

## Summary

### Steam Engine Gold Deposit – evaluation studies (Greenvale)

- Stage 1 drilling program at the Steam Engine Gold Project was completed.
- A Stage 2 drilling program at the Steam Engine Gold Project was commenced and completed during the period.
- A revised Mineral Resource Estimate was established:
  - **1.6 million tonnes at 2.2 g/t Au (approximately 112,000 ounces)**, including:
    - **Measured and Indicated Resources: 650,000 tonnes @ 2.4 g/t Au (approx. 51,000 ounces);** and
    - **Inferred Resources: 950,000 tonnes @ 2.0 g/t gold (approx. 61,000 ounces).**
- Scoping Study incorporating results from Stage 1 drilling program nearing finalisation.
- New potential fourth lode zone (Dinner Creek Lode) identified during detailed mapping and rock chip sampling.

### Big Mag and greater Greenvale Project nickel and copper potential (Greenvale)

- Regionally large and intense magnetic anomaly with potential for magmatic nickel-copper sulphide mineralisation.
- Exploration program planning targeting magmatic nickel-copper sulphide mineralisation.
- Initial exploration program planning and land access preparations underway.

### Wyandotte (Greenvale)

- The Wyandotte Prospect is a shallow zone of high-grade copper mineralisation, which is potentially associated with a deeper intrusion-related or porphyry system.
- A technical study of the existing data was commenced during the Quarter in order to establish an exploration target to determine whether potential exists for expansion of the copper mineralisation.
- Drilling program and mining studies planned to commence early 2021.

## Superior Resources Limited

### ASX:SPQ

### Board

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

### Securities

Ordinary Shares – 1,377,073,558  
Top 20 holders: 48% issued capital

### Summary

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

### Share Registry

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### Web Site

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## PROJECT LOCATIONS



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

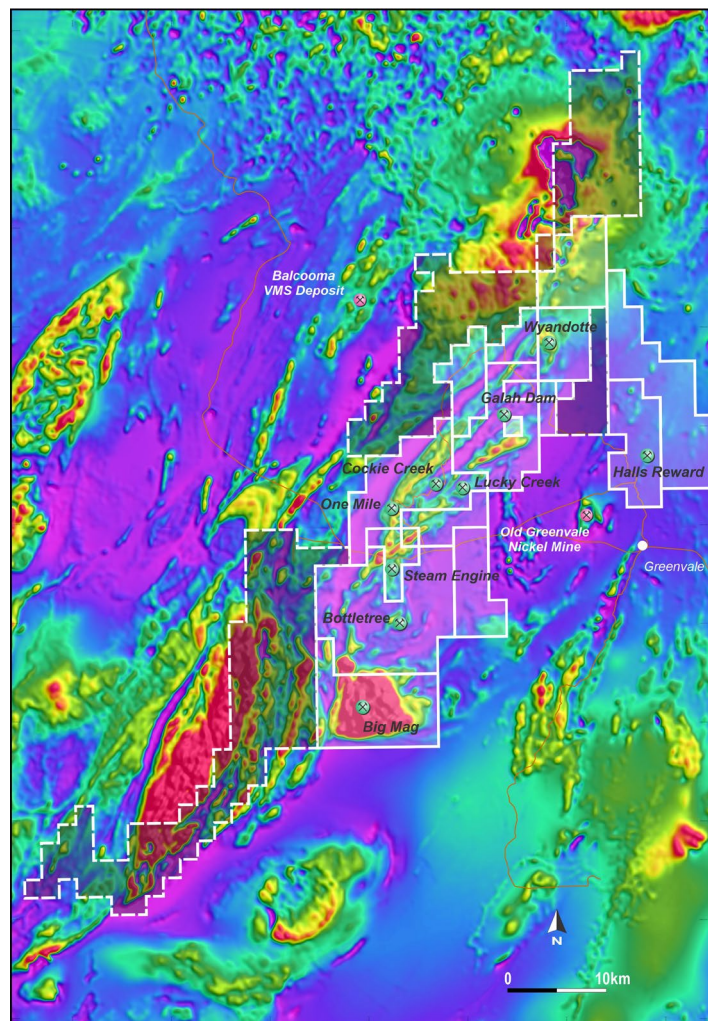


Figure 2. Locations of prospects within the Greenvale Project on image of airborne magnetics (RTP) and Superior's exploration permits and permit applications (applications appear as darker shaded areas).

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## STEAM ENGINE GOLD DEPOSIT (GREENVALE PROJECT)

Most of the operational activities during the reporting period were focussed on the Steam Engine Gold Deposit, which is located within the Company's greater Greenvale Project (Figures 1 and 2). The work comprised:

- Resource infill and expansion drilling at the Steam Engine and Eastern Ridge lodes;
- Mineral Resource Estimation modelling;
- Scoping Study evaluation programs; and
- Detailed field investigation and mapping of the new Dinner Creek Lode.

The activities at the Steam Engine Gold Deposit are undertaken for the purpose of assessing the potential for a near-term mining and toll treatment operation at the Project. The programs were commenced during the 2020 September Quarter with the release of an upgraded Mineral Resource Estimate (**MRE**) and a Stage 1 drilling program.

A second Revised Mineral Resource Estimate (based on the Stage 1 drill results) and a Stage 2 drilling program were completed during the December Quarter.

### Stage 1 Drilling Program

The Stage 1 drilling program commenced during late July 2020 and was completed on 18 September 2020. The program totalled 3,756 metres from 73 drill holes as follows:

- 65 reverse circulation (**RC**) drill holes for 3,059 metres;
- 6 shallow diamond core holes for 302 metres; and
- 2 deeper RC/diamond tailed drill holes for 395 metres.

Assay results from the Stage 1 program were incorporated into the Resource dataset for the purpose of developing a revised Mineral Resource Estimate, which was published on 14 December 2020.

All Stage 1 resource and exploratory holes intersected mineralised lode with the majority of intersections reporting high grade gold. All assay results from the Stage 1 drilling program were received from SGS Australia geochemistry laboratories in Townsville by early November 2020.

A range of typical intersections include<sup>1</sup>:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• <b>18m @ 2.4 g/t Au</b> from 21m (SDD006)               <ul style="list-style-type: none"> <li>○ incl <b>6m @ 4.6 g/t Au</b> from 33m</li> <li>○ incl <b>1m @ 10.9 g/t Au</b> from 37m</li> </ul> </li> <li>• <b>7m @ 3.8 g/t Au</b> from 43m (SDD004)               <ul style="list-style-type: none"> <li>○ incl <b>1m @ 5.9 g/t Au</b> from 48m</li> </ul> </li> <li>• <b>13m @ 2.4 g/t Au</b> from 21m (SRC033)               <ul style="list-style-type: none"> <li>○ incl <b>4m @ 3.9 g/t Au</b> from 30m</li> </ul> </li> <li>• <b>6m @ 3.4 g/t Au</b> from 48m (SRC036)               <ul style="list-style-type: none"> <li>○ incl <b>1m @ 11.5 g/t Au</b> from 48m</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>8m @ 3.6 g/t Au</b> from 11m (SRC043)               <ul style="list-style-type: none"> <li>○ incl <b>2m @ 10.5 g/t Au</b> from 17m</li> </ul> </li> <li>• <b>5m @ 4.1 g/t Au</b> from 35m (SRC050)               <ul style="list-style-type: none"> <li>○ incl <b>1m @ 12.7 g/t Au</b> from 35m</li> </ul> </li> <li>• <b>6m @ 2.7 g/t Au</b> from 71m (SRC047)               <ul style="list-style-type: none"> <li>○ incl <b>2m @ 5.7 g/t Au</b> from 73m</li> </ul> </li> <li>• <b>5m @ 2.4 g/t Au</b> from 75m (SRC046)               <ul style="list-style-type: none"> <li>○ incl <b>2m @ 5.0 g/t Au</b> from 77m</li> </ul> </li> </ul> |
|--|--|

A particularly high grade intersection (up to 47.5 g/t Au) was returned from one hole within a thicker part of the Steam Engine Lode (SRC034) (Figure 3)<sup>2</sup>:

<sup>1</sup> Refer to ASX Announcements 30 September 2020, 15 October 2020 and 5 November 2020 for the original reporting of the assay results.

<sup>2</sup> Refer to ASX Announcement 30 September 2020 for the original reporting of the assay results.

- **14m @ 4.9 g/t Au** from 0m (surface) (SRC034)
  - incl **7m @ 9.2 g/t Au** from 7m
  - incl **1m @ 47.5 g/t Au** from 7m.

## Stage 2 Drilling Program

A Stage 2 drilling program comprising a total of 40 reverse circulation (RC) drill holes for 3,055 metres, commenced on 11 November 2020 and was completed on 12 December 2020. Drill hole depths ranged from 48 to 120 metres.

The objectives of the Stage 2 program were to:

- extend high-grade zones identified during the Stage 1 program beyond the current Resource envelope;
- identify new high-grade extensions at both the Steam Engine and Eastern Ridge lodes;
- upgrade low-grade zones within the current Resource envelope; and
- increase the Measured and Indicated Resource categories.

The first reportable batch of assays from Stage 2 were received in early January 2021. These results were from 15 of the 40 Stage 2 program holes. The remaining 25 holes are designed to extend the mineralisation envelope at the Steam Engine and Eastern Ridge Lodes and identify additional high grade ore shoots. Results for these holes are yet to be received.

The Stage 2 drilling results will be incorporated into a planned Pre-Feasibility Study, which will commence immediately after the delivery of the Steam Engine Project Scoping Study, expected in early February 2021.

Assay results from the first 15 drill holes were reported to the market on 18 January 2021. These holes were designed to target a large modelled low-grade zone of the Revised Mineral Resource (reported to the ASX on 14 December 2020; refer below) and were designed to upgrade the zone.

The 15 infill holes successfully fulfilled the design objective and resulted in the conversion of the low grade zone to become the highest grade zone within the Steam Engine Lode. The outcome was assisted by spectacular assay results of up to 184 g/t Au that were reported from two adjacent drill holes<sup>3</sup>:

- **5m @ 38 g/t Au** from 49m (SRC077)
  - incl **1m @ 184 g/t Au** from 51m
- **7m @ 20.6 g/t Au** from 54m (SRC076)
  - incl **1m @ 135 g/t Au** from 55m

The very high grades reported in holes SRC076 and SRC077 are on adjacent lines and are located directly down dip of the ounce per tonne intersection reported from the Stage 1 Program. The three ounce-plus per tonne intersections, together with other adjacent intersections define a very high grade ore shoot within a low-grade zone that was modelled in the Revised Mineral Resource Estimate<sup>4</sup> (Figures 3 to 5).

Such very high-grade zones will contribute to significantly raise the total ounces in the deposit. As a result, further drilling on this portion of the Resource will be conducted in order to delineate extensions to the high grade ore shoot.

The results from the Stage 2 drilling program have not been factored into the December 2020 Revised Mineral Resource Estimate, but will be included in a Pre-feasibility Study that will immediately follow the completion of soon to be released Scoping Study.

<sup>3</sup> Refer to ASX Announcement 18 January 2021

<sup>4</sup> Refer to ASX Announcement 14 December 2020; refer below

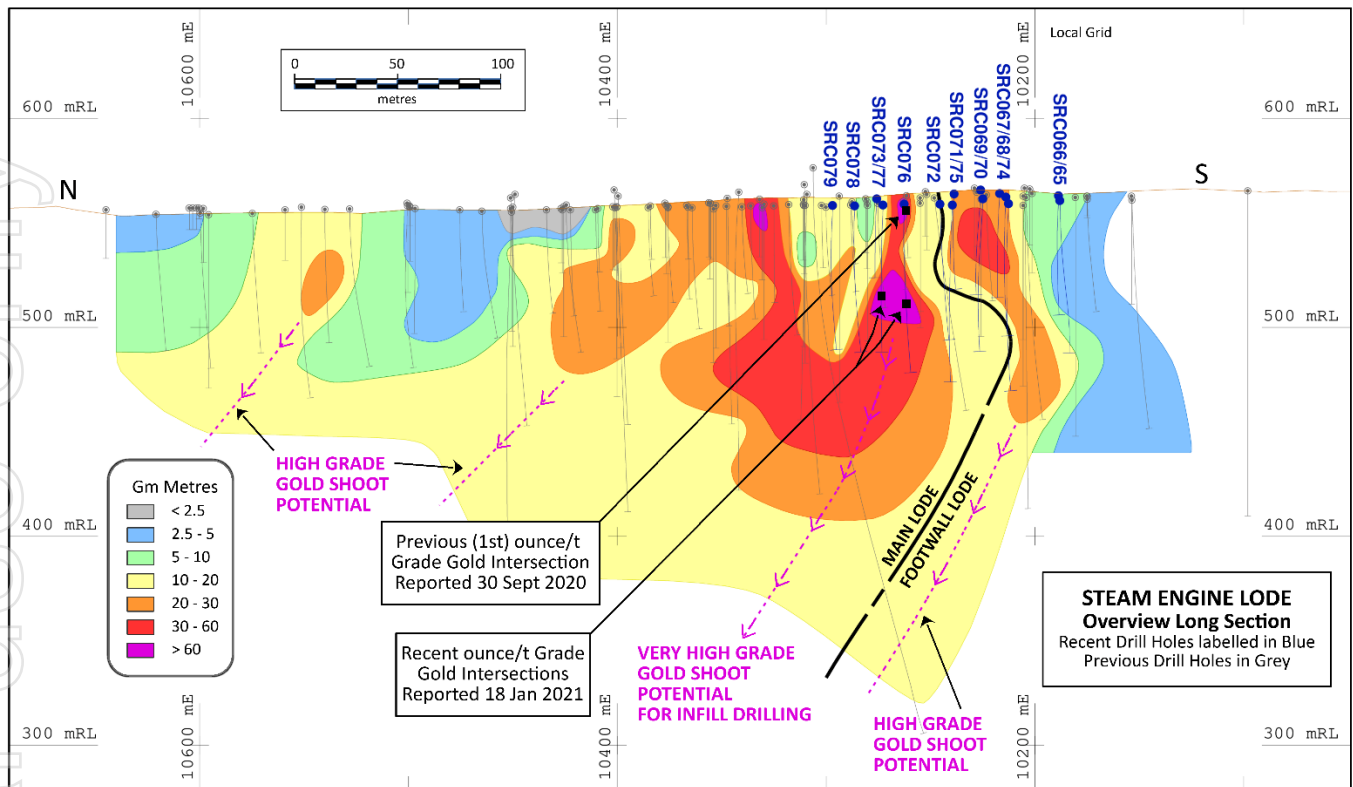


Figure 3. Representative long section through the Steam Engine Lode showing gold grade distribution (in gram/metres) after incorporation of the first batch of assay results from the Stage 2 drilling program. The highest grade zone (multiple ounce/tonne) was previously modelled in the Revised Mineral Resource Estimate as the lowest grade zone within the lode.

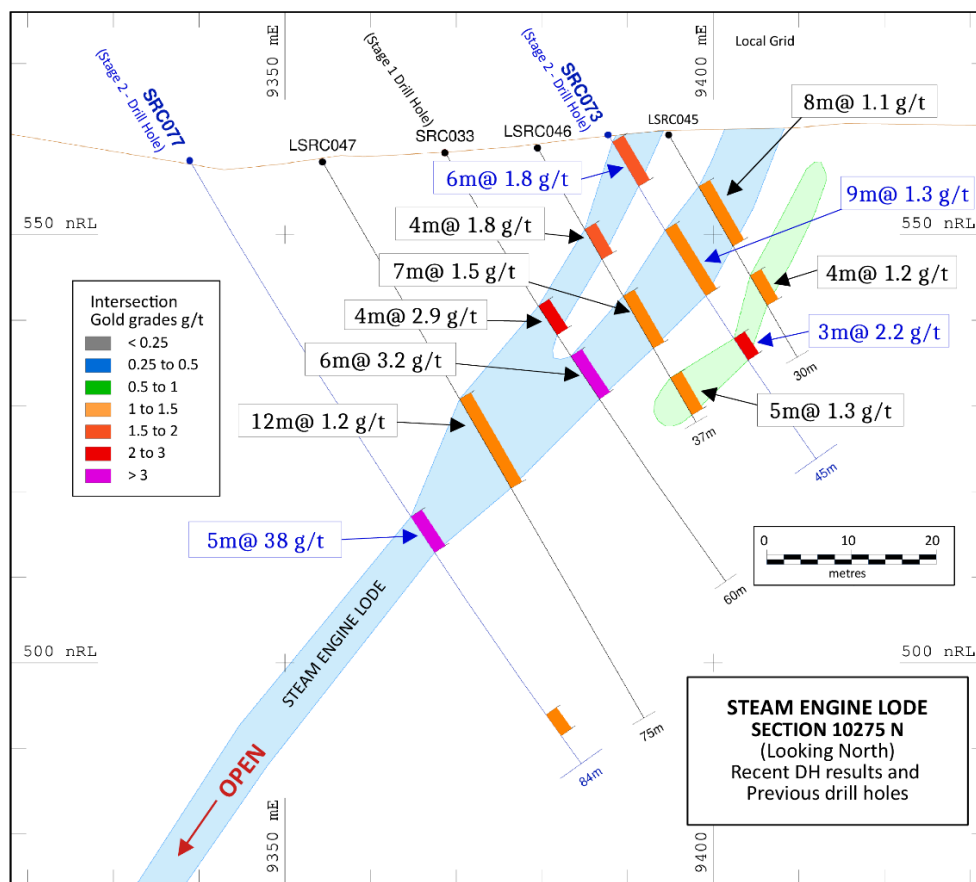


Figure 4. Cross Section 10275 N (local grid) on the Steam Engine Lode showing the significant intersections (Stage 2 drill hole intersections shown in blue).

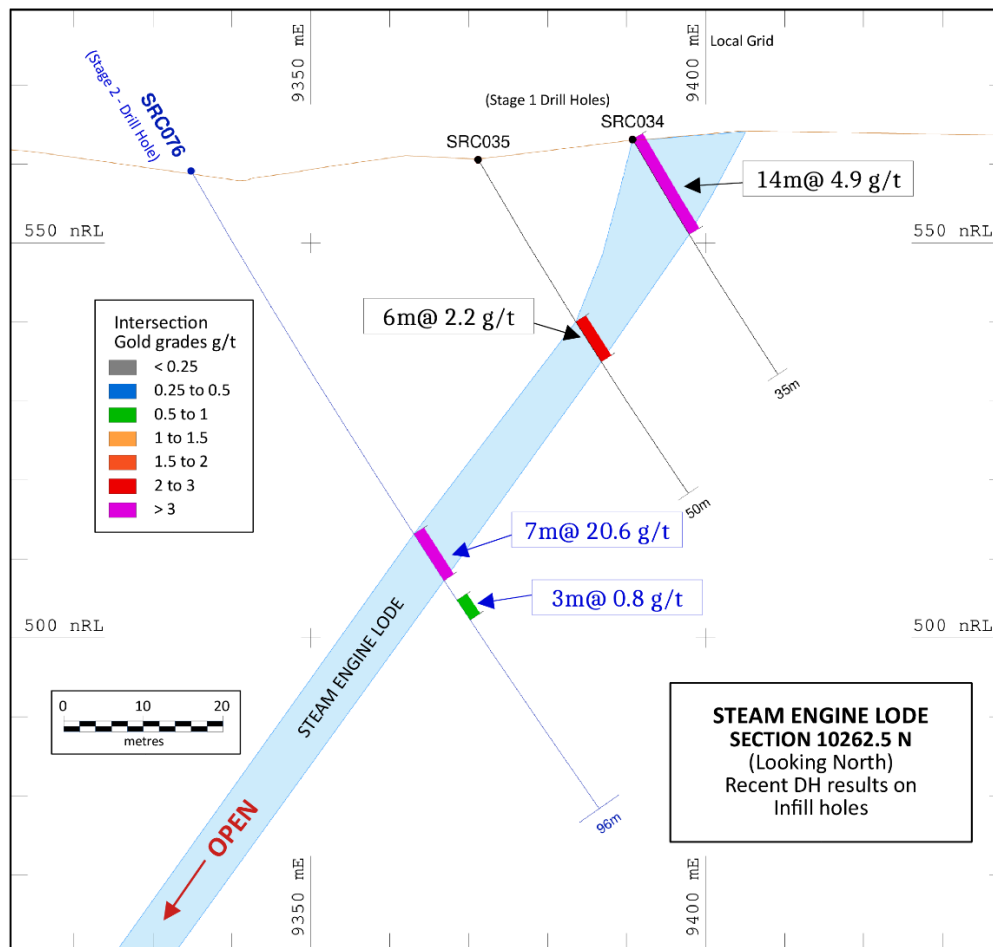


Figure 5. Cross Section 10262.5 N (local grid) on the Steam Engine Lode showing the significant intersections (Stage 2 drill hole intersections shown in blue).

### Revised Mineral Resource Estimate

The Steam Engine Project Mineral Resource Estimate (MRE) was revised on the basis of the results from the Stage 1 drilling program.

The revised MRE resulted in a 19% increase in total contained gold and a 26% increase in total Resource tonnes and now stands at (refer Figures 6 and 7; Tables 1 and 2):

- **1.6 million tonnes at 2.2 g/t Au (approximately 112,000 ounces), including:**
  - **Measured and Indicated Resources: 650,000 tonnes @ 2.4 g/t Au (approx. 51,000 ounces); and**
  - **Inferred Resources: 950,000 tonnes @ 2.0 g/t gold (approx. 61,000 ounces)<sup>5</sup>.**

The purpose of the revised MRE was to increase the geological confidence of shallow portions of the previous Mineral Resource. The revision also enables the completion of the Scoping Study and progression to a Pre-feasibility Study.

Mineralisation within the Steam Engine and Eastern Ridge lodes remains open along strike and down dip. The Stage 2 drilling program has targeted these areas to further expand and upgrade the Mineral Resource.

<sup>5</sup> Refer to ASX announcement dated 14 December 2020 for complete information relating to the upgraded Mineral Resource Estimate.

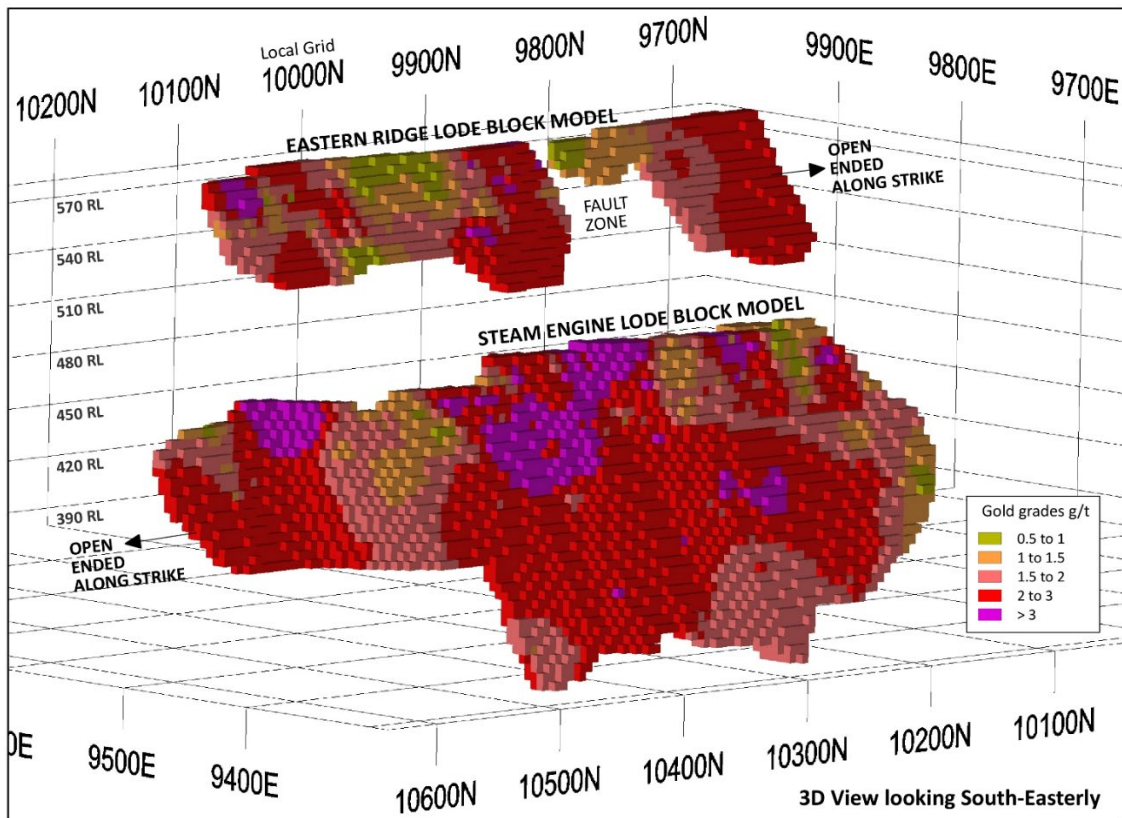


Figure 6. 3D View of the Steam Engine and Eastern Ridge Block Models looking grid south-easterly.

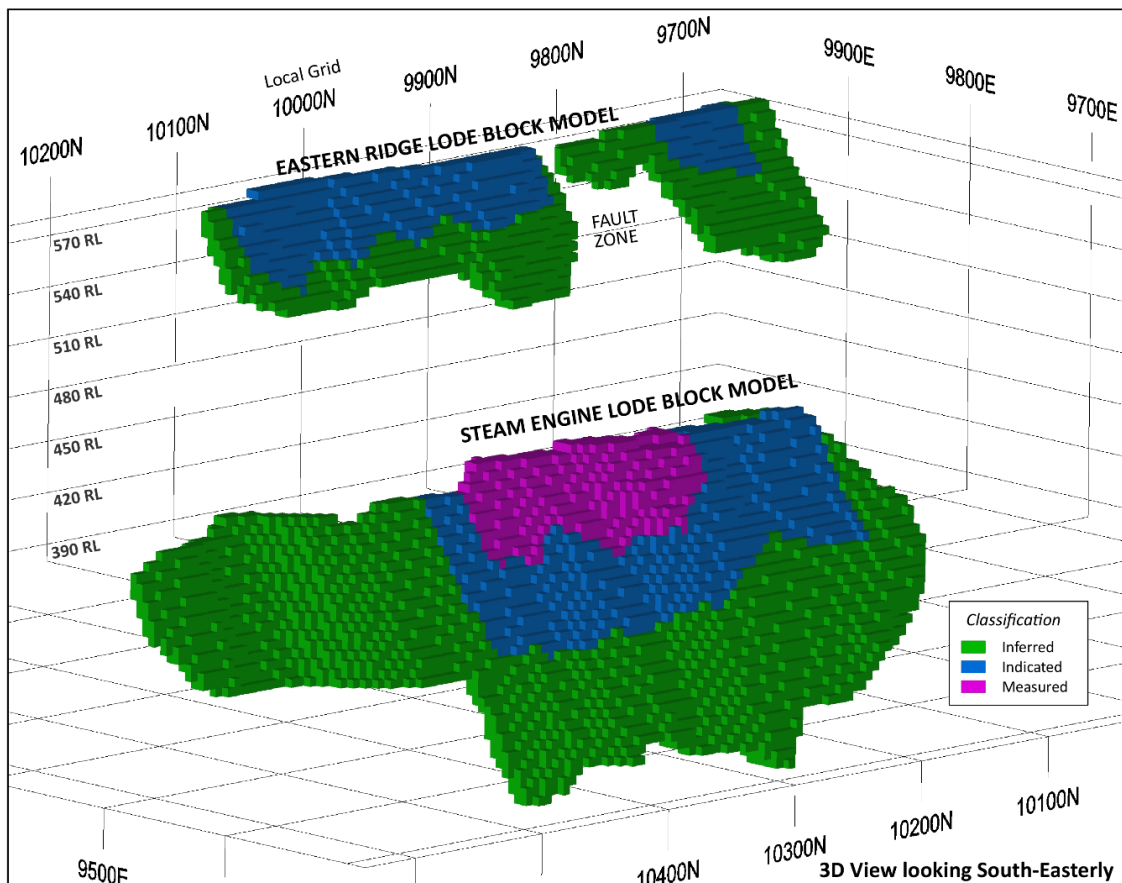


Figure 7. 3D View of the Steam Engine and Eastern Ridge Block Models showing confidence level classifications.

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**Table 1. Steam Engine Gold Deposit Mineral Resource Estimate**

Classification	Cut-off Grade (g/t)	Tonnes	Grade (g/t Au)	Gold (ounces)
<b>Steam Engine (Main Zone)</b>				
Measured	0.5	180,000	2.6	15,000
Indicated	0.5	330,000	2.5	27,000
Inferred	0.5	600,000	2.1	41,000
<b>Steam Engine (Footwall Zone)</b>				
Inferred	0.5	200,000	1.6	10,000
<b>Eastern Ridge</b>				
Indicated	0.5	140,000	2.1	9,000
Inferred	0.5	150,000	2.1	10,000
<b>TOTAL MINERAL RESOURCES</b>				
Measured		180,000	2.6	15,000
Indicated		470,000	2.4	36,000
Inferred		950,000	2.0	61,000
<b>TOTAL MINERAL RESOURCES</b>		<b>1,600,000</b>	<b>2.2</b>	<b>112,000</b>

**Table 2. Comparison between May 2020 and December 2020 Mineral Resource estimates**

Classification	May 2020			Dec 2020			Comparison		
	Tonnes	Grade (g/t Au)	Gold (ounces)	Tonnes	Grade (g/t Au)	Gold (ounces)	Tonnes	Grade (g/t Au)	Gold (ounces)
<b>Steam Engine (Main Zone)</b>									
Measured	-	-	-	180,000	2.6	15,000	+100%	+100%	+100%
Indicated	370,000	2.5	30,000	330,000	2.5	27,000	-11%	0%	-10%
Inferred	420,000	2.3	31,000	600,000	2.1	41,000	+43%	-9%	+32%
<b>Steam Engine (Footwall Zone)</b>									
Inferred	210,000	1.6	11,000	200,000	1.6	10,000	-5%	0%	-9%
<b>Eastern Ridge</b>									
Indicated	-	-	-	140,000	2.1	9,000	+100%	+100%	+100%
Inferred	270,000	2.7	23,000	150,000	2.1	10,000	-44%	-22%	-57%
<b>TOTAL MINERAL RESOURCES</b>									
Measured	-	-	-	180,000	2.6	15,000	+ 100%	+ 100%	+ 100%
Indicated	370,000	2.5	30,000	470,000	2.4	36,000	+ 27%	- 4%	+ 20%
Inferred	900,000	2.2	64,000	950,000	2.0	61,000	+ 6%	- 9%	- 5%
<b>TOTAL</b>	<b>1,270,000</b>	<b>2.3</b>	<b>94,000</b>	<b>1,600,000</b>	<b>2.2</b>	<b>112,000</b>	<b>+ 26%</b>	<b>- 4%</b>	<b>+ 19%</b>



## New Dinner Creek Lode

As a result of detailed geological mapping and rock chip sampling, an extensive zone of gold mineralisation was delineated approximately 900 metres to the east of the Eastern Ridge Lode. This zone of mineralisation has been named the Dinner Creek Lode (Figure 8).

Field geological observations noted that gold-bearing rock outcrops at the Dinner Creek Lode appear to be a similar rock unit with similar alteration style to the Steam Engine Lode. The Dinner Creek Lode is notably thicker at surface compared to the Steam Engine and Eastern Creek lodes and is potentially longer in strike length.

The Dinner Creek Lode has not been subjected to any modern or historical drilling, despite appearing at surface to be the longest and thickest lode zone.

A high priority maiden drilling program will commence immediately after the end of the current northern Australian monsoon season.

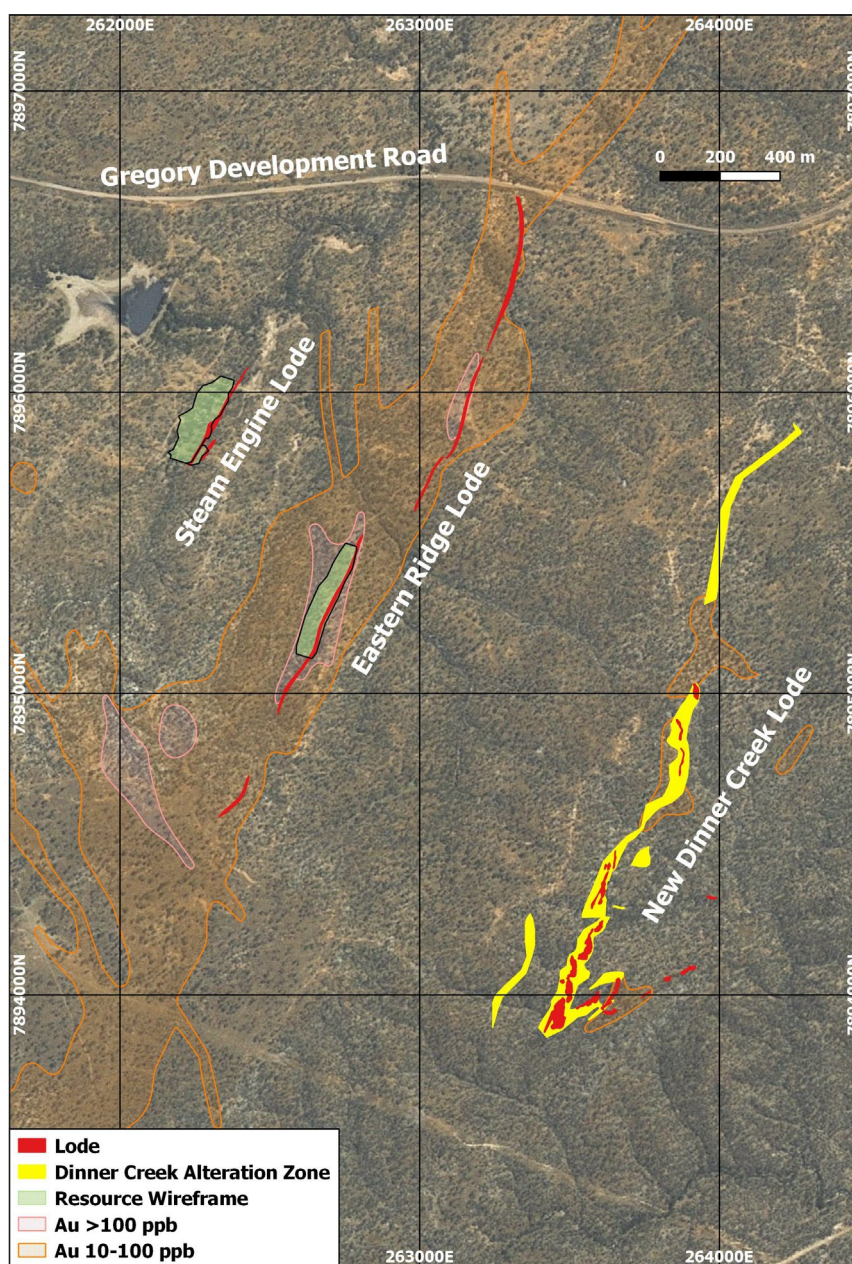


Figure 8. Steam Engine Gold Deposit lodes (in red and yellow) on satellite imagery. The May 2020 Mineral Resource wireframes (in light green) and gold in soil geochemistry is also shown.

## Rock Chip samples from Dinner Creek Lode

Rock chip samples taken from the alteration zone returned up to 7.6 g/t gold, which complements historically reported rock chip assays of 4.3 g/t and 3.6 g/t gold.

The alteration zone is a gossanous, strongly brecciated zone within a zone of gossanous sericitic-quartz alteration that has previously been mapped by Pancontinental Resources during 1993 to 1994. This zone is located within the Eland Metavolcanics, some two kilometres south-east of the Steam Engine Lode zone and some 4 kilometres north of the Bottletree porphyry copper zone.

The strongly brecciated zone has been mapped by the Company and is approximately 2 kilometres in strike length.

A sphalerite sample collected from the area was sent off to the CSIRO for lead isotope analysis and was reported by Pancontinental to be consistent with a primitive signature similar to that observed from the rocks hosting Cu-Au mineralisation in the Lachlan fold belt of NSW.

## BIG MAG AND GREENVALE NICKEL POTENTIAL (GREENVALE PROJECT)

Desktop data review, land access preparations and initial exploration program planning was conducted during the Quarter on the Big Mag Prospect as well as the greater Greenvale Project area for its potential to host magmatic nickel sulphide deposits. The area has been a significant source of nickel production, notably at the Old Greenvale Nickel Mine which produced approximately \$6b nickel at current prices.

Big Mag is a regionally large and intense magnetic feature that appears to be a large mafic or ultramafic intrusion, or several such intrusions. Consequently, it has the potential to host nickel-cobalt-copper mineralisation, either as sulphides or in a laterite weathering profile. The Company is of the view that the Big Mag feature is developed within the same geological sequence as the “old” Greenvale Nickel Mine” (now part of the SCONI Project).

The Big Mag magnetic feature is regionally significant and under-explored and is covered by a recently granted exploration permit (EPM26751, Twelve Mile Creek) (Figure 2).

Additionally, two new exploration permit for minerals (EPM) applications were submitted (Dido and Arthur Range Projects) covering substantial areas that are prospective for Voisey’s Bay style magmatic nickel-copper-cobalt-PGE deposits (Figure 2).

## WYANDOTTE (GREENVALE PROJECT)

The Wyandotte Prospect is a shallow zone of high-grade copper mineralisation, which is potentially associated with a deeper intrusion-related or porphyry system.

Historic drilling has targeted the copper mineralisation. However, there has been insufficient drilling to estimate a reportable Mineral Resource.

A technical study of the existing data continued during the Quarter in order to establish an exploration target to determine whether potential exists for expansion of the copper mineralisation.

The results of this study will be published shortly. A program of drilling and mining studies is planned to commence early in 2021.

## CORPORATE and COMMERCIAL

### INVESTMENTS

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

As at 31 December 2020, the Company held 74,244 DYL shares with a closing value of \$34,523.46.

### ASX Listing Rule 5.3.3

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

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Managing Director

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Further Information:

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[manager@superiorresources.com.au](mailto:manager@superiorresources.com.au)

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

*The Steam Engine JORC 2012 Mineral Resource Estimate (MRE) and related information were originally announced on the ASX Market Announcements Platform on 14 December 2020 (December Announcement). The Company confirms that it is not aware of any new information that materially affects the information provided in the December Announcement. All material assumptions and technical parameters on which the MRE is based continue to apply and have not materially changed.*

*Other information in this report that comprises Exploration Results is based on information evaluated by Mr Peter Hwang, an executive director and shareholder of Superior Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Hwang has sufficient experience which is relevant to this style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person under the 2012 edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hwang consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.*

**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

### DISCLOSURES REQUIRED UNDER ASX LISTING RULE 5.3.3

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

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

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

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Tomahawk Creek	EPM25264	Victor	0%	SPQ	Surrendered
QLD	Dido	EPM27754	Greenvale	100%	SPQ	Application
QLD	Arthur Range	EPM27755	Greenvale	100%	SPQ	Application

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

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

Abbreviations:

EPM Exploration Permit for Minerals, Queensland  
 SPQ Superior Resources Limited

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