



24 May 2019

Corporate Details

Ordinary Shares:
891,186,531

Market Capitalisation:
~\$107 million

ASX Code: MOY

Board of Directors

Greg Bittar
Non-Executive Chairman

Tim Kennedy
Non-Executive Director

Peter Lester
Non-Executive Director

Bruno Lorenzon
Non-Executive Director

Management

Peter Cash
Chief Executive Officer

Ray Parry
Chief Financial Officer and
Company Secretary

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Operations, Funding and CY2019 Guidance Update

Key Points:

- **In-principle agreement reached for a \$20m Mezzanine Debt Facility from Millennium's major shareholder, IMC Group, to provide interim working capital while the ramp-up of both the Bartons Underground and the sulphide plant expansion are completed.**
- **Nullagine mine plan re-optimised following previously-announced delays in the ramp-up of stoping at Bartons Underground and commissioning of the Stage 1 sulphide plant.**
- **Underground production at Bartons back on track following changes to the mining sequence and introduction of additional mining equipment and personnel, with ore now being sourced from four stoping fronts on two levels.**
- **Commissioning of the Stage 1 sulphide plant expansion progressing well, with concentrator spirals successfully commissioned and gold concentrate production ramping up.**
- **Ultra-fine Grind Mills are also now in place, with final commissioning of the sulphide plant expected before the end of June, enabling production of gold doré to commence.**
- **The delays in the Bartons Underground and commissioning of the sulphide plant will restrict production in the first half of CY2019 to 34,000-36,000oz.**
- **Production in the second half is forecast to be 46,000-54,000oz, reflecting the ramp-up at Bartons and the sulphide plant.**
- **This means annual production guidance for CY2019 has been revised to 80-90koz at AISC of A\$1,370-1,450/oz, compared with previous guidance of 90-100koz at A\$1,300-1,375/oz.**

Millennium Minerals (ASX: MOY) provides the following operations, funding and guidance update for its 100%-owned **Nullagine Gold Project** in the Pilbara region of Western Australia.

As foreshadowed in its March 2019 Quarterly Report, the Company has undertaken a re-optimisation of its mine schedule at Nullagine in conjunction with a detailed review of the recent operational performance of both its existing open pit mines and the new Bartons Underground Mine, following the receipt of results from the March Quarter.

This review has now been completed and has identified two key factors behind the shortfall in ounces produced in the March quarter compared with original budgets, namely:



1. Delays in the commencement and ramp-up of commercial stoping activities at Bartons and higher-than-planned dilution due to low underground productivity and a sub-optimal initial mining sequence; and
2. A delay of ~6 weeks in the construction and commissioning of the Stage 1 sulphide expansion project, which has deferred the delivery of first saleable gold doré from sulphide ore sources until the end of June.

Both of these factors are discussed in more detail below, including the measures that have been implemented to improve the performance of the underground mine at Bartons. This, together with the delivery of first gold from the Stage 1 sulphide plant towards the end of June, is expected to put the operation on a stronger footing moving forward.

Importantly, the operational review concluded that the higher-than-planned dilution reported in the March Quarter results was due predominantly to unplanned dilution at Bartons Underground, which has now been addressed.

Grade and Ore Reserve reconciliations within the open pits currently being mined remains well within expected ranges and the overall performance of the Bartons Underground has shown significant improvement in the past two weeks.

Bartons Underground Ramp-up

The delay in the commencement of stoping at Bartons Underground was due to the completion of additional lateral development, outside of the Ore Reserve envelope. Ore drives on the top two levels were extended by 600m, at an additional cost of \$2.7 million, resulting in the introduction of longer stope panels to expedite production.

While this decision was driven by the success of the underground diamond drilling program, which extended the deposit along strike by 150m, the adoption of this initial mining sequence increased dilution in the initial stopes – resulting in a mined head grade of 2.4g/t against a planned grade of 4.0g/t during the March Quarter.

Following the commencement of stoping, the ramp-up of underground production was also impacted by reduced availability of underground equipment and personnel from the underground mining contractor. This is an issue which is being experienced across the industry and reflects a tightening market for labour and equipment supplies in the WA mining sector.

The Bartons mine has since returned to the original schedule of rapid-turnover short strike panels, reducing the volume of cemented rock-fill required and significantly reducing unplanned mining dilution. The Company is now also positioned to reap the benefits of the additional development in place, with ore now being simultaneously sourced from four stoping fronts across two levels.

The revised mining sequence and shorter strike panels have had an immediately positive impact.

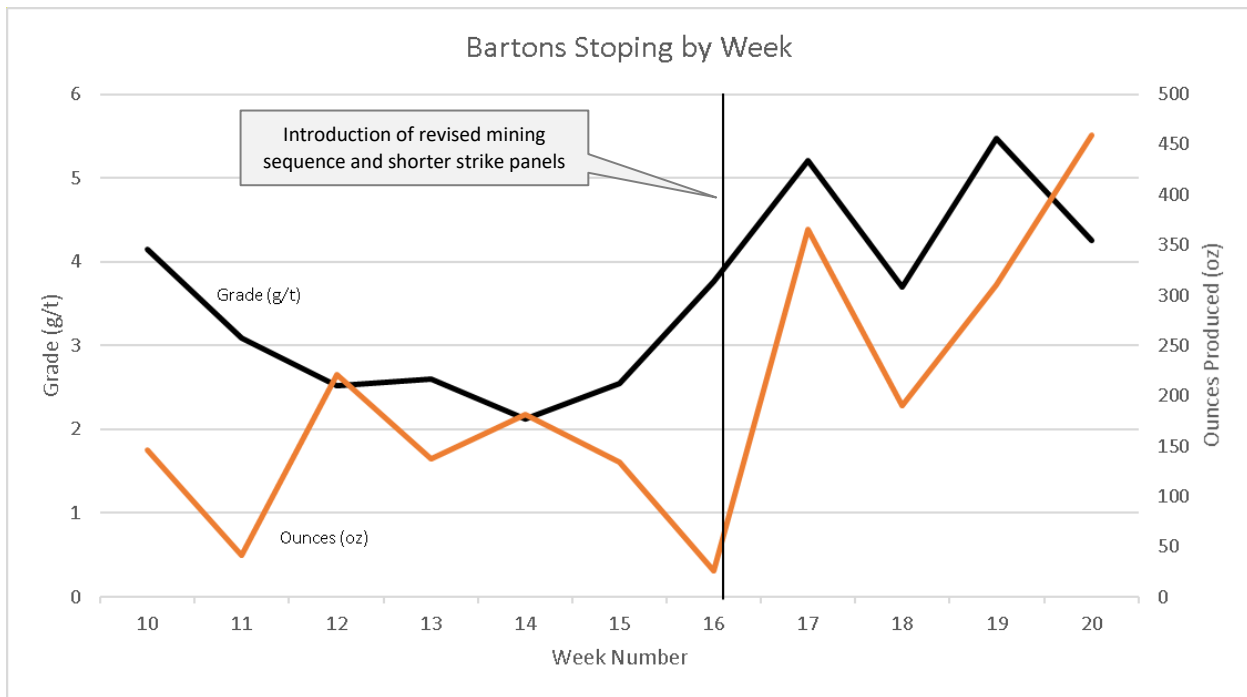


Figure 1: Bartons stopping showing improvement in grade and production following introduction of revised mining sequence and shorter strike panels

The underground mining contractor has sourced new underground mining equipment and is expected to arrive on site by early June, allowing the ramp-up of underground production to accelerate and reduce unplanned downtime.

The Company has also reached agreement with the underground mining contractor to equip the new loader coming to site with tele-remote capabilities, continue to increase manning resources and utilise a 'cage' to create a void to fire into allowing rapid turnover of the 5m panels.

As a result of these measures, the overall performance of the Bartons Underground Mine is showing a pleasing trend (see Figure 1).

Stage 1 Sulphide Plant Update

Following the construction-related delays outlined above, commissioning of the Stage 1 sulphide plant expansion at Nullagine is now progressing well, with concentrate production ramping up and first gold production on-track for late June.

Since the Company's previous update in the March 2019 Quarterly Activities Report (see ASX Announcement 1 May 2019), the spirals have now been successfully installed and commissioned, with expected throughput rates now being achieved and the focus now on optimising the spiral circuit performance.

The spirals have been commissioned using lower-grade, pyrite-dominant refractory ore, with initial gold concentrate grades averaging 13-times the average feed grade to the spiral circuit during the commissioning period.

These concentrate grades are in line with, or exceed, results from feasibility studies, relative to the ore types and grade being processed. The upgrade ratio will vary depending on the grade of the material being fed to the plant.

In addition, the ultra-fine grind mills have been installed, with all major mechanical items on site and structural steel work installation underway. Commissioning of the mills is expected to commence in late June, enabling gold to be extracted from the concentrate.

The recent progress of the sulphide plant expansion is shown in Figures 2 to 11.



The sulphide expansion project is broken into three distinct phases:

- **Stage 1a:** Concentrator and fine grinding circuit (commissioning underway)
- **Stage 1b:** Installation of the in-mill oxidation (INOX) process as the concentrate transitions from a pyrite-dominant to a blended pyrite / arsenopyrite ore (commissioning Quarter 4)
- **Stage 2:** Pressurised in-mill oxidation (PINOX) to facilitate processing of arsenopyrite-dominant ore (expected early 2020, subject to mine schedule)

The results of the commissioning process of the Stage 1 sulphide plant to date have been very encouraging, reinforcing the validity of the Company's sulphide expansion strategy.

The Company is on track to deliver first gold production from sulphide concentrates by the end of next month once final commissioning of the mills is complete, allowing it to deliver production from a wider variety of ore sources over the coming years.

The ability to cost-effectively process sulphide ore sources represents a key element of the Company's longer-term growth and development strategy at Nullagine, opening up a large portion of the Reserve base as well as delivering a range of new, high-grade exploration targets.

Production Guidance

Due to the production and ramp-up delays outlined above, production for the first half of CY2019 will be restricted to 34-36,000oz.

However, with the average head grade improving at Bartons as dilution is addressed and the start of gold production from the sulphide plant in late June, gold production for the September 2019 Quarter is expected to increase to 22-25,000oz with a further increase in the December 2019 Quarter. Production in the second half of CY2019 is forecast to be 46-54,000oz.

Accordingly, the Company has revised its CY2019 production guidance to 80,000-90,000oz at an All-in Sustaining Cost (AISC) of \$1,370 - \$1,450 per ounce. This compares with the previous forecast of 90-100,000oz at an AISC in the range of A\$1,300 - \$1,375 per ounce.

Interim Funding Support

Millennium has reached in-principle agreement with its major shareholder, IMC Group, for the provision of an 18-month, A\$20 million Term Loan Facility to provide interim working capital while the ramp-up of the Bartons Underground Mine and the sulphide plant expansion are both completed.

Key terms include:

- \$20 million secured debt facility
 - \$10M anticipated to be drawn-down on or before 31 May 2019
 - \$5M subject to the production of not less than 6,750 ounces of gold in June. Drawdown not before 30 June 2019
 - \$5M subject to the production of 6,750 ounces of gold in July or a combined June and July production of 13,500 ounces of gold. Drawdown not before 31 July 2019.
- Second ranking and subordinated to the Investec facility.
- Term expiry 31 December 2020. Facility can be repaid early.
- Standard interest rate 13.5% p.a.
- IMC to be issued 60 million options at 20% premium to the 5-day VWAP at the financial close of the first draw-down, with an expiry date of 5 years.
- Customary conditions to draw-down including execution of binding and definitive documentation, consents from the senior lender and obtaining ASX waivers and shareholder and other regulatory approvals where necessary.

Together with the existing Investec Facility and cash-flow from operations, the Company expects to have sufficient liquidity to complete the ramp-up at Bartons and to bring the Stage 1 sulphide



plant fully on stream, while maintaining ongoing exploration programs and meeting all other operational, financial and corporate commitments.

Millennium is grateful for the continued strong support of its major shareholder, IMC Group, and of its financiers in helping it to manage its balance sheet through this ramp-up period.

Millennium will issue a notice of general meeting to its shareholders seeking all necessary shareholder approvals required for the IMC Group facility, which will include an independent expert's report.

Management Comment

Millennium CEO Peter Cash said the delays in the ramp-up of underground mining at Bartons combined with an approximate six-week delay in the completion and commissioning of the Stage 1 sulphide plant expansion had been the prime factors contributing to a shortfall in production in the March and June quarters.

"Based on our guidance, production for the first half will be restricted to 34-36,000oz," Mr Cash said.

"As a result of the changes to the mining sequence at Bartons together with the expected impact of new equipment arriving in early June, we are expecting to see a significant turnaround in the performance of the Bartons mine with the key metrics of dilution and head grade both now trending in the right direction.

"This, combined with the start of gold production from sulphide sources towards the end of June, should contribute to a strong uplift in gold production in the second half, which should see us return to a production level of 46-54,000oz – in line with our original guidance.

"While we are disappointed by these delays – and the impact they have had on our balance sheet – it is important to note that the ounces have been deferred, not forgone, and that there are no systemic issues at Nullagine in respect to the robustness of our Resources and Reserves, overall reconciliations or recoveries.

"We are very grateful to IMC Group for their continued support of Millennium in providing an interim working capital facility to help us complete the delivery of these two key projects and maintain our longer term growth momentum – including starting mining at the high-grade Golden Gate Mining Centre, continuing an aggressive exploration program and delivering on our sulphide expansion program."

Forward-looking statements

This announcement includes forward-looking statements. Forward-looking statements include but are not limited to statements concerning the Company's planned activities, including but not limited to mining and exploration programs, and other statements that are not historical facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements. In addition, estimates of production and costs are also forward-looking statements. Although the Company believes that its expectations reflected in these forward-looking statements are reasonable and are based on reasonable grounds, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

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Figure 2: Concentrator and mill area



Figure 3: Concentrator and mill area



Figure 3: Cyclones



Figure 4: Concentrate storage area



Figure 5: Concentrator and mill area



Figure 6: Cyclones



Figure 7: Regrind mill installation



Figure 8: Regrind mills installation



Figure 9: Spirals in operation



Figure 10: Spirals feed screen



Figure 11: Cyclone Feed