



Corporate Details

Ordinary Shares:
787,545,973

Market Capitalisation:
~\$169 million

Cash and bullion at 31 December 2017:
~\$22.4 million

Debt:
NIL

ASX Code: MOY

Board of Directors

Greg Bittar
Non-Executive Chairman

Michael Chye
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

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December 2017 Quarterly Activities Report

Key Points

- December quarter gold production of 21,401oz at AISC¹ of A\$1,290/oz
- CY2017 production of 72,848oz at AISC of A\$1,372/oz
- Cash and bullion of \$22.4 million at 31 December (\$20.1m at Sept 30)
~ no debt
- December quarter results slightly below guidance due to delays in delivering some higher-grade tonnes from the Bartons Cut Back. These tonnes are expected to be delivered in the current quarter and will underpin the forecast production of 18,000-20,000oz
- Drilling continues to deliver strong results which support Millennium's plan to establish its Nullagine gold project in WA's Pilbara as a 100,000ozpa operation with a mine life of plus-five years
- Strong drilling results from Bartons deposit include:
 - 17m @ 3.41g/t Au from 211m including 1m @ 19.90g/t Au from 218m (BARD0305)
 - 10.5m @ 38.64g/t Au from 164m including 5m @ 79.96g/t Au from 164m (BARD0313A)
 - 6m @ 7.72g/t Au from 153m including 1m @ 38.80g/t Au from 155m (BARD0314)
- The results also included more wide, high-grade intersections at the Shearers, Shearers North and Au81 West deposits
- Bartons Underground preparation is well underway, with mining to commence this quarter following a 22% increase in resources to 97,900oz and an interim maiden Reserve of 39,000oz
- A trade-off study as part of the ongoing Fresh Ore Feasibility Study has identified the potential for alternate processing options which could deliver a significant reduction in capital requirements as well as reduced operating costs
- At the recent Redbeard discovery, mineralisation has been outlined over 490m and remains open along strike
- Experienced mining executive Ray Parry appointed as Chief Financial Officer and Joint Company Secretary

Millennium Chief Executive Peter Cash said the December quarter results showed the Company was making strong progress towards achieving its growth targets.

"Our operational performance was largely in line with guidance and while it was disappointing to mine fewer high-grade tonnes than expected at Bartons, these tonnes will be mined in the current quarter," Mr Cash said.



"Our underlying cashflow was strong, enabling us to invest in the exploration and development program which is at the heart of our wider strategy to establish Nullagine as a 100,000ozpa operation with a mine life of five years or more."

"The exploration results we achieved in the quarter, particularly at Shearers and Bartons, as well as the recent Redbeard discovery, show we are on track to achieve this objective."

"We are also making good progress towards our goal of unlocking the potentially significant value of the sulphide resources at Nullagine."

"Trade-off studies on the processing options and economics of this strategy are well advanced and we expect to provide an update on this in coming weeks."

Mine Safety, Environment and Community

Safety

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

The 12-month moving average for the Lost Time Injury Frequency Rate (LTIFR) is 1.4, which is under current industry averages for Western Australia (as reported by the Department of Mines & Petroleum (DMP)). The Total Reportable Injury Frequency Rate (TRIFR) is 12.58.

Environment and Heritage

No reportable environmental incidents occurred during the quarter.

A mining proposal application for the Barton's underground resource and Mustang open cut deposit were prepared and submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) with assessment well advanced and approval expected this quarter.

Native Vegetation Clearing Permit applications have been approved by DMIRS for Project One (extension to current mining areas at Little Wonder, All Nations, Roscoes Reward and for a new resource area at Round Hill) and Project Two (Majuba, Crossing, Hutt, Agate and Mundella). Further mining proposal extensions of Shearers North are well advanced, with applications underway.

Archaeological Heritage surveys by Traditional Owner Groups continued across the Project, with several areas cleared and approved for ongoing exploration and mining activities.

Millennium values highly its role as a proactive member of the Nullagine township community and also maintains strong relationships within the broader community. The Company continues to work closely with several local service groups including schools, Police Force, Nursing Station and DFES as well as maintaining the Nullagine airstrip.

During December, Millennium organised a function and donated Christmas presents to children in the local community.

Operational Activities Summary

The Company produced 21,401oz for the quarter at a C1 cash cost of \$1,081/oz and an AISC of \$1,290/oz.

The December quarter was another period of significant capital investment to establish access to larger, longer-term ore sources, consistent with the Company's previously announced strategy of changing its mining focus away from small, shorter term satellite pits which have been the mainstay of production in the past.



The mining schedule during the quarter focused on continuing with the cut-back at Bartons, completion of mining at the Majuba pit and commencing mining of the newly discovered Au81 West Pit. The Bartons and Au81 West deposits will continue to provide the bulk of high grade ore feed for the next three months.

The processing plant continued to perform well with throughput for the quarter of 469,078 tonnes at 1.6g/t.

Construction of a second tailings storage facility was completed and commissioned in November. A major diversion drain was also constructed around the Bartons pit for effective surface water management as well as in preparation for mining underground at Bartons.

A comparison of the operating results by quarter including the annual results are provided in Table 1 below:

Table 1 – Quarterly Comparative Results

Quarter Dec17		Mar-17	Jun-17	Sep-17	Dec-17	Full Year 2017
Total volume mined	bcm	858,503	1,147,865	1,292,249	1,240,586	4,539,203
Ore mined	t	301,493	383,019	261,351	353,723	1,299,586
Ore processed	t	466,864	535,382	444,638	469,078	1,915,962
Head grade	g/t	1.32	1.24	1.25	1.6	1.35
Metallurgical recovery	%	83	89	90	89	88
Fine gold production	oz	16,543	18,897	16,007	21,401	72,848
Gold sold	oz	16,909	18,144	15,558	19,627	70,238
Gold sales revenue	\$M	28.1	32.1	25.2	32.13	117.53
Cash Operating Cost	\$/oz	1,232	1,217	1,286	1,081	1,196
All-in Sustaining Cost	\$/oz	1,354	1,396	1,470	1,290	1,372

Management Changes

The Company appointed Ray Parry as Chief Financial Officer and Company Secretary. Mr Parry was CFO of Northern Star Resources during its initial growth phase from 2010 to 2014. He was most recently the CFO and Company Secretary of Hanking Gold Mining Pty Ltd where he was instrumental in building the business from an exploration and development company into a gold producer and played a key role in the Company's successful sale last year.

Mr Parry is a Certified Practicing Accountant and has a Master of Business Administration from Deakin University. He is also a Graduate of the Australian Institute of Company Directors.

During the quarter, the Company appointed Clinton Moxham as Mining Manager of the Nullagine Mining operation. Clinton is a mining engineer, geologist and mineral economist with over 20 years' experience in managerial, technical and operational roles. He has worked for several companies including NRW, Mineral Resources Limited, Moly Mines, Rio Tinto and BHP Billiton.



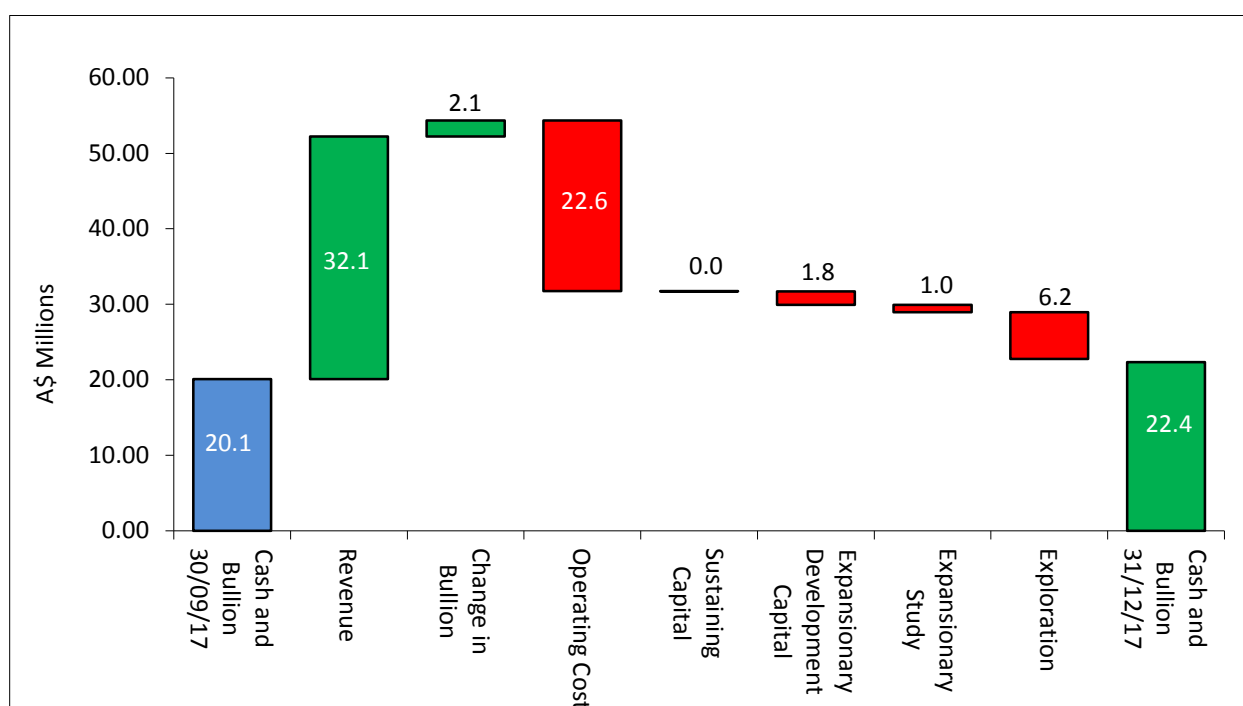
Corporate Activities

As at 31 December 2017, the Company held cash and bullion of \$22.4 million and remains debt-free.

Gold sales revenue for the quarter totaled \$32.1 million, which was achieved at an average realised gold price of \$1,637/oz.

At 31 December 2017, the Company's hedge book consisted of 12,000oz to be delivered by 29 June 2018 at an average forward gold price of \$1,675/oz. December quarter cash and bullion movements are shown in (Figure 1) below.

Figure 1: December 2017 quarter cash and bullion movements



Exploration:

Millennium enjoyed outstanding exploration success during the quarter, with reconnaissance activities and drilling returning a host of strong results from both existing deposits and new targets at Nullagine, in WA's Pilbara. Drilling of deeper targets continued to assess the opportunities for larger cutbacks to the current pits, scope out further underground potential and increase the confidence in Bartons underground resource.

Reconnaissance activities continued throughout the quarter and included geological mapping and rock chip sampling of targets across Millennium's tenements. Highlights from these activities included a number of high-grade (>5g/t Au and up to 48.8g/t Au) assay results from multiple targets within the Golden Gate mining centre (see ASX Announcement - 12 December 2017).

Drilling at Shearers North, Redbeard (Yates) and AU81 West prospects, which span the Nullagine mineralised corridor from the south-west to the north-east of the project area, demonstrated the entire region's outstanding growth potential.



Further drilling at Shearers North was carried out to extend the known strike extents and to infill the mineralisation to generate a maiden Mineral Resource Estimate (MRE). Results from this programme included:

- **5m @ 3.02g/t Au from 51m including 1m @ 8.75g/t Au (FMX1753)**
- **14m @ 1.76g/t Au from 34m (FMX1759)**
- **17m @ 2.89 g/t Au from 21 m including 3m @ 7.55 g/t Au (FMX1848)**
- **19m @ 1.10g/t Au from 36m (FMX1740)**

Redbeard (Yates) was recognised as a prospect at the start of the quarter (see ASX Announcement - 4 October 2017). The drilling returned very encouraging results which lead to the fast tracking of further drilling and resulted in a maiden MRE being announced in January 2018. To date, drilling has covered 490m of the 2.1km Yates trend. Results from the Redbeard drilling included:

- **8m @ 8.44g/t Au from surface, including 7m @ 9.32g/t Au from surface (TMX112)**
- **10m @ 5.79g/t Au from 15m, including 5m @ 9.09g/t Au from 18m (TMX113)**
- **9m @ 3.89g/t Au from 17m including 1m @ 8.11g/t Au (TMX103)**
- **9m @ 6.82g/t Au from 10m including 5m @ 9.94g/t Au (TMX197)**
- **15m @ 7.83g/t Au from 12m including 13m @ 8.67g/t Au (TMX192)**
- **8m @ 5.97g/t Au from 8m including 5m @ 7.57g/t Au (RBRC025)**
- **14m @ 5.09g/t Au from 11m including 9m @ 6.57g/t Au (TMX189)**
- **6m @ 6.33g/t Au from 35m including 4m @ 8.06g/t Au (TMX198)**

Located 3km north-west of the Nullagine processing plant, Au81 West deposit, received further outstanding results including:

- **9m @ 3.30g/t Au from 59m including 2m @ 7.85g/t Au from 63m (AUGC00209)**
- **10m @ 3.05g/t Au from 59m including 1m @ 13.40g/t Au from 63m (AUGC00219)**

Deeper Drilling for Potential Cutbacks

Drilling was carried out to assess the potential for larger cutbacks and sulphide resources at the Little Wonder and Roscoes deposits. These drill programmes focussed on thicker and higher-grade intersections identified in the previous drilling. The most significant results from these programmes are listed below.



Little Wonder

- **15m @ 5.58g/t Au from 145m including 2m @ 29.10g/t Au from 152m (CCRD0262)**
- **23m @ 1.87g/t Au from 70m (LWRD0170)**
- **20m @ 2.76g/t Au from 155m including 2m @ 11.88g/t Au from 166m (CCRD0273)**
- **20m @ 1.96g/t Au from 87m incl. 2m @ 7.69g/t Au from 99m (LWRD0172)**

Roscoes

- **26m @ 1.62g/t Au from 70m (CCRD0241)**
- **15m @ 1.69g/t Au from 83m (CCRD0242)**

Drilling for Underground Resources

Drilling continued at Bartons to infill the maiden underground MRE as well as further holes to scope additional underground potential in the Golden Gate mining centre (ABC Reef, Crow and D Reef).

Bartons UG Infill

Drilling was completed to infill the main portion of the Bartons maiden underground MRE to upgrade the resource classification from Inferred to Indicated category. This was completed down to the 218m RL with the depth extensions to be drilled from an underground position once underground mining commences. The most significant intersections for the quarter include:

- **17m @ 3.41g/t Au from 211m including 1m @ 19.90g/t Au from 218m (BARD0305)**
- **10.5m @ 38.64g/t Au from 164m including 5m @ 79.96g/t Au from 164m (BARD0313A)**
- **6m @ 7.72g/t Au from 153m including 1m @ 38.80g/t Au from 155m (BARD0314)**

Subsequently, the results from the drilling were incorporated into an updated underground MRE of 627,300 tonnes grading at 4.9g/t Au for 97,900oz of contained gold in both Inferred and Indicated categories (see ASX Announcement - 8 January 2018), representing a 22% increase from the maiden underground MRE. This updated MRE was optimised to produce an interim Maiden Proven and Probable Ore Reserve estimate of 270kt at 4.5g/t Au for 39,000oz of contained gold (see ASX announcement - 8 January 2018).



Crow

Drilling was carried out to test beneath the current pit on 40m x 40m centres to define the higher-grade zone within the deposit. The drill programme aimed to assess the viability of a cutback to the current open pit as well as any underground potential. The most significant results included:

- **13m @ 15.42 g/t Au from 90m including 11m @ 17.60 g/t Au (CROWRD0064A – drilled obliquely due to topographic constraints)**
- **5m @ 2.79 g/t Au from 77m including 2m @ 5.47 g/t Au (CROWRD0062)**
- **5m @ 2.40 g/t Au from 92m including 1m @ 6.56 g/t Au (CROWRD0063)**

D Reef

The drill programme commenced to scope out the higher-grade zones for underground potential. Results for the completed drilling included:

- **4m @ 4.84 g/t Au from 60m including 2m @ 7.84 g/t Au (DRRD010)**
- **6m @ 4.27 g/t Au from 86m including 1m @ 16.55 g/t Au (DRRD010)**
- **10m @ 5.99 g/t Au from 109m including 4m @ 12.42 g/t Au (DRRD014A)**

ABC Reef

Drilling commenced in December with the programme designed to test the depth continuity of mineralisation 210m beneath the existing pit. A total of four Reverse Circulation (RC) holes for 1,133m were completed with a further two RC holes to be drilled. The results will be incorporated into an updated MRE once the remaining drilling has been completed. Results from the completed drilling have all been returned with the most significant intersections as follows:

- **6m @ 2.46 g/t Au from 131m (ABCRD023)**
- **10m @ 1.13 g/t Au from 308m (ABCRD029)**

ENDS

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Competent Persons Statement – Exploration Results

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

1. *More outstanding exploration results highlight strong future for Nullagine gold project in WA dated 04 October 2017;*
2. *Outstanding high-grade intercepts strengthen prospectively of Bartons open pit and underground dated 2 November;*
3. *New high-grade oxide discovery at Yates as Bartons Underground delivers more exceptional intercepts dated 21 November;*
4. *Further high-grade results highlight outstanding growth potential at Nullagine dated 23 November 2017;*
5. *New high-grade intercepts from emerging Redbeard discovery at Nullagine dated 12 December 2017;*
6. *Bartons Underground Resource Upgrade and Maiden Reserve Paves Way for Development of First Underground Mine at Nullagine dated 8 January 2018;*
7. *Millennium continues outstanding run of exploration success with impressive new drilling results dated 22 January 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 recovered 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 construction of the new tailings dam and camp expansion, or 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 and accounting adjustments for movements in stockpiles, gold in circuit and waste stripping. It does not include capital expenditure, exploration, tenement management, royalties and corporate administration costs.*

Unless otherwise denoted all currency units are Australian dollars.

All data provided is unaudited.