



**Resolute**

# ASX Announcement

**28 August 2019**

## Ravenswood Upgrade Commences

**Stage 1 of Ravenswood Expansion Project Approved**

**Recommissioning of third mill to increase processing capacity to 5Mtpa**

**Stage 1 target production of ~80kozpa at an AISC of ~A\$1,600/oz**

**Stage 1 total capital investment of only A\$6 million**

**Decision on full REP pending: 200koz annually for 15 years from 2022**

### Highlights

- The upgrade of the Ravenswood Gold Mine envisaged by the Ravenswood Expansion Project has commenced
- Total site processing capacity to be increased to 5Mtpa by the end of 2019
- Processing of beneficiated low-grade stockpiles to generate sustained positive operating cash flows ahead of the full Ravenswood Expansion Project
- Stage 1 expansion to target production of ~80,000oz of gold at an AISC of ~A\$1,600/oz in 2020
- Ongoing strategic and technical review of the Ravenswood Expansion Project continues to identify efficiency and scale improvements with potential to deliver ~200,000oz annually for 15 years
- Final investment decision for full Ravenswood Expansion Project expected in late 2019 with timeline to complete implementation ~24 months post investment decision

Resolute Mining Limited (Resolute or the Company) (ASX/LSE: RSG) is pleased to announce that the first stage of the Ravenswood Expansion Project (REP) has commenced at the Ravenswood Gold Mine (Ravenswood) in Queensland, Australia. Stage 1 of the REP is an immediate low capital opportunity to enable the processing of available stockpiled material to target production of 80,000 ounces (oz) of gold at a reasonable cost to ensure Ravenswood generates positive operating cashflows for Resolute during the subsequent development phases of the REP.

Stage 1 of the REP includes the recommissioning of the third grinding mill at the Nolans Processing Plant which will enable a return to a processing rate of 5 million tonnes per annum (Mtpa). The three existing mills at Ravenswood were operational prior to 2011 at throughput rates of approximately 5Mtpa and predominantly processed material from the Sarsfield open pit. Following the suspension of open pit mining at Sarsfield, the Nolans Processing Plant was de-rated to 1.5Mtpa to exclusively process the higher-grade ore mined from the Mt Wright Underground Mine.

Recommissioning of the third mill has commenced, and the mill is expected to be operational by the end of 2019. The increased processing capacity will allow Resolute to process greater volumes of the low-grade material stockpiled during previous open pit operations at Sarsfield. Available stockpiled material currently includes an Inferred Mineral Resource of 32.6 million tonnes (Mt) at 0.4 grams per tonne of gold (g/t Au) for 390,000oz.

Beneficiation, via a combination of contract crushing and screening and owner-operated facilities, will result in an



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uplift in head grades to 0.5-0.6g/t Au, and annual production to approximately 80,000oz, with the All-In Sustaining Cost (AISC) expected to be approximately A\$1,600/oz from the end of 2019.

Many of the historic open pit stockpiles at Ravenswood contain very low gold grades in the coarse size fractions, rendering them highly amenable to beneficiation. Beneficiation is the process by which the grade of ore is enhanced by discarding size fractions containing largely barren material. Stage 1 of the REP envisages beneficiation of the available stockpiled material, via a combination of contract crushing and screening and owner-operated facilities, to raise head grades to approximately 0.6g/t Au.

As a consequence of increased milling capacity and an uplift in head grades from beneficiation, Stage 1 is expected to provide sustainable annual production at Ravenswood from the end of 2019. As a result, Ravenswood will produce positive operating cash flows for the Company in 2020 and future years, pending and during any further REP development stages.

The recommissioning of the third grinding mill at the Nolans Processing Plant is the first step in the eventual upgrading of the plant to support the REP. The strategic review of the REP which commenced in early 2019 continues to provide strong encouragement for higher throughput and production rates than envisaged in earlier studies. This work indicates that the development period for the full REP is estimated at 24 months and is demonstrating that the full REP has the potential for Ravenswood to deliver approximately 200,000oz of gold annually for 15 years from 2022.



**Figure 1: Nolans Processing Plant with third grinding mill (Mill #3) to be recommissioned to the left of picture. Existing grinding mills located in bottom right of picture**





Managing Director and CEO, Mr John Welborn, highlighted the importance of the increase in processing capacity at Ravenswood and the implications of beneficiation on the potential for larger scale production over a long mine life in an upgraded REP:

“Increasing the plant capacity at Ravenswood to its historical rate of 5Mtpa and using this capacity to process available low grade stockpiles, will deliver an immediately cashflow positive, profitable mining operation at Ravenswood. As a result, this solution allows Resolute to focus on the ultimate transformation of Ravenswood into a large scale, low cost tier one Australian gold mining operation with an exceptionally long mine life.”

“The successful beneficiation trials conducted by Resolute, and the commissioning of a new beneficiation circuit at the Nolans Processing Plant, is consistent with a core strength of Resolute: mining smarter, using advanced technologies and innovative techniques to create sustainable value for all our stakeholders.”

“Recently Resolute announced an increase of one million ounces of gold in Ore Reserves at Ravenswood. With almost three million ounces of gold in Ore Reserves the Company is now directing its ongoing study work to focus on an optimised Expansion Project that can produce 200,000oz annually over a 15-year mine life. This outcome will deliver considerable economic benefits to the Ravenswood community, the Queensland Government and Resolute shareholders.”



**Figure 2: Nolans Processing Plant showing new beneficiation circuit.  
Reject material from beneficiation is located at the top right**

## Nolans Processing Plant

The Nolans Processing Plant currently has capacity to treat ~3Mtpa of gold bearing ore through a three-stage crushing circuit. The existing crushing circuit uses a jaw crusher, along with secondary and tertiary cone crushers to reduce the run-of-mine ore to a size suitable for grinding (nominally 18mm). The Nolans Processing Plant includes a beneficiation circuit, which allows production of two products; an oversize fraction which is largely devoid of gold, and a grade-enriched fine fraction which reports to the crushed ore stockpile ready for milling. The oversize fraction



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is conveyed and transported to a waste stockpile. The existing crushing circuit will be supplemented by contract crushing, which will produce additional screened product for direct feed to the grinding circuit.

The grinding circuit is currently configured in a conventional, closed-circuit primary (Mill #1) and regrind (Mill #2) arrangement. Crushed ore is slurried with water, and ground in the primary mill. Following classification, remaining coarse material is further processed in the regrind mill.

The ground slurry from both the primary and regrind mills is pumped to cyclone classifiers, which produce a coarse underflow fraction for regrinding and a fine overflow fraction for gold leaching. A gravity concentrator also recovers gold from the cyclone underflow.

The upgraded grinding circuit will utilise the spare 4,000kW ball mill (Mill #3) to increase the overall primary and regrind milling capacity. Mill #3 is to be refurbished and recommissioned with some minor modifications being made to the previous slurry pumping and classification arrangements. Mill #1 and Mill #2, both rated at 3,250 kW, will continue to operate in their existing arrangement.

### Ravenswood Expansion Project Strategic Review

The updated Ore Reserve and Mineral Resource for Ravenswood (see ASX Announcement dated 22 July 2019) supports Resolute's ongoing strategic review and optimisation study work. As part of Resolute's preparation for the REP, the Company has undertaken various activities including funding and development of a new State School, drilling of previously underexplored areas between the Sarsfield and Buck Reef West pits, examination of enhanced crushing and milling strategies, and the redesign and re-optimisation of the open pits. In late 2018, the Company commissioned a new beneficiation circuit as part of the existing Nolans Processing Plant. This circuit has demonstrated, on a commercial scale, Resolute's ability to upgrade low grade ores via simple two-stage crushing and screening.

The Company is expecting to conclude the REP strategic review during calendar 2019 and will update the market with completed study work and decisions on capital commitments and project timing and funding immediately the review is concluded.

For further information, contact:

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#### ASX/LSE: RSG Capital Summary

Fully Paid Ordinary Shares: 900,888,230  
Current Share Price:  
A\$1.68 as at 27 August 2019  
Market Capitalisation: A\$1.51 billion  
FY19 Guidance (to 31 December):  
400,000oz @ AISC US\$960/oz

#### Board of Directors

Mr Martin Botha *Non-Executive Chairman*  
Mr John Welborn *Managing Director & CEO*  
Ms Yasmin Broughton *Non-Executive Director*  
Mr Mark Potts *Non-Executive Director*  
Ms Sabina Shugg *Non-Executive Director*  
Mr Peter Sullivan *Non-Executive Director*

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### About Resolute

Resolute is a successful, dividend paying gold miner with more than 30 years of experience as an explorer, developer and operator of gold mines in Australia and Africa which have produced more than 8 million ounces of gold.

Resolute's production and cost guidance for the 12 months to 31 December 2019 has been updated to 400,000oz of gold at an AISC of US\$960/oz following the acquisition of Toro Gold Limited.

Resolute owns four gold mines. Its flagship asset is the world class Syama Gold Mine in Mali (Syama) which can produce more than 300,000 ounces of gold per annum from existing processing infrastructure. Resolute is currently commissioning the world's first fully automated underground mine at Syama which will deliver a low cost, large scale operation with a mine life beyond 2032. The Mako Gold Mine in Senegal is a high quality, low cost asset with average annual production of ~140,000 ounces of gold. The Ravenswood Gold Mine in Australia and the Bibiani Gold Mine in Ghana are existing largescale assets which provide Resolute with significant production growth potential. Resolute has a pathway to annual gold production in excess of 500,000 ounces from a Global Mineral Resource base of more than 18 million ounces of gold.

Resolute trades on the Australian Securities Exchange (ASX) and the London Stock Exchange (LSE) under the ticker RSG.

### Contact Information

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