

Quarterly Activities Report

Period ending 31 December 2022

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Summary

Bottletree Copper Prospect (Greenvale)

- 2022 Bottletree drilling program was completed on 9 December 2022.
 A total of six diamond core holes were drilled (BTDD005 BTDD010) for 4,952.8 metres of core.
- The objectives of the program were to build a geological model to better understand the mineralising system and to identify porphyryrelated alteration zones and other pathfinders to enable vectoring of holes towards the central mineralised potassic core(s).
- Each of the holes targeted alteration profiles at depth and to the west of BTDD004, although BTDD005 and BTDD007 also investigated nearsurface zones beneath soil copper geochemistry anomalies.
- Several dacite porphyry intrusions and varying degrees of disseminated and vein quartz-chalcopyrite mineralisation, locally with molybdenite, as well as pyritic sheeted sulphide veins have been intersected by each of the holes.
- Detailed results and findings will be released to market shortly.

Cockie Creek Porphyry Copper Prospect (Greenvale)

- Preparations underway for commencement of two maiden drilling programs on Superior's most advanced porphyry Cu-Au-Mo prospect.
- Potential for significant porphyry Cu-Au mineralisation.
- Current Mineral Resource Estimate: 13MT @ 0.42% Cu (0.25% Cu cutoff grade) (JORC 2004), based on strike length of 1.2kms and a
 maximum depth of 250m.
- Interpreted buried porphyry intrusions within an intrusive complex.
- Two large, intense IP chargeability targets at depth beneath the defined structurally controlled mineralisation corridor.

Greenvale Magmatic Ni-Cu-PGE Sulphide Project

- Planning underway for initial exploration programs on the Company's newly recognised magmatic Ni-Cu-PGE project.
- Field reconnaissance visits to key mafic/ultramafic intrusions identified intrusions and disseminated sulphides in rock chips.
- Discussions underway with two well-funded parties regarding potential joint venture arrangements on two different nickel mineralisation styles.

Superior Resources Limited

ASX:SPQ

Board

Carlos Fernicola – Chairman
Peter Hwang – Managing Director
Simon Pooley – Non-Exec Director
Carlos Fernicola – Company Secretary

Securities

Ordinary Shares – 1,701,220,418 Top 20 holders: 37% issued capital

Summary

Superior Resources Limited is a Brisbane based ASX-listed mineral explorer with a portfolio of large base metal exploration projects, including a developing portfolio of nickelprojects in northern Queensland. The projects include large targets for Mount Isa style copper and lead-zinc-silver deposits in north western Queensland and exploration projects in northeast Queensland for VMS and porphyry style copper-gold-silvermolybdenum deposits. Company's cobalt projects are located across the Queensland region.

Share Registry

Link Market Services Level 15, 324 Queens Street Brisbane, QLD, 4000

Web Site

www.superiorresources.com.au

Contact

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Carlos Fernicola (07) 3831 4172



PROJECT LOCATIONS



Figure 1. Location map showing the Company's current portfolio of projects.

GREENVALE PROJECT

Operational activities during the Quarter were focussed entirely at the Company's 100%-owned Greenvale Project (Figures 1 and 2).

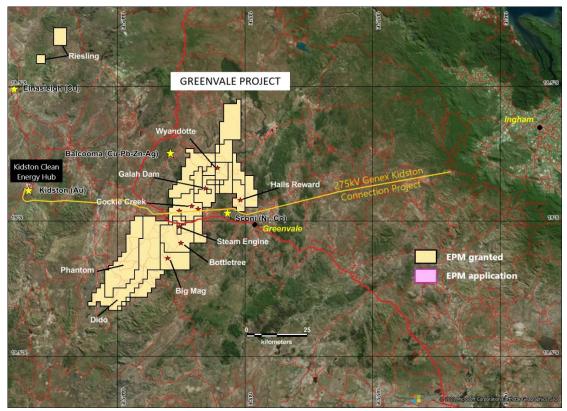


Figure 2. Greenvale Project tenements and prospects shown over satellite imagery. Note: recent new tenement applications are not shown (refer section "New Tenement Applications" below).



SUMMARY

The main activities of the Company during the Quarter were as follows:

- Deep diamond core drilling at **Bottletree** targeting porphyry alteration assemblages as a vector to the core of the porphyry system;
- Preparation and planning work to enable commencement of maiden Superior drilling programs on two additional porphyry prospects: Cocky Creek and Wyandotte;
- Planning of initial exploration programs on the Company's new magmatic Ni-Cu-PGE sulphide project;
 and
- Negotiation of two potential joint venture arrangements with well-funded parties regarding the Ni-Cu-PGE project and laterite nickel-cobalt.

BOTTLETREE (PORPHYRY Cu-Au)

Very large scale copper system emerging at Bottletree

The following summarises the main exploration activities that were conducted during the Quarter at Bottletree.

BACKGROUND

- Deep diamond drilling during 2021 targeted a large and intense MIMDAS IP chargeability anomaly with two holes (BTDD001 and BTDD003) collared to the east of the anomaly and drilled approximately westwards.
- o It became evident from the first two holes that porphyry-style Cu-Au mineralisation is located to the west of the chargeability anomaly and located more centrally within the large 2km x 1.5km soil copper anomaly that defines the prospect area.
- A third hole (BTDD004) was subsequently collared approximately 300m to the west of the IP anomaly and drilled towards the east, scissoring the first two holes. This hole intersected very strong porphyrystyle vein and disseminated Cu-Au-Mo mineralisation, which is considered to be distal to a mineralised porphyry intrusive system (refer ASX announcement 2 June 2022):

Overall Copper intersection:

- **632m @ 0.21% Cu, 0.03g/t Au, 0.60ppm Ag, 18.0ppm Mo** from 5m below surface *Significant porphyry-style mineralisation:*
- 224m @ 0.40% Cu, 0.05g/t Au, 0.90ppm Ag, 3.5ppm Mo from 242m, including:
 - 2m @ 1.01% Cu, 0.24g/t Au, 2.7ppm Ag, 9.5ppm Mo from 337m
 - 103m @ 0.53% Cu, 0.05g/t Au, 1.4ppm Ag, 3.3ppm Mo from 363m
 - o 1m @ 5.25% Cu, 0.31g/t Au, 10.7g/t Ag, 1.5ppm Mo from 363m
 - 12m @ 1.01% Cu, 0.07g/t Au, 2.2ppm Ag, 1.9ppm Mo from 363m
 - o **15m @ 1.19% Cu, 0.15g/t Au, 3.6ppm Ag, 1.9ppm Mo** from 451m.
- Six high priority porphyry targets were identified within the prospect area on the basis of geophysics and multi-element soil data. An intense soil Cu and aerial magnetic target was also identified on the western edge of the prospect area and extending westwards under cover for an undetermined distance.
- Observations from BTDD004 together with information from soil geochemistry and geophysical datasets indicate that a large copper-gold porphyry system potentially exists at Bottletree.



2022 PROGRAM ACTIVITIES DURING QUARTER

- The 2022 Bottletree diamond drilling program commenced on 15 June 2022 with the last hole, BTDD010, completed on 9 December 2022. Six holes were drilled (BTDD005 BTDD010) for a total of 4,952.8 metres of core (Figure 3).
- Each of the holes were designed to investigate alteration profiles at depth, to the west of BTDD004, although BTDD005 and BTDD007 also investigated near-surface zones beneath surface soil copper geochemistry anomalies.
- The primary objectives of the 2022 program were to:
 - construct a geological model to better understand the local geological setting relevant to the intrusive system that has been identified; and
 - identify porphyry-related hydrothermal alteration zones and zonation of alteration to enable vectoring towards the mineralised potassic core(s) of a porphyry system.
- o In addition to the drilling of BTDD010, the main activities included the compilation and initial analysis of the drill core data, preparation and sampling of core for assay and detailed examination of the core.

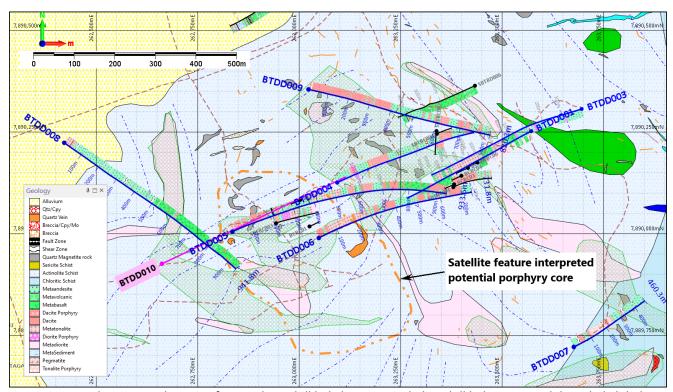


Figure 3. Map showing Bottletree surface geology, drill hole locations including drill hole traces and down hole lithology and satellite feature interpreted to potentially represent a core zone of a porphyry system.



REPORTING

- As indicated in several prior documents lodged by the Company on the ASX Market Announcements Platform, the primary objective of the current stage of exploration is to target zones of alteration and other porphyry pathfinder indicators with deep diamond core holes. Porphyry pathfinders, when considered together with several appropriately positioned drill holes, have the potential to provide directional information that enables the vectoring of drill holes towards the core of a porphyry system. At the current stage of exploration, the main vectoring information is not based on copper grades.
- Although a potentially sizeable zone of distal copper mineralisation carrying significant mineralisation was identified during the 2021 drilling program (e.g. BTDD004), the 2022 program was not designed to systematically define the amount of copper mineralisation within that zone. The 2022 program was focussed on identifying alteration zones and other pathfinder vectoring information to the west of this zone. Nevertheless, some of the 2022 program holes did intersect down-dip extensions of the distal copper zone.
- o Core from the 2022 drill holes has revealed that the Bottletree geology is complex and has required multiple drill holes in order to develop the vectoring information. This is usual for early-stage programs on porphyry systems (e.g. the history of the discovery of the Tier-1 Cadia deposit in NSW).
- To assist with the analysis and interpretation of all the geological data, including the drill hole data, the Company engaged the assistance of several consultants, including an internationally recognised porphyry expert.
- A report on the outcomes from holes BTDD005 to BTDD010 is nearing completion. The findings from the 2022 program will be reported to the market shortly.

COCKIE CREEK (PORPHYRY Cu-Au)

- Planning underway for commencement of two maiden Superior drilling programs at the Cockie Creek Porphyry Prospect. Cockie Creek is the Company's most advanced porphyry prospect. The main exploration work that has been conducted was drilling of the near surface copper deposit by MIM Exploration during the mid to late 80's and the drilling of a limited number of diamond core holes by Beacon Minerals Limited in 2007. The prospect has not been subjected to on-ground exploration work since 2007.
- o The program objectives are planned to be:
 - 1. Discover a large, mineralised porphyry Cu-Au-Mo system beneath the current shallow Cu-Au deposit. Drill-targeting two large, induced polarisation (**IP**) chargeability anomalies directly below the shallow mineralisation and interpreted porphyry intrusions within an intrusive complex (Figures 4 and 5); and
 - 2. Resource definition drilling to establish a JORC (2012)-compliant Mineral Resource Estimate and to expand the size of the resource.
- Current Mineral Resource Estimate: 13MT @ 0.42% Cu (0.25% Cu cut-off grade) (JORC 2004), based on strike length of 1.2kms and a maximum depth of 250m (Refer ASX announcement dated 27 March 2013).
- Significant potential exists at Cockie Creek for the discovery of a large porphyry Cu-Au-Mo mineralisation system.



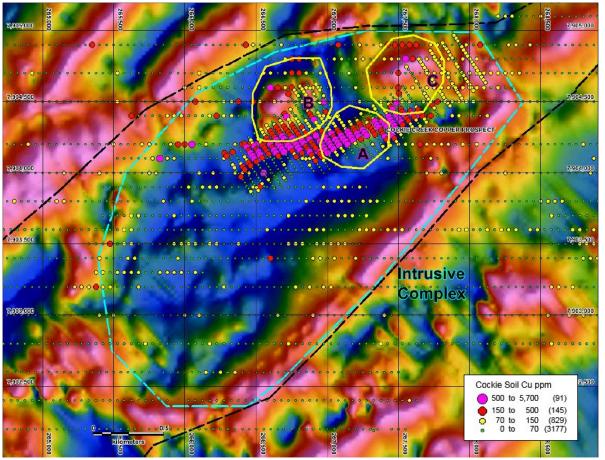


Figure 4. Cockie Creek thematic Cu soil data and interpreted porphyries on TDr VI NSSF processed airborne magnetics data, showing interpreted porphyry intrusions within an interpreted intrusive complex.

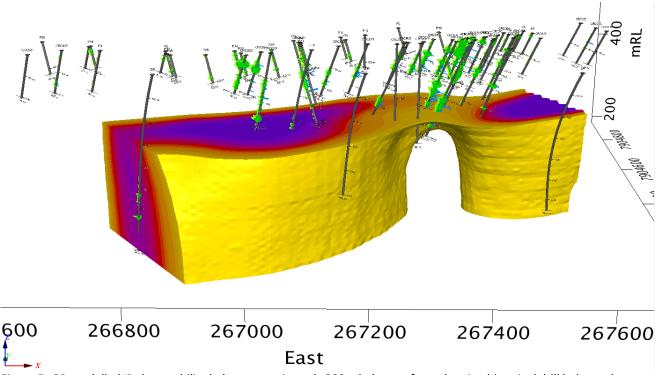


Figure 5. 3D modelled IP chargeability below approximately 200m below surface, showing historical drill holes and copper mineralisation (in green), viewed looking north.



MAGMATIC Ni-Cu-PGE SULPHIDE PROJECT

SUMMARY

- Superior's Magmatic Ni-Cu-PGE Project represents a newly recognised magmatic nickel sulphide province.
- The province has been proven by Anglo American (2007 2012) to host Ni-Cu-PGE sulphide mineralisation within intrusions that are similar to the large-scale magmatic Ni-Cu-PGE sulphide ore bodies of the Norilsk and Voisey's Bay deposits.
- More than 40 fertile troctolite intrusions have been identified (Figure 6). Only one intrusion has been subjected to initial drilling.
- Limited historic drilling by Anglo American confirmed the presence of fertile host rocks carrying magmatic sulphide mineralisation with up to 133m @ 0.12% Ni and 105m @ 0.14% Ni (up to 0.58% Ni, 0.28% Cu, 290ppb Pd, 220ppm Pt)¹.
- Anglo American concluded "mafic and ultramafic intrusive complexes that were previously unknown in the area do in fact exist and have the potential to host Ni-Cu-PGE sulphide deposits similar to that at Voisey's Bay" and their drill results "are considered to be very significant" and show that "(i) the rights rocks are present, (ii) there are multiple untested intrusions and (iii) the magmas are fertile all of which are very encouraging for further Ni [sulphide] exploration"².
- Superior is in a sector-leading Ni-Cu-PGE position, aided by the advantage of having enormous amounts of modern exploration data generated by Anglo American on a proven magmatic Ni-Cu-PGE sulphide province, including large, high resolution airborne geophysical surveys totalling more than 5,070 line-kilometres and information from petrographic and academic studies on key rock types.
- The Project represents the most prospective new Ni sulphide province in Australia.

ACTIVITIES DURING QUARTER

- Two field reconnaissance visits to the project area were conducted during November and December 2022.
- The objectives of the field visits were to conduct rock chip sampling of key intrusions that crop out at surface (Figures 7 to 9), establish practical access arrangements with the landholder and identify logistical factors relevant to field exploration work.
- The field visits also enabled two well-funded parties to conduct field due diligence on the project as part of a commercial discussions relating to potential farm-in and joint venture transactions. Discussions with the parties are continuing. The parties' interests in Superior's nickel assets do not conflict with each other as their objectives target different styles of nickel mineralisation (i.e. Magmatic Ni-Cu-PGE sulphide and Laterite Ni).
- Other activities conducted during the Quarter include:
 - historic data acquisition and review;
 - initial Aboriginal cultural heritage and native title party searches;

¹ CR67201, Dixon, 2011, Polito, Project Review Report, 2010, Anglo American; CR77624, Price, 2013, Annual Report for the period May 2012 to May 2013, Cazaly Resources Limited

² CR67201, Dixon, 2011, Polito, Project Review Report, 2010, Anglo American



- modelling and interpretation of Spectrem EM and magnetics geophysical data; and
- planning of additional soil and geophysical surveys.

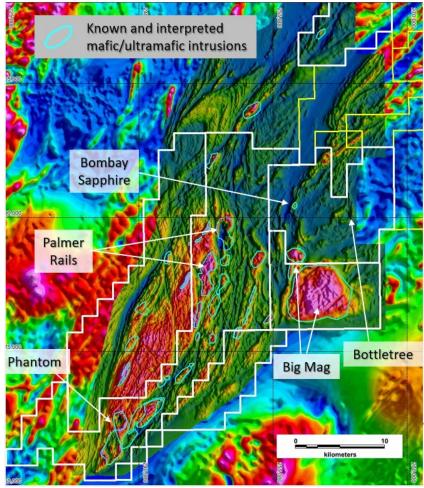


Figure 6. Magmatic Ni-Cu-PGE Project showing key intrusions over aerial magnetics data and tenement boundaries.



Figure 7. Aerial photograph of the Phantom intrusion (north lobe), viewed towards north.





Figure 8. Rock chip of gabbro outcrop taken from Phantom intrusion carrying fine disseminated sulphides.



Figure 9. Dido tonalite intrusion near the northern limits of the Phantom mafic/ultramafic intrusion.



NEW TENEMENT APPLICATIONS

- Applications for three new exploration permits for minerals (EPM) were made during the September Quarter. Each of the applications comprise 100 sub-blocks, covering a total of 900km², being the maximum size permitted for an EPM (Figure 10).
- The applications were made for the purpose of covering additional terrain considered prospective for Voisey's Bay style magmatic Ni-Cu-PGE sulphides.
- The EPM areas include several high priority magnetic features that were considered by Anglo American to be priority intrusion-related magmatic sulphide targets.
- The area also includes several known uranium occurrences. The Company will be collating all available information relating to the uranium occurrences, including any historic exploration conducted in the area. Notably, the local area is known for uranium mineralisation, with the Oasis Uranium Prospect located approximately 25kms to the north-northwest.

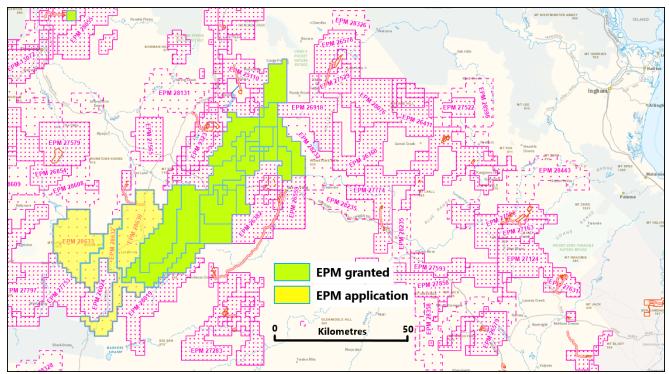


Figure 10. The expanded 100%-owned Greenvale Project tenements showing new EPM applications in yellow.



CORPORATE AND COMMERCIAL

Investments

Superior maintains an exposure in relation to ASX listed entity, Deep Yellow Limited (ASX:DYL).

As at 30 December 2022, the Company held 74,244 DYL shares with a closing value of \$51,970.80.

Related Party Matters

Payments to Directors of the Company and related parties during the December Quarter totalled \$178,781, which includes \$61,440 of prior years' unpaid salary, comprising remuneration and superannuation.

ASX Listing Rule 5.3.3

Appendix 1 sets out information that is required under ASX Listing Rule 5.3.3 (for exploration entities).

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Reporting of Results: The Exploration Results and interpretations contained in this report reflect information that has been reported in ASX market announcements as noted within this report. The Company confirms that it is not aware of any new information that materially affects the information included in the relevant original market announcements.

Information in this report that relates to the Dido/Big Mag Project were originally announced on the ASX Market Announcements Platform on 16 March 2022. The Company confirms that it is not aware of any new information that materially affects the information provided in the ASX announcement. Information relating to the Dido/Big Mag Project were compiled and evaluated by Mr Peter Hwang, an executive director and shareholder of Superior Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Hwang has sufficient experience which is relevant to this style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person under the 2012 edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hwang consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Reliance on previously reported information: In respect of references contained in this report to previously reported Exploration Results, Mineral Resources or Exploration Targets, Superior confirms that it is not aware of any new information or data that materially affects the information, results or conclusions contained in the original reported document. In respect of previously reported Mineral Resource estimates, all originally reported material assumptions and technical parameters underpinning the estimates continue to apply and have not been materially changed or qualified. The form and context in which the relevant Competent Person's findings are presented have not been materially modified from the original document.

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Appendix 1

DISCLOSURES REQUIRED UNDER ASX LISTING RULE 5.3.3

• Mining tenements held at the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Hedleys 2	EPM15670	Nicholson	100%	SPQ	Granted
QLD	Hedleys South	EPM18203	Nicholson	100%	SPQ	Granted
QLD	Tots Creek	EPM19097	Victor	100%	SPQ	Granted
QLD	Scrubby Creek	EPM19214	Victor	100%	SPQ	Granted
QLD	Cockie Creek	EPM18987	Greenvale	100%	SPQ	Granted
QLD	Cassidy Creek	EPM19247	Greenvale	100%	SPQ	Granted
QLD	Dinner Creek	EPM25659	Greenvale	100%	SPQ	Granted
QLD	Wyandotte	EPM25691	Greenvale	100%	SPQ	Granted
QLD	Cockie South	EPM26165	Greenvale	100%	SPQ	Granted
QLD	Victor Extended	EPM26720	Victor	100%	SPQ	Granted
QLD	Twelve Mile Creek	EPM26751	Greenvale	100%	SPQ	Granted
QLD	Dido	EPM27754	Greenvale	100%	SPQ	Granted
QLD	Arthur Range	EPM27755	Greenvale	100%	SPQ	Granted
QLD	Phantom Creek	EPM27932	Greenvale	100%	SPQ	Granted

• Mining tenements acquired and disposed of during the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Six Mile Creek	EPM28630	Greenvale	100%	SPQ	Application
QLD	Lyndhurst	EPM28632	Greenvale	100%	SPQ	Application
QLD	Middle Creek	EPM28633	Greenvale	100%	SPQ	Application

• Beneficial percentage interests held in farm-in or farm-out agreements at end of the quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter by exploration entity or child entity	Comments

Abbreviations:

EPM Exploration Permit for Minerals, Queensland

SPQ Superior Resources Limited