

## Gwalia Mass Extraction Feasibility Study Results, FY19 Guidance & webcast

St Barbara Limited (ASX: SBM) (the 'Company') has completed the Feasibility Study (FS) for the 'Gwalia Mass Extraction' (GMX) project.

The GMX Pre-Feasibility Study (PFS) announced in February 2018 proposed changes in mining and haulage methods to suit the Gwalia orebody as it deepens. The FS, incorporating third party reviews by relevant subject matter experts, evaluated three main alternative haulage methods comprising:

- Continue trucking (the base case, plus two sub-options with additional ventilation and cooling)
- Hydraulic hoisting using positive displacement pumping
- Hydraulic hoisting using three chamber pipe feeder.

### Feasibility Study Outcomes

**The FS results indicate that an optimised trucking case is the preferred option compared to either hydraulic hoisting options based on risk and return-on-capital assessments.**

The FS results highlighted that:

- The combination of higher development requirements and the anticipated future orebody geometry does not consistently support the 1.4 Mtpa<sup>1</sup> throughput on which the initial FS was based.
- Three chamber pumping has been discounted due to technical risk and immaturity of the technology.
- Positive displacement pumping is technically feasible, reduces unit-operating costs and may lower cut-off grade, however, reliably sizing material is a key issue.
- Ventilation remains a key enabler for future operations, which is the subject of ongoing optimisation.
- Continued trucking presented the highest net present value (NPV) of the alternatives considered.
- Following commissioning of the Gwalia Extension Project (GEP) in FY20 and its associated increase in ventilation, Gwalia's production limitation changes from trucking (imposed by ventilation) to development.

In both the hydraulic hoisting alternatives, the FS identified significant capital expenditure, interruption to operations and operational risk. The FS estimated aggregate capex of the hydraulic hoisting options to be approximately twice the \$100 million capex anticipated in the PFS, due to design changes and additional development, plus additional ventilation for underground processing circuits not anticipated in the PFS.

Whilst certain alternatives in the FS still need to be explored and optimised, there is now a focus to optimise the preferred trucking option. Areas for continued investigation include optimisation of the truck fleet and ventilation design. The possibility of utilising a smaller positive displacement pumping installation to match the lower mining rate will also be explored.

Continued trucking was the 'base-case' in the PFS, FS and Life of Mine plan (LoM) modelling. The LoM for the preferred trucking option extends to FY2031, with mining at up to 1.1 Mtpa down to 2,300 metres below surface (mbs) using existing Resources and Reserves<sup>2</sup>. The trucking option involves capex for additional ventilation and cooling of approximately \$100 million over the LoM (including approximately \$30 million

<sup>1</sup> Million tonnes per annum.

<sup>2</sup> Ore Reserve and Mineral Resources Statement as at 30 June 2018 released 27 August 2018.

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additional ventilation within Gwalia Extension Project<sup>3</sup>), which would also have been required for the hydraulic hoisting alternatives. Ore Reserves at 30 June 2018 extended down to 2,140 mbs and Mineral Resources extended to 2,200 mbs. It is anticipated to convert more of the current identified 4,825 koz Mineral Resource (which extends down to 2,200 mbs) into mineable Ore Reserves<sup>4</sup>.

Under GMX, the LoM plan contains a change from the current mining method to suit the deepening mine, and the nature of the existing unmined lodes, which includes a move to “island pillar”<sup>5</sup> methods for narrower lodes. Exploration work continues, seeking to further extend Resources, as has occurred in previous years.

### **Gwalia FY19 Guidance and Future Indicative Production Profile**

The initial FY19 production guidance had anticipated the Paste Aggregate Fill (PAF) circuit to be operational in early Q2 December FY19. As previously advised, PAF is now due to be completed in Q4 June FY19, impacting anticipated gold production for the remainder of FY19. Production for FY19 is now anticipated to be between 235,000 and 240,000 ounces (previously 245,000 to 255,000 ounces) at an AISC<sup>6</sup> between A\$980 to A\$1,000 per ounce (previously A\$930 to A\$970 per ounce).

Production for FY20 will remain ventilation constrained until the additional ventilation from the Gwalia Extension Project is available, as forecast, in H2 FY20. Production in H2 FY20 will compete with development associated with GMX, with the outlook for FY20 now anticipated to be between 200,000 and 220,000 ounces.

The production profile past FY20 is subject to optimisation of the continued trucking option which is now underway, and for FY21 and FY22 the production rate is anticipated to be approximately 230,000 ounces per annum.

This longer-term outlook anticipates progressive improvement in development rates (that are within local industry performance levels) to meet the GMX schedule. Whilst Gwalia has been trucking constrained, development has largely been managed on a ‘just in time’ basis, and with GMX development needs to be scheduled further in advance. A dedicated team is focussed on progressively improving development rates as they increase over time to meet the GMX schedule. Automated development drilling has been trialled and will commence implementation in May 2019.

Whilst the outcome of the FS and revised production profile has been released at the earliest opportunity, work on the corresponding cost information is continuing, and is anticipated to be released in July 2019 with FY20 guidance in conjunction with the Q4 June FY19 quarterly report.

St Barbara Managing Director and CEO, Mr Bob Vassie, said:

“The Feasibility Study outcome favouring the trucking option is clear. Trucking at further depth is the superior way forward. It consumes significantly less capital while delivering greater operational certainty over the same life of mine.

“We vigorously pursued slurry pumping technology as a potentially innovative solution to the depth of the Gwalia orebody. The FS, however, identified that the geometry of the orebody does not support the necessary throughput to sustain pumping at sufficient scale, and the PFS had not anticipated some of the ventilation issues associated with the pumping options that contributed to significantly higher capex required for the pumping alternatives.

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3 Refer ASX announcement “Gwalia Extension Project approved” released 27 March 2017.

4 Inferred Resources per Ore Reserves and Mineral Resources Statements as at 30 June 2018 released 27 August 2018. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target will be realised.

5 Mining method whereby a ‘pillar’ of ore is left in place to structurally support the roof of a mining cavity.

6 Non-IFRS measure, refer Quarterly Report Q2 December FY19 released 23 January 2019.

“The process to complete the FS has been objective, rigorous and definitive. Continued trucking achieves the primary objective of GMX to extend mine life and secures the future of Gwalia. Our challenge now is to optimise all aspects of trucking to maximise the value of Gwalia.”

### **Simberi FY19 Guidance**

Due to continued outperformance at Simberi, guidance for FY19 has been increased to between 130,000 to 135,000 ounces (previously 120,000 to 130,000 ounces) at AISC of between A\$1,245 to A\$1,300 per ounce (previously A\$1,275 to A\$1,375 per ounce). Further details will be provided in the Q4 June FY19 quarterly report.

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### **Analyst briefing and audio webcast**

Bob Vassie, Managing Director & CEO, will brief analysts and investors on the GMX Feasibility Study Results at 11:00 am Australian Eastern Daylight Time (UTC + 11 hours) on Friday 22 March 2019. Participation on the conference call is by personal invitation only.

A live audio webcast will be available on the website at [www.stbarbara.com.au/investors/webcast/](http://www.stbarbara.com.au/investors/webcast/) or by [clicking here](#). The audio webcast is ‘listen only’ and does not enable questions. The audio webcast will subsequently be made available on the website.

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The Company estimates its reserves and resources in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves 2012 Edition (“JORC Code”), which governs such disclosures by companies listed on the Australian Securities Exchange.

### **Competent Persons Statement**

#### **Mineral Resource and Ore Reserve Estimates**

The information in this report that relates to Mineral Resources or Ore Reserves is extracted from the report titled ‘Ore Reserves and Mineral Resources Statements 30 June 2018’ released to the Australian Securities Exchange (ASX) on 27 August 2018 and available to view at [www.stbarbara.com.au](http://www.stbarbara.com.au) and for which Competent Persons’ consents were obtained. Each Competent Person’s consent remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 27 August 2018 and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original ASX announcement.

Full details are contained in the ASX release dated 27 August 2018 ‘Ore Reserves and Mineral Resources Statements 30 June 2018’ available at [www.stbarbara.com.au](http://www.stbarbara.com.au).