Superior Resources | ASX Announcement

12 February 2025

HALLS REWARD Cu-Au-Ag MINE
Greenvale Data Review Reveals High-Grade Cu-Au-Ag Targets

HIGHLIGHTS:

- **Exceptional high-grade Cu has been identified in historical data and field reconnaissance at the Halls Reward Cu-Au-Ag Mine (production to circa 1958 – 11,500t @ 17% Cu, 5g/t Au, 23g/t Ag[1])**
- **Shallow, high-grade Cu in 1950's drill holes along strike of old mine workings indicate unmined extension potential:**
  - **4.0m @ 8.8% Cu** from 31.6m **|** incl. **2.4m @ 13.5% Cu** in DDH5
  - **7.0m @ 3.5% Cu** from 64.0m **|** incl. **1.8m @ 7.6% Cu** in DDH3
  - **0.9m @ 6.2% Cu** from 52.2m in DDH4
- **Recent mapping and reconnaissance confirm the host structure and historical workings are largely untested by drilling for up to 2km south of the Halls Reward main shaft; additional old workings with high-grade mullock samples have never been drilled.**
- **Mullock and rock chip sampling have also returned high grade Cu-Au-Ag, including:**

High-grade Cu:

- **20.13% Cu**, 0.21g/t Au, 58g/t Ag
- **15.05% Cu**, 0.01g/t Au, 5.5g/t Ag
- **10.11% Cu**, 0.46g/t Au, 44g/t Ag

High-grade Au:

- 1.62% Cu, **14.48g/t Au**, 22g/t Ag
- 2.97% Cu, **6.01g/t Au**, 14g/t Ag
- 1.87% Cu, **5.69g/t Au**, 9g/t Ag

- **1990's drilling identified a new subparallel lode 200m west of the old mine, demonstrating additional prospectivity in the surrounding area:**
  - **21m @ 0.84% Cu** from 6m **|** incl. **9m @ 1.20% Cu** in RC93HR2
  - **6m @ 0.65% Cu, 0.06g/t Au, 3.5g/t Ag** from 66m in RC93HR6
  - **10m @ 0.89% Cu, 0.60g/t Au, 4.5g/t Ag** from 91m in RC94HR37
- **Halls Reward is interpreted as Cyprus-style Cu; these occur in clusters along host structures**
- **Mineralisation (chalcocite, native copper and chalcopyrite) is likely to be highly conductive; an EM geophysical survey to identify conductors prior to drilling is planned**
- **The Company now has a pipeline of high-grade Cu-Au-Ag-(Mo) targets at the Greenvale Project, including the Wyandotte prospect, to progress alongside the exciting large-scale porphyry Cu-Au systems at Bottletree and Cockie Creek**

[1] White, D.A. et.al., 1958, Geology of the Hall's Reward Copper Mine Area, Northern Queensland, BMR Record 1958/60

Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) is pleased to report on historical data compilation and reconnaissance sampling undertaken around the old high-grade Halls Reward Cu-Au-Ag Mine. Halls Reward is one of several high-grade Cu-Au-Ag-(Mo) prospects at the Company's 100%-owned Greenvale Project in northeast Queensland (**Fig. 1**).

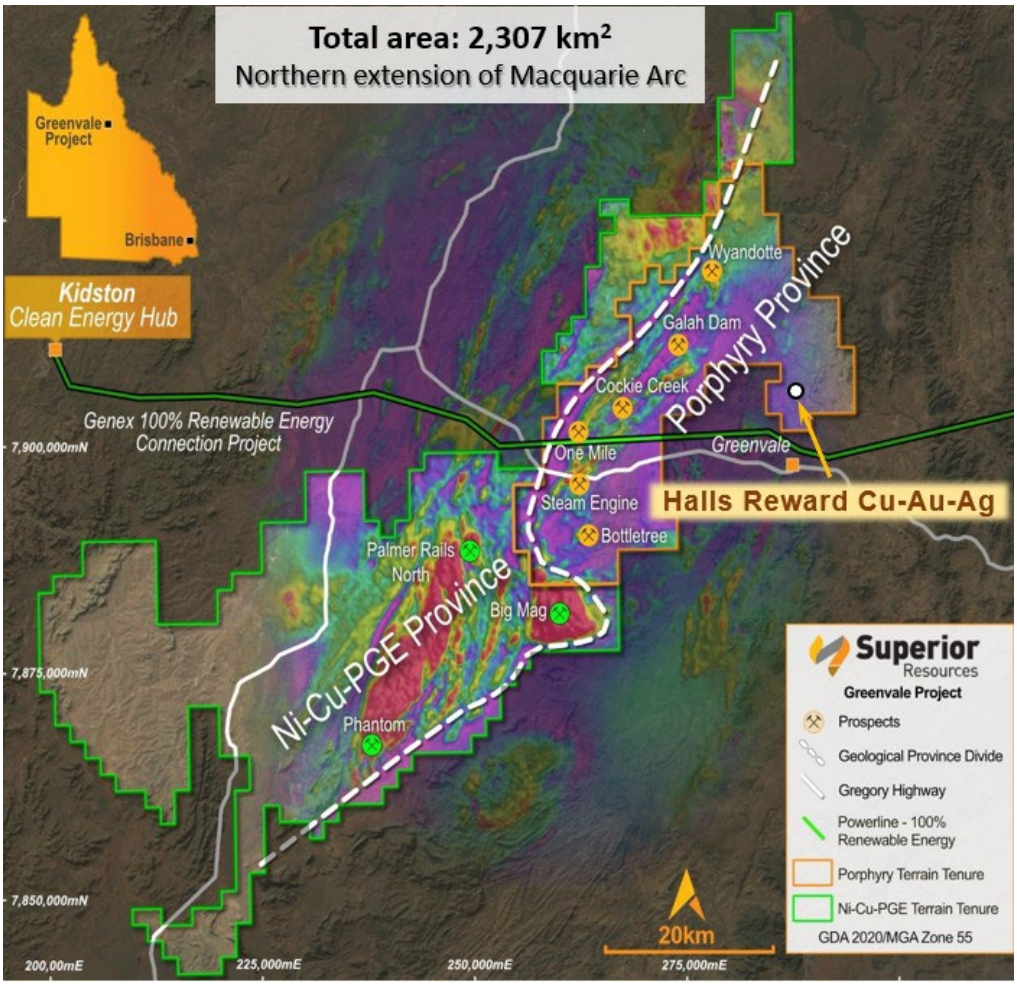

Figure 1. *Greenvale Project regional magnetics with the location of the high-grade Halls Reward Cu-Au-Ag mine. Additional nearby high-grade Cu deposits include Wyandotte and One Mile, alongside the Company's large-scale porphyry Cu-Au discoveries at Bottletree and Cockie Creek.*

Superior's Managing Director, Peter Hwang commented: "*The Greenvale Project reveals yet another jewel of a project within the copper, gold and nickel rich island-arc terrain that has been secured by the tenement package. Halls Reward is a very tantalising VMS-style copper-gold-silver deposit system and is one of the many 'low-hanging fruits' requiring modern exploration and thorough drill-testing.*

"Halls Reward demonstrates the rich geological variety and extensive copper and gold metal endowment that is unique to the Greenvale Project. We have always known about Halls Reward and we have been planning to explore this project alongside the multi-deposit porphyry belt located about ten kilometres to the west. One of the attractions of Halls Reward, apart from the very high-grade mineralisation, is the low cost and high impact of the exploration activities that are being planned. This will include a prospect-wide EM geophysical survey to highlight expected conductors as well as a large maiden drilling program.

"Relatively small-scale mining during the 1930s to 1950s only targeted shallow, easy to access, very high-grade ore that averaged 17% copper and 5g/t gold. Limited government drilling shortly after mine closure confirmed the extension of very high-grade mineralisation immediately south of the mine workings and the system remains open in all directions.

"Furthermore, during the 1990s, CRA Exploration discovered a second mineralised lode only 200 metres to the west of the old mine, which can be traced for at least 2 kilometres.

"The potential presented by Halls Reward is substantial and may further strengthen the Company's prospects for an early-stage hub-and-spoke copper and gold production centre at Greenvale. We already have at least three deposits at various stages of the exploration to evaluation journey. These include Steam Engine, currently undergoing feasibility studies, the high grade deposit at Wyandotte and potentially, the Cockie Creek porphyry prospect.

"We consider that pursuing the 'low hanging fruit' in the form of high grade VMS and other style deposits alongside the very high potential copper-gold porphyries to be an effective pathway to value realisation at Greenvale. This is particularly so considering the longer-term market pricing expectations for both copper and gold. Of course, Steam Engine is a critically important and strategic component of this pathway as it clearly reduces the risks to realising value.

"The Greenvale Project is continuing its value growth trajectory that was accelerated over the last four years with the confirmation of two porphyry copper-gold systems, the establishment of a quality gold Resource at Steam Engine and the securing of over 2,000 square kilometres of tenure to cover two newly recognised mineral provinces.

"2025 will be an important year with several important objectives to be achieved which include the completion of the Steam Engine feasibility study, upgrading of at least two Mineral Resources and making key advancements with the Company's copper portfolio."

Halls Reward Main Lode

The abandoned Halls Reward mine produced 11,461t of ore from 1933 to 1959. The ore was processed at Mt Morgans and Mt Isa, with recovered grades averaging **17.41% Cu, 5g/t Au and 23g/t Ag**[2]. From 1959 to 1960, a further 140t @ 11.2% Cu was treated at Mt Isa, and 1,270t of direct-shipping ore was sent for processing in Japan.

Stoping of oxide ore occurred to approximately 50m below surface on a pinch-and-swell ore shoot, with the controlling structure continuing along strike and at depth (**Fig. 2**). The host structure strikes north-south and generally dips steeply to the east (varying from steep east to steep west) with higher grades in drill holes that intersected a flatter-lying, east-dipping zone to the south (**Figs. 2 and 3**).

[2] White, D.A. et.al., 1958, Geology of the Hall's Reward Copper Mine Area, Northern Queensland, BMR Record 1958/60. Note: Historical production records may be inaccurate or incomplete. Au and Ag were not recovered at Mt Isa, such that ore grades may have been higher than the average recovered grades.

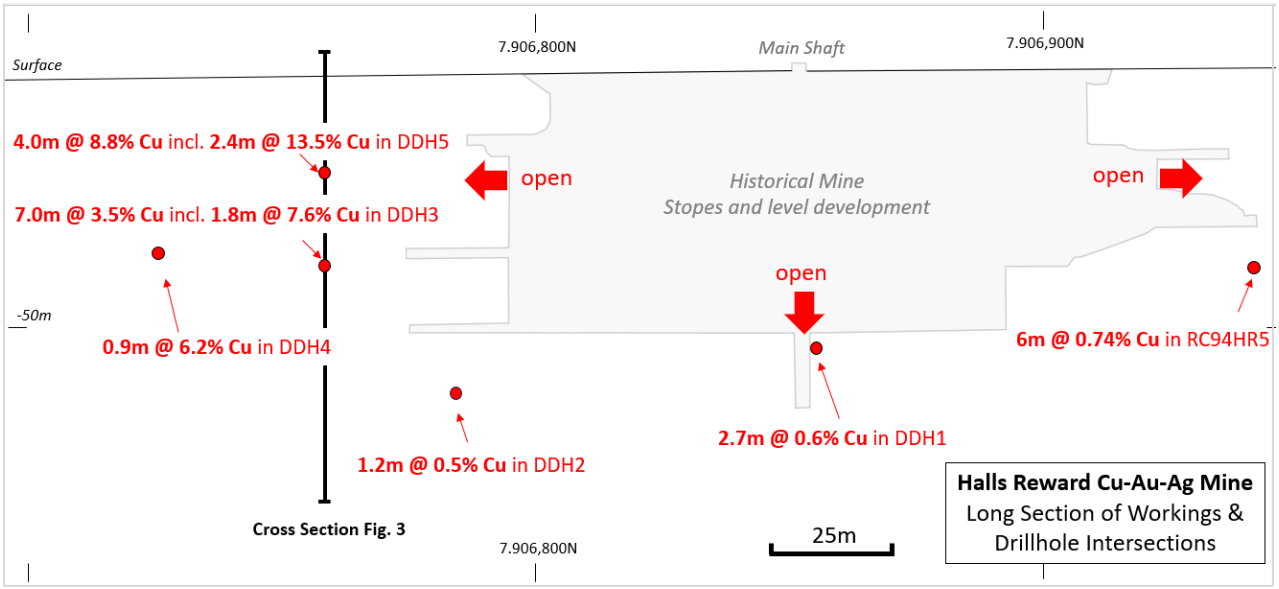

Figure 2. *Long section view of Halls Reward mine looking west, showing stoped areas to 50m below surface, and historical drilling intersections. Mineralisation is open in all directions; exceptional high-grade material remains in situ to the south.*

Diamond drilling by the Queensland Government Department of Mines (Connah, 1959) returned exceptional high-grade Cu results from 35m to 80m south of the stoped areas, including:

- **4.0m @ 8.8 % Cu** from 31.6m **incl. 2.4m @ 13.5 % Cu** in DDH5
- **7.0m @ 3.5 % Cu** from 64.0m **incl. 1.8m @ 7.6 % Cu** in DDH3
- **0.9m @ 6.2 % Cu** from 52.2m **incl. 0.7m @ 7.2 % Cu** in DDH4

The high-grade mineralisation includes malachite, azurite, cuprite, tenorite and native copper within a shear zone comprised of ferruginous, siliceous schist with quartz vein stringers.

Additional diamond holes DDH1 and DDH2 drilled beneath the mined-out stopes intersected low-tenor disseminated chalcopyrite mineralisation including **2.7m @ 0.6 % Cu** from 97.5m in DDH1, and **1.2m @ 0.5 % Cu** from 107.3m in silicious pyritic rock with minor disseminated chalcopyrite in DDH2 (**Fig. 2**). Fault offsets were observed in the historical workings and interpreted on drill sections (**Fig. 3**).

These results demonstrate continuity of mineralisation on the host structure, which will be targeted for additional high-grade Cu zones at greater depths and along strike.

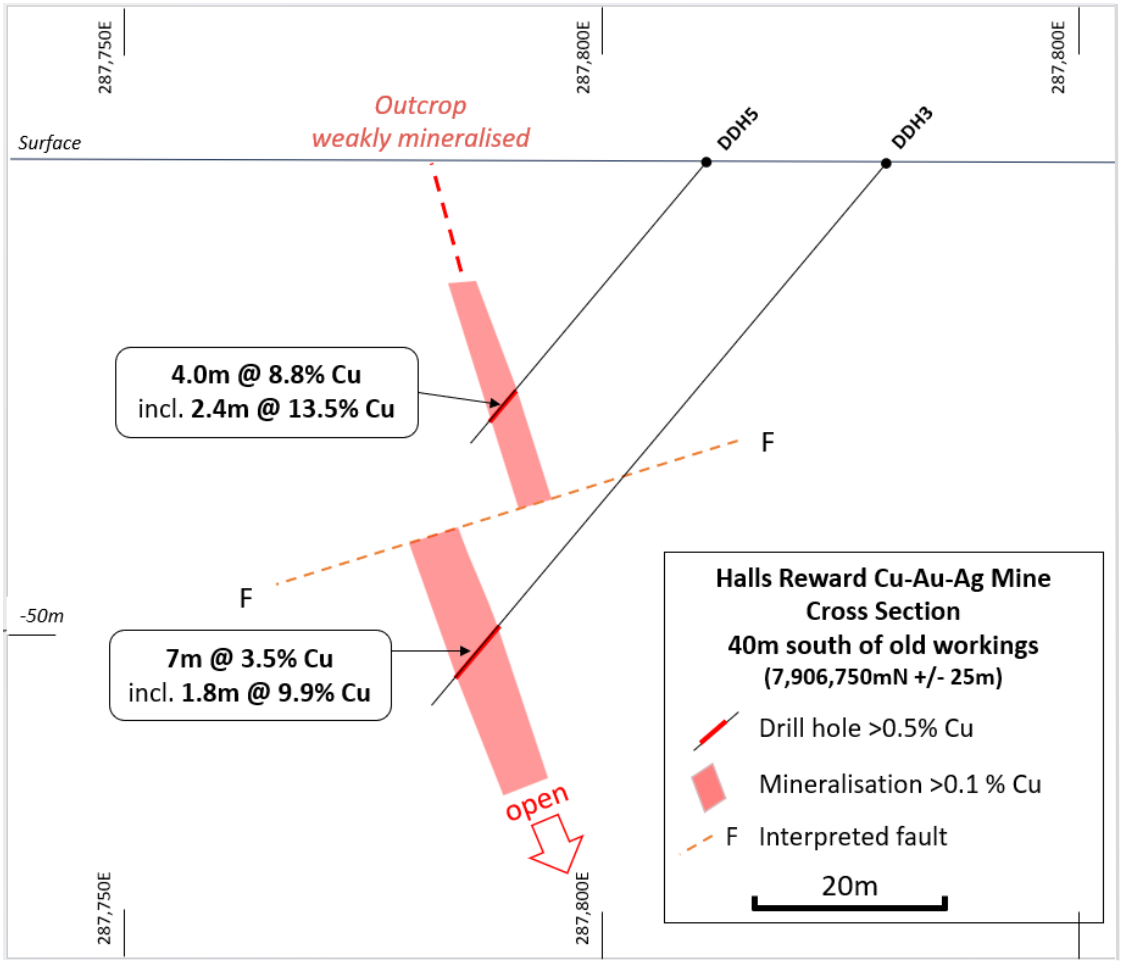

Figure 3. *Cross section showing high-grade drilling intersections 35m south of historically stoped areas.*

Soil geochemical sampling in the 1990's revealed a large 900m-long and 300m-wide Cu in soil anomaly (>100 ppm Cu, **with a peak of 14,000 ppm Cu**), which is considerably more extensive than the Main Lode workings and covers multiple parallel mineralised structures to the west (**Fig. 4**).

At the Main Lode, Superior's reconnaissance sampling around the old workings returned **high-grade Cu (Fig. 4)**:

- **20.13 % Cu + 0.21 g/t Au + 58 g/t Ag**
- **10.11 % Cu + 0.46 g/t Au + 44 g/t Ag**

Additionally, three mullock samples returned **high-grade Au** with elevated Cu and Ag:

- **1.62 % Cu + 14.48 g/t Au + 22 g/t Ag**
- **2.97 % Cu + 6.01 g/t Au + 14 g/t Ag**
- **1.87 % Cu + 5.69 g/t Au + 9 g/t Ag**

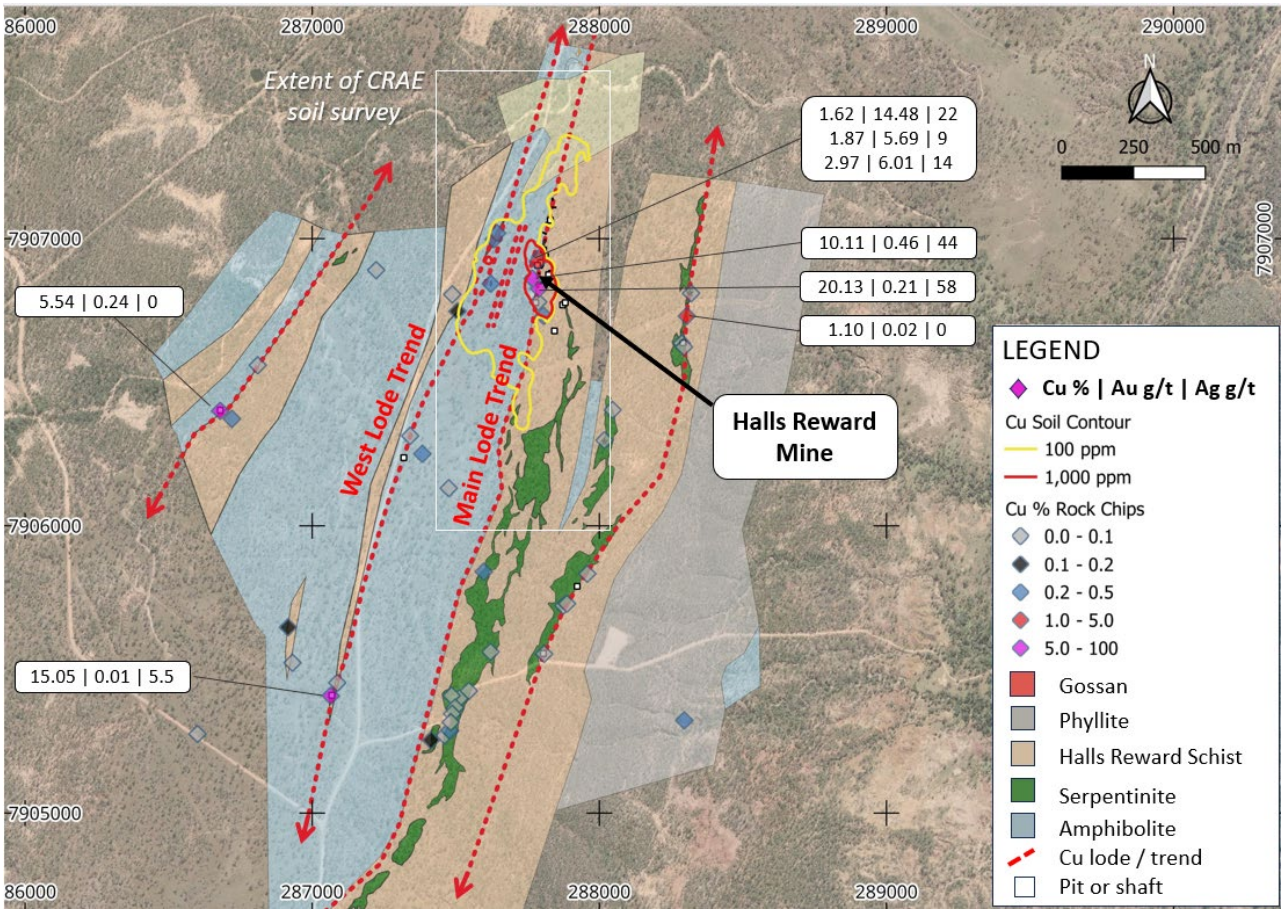

Figure 4. *Plan view of the Company's reconnaissance mapping and rock chip sampling, and strong soil anomalism associated with the Main Lode and parallel structures.*

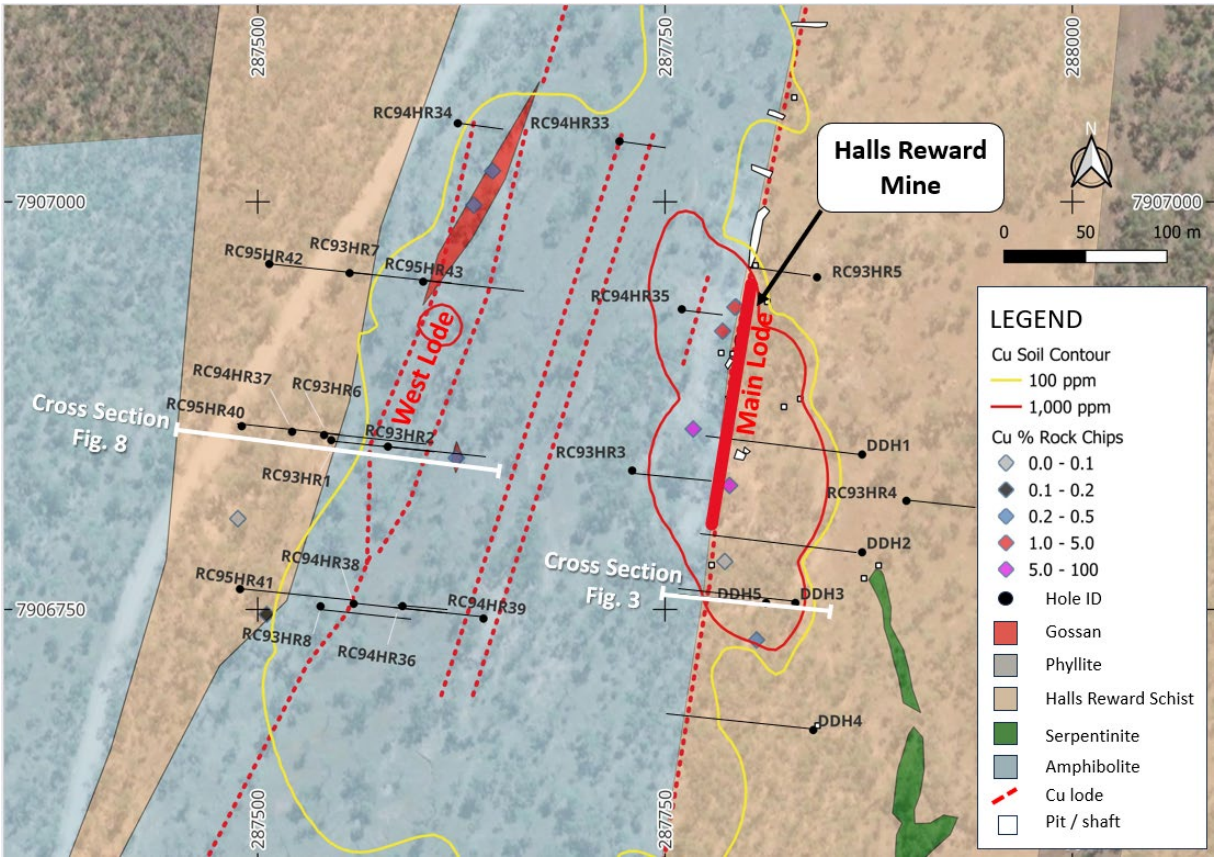

Figure 5. *Drill collar plan showing diamond core holes targeting the Main Lode and CRAE's RC holes mainly targeting the West Lode gossan and geochemical anomaly.*

CRAE drilled only 3 holes around the Main Lode, namely RC93HR3, RC93HR5 and RC94HR35 (Fig. 5). It is clear that RC93HR3 and RC93HR35, both drilled toward the east below the Main Lode and failed to intersect the structure because it also dips east.

However, a shallow intersection of 3m @ 0.57 % Cu from 21m in RC94HR35, approximately 30m west of the Main Lode reflects an additional parallel lode that has had no further drilling (**Fig. 5**). At the northern extension of the Main Lode, RC93HR5 intersected 6m @ 0.74 % Cu from 57m, reflecting a lower tenor zone within the Main Lode structure (see also **Fig. 2**). **North of the mine, the Main Lode structure is interpreted to extend beneath transported alluvium, which may conceal additional high-grade shoots; this represents a priority target area**.

Figure 6. *Main Lode silicious gossan grading* ***20.13 % Cu, 0.21 g/t Au, 58 g/t Ag*** *with native Cu on fractures (pink metallic lustre) and chalcocite (grey).*

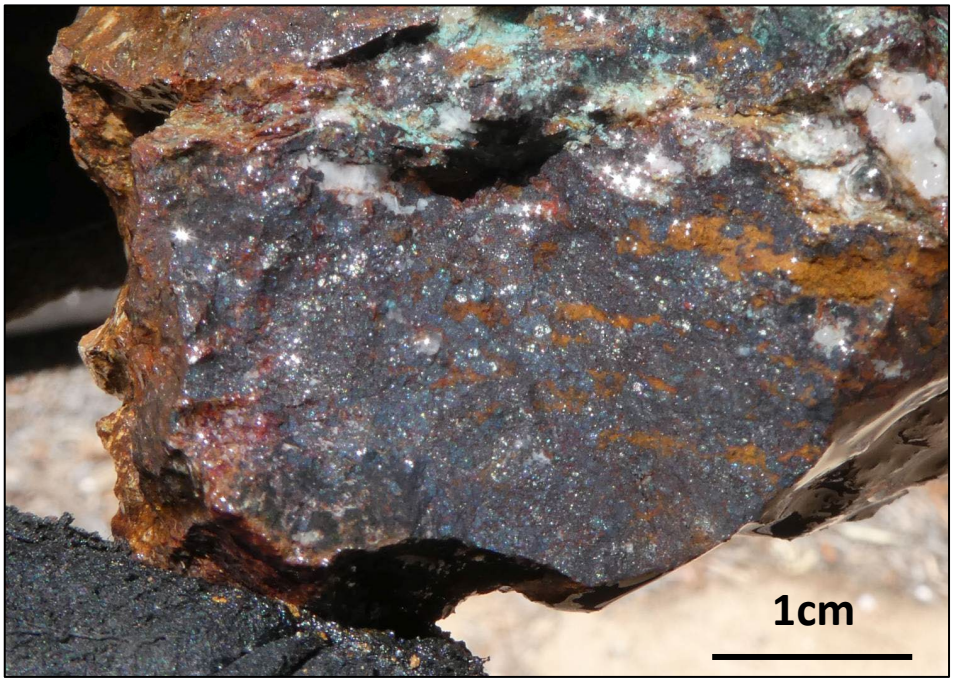

Figure 7. *Main Lode chalcocite with remnants of chalcopyrite and malachite; not assayed.*

Multiple Parallel Lodes

CRAE's RC drilling in the 1990's mainly targeted a 150m-long gossan associated with small old workings at the West Lode, with intercepts including (**Fig. 8**):

- **21m @ 0.84% Cu** from 6m **incl. 9m @ 1.20% Cu** in RC93HR2
- **6m @ 0.65% Cu, 0.06 g/t Au, 3.5g/t Ag** from 66m in RC93HR6
- **10m @ 0.89% Cu, 0.60 g/t Au, 4.5g/t Ag** from 91m in RC94HR37

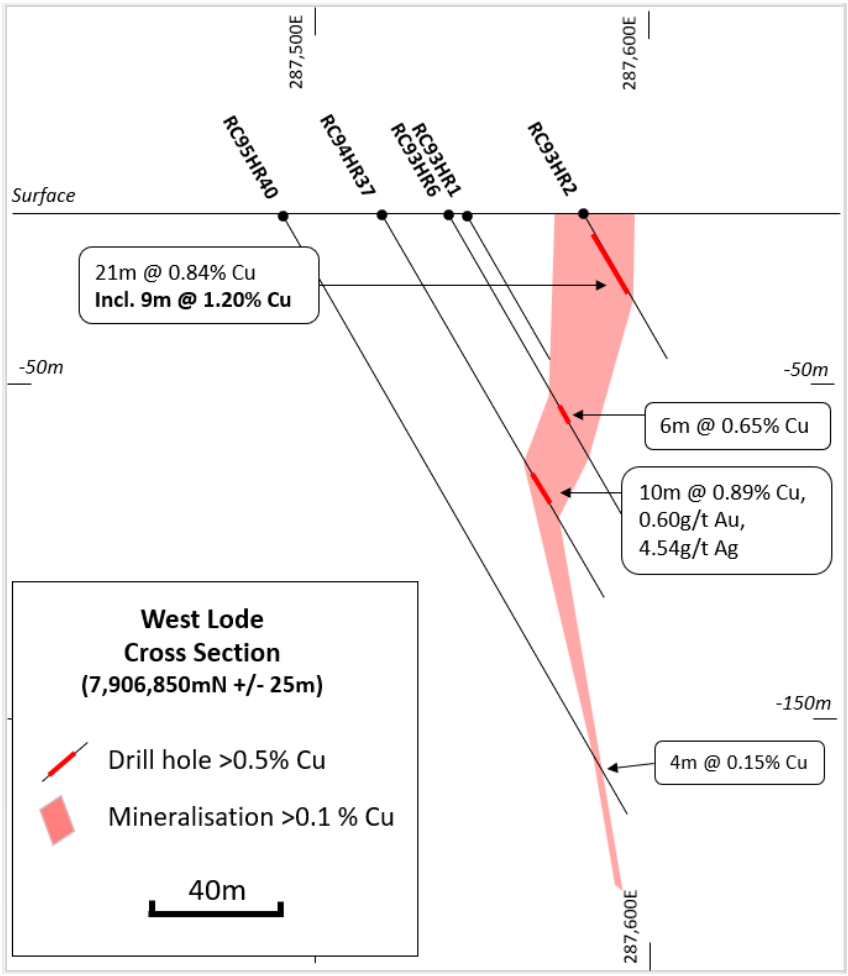

Figure 8. *Cross section through West Lode, showing significant mineralisation at shallow depths.*

RC95HR43 was drilled 100m further along strike to the north, intersecting strong pyrite mineralisation of between 5% and 10% but low-grade Cu. RC94HR34 was drilled a further 100m to the north with multiple mineralised zones and ended in mineralisation:

- **1m @ 0.46% Cu, 1.59g/t Au, 5.4g/t Ag** from 50m in RC95HR43
- **6m @ 0.87% Cu**, **0.11g/t Au, 1.6g/t Ag** from 44m to the end of hole in RC94HR34

The Company's rock chip sampling of the West Lode gossan also returned encouraging results (**Figs. 4 and 5**):

- **0.48% Cu, 1.26g/t Au**
- **0.30% Cu, 0.35g/t Au**

Additionally, numerous small prospector's pits in the broader Halls Reward area were sunk on malachite and azurite-stained ferruginous gossans. The Company's sampling of mullock at workings up to 2km southwest of the Main Lode returned grades of up to **15.05% Cu** and **5.54% Cu**, along with anomalous Au and Ag (**Fig. 4**). The Company intends to extend the geochemical survey to cover these additional old workings to delineate the Cu structures.

Synopsis

Extensive, high-grade mineralisation has been identified along strike of the Halls Reward Mine and on multiple parallel structures. The mineralisation sits within an accreted magmatic arc geological setting, which together with the structure, alteration and metal assemblage, indicates the Cu-Au-Ag mineralisation is of Cyprus VMS style. Cyprus style deposits are typically high grade and occur in clusters along structural corridors, further enhancing the prospectivity of the Halls Reward target area.

Soil geochemical sampling over the broader project area is planned to assist in defining drilling targets. The mineralisation is also expected to be highly conductive and amenable to EM geophysical surveying to identify concealed conductors for drill testing.

Next Steps

The Greenvale Project also includes the Steam Engine Gold Project, with upcoming news flow to include receipt of Resource infill and exploration drilling results, and progress on feasibility study activities.

Additionally, the large-scale porphyry Cu-Au discovery at Bottletree received a Queensland Government CEI-grant for drilling of two holes at Bottletree (see ASX announcement 8 April 2024). The Company is coordinating with drilling and personnel contractors with a view to commence drilling of the CEI holes within the following two months, weather permitting.

At the Cockie Creek porphyry Cu-Au-Mo prospect, modelling of a maiden JORC (2012) Mineral Resource Estimate is nearing completion and on track for release to the market during the first Quarter of 2025.

The following sets out the key activities planned at Halls Reward:

1. Extension of the geochemical survey along strike of the Halls Reward structure and targeting additional high-grade historical workings.
2. EM geophysical surveying to model conductors at depth and along strike of host structures in the broader Halls Reward target area, with the objective of defining high-grade Cu-Au-Ag drilling targets.
3. Drill the resulting targets.

Approved for release by the Board of Directors

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About Superior

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for high-grade copper-gold-silver, large copper-gold porphyries, 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 that relates to Exploration Targets and Exploration Results is based on exploration information compiled by Mr Cain Fogarty, who is a Competent Person and a Member of the Australian Institute of Geoscientists. Mr Fogarty is an independent consulting geologist, with sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Fogarty consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

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APPENDIX 1

REPORTED DRILL HOLE COLLAR DETAILS

Holes	Easting (m)	Northing (m)	RL (m)	Depth (m)	Dip°	Azimuth°	From (m)	To (m)	Width (m)	Cu %
DDH1	287871	7906845	450	129.5	-50	270	97.5	102.2	2.7	0.6
DDH2	287871	7906785	450	132.1	-50	270	107.3	108.5	1.2	0.5
DDH3	287830	7906754	450	99.6	-50	270	64.0	71.0	7.0	3.5
DDH3						Incl.	65.4	67.2	1.8	9.9
DDH4	287841	7906676	450	61.0	-50	270	52.2	53.1	0.9	6.2
DDH4						Incl.	52.2	52.9	0.7	7.2
DDH5	287812	7906754	450	39.3	-50	270	31.6	35.6	4.0	8.8
DDH5						Incl.	32.6	35.0	2.4	13.5
RC93HR1	287555	7906822	450	48	-60	90	NSI			
RC93HR2	287590	7906822	450	48	-60	90	6	27	21	0.84
RC93HR2						Incl.	18	27	9	1.20
RC93HR3	287740	7906825	450	126	-60	90	NSI			
RC93HR4	287910	7906825	450	78	-60	90	NSI			
RC93HR5	287840	7906955	450	84	-60	270	27	30	3	0.58
RC93HR5							57	63	6	0.74
RC93HR6	287550	7906825	450	105	-60	90	66	72	6	0.65
RC93HR7	287555	7906925	450	86.5	-60	90	NSI			
RC93HR8	287560	7906720	450	81	-60	90	NSI			
RC94HR33	287710	7907024	450	73.5	-60	90	NSI			
RC94HR34	287610	7907024	450	66	-60	90	48	51	3	0.64
RC94HR34							44	45	1	0.53
RC94HR34							48	50 (EOH)	2	0.71
RC94HR35	287760	7906926	450	74	-60	90	21	24	3	0.57
RC94HR36	287610	7906726	450	60	-60	90	NSI			
RC94HR37	287530	7906824	450	132	-60	90	91	101	10	0.89
RC94HR37						Incl.	93	94	1	1.28
RC94HR37						And	97	100	3	1.19
RC94HR38	287580	7906724	450	128	-60	90	117	120	3	0.57
RC94HR39	287660	7906724	450	120	-60	270	NSI			
RC95HR40	287500	7906825	450	206	-60	90	NSI			
RC95HR41	287510	7906725	450	134	-60	90	NSI			
RC95HR42	287505	7906925	450	98	-60	90	NSI			
RC95HR43	287600	7906925	450	104	-60	90	NSI			

Note: Locations reported are in MGA Zone 55. Eastings and northings derived from GPS to ~5-10m accuracy for RC prefixed holes, and georeferenced data from historical collar plan to ~30-50m accuracy for DDH* prefixed holes. RL is approximate, azimuth is magnetic azimuth. NSI = No significant intersections. Significant intersections >0.5% Cu with max 2m internal dilution (black); high grade internal zones >1.0% Cu cut-off (red) and >5% Cu cut-off internal zone (pink).*

APPENDIX 2

JORC Code, 2012 Edition – Table 1

References

Historical exploration data (pre-Superior) was obtained from the following reports that are available on the Queensland Government's data portal.

CRAE Ltd, 1992. Sandalwood EPM 8288 Annual Report for Period 09/09/91 to 08/09/92. https://www.data.qld.gov.au/geoscience/cr024127.

CRAE Ltd, 1993. Sandalwood EPM 8288 Annual Report for Period 09/09/92 to 08/09/93. https://geoscience.data.qld.gov.au/dataset/cr025097.

CRAE Ltd, 1994. Sandalwood EPM 8288. Exploration Report for the Third Year of Tenure 09/09/93 to 08/09/94. https://geoscience.data.qld.gov.au/data/report/cr026746.

CRAE Ltd, 1995. Sandalwood EPM 8288. Fourth Annual Report for the Period 09/09/94 to 08/09/95, and Final Report. https://geoscience.data.qld.gov.au/data/report/cr027092.

Connah T.H., 1959. Ninety Mile Copper Mine, Greenvale. Queensland Government Mining Journal July-August 1959 pp 525-532. https://geoscience.data.qld.gov.au/data/report/cr048578.

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.*	• Sampling includes diamond core (DD) drilled by Qld Department of Mines in 1953, RC drilling and soil sampling by CRAE Ltd in the 1990's, and rock chip & mullock grab sampling undertaken by Superior in 2020. • For DD drilling, samples were combined from core and sludges according to standard practice at the time. Sample lengths varied to match the logging intervals and ranged from approximately 20cm to 90cm (intervals originally measured in feet and inches). Only Cu was analysed, the lab and method are not known. • Reverse Circulation (RC) drill samples were collected as 1m samples and composited to 3m samples; Higher grade 3m composites were subsequently assayed on the original

Criteria	JORC Code explanation	Commentary
	• *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.*	1m splits. The sample collection and compositing methods are not documented. Samples were analysed by Amdel Laboratories in Townsville for Au using fire assay (FA3), and Ag and Cu and other elements using ICP. • CRAE's soil geochemical samples were collected from the B horizon at 25m spacings on 200m-spaced east-west lines, using an 8" auger blade on a "Dingo Digger" and sieved to -4mm fraction on site. Samples were analysed by Amdel Laboratories in Townsville for Au using fire assay (FA3), and Ag and Cu and other elements using ICP. • Superior's mullock and rock chip samples weighed 1-2kg and assayed at SGS Laboratories in Townsville for Au (fire assay) and Ag and Cu and other elements using ICP.
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.).*	• DD core was AX diameter (approximately 30.2mm), which is sufficient to indicate the tenor of mineralisation generally, but may not provide adequate representative sampling (compared to wider core diameters used today). Non-sampling bits were used in pre-collars that were drilled to depths ranging to ~30m to 70m down-hole. • RC drilling techniques were not documented and are unverifiable.
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.*	• DD sample recovery was routinely recorded; core recovery varied from 0% to 100% and was generally in the range 30% to 80%. • RC sample recovery is not recorded. • No relationship is evident between sample recovery and grade.
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.*	• Detailed geological logs were completed for all DD and RC holes to sufficient level for exploration prospect assessment. DD pre-collars were not logged as immaterial. • Logging is both qualitative (e.g. rock type) and quantitative (e.g. mineral percentages) • The level of logging detail is considered appropriate for exploration drilling. • DD core and RC chips were not photographed. • CRAE's soil samples were logged in brief form. • Superior's rock chip samples were logged (summary lithology) and photographed.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Sample collection methodology for DD and RC drilling was not documented and is unverifiable. • Sample sizes are considered appropriate for the exploration assessment stage (RC and DD) and may be appropriate for resource evaluation (RC). • Details of the DD sampling technique and preparation are not available; combination of core and sludge samples to arrive at Cu grades was considered standard practice at the time. RC sampling is appropriate for this style of mineralisation for exploration and resource assessment; sample preparation techniques are not documented. • It is not known if field duplicates were obtained for DD or RC samples. • RC sample sizes of 1-2kg are appropriate to the fine-grained nature of the mineralisation; DD sample sizes comprised of ~20cm of 30mm-diameter core are acceptable for general indication of grade at the exploration stage, but insufficient for resource estimation.
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.*	• DD assay lab methods are undocumented. • RC assays were obtained at Amdel in Townsville, a reputable laboratory. It is assumed standard sample preparation methods were used; fire assay and ICP analysis are industry standard methods. Fire assay and ICP are total digestion techniques. • Soils assays were obtained at Amdel in Townsville, a reputable laboratory. It is assumed standard sample preparation methods were used; fire assay and ICP analysis are industry standard methods. Fire assay and ICP are total digestion techniques. • Rock chip samples were crushed, pulverised to ensure a minimum of 85% pulp material passing through 75 microns, then analysed for gold by fire assay method GO_FA50V10 using a 50-gram sample. Multi-element analyses were conducted on the gold mineralisation using a four-acid digestion followed by an ICP-OES/MS finish using method GO_ICP41Q100. The following 35 elements were assayed: Ag, Al, As, Ba, Bi, Ca, Ce, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sn, Sr, Te, Th, Tl, Ti, U, V, W, Zn and Zr. • For DD drilling, it is unknown whether QAQC checks were completed. • For RC samples, CRAE occasionally used standards, duplicates and blanks (ranging from 0 to 3 per hole) for QAQC analysis; it is assumed the results were monitored at the

Criteria	JORC Code explanation	Commentary
		time but results are not available and could not be independently reviewed. • For CRAE soil samples, standards, duplicates and blanks were not used. • For rock chips, standards, duplicates and blanks were not used. • Additionally, it is believed that Amdel and SGS laboratories used a series of their own standards, blanks, and duplicates for the QC of the elements assayed, however the results are not available and results could not be independently verified.
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.*	• The reported significant intersections have been checked against the source drill logs and assay reports (references provided above). • Twinned holes were not drilled. • For CRAE RC drilling and geochemical sampling, data was sourced from tenement annual reports. • No adjustments were made to assay data, except for imperial to metric conversion of sample interval lengths for DD drilling. • Data compilation into the Company's digital database is ongoing.
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.*	• RC drill hole collar and soil sample locations were originally designed in a nominal local grid, and positioned in the field using handheld GPS with 5m to 10m accuracy, originally in AMG grid. Coordinates have been transformed to MGA 94 zone 55 grid in this report. • DD collars were georeferenced from the collar plan in Connah 1959, using a GPS pickup of the main shaft as the control point. A GPS pick up of DDH4 was obtained in MGA 94 zone 55 grid to 5m to 10m accuracy, which matched the georeferenced value to within approximately 40m; it is believed the DD drill collar locations are to within ~40m accuracy. The GPS coordinates for DDH4 have been used herein. • Rock chip samples were collected in the field using handheld GPS with 5m to 10m accuracy in MGA 94 Zone 55 grid. • There is no height datum or relative level control; currently all drill collars and surface samples have been assigned an RL of 450m. For the time being this is considered an acceptable assumption given the low topographic relief over the project area, although with further planned activity accurate topographic control should be

Criteria	JORC Code explanation	Commentary
		obtained. • There are no downhole survey data available for RC or DD drilling. • Holes were drilled on magnetic azimuth, approximately +6.5° to MGA 94 azimuth.
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.*	• Drill hole spacing is variable, due to the early stages of exploration. RC holes were drilled on 4 lines spaced approximately 100m apart along strike, with holes ranging from 20m to 50m apart on each line. This spacing is considered sufficient to establish strike and dip direction of the mineralisation (in conjunction with data from mapping and historical workings). • Soil samples were collected on a 25m (across strike) x 200m (along strike) pattern, which has effectively delineated a coherent high tenor soil anomaly. • Most intersections reported in this report are length-weighted composites of smaller sample intervals as is standard practice.
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.*	• RC and DD holes were drilled on magnetic azimuths 90 or 270 (approximately +6.5° rotation to MGA 94 grid), which is appropriate given the variable dip of mineralisation from steep east to steep west. • No orientation sample bias has been identified at this stage.
Sample security	• *The measures taken to ensure sample security.*	• Sample security measures were not documented.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No additional audits or reviews of the sampling techniques and data have been undertaken to date owing to the preliminary stages of assessment.

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	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint*	• Halls Reward is located within Exploration Permit for Minerals EPM 25691 held 100% by Superior.

Criteria	JORC Code explanation	Commentary
land tenure status	*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.*	• 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.*	• Historical small scale mining activity, diamond drilling by the Queensland Department of Mines in the 1950's, and RC and geochemical surveys by CRAE in the 1990's has led to the definition of significant mineralisation. Based on results to date, Halls Reward is an attractive exploration target for high-grade Cu-Au-Ag.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Mineralisation at Halls Reward is oxide near surface and primary sulphide at deeper levels. Mineralisation is strongly structurally controlled, and may have been deformed post-deposition on the basis of quartz vein strings within the shear zone. The local geology comprised of highly-deformed metasediments and amphibolites indicates the geological setting is that of an accreted magmatic arc, with the structure, alteration and metal assemblage indicating the Cu-Au-Ag mineralisation is possibly Cyprus VMS style. Cyprus style deposits typically occur in clusters along structural corridors.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• See Appendix 1 drill hole details.

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*	• Drill hole intersections are length-weighted averages of individual assay intervals. Significant intercepts have a lower cut-off of 0.5% Cu with maximum 2m of internal dilution. Higher-grade internal intervals are also reported where >1% Cu for RC holes and >5% Cu for DD holes.

Criteria	JORC Code explanation	Commentary
	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.*	• No top cutting has been applied to the exploration results given the early stages of exploration assessment. • No metal-equivalent values are 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').*	• Drilling azimuths are perpendicular to the strike of mineralisation. Mineralisation dips from steep east (Main Lode) to steep west (West Lode), see cross sections in the body of the report. Drill hole angles are appropriate for the geometry of mineralisation, intersections are as close as possible to true widths. Specifically, intersections in DDH3, 4, & 5 are close to true width, intersections in DDH1 & 2 are approximately 2/3 true width. CRAE RC holes RC93HR3 and RC94HR35 are interpreted to have drilled parallel to the Main Lode and failed to intersect it. Remaining RC holes targeting the West Lode were drilled towards the east to intersect the west-dipping lode such that intersection are between 2/3 true width to true width.
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 in the report body.
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.*	• See Appendix 1 for a complete tabulation of RC and DD significant intercepts. • Superior's rock chip sampling results are provided in full on Fig. 2 with the tenor of Cu mineralisation indicated by colour coding.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• For DD holes, only Cu was assayed although historical production figures from the mine show that significant byproduct Au and Ag was recovered. • Interesting Zn values >0.10% in a number of CRAE's RC drill holes are not economic, but support the interpretation that Halls Reward is a Cyprus VMS style of deposit. • No other exploration reporting is required for a balanced understanding of the results.

Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*
		• Further work programs will include:
		  • Extension of soil sampling grids over outlier historical workings.
		  • Primary and secondary Cu mineralisation is expected to be highly electrically conductive. An EM geophysical survey is planned to map conductors associated with Cu mineralisation at depth, which together with surface geochemical data is expected to lead to additional drilling targets.

Criteria	JORC Code explanation	Commentary
		• Drilling.