Superior Resources

ASX Announcement

11 December 2023

New assay results significantly expand the zone of strong porphyry Cu and Au mineralisation at Cockie Creek

HIGHLIGHTS:

- **Cockie Creek drill holes CCDD004 and CCDD006 identify broad widths of higher grade porphyry copper and gold mineralisation at deeper levels in the eastern part of the Cockie Creek deposit.**
- **CCDD004 includes:**
  - **120m @ 0.45% Cu, 0.09g/t Au** and **126ppm Mo** from 92m (**CCDD004**)
    - incl. **62m @ 0.60% Cu, 0.10g/t Au** and **190ppm Mo** from 127m
    - incl. **21m @ 0.78% Cu, 0.17g/t Au** and **461ppm Mo** from 164m
- **CCDD006 includes:**
  - **108m @ 0.40% Cu, 0.09g/t Au** and **104ppm Mo** from 204m (**CCDD006**)
    - incl. **80m @ 0.49% Cu, 0.11g/t Au** and **137ppm Mo** from 228m
    - incl. **60m @ 0.55% Cu, 0.13g/t Au** and **168ppm Mo** from 241m
    - incl. **36m @ 0.64% Cu, 0.14g/t Au** and **224ppm Mo** from 242m
- **Drill hole CCDD005 was drilled in the western-most part of the historic Mineral Resource area and returned a broad interval of porphyry copper and gold mineralisation of lower grade and shorter length than that drilled in CCDD003, collared about 100m east of CCDD005**.
- **CCDD005 includes:**
  - **120m @ 0.20% Cu, 0.03g/t Au** and **17ppm Mo** from 58m (**CCDD005**)
    - incl. **57m @ 0.31% Cu, 0.03g/t Au** and **24ppm Mo** from 76m
    - incl. **19m @ 0.50% Cu, 0.05g/t Au** and **22ppm Mo** from 113m
- **The new assays confirm the significant widths of the near-surface eastern copper zone drilled in CCDD001 and CCDD002 and the relatively higher copper and gold grades associated with the porphyry-style mineralisation. This drilling further supports the existence of a large porphyry-style system at Cockie Creek**
- **Sulphide mineral assemblages, alteration styles, mineralisation grades and the presence of abundant porphyry "B veins" and late-stage "D veins" at Cockie Creek are all features typical of porphyry Cu-Au-Mo deposits**
- **Assay results from CCDD005 confirm the finding in CCDD003 that mineralisation in the western zone extends further into the andesitic wall-rocks below the main Cu-Au zone in the diorite, quartz diorite and lesser tonalite porphyries compared to the eastern zone (CCDD001, CCDD002, CCDD004 and CCDD006)**
- **Results for CCDD007 are pending but they will test the depth of Cu-Au mineralisation in the western part of the Cockie Creek deposit where CCDD003 terminated in mineralisation at 303.7m EOH and returned the longest interval of mineralisation (248m @ 0.28% Cu from 56m)**
- **Results from the new drill holes increase the potential for the discovery of a large porphyry Cu-Au-Mo mineralisation system**

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Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) is pleased to announce new copper and gold assay results from the fourth, fifth and sixth holes drilled (**CCDD004, CCDD005, CCDD006**) under the Company's maiden program at the Cockie Creek Prospect. Cockie Creek is one of several porphyry copper-gold-molybdenum prospects within the Company's 100%-owned Greenvale Project (**Fig. 1**).

Assays for holes **CCDD004**, **CCDD005** and **CCDD006** are reported together in this announcement as a result of unexpected disorderly programming of operations at the laboratory.

The copper and gold assays from **CCDD004** and **CCDD006** (eastern zone) are of relatively high grade in terms of porphyry copper-gold-molybdenum deposits and confirm the grades encountered in nearby historical drill holes. The assays for **CCDD005** (western zone) are slightly lower than those in **CCDD004** and **CCDD006** but still define an interval of significant Cu and Au mineralization consistent with those encountered in the first (**CCDD001**) and second (**CCDD002**) drill holes of the program[1].

In particular, the assays 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:

"With each batch of assays, I keep repeating that Cockie has far exceeded the high expectations that we had set prior to commencing this maiden drilling program.

"Although at this stage grades are not determinative of the overall potential of the system, particularly as we have only reported on six holes, it is nevertheless, particularly exciting to consistently see the high grades together with the unexpectedly broad intervals of mineralisation.

"The new results for the third, fourth and fifth holes in the program are a highly positive development as we are now beginning to see a very solid and rapid expansion of the mineralised zone at shallow levels, reinforcing the real potential for a large system at Cockie. Certainly, a relatively shallow and rapidly expanded system has for many years, been our most optimistic view based on our early IP chargeability models.

"Cockie is certainly a most interesting porphyry prospect and one that is consistently indicating that the core of the system is expected to be very rewarding. We are eagerly looking forward to receiving assays for the remaining hole."

The current program represents the first systematic drilling at Cockie 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 announcements dated 25 September 2023 and 16 October 2023.

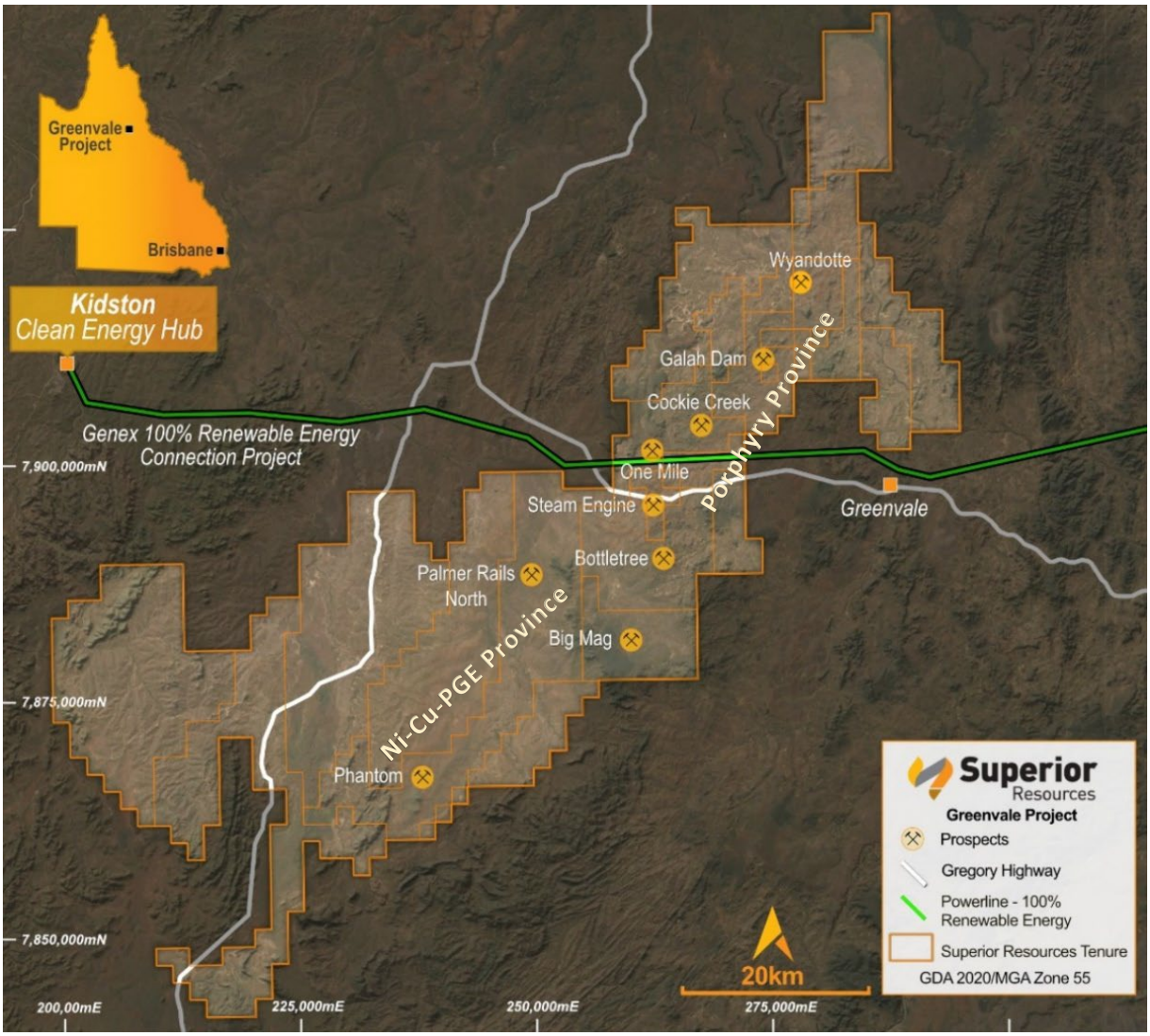


***Figure 1**. Map showing the locations of the Greenvale Project tenements and select prospects. The Gregory Highway, Kidston Clean Energy Hub and associated power infrastructure corridor are also indicated.*

Drill hole CCDD004

New complete assays for **CCDD004** reveal a long interval of porphyry-style copper and gold mineralisation at Cockie Creek (Table 1). **CCDD004** was drilled approximately 40 m west of **CCDD002** to validate historical drilling in the eastern part of the historic Mineral Resource Estimate (JORC 2004)[2] that was established over only about half of the known strike of mineralisation at surface and only to shallow depths as outlined in **Figure 2**. The broad zone of Cu-Au mineralisation intersected in CCDD004 closely duplicates the results from the historic drill hole CRC017 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 units.

[2] Refer to ASX announcement dated 27 March 2013.

Table 1: CCDD004 intersections at various cutoffs

Hole ID		From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (ppm)
CCDD004		**92**	**212**	**120**	**0.45**	**0.09**	**1.4**	**126**
	Incl	127	189	62	0.60	0.10	1.7	190
	Incl	164	185	21	0.78	0.17	2.0	461

INTERSECTION SUMMARY:

- **120m @ 0.45% Cu, 0.09g/t Au** and **126ppm Mo** from 92m (**CCDD004**)
  - incl. **62m @ 0.60% Cu, 0.10g/t Au** and **190ppm Mo** from 127m
  - incl. **21m @ 0.78% Cu, 0.17g/t Au** and **461ppm Mo** from 164m

The wide interval of 120m @ 0.45% Cu and 0.09g/t Au in CCDD004 is comparable to the interval width of 117m @ 0.52% Cu and 0.11g/t Au mineralisation from CCDD002 drilled 40m to the east, and also historic drill hole CRC017 with 111m @ 0.48% Cu from 104m downhole (**Fig. 3**).

Shorter intervals of higher grade Cu and Au including 62m @ 0.60% Cu and 0.10g/t Au and 21 m @ 0.78% Cu and 0.17g/t Au (**Table 1**) are also comparable to those encountered in CCDD002[3].

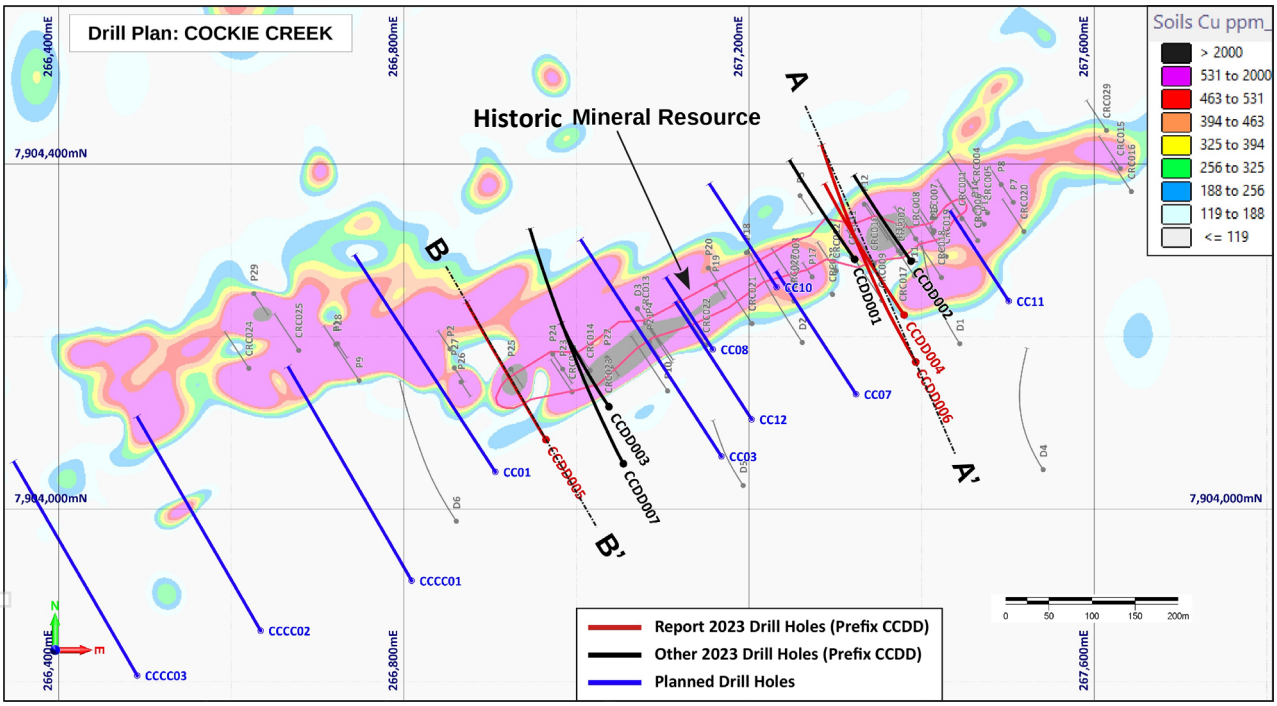


***Figure 2**. Plan map of the Cockie Creek Discovery Outcrop area showing completed drill holes (CCDD004, CCDD005, and CCDD006) with new assay data discussed in this release (in red), other 2023 drill holes reported in previous releases (in black), planned but not yet drilled holes (in blue) and historic drill holes (in grey) over gridded Cu soil geochemistry. Outline of historic Mineral Resource at surface and cross sections A-A' and B-B' are shown.*

It is significant that CCDD004 is well mineralised in the meta-andesites above (hangingwall) the main Cu-Au zone in the diorite and quartz diorite porphyries, but is poorly mineralised in the meta-andesites in the footwall below (**Fig. 4**). This mineralisation characteristic is consistent with other drilling in the eastern part of the Cockie Creek mineral resource where CCDD001, CCDD002 and CCDD006 (this release) also display long intervals of strong Cu-Au mineralization in the hangingwall meta-andesites. This is a notable difference

[3] Refer to ASX announcement dated 16 October 2023 for further details regarding CCDD002.

from the westerly part of the mineral resource where Cu-Au mineralization in CCDD003 and CCDD005 is very restricted in the hangingwall, but well developed in the footwall meta-andesites below the main Cu-Au zone in the diorites (refer to **Figure 4** in ASX release November 6 2023).

Drill hole CCDD005

New complete assays for **CCDD005** reveal a long interval of porphyry-style Cu-Au mineralisation at Cockie Creek (Table 2). **CCDD005** was drilled approximately 80 m west of **CCDD003** to test the most easterly part of the historic Mineral Resource Estimate (JORC 2004)[4] as outlined in **Figure 2**. The broad zone of Cu-Au mineralisation intersected in CCDD005, however, is smaller in width and lower in overall grade compared to CCDD003 (**Fig. 6**). Complete assay data for CCDD007 (725.7 m length) are pending but it will provide important information for estimating the potential dimensions and grades of mineralisation expected at depth in the eastern part of the Cockie Creek historic Mineral Resource Estimate. The drill hole trace of CCDD007 is shown in **Figure 6** for reference.

Porphyritic intrusive rocks encountered in CCDD005 include quartz diorites, diorites and lesser tonalites. They are emplaced into meta-andesites and related meta-volcanic units.

Table 2: CCDD005 intersections at various cutoffs

Hole ID		From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (ppm)
CDD0005		**58**	**178**	**120**	**0.20**	**0.03**	**0.7**	**17**
	Incl	76	133	57	0.31	0.03	1.2	24
	Incl	113	132	19	0.50	0.05	1.4	22

INTERSECTION SUMMARY:

- **120m @ 0.20% Cu, 0.03g/t Au** and **17ppm Mo** from 58m (CCDD005)
  - incl. **57m @ 0.31% Cu, 0.03g/t Au** and **24ppm Mo** from 76m
  - incl. **19m @ 0.50% Cu, 0.05g/t Au** and **22ppm Mo** from 113m

The interval of 120m @ 0.20% Cu and 0.03g/t Au in CCDD005 is lower in grade and only about half the width of the mineralised interval in CCDD003 (248m @ 0.28% Cu and 0.06g/t Au).

However, shorter intervals of higher grade Cu and Au including 57m @ 0.31% Cu and 0.03g/t Au, and 19 m @ 0.50% Cu and 0.05g/t Au (**Table 2**) are slightly lower but comparable to those encountered in other dill holes from Cockie Creek.

It also is significant that CCDD005 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 (**Fig. 6**), although it does not continue to the end of the hole.

Note that the development of footwall meta-andesite Cu-Au mineralisation in CCDD005 differs from drill holes in the east (CCDD001, CCDD002, CCDD004 and CCDD006) where it is much more restricted.

[4] Refer to ASX announcement dated 27 March 2013.

Drill hole CCDD006

Table 3: CCDD006 intersections at various cutoffs

Hole ID			From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (ppm)
CCDD006			**204**	**312**	**108**	**0.40**	**0.09**	**1.9**	**104**
	Incl		228	308	80	0.49	0.11	2.3	137
	Incl		241	301	60	0.55	0.13	2.4	168
	Incl		242	278	36	0.64	0.14	2.0	224
	Incl		247	258	11	0.81	0.16	2.1	315

INTERSECTION SUMMARY:

- **108m @ 0.40% Cu, 0.09g/t Au** and **104ppm Mo** from 204m (**CCDD006**)
  - incl. **80m @ 0.49% Cu, 0.11g/t Au** and **137ppm Mo** from 228m
  - incl. **60m @ 0.55% Cu, 0.13g/t Au** and **168ppm Mo** from 241m
  - incl. **36m @ 0.64% Cu, 0.14g/t Au** and **224ppm Mo** from 242m
  - incl. **11m @ 0.81% Cu**, **0.16g/t Au and 315ppm Mo** from 247m.

The wide mineralisation interval of 108m @ 0.40% Cu and 0.09g/t Au in CCDD006 is comparable to intervals of 120m @ 0.45% Cu and 0.09g/t Au in CCDD004 drilled 60m to the north, and 117m @ 0.52% Cu and 0.11g/t Au in CCDD002 drilled 40m to the east (**Fig. 4**).

The shorter interval of higher grade Cu and Au including 60m @ 0.55% Cu and 0.13 g/t Au is also comparable to 62m @ 0.60% Cu and 0.10g/t Au encountered in CCDD004 (**Table 1**).

Similar to all the drill holes in the Eastern part of the Cockie Creek deposit, CCDD006 is well mineralised in the meta-andesites above (hangingwall) the main Cu-Au zone developed in the diorite and quartz diorite porphyries but is poorly mineralised in the footwall meta-andesites below (**Fig. 4**).

MINERALISATION AND IMPLICATIONS ON COCKIE CREEK PORPHYRY GENESIS

Chalcopyrite mineralisation in the 7 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). The Bottletree porphyry prospect is also located within a magnetic feature or domain that lacks rocks of high magnetic character.

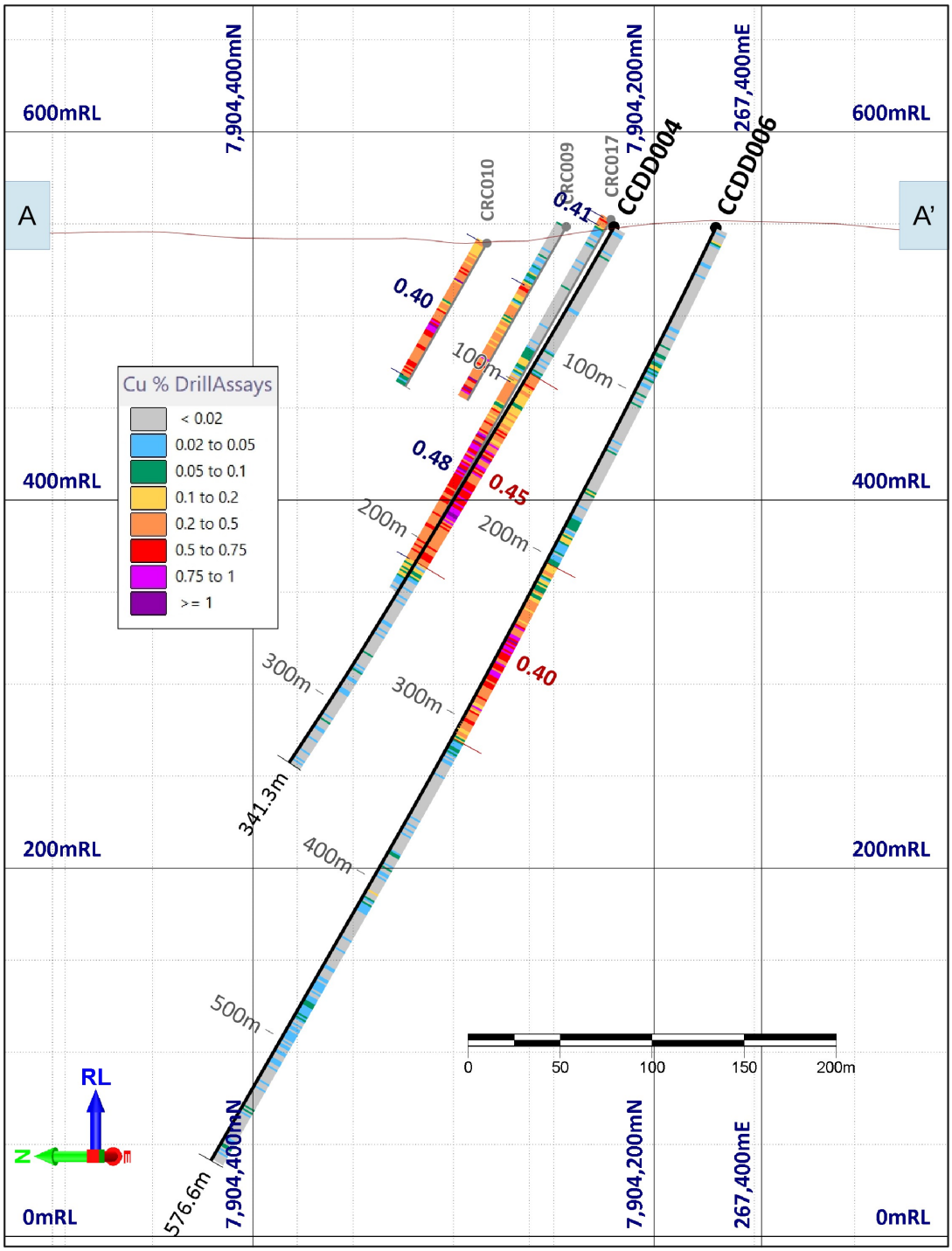


Figure 3. *Cross-section (+/- 15m) taken along A-A' (as shown in Figure 2) looking east-northeast showing CCDD004 and CCDD006 plus historic CRC017 (twinned with CCDD004) and proximal historic drill holes CRC009 and CRC010. Down-hole copper assay values (1m intervals) are represented as grade categories.*

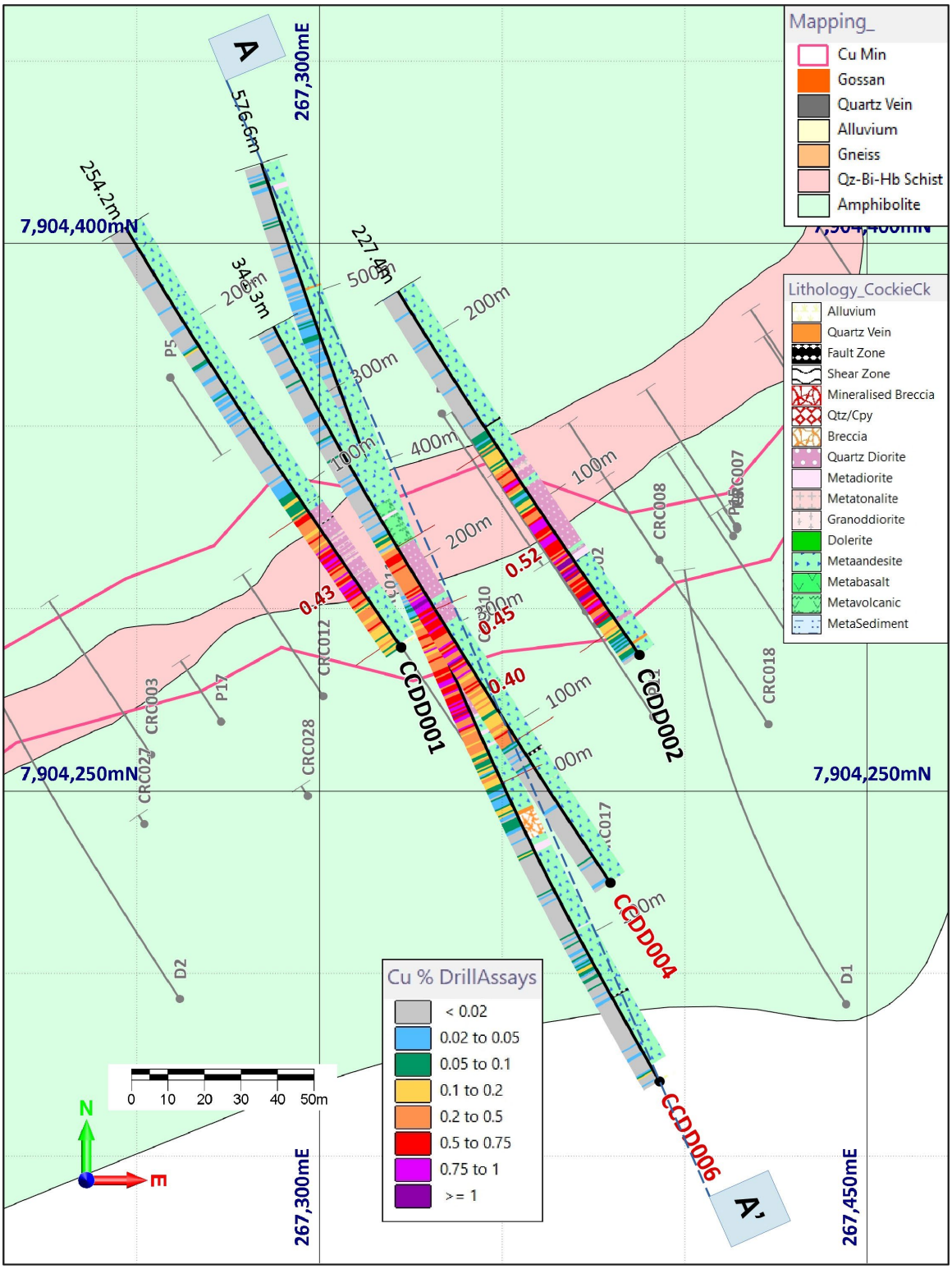


Figure 4. *Plan geological map of the eastern part of the Cockie Creek deposit showing drill holes from the current program with new assay data (CCDD004 and CCDD006 labelled in red) and lithologies from core logging. Note that all drill holes have long intersections with good Cu grades in hanging wall meta-andesites above the Cu-Au mineralized zone in the intrusive rocks. Down-hole copper assay values (1m intervals) are represented as grade categories.*

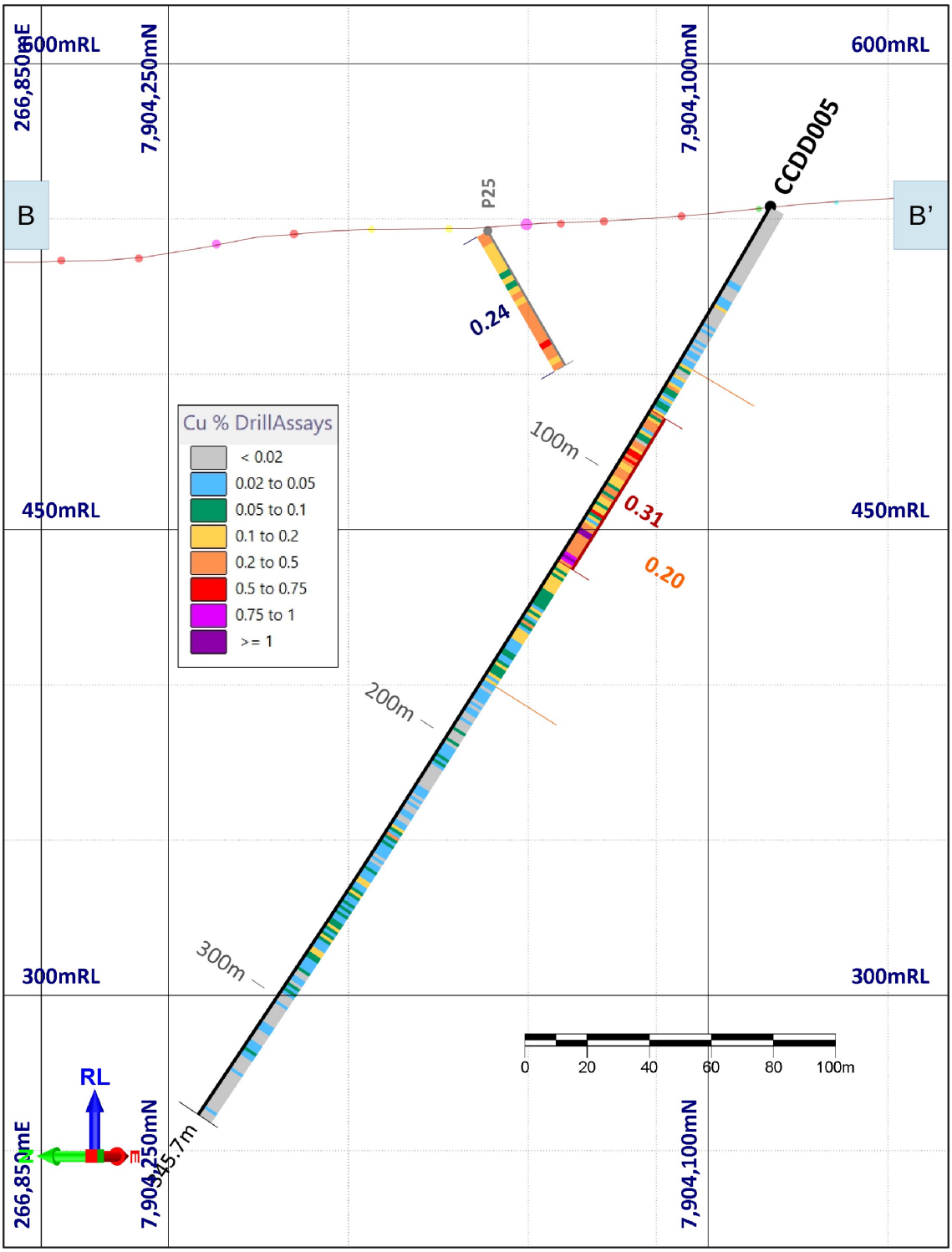


Figure 5. *Cross-section (+/- 15m) taken along B-B' (as shown in Figure 2) looking east-northeast showing CCDD005 and proximal historic drill hole P25. Down-hole copper assay values (1m intervals) are represented as grade categories. The 0.20 label in orange indicates the lower grade interval of 120m @ 0.20 Cu% whereas the 0.31 label in red indicates the higher grade interval of 57m @ 0.31 Cu%.*

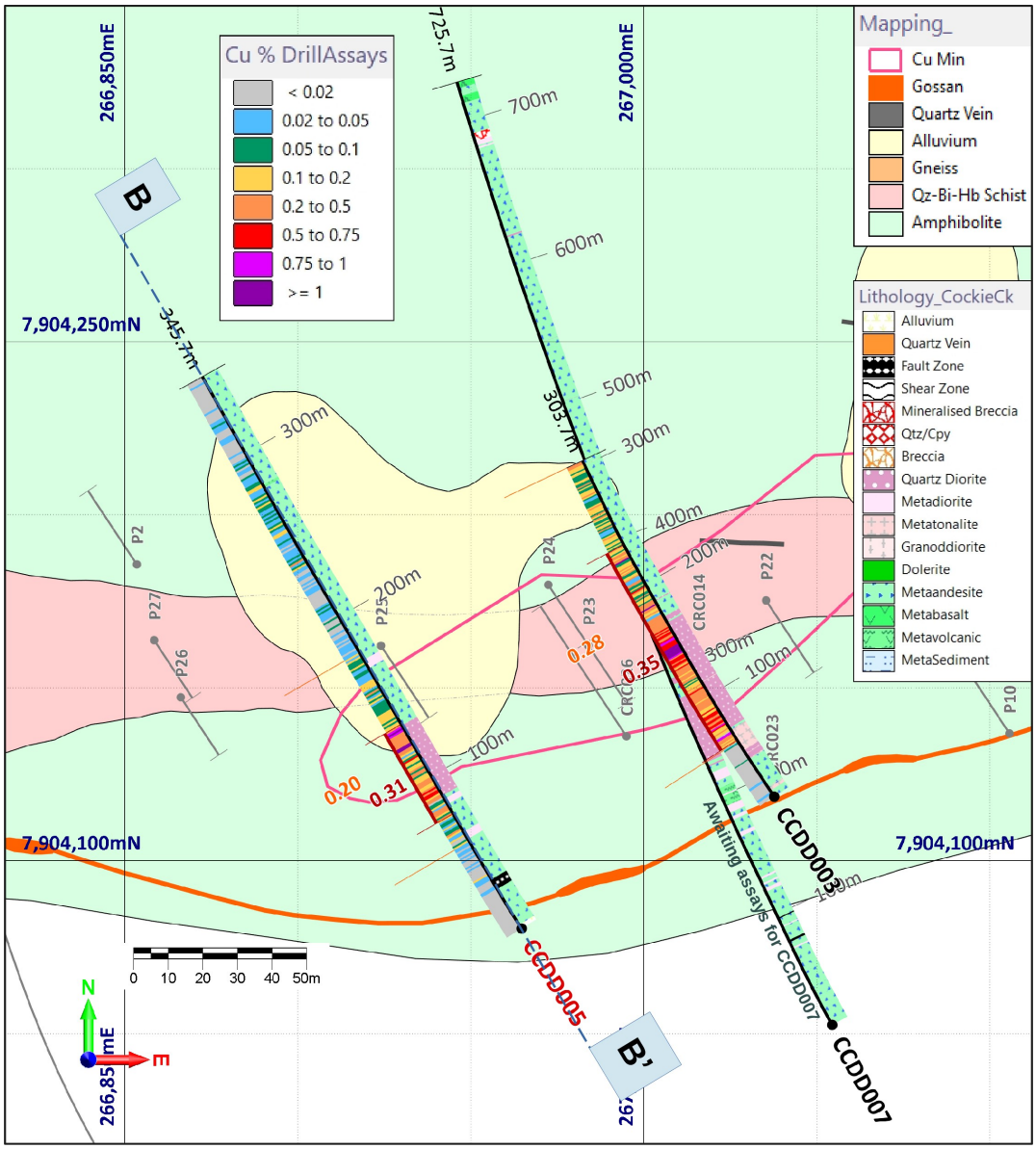


Figure 6. *Plan geological map of the western part of the Cockie Creek Mineral Resource Estimate (red outline) showing drill holes from the current program with new assay data (CCDD005 labelled in red), previously reported drill hole assays (CCDD003 labelled in black) and assays pending (CCDD007 labelled in black). Lithologies from core logging also shown for each drill hole. Note that drill holes have significant intersections with good Cu grades in footwall meta-andesites below the Cu mineralised zone in the intrusive rocks. Down-hole copper assay values (1m intervals) are represented as grade categories.*

ALTERATION

The earliest stage of hydrothermal alteration identified in drill holes CCDD004, CCDD005 and CCDD006 is moderate to intense **potassic** alteration. This early potassic alteration is common to all 7 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 early stage potassic alteration is overprinted by widespread and intense **sodic-calcic** alteration, which is defined by dark green actinolite and milky white albite. Pyrite, chalcopyrite and lesser pyrrhotite and molybdenite accompany **sodic-calcic** alteration (**Fig. 7**).

Figure 7. *Core from CCDD004 (248.8m). Example of the major alteration types at Cockie Creek. A central 2 cm wide band of pale brown biotite (potassic) alteration in foliated meta-andesite is the earliest stage of hydrothermal alteration. It is replaced by forest green actinolite and greyish white albite (calcic-sodic) alteration that commonly forms selvages around smoky grey quartz veins. The final stage of alteration consists of greenish yellow sericite ± pale green chlorite ± pistachio green epidote ± milky white carbonate. Pyrite-chalcopyrite ± pyrrhotite ± molybdenite mineralisation commonly accompanies potassic and (calcic-sodic) alteration. Alteration is preferentially focussed along pre-existing foliations.*

A third stage of hydrothermal alteration consisting of sericite-chlorite ± epidote replaces hydrothermal biotite, actinolite and albite associated with the earlier stages of potassic and sodic-calcic alteration (**Fig. 8**). This late sericite-chlorite replacement is a weak to moderate retrograde event and although widespread, is rarely focussed over zones more than a few tens of centimetres.

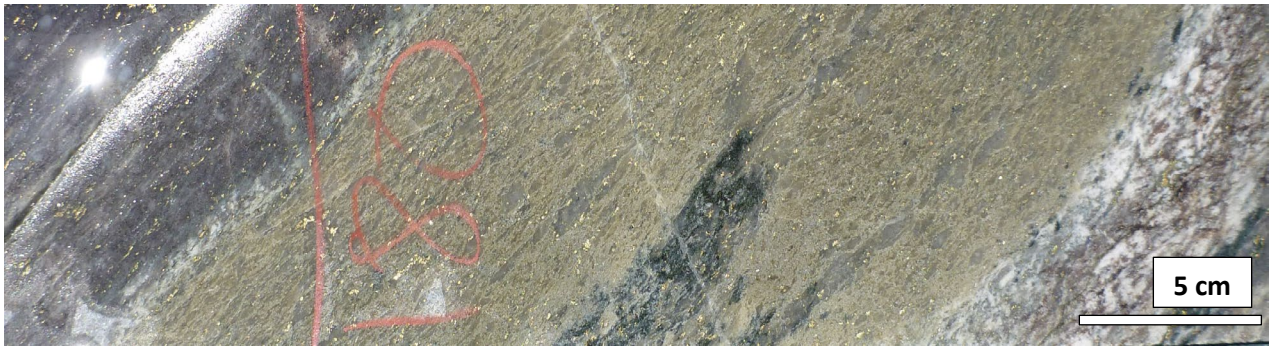


***Figure 8**. Core from CCDD004 (180 m) showing a 20 cm wide zone of intense greenish yellow sericite-chlorite alteration replacing pale brown potassic alteration (left contact) and greyish white albite and forest green actinolite sodic-calcic alteration (right contact). Note the disseminated brassy yellow pyrite and chalcopyrite in the foliations in diorite.*

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 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 (**Fig. 9**).

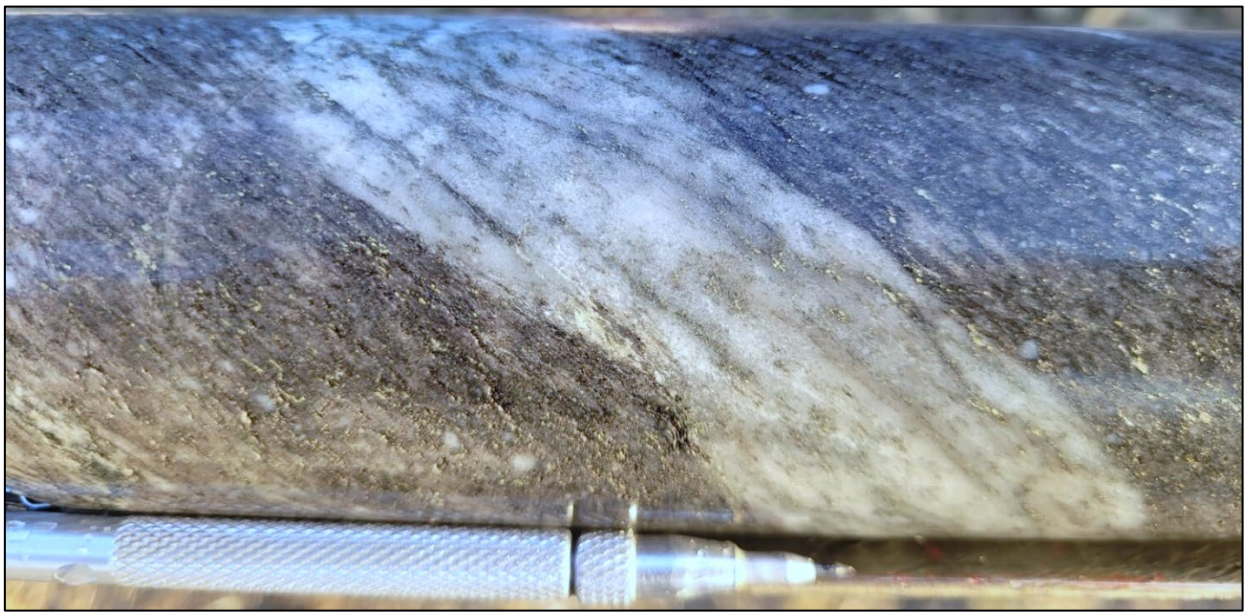


Figure 9. *Core from CCDD006 (280.80m) with a 3 cm wide quartz vein with sharp edges and discrete but semi-continuous, wall-rock parallel bands of blebby chalcopyrite-pyrite-pyrrhotite-molybdenite in strongly foliated quartz diorite that has undergone intense potassic alteration by biotite. Such vein textures indicate multiple open-space vein-filling events and extensional "crack-seal" vein growth. These features are characteristic of "B veins" in porphyry copper-gold-molybdenum deposits.*

Other "**B veins**" display evidence of crack-seal vein growth with plucked slivers of mineralized wall-rock incorporated into the interior of the veins during growth (**Fig. 10**).

Figure 10. *Core from CCDD004 (170.4m) with a recrystallized 1 cm wide quartz-pyrite-chalcopyrite-molybdenite vein in quartz diorite with weak internal banding as defined by discontinuous wall-rock parallel bands of sulphide minerals and "plucked" wall-rock fragments. The vein is surrounded by a sodic-calcic alteration selvage consisting of greyish white albite and dark green actinolite. Note the alignment of brown flakes of earlier hydrothermal biotite and sulphide mineral within the foliation.*

Synopsis to date

- The copper and gold assays from CCDD004 and CCDD006 are of relatively high grade in terms of porphyry copper-gold-molybdenum deposits and confirm the grades encountered in nearby historical drill holes. The assays for CCDD005 are slightly lower than those in CCDD004 and

CCDD006 but still define an interval of significant Cu and Au mineralisation consistent with those encountered in the first (CCDD001) and second (CCDD002) drill holes of the program.

- 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.
- The reduced nature of the sulphide mineral assemblage (pyrrhotite-bearing) and associated hydrothermal alteration (absence of primary anhydrite, gypsum, and hematite) in the intrusions, meta-andesite and related meta-volcanic wall rocks is consistent with Cockie Creek forming from relatively reduced hydrothermal fluids. These mineralogical differences with the more oxidizing porphyry systems affect the strategy used for exploration targeting. Specifically, there are differences with the magnetic properties of the mineralization (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 Au and potentially Cu 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.
- Assay results from CCDD005 confirms the finding in CCDD003 that mineralisation extends well into the andesitic wall-rocks below the main Cu-Au zone in the diorite, quartz diorite and lesser tonalite porphyries in the western zone compared to the eastern zone (CCDD001, CCDD002, CCDD004 and CCDD006)
- Assay results for CCDD007 are pending but they will test the depth of Cu-Au mineralization in the western part of the Cockie Creek deposit where CCDD003 terminated in moderate mineralization at 303.7m EOH (248m @ 0.28% Cu from 56m)
- Results from the new drill holes increase the potential for the discovery of a large porphyry Cu-Au-Mo mineralisation system
- The drilling program is paused in order to further assess the available data and build a more robust geological that can be used to target areas at Cockie Creek favourable for expanding the dimensions of the known mineral resource.

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. 11**).

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. 12**).

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. 13**). 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.

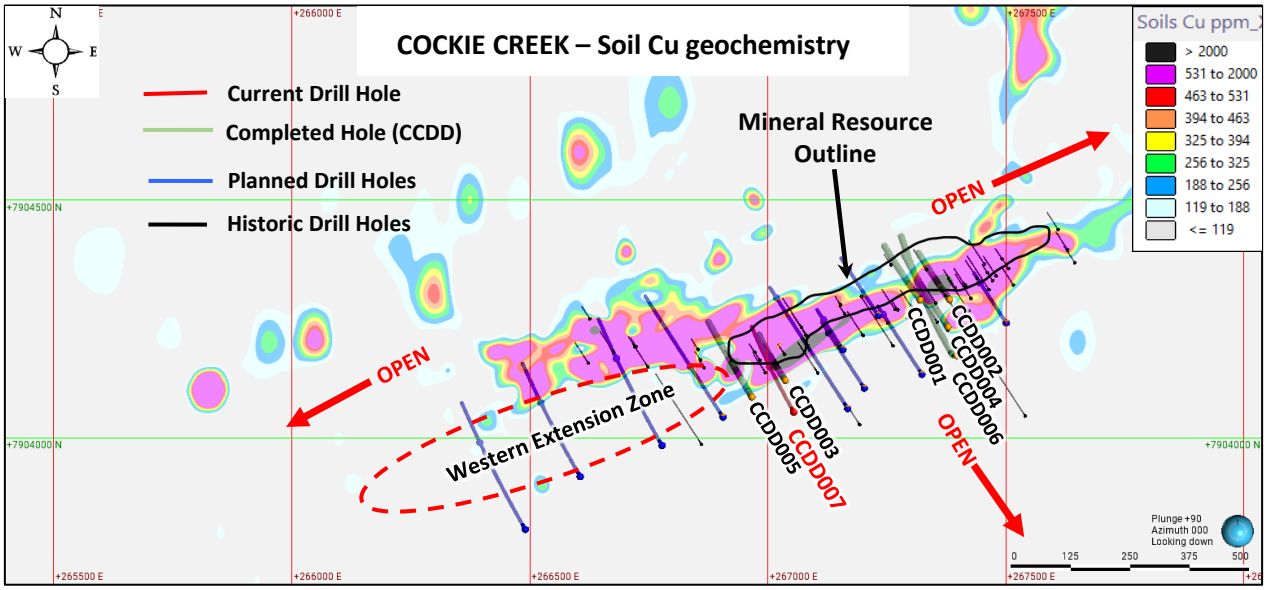


***Figure 11**. Gridded soil Cu geochemistry of the Cockie Creek area showing the Western Extension Zone, outline of historical Mineral Resource and current program drill holes.*

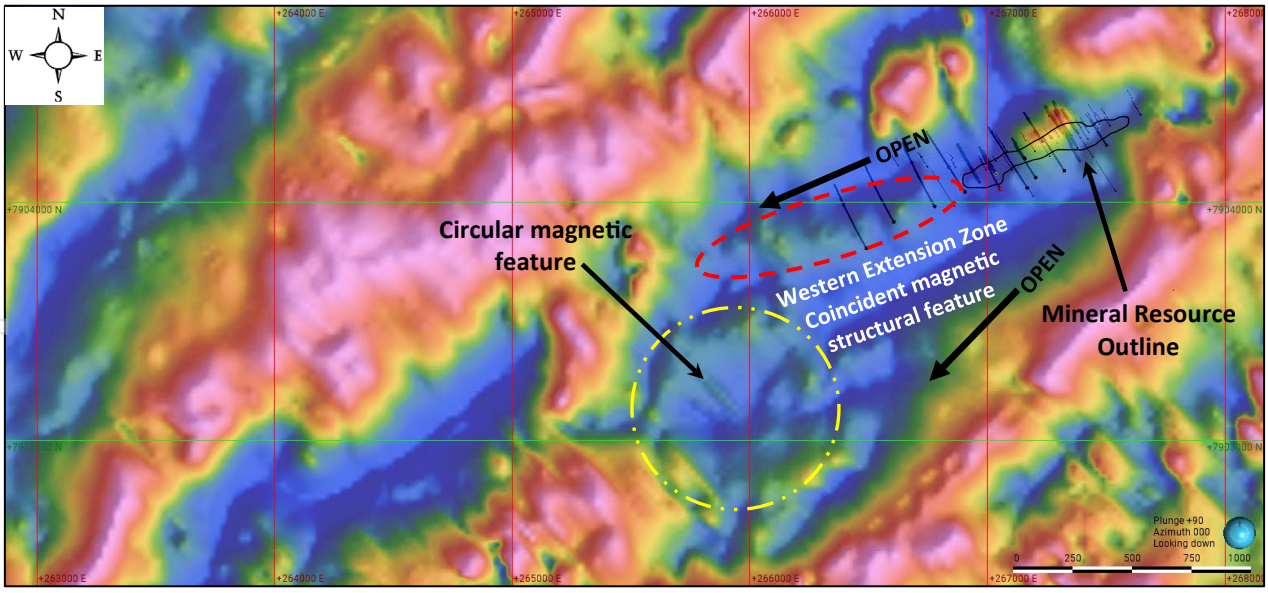


***Figure 12**. Aerial magnetic image (RTP) of the Cockie Creek regional area showing the outline of the historical Mineral Resource and the Western Extension Zone (red polygon) as supported by a linear series of magnetic features. A prominent large circular magnetic feature is located south of the Western 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. 13**). 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)[5], which was established over only about half of the known strike of mineralisation at surface and only to shallow depths (**Fig. 14**).

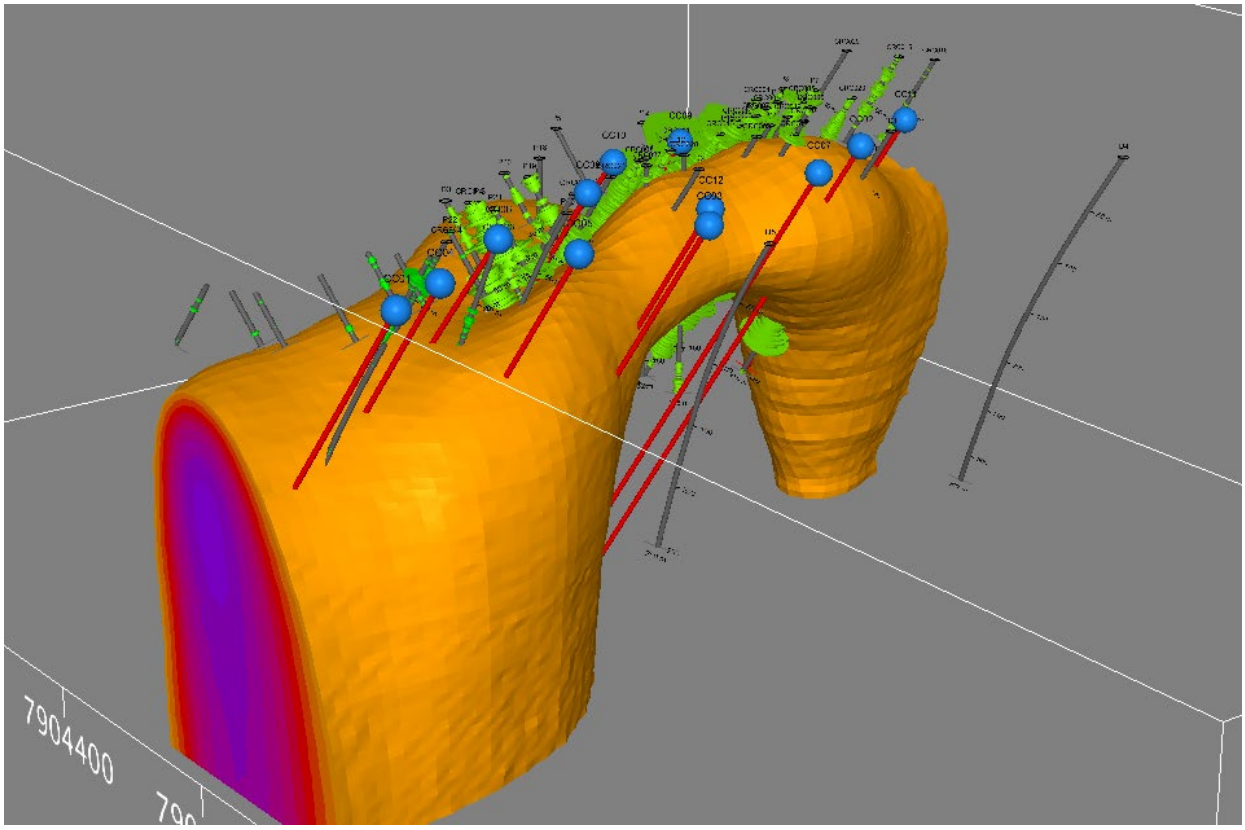


Figure 13. *3D IP chargeability model showing moderate to high chargeability zone. Historical drill holes (grey traces) and copper mineralisation (green) with 2023 planned drill holes in red. Viewed looking northeast.*

[5] Refer ASX announcement dated 27 March 2013.

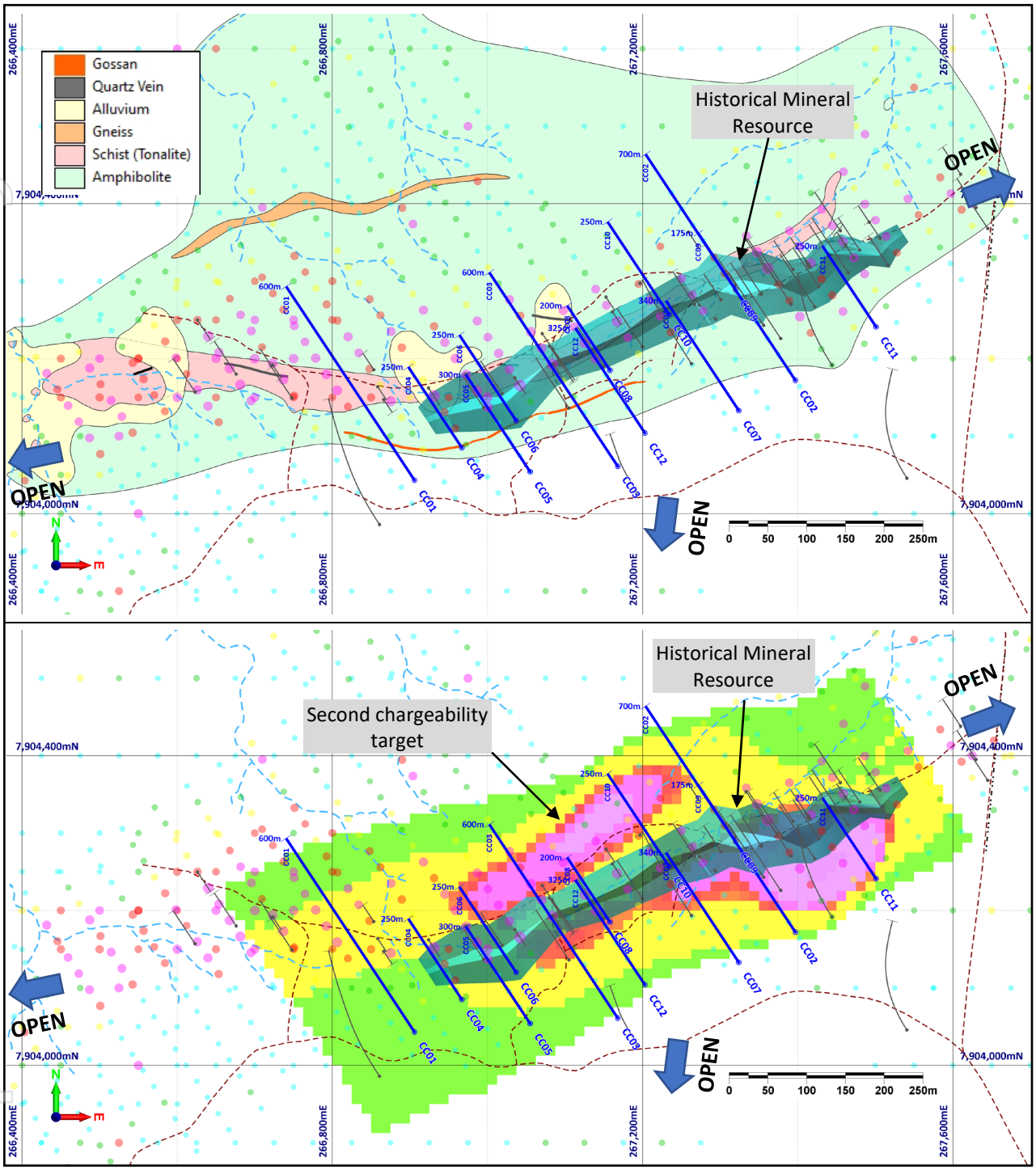


***Figure 14**. Plan views of Cockie Creek Prospect surface geology (top) and IP chargeability data (bottom). Gridded soil copper geochemistry, planned drill holes (blue traces) and wireframe of the historical Mineral Resource are shown in each plan.*

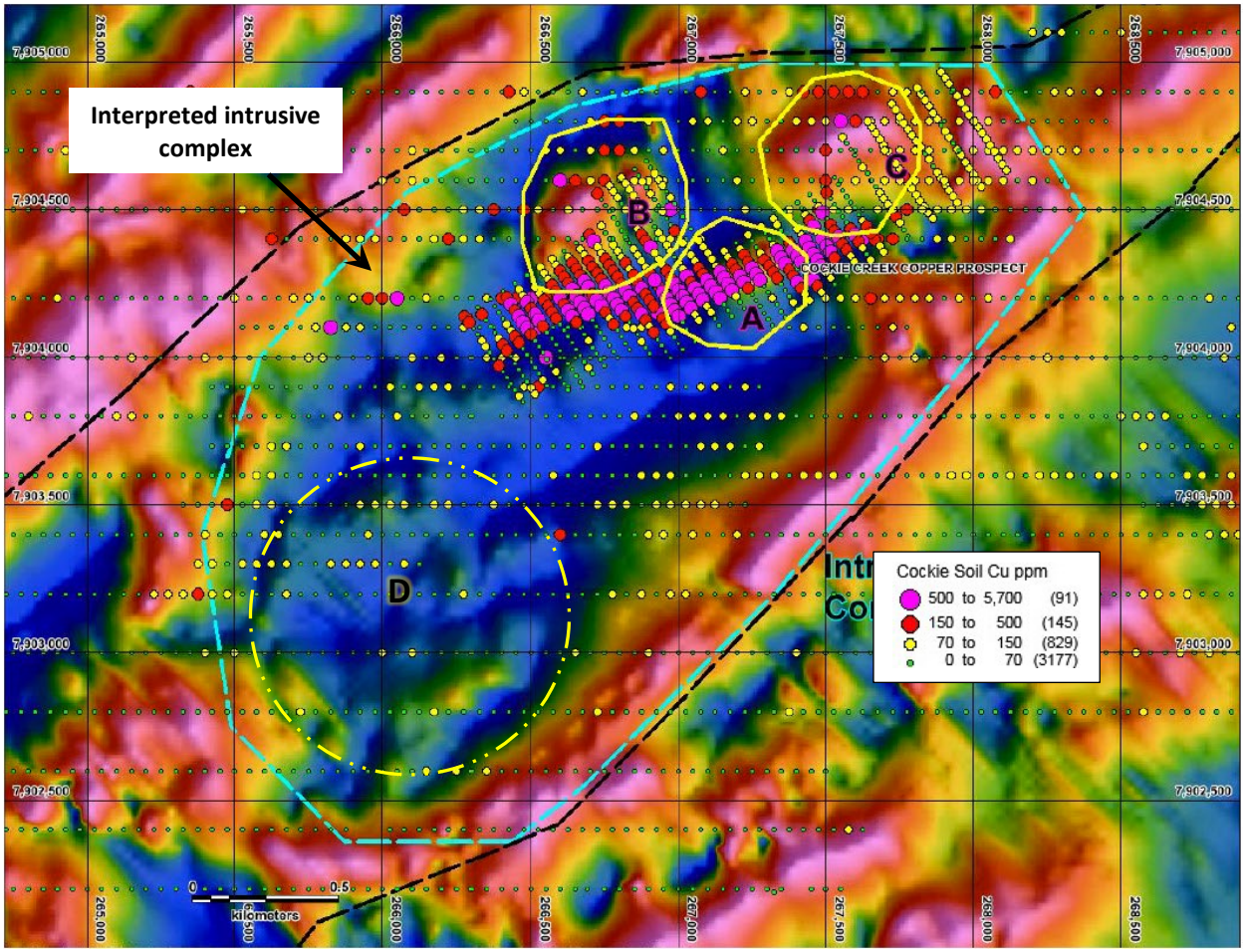


***Figure 15**. Cockie Creek thematic Cu soil data and interpreted porphyries on TDr VI NSSF processed airborne magnetics data, showing interpreted porphyry intrusions (A to D) within an interpreted intrusive complex.*

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.

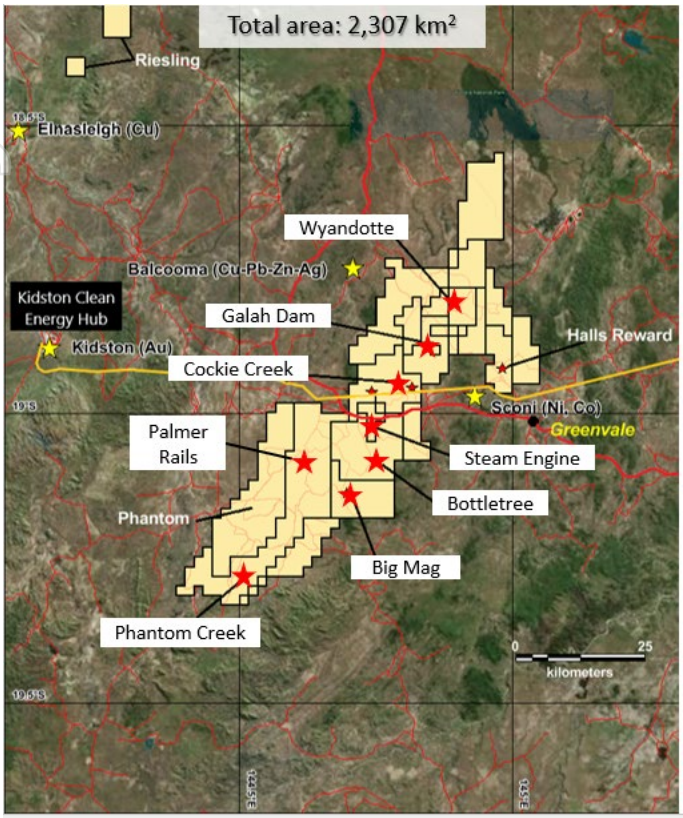
The main target at Cockie Creek is one or more deeper porphyry cores that are likely to be the source of the copper mineralisation. The mineralisation identified by the historic drilling potentially represents leakage into the wall rocks of a nearby mineralised porphyry system.

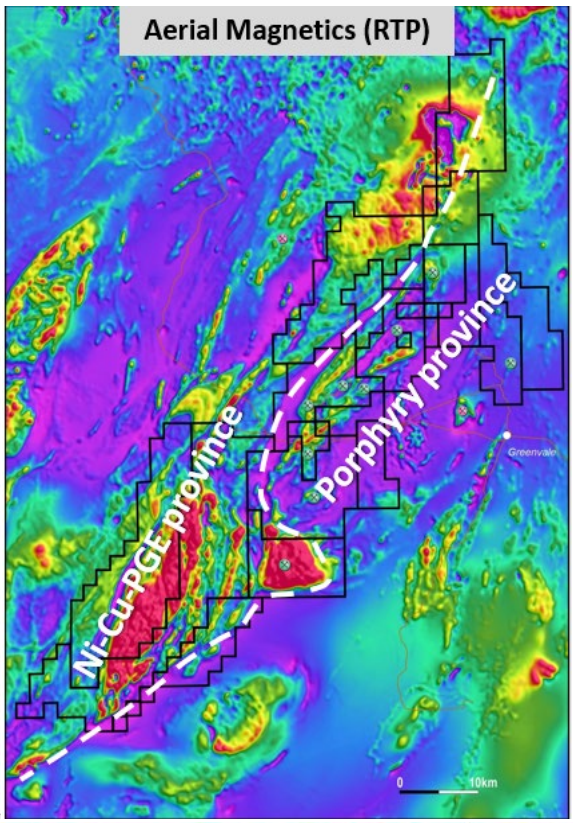
As appears to be the case at Bottletree, the likely wall rock-hosted mineralisation at Cockie Creek represents a potentially significant outcropping copper resource. **Copper grades are relatively high in porphyry deposit terms with historic results indicating increasing grades at depth (Table 4). In 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 4. 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

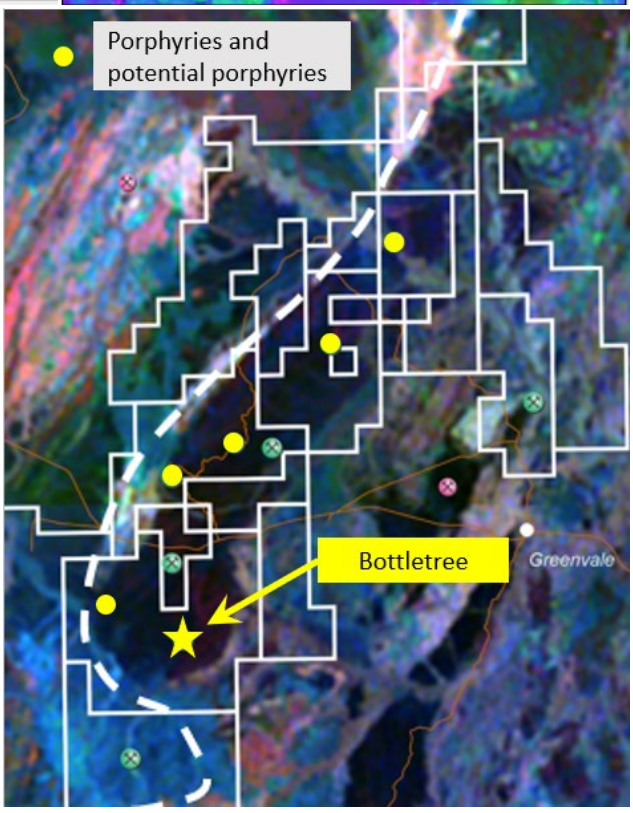




Superior has long recognised the copper potential within the Lucky Creek Corridor. However, recent exploration drilling at Bottletree, coupled with regional geological investigations over several years has enabled the characterisation of the Lucky Creek Corridor as a fossil island arc porphyry province, 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 and Superior Resources' representatives. • 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 will be submitted to SGS laboratories in Townsville for gold and multi-element analysis. • Samples will be 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 will be 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, Molybdenite, Na, Ni, P, Pb, S, Sb, Sc, Se, Sn, Sr, Ti, U, V, W, and Zn. • Certified gold, multi-element standards and blanks will be included in the samples submitted to the laboratory for QA/QC. • Additionally, SGS will 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 Resources. • Superior Resources holds much of the surrounding area under granted exploration permits. • Superior has agreements or other appropriate arrangements in place with landholders and native title parties with respect to work in the area. • No regulatory impediments affect the relevant tenements or the ability of Superior Resources to operate on the tenements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• All historical drilling reported in this report has been completed and reported in accordance with their current regulatory regime. • Previous work on the prospect has been completed by 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*
		• A drill hole collar table is included in Appendix 1 to this report.

Criteria	JORC Code explanation	Commentary
	○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
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	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk*	• 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
exploration data	*samples – size and method of treatment; metallurgical test 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: • Progress the Cockie Creek drilling program to completion.