



# Superior Resources Limited

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## ASX ANNOUNCEMENT

9 March 2016

### POSITIVE TICK HILL SCOPING STUDY

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- **Superior announces completion of a positive independent scoping study for the Tick Hill Tailings Project.**
  - **Study based on Mineral Resource estimate of 630,000t @ 1.08 g/t Au, for 22,000 contained troy ounces.**
  - **Conservative evaluation parameters and assumptions.**
  - **Low technical risk.**
  - **Study based on AUD gold price of \$1,467/oz.**
  - **Highly leveraged to gold price and AUD exchange rate.**
  - **Using current spot Au pricing, scoping study indicates potential to yield highly positive financials.**
  - **Potential to lower capex and opex.**
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Superior Resources Limited (ASX Code: **SPQ**) (**Superior** or **Company**) is pleased to announce the finalisation of a positive Scoping Study exercise on the Tick Hill Tailings Project. The results of the study follows the completion of an encouraging metallurgical testing program and Mineral Resource estimate announced to the market on 22 October 2015 and 19 January 2016 respectively.

The study, conducted by independent consultants Metcor, confirmed the potential for the establishment of a stand-alone gold tailings reprocessing operation based on a spot gold price of US\$1,100 per ounce and AUD/USD exchange rate of 0.75. The study was determined with economic estimate accuracies of -30% to +35%.

Based on the preferred design parameter of a conventional CIP/CIL circuit at a rate of 35,000 tonnes per month, the processing of 630,000t of tails material at a grade of 1.08 g/t Au (for 22,000 contained ounces @ 0.5 g/t cut-off grade – Mineral Resource estimate of 19 January 2016), will be complete within 18 to 20 months.

Managing Director, Mr Peter Hwang today said:

*“Although we are cognisant of the general risks associated with such a project, we remain very optimistic at this relatively early stage. On the basis of the study parameters and assumptions, applying the current Australian dollar gold price the project stands to deliver \$9.3 million cash flow over an 18 to 20 month period. In addition, there is potential to lower the estimated capital expenditure requirements*



and operational expenses to further improve the economics of the operations. With a favourable and bullish outlook on the Australian dollar gold price, we are encouraged to progress to the next stage of evaluation and deliver a pre-feasibility analysis.”.

Superior, together with its joint venture partner Diatreme Resources Limited (ASX:DRX) will be commencing a detailed program of engineering, selective metallurgical and economic evaluation of the feasibility of the proposed re-processing operation. In addition, work will also commence on the required regulatory and permitting components of the project.

**Peter Hwang**  
Managing Director

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### MINERAL RESOURCE ESTIMATE

The Tick Hill Gold Mine operated from August 1991 through to March 1995, with the processing plant comprising crushing and milling circuits designed to deliver a product with a p80 of 70µm to a CIL circuit for gold recovery. Tailings were discharged into a tailings storage facility (TSF) comprising two paddocks of a “turkeys nest” construction with a perimeter embankment and a clay core to retain the tailings.

Following successful exploration drilling programs in July and September 2015, and completion of a comprehensive first stage metallurgical test work program with positive results in December 2015, sufficient data is available to develop a resource model for the Tick Hill tailings material.

The Mineral Resource estimate for the Tick Hill tailings is 630,000t at 1.08 g/t Au, using a 0.5 g/t Au cut-off grade (Table 1).

TABLE 1: TICK HILL TAILINGS RESOURCE ESTIMATE

Category	Location	Au cut-off g/t	Material Volume '000 m <sup>3</sup>	Material Density	Material '000 t	Au g/t	Au kg	Au t oz
INDICATED	West Paddock	0.5	245	1.4	345	0.80	275	8,800
INDICATED	East Paddock	0.5	205	1.4	285	1.42	405	13,000
<b>INDICATED</b>	<b>TOTAL</b>	<b>0.5</b>	<b>450</b>	<b>1.4</b>	<b>630</b>	<b>1.08</b>	<b>680</b>	<b>21,800</b>

A summary of information that may be material to understanding the mineral resource estimate includes:

- **Geology** – the mineralisation comprises fine sand and silt tailings material within the two paddocks of the historic Tick Hill Gold Mine TSF;
- **Sampling** – 1 metre interval samples were collected via a cyclone from aircore drilling of the TSF and submitted to a commercial laboratory. Sub-sampling of samples >3.2kg in weight was by riffle splitting. Samples were pulverised and a split taken for analysis;



- **Drilling** – drilling was undertaken by a DRX-owned and operated aircore drilling rig utilising NQ rods and a blade bit with 3m drill runs. All drill holes are vertical;
- **Classification** – the Mineral Resource is classified as Indicated based on the drill and assay data spacing (25m spaced offset grid with 1m downhole samples);
- **Analysis** – samples were analysed for gold only using a 50g charge for FA (ALS method AA26);
- **Estimation** – Micromine software was used to construct a 3D wireframe for each tailings paddock, using a combination of high resolution DEM data, drill log data and reported TSF design parameters. A block model was generated within the wireframe and gold values assigned by ID3 interpolation of the drill assay data;
- **Cut-off grade** – all material within the TSF is considered mineralised so that a defined cut-off grade has not been routinely applied to drill data. Evaluation of the resultant block model shows that a nominal cut-off grade of 0.5 g/t Au can be applied to the reported resource estimate; and
- **Mining and metallurgical parameters** – possible mining methods include conventional truck and shovel mining or hydraulic mining. Mining will be relatively simple given the shallow depth/thickness of the mineralisation, lack of overburden and the free-digging nature of the material. Metallurgical test work shows that very high levels of gold extraction can be achieved by cyanide leaching of re-ground tailings material (95% – 98% extraction (recovery) of contained gold).

Based on exploration drilling results, the combined weighted average grade for the western paddock was calculated at 0.81 g/t Au (88.8m at 0.73 g/t Au from reconnaissance drilling and 107.1m at 0.88 g/t Au from infill drilling) and the combined weighted average grade for the eastern paddock was calculated at 1.42 g/t Au (74.1m at 1.42 g/t Au from reconnaissance drilling and 81.2m at 1.43 g/t Au from infill drilling).

The tailings dam was calculated to have an average weighted grade of **1.08 g/t Au** based on the combination of reconnaissance and infill drilling (including a top cut of 4.0 g/t Au).

The metallurgical test work completed to date indicates that very high levels of gold extraction can be achieved by cyanide leaching of re-ground tailings material, and this coupled with a significant proportion of water soluble gold provides encouragement that efficient processing of the Tick Hill tailings material can be achieved.

*The information in this report, insofar as it relates to Exploration Results and Mineral Resources is based on information compiled by Mr Ian Reudavey, who is a full time employee of Diatreme Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Reudavey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken 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 Reudavey consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.*

*Certain statements made in this report may contain or comprise certain forward-looking statements. Although Superior Resources Limited believes that any estimates and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results and estimations could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in the economic and market conditions, success of business and operating initiatives and changes in the regulatory environment. Superior undertakes no obligation to update publicly or release any revisions of any forward-looking statements to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events.*