Superior Resources | ASX Announcement

1 August 2024

BOTTLETREE PROJECT

Gravity survey highlights porphyry core target and identifies second significant target

HIGHLIGHTS:

- **High-resolution gravity survey completed over the Bottletree Project area has highlighted a large prominent gravity anomaly located 400m south of previous drilling, considered to potentially represent the core of the Bottletree porphyry Cu-Au system**
- **Gravity anomaly is coincident with the porphyry core target modelled in 2023 from drill core observations, and for which the Company was awarded a $300,000 Queensland Government CEI Critical Minerals Funding Grant to drill two deep diamond holes this year into the porphyry core target**
- **Gravity data has also highlighted a second, larger and potentially higher order gravity anomaly to the northeast of the 2022 – 2023 drill program**
- **3D inversion modelling of the data indicates that the two gravity anomalies may converge into one body at depth**
- **Government-backed CEI drill program scheduled to commence during September 2024 with plans to also drill-test the northeastern anomaly as part of the same program**

Superior Resources Limited (ASX:SPQ) (**Superior** or the **Company**) is pleased to announce the results from 3D geophysical modelling of high resolution gravity survey data generated over the Bottletree Project area. As an important boost to the Company's existing porphyry core target, the modelling has highlighted a significant gravity anomaly approximately 400 metres south of previous drill programs. The gravity anomaly also provides additional confirmatory support for the Queensland Government Collaborative Exploration Initiative (**CEI**)-funded drill holes.

Bottletree is one of several porphyry Cu-Au projects that Superior is advancing in a newly-recognised porphyry belt located in northeast Queensland and within which, the Steam Engine Gold Project is nestled (**Fig. 1**).

Superior's Managing Director, Peter Hwang, commented:

"The results of the gravity inversion modelling are quite remarkable. This is the first dataset to provide direct detection of a significant body at the location of our 2023-predicted porphyry core target. That target was based on modelling in 2023 of porphyry indicators identified from drill core, that enabled us to vector towards a potential porphyry core located about 400 metres to the south of the current line of drill holes.

"In the context of the collective geological information at Bottletree, the very precise relationships between the gravity anomalies and magnetically anomalous features within the

existing magnetic model, are all features that are consistent with a porphyry potassic core being the cause of the gravity anomaly.

"The two CEI holes are perfectly designed to target this gravity anomaly and do not require any adjustments from the original designs as submitted in our CEI application last year.

"These CEI-funded holes are the most critical holes to be drilled at Bottletree.

"However, the gravity modelling also revealed a second large and higher amplitude, or higher density, gravity anomaly to the northeast of our 2022 and 2023 drilling. This anomaly was a complete surprise and we are very intrigued about it as the surface geology, mapped as dolerite, is at odds with the only hole that tested the mapped geology. The magnetic model does not support the feature as being a dolerite. The second anomaly remains unexplained and we are treating the feature as significant and must be followed up with drilling.

"We are naturally very excited and look forward to drilling these targets in a couple of months' time after some key holes are completed at the Steam Engine Gold Project."

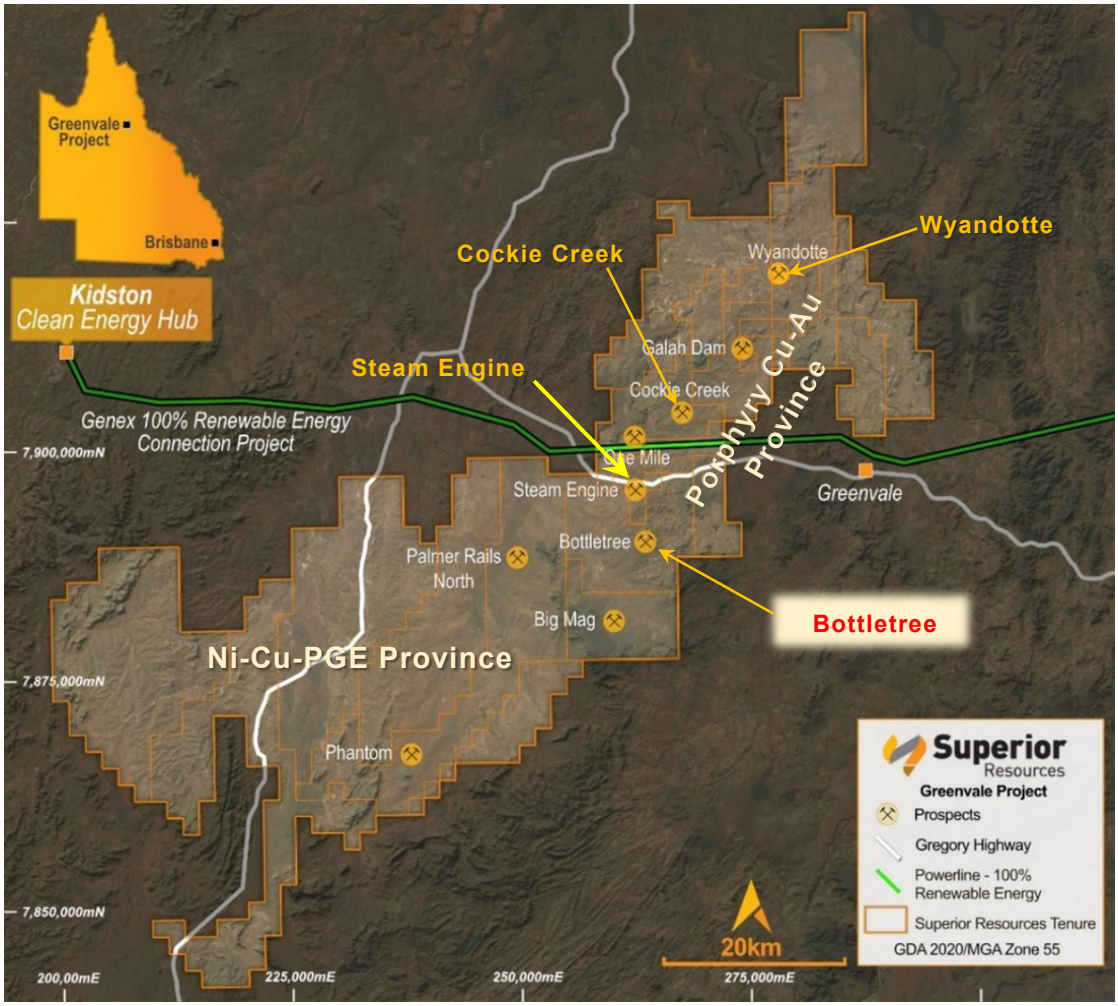


Figure 1. *Map showing the location of the Bottletree Project within the Greenvale Project tenements and select prospects. The Gregory Highway and the Renewable Energy Power Infrastructure Corridor are also shown.*

Bottletree Gravity Survey and Modelling

A high-resolution ground gravity survey was completed over the Bottletree project area during the latter half of 2023, covering an area of approximately 7km^2 with gravity station acquisition on a 100m x 100m grid configuration (**Fig. 2**).

Terrain correction and modelling of the gravity data using UBC 3D inversion modelling software produced a 3D gravity model that has enabled a detailed analysis of rock density variations across the project area, including at depth.

Ground or airborne gravity surveys are a valuable tool for the exploration of a range of ore deposit systems and have been instrumental in the discovery of many large porphyry copper deposits. By measuring gravity factors, bulk rock densities can be modelled and interpreted over a broad area. Rock densities are variable depending on numerous factors such as the rock type (e.g. sandstone, granite, ironstone), the degree and type of alteration and various forms of mineralisation.

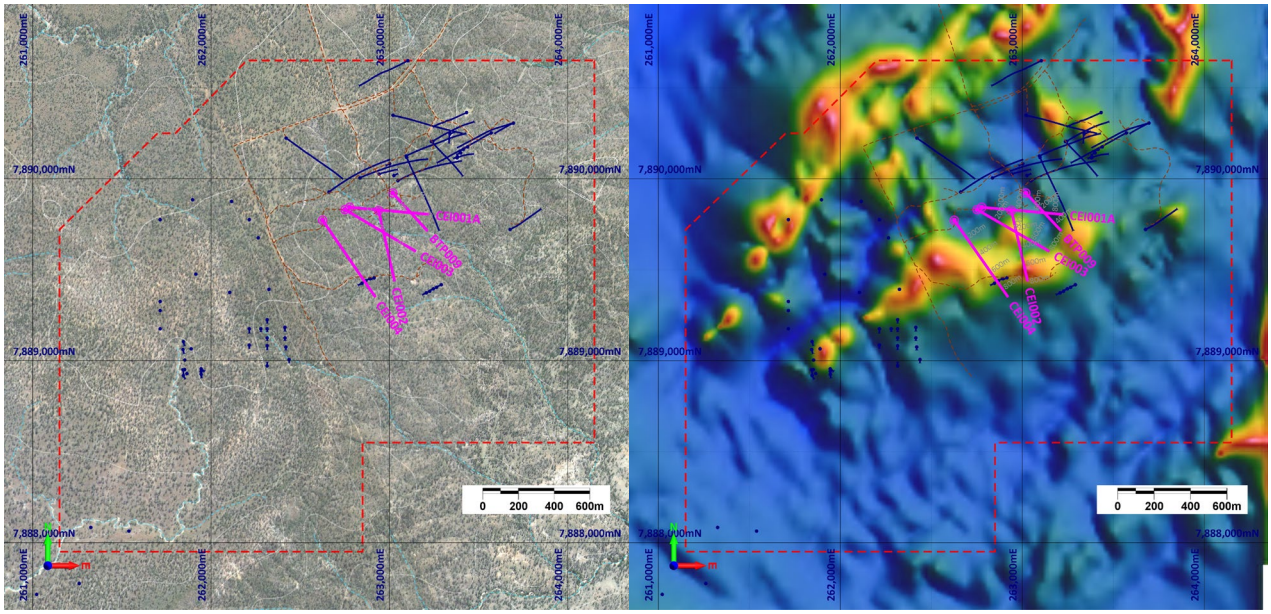
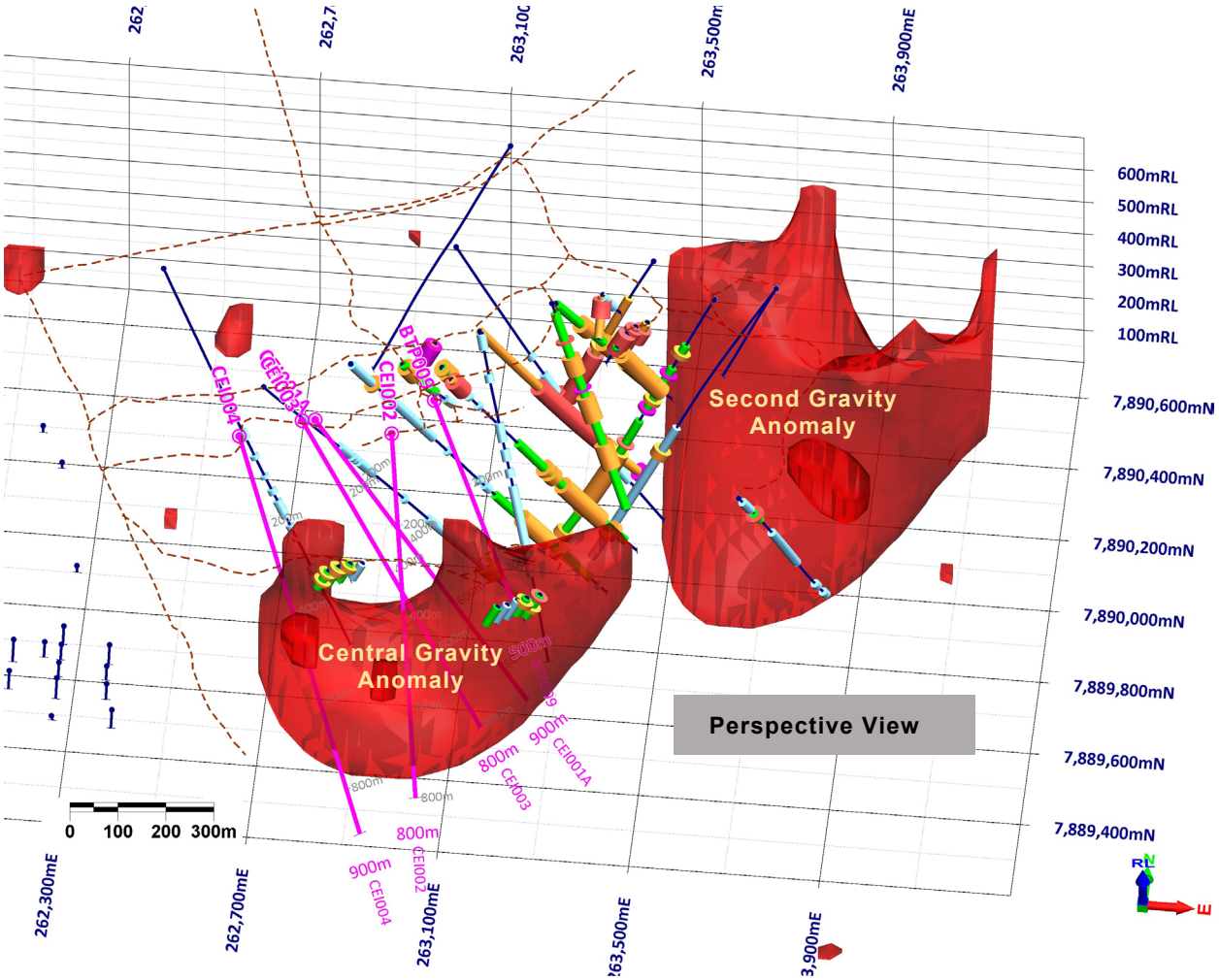


Figure 2. *Satellite imagery (left) and TDr Vi NSSF-processed aerial magnetic imagery (right) of the Bottletree Project area showing the boundaries of the Bottletree gravity survey. Also shown are 2022 and 2023 drill program holes (blue trace) and upcoming porphyry core drill program holes (pink trace) which include planned CEI drill holes.*

Gravity Model Observations

Prior to the gravity survey, no information was available to provide a characterisation of the rock density architecture within the project area.

The 3D inversion modelling on the Bottletree gravity data has defined two distinct gravity-high features (**Fig. 3**).



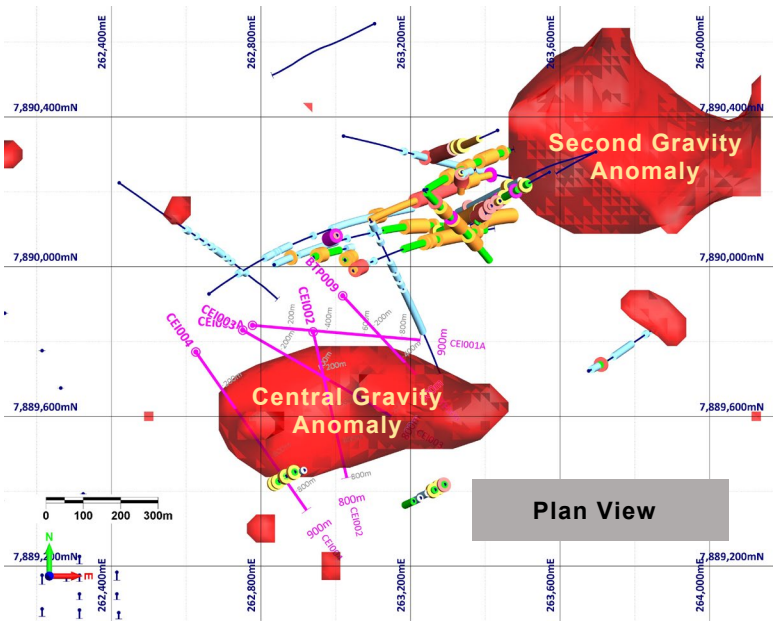


Figure 3. *3D inversion density model of the high resolution Bottletree ground gravity survey showing the central gravity anomaly and the northeastern gravity anomaly as high-density 2.8t/m^3 iso-surfaces, viewed obliquely (above) and plan view (vertical-down) (right). 2022 and 2023 drill holes shown in blue trace together with down-hole assay grade categories. Planned holes to test the central anomaly (including CEI-funded holes) shown in pink trace.*
Plan view shows the actual positions of drill holes relative to the gravity anomalies.

Central Gravity Anomaly

The highest priority anomaly, which is more centrally located within the survey area, is striking, as it is coincident with the porphyry core target that was determined in 2023. The 2023 porphyry core target (**Fig. 6**) was based on:

- limited vectoring from porphyry indicators identified in drill core;
- hydrothermal alteration zonation patterns across the prospect area; and
- outcropping gossans at the target location.

The central gravity anomaly, located approximately 400 metres to the south of the 2022 and 2023 drill holes, is of moderately high amplitude and extends to significant depths (**Figs. 4 to 6**). Importantly, the anomaly is partly associated with a magnetic-high anomaly. The 3D form of the modelled gravity anomaly appears to conform around the 3D geometry and form of the magnetic anomaly (**Fig. 7**).

The gravity and magnetic observations are interpreted to be consistent with features associated with a porphyry system, including alteration, pyrrhotite-pyrite-chalcopyrite mineralisation or alteration associated with secondary magnetite. The two proposed CEI drill holes are considered to appropriately test the central gravity anomaly and do not require any redesign (**Fig. 4**).

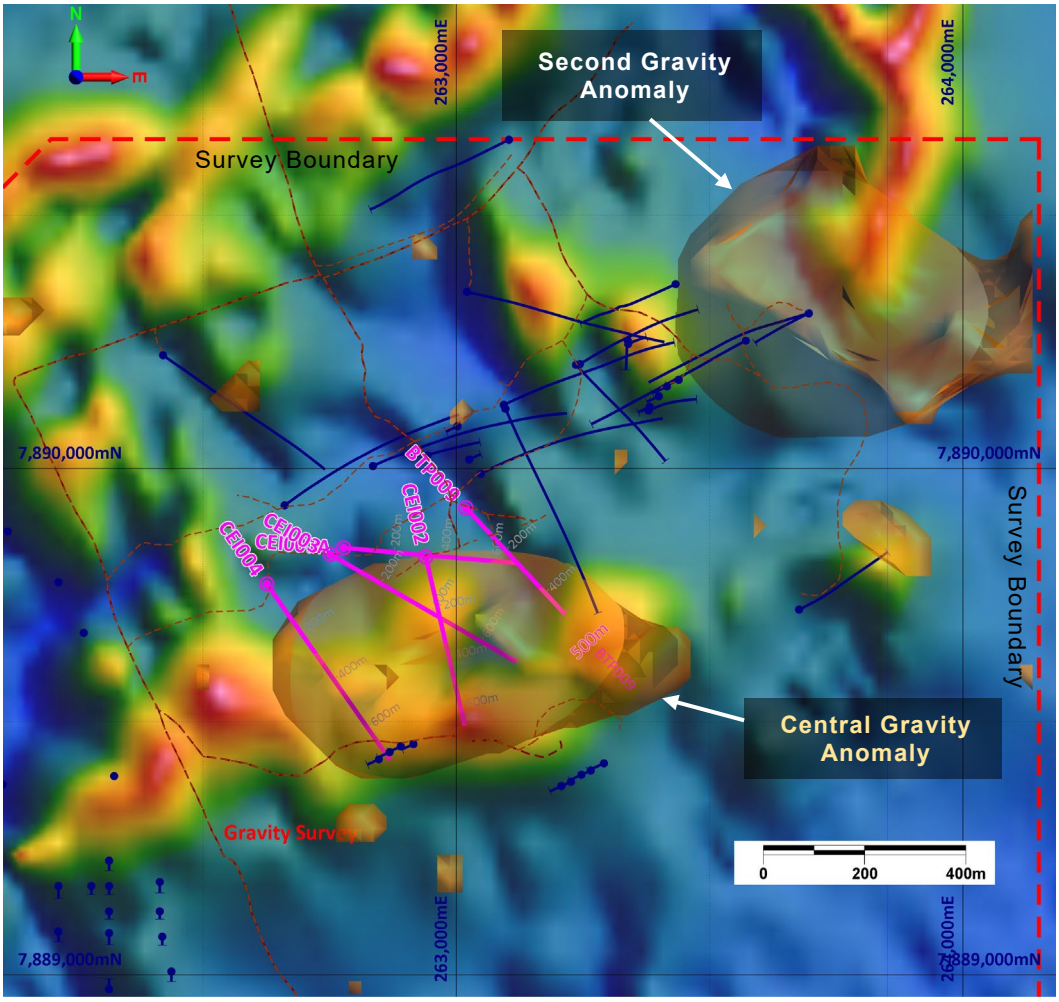


Figure 4. *Plan showing 3D inversion density models of the central gravity anomaly and the second gravity anomaly as high-density 2.77t/m^3 iso-surfaces. Also shown are 2022 – 2023 drill holes (blue trace) and the proposed 2024 drill holes, including CEI holes (pink trace). Aerial magnetic imagery background.*

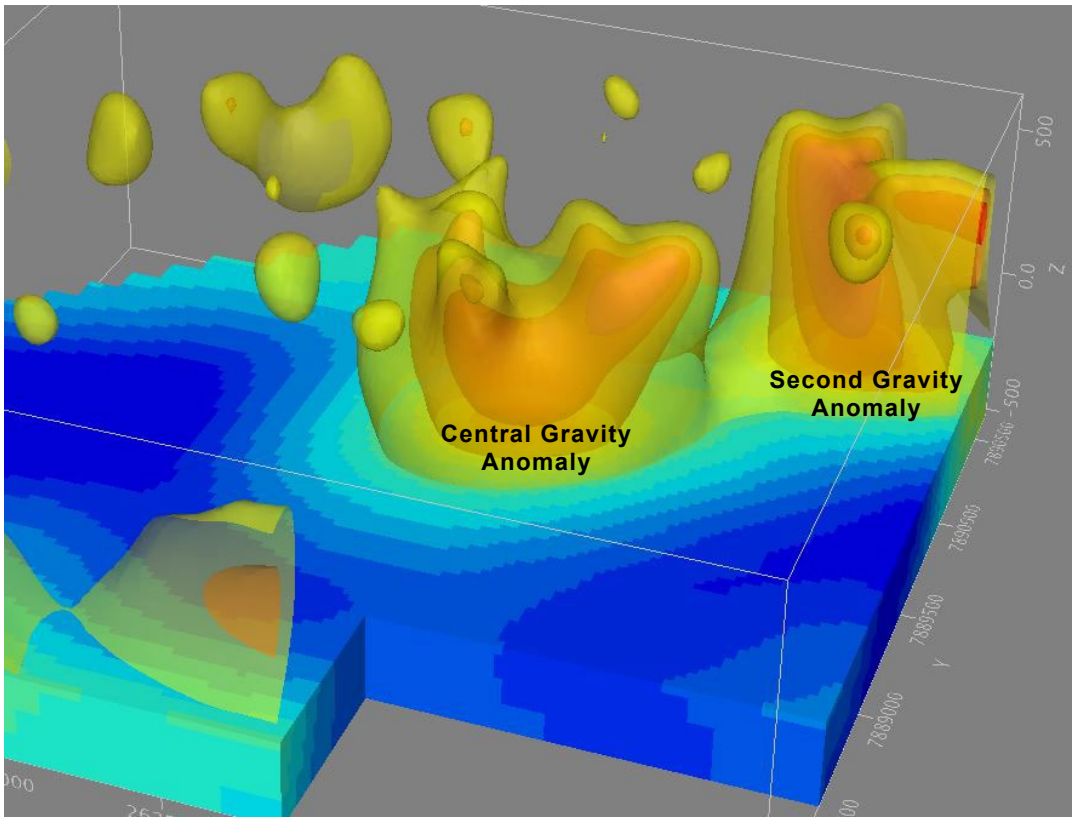


Figure 5. *Perspective view (looking northwest) of Bottletree 3D inversion density model showing vertical extents of the central gravity anomaly and the second gravity anomaly.*

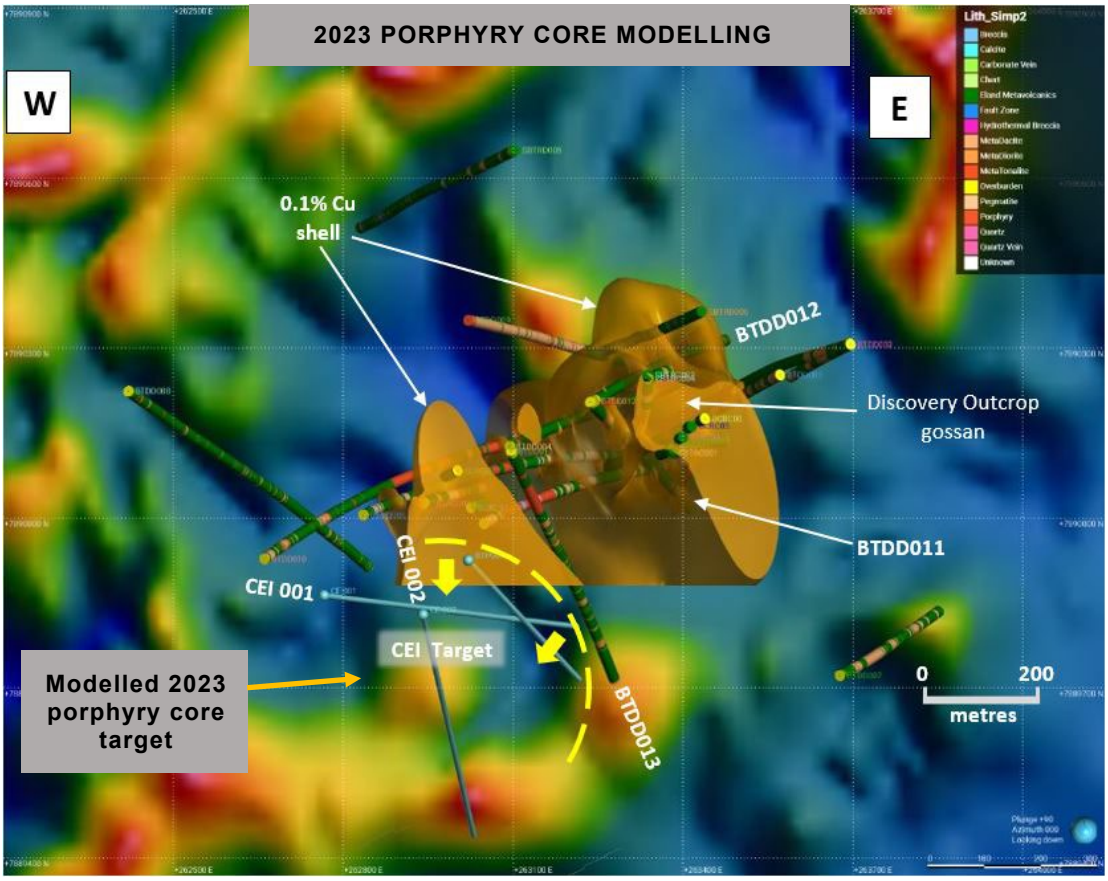


Figure 6. *Plan of Bottletree Project area showing the 2023-predicted porphyry core target area (yellow half circle) as modelled from drill hole data. Also shown are the 0.1% Cu mineralisation shells, 2022 – 2023 drill holes and the proposed 2024 drill holes, including CEI holes as planned in 2023*

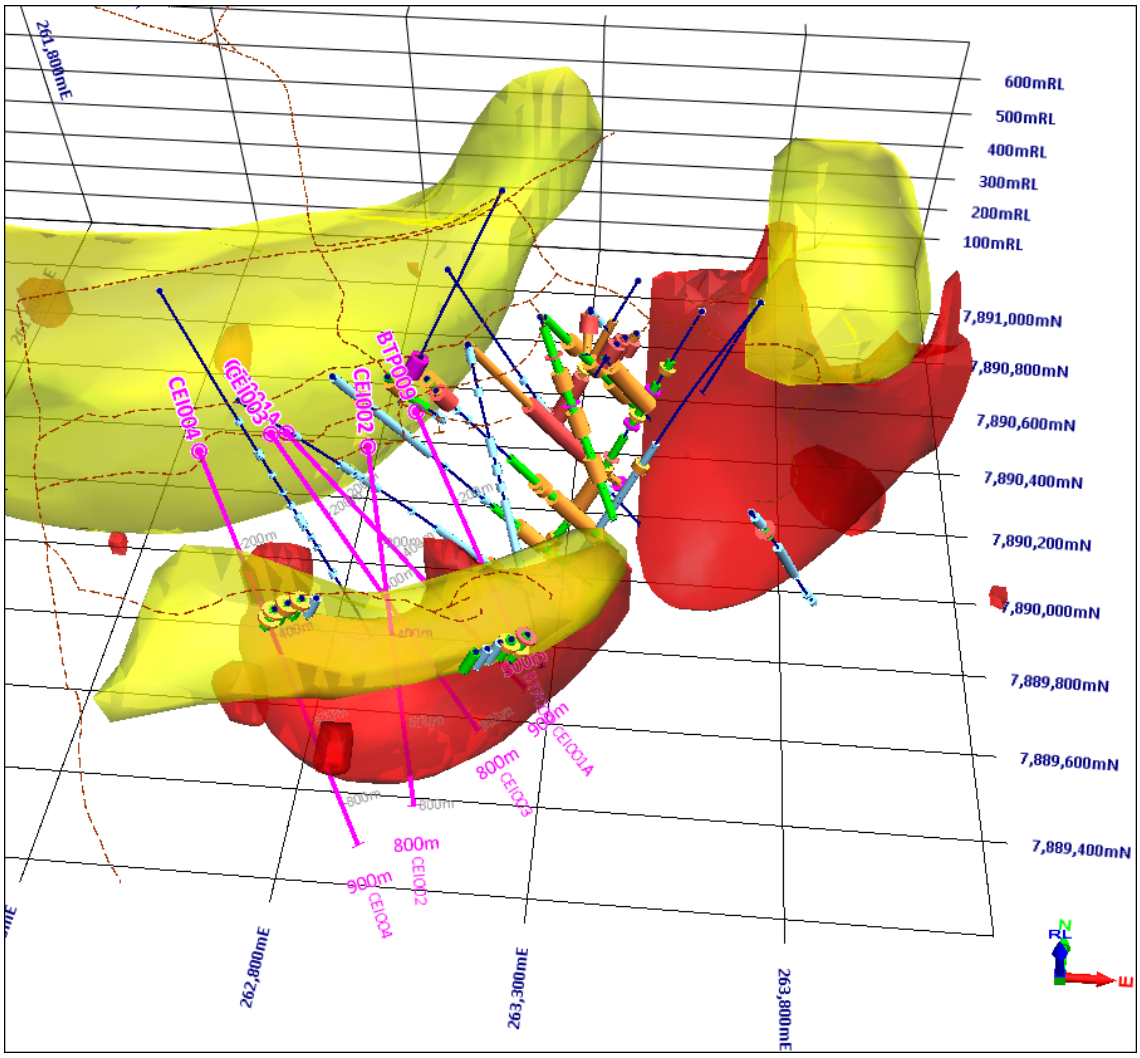


Figure 7. *Perspective view (looking north) of Bottletree 3D inversion density model (red polygons) together with 3D modelled aerial magnetics (yellow polygons) showing the relationship between the two datasets.*

Gravity Response Over Bottletree Prospect Area

Another important observation associated with the central gravity anomaly is that the immediate area of the Bottletree Prospect corresponds with a broad, oval-shaped positive amplitude gravity feature that is about 1.5 kilometres in average diameter (**Fig. 8**).

The positive amplitude zone is interpreted to be related to the Bottletree porphyry system and provides further confidence about the presence and size of the alteration system associated with the porphyry.

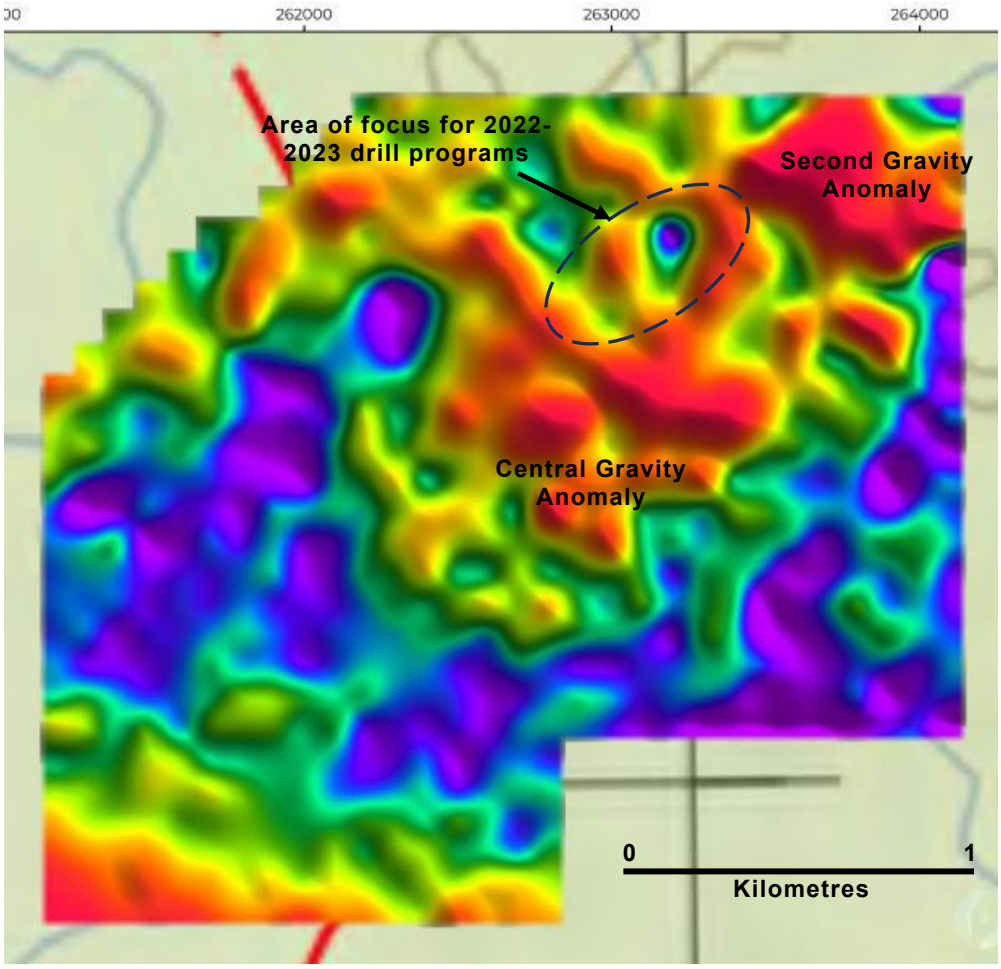


Figure 8. *Pseudocoloured plan image of first vertical derivative (1VD) of spherical cap bouguer anomaly from the Bottletree gravity survey data showing a large oval-shaped area coincident with the Bottletree Prospect area. Note the relatively high gravity responses that define the prospect area, with a low gravity response surrounding area.*

Second Gravity Anomaly

Notably, the 3D modelling has defined an unexpected large second and potentially higher amplitude gravity anomaly located approximately 100 metres to the northeast of the 2022 and 2023 drill holes (**Figs. 3 to 5, 7 and 8**).

This anomaly is particularly interesting as surface geological mapping shows dolerite cropping out at surface over some parts of the anomaly, which prompts an initial interpretation that a dolerite intrusion (typically high density) is the cause of the anomaly.

However, such an interpretation is not supported by the 3D magnetic model (dolerite is characterised by high magnetic susceptibility). The magnetic anomaly is small in size and does not correlate with the gravity anomaly (**Fig. 7**). Instead, the magnetic anomaly appears to reside in 'embayments' in the shallower parts of the gravity anomaly. Such an interplay between the magnetic anomaly and the gravity anomaly is similarly observed at the central gravity anomaly.

In addition, 2022 drill holes BTDD002 and BTDD003 were drilled from a collar location and at a dip that was expected to intersect the mapped dolerite. Dolerite was not identified in either of the holes.

Furthermore, the 3D inversion modelling indicates that the second gravity anomaly plunges towards the central gravity anomaly and both anomalies may coalesce together at depth (**Fig. 9**).

As a result, the second gravity anomaly is interpreted to be caused by a rock type other than dolerite and potentially, an intrusion that is related to the main Bottletree porphyry system.

The second gravity anomaly is considered to be a high priority target to be tested by drilling during the 2024 Bottletree drilling program.

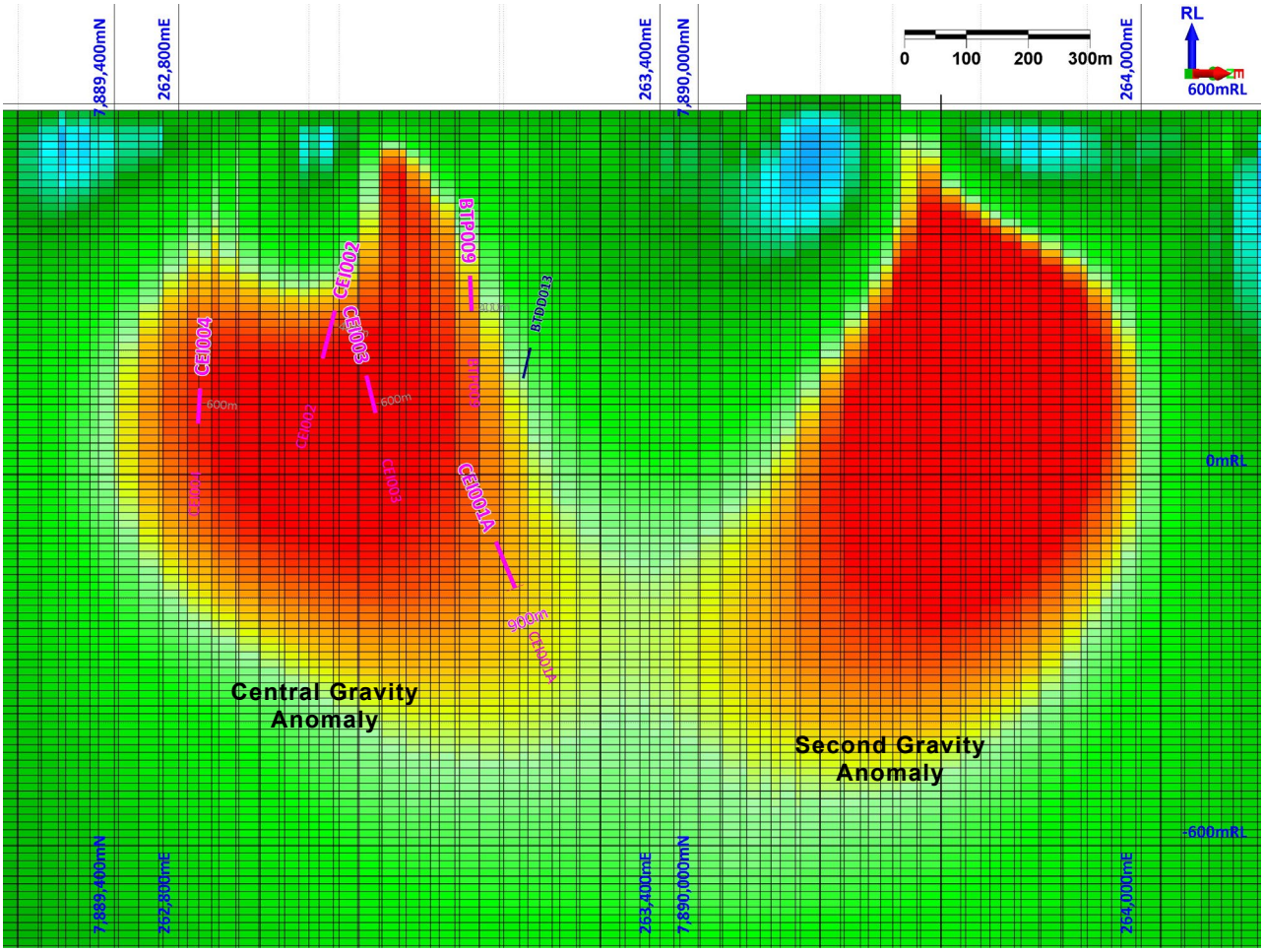


Figure 9. *Cross section of Bottletree 3D inversion density model across the central gravity anomaly and the second gravity anomaly showing an apparent convergence of the two anomalies at depth.*

UPCOMING DRILL PROGRAM

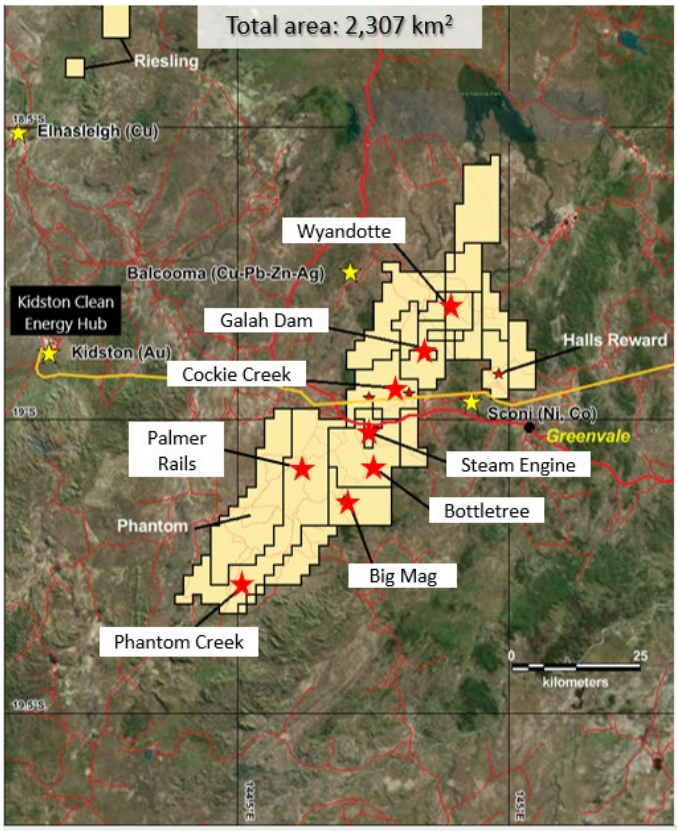
Two deep CEI-funded diamond drill holes will test the large central gravity anomaly. These two holes are CEI002 and CEI004 with planned total depths of 800m and 900m respectively (**Figs. 3, 4 and 7**).

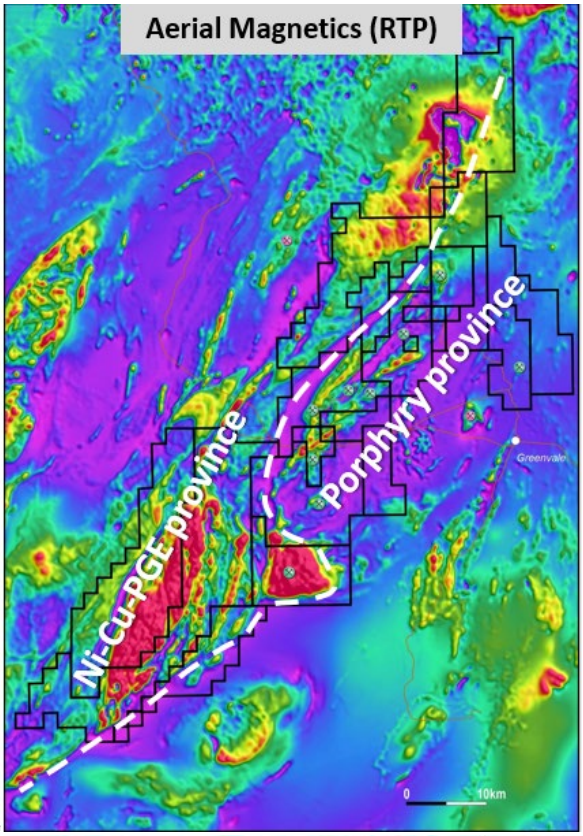
Although several additional holes have been planned to test the central gravity anomaly, the results of the CEI holes will determine whether the additional holes will be drilled.

Planning of holes to test the second gravity anomaly is underway.

The Bottletree CEI-funded drill program is expected to commence during September 2024.

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



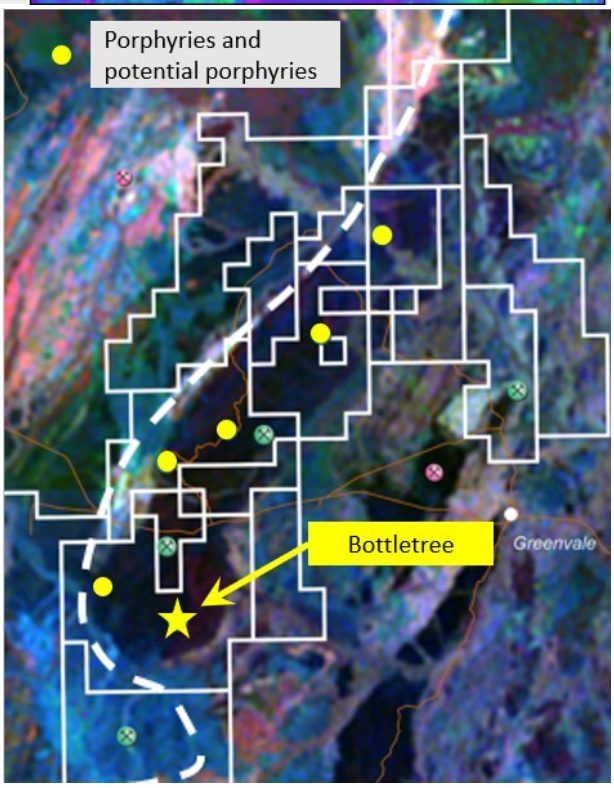


Superior has long recognised the copper potential within the Lucky Creek Corridor. However, recent exploration drilling at Bottletree, coupled with regional geological investigations over several years has enabled the characterisation of the Lucky Creek Corridor as a fossil island arc porphyry province,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

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large copper, nickel-copper-cobalt-PGE, lead-zinc-silver and gold 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: *Information in this report that relates to exploration results has been compiled by Mr Peter Hwang, Managing Director 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.*

Forward looking statements: *This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position and performance are also forward-looking statements. The forward-looking statements in this presentation are based on current interpretations, expectations, estimates, assumptions, forecasts and projections about Superior, Superior's projects and assets and the industry in which it operates as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made. The forward-looking statements are subject to technical, business, economic, competitive, political and social uncertainties and contingencies and may involve known and unknown risks and uncertainties. The forward-looking statements may prove to be incorrect. Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results expressed or implied by any forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements.*

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Approved for release by the Board of Directors

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APPENDIX 1

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.*	• No sampling undertaken. This report relates to the reporting of geophysical data analysis, modelling and interpretation. The data comprises gravity data acquired from appropriate field surveying techniques at the Bottletree Project during 2023.
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.).*	• N/A
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.*	• N/A

Criteria	JORC Code explanation	Commentary
	• *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.*	
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.*	• N/A
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 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.*	• N/A
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, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• N/A

Criteria	JORC Code explanation	Commentary
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.*	• N/A
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.*	• N/A
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.*	• N/A
Orientation of data in relation to geological structure	• *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 orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• N/A
Sample security	• *The measures taken to ensure sample security.*	• N/A
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Ground gravity data were quality controlled by external geophysical consultants, Atlas Geophysics Pty Ltd.

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 lie within Exploration Permit for Minerals 25659, which is held 100% by Superior. • Superior 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 to operate on the tenements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• All historic exploration 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.
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 drill holes, the mineralisation at the Bottletree Prospect is considered to be porphyry-related. More geological, geochemical and drill data is required to fully understand the mineralisation system.

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*
		• N/A

Criteria	JORC Code explanation	Commentary
	Person should clearly explain why this is the case.	
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.*	• N/A
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').*	• N/A
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.*	• All material information has been included in this report.
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.*	• All material information has been included in this report. • The reported ground gravity survey was conducted by Atlas Geophysics Pty Ltd to acquire gravity data using a CG-5 Autograv gravity meter. Positional data was acquired by a ESVE300PRO GNSS Rover receiver and a ESVE300PRO GNSS Rover base station. • The gravity data was terrain corrected and modelled using UBC 3D modelling software by Western Geoscience Ltd.

Criteria	JORC Code explanation	Commentary
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: • Execute drill programs, which will include two Qld Government funded Collaborative Exploration Incentive drill holes that will target potential porphyry intrusions; • Further delineation of areas of near-surface copper and gold mineralisation; • Conduct a MIMDAS IP extension survey over the Bottletree Prospect area; • Conduct an Ultrafine soil geochemistry extension survey over shallow recent cover areas within the prospect area; 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.