



Resolute

# ASX Announcement

11 July 2018

## Ravenswood Expansion Project Update

AISC down, mine life extended, all required approvals received

### Highlights

- Significant enhancements have been made to Ravenswood Expansion Project
- All required approvals received to allow Buck Reef West to be prioritised in mine plan
- Life of Mine All-in Sustaining Cost reduced to **A\$1,097/oz** (US\$823/oz)
- LOM average production of **~115kozpa of gold**
- Mine life extended by three years to 2032
- Staged development plan has been optimised with FY19 capital requirement of only A\$33 million
- Major expansion capital deferred through changes in mine sequencing
- Ravenswood confirmed as a long life, low risk, low cost project

Resolute Mining Limited (ASX:RSG) (Resolute or the Company) is pleased to announce significant improvements to the Ravenswood Expansion Project (REP). Successful receipt of all required government approvals has allowed the adoption of an optimised mining and processing schedule, a revised processing and tailings management strategy, and the incorporation of new technologies to improve efficiency.

The updated REP (REP Update) is expected to deliver 1.5 million ounces (Moz) of gold production over 13 years. Mine life has been extended by three years to 2031 from the original REP study (REP Study). The Life of Mine (LOM) All-In Sustaining Cost (AISC) has reduced to A\$1,097 per ounce (oz) (US\$823/oz), from A\$1,166/oz (US\$880/oz), with associated LOM project capital of A\$327 million. Average production will be approximately 115,000oz of gold per year.

A significant benefit of the REP Update is the deferment of approximately A\$100 million of major project capital as a result of the extension of underground mining at Mt Wright. Timely receipt of all major project approvals allows the acceleration of the Buck Reef West open pit and has significantly reduced required initial project capital. REP capital expenditure in FY19 is expected to be A\$33 million.

Managing Director & CEO, Mr. John Welborn, was pleased that the REP Update further demonstrates the long-term value to Resolute shareholders of the Ravenswood operation.

“Ravenswood has been an integral part of Resolute’s business for more than a decade. Our performance at Ravenswood over this period has been exceptional. We have a strong history of operational experience based on open pit and underground mining. Our team has shown agility and skill in managing both a highly successful and unique underground operation and large scale open pit mining. I am proud that our imagination and tenacity has been rewarded in defining a long-term future for the asset. The REP Update represents an enhanced development plan for Ravenswood which maximises shareholder value.”

“Resolute has a commitment to continual improvement of our assets through exploration, adopting available technology, and disciplined investment in operational expansions and improvements. A simplified tailings management strategy has been developed in the REP Update which will have significant operating benefits. Beneficiation test work has confirmed the unique properties of the Sarsfield deposits will enable a simple pre-milling



upgrade. This work creates an opportunity to re-examine the large waste rock stockpiles accumulated during earlier mining which now represent further potential.

“Ravenswood boasts a very large resource base, extensive processing infrastructure, low cost grid power and a stable skilled local work force. Resolute’s success is enabled by a committed and talented operating team who are relentless in their continuous pursuit of lower operating and capital cost for the project.”

| <b>Physicals</b>                 |              |                     |
|----------------------------------|--------------|---------------------|
| <b>Underground Mining</b>        |              |                     |
| Ore Mined                        | kt           | 540                 |
| Ore Mined Gold Grade             | g/t          | 2.33                |
| Gold Contained (ROM)             | koz          | 40                  |
| <b>Open Pit Mining</b>           |              |                     |
| Ore Mined                        | kt           | 65,637              |
| Waste Mined                      | kt           | 100,783             |
| Total Movement                   | kt           | 166,420             |
| Life of Mine Strip Ratio         | Waste:Ore    | 1.5                 |
| Ore Mined Gold Grade             | g/t          | 0.78                |
| Gold Contained (ROM)             | koz          | 1,639               |
| <b>Processing</b>                |              |                     |
| Ore Crushed                      | kt           | 65,637              |
| Ore Milled                       | kt           | 47,015              |
| Ore Milled Gold Grade            | g/t          | 1.12                |
| Gold Contained (ROM)             | koz          | 1,687               |
| Processing Recovery              | %            | 91%                 |
| Gold Recovered                   | koz          | 1,529               |
| Mine Life (incl. pre-production) | years        | 13                  |
| <b>Cost Analysis</b>             |              |                     |
| <b>Costs</b>                     | <b>A\$m</b>  | <b>A\$/t milled</b> |
| Mining (incl. underground)       | 598          | 12.7                |
| Processing                       | 768          | 16.3                |
| G&A                              | 173          | 3.7                 |
| Royalty                          | 124          | 2.6                 |
| Sustaining capital               | 30           | 0.6                 |
| <b>Unit Costs</b>                | <b>A\$m</b>  | <b>A\$/oz</b>       |
| <b>All-In Sustaining Cost</b>    | <b>1,740</b> | <b>1,097</b>        |

Table 1: Key Updated REP Outcomes

## Background: Ravenswood Expansion Project Study – Released in September 2016

In September 2016, Resolute published the REP Study which outlined the Company’s plans to complete the Mt Wright underground mine and maintain continuity of production at Ravenswood by commencing open pit mining at the Nolans East, Sarsfield, and Buck Reef West pits (see ASX Announcement dated 21 September 2016). The REP Study reinvigorated Resolute’s Ravenswood operations and enabled a transition back to open pit mining, with open pit operations at the Nolans East deposit having commenced in August 2016.

The REP Study contemplated the following sequence:

- Increase in processing capacity to 2.8 million tonnes per annum (Mtpa) from October 2016;
- Approval for mining of Sarsfield open pit in January 2017;
- Mt Wright underground closure in mid-2017;



- Approval for mining of Buck Reef West open pit in mid-2018; and
- Expansion of mill capacity to 5.0Mtpa

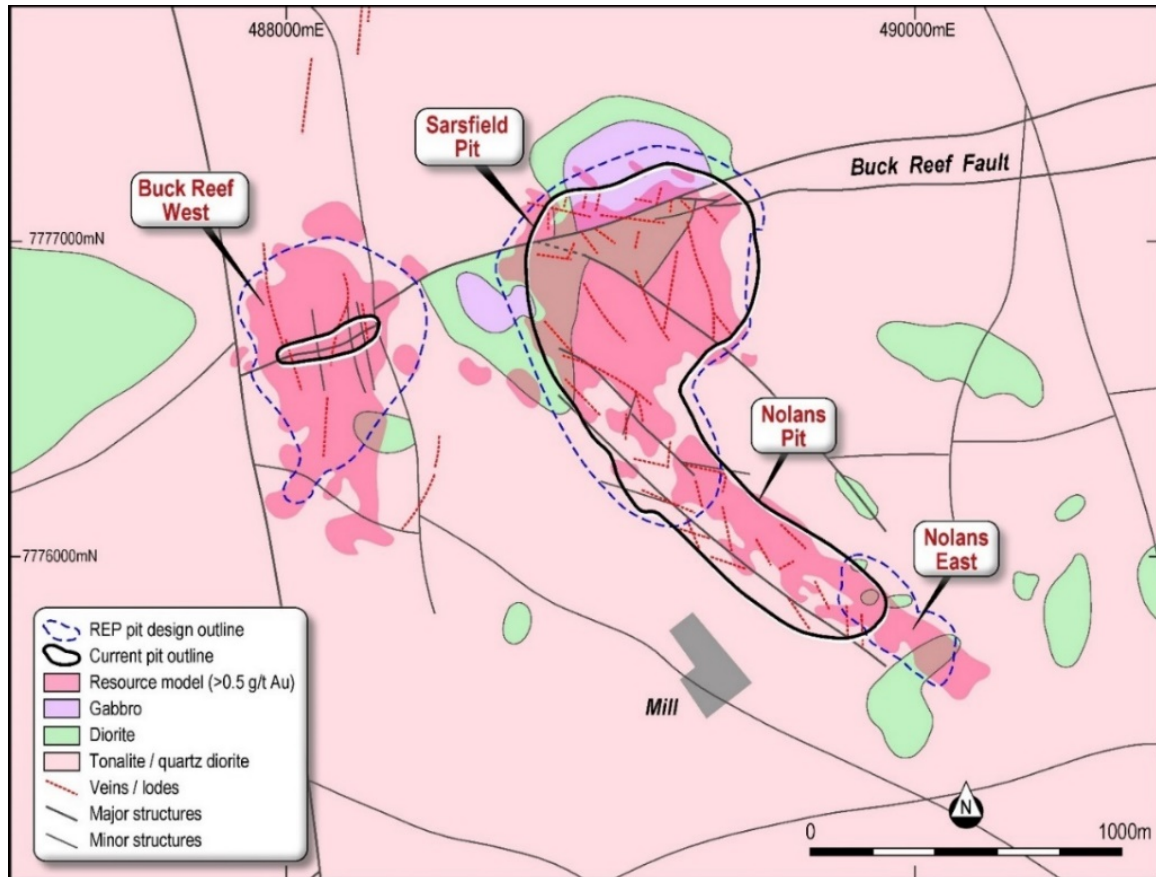


Figure 1: Ravenswood geology and open pits

The REP Study assumed that tailings generated from ore at Buck Reef West and Sarsfield, and existing tailings dredged from the Sarsfield pit would be deposited into a Dry Stacked Tailings Storage Facility (TSF) comprising a combined waste landform with the filtered tailings.

### Approvals Progress since release of Ravenswood Expansion Project Study

Since the publication of the REP Study numerous key milestones have been achieved at Ravenswood, including:

- ✓ Granting of Prescribed Project status to the REP by the Queensland Government (see ASX Announcement dated 1 December 2016);
- ✓ Receipt of Amended Environmental Authority for the recommencement of mining at the Sarsfield open pit (see ASX Announcement dated 7 March 2017);
- ✓ Completion of Heritage Agreements covering areas of the proposed REP mining landscape (see ASX Announcement dated 16 August 2017); and
- ✓ Granting of the Buck Reef West Environmental Authority Amendment Application and the associated Buck Reef West Mining Lease Applications (see ASX Announcement dated 24 April 2018).

These approvals and agreements have been achieved through a careful process aimed at balancing the needs of heritage, the natural environment, economic development and community. The complex approvals process required for the REP has been streamlined by the assistance of various Queensland Government agencies, specifically the Department of Environment and Science, Department of Natural Resources, Mines and Energy and the Coordinator General within the Department of State Development. This assistance has enabled the approval process for Buck



Reef West to remain on schedule and in turn allow for continuity of mining operations at Ravenswood. Importantly, securing approval for mining of both Sarsfield and Buck Reef West provides for maximum operational flexibility.

## REP Study Update

### Overview

The receipt of the key mining approvals along with the extension of Mt Wright has enabled Resolute to re-assess several elements of its expansion plan at Ravenswood and has culminated in this REP Update.

Operational opportunities have been identified in the following areas:

- Mt Wright: mine life has significantly exceeded its original forecast closure date and is now expected to cease operations in the final quarter of FY19. The extension of Mt Wright's mine life has been achieved by careful and conservative management of sub-level cave stope draw over several years. This successful cave management has resulted in a substantial overdraw from the current production levels;
- Sarsfield: extensive beneficiation test work has confirmed the amenability of the Sarsfield mineralisation to beneficiation. Simple crushing and screening of low grade ore material from the Nolans East pit has demonstrated a mass reduction of around 45%, with gold recovery of around 95%;
- Nolans East: open pit mining is expected to be completed by late 2018. Stockpiled ore from Nolans East, along with historic low-grade Sarsfield stockpiles will provide mill feed until early 2020;
- TSF: establishment of a conventional surface TSF, which would result in lower operating and capital costs for tailings disposal. This may also provide an opportunity to expand the mining footprint of the Sarsfield pit; and;
- Sarsfield Waste Dump Drilling: exploratory drilling of the main waste dump at Sarsfield, which contains around 50Mt of material from earlier phases of mining, has identified a large tonnage of low grade mineralisation (typically 0.3 to 0.35g/t Au). Investigations are underway to determine the amenability of this material to future beneficiation and processing.

Taking into account the various opportunities identified, Resolute has updated the Ravenswood LOM plan to include revised mining and processing schedules and tailings disposal strategies.

The revised REP mining and processing sequence is as follows:

- Mining at Mt Wright to be extended to the end of FY19, with mining and processing of a further of 540kt of ore in the current financial year;
- Mining of Nolans East to be completed in September 2018, with processing of stockpiled ore supplemented by existing low-grade stocks to the end of 2019;
- Processing plant to be upgraded to 3.2Mtpa (currently 2.8Mtpa) by the start of 2020;
- Mining and processing of the Buck Reef West open pit from July 2019 (Stage 1);
- Expansion of the Nolans processing plant to 5.0Mtpa in FY24; and
- Mining and processing of ore from the Sarsfield open pit from FY25 (Stage 2).

This sequence is expected to reduce upfront capital costs in bringing Buck Reef West (Stage 1) into production, while the adoption of a conventional TSF, via potential extension of the existing Nolans TSF will simplify the operation and is expected to reduce LOM capital and operating costs for tailings deposition and storage.

### Mine Schedule

Following receipt of all required approvals a revised mining schedule has been developed which accelerates mining activity at Buck Reef West. Study work has demonstrated that a selective mining approach will be appropriate for the Buck Reef West deposit. As a result, the REP Update includes a lower capital cost to upgrade the plant to 3.2Mtpa. This option is more capital efficient with the resulting average gold production over the life of mine being 115,000oz per annum. Figure 2 below shows the REP Update LOM gold production out to 2032.

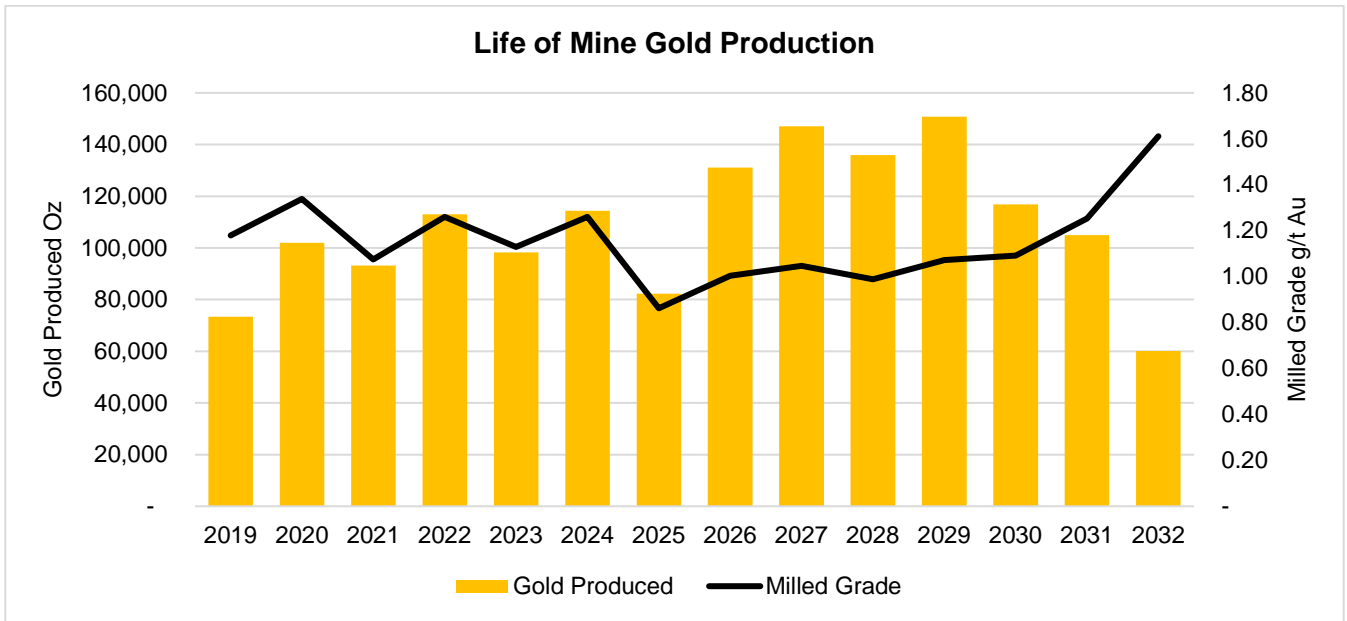


Figure 2: LOM annual gold production schedule

### Processing

The upgrade of the mill to 5.0Mtpa will be undertaken to support mining at Sarsfield (Stage 2) and is currently contemplated to be completed by the end of 2025. Figures 2 and 3 illustrate the production schedule for a staged ramp-up to 5.0Mtpa. Potential exists for a single stage expansion to 5.0Mtpa, and under this option average gold production would increase to approximately 130,000oz per annum. The throughput rate that is adopted is largely governed by the configuration of the crushing circuit. Subject to minor modifications, the existing milling, leaching and adsorption circuits can accommodate throughput of up to 5.0Mtpa. This provides future optionality for expanded production based on prevailing gold price and available capital.

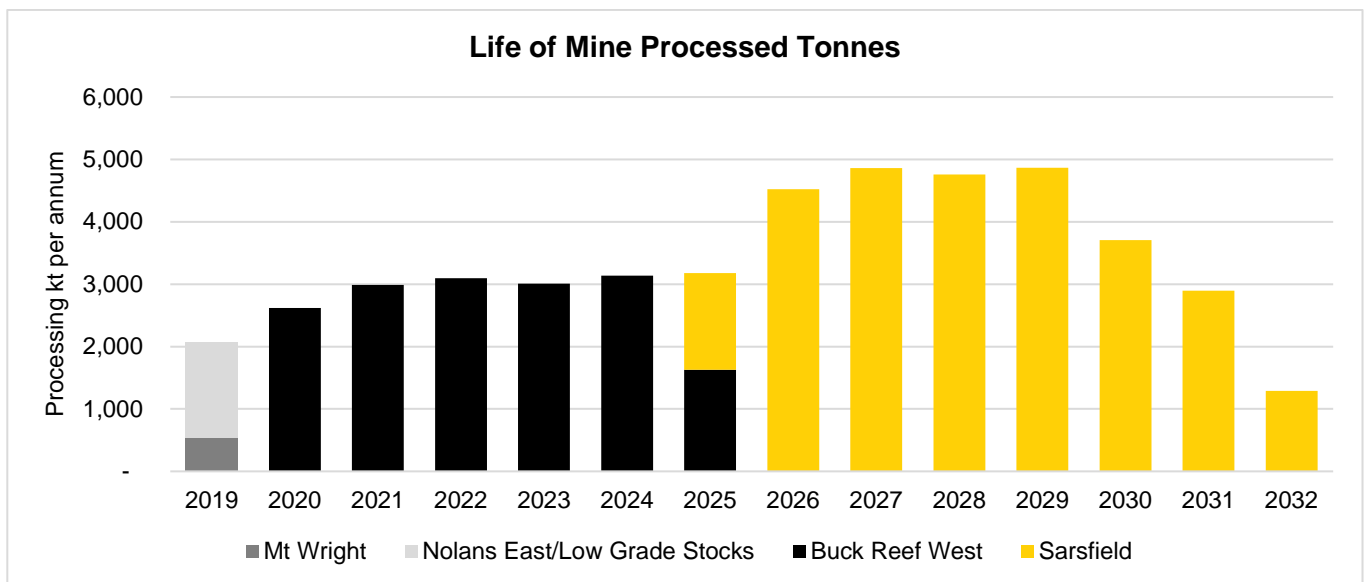


Figure 3: LOM annual gold processing schedule

### Capital and Operating Costs

The revised mining and processing schedule allows for deferment of some major capital associated with the expansion of the processing the plant to 5.0Mtpa and the recommencement of mining at Sarsfield. Upfront capital has been deferred relative to the previous REP as a result of the extension of Mt Wright. The revised LOM capital



also includes approximately \$66 million in mining fleet purchases for Stage 1. The REP had previously assumed contract mining.

The capital schedule is summarised in in Figure 4 below.

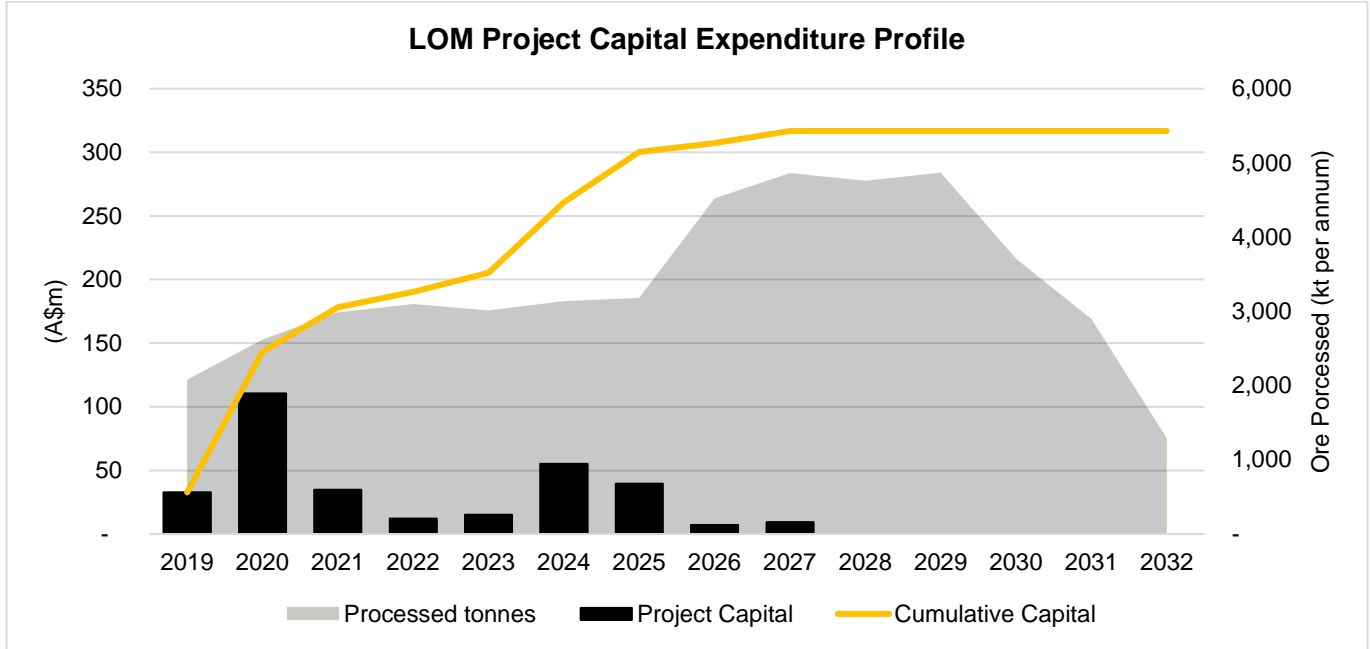


Figure 4: Ravenswood capital schedule

LOM project capital under the REP Update totals A\$327 million. As shown in Figure 4 significant project capital has been deferred into 2020 and 2024/2025. Capital committed to the REP in FY19 is approximately A\$33 million.

LOM AISC has reduced to A\$1,097/oz from the previous A\$1,166/oz. This reduction in cost has been achieved despite the inclusion of increases in power, fuel and environmental compliance costs.

Potential Upside

Extensive beneficiation trials have confirmed the unique characteristics of the Sarsfield mineralisation, where the majority of the gold is associated with stock works of narrow quartz sulphide veins contained within relatively barren surrounding rock. Resolute is investigating the potential application of the latest ore sorting technologies to this material with the aim of further upgrading low grade ore sources.

Further potential exists for re-optimisation and redesign of the Sarsfield open pit, as amendments to the planned location of tailings infrastructure creates opportunity for expansion of the open pit.

The REP cost estimates are derived from current processing and administration operating costs at Ravenswood, and owner operated mining rates established from first principles. The Company intends to intensify its efforts to identify cost saving and revenue enhancements as the REP develops.

For information, contact:

John Welborn Managing Director & CEO
T: +61 8 9261 6100 | E: contact@rml.com.au



Resolute

## ASX Announcement

### About Resolute

Resolute is a successful gold miner with more than 28 years of continuous production. The Company is an experienced explorer, developer, and operator, having operated nine gold mines across Australia and Africa which have produced 8 million ounces of gold. Resolute currently operates two mines, the Syama Gold Mine in Africa and the Ravenswood Gold Mine in Australia, and is one of the largest gold producers listed on the Australian Securities Exchange with FY18 guidance of 280,000 ounces of gold production at All-In Sustaining Costs of A\$1,360/oz (US\$1,020/oz).

Resolute's flagship Syama Gold Mine in Mali is a robust long-life asset comprising parallel sulphide and oxide processing plants. The move to underground mining is expected to extend the mine life beyond 2032.

The Ravenswood Gold Mine in Queensland demonstrates Resolute's significant underground expertise in successfully mining the Mt Wright ore body, where operations are expected to cease at the end of FY19. The Company's next stage of development in Queensland is the return to large scale open pit mining at the Ravenswood Expansion Project, which will extend the Company's local operations for a further 13 years.

In Ghana, the Company has completed a feasibility study on the Bibiani Gold Mine focused on the development of an underground operation requiring modest capital and using existing plant infrastructure. Resolute is also actively exploring over 6,600km<sup>2</sup> of potential world class tenure in West Africa and Australia.

Resolute supplements its own exploration activities with a portfolio of interests in listed African focused gold exploration companies to provide shareholders with a pipeline of medium term development opportunities.

#### ASX:RSG Capital Summary

Fully Paid Ordinary Shares: 741,477,595

Current Share Price:

A\$1.37, 10 July 2018

Market Capitalisation:

A\$1.02 billion

FY18 Guidance:

280,000oz @ AISC A\$1,360/oz

#### Board of Directors

Mr Martin Botha *Non-Executive Chairman*

Mr John Welborn *Managing Director & CEO*

Mr Peter Sullivan *Non-Executive Director*

Mr Mark Potts *Non-Executive Director*

Mr Bill Price *Non-Executive Director*

Ms Yasmin Broughton *Non-Executive Director*

#### Contact

John Welborn *Managing Director & CEO*

Level 2, Australia Place | 15-17 William St

Perth, Western Australia 6000

T: +61 8 9261 6100 | F: +61 8 9322 7597

E: [contact@rml.com.au](mailto:contact@rml.com.au)