



17 October 2018

Corporate Details

Ordinary Shares:
792,144,996

Market Capitalisation:
~\$190 million

Cash and bullion at 30 September 2018:
\$17.8 million

Debt:
\$10 million

ASX Code: MOY

Board of Directors

Greg Bittar
Non-Executive Chairman

Bruno Lorenzon
Non-Executive Director

Tim Kennedy
Non-Executive Director

Peter Lester
Non-Executive Director

Management

Peter Cash
Chief Executive Officer

Dean Will
Chief Operating Officer

Ray Parry
Chief Financial Officer and
Company Secretary

Contact Details

**Unit 7, 140 Abernethy Road
Belmont WA 6104**

Telephone:
+ 61 (08) 9216 9011

Facsimile:
+ 61 (08) 9481 0288

Email: info@mmltd.com.au

Website:
millenniumminerals.com.au

September 2018 Quarterly Activities Report

Millennium delivers outstanding operational performance, beating production and cost guidance and achieving 100kozpa run rate

Key Points

- **Gold production for September quarter of 22,414oz at an AISC of A\$1,324/oz, with both production and costs beating guidance (20-22,000oz at ~A\$1,400/oz).**
- **77% increase in ounces produced compared with the June quarter (12,639oz) reflects significant increase in average head grade as new ore sources come on stream at Nullagine.**
- **Gold production consistently running at an annualised rate of 100kozpa since the start of September, achieving the Company's long-held production target ahead of schedule (originally targeted for Q4).**
- **Production guidance of 25,000oz maintained for December quarter.**
- **CY2018 production expected to be at upper end of 75-80,000oz guidance range.**
- **Cash and bullion at 30 September 2018 of \$17.8M (\$13.6M at June 30) after outlaying a total of \$10.7M on expansionary capital during the quarter comprising underground development at Bartons (\$5.8M), the sulphide plant expansion (\$0.8M), exploration (\$3.4M) and other capital projects (\$0.7M).**
- **Significant north-trending mineralised structure delineated within the existing pit design at the flagship Golden Eagle deposit, with potential to significantly increase the Resource. Assay results include:**
 - **4m @ 15.34g/t Au from 23m, incl. 1m @ 54.90g/t Au**
 - **8m @ 18.91g/t Au from 20m, incl. 7m @ 21.45g/t Au**
 - **3m @ 18.18g/t Au from 12m, incl. 2m @ 26.60g/t Au**
 - **1m @ 25.40g/t Au from 22m**
 - **4m @ 5.48g/t Au from 11m, incl. 1m @ 18.40g/t Au**
 - **6m @ 3.73g/t Au from 24m, incl. 2m @ 9.32g/t Au**
- **High-grade gold mineralisation discovered at a new exploration target located 1.8km south-west of the Golden Eagle deposit, with results including:**
 - **1m @ 34.00g/t Au from 26m**
 - **5m @ 17.86g/t Au from 62m, incl. 2m @ 42.35g/t Au**
- **Nullagine processing plant expansion to accommodate sulphide ore proceeding on schedule, with commissioning on track for Q1 2019.**



Millennium Chief Executive Peter Cash said the September Quarter had been a transformational period for the Company, with the Nullagine operation achieving its long-held 100kozpa production target and its exploration team delivering a number of key exploration breakthroughs.

“We’ve been working towards this milestone for the past 12 months, and we’re very pleased that all our hard work came to fruition in the September Quarter allowing us to achieve our targeted 100,000 ounce per annum production rate well ahead of schedule,” he said.

“Our production metrics for the Quarter were very positive, with improved head grade, stronger mining rates and significantly increased mill throughput combining to deliver gold production of 22,414 ounces, which was ahead of guidance.

“Encouragingly, ore feed during the Quarter was still being blended with low-grade ore from the pre-strip of the Golden Eagle deposit, suggesting that further increases in head grade could yet be achieved.

“We’re confident that with the strong foundations we’ve laid over the past year, we are now entering a period of strong and sustainable gold production at Nullagine, with guidance of 25,000 ounces for the December Quarter and forecast production of more than 100,000 ounces for CY2019.

“The Quarter also delivered some very exciting results on the exploration front, with two important breakthroughs at the Golden Eagle Mining Centre achieved through an ongoing reinterpretation of the Company’s extensive high-quality exploration datasets.

“At the Golden Eagle deposit, recent drilling has confirmed the presence of a cross-cutting mineralised structure that runs oblique to the main mineralised lodes, with assay results returning broad, high-grade intercepts of gold mineralisation.

“Our analysis suggests that numerous other similar structures may be present within the Golden Eagle deposit, which could substantially increase the mining inventory in terms of both tonnes and grade.

“In addition, we’re also following up an important new target identified 1.8km south-west of Golden Eagle, where reconnaissance drilling has intersected exceptionally high-grade zones of gold mineralisation.

“With our 100,000oz per annum production target now ticked off, exploration will continue at full speed over the coming months – aimed at putting in place the next plank of our growth program, which is to deliver a mine life of five years at the increased production run rate.

“Importantly, we also still have the benefits of the Nullagine plant expansion to come once this exciting growth project is brought on stream in the first quarter of next year. All elements of the expansion program are progressing on schedule.”

Mine Safety, Environment and Community

Safety

There were no lost-time injuries, two medically treated injuries and one alternative duty injury recorded for the quarter.

The 12-month moving average for the Lost Time Injury Frequency Rate (LTIFR) is 0.0, highlighting that the site has not had a lost-time injury for over 12 months. The Total Reportable Injury Frequency Rate (TRIFR) is 5.6.

The upgrade of the Mines Rescue Training Centre continued with underground rescue equipment and underground mines rescue training to support the Bartons Underground Mine.



Environment and Heritage

Statutory inspections were completed by the Department of Water and Environmental Regulation during the quarter, with all notifications and improvements completed. No reportable environmental incidents occurred during the quarter. Survey works and preparation of site wide Mining Proposal continues with promising exploration targets and future underground opportunities highlighted for proposed development envelopes.

Employment and engagement of Njamal civil plant equipment commenced during the quarter to assist construction works programmed across the quarter and into the next. Cultural road mapping across the operation during the quarter with the Njamal group actively contributing to the collection of recordings and culturally significant stories from surrounding area.

Community

The Company has been working closely with the Nullagine Remote Community School to assist in continued education outside of the local region. Assistance was provided in developing and implementing a work experience program for the upper school students for late 2018 and early 2019.

We continued our support to develop skills for life after school and recently contributed financial support for a school excursion to Perth and assisted the school in organising visits to Universities and Sporting events in Perth.

Millennium Minerals is also working closely with the local community to organising an inaugural sporting event to encourage participation and community involvement with our mine site personnel.

Operational Activities Summary

The Company produced 22,414oz for the quarter at a C1 cash cost of A\$1,183/oz and an AISC of A\$1,324/oz.

The strong result, which represents a 77% increase in ounces produced compared with the June quarter (12,639 ounces), puts the Company on track to hit the upper end of its guidance of 75-80,000oz for CY18.

The increase in gold production was mainly driven by a higher average head grade as the new Bartons underground mine and higher-grade open pit ore sources come on stream, supported by an increased mining rate and materially improved mill throughput.

The mining rate at Nullagine has risen from a monthly average of approximately 400,000 Bank Cubic Metres (BCM) for the first six months of 2018, to over 600,000 BCM over the September Quarter. This increase has been achieved by employing more efficient mining strategies in the open pits, delivering a strong boost to productivity without the need to employ any additional equipment.

Mill throughput has lifted from a monthly average of 154kt over the first six months of the year to 175kt over the September Quarter through the implementation of a number of improvement projects including optimisation of the SAG mill performance through process control enhancements and changes to mill liner design.

Collectively, these enhancements enabled the Company to achieve its long-held target of an annualised production rate of 100,000 ounces per annum during September, well ahead of its original target of the December quarter.

Production guidance for the December quarter is maintained at approximately 25,000oz at an AISC of ~A\$1,150/oz.



A comparison of the operating results by quarter is provided in Table 1 below:

Table 1 – Quarterly Comparative Results

		Dec-17	Mar-18	Jun-18	Sep-18
Total volume mined	<i>bcm</i>	1,240,586	1,098,931	1,323,820	1,818,484
Ore mined	<i>t</i>	353,723	369,927	568,927	529,152
Ore processed	<i>t</i>	469,078	474,420	436,887	523,614
Head grade	<i>g/t</i>	1.6	1.56	1.01	1.53
Metallurgical recovery	<i>%</i>	89	85.5	83.8	86.8
Fine gold production	<i>oz</i>	21,401	20,324	12,639	22,414
Gold sold	<i>oz</i>	19,627	21,013	15,129	21,945
Gold sales revenue	<i>\$M</i>	32.13	35.45	26.0	36.5
Cash Operating Cost	<i>\$/oz</i>	1,081	1,194	2,020	1,183
All-in Sustaining Cost	<i>\$/oz</i>	1,290	1,295	2,178	1,324

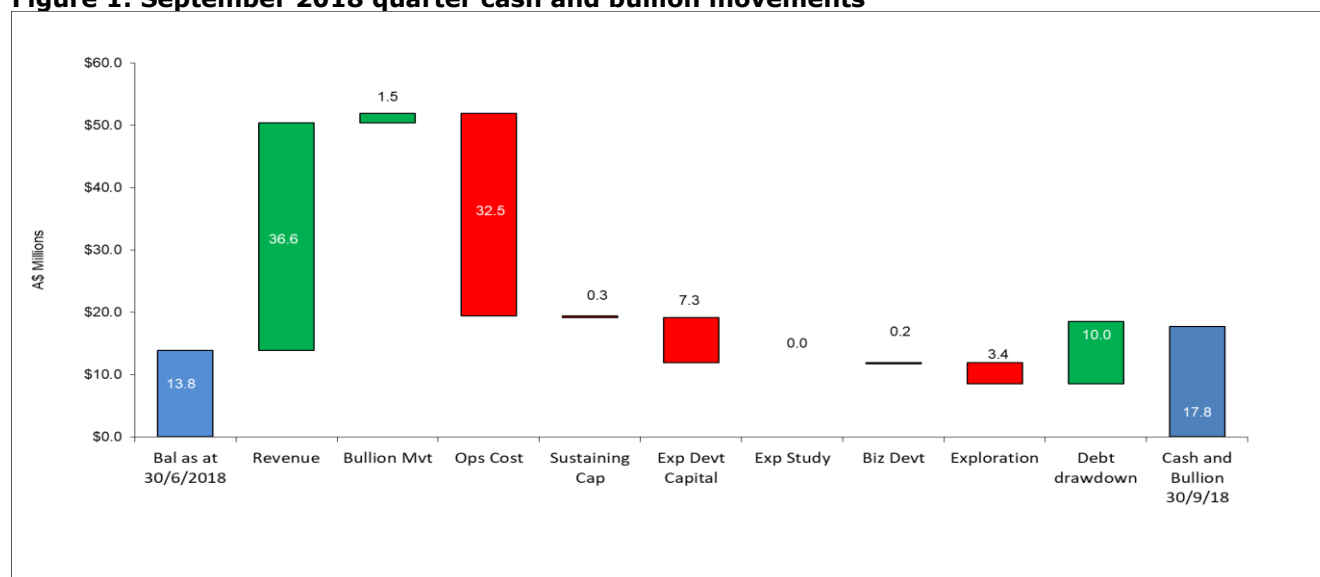
Corporate Activities

As at 30 September 2018, the Company held cash and bullion of \$17.8 million. The \$17.5 million Revolving Loan Facility (RLF) secured with Investec was drawn down by \$10 million during the September Quarter.

Gold sales revenue for the quarter totalled \$36.5 million, which was achieved at an average realised gold price of \$1,661/oz.

At 30 September 2018, the Company's hedge book consisted of 31,500 ounces to be delivered over the period October 2018 – September 2019 at an average forward gold price of \$1,687/oz. September quarter cash and bullion movements are shown in (Figure 1) below.

Figure 1: September 2018 quarter cash and bullion movements





Bartons Underground Development

The Bartons Decline has been completed to below the 225 Level and total underground development of 1,103m was completed for the quarter. The development for the Ventilation Circuit was completed and primary ventilation fans installed.

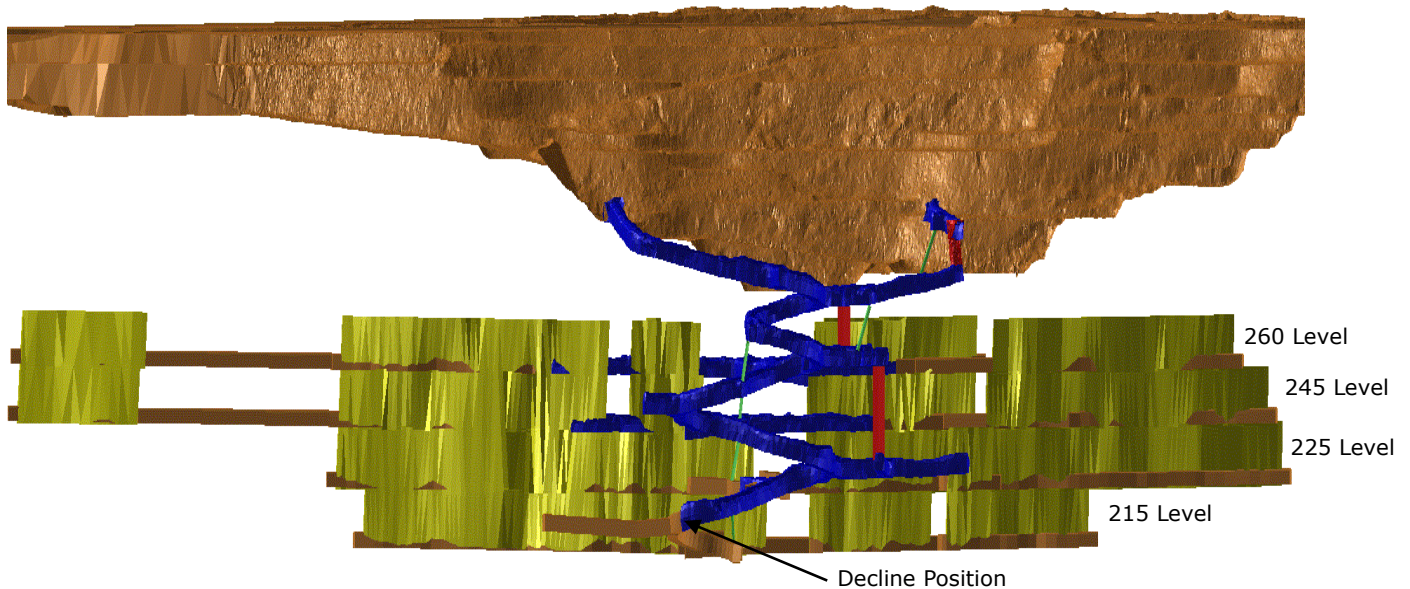


Figure 2: *Bartons Underground Project Long section showing mine development to date (blue).*

This underground development will access high-grade, free-milling mineralisation located directly beneath the existing Bartons open pit.

All underground development has encountered good ground conditions, with consideration now being given to employing a revised “top-down” mining approach to access high-grade stope ore ahead of schedule.

Millennium had initially expected to deliver high-grade stoping ore from Bartons Underground in Q1 2019, however based on the better-than-expected ground conditions encountered to date, the Company now believes it may be possible to access the first stoping blocks during Q4 2018.

Sulphide Expansion Project

Significant progress was achieved during the quarter towards the expansion of the existing 2Mtpa CIL processing plant at Nullagine to facilitate the treatment of sulphide ore. The Company has appointed Ausenco as EPCM managers to take the project forward and deliver it with commissioning planned to commence in late Q1 2019.

Major equipment items have been specified and procurement undertaken to allow the delivery in line with the planned commencement of construction in December 2018. Tendering and procurement of minor equipment and services will be undertaken in Q4 to tie in with the overall project delivery schedule. Electrical Engineers BEC have been engaged under the Ausenco contract to complete the electrical design of the plant expansion and to supervise the upgrade of the facilities.

Metallurgical variability test work is also continuing on core samples from the GE pits representing the identified metallurgical domains from this resource. These tests will allow mapping of the



sample recovery against the metallurgical domains and provide information for reagent controls and input to the final engineering details and operational readiness program for the upgrade.

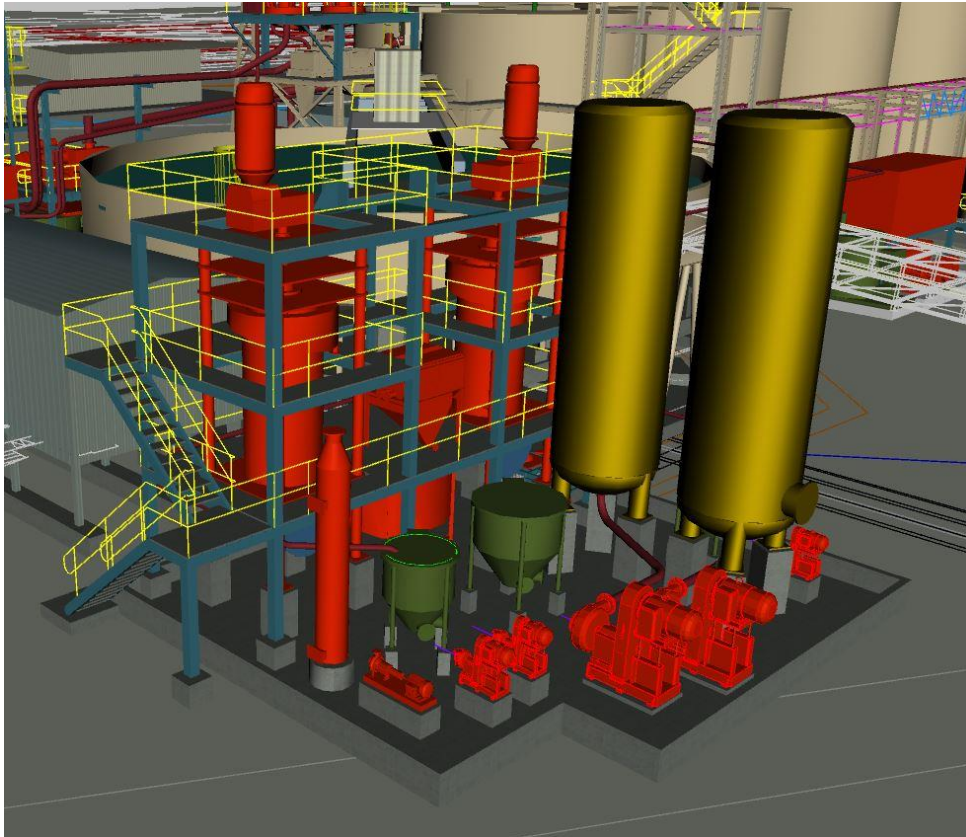


Figure 3: Sulphide plant expansion 3D design of the grinding circuit.

Exploration

Millennium delivered further exploration success during the Quarter, with in-fill drilling returning high-grade results from the Golden Eagle deposit, part of the Golden Eagle Mining Centre at Nullagine. Deeper drilling was carried out in the Five Mile, Golden Gate, Camel Creek and Twenty Mile Mining Centres.

Drilling

Golden Eagle Mining Centre

A total of 213 RC holes for 11,086m was drilled in the Golden Eagle Mining Centre. This included the Golden Eagle deposit as well as additional oxide targets. Drilling at the Golden Eagle deposit the confirmed presence of a cross-cutting mineralised structure that runs oblique to the main mineralised lodes, with assay results returning broader, high-grade intercepts of gold mineralisation including:

- 4m @ 15.34g/t Au from 23m including 1m @ 54.90g/t Au (GERC13443);
- 8m @ 18.91g/t Au from 20m including 7m @ 21.45g/t Au (GERC13442);
- 3m @ 18.18g/t Au from 12m including 2m @ 26.60g/t Au (GERC13444);
- 1m @ 25.40g/t Au from 22m (GERC13445);
- 4m @ 5.48g/t Au from 11m including 1m @ 18.40g/t Au (GERC13446);
- 6m @ 3.73g/t Au from 24m including 2m @ 9.32g/t Au (GERC13441).

The results indicate that, in addition to the previous interpretation of a series of parallel east-north-east trending mineralised lodes at Golden Eagle, the deposit may in fact contain a number



of north trending cross-cutting structures. If confirmed, this new interpretation could deliver an uplift in the grade within the deposit.

Given that the mining of Golden Eagle is currently well advanced, and the results fall within an existing pit shell, any increase in the resource could be rapidly incorporated into the mining schedule.

Further drilling is planned to extend the known strike and dip lengths of this high-grade mineralisation, as well as to test similar structural positions identified by the mapping program.

In addition, drilling has intersected high-grade mineralisation at a new target, named Golden Eagle South West, located 1.8km south-west of the Golden Eagle deposit.

Reconnaissance hole GEX391 returned 12m @ 0.87g/t gold from 184m, including 1m @ 3.13g/t gold from 191m. Step-out hole GERC13440, drilled 80 metres north-east of GEX391, intersected two high-grade zones of gold mineralisation, with assay results of:

- 1m @ 34.00g/t Au from 26m; and
- 5m @ 17.86g/t Au from 62m, including
- 2m @ 42.35g/t Au.

Ongoing work at Golden Eagle SW will focus on defining the orientation of the high-grade mineralisation.

Five Mile Mining Centre

A total of 82 RC holes for 4,673m were drilled at and around the Mundalla deposit to upgrade the Resource categories, as well to test early-stage prospects to locate additional oxide mineralisation. The results from this drilling will be included in an updated Mundalla Mineral Resource Estimate. Further drilling will be carried out to follow up any encouraging results from the oxide targets. Broad spaced deeper drilling was carried out beneath the Majuba Hill deposit to understand the depth potential. The results from this drilling are currently being interpreted.

Camel Creek Mining Centre

Drilling to test the potential beneath the Little Wonder and Roscoe's Reward deposits began late in the Quarter with a total of 24 RC holes for 2,058m drilled. Once the drilling programs have been completed and the assays received, the corresponding Mineral Resource Estimates (MREs) will be updated.

Twenty Mile Mining Centre

Reconnaissance exploration in the Twenty Mile Sandy region, which hosts the recent Redbeard discovery continued during the quarter. A total of 146 RC holes for 9,635m were drilled at early stage targets, as well as deeper drilling at Redbeard deposit. The results from the early stage targets are under review.

Golden Gate Mining Centre

A total of 73 RC holes for 5,113m were drilled at Goshawk, H Reef, Kite South, Magpie, and Osprey prospects, as well as deeper drilling at the Crow deposit. Interpretation of the drill results is underway with a view to designing follow-up drilling programs aimed at establishing maiden JORC Mineral Resources for the most promising prospects.



Planned Activities for the December Quarter

Deep drilling is expected to commence early in the December Quarter targeting further depth extensions to the Bartons orebody.

This drilling will be conducted from underground drilling platforms that have been opened up through the Bartons Underground mine development and will follow up on previously-reported high-grade drill intercepts including 41m @ 6.02g/t Au from 129m, including 2m @ 87.47g/t Au in BARD0285 (see ASX Announcement 24 July 2017), which sits below the currently defined Mineral Resource area.

Based on the results of this deep drilling, the Company expects to include an updated Mineral Resource and Ore Reserve estimate for Bartons Underground as part of its December 2018 Resource and Reserve update.

Following the positive progress achieved at Bartons Underground to date, Millennium has also commenced work to deliver a maiden underground Ore Reserve estimate for the Golden Gate Mining Centre, consisting of the ABC Reef, D Reef and Harrier deposits.

The Company is targeting development of its second underground mine development at the Golden Gate Mining Centre and is working to progress the deposit towards a Decision to Mine by the end of 2018.

ENDS

For further information, please contact:
Peter Cash – Chief Executive Officer
+61 8 9216 9011

For media inquiries, please contact:
Nicholas Read – Read Corporate
+61 421 619 084



Competent Persons Statement – Exploration Results

The information relating to exploration results from the Nullagine project is extracted from the announcements titled:

1. First high-grade ore exposed at Bartons following outstanding progress with underground development dated 13 August 2018;
2. Millennium makes key exploration breakthrough at Nullagine dated 27 August 2018;
3. Outstanding new high-grade results of up to 54.9 g/t transform outlook for Golden Eagle dated 10 September 2018;
4. Millennium achieves 100,000ozpa production run-rate at Nullagine ahead of schedule dated 11 September 2018;
5. New high-grade intercepts of up to 42.35g/t upgrade discovery potential at Golden Eagle SW dated 17 September 2018;

all of which are available to view at www.millenniumminerals.com.au.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements relating to the drill results and that all material assumptions and technical parameters underpinning the drill results in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings as presented here have not been materially modified from the original market announcement.

Qualifying Statement

This report may include forward-looking statements. These forward-looking statements are based on Millennium's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Millennium, which could cause actual results to differ materially from such statements. Millennium makes no undertaking to subsequently update or revise the forward-looking statements made in this report or to reflect the circumstances or events after the date of this report.

Notes

- ¹ All-In Sustaining Cost (AISC) per ounce sold represents: C1 Cash Costs, corporate administration costs related to operations, royalties, sustaining capital, development capital, tenement management of active mining tenements, rehabilitation and reclamation accretion, employee share payments provided to operational staff and production stripping adjustments and amortisation. It does not include expansionary development costs, including the sulphide plant expansion study, Bartons Underground development, corporate development costs, tenement acquisition expenditure, or exploration and evaluation expenditure of new deposits and projects.
- ² C1 cash cost represents the costs for mining, processing, administration, by-product credits, royalties and accounting adjustments for movements in stockpiles, gold in circuit and waste stripping. It does not include capital expenditure, exploration, tenement management and corporate administration costs.

Unless otherwise denoted all currency units are Australian dollars.

All data provided is unaudited.