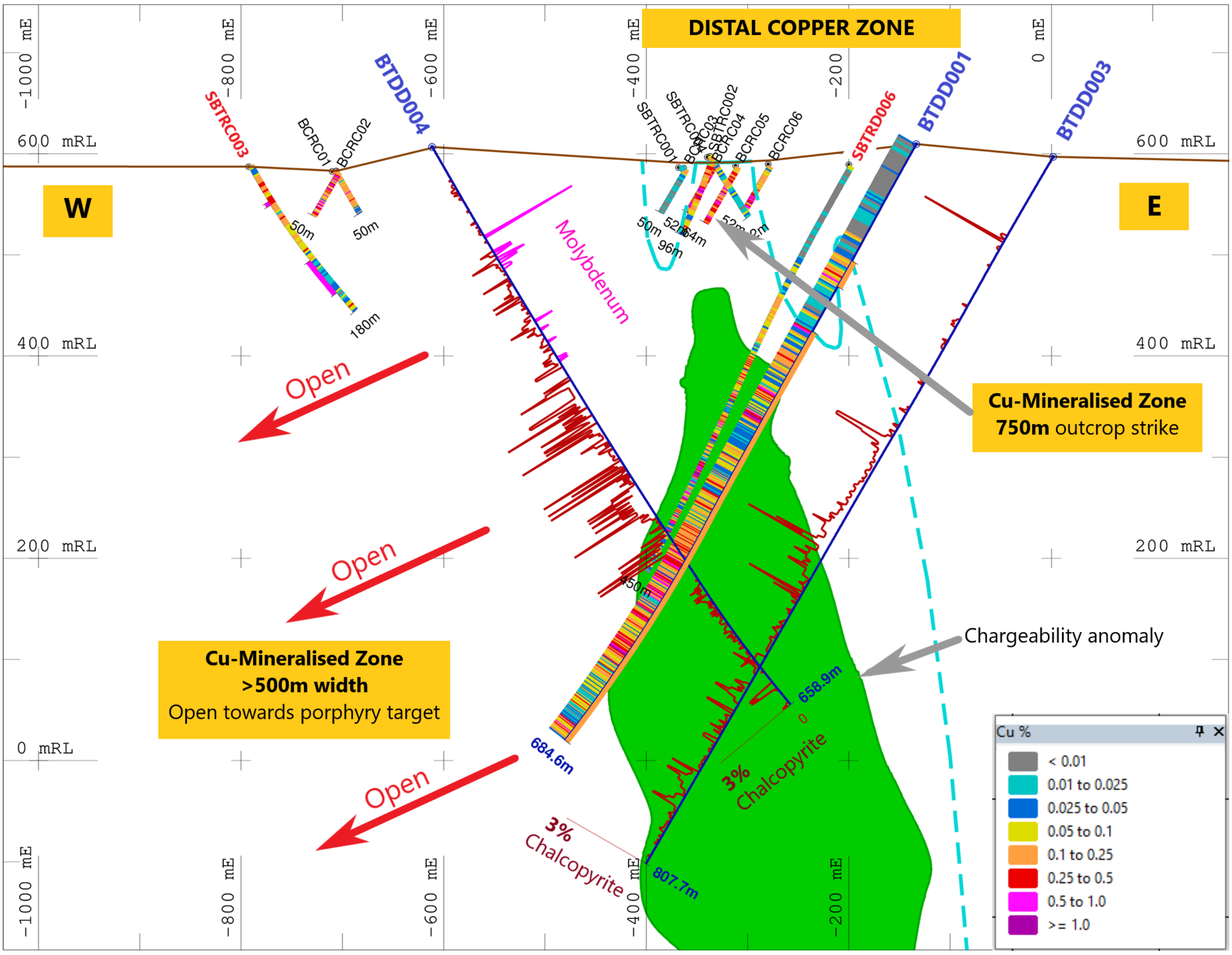

Figure 3. West-East cross section across the Distal Copper Zone and the area west, which porphyry-type copper veining is more common. Thematic copper assays for BTDD001 and select historical holes are indicated. Histograms of visually estimated chalcopyrite in holes BTDD003 and BTDD004 (red), molybdenite in BTDD004 and SBTRC003 (purple), as well as the MIMDAS IP chargeability anomaly 50mV/V shell are also indicated.

The observations relating to Mo within historic hole SBTRC003 and recent BTDD004 suggest proximity to a buried mineralised porphyry, while at the same time enabling a new understanding of the more distant coarse shear-related copper veining. This veining is now interpreted as resulting from a later mineralising phase that is genetically related to the porphyry, but formed as a result of a changing structural regime during the collapse of the porphyry system. The polymetallic veining is considered to have affinities with similar late shear veining developed in some Central European porphyry deposits as stress fields change after the main stockwork and sheeted vein mineralisation stage within the porphyry and release of mineralising fluid into the broader environment, distal to the porphyry[3].

The copper mineralisation in the vicinity of the IP anomaly offers good scope for significant resources to be defined in the 750m strike of the known, but poorly tested structural corridor.

[3] Refer Drew, L.J., USGS Scientific Investigations Report 2005-5272

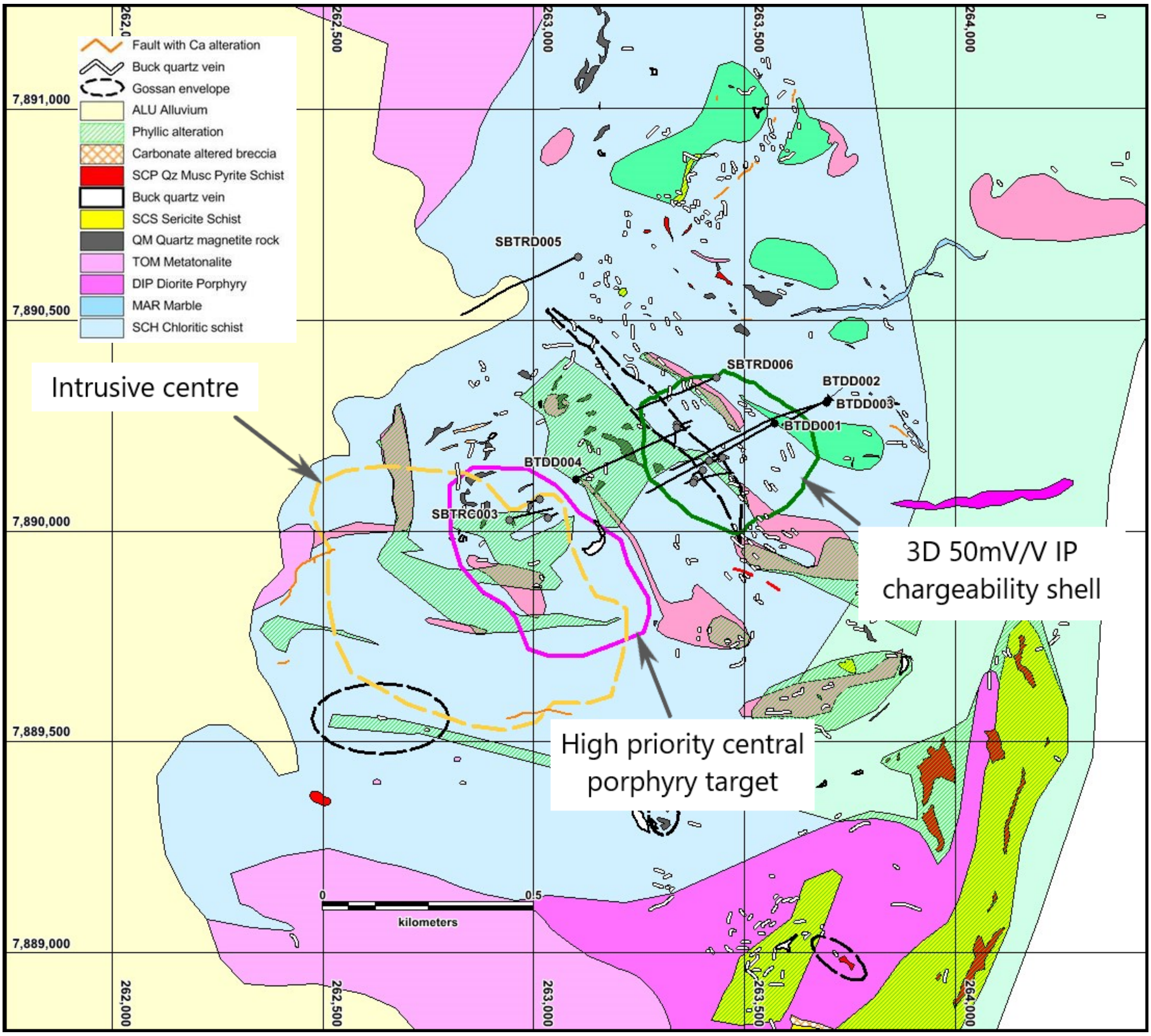

Figure 4. Mapped geology at Bottletree with select recent drill holes, IP chargeability shell and central high priority porphyry target (mapping after Nick Tate, Geomap).

Rock chip assays further confirm near-surface Cu-mineralised zones

Selected rock chip samples were collected during the mapping phase and are representative of interesting gossanous exposures encountered but by no means represent a complete coverage of sub-cropping areas.

However, they do assist in identifying any correlation with the historical Cu and Au soil data. Mo, which could be a defining vector to mineralised intrusives is unfortunately not available in the historical soil data, but will be vital to drill hole planning when the new soil survey assay data is received from the laboratory.

Rock chip assay results for Cu, Au and Mo support the existence of at least five priority target zones of locally strong soil Cu and Au values, including the Distal Copper Zone (Designated A to E; Figures 5 to 7). Two samples taken from the Distal Copper Zone (A) returned values of 11.34% Cu and 0.11% Cu, up to 0.08ppm Au and up to 8ppm Mo.

One sample taken near the southern extremity of copper zone B, which relates to an oval zone of copper anomalism directly above the interpreted buried central porphyry, returned 2.78% Cu, 0.64ppm Au and 40ppm

Mo. Two samples from copper zone C returned 0.31% Cu, 1.32ppm Au, 151ppm Mo and 5.26% Cu, 0.54ppm Au and trace Mo. Copper zone D, 250m south of the central porphyry target (B) and elongated east-west returned up to 2.21% Cu, 0.88ppm Au and 204ppm Mo. Copper zone E returned 0.35% Cu, 0.21ppm Au and 87ppm Mo.

A phyllic alteration zone in the far east may have more affinities with Steam Engine orogenic gold-type lode alteration than with intrusive-related alteration. Rock chips show to 823ppm Cu, 0.74ppm Au and 50ppm Mo. One small zone between phyllic zones has higher Mo to 111pm, but very low Cu to 114ppm and Au to 0.015ppm.

A possible connection to this occurs in the far northeast outside the area of the mapping. Here values of Cu to 1864ppm, Au to 0.10ppm, Ag to 8.1ppm, Zn to 1503ppm, Mo to 21ppm and As to 468ppm occur.

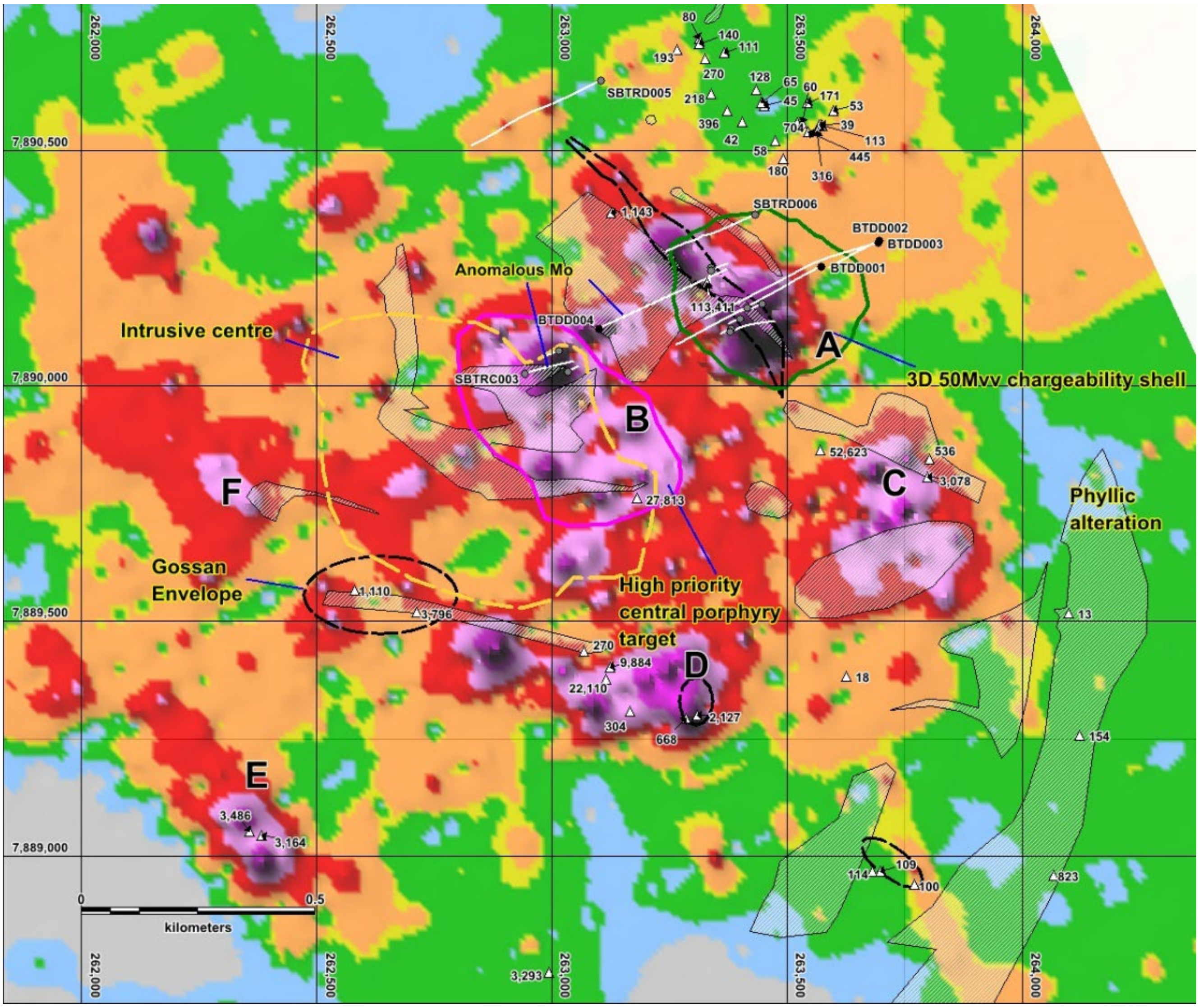

Figure 5. Priority drill target areas (marked A to E) on copper in soils image with rock chip copper values in ppm.

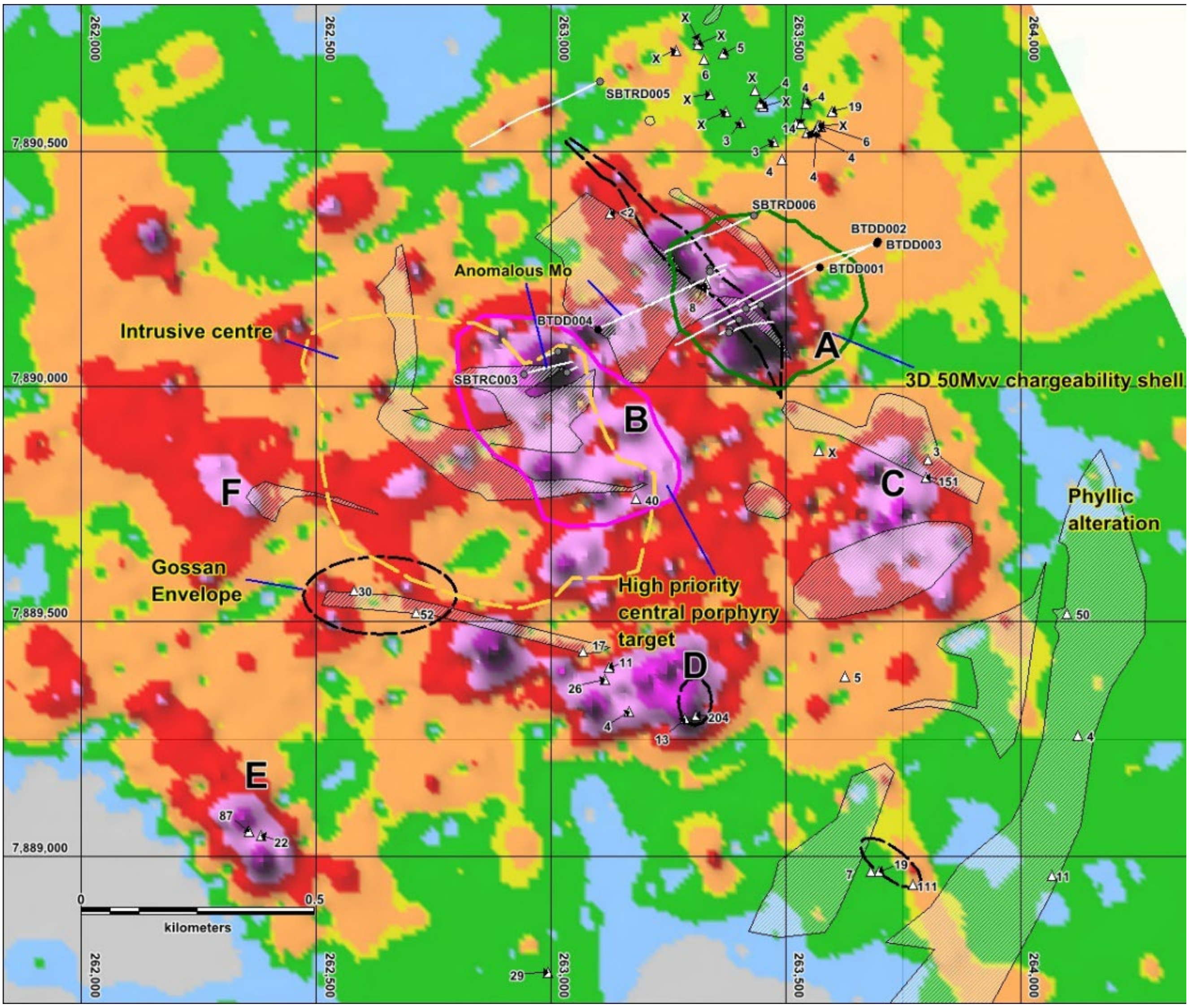

Figure 6. Priority drill target areas (marked A to E) on copper in soils image with rock chip molybdenum values in ppm.

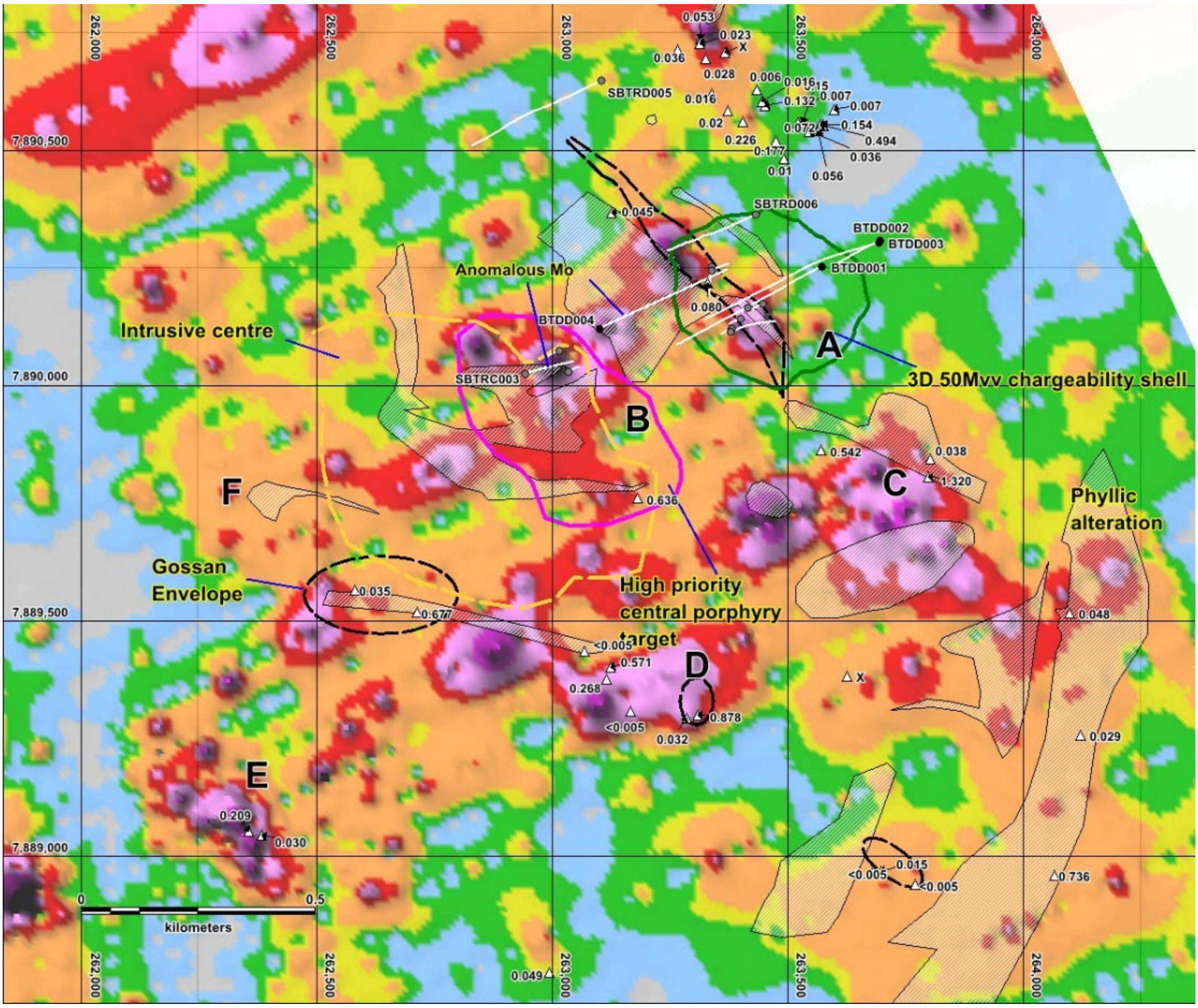

Figure 7. Priority drill target areas (marked A to E) on gold in soils image with rock chip gold values in ppm.

Additional work at Bottletree

A large 2.0km x 1.8km multi-element soil sampling survey based on a 50m x 50m sample grid has been completed for a total of 1,440 samples. The samples have been submitted to the assay laboratory. Analysis of the assay results, once received, will provide geochemical zonation and vectoring indicators to enable the planning of drill holes targeting the central porphyry intrusion.

Detailed outcrop and alteration mapping has been completed over the prospect area. Information generated from the mapping exercise is being analysed together with observations from the drill core and geophysical modelling of airborne magnetometer and electromagnetic (EM) survey data.

A down hole EM survey will be conducted on BTDD003 after the end of the monsoon season.

Next Steps

Work at Bottletree will focus on two main objectives:

- Primary Target – discovering the main porphyry intrusion; and

- Secondary Target – determining whether financially viable near-surface copper and gold Resources can be delineated within five significantly anomalous Cu-Au zones within the Bottletree Prospect area.

Specific upcoming activities include:

- study of the core from BTDD004;
- receive and analyse assays from BTDD003 and BTDD004;
- receive, compile and analyse assays from multi-element soil sampling program;
- conduct down-hole EM survey on BTDD003;
- plan drill programs targeting potential porphyry intrusions and delineate areas of near-surface copper and gold mineralisation;
- execute next drilling program; and
- conduct geochronological dating on intrusions and molybdenite for age correlation with intrusions in the Macquarie Arc in NSW, which hosts the world class Cadia and North Parkes porphyry Cu-Au deposits.

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 8). 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[4] 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 9). Drilling during 2018 intersected the northern edge of the chargeability anomaly, which returned 292m @ 0.22% Cu, including 18.7m @ 1.12% Cu[5].

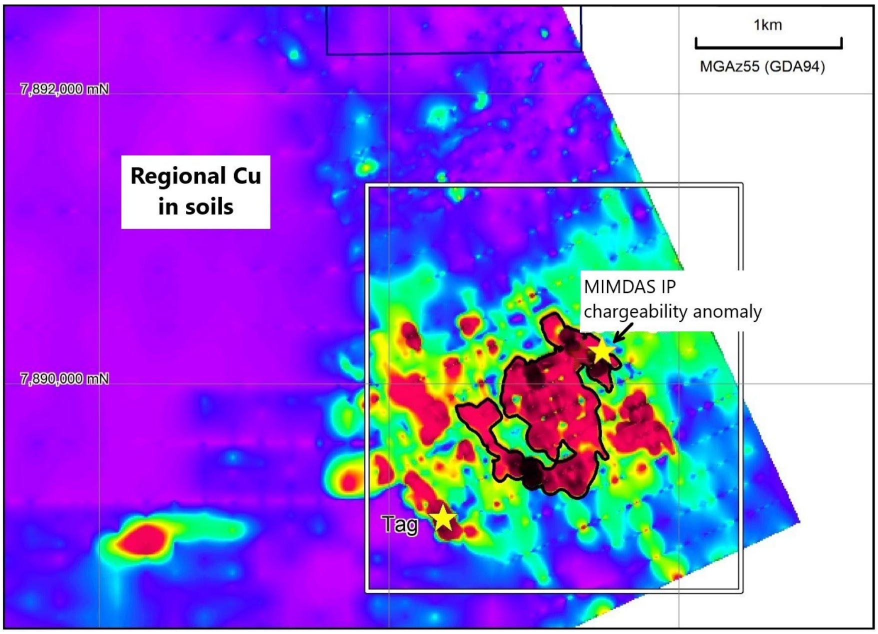

Figure 8. Regional Cu-in-soil processed image showing the large scale Bottletree copper anomaly and location of the MIMDAS IP chargeability anomaly that has been targeted with drilling in 2021.

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 (Figure 9). BTDD001 was drilled using NQ rods to 684.6m with a RC pre-collar to about 250m. BTDD003 was cored using HQ diameter rods from surface to an end of hole depth of 807.7m, which was the capability limit of the drill rig. BTDD002, located in the same position as BTDD003, was a RC pre-collar hole that was terminated prematurely as a result of exceeding hole deviation limits.

BTDD004 was collared approximately 200m west of the IP chargeability anomaly and drilled in an east-north-easterly direction to a total depth of 658.9m. Planned as a 'scissor hole' to BTDD001 and BTDD003, BTDD004 was designed to test part of the large soil copper anomaly located west of the IP chargeability anomaly and closer towards the interpreted porphyry target zone for porphyry-related mineralisation and vectoring indicators.

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[4] Refer ASX announcement dated 17 September 2021

[5] Refer ASX announcement dated 25 October 2018

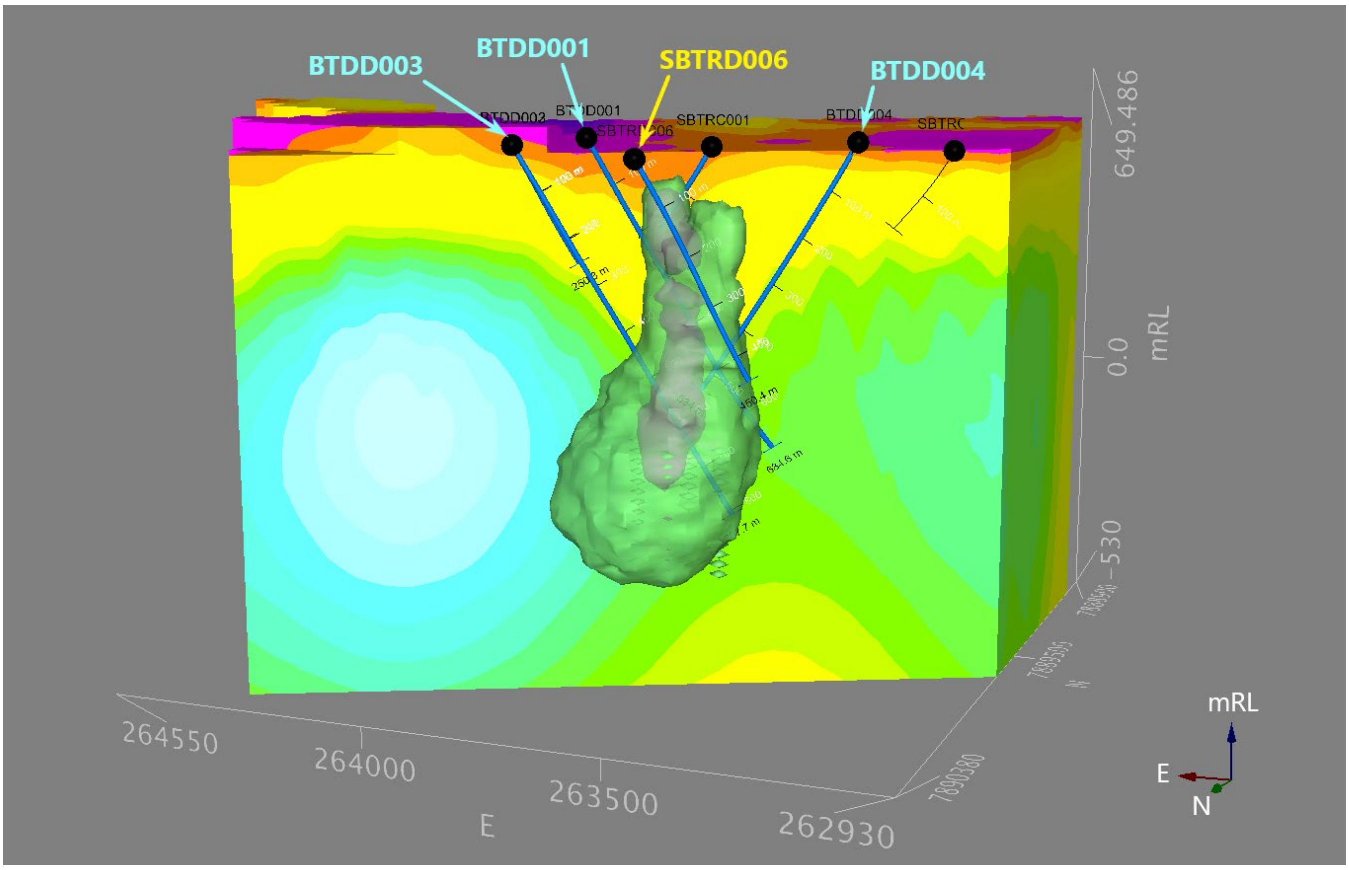

Figure 9. 3D-modelled MIMDAS IP high chargeability iso-surfaces representing the Bottletree IP chargeability anomaly, viewed looking southwest. Recently completed BTDD001, BTDD003, BTDD004 and 2018 drill hole SBTRD006 shown.

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.

Reporting of Exploration Results: *The information in this report as it relates to exploration results, geology, geophysical imagery and drilling was compiled by Dr Peter Gregory, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and an independent consultant to the Company. Dr Gregory does not hold shares or any other interest in the Company. He has not been on the Bottletree Project site, but has reviewed all primary data, inspected drill core located in Townsville and its context, 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'. Dr Gregory 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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APPENDIX 1

REPORTED DRILL HOLE COLLAR DETAILS

Hole ID	Easting (m)	Northing (m)	RL (m)	Depth (m)	Dip°	Azimuth°
BTDD001	263571.7	7890252.3	609.5	684.6	-60	245
BTDD002	263695.7	7890306.2	597.0	250.3	-60	245
BTDD003	263695.9	7890306.9	596.8	807.7	-59	250
BTDD004	263094	7890127	607.0	658.9	-60	65

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APPENDIX 2

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• BTDD001: Drilling from surface comprised reverse circulation (**RC**) drilling of pre-collars followed by NQ diameter diamond core drilling to end of hole. • BTDD003 and BTDD004: Drilling from surface comprised HQ diameter diamond core drilling to end of hole. • Reverse Circulation (**RC**) drill samples are collected as drilled via a riffle splitter attached to the drill rig cyclone and collected as 1m riffle split samples. Approximately 1-3kg of sample was collected over each 1m interval used for assaying. • Diamond core samples were obtained by splitting core in half using a core saw. • The drill bit sizes used in the drilling are considered appropriate to indicate the degree and extent of mineralisation. • 2m representative samples were assayed for base metals, gold, silver and other elements at Intertek laboratories in Townsville. • Assaying for gold was via fire assay of a 50-gram charge. • Sample preparation at Intertek laboratories in Townsville for all samples is considered to be of industry standard.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• Drilling from surface was performed using standard RC and diamond drilling techniques. • Drilling was conducted by AED (Associated Exploration Drillers) using a McCullochs DR950 drill rig. • All holes were surveyed using a Reflex Gyro north-seeking gyroscopic instrument to obtain accurate down-hole directional data.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Sample recovery was performed and monitored by Terra Search contractor and Superior Resources' representatives. • The volume of sample collected for assay is considered to be representative of each 2m interval. • The RC drill rod string delivered the sample to the rig-mounted cyclone which is sealed at the completion of each 1m interval. The riffle splitter is cleaned with compressed air at the end of each 1m interval and at the completion of each drill hole. • Diamond drill core recovery was logged. Recovery overall was close to 100%.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• Geological logging was conducted during the drilling of each hole by a Terra Search geologist having sufficient qualification and experience for the mineralisation style expected and observed at each hole. • All holes were logged in their entirety at 1m intervals. • All logging data is digitally compiled and validated before entry into the Superior database. • The level of logging detail is considered appropriate for resource drilling. • The RC Chip trays were photographed. • Magnetic susceptibility data for each 1m sample interval was collected in the field. • All core was logged for structure with structures being recorded in relation to a bottom line marked on the core and established using Reflex equipment. Logging included both and Alpha and Beta angles. Data from structural logging of planar features was converted to grid dips and dip directions as well as plan parameters to allow structures to be plotted on sections and allow structures to be projected to the ground surface by software.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness*	• The sample collection methodology is considered appropriate for RC and diamond drilling and was conducted in accordance with standard industry practice. • The RC drill hole samples are split with a riffle splitter at 1m intervals as drilled. Split 1 metre samples are regarded as reliable and representative.

Criteria	JORC Code explanation	Commentary
	of the sample preparation technique. • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Approximately 1-3kg of sample was collected over each 1m interval. • Samples were collected as dry samples. • Diamond drill core was split in half using a diamond saw with half of the sample being sent for assay and the remainder retained for reference. Core halving was done along the bottom line marked on the core for structural logging. • The sample sizes are considered appropriate to the style of mineralisation being assessed. • Quality Assurance (**QA**)/Quality Control (**QC**) protocols were instigated such that they conform to mineral industry standards and are compliant with the JORC code. • (QA) processes with respect to chemical analysis of mineral exploration samples includes the addition of blanks, standards and duplicates to each batch so that checks can be done after they are analysed. As part of the (QC) process, checks of the resultant assay data against known or previously determined assays to determine the quality of the analysed batch of samples. An assessment is made on the data and a report on the quality of the data is compiled. • Quality control included determinations of duplicate samples every 50 samples or so to check for representative samples. There was a conscious effort on behalf of the samplers to ensure consistent weights for each sample. Comparison of assays of duplicates shows good reproducibility of results. • The above techniques are considered to be of a high quality and appropriate for the nature of mineralisation anticipated. The 2-3kg sample size is appropriate for the rock being sampled.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards,*	• All samples were submitted to Intertek laboratories in Townsville for gold and multi-element analysis. • Samples were crushed, pulverised to ensure a minimum of 85% pulp material passing through 75 microns, then analysed for gold by fire assay method FA50/OE04 using a 50 gram sample. • Multi-element analyses were conducted using a four acid digestion followed by an OES finish using method 4A/OE33 for the following 33 elements: Ag, Al, As, Ba, Bi, Ca, Cd,

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	blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Ce, Co, Cr, Cu, Fe, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sn, Sr, Te, Ti, Tl, V, W, Zn. • Certified gold, multi-element standards and blanks were included in the samples submitted to the laboratory for QA/QC. • Additionally, Intertek used a series of its own standards, blanks, and duplicates for the QC of the elements assayed.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No holes were twinned. • Logs were recorded by Terra Search field geologists on hard copy sampling sheets which were entered into spreadsheets for merging into a central database. • Laboratory assay files were merged directly into the database. • The data is routinely validated when loading into the database. • No adjustments to assay data were undertaken.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill hole collars have been recorded in the field using handheld GPS with three metre or better accuracy. The collar locations have been further defined using DGPS to give sub-one metre accuracy. • The area is located within MGA Zone 55. • Topographic control is currently from DGPS point data that has been merged with RL-adjusted contours.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Further drilling is necessary to establish a Mineral Resource.
Orientation of data in relation to	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the*	• The majority of holes have been designed to drill normal to interpreted mineralisation trends. However, there has been insufficient drilling and geological interpretation to determine if there is a bias to sampling as a result of drilling oblique to or down dip on mineralised structures.

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geological structure	*orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• No orientation sample bias has been identified at this stage.
Sample security	• *The measures taken to ensure sample security.*	• Sub-samples selected for assaying were collected in heavy-duty polyweave bags which were immediately sealed. • These bags were delivered directly to the Intertek assay laboratory in Townsville by Terra Search or Superior Resources' employees. • Sample security measures within the Intertek laboratories are considered adequate.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of the sampling techniques and data have been undertaken to date.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The areas reported for the Bottletree Prospect lie within Exploration Permit for Minerals 25659, which is held 100% by Superior Resources. • Superior Resources holds much of the surrounding area under granted exploration permits. • Superior has agreements or other appropriate arrangements in place with landholders and native title parties with respect to work in the area. • No regulatory impediments affect the relevant tenements or the ability of Superior Resources to operate on the tenements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• All historical drilling reported in this report has been completed and reported in accordance with their current regulatory regime. • Previous work on the prospect has been completed by Pancontinental Mining. • Soil geochemical survey data compiled by Pancontinental Mining was used in this report for the purpose of part characterising the Bottletree mineralisation.

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		• Compilation in digital form and interpretation of the results of that work in digital form has been completed by a Competent Person.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Bottletree Prospect is hosted in Lower Palaeozoic deformed mafic meta-volcanic lavas and volcaniclastics. • Mineralisation style is disseminated and vein sulphide of probable intrusion-related hydrothermal origin. • On the basis of observations made in holes BTDD001, BTDD003 and BTDD004, the mineralisation at the Bottletree Prospect is considered to be intrusive-related. More geological, geochemical and drill data is required to fully understand the mineralisation setting.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• A drill hole collar table is included in the main body of the report.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Exploration results are yet to be received from the reported drill holes.

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Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Downhole length, true width not known until further drilling provides more information on the nature of the mineralised body. • Detailed drill sections are not available until assay results have been received from the laboratory.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Included.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• N/A.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Publicly available and historic soil geochemical data and airborne magnetic survey data was compiled, examined and interpreted to aid in the interpretation of geological observations made from the available drill core. • Images from an advanced 3D model of a MIMDAS IP survey are included in the report to allow an appreciation of the relationship of the mineralised intervals with the 3D modelling results.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Specific upcoming activities include: • receive and analyse assays from BTDD001, BTDD003 and BTDD004; • receive, compile and analyse assays from multi-element soil sampling program; • conduct down-hole EM survey on BTDD003; • plan drilling programs targeting potential porphyry intrusions and to delineate areas of near-surface copper and gold mineralisation;

Criteria	JORC Code explanation	Commentary
		• execute next drilling program; and • conduct geochronological dating on intrusions and molybdenite for age correlation with intrusions in the Macquarie Arc in NSW, which hosts the world class Cadia and North Parkes porphyry Cu-Au deposits.