

15 June 2020

# Steam Engine Gold Deposit Update Underground ore shoot system potential

## HIGHLIGHTS:

- Potential for an underground high-grade ore shoot feeder system identified at Steam Engine.
- Surface soil geochemistry (Au) indicates Eastern Ridge Lode Zone potentially up to 4 kilometres long.
- Underground potential to be tested initially with a 3-hole, 1,250m diamond drilling program to be run in conjunction with accelerated Scoping Study on drilled portion of known lodes.
- Scoping Study is progressing and will include a 2,500m reverse circulation and diamond core drilling program planned to commence during July 2020.

**Superior Resources Limited (ASX:SPQ)** updated the market today with a new work program to test the gold mineralisation potential underlying the Steam Engine Gold Mineral Resource. Significant potential for the existence of a high-grade underground ore shoot system under the lodes was identified by the Company during recent remodelling of the Mineral Resource. The Company considers that such an ore shoot system is likely to be the feeder system responsible for gold mineralisation within the currently defined lodes, which in part are exposed at surface.

Testing of the underground potential will run alongside the accelerated Steam Engine Scoping Study work that is currently being undertaken. The Scoping Study will assess the near-term development potential presented by the recently announced upgraded Mineral Resource Estimate (**MRE**), which currently stands at 1.27 million tonnes at 2.3 g/t for 94,000 ounces of gold (refer ASX Announcement, 4 May 2020). The Scoping Study is planned to be delivered shortly after completion of an infill and lode extension drilling program, which is scheduled to commence shortly.

The Company's Managing Director, Peter Hwang commented: "The current resource at the Steam Engine Gold Deposit is shaping up as a solid, quality deposit and the potential to add substantial ounces is obvious. The upgraded Mineral Resource Estimate is based on only 30 percent of at least 2.5 kilometres of strike of outcropping lode and only modelled to relatively shallow depths. Surface soil geochemistry supports the potential for a considerably larger shallow lode system that is yet to be tested."

"However, what we are particularly excited about is the possibility of an extensive high-grade feeder system developed underneath the known lodes. It is not uncommon for these feeder systems to develop thicker and more extensive zones of high-grade gold mineralisation. This is particularly so at Steam Engine where the mineralisation is mainly hosted within shear zones and shear zones are conducive to the development of thicker vein sets."

"Mesothermal vein-type gold deposits account for a large portion of the world's economic gold deposits and they can hold impressive amounts of high-grade ore."

"We look forward to commencing both the scoping study and underground ore shoot drilling programs shortly as we enter an exciting period of work at Steam Engine within a very favorable gold market."

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## Underground Ore Shoot Potential – not previously tested

At Steam Engine, two main gold lodes are exposed at surface and can be traced for at least 2.5 kilometres: (1) the Steam Engine Lode; and (2) the Eastern Ridge Lode (Figure 1). An additional zone of gold mineralisation, known as the Southern Zone, lies between and to the south of the two main lodes. Soil geochemistry indicates a substantially greater extent of outcropping or near-surface gold mineralisation on strike and adjacent to the known lodes.

Current work at the Eastern Ridge Lode alone, has identified at least 2.5 kilometres of surface lode that lies within a distinct gold soil anomalous zone extending over some 4 kilometres in length (Figure 1).

Historic work was largely concentrated around the Steam Engine lode with only limited shallow drilling on the Eastern Ridge lode. No previous work has specifically targeted the potential for high-grade ore shoot zones beneath the current gold lodes.

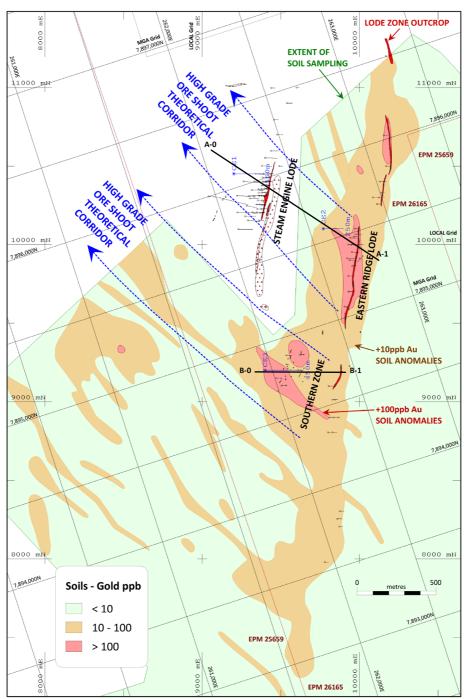


Figure 1. Steam Engine Gold Deposit lodes over soil gold anomalies and conceptual corridors for high-grade ore shoots.



# Testing High Grade Ore Shoot Potential

Gold anomalism within surface soil geochemistry and observations from the modelling of the grades and geometries of the Steam Engine lodes supports the likelihood that Steam Engine and Eastern Ridge are linked underground. Classical vein structural and gold mineralisation characteristics are observed in the lodes and are important indicators for the potential existence of an extensive high-grade ore shoot system at depth (Figures 1, 2 and 3). The large Charters Towers gold deposit located about 200 kilometres south east of Steam Engine is a good example of such a system.

With the application of available information, it has been possible to construct a theoretical geological model and to use classical lode system characteristics to target the areas of best potential for high-grade gold shoots.

This ore shoot potential will be tested with a three-hole, 1,250m diamond drilling program designed to target the following factors:

- two holes (550m and 250m) targeting a theoretical main high-grade ore shoot corridor that extends north west from the Mineral Resource at the Eastern Ridge Lode, which also covers the Steam Engine Lode (Figures 1 and 2). The high-grade corridor is supported by the identification of north west plunging high grade zones within the Steam Engine and Eastern Ridge Lodes (Figure 3). These holes are also designed to target the zones that that are most likely to contain the highest grade ore; and
- one hole (450m) targeting a classical repetition ore shoot system within a high-grade corridor extending north west from the Southern Zone of lodes (Figures 1 and 4). This high-grade corridor is based on existing drilling at the Southern Zone together with the gold soil geochemical sampling data. The corridor also picks up cross and sub-parallel mineralisation structures observed in the surface soil geochemistry.

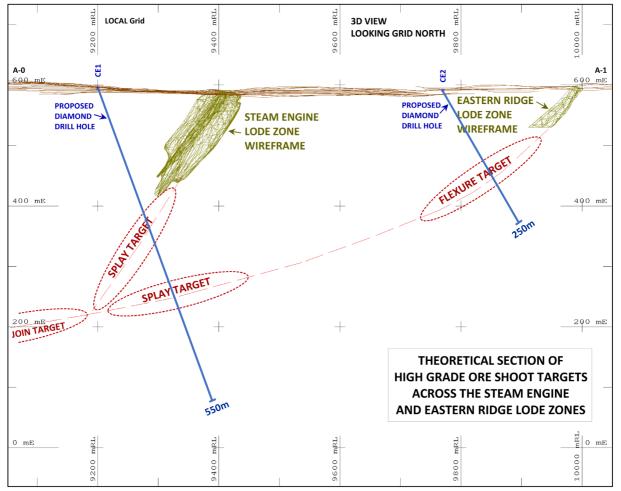
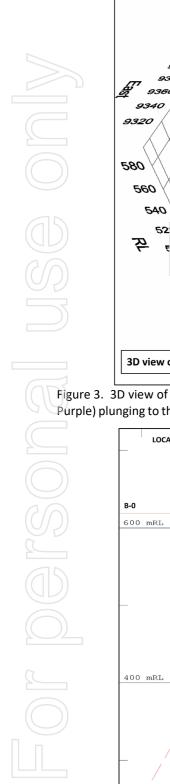


Figure 2. Potential high-grade ore shoot targets across the Steam Engine and Eastern Ridge lode zones.





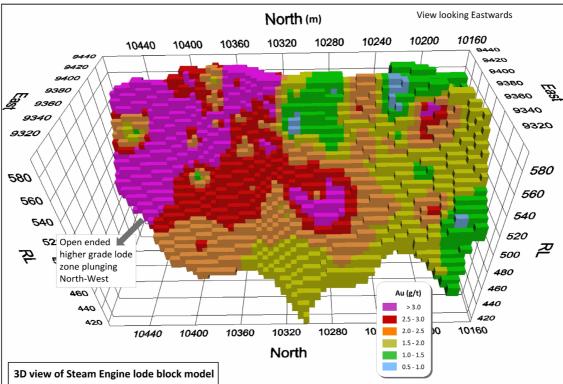


Figure 3. 3D view of Steam Engine Lode resource block model (open to the north and at depth). Zone of higher grade ore (in Purple) plunging to the north west (refer to ASX announcement dated 4 May 2020 for complete Mineral Resource information).

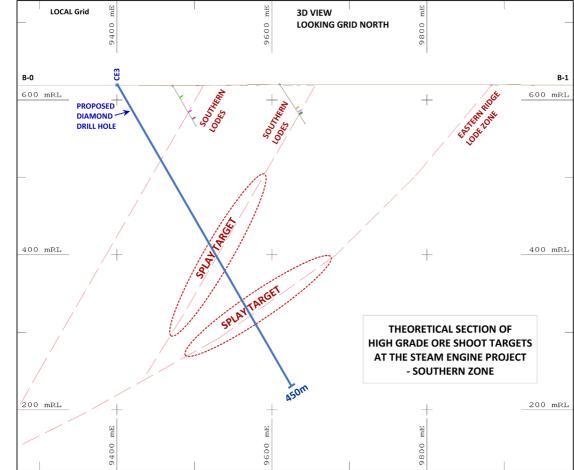


Figure 4. Potential high-grade repetition ore shoot targets across the Southern Zone and Eastern Ridge Lode zones.



# **Next Steps**

Following completion of the current rights issue and two-tranche placement campaign and land access procedures, the 2,500m Scoping Study RC and diamond drilling program will commence and subject to budgeting, all or part of the underground ore shoot drilling program will be conducted.

The rights issue is currently scheduled to close on Thursday, 18 June 2020. A general shareholders meeting to approve the second tranche of the placement raising is set down for 3 July 2020.

#### <ENDS>

#### For more information:

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## About Superior Resources Limited

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large lead-zinc-silver, copper, gold and nickel-copper-cobalt deposits in northern Queensland which have the potential to return maximum value growth for shareholders. The Company has a dominant exploration position within the Carpentaria Zinc Province and the Greenvale Ordovician rock sequences. The Carpentaria Zinc Province one of the world's richest mineral producing regions and the Company is focused on multiple Tier-1 equivalent exploration targets. At Greenvale, the Company holds ground covering the majority of the Ordovician sequences in the region, which includes at least three significant copper-gold porphyry and VMS prospects, an advancing high-grade gold deposit and a regionally large magmatic sulphide nickel-copper-cobalt prospect.

#### **About Greenvale Project**

The Greenvale Project covers a region of volcanic and intrusive rocks of Ordovician Age that are similar in type and age to the porphyry copper belt in New South Wales. The New South Wales belt of rocks host the large Cadia and North Parkes porphyry copper mines. The sequence of rocks in the Greenvale area are likely to be the northern-most extension of the remnant New South Wales Ordovician Macquarie Arc rocks.

Superior's Greenvale Project is highly prospective for VMS and porphyry copper, gold, zinc and silver deposits and contains at least ten mineral prospects (Figures 13 and 14). The project is located within an area of notable economic significance, being proximal to the Kidston, Balcooma, Surveyor and Dry River South deposits.

## About Steam Engine Gold Deposit

The Steam Engine Gold Deposit is an extensive mesothermal gold lode system on which an Indicated and Inferred Mineral Resource Estimate of 1.27 million tonnes at 2.3 g/t for 94,000 ounces of gold has been established. The Resource has been modelled on only 30 percent of at least 2.5 kilometres of strike length of outcropping lode and only modelled to relatively shallow depths.

Currently, three gold lode zones have been identified: (1) the Steam Engine Lode; (2) the Eastern Ridge Lode; and (3) the Southern Zone of lodes. The deposit has the potential to contain significant greater tonnages high-grade gold ore shoots that may extend to significant depths. The mineralisation is hosted within structures that are sheared to a greater extent than many similar lode gold deposits, which increases the potential for significant thicknesses of gold lode mineralisation.

The Eastern Ridge Lode zone, being the longest lode structure, potentially represents the primary ore conduit. Although the lode has been mapped at surface to be at least 1.4 kilometres long, gold surface soil geochemistry indicates that the structure is closer to at least 4 kilometres long. Many shorter structures exist on the hangingwall side of the Eastern Ridge lode zone, such as the Steam Engine lode and numerous other zones have mainly only been identified from historic gold soil sampling.

Large portions of the world's economic deposits of gold are found in vein systems of this kind and they can hold impressive amounts of valuable ore. The veins and shoot zones typically can extend to significant depths with gold grades typically higher than other types of gold deposits.



**Reporting of Exploration Results and Mineral Resources:** The reporting of sampling and drilling exploration results in this report reflects information that was originally reported in market announcements as referenced in various parts of this report. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant original market announcement.

Information contained in this report that relates to Mineral Resources 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

Information contained in this report that relates to Exploration Activities 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 being undertaken 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**

## 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	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Current Sampling</li> <li>No current sampling or drilling reported.</li> <li>Any results referred to in this report relate to results that were originally reported as referenced in the context in which the results appear.</li> <li>Historical Sampling</li> <li>Information relating to historical results was sourced from and relies on data contained in reports submitted to the Queensland Department of Natural Resources and Mines as part of the Company Report System attaching to the grant of Exploration Permits.</li> <li>Whilst it is not possible to determine the reliability of historical assay results, no issues arose during compilation and interpretation of the results that would suggest that the assay results were not reasonable.</li> </ul>
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.).	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally reported as referenced in the context in which the results appear.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally reported referenced in the context in which the results appear.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally report referenced in the context in which the results appear.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally report referenced in the context in which the results appear.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF</li> </ul>	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally reported.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>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.</li> </ul>	<ul> <li>referenced in the context in which the results appear.</li> <li></li></ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Current Drilling</li> <li>No drilling reported.</li> <li>Any results referred to in this report relate to results that were originally reported referenced in the context in which the results appear.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Previous SPQ Drilling</li> <li>Drill hole collars have been recorded in the field using hand held GPS with three m or better accuracy.</li> <li>Current drill hole collar locations and topographic RL control were further defined using a Trimble Differential GPS (DGPS). Location accuracy is in the order of 0.15m and 0.3m in the Z direction.</li> <li>Down hole surveys were conducted on all holes using a Reflex GYRO with surveys taken inside the RC rods and recorded every 5m. The instrument measures to with 1/100 degree of inclination and magnetic azimuth.</li> </ul>
		<ul> <li>The area is located within UTM Zone 55, GDA94 datum.</li> <li>Historical Sampling and Drilling</li> <li>Noranda Australia controlled exploration of the Steam Engine area using a local gr As the property advanced a surveyor was used to provide a more accurate local gr control with a local height datum being implemented. Data has been compiled usin the local grid coordinates. Drill holes completed by Beacon Minerals Limited are reported using handheld GPS collar coordinates with a likely accuracy of about ± 5 An accurate translation from GPS coordinates to local grid coordinates has been us to convert the Beacon drill hole data to local coordinates. Many of the drill hole complexity of the drill hole complexity.</li> </ul>



are still evident at the prospect allowing validation of the drill hole locational data by

Drill hole spacing is variable but mainly at 25m and 50m section lines at the Steam

The drill hole spacing is sufficient together with the strong continuity of the Steam

Engine and Eastern Ridge lodes to allow Mineral Resource estimation for significant

portions of these lodes. Classifications are restricted to inferred, except for the central

DGPS before being used for resource estimation work.

Engine area; and 50m and 100m lines at the Eastern Ridge area.

portions of the Steam engine lode where drilling density is highest.

The area lies within UTM Zone 55, GDA94 datum.

Data spacing and distribution Orientation of data in relation to geological structure	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the extent to which the same to the deposit type.</li> </ul>
data in relation to geological	<ul><li>sampling of possible structures and the extent to which the known, considering the deposit type.</li><li>If the relationship between the drilling orientation and the</li></ul>
	orientation of key mineralised structures is considered to h introduced a sampling bias, this should be assessed and reported if material.
Sample security	• The measures taken to ensure sample security.
Audits or reviews	• The results of any audits or reviews of sampling technique. and data.

	• Most intersections reported in this report are weighted composites of smaller sample intervals as is standard practice.
eves unbiased tent to which this is	<ul> <li>The orientation of the drill holes is ideal for reporting of results and estimation of mineral resources.</li> </ul>
entation and the s considered to have e assessed and	<ul> <li>No orientation sample bias has been identified at this stage.</li> </ul>
urity.	Chain of custody was managed by Terra Search Pty Ltd
	• Samples were transferred by them to ALS.
	Sample security measures within ALS laboratories are considered adequate.
npling techniques	<ul> <li>No audits or reviews of the sampling techniques and data have been undertaken to date.</li> </ul>

Commentary

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#### 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	<ul> <li>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.</li> <li>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.</li> </ul>	• The areas reported lie within Exploration Permit for Minerals 26165 and held 100% by Superior Resources.
		• Superior Resources holds much of the surrounding area under granted exploration permits.
		• Superior Resources has agreements or other appropriate arrangements in place with landholders and native title parties with respect to work in the area.
		<ul> <li>No regulatory impediments affect the relevant tenements or the ability of Superior Resources to operate on the tenements.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	• All of the historical drilling and soil sampling reported in this report has been completed and reported in accordance with the current regulatory regime.
		• Compilation in digital form and interpretation of the results of that work in digital for has been completed by a Competent Person for the Company.
Geology	• Deposit type, geological setting and style of mineralisation.	• The Steam Engine and Eastern Ridge gold deposits are hosted within a shear zone.
		• 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.
		• A number of gold bearing lodes occur in the area of which the Steam Engine Lode zon is the most notable. The Eastern Ridge Lode zone is located some 500m east of the Steam Engine Lode zone.
		• The gold mineralisation occurs in lode zones and is thought to be of the mesothermal vein type.
		<ul> <li>The important features of the Steam Engine and Eastern Ridge lodes are their continuity and a persistent dip to the west.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	• Drill Holes collar tables with significant intersections are included in previous ASX announcements, including the announcement dated 14 August 2017 and 4 May 2020.
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Exploration results are reported as a length weighted average of all the assays of the hole intersections.</li> <li>No top cutting has been applied, as there are a limited number of high-grade gold assays that influence the calculated intersection grades. This is a feature of the Steam Engine Gold Deposit.</li> <li>No metal equivalent values are reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>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 true widths at or above 0.87 times the intersection lengths as reported.</li> <li>For the Eastern Ridge lode zone an interpreted westerly dip of approximately 40 to 50° 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.</li> </ul>
Diagrams	<ul> <li>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</li> </ul>	• Included.



Criteria	JORC Code explanation	Commentary
	sectional views.	
Balanced reporting	<ul> <li>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.</li> </ul>	• Drill Holes collar tables with significant intersections are included in previous ASX announcements, including the announcement dated 14 August 2017 and 4 May 202
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>An interpreted geological map of the Steam Engine area is included in the report. The maps included also show drill hole collars and traces. The critical geological information is that the gold mineralised lodes are hosted in a shear zone as reported.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially</li> </ul>	<ul> <li>An infill drilling program is proposed for the Stream Engine project to prove up most the gold lode zone areas to Measured and Indicated resources, showing the locatio of the proposed drill holes). It is envisaged that much of the drilling would be Rever Circulation drilling to help reduce costs, but a number of holes would also need to b Diamond Core drill holes, to allow for additional metallurgical, structural, and other geological studies.</li> </ul>
	sensitive.	<ul> <li>A proposed first stage of this drilling is likely to infill a significant portion of the Min Resources. Other than the drilling program at least the following additional work programs would be included:</li> </ul>
		Metallurgical studies
		<ul><li>Geotechnical studies</li><li>Toll treating negotiations</li></ul>
		<ul> <li>Preliminary mining and rehabilitation planning</li> <li>Preliminary environmental studies</li> </ul>



#### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation	<ul> <li>Information relating to Mineral Resources in this report is based on previously reported information, including announcements dated 14 August 2017 and 4 May 2020.</li> </ul>
	<ul><li><i>purposes.</i></li><li><i>Data validation procedures used.</i></li></ul>	• This report is based on data compilations carried out in previous resource estimations conducted by competent persons working for Superior Resources.
		<ul> <li>Further data validation for this report was carried out by inspection of previous reports dating back to the earliest phases of drilling.</li> </ul>
		• Data validation processes were also carried out using mining software to make the data ready for use.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• Two site visits by a competent person to confirm drill hole locations and to undertake geological and mineralisation interpretations, and to plan for additional drill holes.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> </ul>	<ul> <li>A higher level of confidence exists for the Steam Engine main lode zone, than for the Steam Engine footwall lode zone (due to patchy grades) and for the Eastern Ridge lode zone (due to less drilling).</li> </ul>
	<ul> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> </ul>	• The geological Interpretations agree with the previous interpretation by Noranda.
	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> </ul>	<ul> <li>The data includes drill hole data and surface exposures, but there are no current underground ore exposures.</li> </ul>
	• The factors affecting continuity both of grade and geology.	No alternative interpretations are evident or have been considered.
		Lode geology is fundamental to the interpretations.
		<ul> <li>The lack of underground exposures and the soil cover in the area may obscure crosscutting faults, but significant displacement on these mineralisation zones is not apparent in the sectional data.</li> </ul>
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth	• These are apparent on the various sections included with this report.



riteria JORC Code explanation	Commentary
below surface to the upper and lower limits of the Mineral.	
<ul> <li>Stimation of the nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Further detail on the resource estimation process is included earlier in this announcement.</li> <li>Inverse distance block modelling was used for the resource estimations. When properly constrained by wireframing, block modelling is a good method for the estimation of this kind of resource. An inverse power of 3 was used to more closely map the grade distributions present in vein zones. An appropriate search radius was used for individual lode zones, based on the average drilling density.</li> <li>Check estimates were carried out using global estimates from the wireframe. These gave similar tonnages to the global block model estimates. While the wireframe estimate uses weighting of the intersectional grades it does not use any weighting in relation to distance from those intersections. However, as a comparative method it shows that the tonnages are correct and even gave relatively close gold grade values to the block model.</li> <li>Checks against previous resource estimations also showed similar tonnages and grade over the Steam Engine portion of the resource that has been previously estimated by Superior Resources.</li> <li>The estimate is for gold only. No by products are considered likely.</li> <li>Incomplete assay data from early drilling does not allow estimation of other elements. Some arsenic occurs within the gold mineralisation where it has been assayed.</li> <li>There are no extreme grade variations evident in the data.</li> <li>Interpolation for inferred resources (outside of the drilling extents) has allowed for up to approximately 60 metres of extension, predominantly on dip, where holes either side along strike have indicated the continuation of the mineralisation. However, extension down dip was moderated by the width of the mineralisation, and if that mineralisation was considered wide enough to be feasible for future extraction.</li> </ul>



Criteria	JORC Code explanation
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameter applied.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the JORC Code explanation Commentary process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of th process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting

	• No intersection data below 1m true thickness was used in the estimation.
	No correlation between variables.
	<ul> <li>The lode geology was a fundamental element of the modelling and controlled the modelling process.</li> </ul>
	No grade cutting was considered necessary.
	• Validation was carried out by checking each stage of the modelling process against the resource intersections and assay values. As mentioned above global wireframe estimates also gave close values to the block modelling process.
a dry basis or with termination of the	• In the absence of any specific gravity data, the tonnages were estimated on an assumed SG of 2.7. This appeared to be a reasonable value given the sulphide content of the lodes.
) or quality parameters	• An arbitrary intersection cut-off grade of 1g/t was used based on a likely cut-off grade for open cut gold mining in the area.
nining methods, al (or, if applicable,	• Open cut mining appears to be the most likely extraction method. The depth to which that might be possible is uncertain until further studies have been done.
cessary as part of the ocess of determining omic extraction to	• Internal dilution zones within the mineralised downhole intervals were included in the estimates.
the assumptions made ers when estimating gorous. Where this is	<ul> <li>A minimum width of the mineralised zone (including waste as necessary) was used to develop what are hoped to be mine practical widths down to a minimum of ~2m in some cases (at the Eastern Ridge lode zone).</li> </ul>
n explanation of the	• Further mining dilution effects will need to be considered during the reserve estimation process.
regarding	No metallurgical work has been completed on the mineralisation to date
ecessary as part of the pects for eventual al metalluraical	• It is assumed that the resource will be treatable for gold extraction. This type of mineralisation typically has very good rates of gold extraction. However, testing of

these factors will need to be carried out prior to any reserve estimation. The work for

this would best be undertaken during the next phase of drilling.

Commentary



Criteria	JORC Code explanation	Commentary
	Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	• These fact carried ou
Bulk density	<ul> <li>Whether assumed or determined. If assumptions made.</li> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>At this sta considered</li> <li>Tests will accurate e</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>Confidence made on so of the exist by different</li> <li>Some sect have been so. This ha and more</li> </ul>
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These factors have yet to be studied and some preliminary work for this would be
carried out during the next phase of drilling.

- At this stage the density for the resource has been assumed at an SG of 2.7, which is considered to be a close figure for this type of rock and mineralisation in situ.
- Tests will need to be carried out in the next phase of drilling to determine more accurate estimates for the average density.

- Confidence levels for classification were based on similar classifications that have been made on similar deposits and by the degree of continuity of the lode zone, the density of the existing drilling, and the apparent reliability of the data (having been confirmed by different drilling and assaying phases).
- Some sections of the resource that in previous estimation were classified as Inferred have been re-classified into Indicated, where the drilling densities are sufficient to do so. This has been on the basis that the numerous phases of Noranda's previous drilling, and more recent drilling by Beacon Minerals and Superiors Resources drill holes, have



or •	
S	The results of any audits or reviews of Mineral Resource estimates.
sion of • e cy/ ence •	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.
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reconfirmed the grades of the previous drilling phases sufficiently, to indicate a significant degree of confidence in the grades reported.

- The result appropriately reflects the competent person's current view of the deposit. ٠
- No audits have been undertaken at this stage. ٠
- The factors that could affect the relative accuracy or confidence of the estimates ٠ include all drilling data quality issues, data density, modelled grade continuity and the used resource model assumptions. All of these are adequately discussed in the information above.
- This approach provides an estimate within any area of the lode that is locally based. •
- No comparisons with production data are possible. •