Superior Resources | ASX Announcement

23 September 2024

STEAM ENGINE PROJECT DRILL PROGRAM
Results revealing second high grade Au shoot at Eastern Ridge Lode

HIGHLIGHTS:

- **A new, potentially significant lode zone located 80m west of Eastern Ridge Lode has been identified in 6 holes with grades up to 7.18g/t Au**
- **Resource definition drilling at the Eastern Ridge Lode highlight a potential second high-grade mineralisation shoot that shows significant thickening with depth and impressive grades:**
  - **12m @ 3.29g/t Au** from 71m (SRC202)
    incl **5m @ 7.65g/t Au** from 73m
    incl **2m @ 17.09g/t Au** from 74m
  - **6m @ 2.35g/t Au** from 59m (SRC203)
    incl **3m @ 4.26g/t Au** from 59m
    incl **1m @ 9.08g/t Au** from 59m
- **The high-grade Au shoot is highly significant as it:**
  - **extends mineralisation from 30m to 80m down-dip, from surface**
  - **is located at the northern margin of the Mineral Resource and shows a northerly plunge of the shoot, indicating significant lode extension potential northwards**
- **Upcoming large Phase 2 drill program will focus on expanding Resources amenable to open pit mining and identifying new lode zones at Steam Engine and Eastern Ridge lodes, including SAM geophysical and soil geochemical targets**

Superior's Managing Director, Peter Hwang commented:

"The high-grade gold mineralisation in holes SRC202 and SRC203 coupled with the significant thickening of the Eastern Ridge Lode at its northern end demonstrates the expansion potential that continues to be presented across the Steam Engine Project. Importantly, the zone of sericite alteration that carries the mineralisation has substantially thickened at the northern end, from about five meters to over 30 metres in intersectional thickness, indicating a potential strengthening of the mineralising system. The mineralisation at the northern end of Eastern Ridge lies outside the optimised pits that were used in the recently announced Revised Scoping Study. This result contributes solidly to our objective of expanding extractable Resources and ultimately, project economics.

"We are also excited to have identified a new, parallel zone of mineralisation about 80 metres to the west of Eastern Ridge. The presence of this zone was unexpected, and we only identified it as we stepped out a line of holes to the west to target deeper parts of the Eastern Ridge Lode.

"Drilling at Eastern Ridge has been very limited, especially compared to the Steam Engine Lode. The Mineral Resource is developed along only 500 metres of a 4-kilometre-long mineralised structure and associated SAM geophysical targets lie to the south and west of the Resource envelope.

"We eagerly look forward to the upcoming and substantial Phase 2 of the 2024 Greenvale drilling program."

Figure 1. *2024 program reverse-circulation drilling at the northern end of the Eastern Ridge Lode (hole SRC203), viewed looking north.*

Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) is pleased to report initial results from reverse-circulation (**RC**) drilling at the Steam Engine Gold Project (**Project**). Steam Engine is a unique and expanding gold deposit located between several Tier 1-potential porphyry Cu-Au-Mo prospects and a magmatic Ni-Cu-PGE sulphide province within the Company's 100%-owned Greenvale Project in northeast Queensland (**Figs. 1 and 2**).

Resource definition drilling during 2020 and 2021 expanded the maiden Mineral Resource Estimate (**MRE**) from 1Mt @ 2.5g/t Au for 85,000oz to the current **4.18 Mt @ 1.5 g/t Au for 196,000oz Au**[1]. The Project presents substantial growth potential as the MRE is established to generally shallow depths on 1.2kms of at least 10kms of potentially mineralised structure as indicated by soil geochemistry.

Most recently, the Company revised a 2021 Scoping Study[2], which resulted in robust positive outcomes for both toll treatment and stand-alone processing development scenarios. The key foci at Steam Engine are to expedite mining studies and regulatory processes towards initial development whilst also growing the total Resource base by along strike extensional drilling and exploration drilling targeting new gold lodes.

Results from 16 RC holes drilled at the Eastern Ridge Lode for a total of 1,384 metres of drilling are reported. Results from a further 16 holes drilled at the Steam Engine Lode are currently being analysed and will be reported separately.

[1] Maiden MRE (JORC, 2012) was established in 2017 and comprised 100% Inferred category Resources with a cut-off grade of 1.0g/t Au (refer ASX announcement dated 19 October 2017); the current MRE is based on a cut-off grade of 0.25g/t Au and was established for the purposes of examining a stand-alone processing development scenario. The current MRE for a toll treatment development scenario, based on a cut-off grade of 1.0g/t Au is 2.72 Mt @ 2.0 g/t Au for 171,000 oz Au (refer ASX announcement dated 11 April 2022).

[2] Refer ASX announcement dated 16 September 2024.

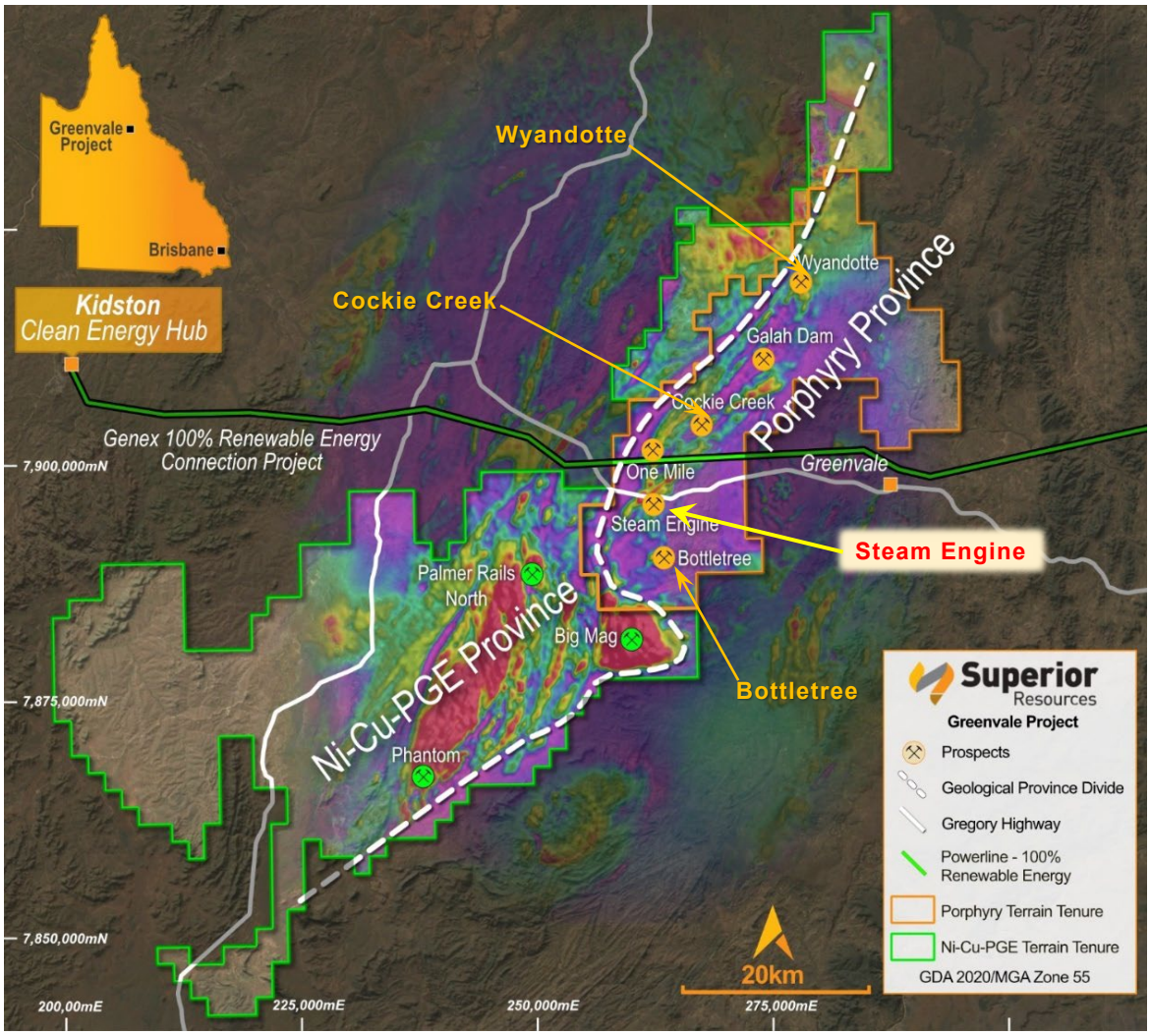


Figure 2. *Regional aerial magnetics over the Greenvale Project area showing the newly recognised porphyry province (tenements outlined in amber) and the magmatic Ni-Cu-PGE sulphide province (tenements outlined in green).*

Steam Engine Gold Project and its Potential

Gold mineralisation at the Project is developed within several north-northeast trending, west dipping, variable pyritic sericite-quartz-carbonate shear zones, which are described as lodes where gold mineralisation shows good continuity and thicknesses. These zones are developed proximal to contact zones between metavolcanics (commonly, basalt), metasediments and intrusions (commonly, meta-tonalite and meta-diorite) (**Fig. 3**).

To date, four main lode zones have been identified in outcrop and by drilling: the Steam Engine Lode, Eastern Ridge Lode, the Southern Zone Lodes and the Dinner Creek Zone. Several other gold-mineralised zones are visible in outcrop or otherwise identified by soil geochemistry. The presence of mineralisation in these other zones has been variably confirmed by historical drilling (e.g. Origin and Windmill East) (**Fig. 4**).

The current MRE is established on the Steam Engine and Eastern Ridge lodes over a total strike length of 1.2kms. The total strike length of the key mineralised structures is at least 10kms. Potential exists for substantial expansion of the Mineral Resource (**Fig. 4**).

Further expansion potential may be indicated by highly anomalous responses in the late-channel electro-magnetic (**EM**) component of a recent sub-audio magnetic (**SAM**) survey conducted over the Steam Engine and Eastern Ridge lodes.

The Steam Engine and Eastern Ridge lodes are sub-parallel to each other, dip generally at moderately steep angles of around 50 to 60 degrees to the West and are approximately 600 metres apart. The lodes have significant strike lengths of which only relatively small portions have yet been investigated by systematic drilling.

The current Mineral Resource is of high quality with a significant portion of the Resource in the Measured confidence classification (**Table 1**). The high degree of confidence in the Mineral Resource enables ready progression to feasibility and mining studies.

The Project is characterised by a significant high grade mineralisation zone, which dominates the Steam Engine Lode. Bonanza grade gold mineralisation occurs within this zone.

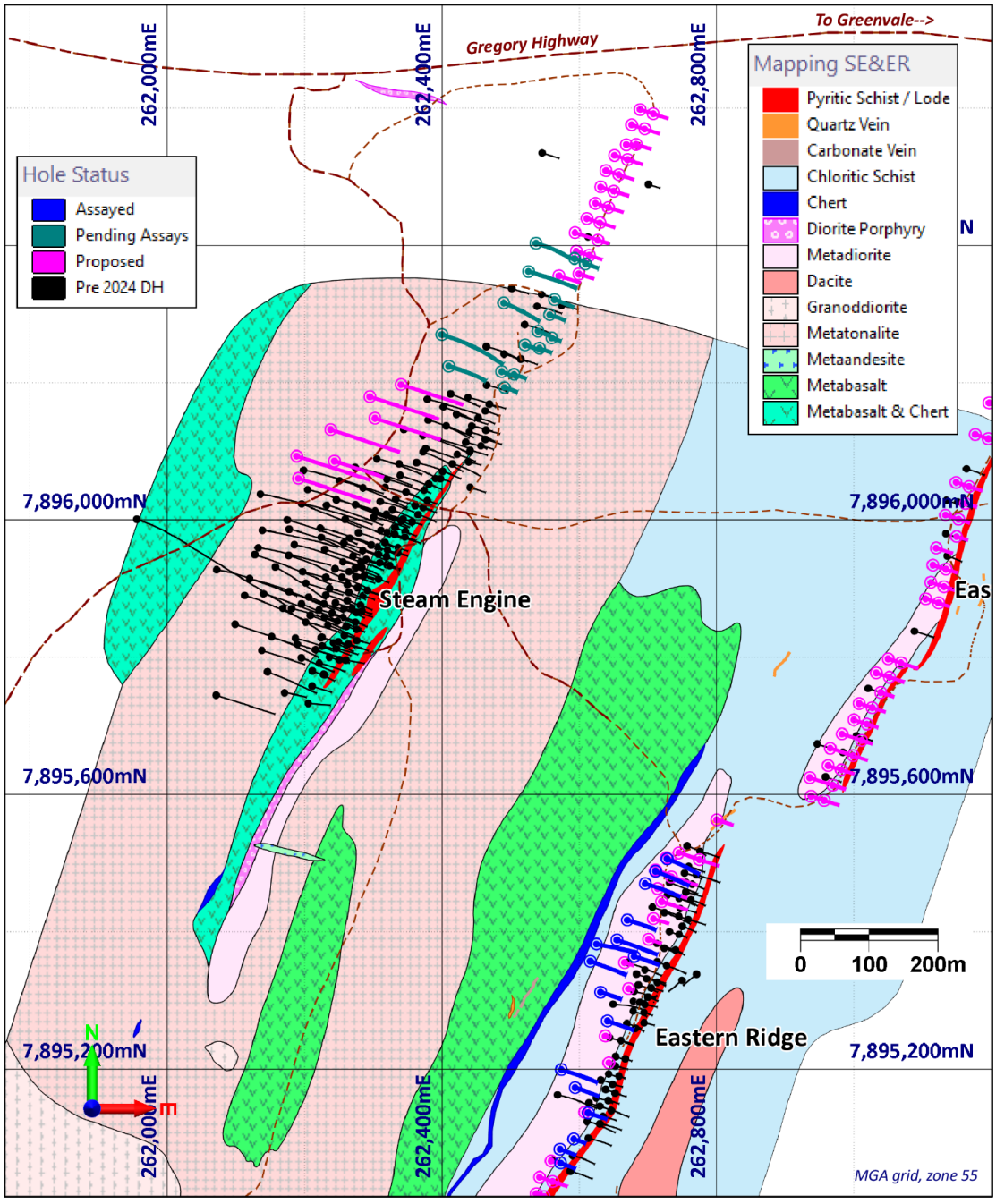


Figure 3. *Map of part of the Steam Engine and Eastern Ridge lodes showing mapped surface geology, lode outcrops (red), locations of the reported drill holes (in blue), drill holes with assay results received and being analysed (in green) and proposed 2024 program holes, yet to be drilled (in pink). Pre-2024 drill holes are shown in black.*

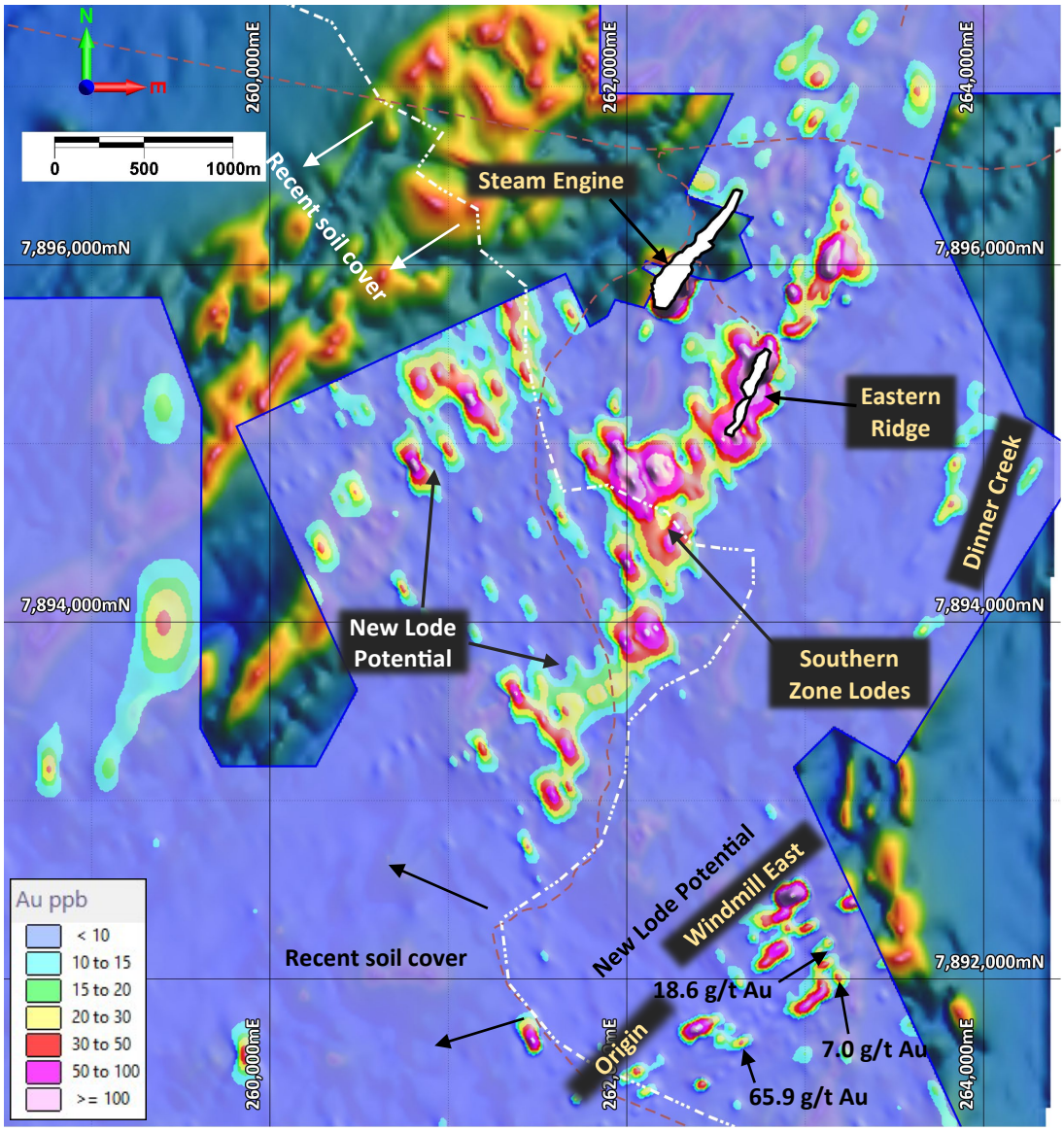


Figure 4. *Plan map showing gridded Au soil geochemistry over background RTP airborne magnetics data. The Steam Engine and Eastern Ridge lode Mineral Resource outlines are shown as white polygons. The Southern Zone, Windmill East and Origin mineralised zones are also shown.*

Table 1. Steam Engine Gold Project – Mineral Resource Estimate[3]

Model	Classification	Tonnes	Grade (g/t Au)	Ounces (Au)
OWNER OPERATOR MODEL (0.25 g/t Au block grade cut-off)	MEASURED	800,000	2.1	53,000
	INDICATED	1,420,000	1.5	68,000
	INFERRED	1,960,000	1.2	75,000
	TOTAL	**4,180,000**	**1.5**	**196,000**
TOLL TREATMENT MODEL (1.0 g/t Au block grade cut-off)	MEASURED	590,000	2.6	49,000
	INDICATED	1,020,000	1.9	62,000
	INFERRED	1,110,000	1.7	60,000
	TOTAL	**2,720,000**	**2.0**	**171,000**

[3] Refer ASX announcement dated 11 April 2022.

Eastern Ridge drill results

Assays

Assay results from 16 RC drill holes for a total of 1,384 metres completed at the Eastern Ridge Lode (**Figs. 3 to 5**) have been compiled and analysed. Drill hole total depths ranged from 50 to 130 metres. The objective of the drilling was to further define the Mineral Resource and identify extension to the mineralisation at the central part of the Eastern Ridge Lode.

Samples were taken at 1 metre intervals for laboratory assaying and logging. Assaying of the samples was carried out for gold and instances where gold grades were over 0.1 g/t Au, multi-element assaying was conducted. Multi-element analysis included 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. Rock lithologies and alteration were logged for every metre and compared to the multi-element signatures to assist with interpretation of the Eastern Ridge Lode zone.

The best results from the 16 drill holes included: SRC202 returning an interval average of **12 metres @ 3.29g/t Au** from 71 metres downhole (**including 2m @ 17.09g/t Au** from 74m); and SRC203 returning **6 metres @ 2.35g/t Au** from 59 metres downhole (**including 1m @ 9.08g/t Au** from 59m). All the significant assays and the interpreted lode zones are listed in **Table 2**. **Appendix 1** sets out the drill hole collar details.

Observations

Drill holes SRC202 and SRC203 identify a high-grade zone that may be recognised as a high-grade shoot with further drilling (**Fig. 5**). The mineralisation in this part of the lode appears to show a shallow plunge towards the northwest and indicates further mineralisation potential at this northern end of the Eastern Ridge Lode (**Fig. 7**). Importantly, SRC202 and SRC203 demonstrate a significant thickening of mineralisation together with significantly increased grade with depth (**Fig. 6**).

The increasing lode widths and grades with depth is associated with a general thickening in the shear-related sericite alteration that characterises the lode zone. This is particularly pronounced in SRC203, which is located at the northern-most edge of the current Mineral Resource envelope (**Fig. 7**). The substantial thickening of the alteration zone is interpreted to indicate a greater amount of structural dilation relative to the surrounding areas, which is conducive to the development of greater mineralisation tonnages.

The mineralisation in SRC202 and SRC203 is particularly significant as the intersections are located outside and to the north of the optimised pit that was modelled from the 2022 Mineral Resource for the purposes of the recent Scoping Study[4] (**Fig. 7**). These results are expected to contribute to a positive impact on project development economics in future financial modelling of the Project as they are a form of upside that was identified by the Scoping Study.

As generally observed in the Steam Engine Lode, the Eastern Ridge holes are indicating that the higher-grade portions of the lode plunge towards the north at shallow angles within the lode zone (**Figs. 5 and 7**). At Eastern Ridge the higher-grade zones are more distinct than within the Steam Engine Lode and appear to be repeated regularly along strike.

A particularly notable observation is the identification of a potentially new lode zone located about 80 metres to the west of the Eastern Ridge Lode. This zone was intersected in 6 of the 16 holes drilled (SRC192, 195, 198, 199, 203 and 204) (**Fig. 5**). Each of the 6 holes are step-out holes designed to extend the Mineral Resource envelope down-dip.

[4] Refer ASX announcement dated 16 September 2024.

An upcoming follow-up drill program will focus on extending the Mineral Resource along strike and down dip whilst also testing the extent of the high-grade shoot potential and the potential new lode to the west of Eastern Ridge. Drill-testing of the SAM targets will also be conducted.

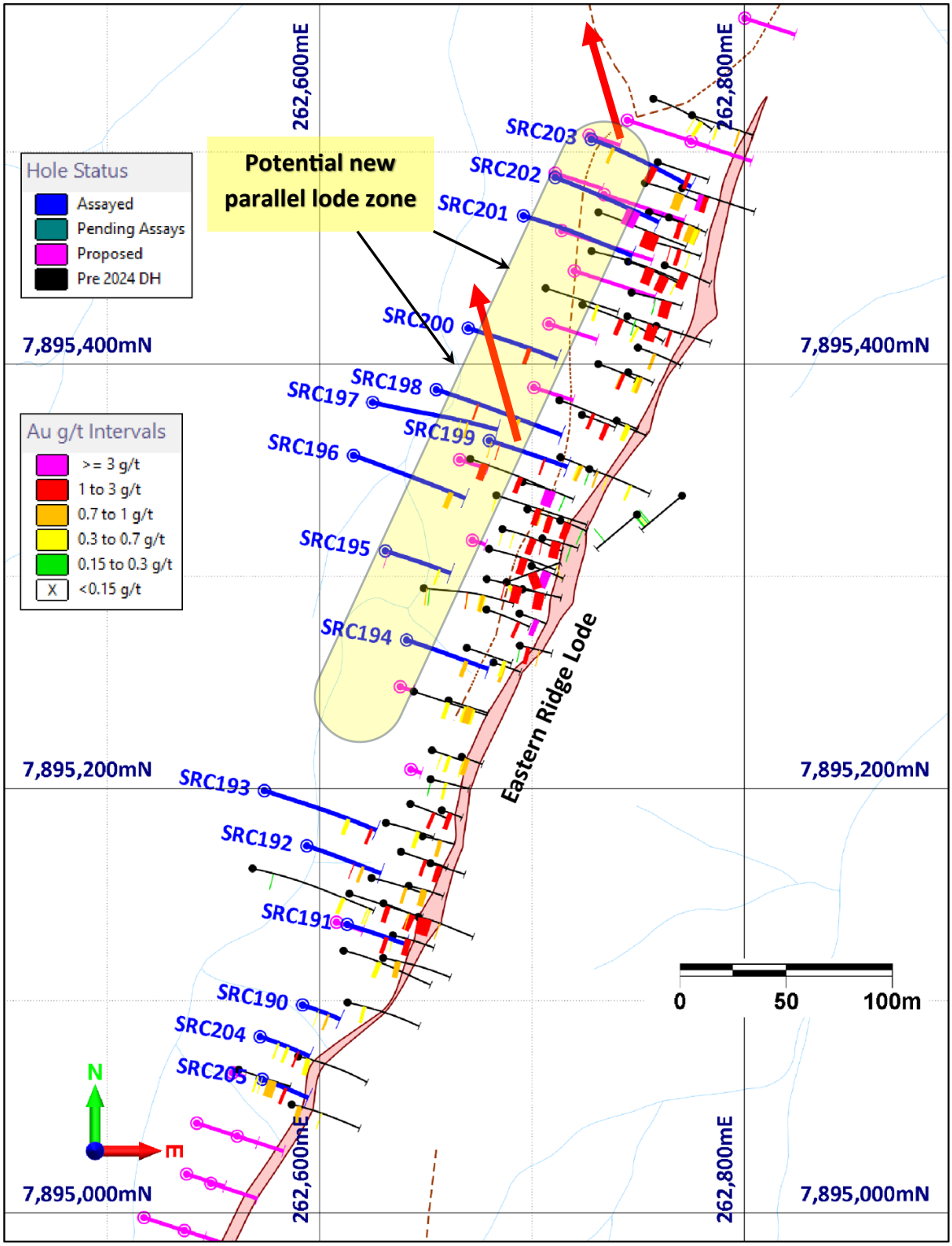


Figure 5. *Plan view of the central part of the Eastern Ridge Lode, showing the recently completed RC drill holes (blue traces), pre-2024 drill holes (black traces) and the planned hole traces, yet to be drilled (pink traces). The thick red arrows indicate a potential plunge direction of the high-grade mineralisation zones (shoots).*

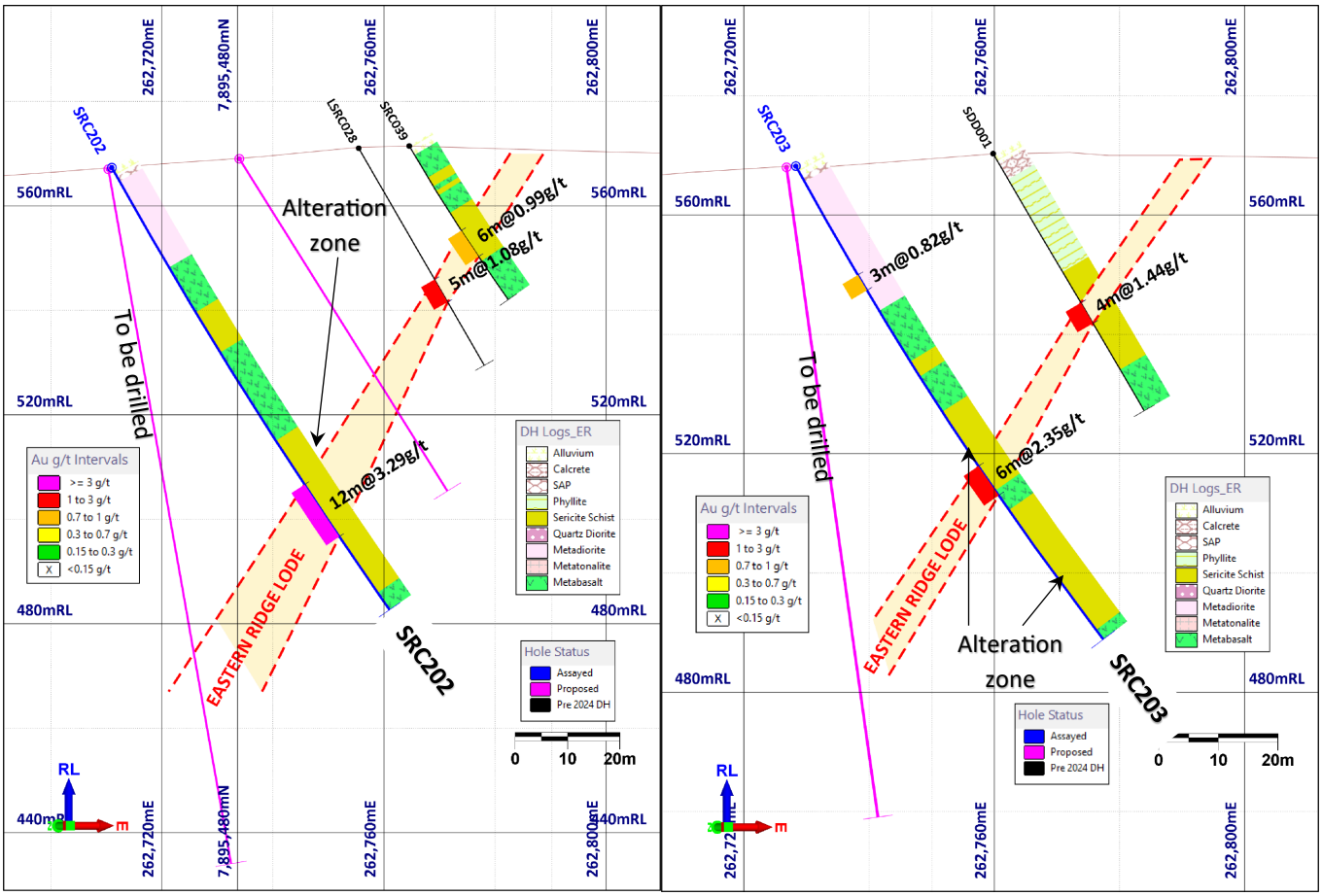


Figure 6. *Cross sections of the Eastern Ridge Lode at drill holes SRC202 (left) and SRC203 (right), viewed NNE and showing gold intersections and alteration zones (olive bar along drill holes traces).*

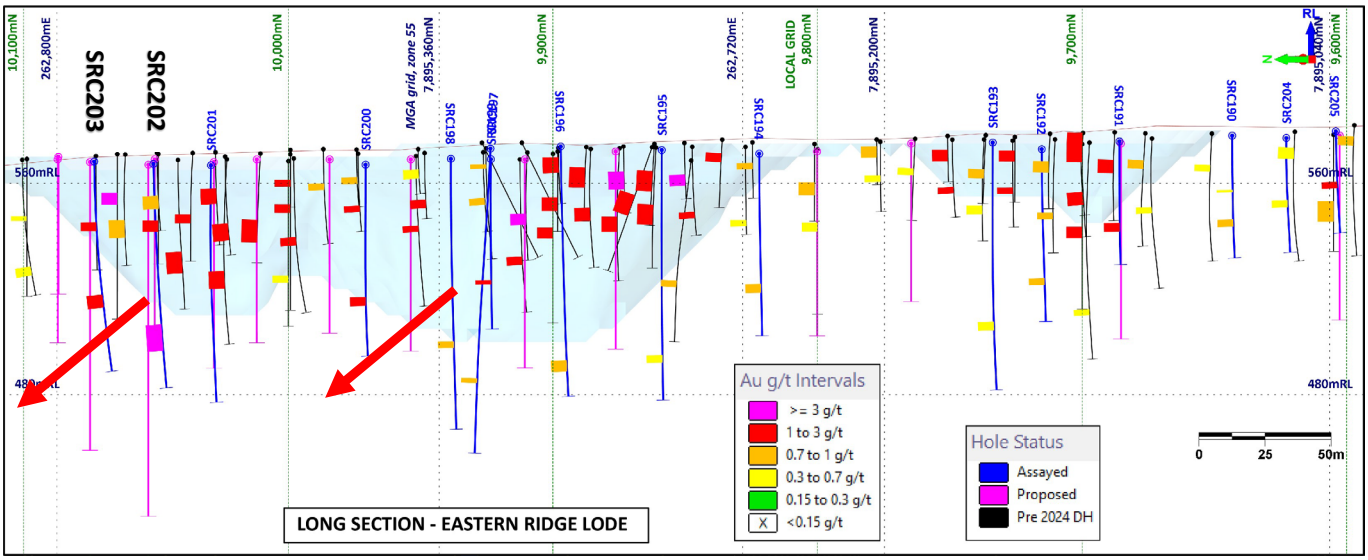


Figure 7. *Long section view of the central part of the Eastern Ridge Lode, viewed ESE and showing the optimised pit as modelled for a toll treatment mining and processing scenario under the recent Scoping Study, interpreted plunge of high-grade mineralisation shoots (red arrows), 2024 reported drill holes (blue traces), Au intersections and grade categories, and proposed holes (pink traces) and pre-2024 holes (black traces). Note that the high-grade gold intersections in SRC202 and SRC203 lie outside the optimised pit.*

Table 2. Eastern Ridge Lode – significant intersections

Hole ID		From (m)	To (m)	Interval (m)	Au (g/t)	Lode
SRC190		33	37	4	0.65	Eastern Ridge
	including	34	36	2	1.05	
SRC191		36	40	4	1.09	Eastern Ridge
	including	37	38	1	3.15	
SRC192		**48**	**49**	**1**	**2.20**	**New Western Lode Zone**
		57	59	2	1.09	Eastern Ridge
SRC193		79	83	4	0.61	Eastern Ridge
		103	106	3	1.72	Unnamed FW Lode
	including	104	105	1	3.20	
SRC194		57	61	4	0.95	Eastern Ridge
SRC195		**4**	**5**	**1**	**7.18**	**New Western Lode Zone**
		80	85	5	0.49	Eastern Ridge
	including	83	84	1	1.24	
SRC196		94	99	5	0.73	Eastern Ridge
	including	94	95	1	1.99	
SRC197		96	100	4	0.55	Eastern Ridge
	including	99	100	1	1.62	
SRC198		**41**	**43**	**2**	**1.14**	**New Western Lode Zone**
		80	83	3	0.97	Eastern Ridge
SRC199		**1**	**4**	**3**	**0.42**	**New Western Lode Zone**
		10	**11**	**1**	**2.47**	**New Western Lode Zone**
		53	55	2	1.01	Eastern Ridge
SRC200		58	62	4	1.11	Eastern Ridge
	including	58	59	1	2.42	
SRC202		**71**	**83**	**12**	**3.29**	**Eastern Ridge**
	including	**73**	**78**	**5**	**7.65**	
	including	**74**	**76**	**2**	**17.09**	
SRC203		**21**	**24**	**3**	**0.82**	**New Western Lode Zone**
		59	**65**	**6**	**2.35**	**Eastern Ridge**
	including	**59**	**62**	**3**	**4.26**	
	including	**59**	**60**	**1**	**9.08**	
SRC204		**18**	**20**	**2**	**0.67**	**New Western Lode Zone**
		27	29	2	0.93	Eastern Ridge
		38	39	1	3.78	Unnamed FW Lode
SRC205		22	25	3	1.12	Eastern Ridge
	including	22	23	1	1.98	

Next Steps

The forward exploration at the Project is focussed on extending the Mineral Resource along strike at the Steam Engine and Eastern Ridge lodes and the identification of new lode zones that have the potential to contribute Resources to an open-cut mining operation.

A program soil geochemistry sampling program and follow up slimline RC drilling programs will be conducted for the exploration aspects of the forward program.

Two programs of soil sampling are planned: a higher density program to assist in determining drill hole locations along the interpreted new lode zones; and a lower density program to extend the soil geochemistry coverage outside of the known geochemically anomalous zones (**Fig. 8**).

The following sets out the key work units that are planned to be conducted over the next Quarter:

1. Awaiting 3D geophysical modelling of **SAM survey data**;
2. Commencement of **follow-up Resource expansion and exploration drilling program,** including drilling of **SAM targets**;
3. Commencement of SEGP soil sampling programs;
4. Metallurgical and other mining study related work relating to Feasibility Study; and
5. Establishing a maiden Ore Reserve.

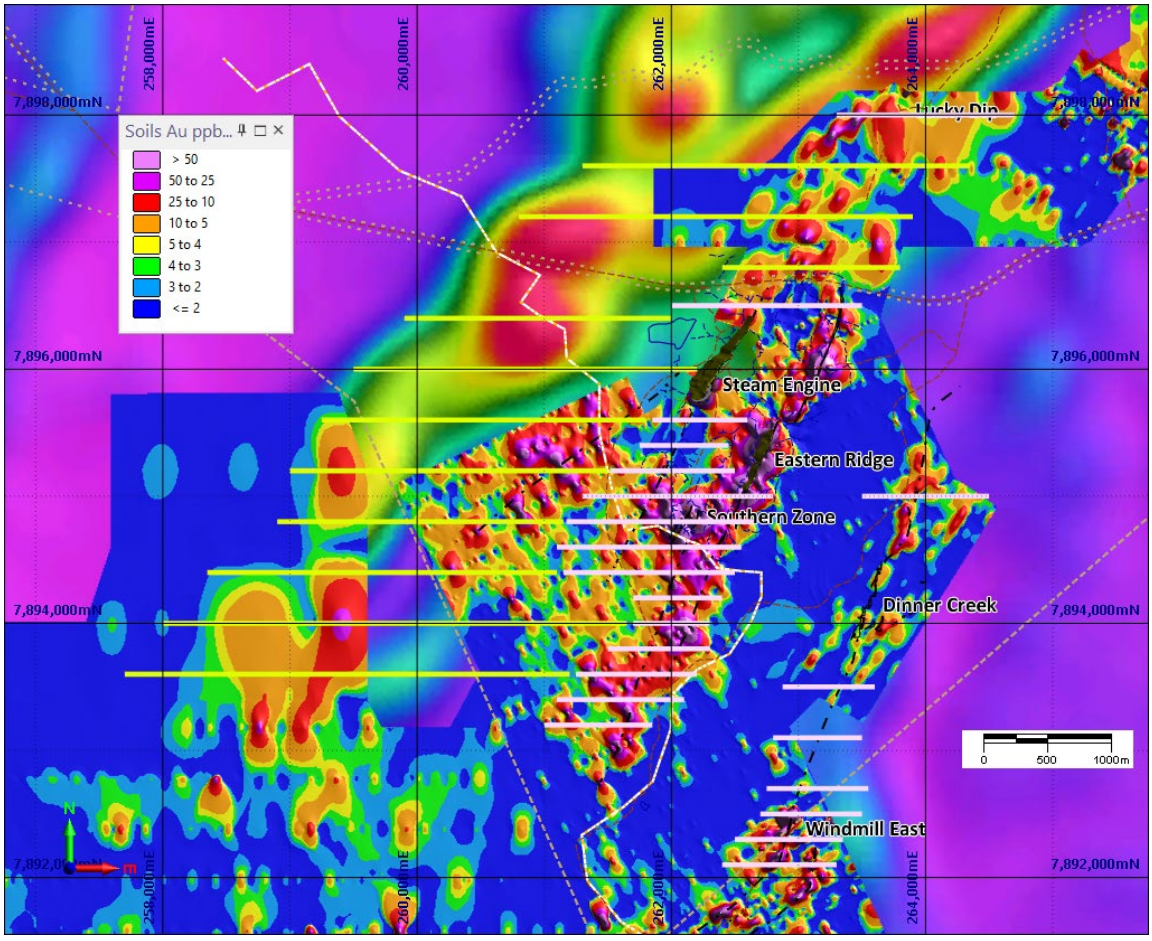
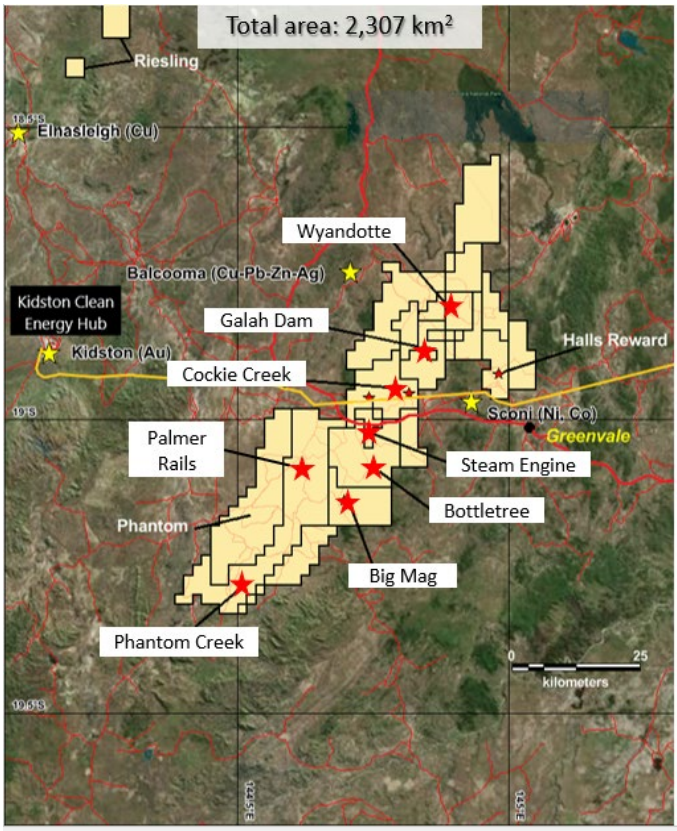
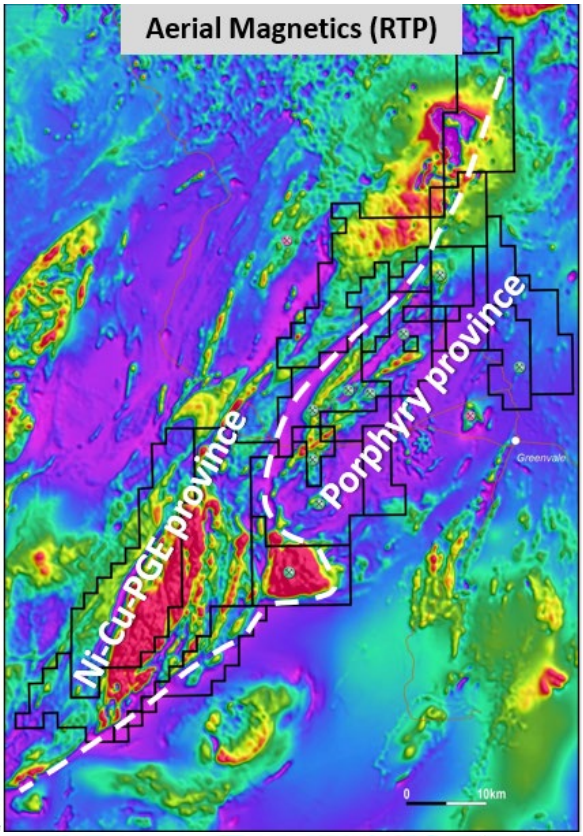


Figure 8. *Plan of gridded Au soil geochemistry over background RTP airborne regional magnetics data showing planned soil geochemistry sampling lines. Pink E-W lines represent a higher density soil sampling program consisting of sample interval spacings of 25m and sample line spacings of 200m. Yellow E-W lines represent a lower density soil sampling program comprising 50m sample intervals along 400m spaced sample lines.*

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



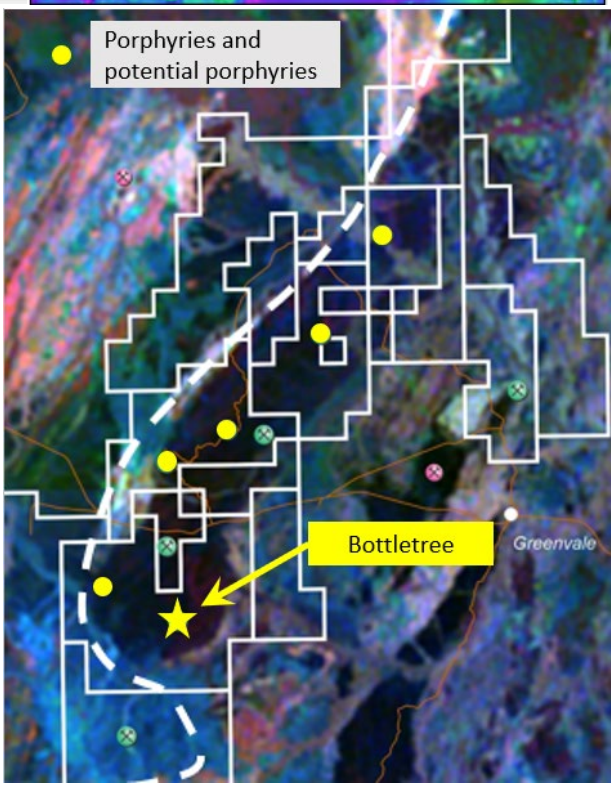


Superior has long recognised the copper potential within the Lucky Creek Corridor. However, recent exploration drilling at Bottletree, coupled with regional geological investigations over several years has enabled the characterisation of the Lucky Creek Corridor as a fossil island arc porphyry province,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

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

Juxtaposed against the Greenvale Porphyry Province is a second province formed by a completely different geological genesis model. Originally formed at a much deeper crustal level, the Greenvale Magmatic Nickel-Copper-PGE Sulphide Province has been technically proven in terms of the presence of such mineralising systems. However, the province remains practically unexplored.

Superior enjoys a first mover advantage over the entire province, which presents as one of the best sulphide Ni-Cu-PGE propositions in Australia.



About Superior

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large copper, nickel-copper-cobalt-PGE, lead-zinc-silver and gold deposits in northern Queensland, which have the potential to return maximum value growth for shareholders. The Company is focused on multiple Tier-1 equivalent exploration targets and has a dominant position within the Carpentaria Zinc Province in NW Qld and Ordovician rock belts in NE Qld considered to be equivalents of the NSW Macquarie Arc. For more information, please visit our website at www.superiorresources.com.au.

Reporting of Exploration Results: *Information contained in this report that relates to the reporting of Steam Engine Gold Project exploration results is based on information compiled by Mr Kevin Richter, an employee of Superior Resources Limited, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Richter has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Richter consents to the inclusion in this report of the matters based on his 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. Information contained in this report relating to the findings and outcomes of the Company's 2021 and 2024 Scoping Studies is provided on the basis of material assumptions that applied at the time of the original reporting of the Scoping Studies.*

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Approved for release by the Board of Directors

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APPENDIX 1

REPORTED DRILL HOLE COLLAR DETAILS

Holes	Easting (m)	Northing (m)	RL (m)	Depth (m)	Dip°	Azimuth°
SRC190	262592	7895098	578	50	-70	108
SRC191	262613	7895136	576	55	-60	108
SRC192	262594	7895173	573	75	-60	108
SRC193	262574	7895199	575	109	-60	108
SRC194	262641	7895270	571	80	-60	108
SRC195	262631	7895312	573	100	-70	108
SRC196	262616	7895357	574	110	-61	109
SRC197	262625	7895382	573	130	-61	103
SRC198	262655	7895388	569	120	-61	108
SRC199	262680	7895364	569	75	-61	107
SRC200	262670	7895417	567	85	-61	108
SRC201	262696	7895470	567	105	-61	107
SRC202	262711	7895488	567	100	-61	110
SRC203	262728	7895506	568	95	-61	109
SRC204	262572	7895083	577	50	-62	107
SRC205	262573	7895063	580	45	-61	109

Note: Locations reported are in MGA Zone 55. Location information is derived from GPS and not DGPS data.

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.*	• Reverse Circulation (**RC**) drill samples are collected as drilled via a riffle splitter attached to the drill rig cyclone and collected as 1m riffle split samples. Approximately 1-3kg of sample was collected over each 1m interval used for assaying. • The drill bit sizes used in the drilling were consistent in size and are considered appropriate to indicate the degree and extent of mineralisation. • 1m representative samples were assayed for gold at SGS Laboratories in Townsville. Assaying for gold was via fire assay of a 50-gram charge. • Samples of the gold mineralisation over 0.1g/t Au were also submitted for multi-element assaying using a four-acid digest. • The sample preparation was conducted by SGS Laboratories in Townsville for all 2024 samples.
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 RC drilling techniques as applicable to the hole drilled. • RC Drilling was conducted by AED (Associated Exploration Drillers) using a Schramm 660 drilling rig with a 5.5 inch drill bit. Additional to the on-board air compressor of the drilling rig being used, additional compressed air was available as necessary via a separate booster compressor. Sampling was by the use of a face-sampling hammer bit. • All holes were surveyed using a Reflex Gyro north-seeking gyroscopic instrument to

Criteria	JORC Code explanation	Commentary
		obtain accurate down-hole directional data.
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 a Pinata contractor and Superior's representatives. • The volume of sample collected for assay is considered to be representative of each 1m interval. • RC drill rod string delivered the sample to the rig-mounted cyclone which is sealed at the completion of each 1m interval. The riffle splitter is cleaned with compressed air at the end of each 1m interval and at the completion of each drill hole. • 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.*	• Geological logging was conducted during the drilling of each hole by a Pinata 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 for the RC drill holes. A spear was used to produce representative samples for the logging of RC holes. • All logging data is digitally compiled and validated before entry into Superior's database. • The level of logging detail is considered appropriate for Resource drilling. • The RC chip trays were all photographed.
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*	• The sample collection methodology is considered appropriate for RC drilling and was conducted in accordance with standard industry practice. • RC drill hole samples are split with a riffle splitter at 1m intervals as drilled. Split 1 metre samples are regarded as reliable and representative. Approximately 1-3kg of sample was collected over each 1m interval. Samples were collected as dry samples. Duplicate samples are taken and assayed in each batch processed for assaying. • The sample sizes are considered appropriate to the style of mineralisation being assessed.

Criteria	JORC Code explanation	Commentary
	material 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 were submitted to SGS Laboratories in Townsville for gold. Samples of the gold mineralisation above 0.1g/t Au were also submitted for multi-element assaying using a four-acid digest. • 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. • Certified gold, multi-element standards and blanks were included in the samples submitted to the laboratories for QAQC. Laboratory assay results for these quality control samples are within 5% of accepted values. • Additionally, the laboratories used a series of their 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.*	• The reported significant intersections have been verified by Pinata and Superior geologists against the representative drill chips collected and the drill logs. • No holes drilled by Superior were twinned. • Logs were recorded by Pinata 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. • 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 locations will be further defined later this year using DGPS to give sub one metre accuracy. • The drill hole spacing and drilling technique are appropriate to establish the degree of geological and grade continuity for the Mineral Resource estimation procedures that

Criteria	JORC Code explanation	Commentary
		have been applied. The gold mineralised system remains open and further infill, depth and strike extension drilling is required to confirm the full extent of the ore bodies. • The area is located within MGA Zone 55. • Topographic control is currently from DGPS pickup that has been merged with RL adjusted contours. This arrangement will be upgraded prior to any possible mining when further definition of the topography would be needed (e.g. a LIDAR survey).
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 at the Steam Engine Project area, due to the different stages of Resource evaluation at the Project. • The drill hole spacing is sufficient in the central portions of the Steam Engine and Eastern Ridge lodes to allow estimation of Resources when all the necessary information is compiled. • Most intersections reported in this report are 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.*	• The orientation of the drill holes is generally ideal for reporting of the intersection results. • No orientation sample bias has been identified at this stage.
Sample security	• *The measures taken to ensure sample security.*	• Sub-samples selected for assaying were collected in heavy-duty polyweave bags which were immediately sealed. • These bags were delivered directly to SGS Laboratories by Terra Search contractor employees. • Sample security measures within 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 lie within Exploration Permit for Minerals 26165 and is held 100% by Superior. • Superior holds much of the surrounding area under granted exploration permits. • Superior has agreements or other appropriate arrangements in place with landholders and native title parties with respect to work in the area. • No regulatory impediments affect the relevant tenements or the ability of Superior to operate on the tenements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• All historic drilling reported in this report has been completed and reported in accordance with their current regulatory regime. • Compilation in digital form and interpretation of the results of that work in digital form has been completed by the Competent Person.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Steam Engine and Eastern Ridge gold deposits are hosted within shear zones. • The gold mineralisation occurs within a number of north-northeast trending, west-dipping pyritic quartz-muscovite-carbonate schist lodes within metamorphosed intermediate to basic intrusives and metasediments. Significant chlorite–epidote and sericite type alteration zones exist in the shear zones, with the mineralisation appearing to be mostly linked with heavily sericite altered sections of the host rock. • The gold mineralisation phase consists of a predominant pyrite sulphide assemblage +/- minor arsenopyrite, pyrrhotite, and chalcopyrite (all fine grained). • Several gold-bearing lodes occur in the area, of which the Steam Engine Lode zone is the most notable. The Eastern Ridge Lode zone is located about 500m to the east of the Steam Engine Lode zone. • The lodes are typically interpreted as being of the mesothermal lode type. Recent studies undertaken by Superior suggest the Steam Engine mesothermal gold mineralisation is most similar to orogenic style mineralisation. • The important features of the lodes are their continuity and a persistent dips to the west.

Criteria	JORC Code explanation	Commentary

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.*
		• Drill Hole collar tables with significant intersections are included in this announcement and previous ASX announcements including those dated: 22 November 2021, 18 October 2021, 29 September 2021, 1 September 2021, 12 August 2021, 19 February 2021, 11 February 2021, 18 January 2021, 5 November 2020, 15 October 2020, 30 September 2020, 14 September 2020 and 14 August 2017.

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 are reported as a length weighted average of all the assays of the hole intersections. • No top cutting has been applied to the exploration results. • 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').*	• For the Steam Engine Lode zone an interpreted westerly dip of approximately 50 to 60° and drill holes which generally dip to the east at around 60° (or less) result in near true widths at or above 0.87 times the intersection lengths as reported. • For the Eastern Ridge Lode zone an interpreted westerly dip of approximately 45 to 55° and drill holes that generally dip to the east at around 60° (or less) result in true widths at or above 0.9 times the intersection lengths reported.
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. • Further relevant maps and sections are included in previous ASX announcements including those dated: 22 November 2021, 18 October 2021, 29 September 2021, 1 September 2021, 12 August 2021, 19 February 2021, 11 February 2021, 18 January 2021, 5 November 2020, 15 October 2020, 30 September 2020, 14 September 2020

Criteria	JORC Code explanation	Commentary
		and 14 August 2017.
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.*	• Drill Holes collar tables with significant intersections are included in this announcement and previous ASX announcements including those dated: 22 November 2021, 18 October 2021, 29 September 2021, 1 September 2021, 12 August 2021, 19 February 2021, 11 February 2021, 18 January 2021, 5 November 2020, 15 October 2020, 30 September 2020, 14 September 2020 and 14 August 2017.
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.*	• Three batches of metallurgical tests from composited samples have been conducted between 2020 to 2022 involving a total of 31 samples (24 for Steam Engine and 7 from Eastern Ridge). • A summary of the metallurgical test work undertaken so far has concluded an average recovery for the Steam Engine Lode of 82% and for the Eastern Ridge Lode of 95%.

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.*
		• Additional work programs include:
		  • Further Resource expansion and exploration drilling programs
		  • Further Metallurgical studies
		  • Geotechnical studies
		  • Toll treatment negotiations
		  • Preliminary mining and rehabilitation planning
		  • Preliminary environmental studies