Superior Resources | ASX Announcement

29 January 2024

Seventh hole at Cockie Creek identifies broadest intersection of porphyry Cu and Au mineralisation to date

HIGHLIGHTS:

- **Cockie Creek drill hole CCDD007 has delivered the broadest width of porphyry copper and gold mineralisation to date in the western part of the Cockie Creek Prospect**
- **Maiden drilling program reveals continuous zone of copper and gold mineralisation extending from surface to a vertical depth of at least 450m in the western zone**
- **New assay results from CCDD007 and CCDD003 reveal that the zone of Cu-Au mineralisation widens significantly in the western part of the historical Mineral Resource. Increasing width of the mineralised zone and its development in the footwall meta-andesites indicates a deepening of the mineralising system. This is consistent with approaching a cupola or "top" of a mineralised porphyry intrusion**
- **CCDD007 includes:**
  - **320m @ 0.21% Cu, 0.05 g/t Au** and **31 ppm Mo** from 176m (**CCDD007**)
    - incl. **271m @ 0.24 % Cu, 0.05 g/t Au** and **36 ppm Mo** from 225m
    - incl. **171m @ 0.32% Cu, 0.07g/t Au** and **40 ppm Mo** from 225m
    - incl. **69m @ 0.52% Cu, 0.10g/t Au** and **69ppm Mo** from 225m
    - incl. **23m @ 0.70% Cu, 0.12g/t Au** and **68ppm Mo** from 265m
    - incl. **13m @ 0.89% Cu, 0.13g/t Au** and **79 ppm Mo** from 265m
- **The broad interval of porphyry copper and gold mineralisation in CCDD007 is approximately three times the length of the mineralised intervals in CCDD001, CCDD002, CCDD004 and CCDD006 in the eastern zone, although it has an overall lower average grade**
- **Results for CCDD007 combined with CCDD003 and historic drill hole CRC014 reveal a continuous zone of copper and gold mineralisation from surface to a vertical depth of approximately 450m in the western zone**
- **CCDD007 identified the down-dip extension of copper and gold mineralisation in CCDD003 (248m @ 0.28% Cu from 56m), which ended within mineralisation at 304m**
- **Assays from CCDD007 are consistent with those in CCDD003 and CCDD005 and show that mineralisation in the western zone extends well into the andesitic wall-rocks below the main Cu-Au zone in diorite, quartz diorite and lesser tonalite porphyries**
- **Sulphide mineral assemblages, alteration styles, mineralisation grades and the presence of porphyry "B veins" and abundant late-stage "D veins" at Cockie Creek are all features typical of porphyry Cu-Au-Mo deposits**
- **Results from CCDD007 increase the potential for the discovery of a large porphyry Cu-Au-Mo mineralisation system**

Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) is pleased to announce new copper and gold assay results from the seventh drill hole (CCDD007) of the Company's maiden program at the Cockie Creek Prospect. Cockie Creek is one of several porphyry copper-gold-molybdenum prospects within a newly recognised porphyry belt at the Company's 100%-owned Greenvale Project (**Fig. 1**).

The copper and gold assays from **CCDD007** in the western zone of Cockie Creek are of relatively high grade in terms of porphyry copper-gold-molybdenum deposits and duplicate the grades encountered in **CCDD003** drilled 70m north of **CCDD007**. Importantly, **CCDD007** successfully confirmed the down-dip extension of mineralisation in **CCDD003**, which terminated within Cu-Au mineralisation at 304m (End-of-Hole). The wide interval of Cu and Au mineralisation in **CCDD007** is approximately **three times the length** of the intervals encountered in the four drill holes in the eastern zone of Cockie Creek, although at lower overall average copper and gold grades[1].

Notably, the assays from **CCDD007** continue to confirm that the actual copper grades have consistently exceeded visual estimations of chalcopyrite mineralisation observed within the core.

Superior's Managing Director, Peter Hwang commented:

"The results of the maiden program at Cockie have been outstanding and highly notable, especially considering that only a few years ago a preserved porphyry belt was not known to exist in this part of Australia.

"With only the first seven holes of our maiden drilling program, we have confirmed the existence of a strongly mineralised porphyry system, that rather than being the historically understood 80 to 90 metre zone of copper mineralisation, is a rapidly expanding zone of porphyry mineralisation, so far identified, to about 450 metres depth.

"Even though the grades to date have been relatively high for peripheral wall rock mineralisation, we are expecting the core or cores of the system to be truly impressive.

"The historic IP geophysical survey highlights the mineralisation well and, consistent with the drilling, shows a significant expansion of the mineralised zone at depth and to the west. However, the survey covers only a very small area of the interpreted 3.5km x 2km Cockie Creek intrusive complex. So, we will be expediting a modern, prospect-wide IP survey to cover the entire complex.

"We are very much excited and looking forward to the next exploration programs on both Cockie Creek and Bottletree, each of which, have the potential to result in significant discoveries. We will also be planning a maiden program on a possible third porphyry, Wyandotte. In the meantime, we aim to provide further information on Cockie Creek from our interpretation of results and also Bottletree as assays are received from the lab."

The current program represents the first systematic drilling at Cockie Creek for over thirty years and the first to target the prospect as a porphyry system. The program as planned comprises 17 HQ diamond core holes for a total of 6,650m with the following objectives:

- target two high order induced polarisation (IP) chargeability anomalies directly below the Discovery Outcrop. The chargeability anomalies are interpreted to represent the upper zones of a mineralised Cu-Au-Mo porphyry core;
- target interpreted large intrusion centres west of the Discovery Outcrop; and
- establish a JORC (2012)-compliant upgraded Mineral Resource Estimate on the Discovery Outcrop.

Completed drilling to date comprises seven holes for a total of 2,773 metres of core.

[1] Refer to ASX announcement dated 11 December 2023

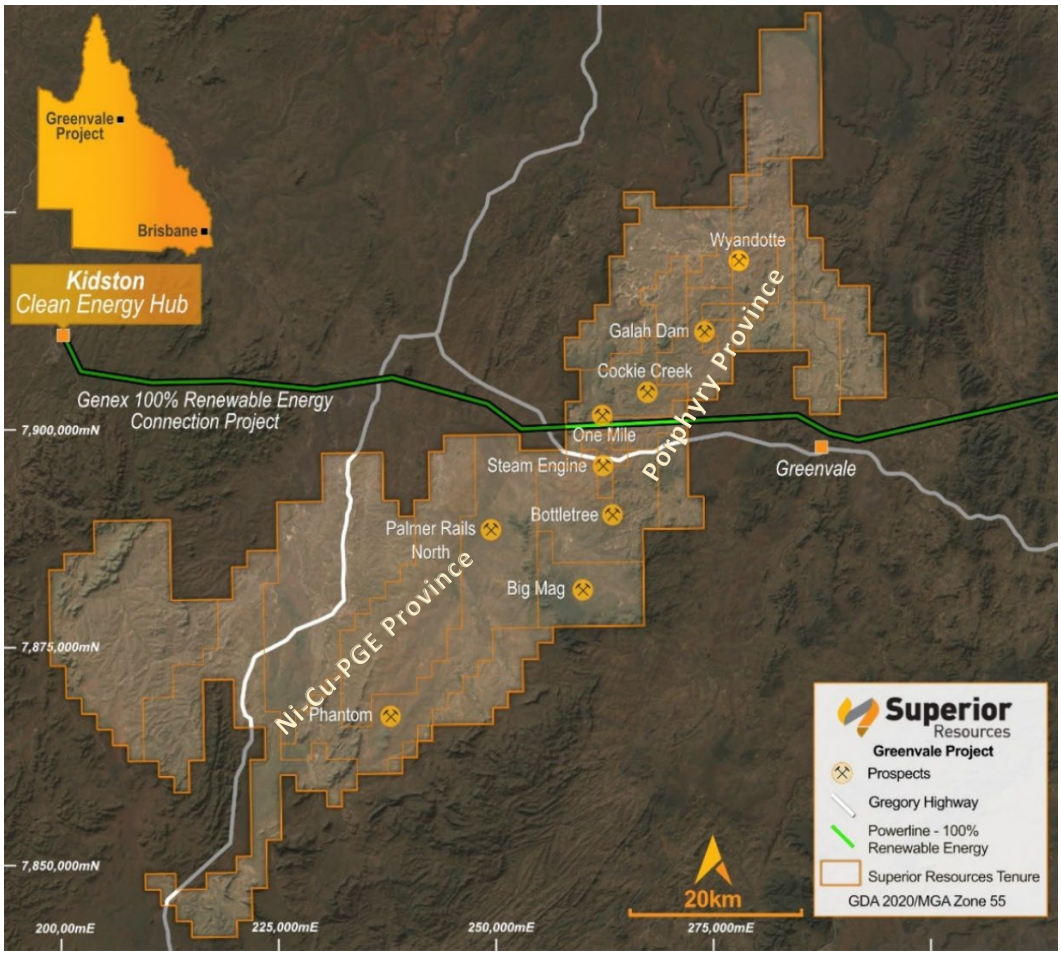


Figure 1. *Map showing the locations of the Greenvale Project tenements and select prospects. The Gregory Highway, Kidston Clean Energy Hub and associated power infrastructure corridor are also indicated.*

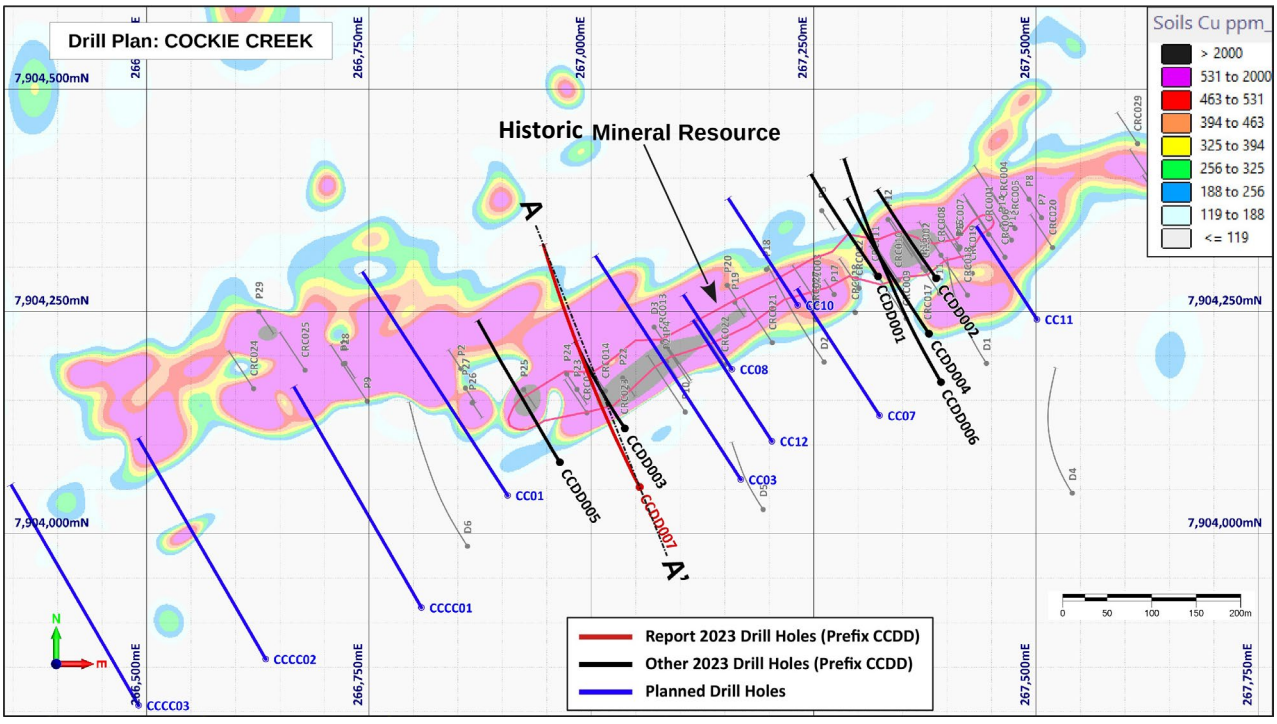


Figure 2. *Plan map of the Cockie Creek Discovery Outcrop area showing completed drill holes CCDD001 – CCDD007 (in black) with new assay data discussed in this release (in red), other 2023 drill holes reported in previous releases (in black), planned but not yet drilled holes (in blue) and historic drill holes (in grey) over gridded Cu soil geochemistry. Outline of historic Mineral Resource at surface and cross section A-A' is shown.*

Drill hole CCDD007

New complete assays for **CCDD007** reveal the longest interval of porphyry-style copper and gold mineralisation at Cockie Creek to date. **CCDD007** is 70m south of **CCDD003** and was drilled to 726m at the same dip and azimuth. It was designed to test the downdip extension of mineralisation encountered in **CCDD003** and probe for deeper mineralisation north of the historical copper zone exposed on surface. **CCDD007** intersected the same broad zone of copper-gold mineralisation that was identified in **CCDD003** with mineralisation ending at 496m. This new deeper zone of mineralisation in **CCDD007**, combined with the shallower zones in **CCDD003** and historic drill hole **CRC014,** reveal a continuous zone of copper and gold mineralisation from surface to a vertical depth of approximately 450m (**Table 1**) in the western area of Cockie Creek as shown in **Figure 3**.

The hole intersected a range of porphyritic intrusive rocks, which include quartz diorites, diorites and lesser tonalites that have intruded meta-andesites and related meta-volcanic rock units.

Table 1: CCDD007 intersections at various cutoffs

Hole ID		From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (ppm)
CCDD007		176	496	320	0.21	0.05	0.8	31
	Incl	225	496	271	0.24	0.05	0.7	36
	Incl	225	396	171	0.32	0.07	1	40
	Incl	225	294	69	0.52	0.1	1.6	69
	Incl	265	288	23	0.70	0.12	1.8	68
	Incl	265	278	13	0.89	0.13	2.1	79

INTERSECTION SUMMARY:

- **CCDD007 includes:**
  - **320m @ 0.21% Cu, 0.05 g/t Au** and **31 ppm Mo** from 176m (**CCDD007**)
    - incl. **271m @ 0.24 % Cu, 0.05 g/t Au** and **36 ppm Mo** from 225m
    - incl. **171m @ 0.32% Cu, 0.07g/t Au** and **40 ppm Mo** from 225m
    - incl. **69m @ 0.52% Cu, 0.10g/t Au** and **69ppm Mo** from 225m
    - incl. **23m @ 0.70% Cu, 0.12g/t Au** and **68ppm Mo** from 265m
    - incl. **13m @ 0.89% Cu, 0.13g/t Au** and **79 ppm Mo** from 265m

The interval of 320m @ 0.21% Cu and 0.05 g/t Au is the longest drilled at Cockie Creek to date and confirms the existence of significant porphyry-style copper-gold mineralisation to a vertical depth of approximately 450m in the western area of the prospect.

The higher-grade interval of **271m @ 0.24% Cu and 0.05g/t Au** in CCDD007 is comparable to the interval of **248m @ 0.28% Cu and 0.06 g/t Au** mineralisation in CCDD003 drilled 70m to the north (**Fig. 3**).

Other comparable shorter intervals in CCDD003 include:

- **248m @ 0.28% Cu, 0.06g/t Au** and **44ppm Mo** from 56m **(CCDD003**)
  - incl. **177m @ 0.35% Cu, 0.07g/t Au** and **52ppm Mo** from 57m
  - incl. **130m @ 0.41% Cu, 0.08g/t Au** and **49ppm Mo** from 57m
  - incl. **33m @ 0.68% Cu, 0.11g/t Au** and **56ppm Mo** from 130m
  - incl. **14m @ 0.91% Cu**, **0.12g/t Au and 79ppm Mo** from 140m.

It is significant that CCDD007 is well mineralised in meta-andesites below the main Cu-Au zone developed in the diorite and quartz diorite porphyries. This distribution of Cu-Au mineralisation in the footwall meta-andesites mimics that in CCDD003 and CCDD005 (**Figs. 3 and 4**). This is a notable difference from drill holes in the eastern zone of the prospect (CCDD002, CCDD004 and CCDD006) where mineralisation is well developed in the hanging wall meta-andesites above the main Cu-Au zone in the diorite and quartz diorite porphyries, but very restricted in the meta-andesites in the footwall below.

These new assay results indicate that the zone of Cu-Au mineralisation widens significantly from the eastern part of the historical Mineral Resource Estimate where intervals of comparable Cu-Au grade are 120m and 108m in CCDD004 and CCDD006, respectively[2]. The **increasing width** of the mineralised zone towards the west, and its transitional development in the footwall meta-andesites, indicates a **deepening** of the mineralising system. This is consistent with increased proximity to a high-temperature magmatic-hydrothermal system centred on a porphyry intrusion.

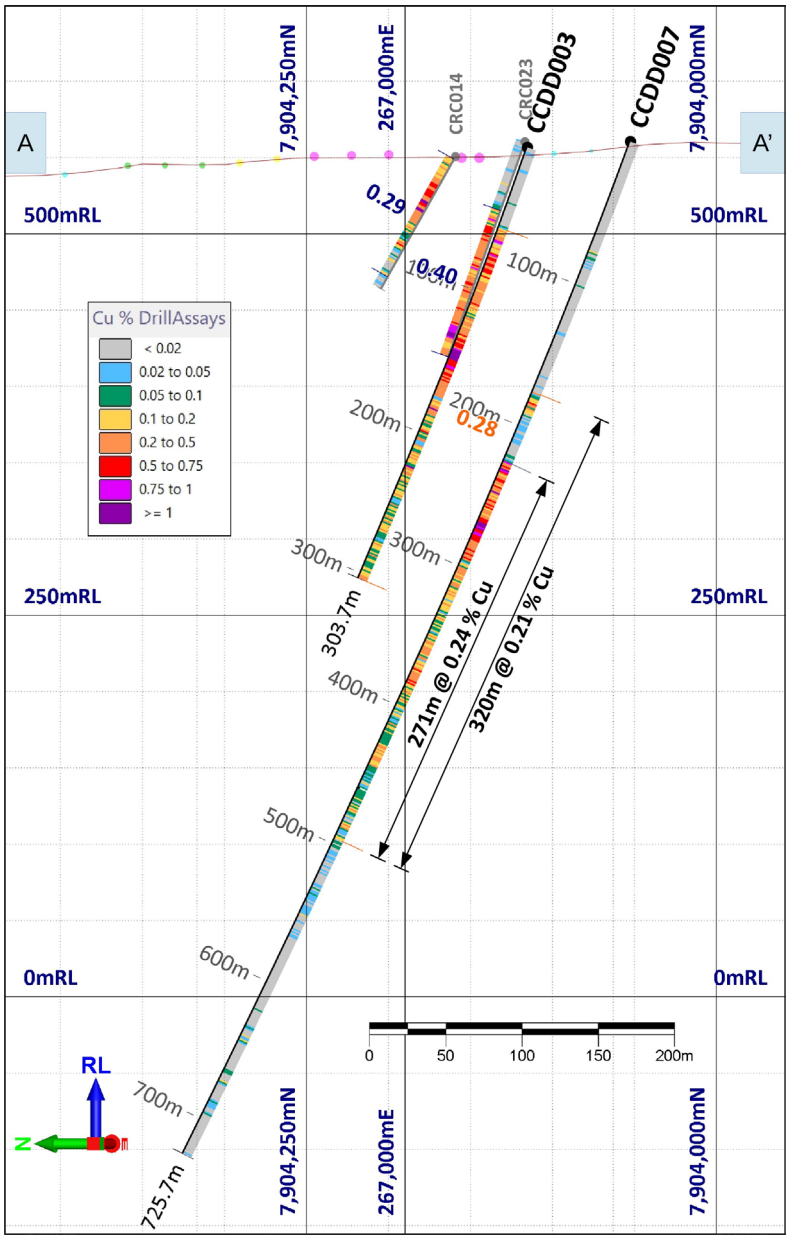


Figure 3: *Cross-section (+/- 20m) taken along A-A' (as shown in Figure 2) looking east-northeast showing CCDD007 and CCDD003 and historic CRC023 (twinned by CCDD003), and proximal historic drill hole CRC014. Down-hole copper assay values (1m intervals) are represented as grade categories.*

[2] Refer ASX announcement dated 11 December 2023

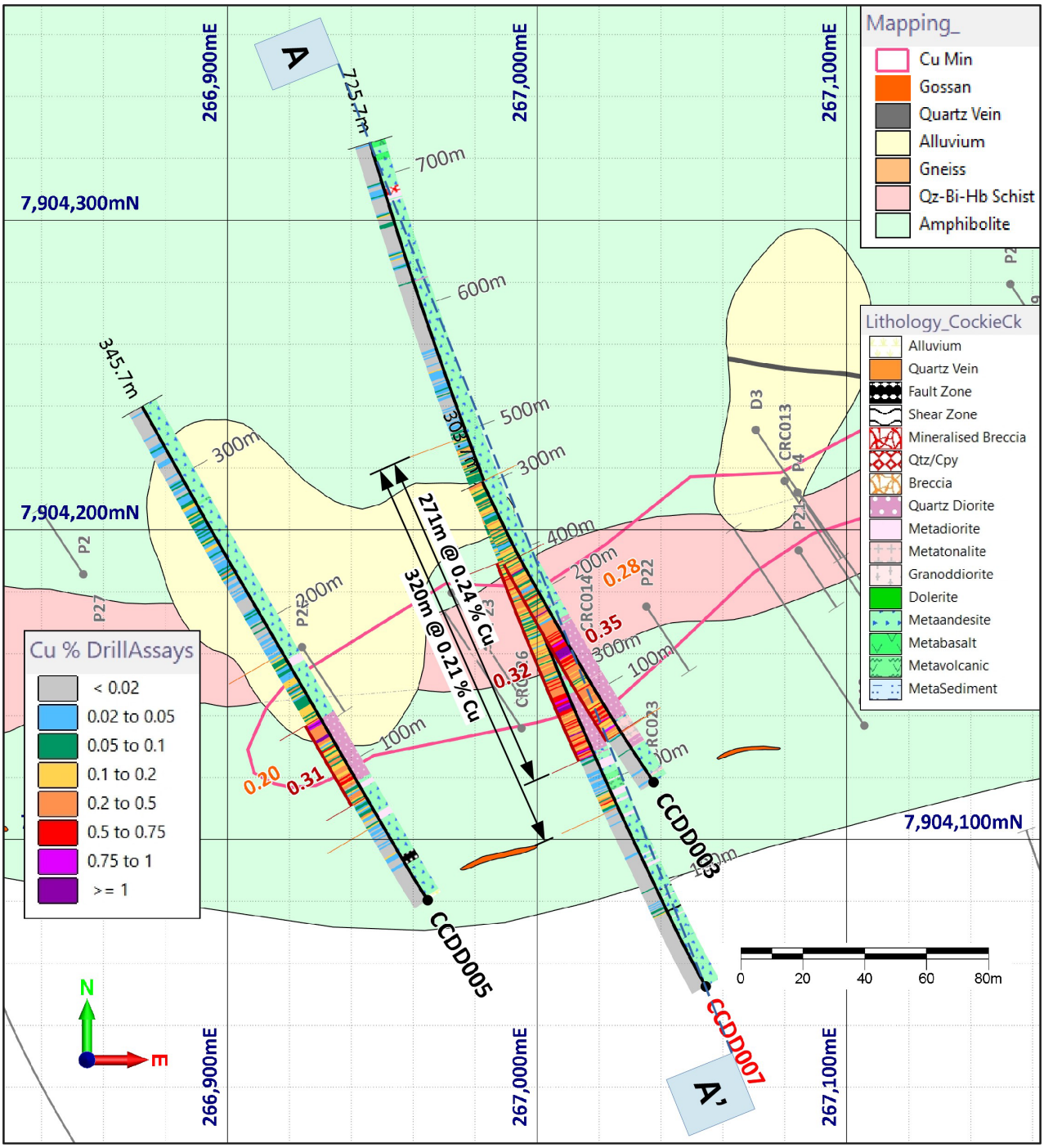


***Figure 4**. Plan geological map of Cockie Creek showing drill holes from the current program with new assay data (CCDD007 labelled in red) and lithologies from core logging. Note that all drill holes have long intersections with good Cu grades in footwall meta-andesites below the Cu-Au mineralised zone in the intrusive rocks. Down-hole copper assay values (1m intervals) are represented as grade categories.*

MINERALISATION AND IMPLICATIONS FOR COCKIE CREEK PORPHYRY GENESIS

Chalcopyrite mineralisation in the seven drill holes from the current program is predominantly confined within a strong foliation fabric developed within the porphyry intrusions and wall rock meta-andesite and related volcanic rocks. It is associated with pyrite, pyrrhotite and minor molybdenite. In addition to its occurrence as fine-grained disseminations in foliations, molybdenite may occur in quartz veins and appears to be preferentially associated with a late-stage sericite-epidote ± chlorite alteration event.

The reduced nature of the sulphide mineral assemblage (pyrrhotite-bearing) and associated hydrothermal alteration (absence of primary anhydrite, gypsum, and hematite) in both intrusions and meta-andesite and related meta-volcanic wall rocks is consistent with Cockie Creek forming from relatively reduced hydrothermal fluids from a reduced I-type arc magma with a weak magnetic character underlying the prospect.

The weak magnetic character of reduced I-type arc magmas is attributed to the predominance of primary, non-magnetic ilmenite over magnetite in contrast to oxidized I-type arc magmas. Consequently, the large magnetic low associated with the interpreted intrusive complex within which Cockie Creek is located (refer to **Figure 14**) is entirely consistent with a reduced porphyry model (e.g., Rowins, 2000)[3]. The Bottletree porphyry prospect is also located within a magnetic feature or domain that lacks rocks of high magnetic character.

ALTERATION AND STRUCTURE

The earliest stage of hydrothermal alteration identified in CCDD007 is moderate to intense **potassic** alteration, which is common to all seven drill holes in the current program. It is widespread and defined by flakes of fine-grained biotite in all intrusions and wall rock lithologies. Potassic alteration is associated with Cu-Au (Mo) mineralisation and is dominated by a sulphide mineral assemblage consisting of pyrite and chalcopyrite with lesser pyrrhotite and rare molybdenite.

Biotite flakes and sulphide minerals are aligned within a strong foliation fabric that imparts a pale brown colour to the rock. This foliation is very strongly developed in CCDD007 and it results in the rocks being mapped as quartz-biotite-hornblende schists on surface (**Fig. 4**). Recent drilling and petrographic studies, however, reveal that the schists are metamorphosed and deformed dioritic and tonalitic intrusions. The foliation in CCDD007 is also well developed in the other drill holes from the western part of the deposit. This suggests proximity to a property or regional-scale structure and detailed structural analysis is underway to better understand the structural controls on the Cu-Au (Mo) mineralisation at Cockie Creek.

This early stage potassic alteration is overprinted by widespread and intense **sodic-calcic** alteration, which is defined by dark green actinolite and milky white albite (**Fig. 5**). Pyrite, chalcopyrite and lesser pyrrhotite and molybdenite accompany **sodic-calcic** alteration. Sodic alteration is less well developed in CCDD007 and CCDD003 compared to calcic alteration. This differs from drill holes in the eastern part of the Cockie Creek deposit, where intense albite halos surround quartz-sulphide veins and are especially well-developed in zones of quartz vein stockworks with abundant “B veins”.

Figure 5. *Core from CCDD007 (555.5m). Example of the major alteration types at Cockie Creek. Pale brown biotite (potassic) alteration in foliated meta-andesite is the earliest stage of hydrothermal alteration. It is replaced by forest green actinolite and minor greyish white albite (sodic-calcic) alteration, which commonly forms selvages around smoky*

[3] Rowins, S.M., 2000. Geology, v. 28, p. 491-493

grey quartz veins. A later stage of alteration consisting of pale green chlorite-sericite ± epidote ± milky white carbonate preferentially replaces actinolite. The coarse lithological banding in the rock due to preferentially focussing of alteration fluids along pre-existing foliations.

A third stage of hydrothermal alteration consisting of chlorite-sericite ± epidote replaces hydrothermal biotite, actinolite and albite associated with the earlier stages of potassic and sodic-calcic alteration (**Fig. 6**). This late chlorite-sericite replacement is strongly developed in CCDD007 and is a widespread retrograde alteration event that imparts a pale green colour to the rocks. This finding contrasts with eastern part of the prospect where CCDD002, CCDD004 and CCDD006 display weak to moderate chlorite-sericite ± epidote alteration. Where present, it is typically focussed along narrow zones ranging from centimetres to tens of centimetres in width.

***Figure 6**. Core from CCDD007 (642m) showing a 20 cm wide zone of intense greenish yellow sericite-chlorite alteration replacing forest green actinolite-albite (sodic-calcic) alteration in meta-andesite. Note the brassy yellow disseminations of pyrite and chalcopyrite.*

PORPHYRY SYSTEM VEINS

The observed alteration types are directly associated with several varieties of quartz, pyrite, chalcopyrite and commonly pyrrhotite and molybdenite veins that typically range from millimetres to several centimetres in width. Most veins are partially deformed and recrystallised (**Fig. 7**) although discrete wall-rock parallel bands of chalcopyrite and pyrite are preserved in some quartz veins and indicate multiple open-space vein-filling events and extensional vein growth. These features are characteristic of "**B veins**" in porphyry-style deposits.

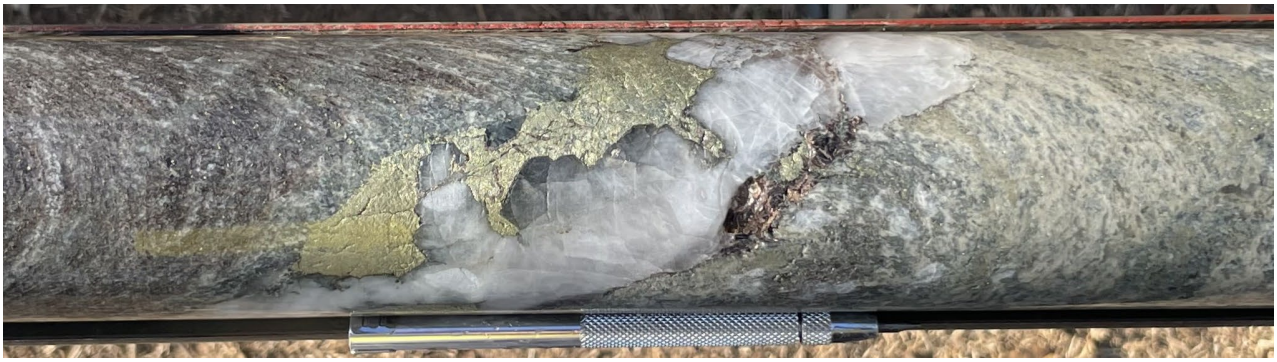


Figure 7. *Core from CCDD007 (269.4m) with a 10 cm wide quartz-pyrite-chalcopyrite-pyrrhotite vein with sharp but irregular edges in meta-diorite. This is a late-stage vein that crosscuts foliation and is associated with weak sodic-calcic alteration.*

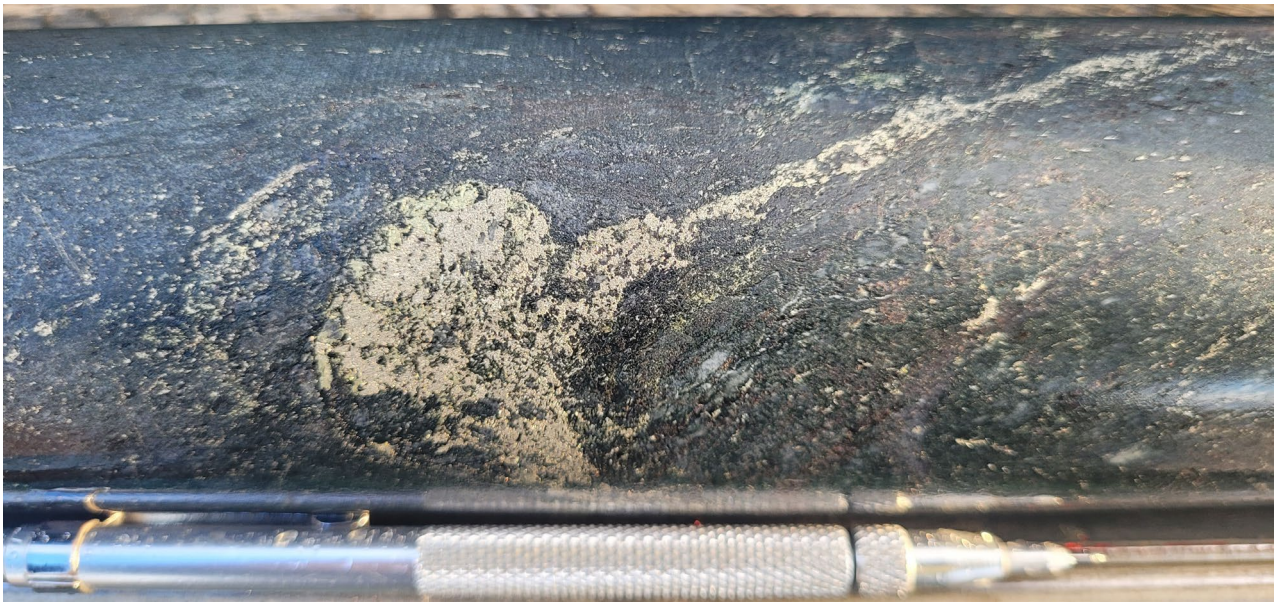


Figure 8. *Core from CCDD007 (434.6m) with narrow (5-15 mm wide) "stringer" veins of pyrite-chalcopyrite-pyrrhotite. Such features are characteristic of "D veins" in porphyry copper-gold-molybdenum deposits. The rock is a strongly foliated quartz diorite that has undergone intense potassic (biotite) and calcic-sodic (actinolite-albite) alteration.*

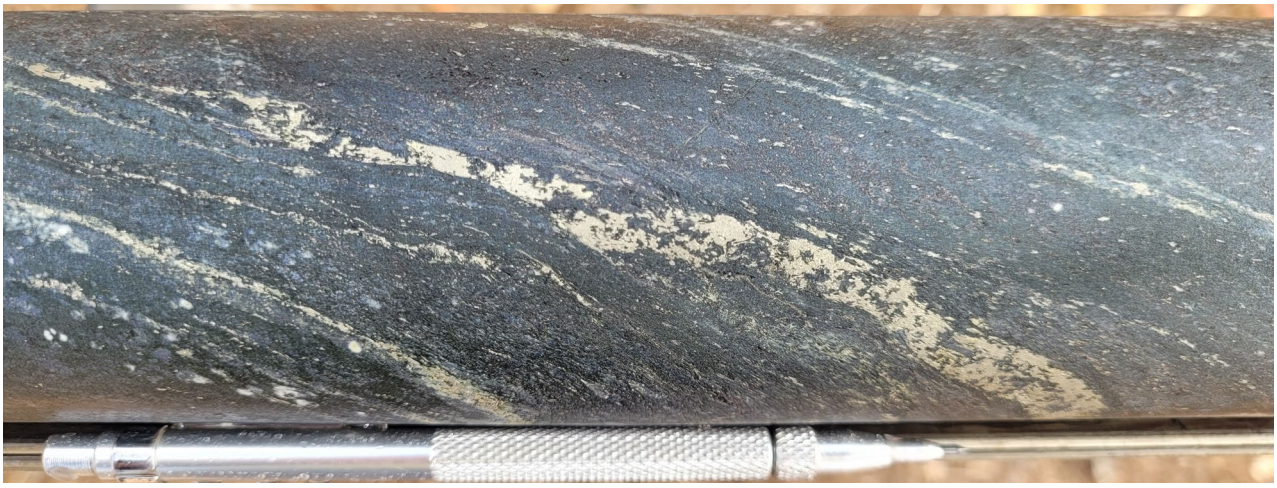


Figure 9. *Core from CCDD007 (436.5m) with a deformed 1 cm wide pyrite-chalcopyrite-pyrrhotite vein and numerous 1-5 mm wide sulphide "stringer" veins of pyrite-chalcopyrite-pyrrhotite in a strongly foliated quartz diorite that has undergone intense potassic (biotite) and calcic-sodic (actinolite-albite) alteration.*

Synopsis to date

- The interval of porphyry Cu-Au mineralisation in CCDD007 is the broadest drilled to date. It is approximately three times the length of the mineralised intervals in CCDD001, CCDD002, CCDD004 and CCDD006 in the eastern zone, although lower in overall average grade.
- New assay results from CCDD007 and CCDD003 reveal that the zone of Cu-Au mineralisation **widens significantly** in the western zone compared to the eastern zone of the historical Mineral Resource Estimate. The **increasing width** of the mineralised zone and its development in the footwall meta-andesites versus the hangingwall meta-andesites indicates a **deepening** of the mineralising system. This is consistent with approaching a cupola or "top" of a mineralised porphyry intrusion.
- Results for CCDD007 combined with CCDD003 and historic drill hole CRC014 reveal **a continuous zone of copper and gold** mineralisation from surface to a vertical depth of approximately 450m in the western zone.

- Assay results from CCDD007 are consistent with those in CCDD003 and CCDD005 and show that mineralisation in the western zone extends well into the andesitic wall-rocks below the main Cu-Au zone in the diorite, quartz diorite and lesser tonalite porphyries.
- Despite syn- and post-mineralisation deformation, many quartz-sulphide veins retain textural features consistent with formation in an open-space extensional environment and appear analogous to extensional "B veins" in porphyry systems. Similarly, the abundant narrow sulphide "stringer" veins and veinlets cutting the "B veins" are analogous to late stage "D veins" in porphyry deposits.
- Sulphide mineral assemblages, alteration styles, mineralisation grades and the presence of porphyry "B veins" and abundant late-stage "D veins" at Cockie Creek are all features typical of porphyry Cu-Au-Mo deposits.
- The reduced nature of the sulphide mineral assemblage (pyrrhotite-bearing) and associated hydrothermal alteration (absence of primary anhydrite, gypsum, and hematite) in the intrusions and wall-rocks suggest that Cockie Creek has formed from relatively reduced hydrothermal fluids. Such deposits are termed "Reduced Porphyry Copper-Gold" systems (Rowins, 2000) and the mineralogical differences from the more oxidizing porphyry systems requires a modified exploration targeting strategy. Specifically, there are differences with the magnetic properties of the mineralisation (i.e., only minor hydrothermal magnetite but abundant magnetic pyrrhotite), and displaced and expanded geochemical anomalies in soils due to the likelihood of enhanced vapour-phase transport of Cu and potentially Au from the magmatic source.
- The reduced nature of the hydrothermal fluids suggests that a relatively reduced I-type magma may be the source of the metalliferous fluids and the causative intrusion may have a weakly magnetic character. These intrusions are therefore exploration targets.
- The drilling program has been paused in order to further assess the available data and build a more robust geological model that incorporates the unusual features of a reduced porphyry copper-gold deposit in exploration targeting.

Western Extension Area

Analysis of core from the current drilling together with the geological and geophysical data has identified significant potential for the continuation of the main copper-mineralised zone westwards from the historical Mineral Resource. The continuation of the main copper zone (and consequently, the Mineral Resource) westwards, is evidenced in one western-most historical drill hole that intersected significant mineralisation at depth and strike of (but outside) the Mineral Resource. The mineralisation in this historical hole does not appear to reach the surface (i.e., a blind zone) and does not show a surface soil geochemistry expression (**Fig. 10**).

In addition, aerial magnetic data clearly highlights a continuation of the same structure on which the main copper zone is developed. The Western Extension Zone continues for at least one kilometre and lies adjacent and to the north of a large circular magnetic feature (**Fig. 11**).

3D modelling of IP chargeability data shows substantial broadening of a large high chargeability zone at the western end of the historical Mineral Resource (**Fig. 12**). The limits of the IP survey prematurely terminates the high chargeability zone at the western and eastern ends of the prospect area. A large-scale modern IP survey is being planned for the Cockie Creek prospect area and surrounds to cover most of the interpreted intrusive complex.

The mineralisation at Cockie Creek remains open in all directions and is surrounded by several significant magnetic features, potentially representing one or more mineralised Cu-Au porphyry system cores.

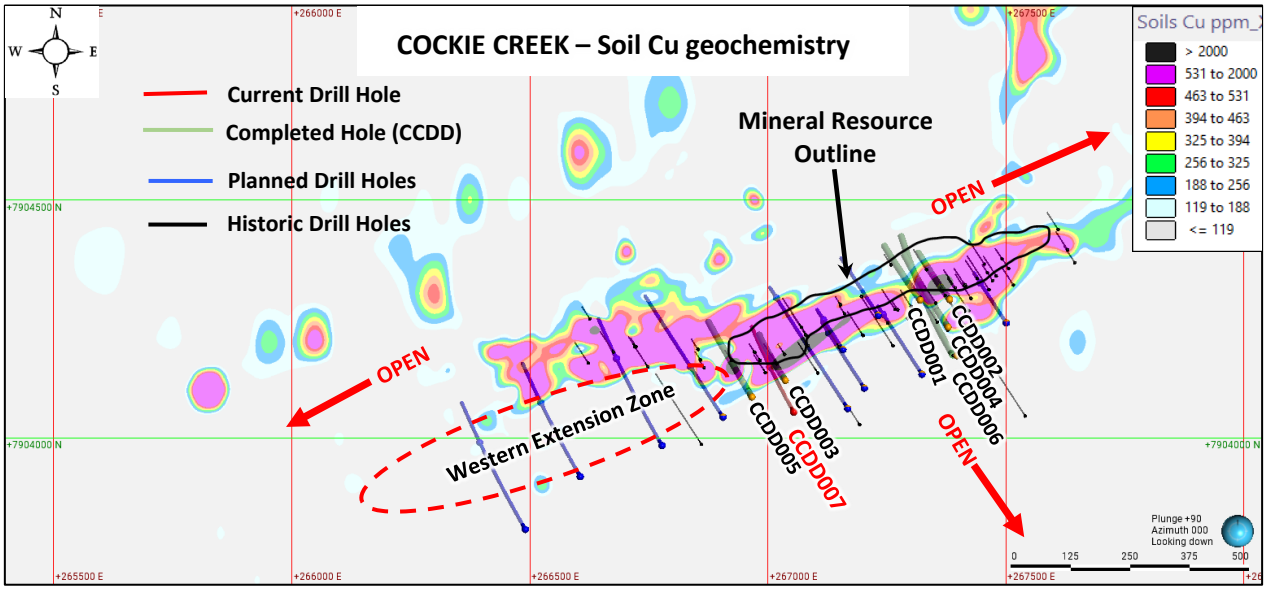


***Figure 10**. Gridded soil Cu geochemistry of the Cockie Creek area showing the Western Extension Zone, outline of historical Mineral Resource and current program drill holes.*

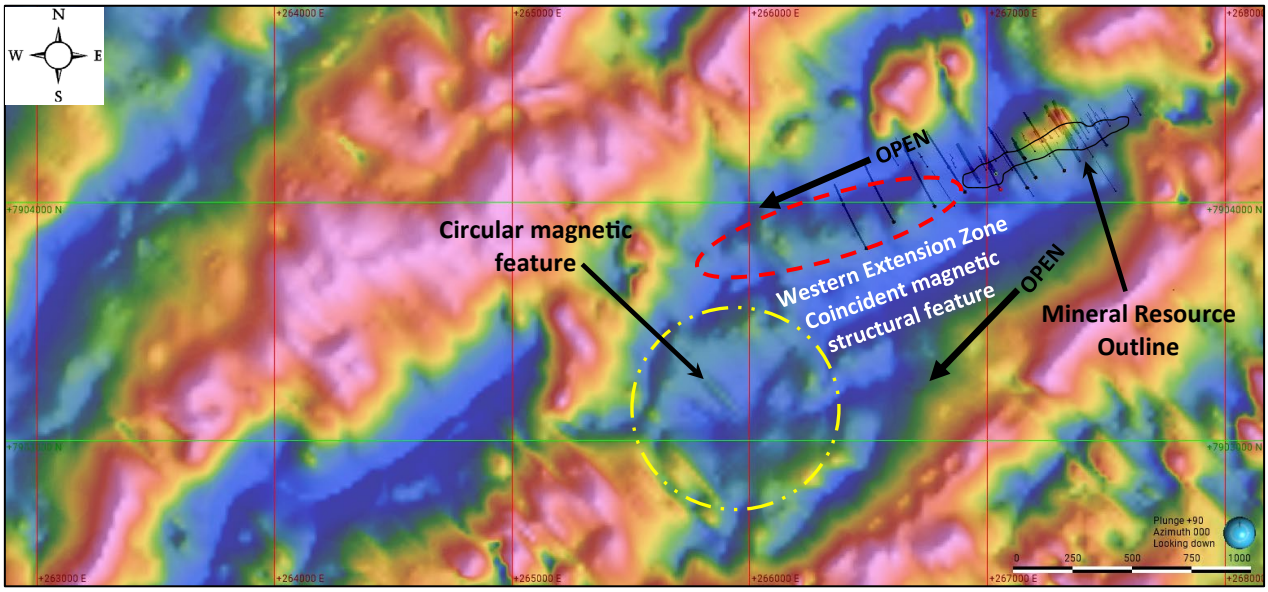


***Figure 11**. Aerial magnetic image (RTP) of the Cockie Creek regional area showing the outline of the historical Mineral Resource and the Western Extension Zone (red polygon) as supported by a linear series of magnetic features. A prominent large circular magnetic feature is located south of the Western Extension Zone (yellow circle).*

Background information on Cockie Creek

Extensive geological and geophysical modelling work has highlighted an exceptional target that has the potential to lead to the discovery of a large porphyry Co-Au-Mo mineralisation system (**Fig. 12**). The work also identified significant potential to expand the historic Mineral Resource Estimate of **13Mt @ 0.42% Cu** (0.25% Cu cut-off grade) (JORC 2004)[4], which was established over only about half of the known strike of mineralisation at surface and only to shallow depths (**Fig. 13**).

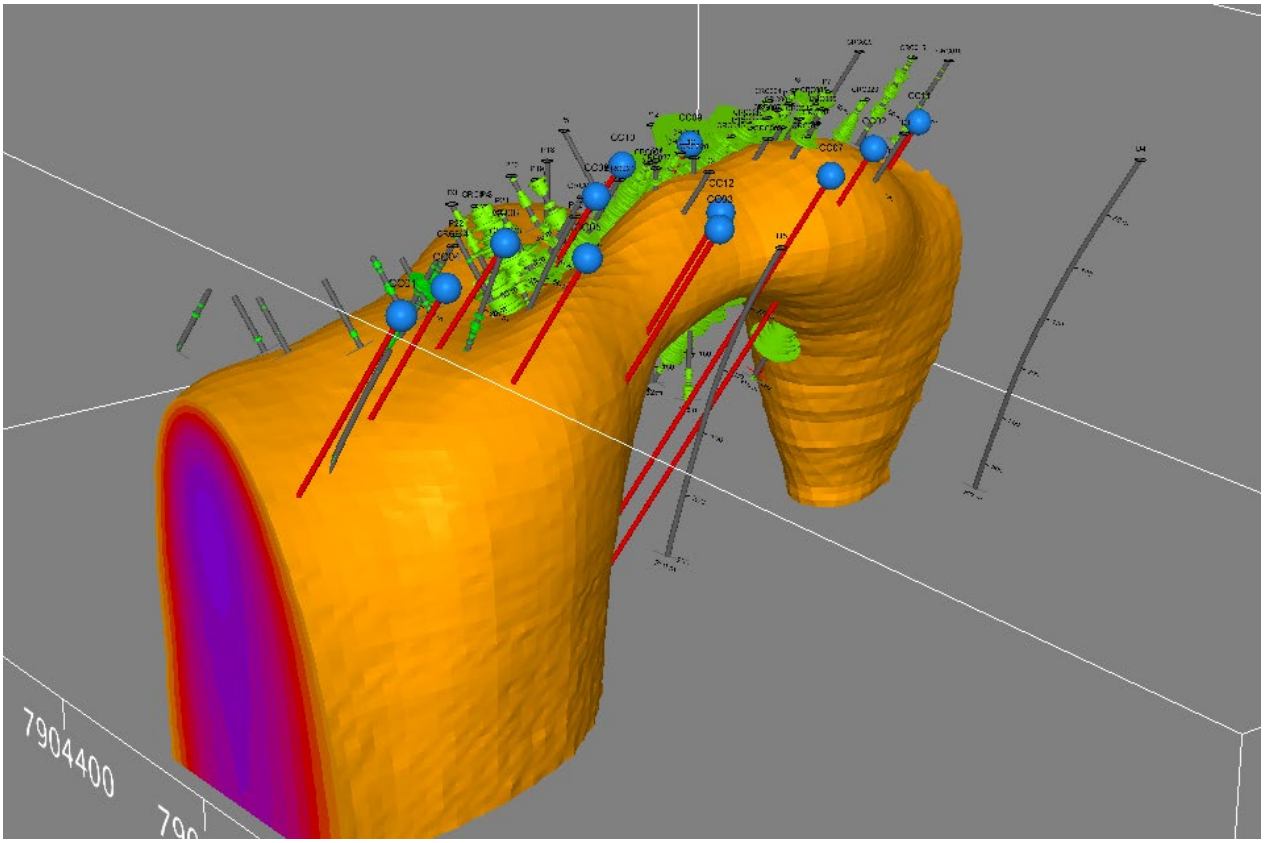


Figure 12. *3D IP chargeability model showing moderate to high chargeability zone. Historical drill holes (grey traces) and copper mineralisation (green) with 2023 planned drill holes in red. Viewed looking northeast.*

[4] Refer ASX announcement dated 27 March 2013.

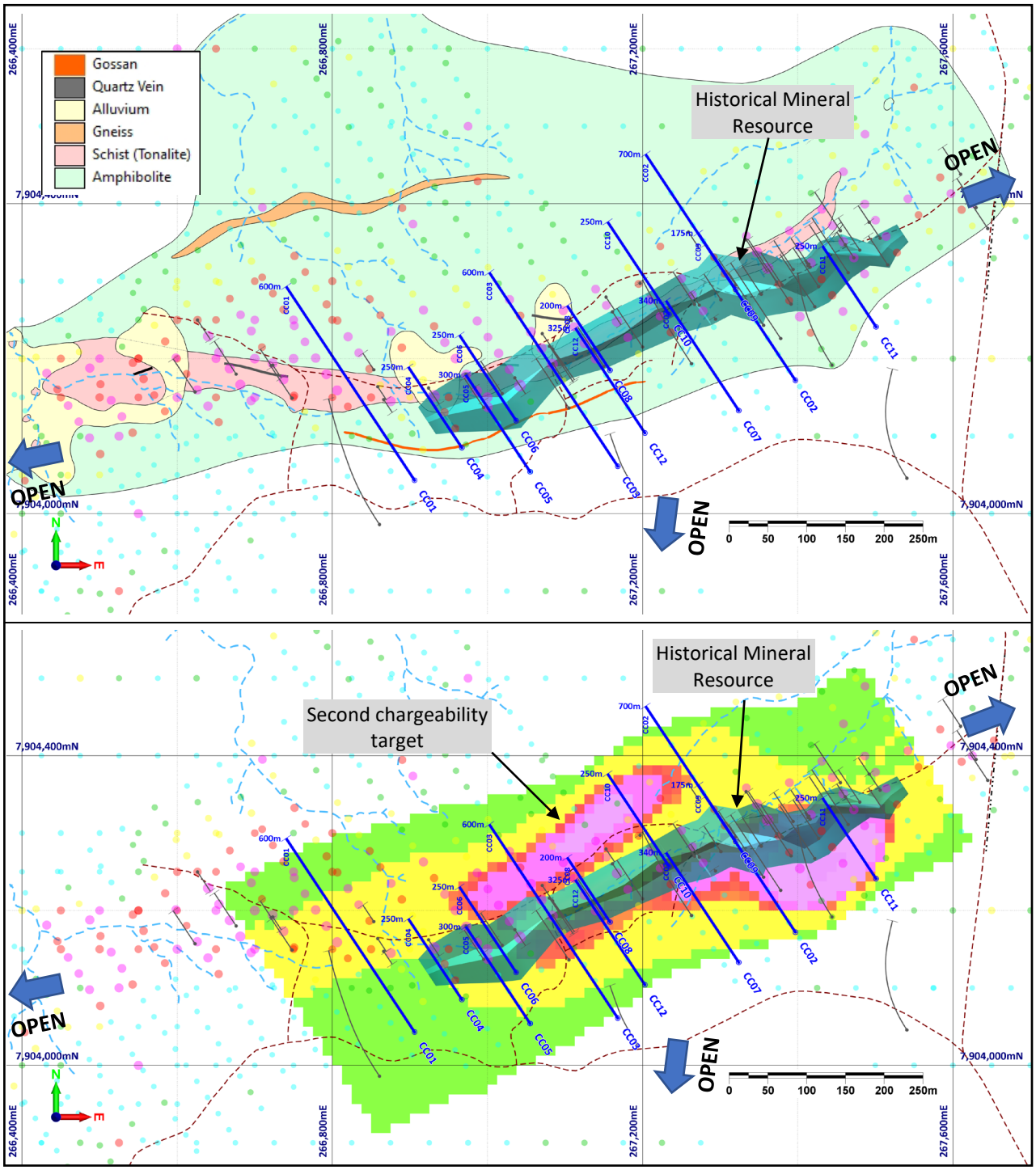


Figure 13. *Plan views of Cockie Creek Prospect surface geology (top) and IP chargeability data (bottom). Gridded soil copper geochemistry, planned drill holes (blue traces) and wireframe of the historical Mineral Resource are shown in each plan.*

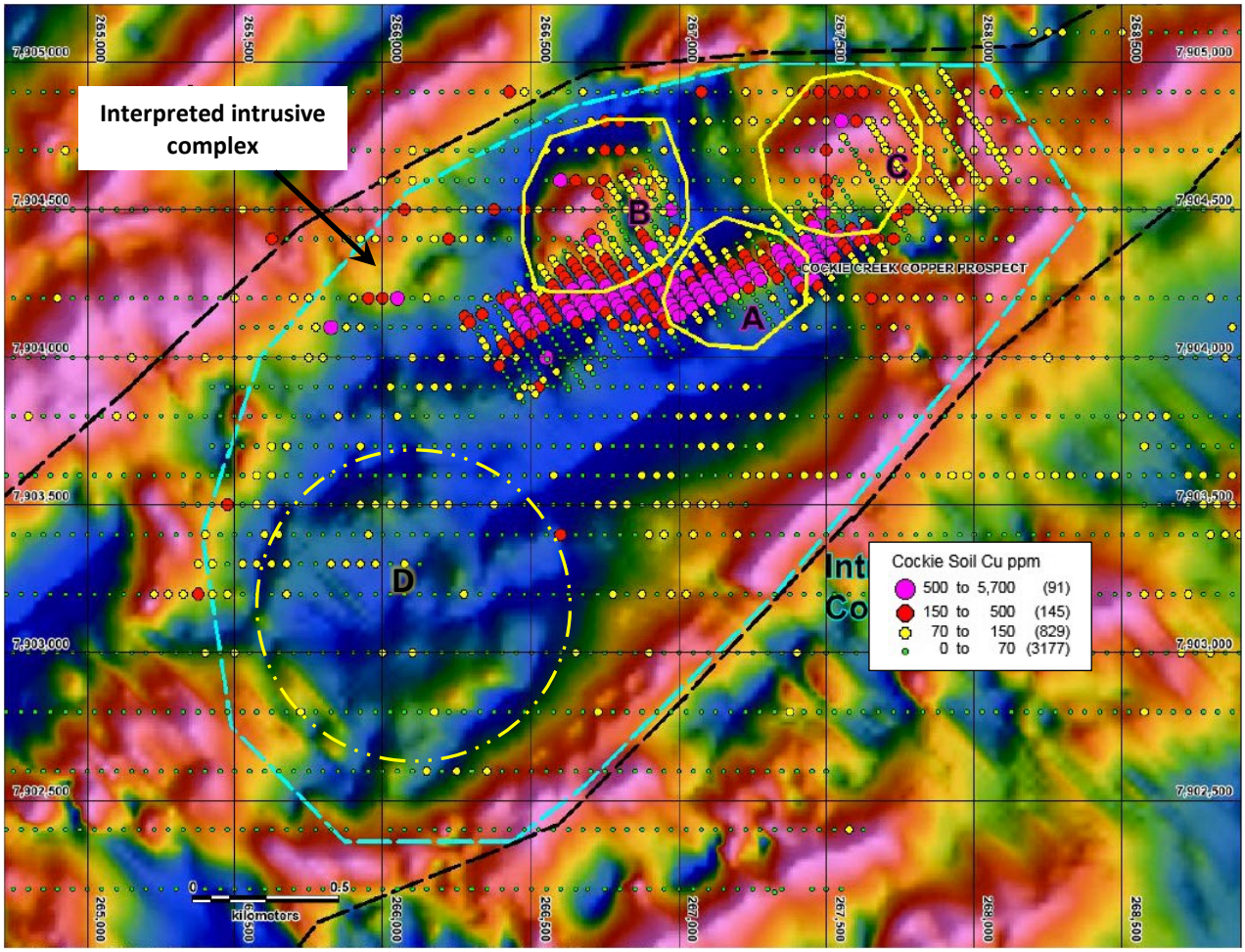


***Figure 14**. Cockie Creek thematic Cu soil data and interpreted porphyries on TDr VI NSSF processed airborne magnetics data, showing interpreted porphyry intrusions (A to D) within an interpreted intrusive complex.*

PORPHYRY Cu-Au-Mo TARGET AT COCKIE

Cockie Creek is characterised by a tabular zone of disseminated copper-gold-molybdenum mineralisation that crops out at surface and extends for over 1.2 kilometres in strike length with a true width of up to 60 metres. The mineralisation shows good continuity and has only been drilled to shallow depths (**Figs. 13 and 14**).

Directly beneath the mineralisation lies a strong IP chargeability anomaly that has not been adequately drilled. Recent geophysical modelling indicates that a second chargeability anomaly lies to the west of and parallel to the main anomaly. The western anomaly has not previously been drilled.

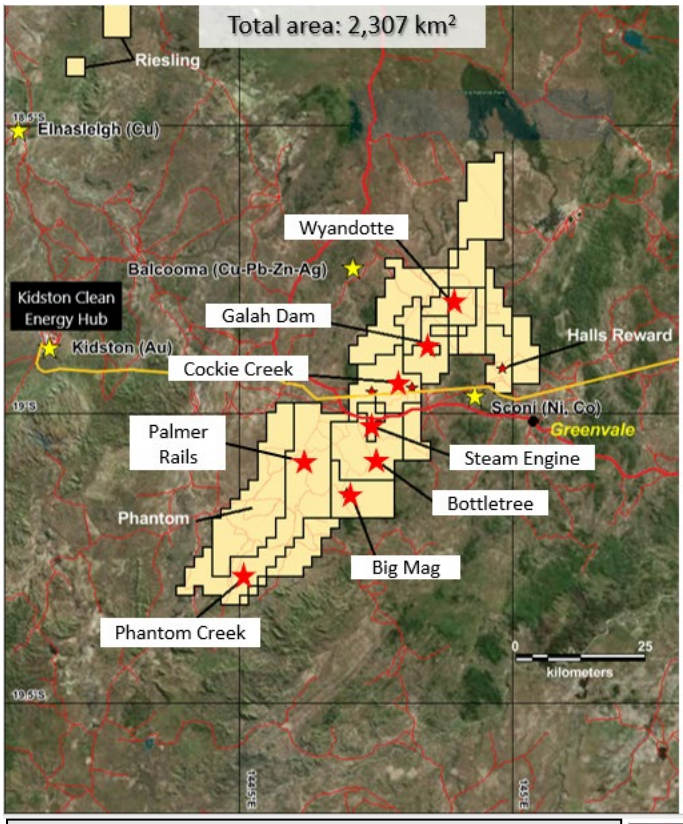
The main target at Cockie Creek is one or more deeper porphyry cores that are likely to be the source of the copper mineralisation. The mineralisation identified by the historic drilling potentially represents leakage into the wall rocks of a nearby mineralised porphyry system.

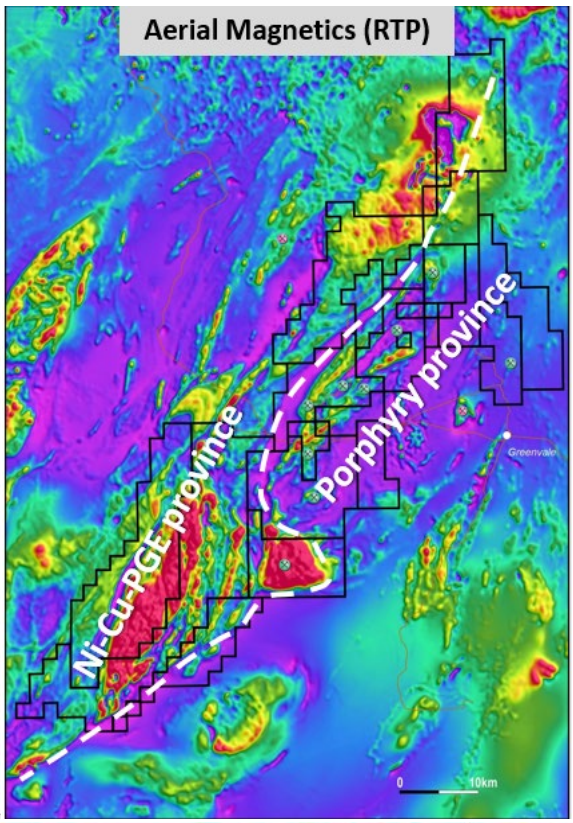
As appears to be the case at Bottletree, the likely wall rock-hosted mineralisation at Cockie Creek represents a potentially significant outcropping copper resource. **Copper grades are relatively high in porphyry deposit terms with historic results indicating increasing grades at depth (Table 2). In addition, a significant zone of gold (3m @ 9.0 g/t Au from 80m) in historic hole CRC003 was returned just short of the western chargeable zone**.

Table 2. Cockie Creek Copper Prospect - Selected drillhole intersections from historical data.

Hole	EastMGA	NorthMGA	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Mo (ppm)
CRC002	267380	7904295	0	68	**68**	**0.74**	0.12	92
CRC003	267267	7904270	80	83	**3**		**9.0**	
CRC009	267356	7904243	66	163	**97**	**0.48**	0.07	114
CRC010	267353	7904283	11	85	**74**	**0.42**	0.08	78
CRC011	267320	7904295	1	80	**79**	**0.45**	0.06	76
CRC014	267019	7904155	15	56	**41**	**0.50**	0.10	48
CRC017	267378	7904226	121	215	**94**	**0.53**	0.08	99
CRC023	267037	7904120	53	141	**88**	**0.43**	0.06	49
CRC026	266995	7904137	11	84	**73**	**0.44**	0.05	22
D1	267448	7904183	180	216	**36**	**0.57**	0.10	28
D3	267075	7904227	56	104	**48**	**0.48**	0.10	94
P11	267403	7904244	50	108	**58**	**0.64**	0.07	-
P12	267339	7904345	50	100	**50**	**0.44**	0.07	-
P16	267370	7904307	0	40	**40**	**0.75**	0.13	-

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

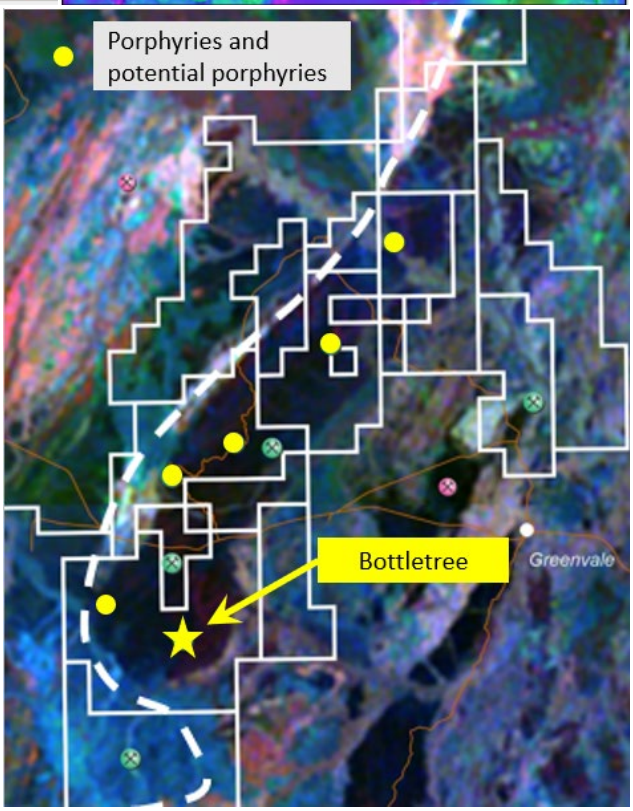




Superior has long recognised the copper potential within the Lucky Creek Corridor. However, recent exploration drilling at Bottletree, coupled with regional geological investigations over several years has enabled the characterisation of the Lucky Creek Corridor as a fossil island arc porphyry province,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

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

Juxtaposed against the Greenvale Porphyry Province is a second province formed by a completely different geological genesis model. Originally formed at a much deeper crustal level, the Greenvale Magmatic Nickel-Copper-PGE Sulphide Province has been technically proven in terms of the presence of such mineralising systems. However, the province remains practically unexplored.
Superior enjoys a first mover advantage over the entire province, which presents as one of the best sulphide Ni-Cu-PGE propositions in Australia.



About Superior Resources

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large 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: *The information in this report as it relates to exploration results and geology was compiled by Dr Stephen Rowins, an employee of Superior Resources Limited. Dr Rowins 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'. Dr Rowins consents to the inclusion in the 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 or Mineral Resources, 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.*

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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APPENDIX 1

Reported drill hole collar details

Hole ID	Easting (m)	Northing (m)	RL (m)	Depth (m)	Dip°	Azimuth°
CCDD001	267320	7904289	542	254.2	-60	327
CCDD002	267382	7904290	543	227.4	-60	327
CCDD003	267037	7904120	560	303.6	-70	327
CCDD004	267379	7904232	552	284.3	-60	327
CCDD005	266967	7904085	552	345.7	-60	327
CCDD006	267389	7904173	552	575.6	-65	330
CCDD007	267055	7904054	563	725.7	-70	331

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.*	• Drilling from surface comprised HQ diameter diamond core drilling to end of hole. • Diamond core samples will be 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. • 1m representative samples will be assayed for base metals, gold, silver and other elements at SGS laboratories in Townsville. • Assaying for gold will be via fire assay of a 50-gram charge. • Sample preparation at SGS 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 diamond drilling techniques. • Drilling was conducted by Deepcore Drilling Pty Ltd using a Crawler Mounted Boart Longyear LM90 Drill Rig with Rod Handler and a Crawler Mounted Boart Longyear LF130 Drill Rig with Rod Handler. • 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 Superior's contractors. • The volume of sample collected for assay is considered to be representative of each 1m interval. • 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 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. • 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 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.*	• The sample collection methodology is considered appropriate for diamond drilling and will be conducted in accordance with standard industry practice. • Diamond drill core will be 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 are instigated such that they conform to mineral industry standards and are compliant with the JORC code.

Criteria	JORC Code explanation	Commentary
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• (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 will include 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, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All samples are submitted to SGS laboratories in Townsville for gold and multi-element analysis. • Samples are crushed, pulverised to ensure a minimum of 85% pulp material passing through 75 microns, then analysed for gold by fire assay method GO FAA50V10 using a 50-gram sample. • Multi-element analyses are conducted using a four acid digestion followed by an ICP-OES/MS finish for the following 31 elements: Ag, Al, As, Ba, Ca, Ce, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sn, Sr, Ti, U, V, W, and Zn. • Certified gold, multi-element standards and blanks are included in the samples submitted to the laboratory for QA/QC. • Additionally, SGS use 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.*	• Some holes described in this report are holes that twin historical holes for the purpose of verification of historical assay results. • Logs were recorded by 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.

Criteria	JORC Code explanation	Commentary
		• 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 will be 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 that is compliant with JORC (2012).
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.*	• 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. • No orientation sample bias has been identified at this stage.
Sample security	• *The measures taken to ensure sample security.*	• Samples are delivered directly to the SGS assay laboratory in Townsville by Superior's contractors. • Sample security measures within the SGS 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 Cockie Creek Prospect lie within Exploration Permit for Minerals 18987, 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 historical drilling reported in this report has been completed and reported in accordance with the current regulatory regime. • Previous work on the prospect has been completed by MIM and Beacon Minerals Ltd. • Soil geochemical survey data compiled by MIM was used in this report for the purpose of part characterising the Cockie Creek mineralisation. • 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 Cockie Creek Prospect is hosted in a quartz-biotite-hornblende schist unit enclosed within a metamorphosed basic volcanics sequence. • Mineralisation style is disseminated and vein sulphide of probable intrusion-related hydrothermal origin. • On the basis of observations made in holes CCDD001 to CCDD007, mineralisation at the Cockie Creek 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*
		• A drill hole collar table is included in Appendix 1 to this report.

Criteria	JORC Code explanation	Commentary
	○ *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.*	
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 will be reported as a length weighted average of all assays. • No metal equivalent values are planned to be reported.
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.
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.*	• Significant intersections have been included within the 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*	• 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.

Criteria	JORC Code explanation	Commentary
	results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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: • Commence a Phase 2 drilling program at Cockie Creek; • Conduct a prospect-scale IP geophysical survey; • Conduct an "ultra-fine" soil geochemistry survey; and • Conduct regional geological mapping.