

Australia's newest 100,000ozpa gold producer

- ▶ Rising grades, rising production
- ▶ +100,000ozpa run-rate achieved
- ► New discoveries driving growth

James Farrell, Principal Geologist

– Project Generation

December 2018 RRS Lunch Series



Disclaimer & Competent Person's Statement



Disclaimer

This presentation contains only a brief overview of Millennium Minerals Limited ("Millennium"). The contents of this presentation, including matters relating to the geology of Millennium's projects, may rely on various assumptions and subjective interpretations which it is not possible to detail in this presentation and which have not been subject to any independent verification.

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Competent Person's Statement

The information in this presentation relating to exploration results from the Nullagine Project has been extracted from various Company announcements and are available to view at www.millenniumminerals.com.au.

The information in this presentation relating to Mineral Resources or Ore Reserves is extracted from the announcements titled:

- Growth strategy gains momentum with maiden underground Resource dated 7 August 2017;
- 2. Outstanding high-grade intercepts strengthen prospectivity of Bartons open pit and underground dated 2 November 2017;
- New high-grade oxide discovery at Yates as Bartons underground delivers more exceptional intercepts dated 21 November 2017;
- 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;
- 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 drilling results dated 22 January 2018;
- Millennium poised to significantly extend mine life at Nullagine as newly-identified processing option cuts costs dated 5 February 2018;
- Twenty Mile Sandy Exploration update 11 May 2018;
- Golden Gate Exploration Update 29 May 2018;
- Redbeard Reserve announced and Golden Gate high grade drill results 3 July 2018;
- Millennium delivers 38% interim increase in Ore Reserves to 304,700oz dated 31 July 2018; and
- New high-grade drilling results expand open pit and underground potential at Golden Gate dated 6 December 2018; and 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 and that all material assumptions and technical parameters underpinning the results and estimates 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 have not been materially modified from the original market announcement.

Investment Overview

Operating the Nullagine Gold Project in the world-class Pilbara region of Western Australia

On track to meet production guidance for CY18 of 75-80koz at AISC A\$1280-1350/oz

Recently achieved long-held target of ~100,000ozpa annualised production run-rate

Growing Reserve inventory – current mine life of 3 years; aim to increase to +5 years

Outstanding run of recent exploration success delivering breakthrough discoveries



Australia's New 100,000ozpa Gold Producer



✓ New mining strategy delivering +100kozpa run-rate

- ► Larger scale, longer life deposits
- ▶ Increased head grade, mining rate, mill throughput
- Production now at +100kozpa, up from historical rate of 75-80kozpa

✓ Processing plant – fully-funded expansion pathway

- Low CAPEX/OPEX addition to current CIL plant to process significant sulphide Resources
- Key plant and equipment ordered commissioning Q1 2019

✓ Moving underground

- First UG mine at Bartons delivering high-grade ore
- UG assessment of Golden Gate now; multiple other targets to follow

✓ Exploration delivering new breakthrough discoveries

- New geological approach unlocking significant new high-grade discoveries at Golden Eagle and beyond
- ▶ Major ongoing exploration commitment initial target +5-year mine life







Corporate Overview



Shares on Issue

Market Cap (A\$0.19/share)

793M

~A\$150.5M

Cash & Bullion (30 Sep18)

Debt

A\$17.8M

A\$10M

ASX Index

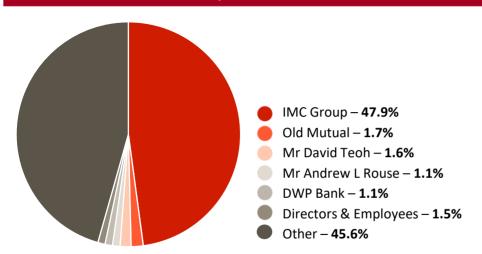
ASX Code

All Ords

MOY



Key Shareholders



Board and Management

Greg Bittar	Non-Executive Chairman				
Peter Lester	Non-Executive Director				
Tim Kennedy	Non-Executive Director				
Bruno Lorenzon	Non-Executive Director				
Peter Cash	Chief Executive Officer				
Dean Will	Chief Operating Officer				
Ray Parry	Chief Financial Officer				
Michael Poepjes	BD and Technical Services				
Jason Robertson	General Manager Operations				

Key Consultants and Contractors

Ausenco

Western Plant Hire

GBF Underground

Redline Drill & Blast

Rivet Mining Services

KPS Power Generation

Strike Drilling

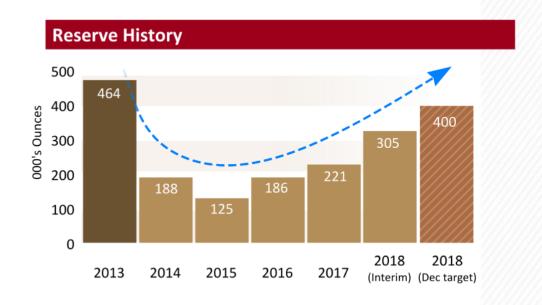
Castle Drilling

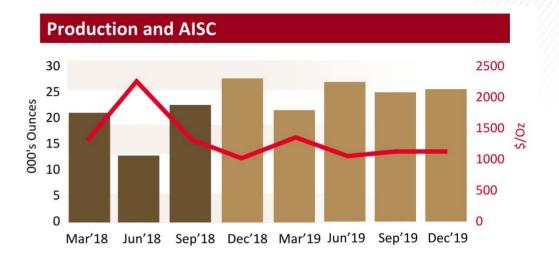


Nullagine Operations – Strong Production and Cash-flows



- ► Significant operational improvements and upgrades completed:
 - Move to more sustainable, lower cost ore sources
 - Mill refurbishment and upgrades completed
 - Improved mine scheduling and stockpile protection
- ▶ 100kozpa run-rate achieved September 2018
- ▶ 2018 production guidance of 75-80koz at AISC A\$1280-1350/oz
- ► Major increase in production in second half underpinned by new high-grade ore sources:
 - ► September Quarter production: 22,414oz, AISC \$1,324/oz ✓
 - ▶ December Quarter guidance: ~25,000oz, AISC ~\$1,150/oz
- ▶ July 2018 Interim Ore Reserve update (305koz) delivers mine life visibility of three years; targeting 400koz by December 2018



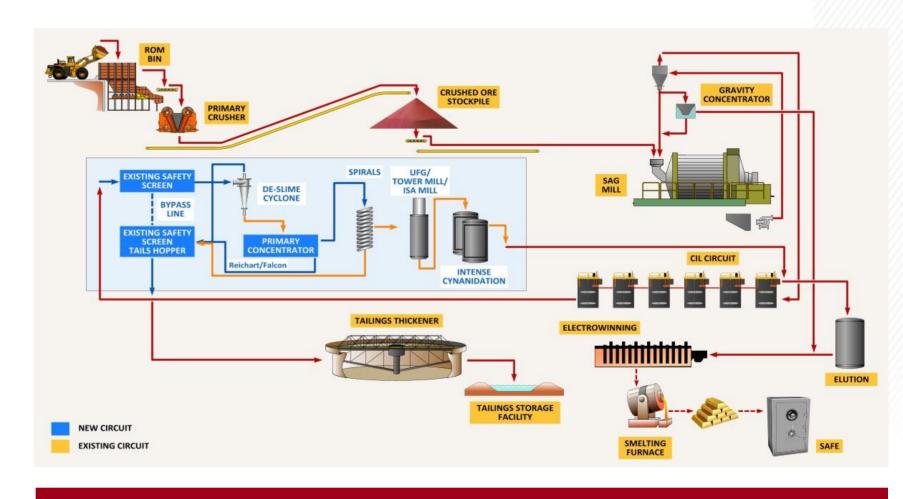




Sulphide Resources - New Processing Breakthrough



- Large sulphide resource inventory
- Processing requires addition of a small modular concentrating circuit to the tail-end of the existing CIL plant
- Well-understood process
- ► Targeting commissioning of plant expansion during Q1 2019
- Re-optimisation of entire
 Mineral Resource inventory
 underway

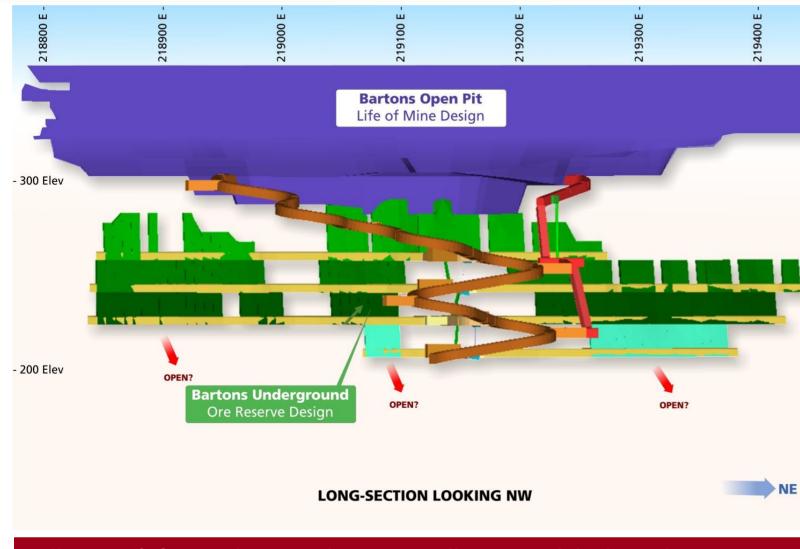


Sulphide Expansion paves the way for Millennium to maintain +100kozpa production rate for at least five years with lower AISC



Bartons – The First Underground Mine at Nullagine





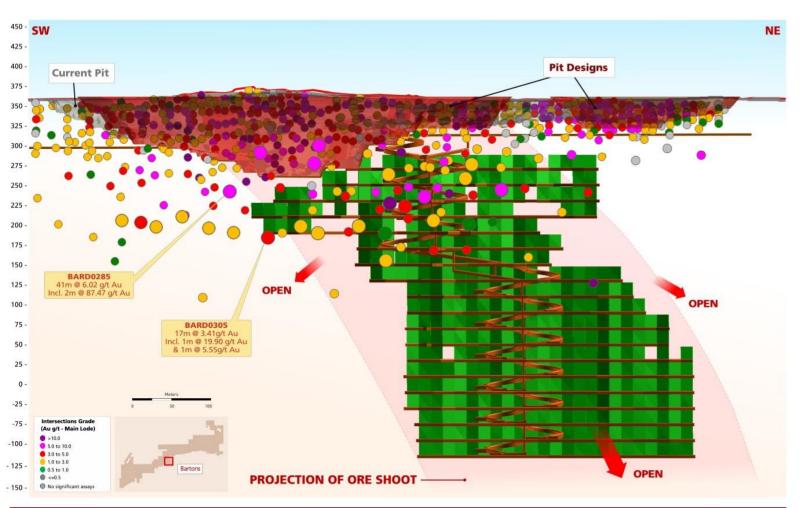
Millennium's first underground mine at Nullagine, with high-grade development ore now being processed

- 2,500m of UG development completed to date
- Outstanding ground conditions bodes well for future UG developments
- High-grade development ore now being processed
- ► High-grade stoping ore to commence Q1 2019



Bartons – The First Underground Mine at Nullagine





Deeper mineralisation at Bartons is free-milling and can be treated through the existing CIL plant with recoveries of up to 90%

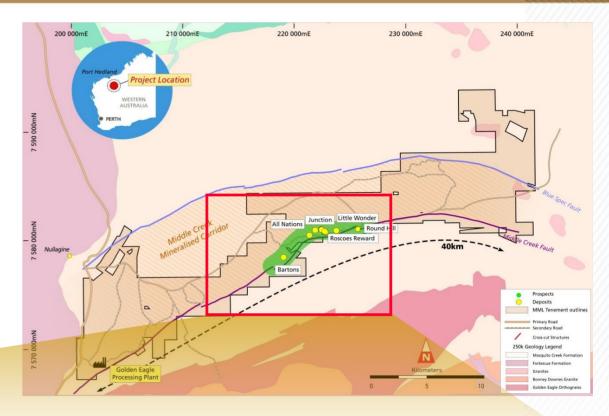
- ▶ Resource of 630,000t @ 4.9g/t Au for 97,900oz
- Reserve of 270,000t @ 4.5g/t Au for 39,000oz
- ▶ Mineralisation open at depth and along strike
- All deeper holes have successfully intersected the main ore zone and continue to define extensions
- Deep intercepts below current Resource area include:
 - ▶ 41m @ 6.02g/t Au from 129m, incl. 2m @ 87.47g/t Au (BARD0285)
- Drilling underway targeting depth extensions from UG drill platforms
- Updated estimate for Bartons UG to be included in December 2018 Resources and Reserves

Underground Potential at Nullagine - Multiple Targets Identified



Potential for substantial increases in Mineral Resources beneath all known deposits:

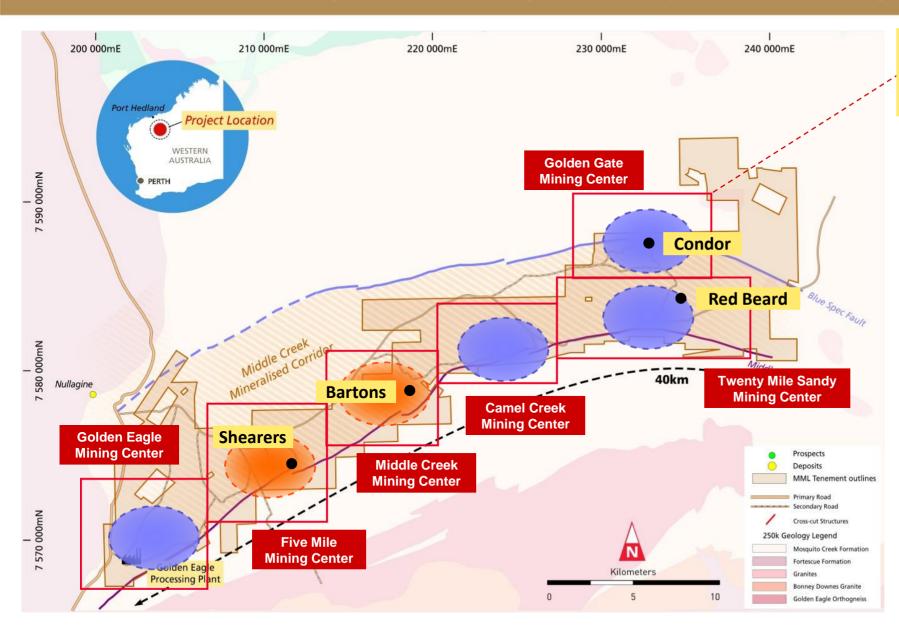
- Minimal deeper drilling only 4 out of 30 deposits tested at depth
- Extensive drilling program to test UG potential
- Work underway on UG Ore Reserve for Golden Gate Mining Centre to underpin second proposed UG mine at Nullagine
- Studies commenced on several additional deposits





Additional Underground Targets – Pipeline of Organic Growth





Golden Gate Mining Centre

Work underway on UG Ore Reserve for Golden Gate Mining Centre to underpin second potential UG mine at Nullagine

Of the 30 deep targets identified at Nullagine, only four have been tested to date – all delivering highly encouraging results



Free milling mineralisation at depth



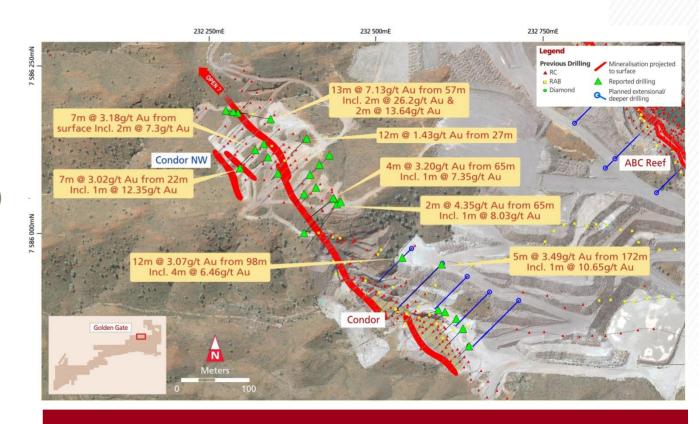
Sulphide mineralisation at depth



Golden Gate – Potential for a Major New Mining Hub



- One of the highest-grade open pit ore sources ever mined at Nullagine
- Major drilling program underway to extend high-grade open pit and underground mining potential
- ▶ Drilling results from high-grade Condor Northwest prospect include:
 - ▶ 10m @ 14.52g/t Au incl. 5m @ 26.61g/t Au (CORD049)
 - ▶ 13m @ 7.13g/t Au incl. 2m @ 26.2g/t Au and 2m @ 13.64g/t Au (CORD120)
 - ▶ 7m @ 11.14g/t Au incl. 4m @ 18.33g/t Au (CORD050)
 - ▶ 3m @ 25.16g/t Au incl. 1m @ 73.1g/t Au (CORD072)
 - ▶ 8m @ 5.48g/t Au incl. 2m @ 7.37 g/t Au (CORD041)
- Decision to mine expected in 2019



Results support Millennium's sulphide plant expansion and strategy to maintain a 100kozpa gold production rate in 2019

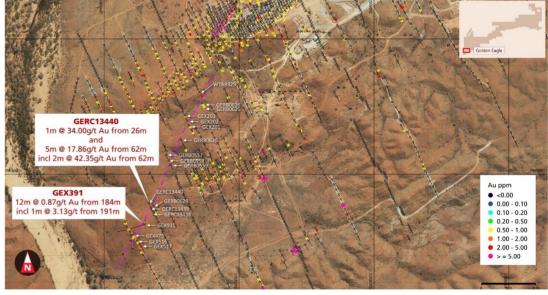
New Discovery in the Making - Golden Eagle SW



- ▶ Significant new target 1.8km SW of Golden Eagle with similar style of alteration
- ▶ Highly prospective shear zone extending over a potential strike extent of 800m:
 - ▶ 1m @ 34.00g/t Au from 26m
 - ▶ 5m @ 17.86g/t Au from 62m, incl. 2m @ 42.35g/t Au
- ▶ NNE orientation consistent with high-grade cross-cutting mineralised structures at Golden Eagle that run oblique to the main NE trending lodes
- Gravity survey completed and follow-up drilling underway

Significant new greenfields discovery 1.8km south-west of the 334,000oz Golden Eagle deposit...

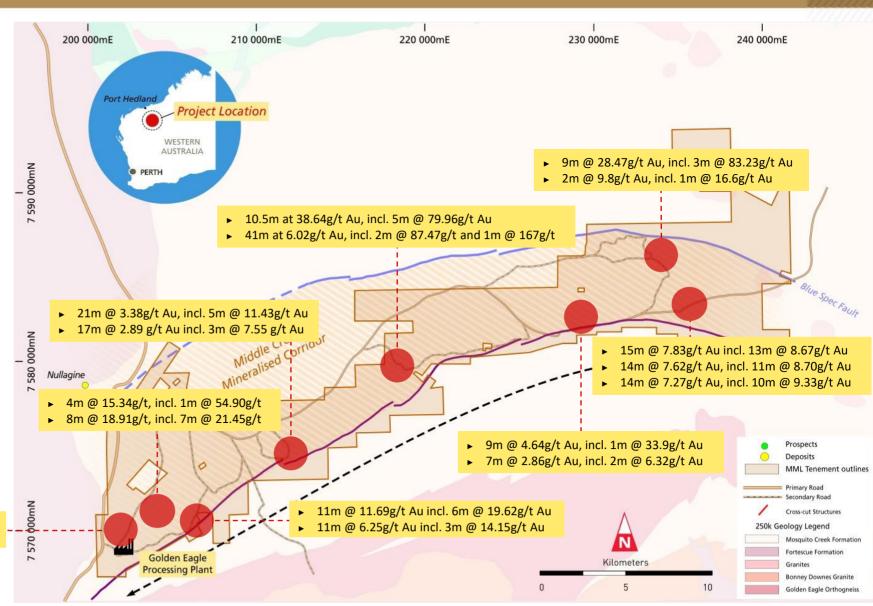




Exploration – A Key Priority

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- Substantial ongoing commitment to exploration
- ▶ 40km mineralised corridor high-grade results spanning entire length
- Reinterpretation of existing exploration datasets delivering new targets



^{▶ 5}m @ 17.86g/t Au, incl. 2m @ 42.35g/t Au

^{▶ 3}m @ 8.06g/t Au incl. 1m @ 21.1 g/t Au

Key Investment Takeaways



- Nullagine Gold Project generating consistent production and strong cash-flows
- **Quality-driven mining strategy** focusing on larger, more sustainable ore sources
- Increasing production and mine life 100kozpa run rate; 3-yr mine life growing to +5 yrs
- Sulphide Plant Expansion Commissioning Q1 2019 to unlock large Sulphide Resource
- **Expanding Underground** Bartons UG delivering high-grade ore, more UG deposits to follow
 - Ongoing exploration program continues to deliver high-grade intersections across the entire project

Nullagine now moving rapidly to the next level – unlocking the significant value of all ore types

Mineral Resources



Nullagine Gold Project - Mineral Resource Statement										
	Mea	Measured		ated	Inferred					
	Million	Grade	Million	Grade						
Deposit	Tonnes	g/t Au	Tonnes	g/t Au	Million Tonnes	Grade g/t Au	Million Tonnes	Grade g/t Au	Au Ounces	
Agate ³			0.23	1.2	0.11	1.1	0.34	1.2	12,600	
All Nations ³	0.11	1.4	0.30	1.4	0.24	1.2	0.65	1.3	27,200	
Anne de Vidia ³			0.06	1.5	0.07	1.2	0.13	1.3	5,400	
Angela ³					0.29	1.3	1.10	1.3	45,400	
Au81 ²			0.01	1.4	0.17	1.8	0.17	1.8	9,700	
Au81 West ³	0.06	1.3	0.66	1.2	0.49	1.4	1.21	1.3	51,400	
Bartons Open Pit ³	0.07	2.8	0.17	1.5	0.11	1.2	0.34	1.7	18,400	
Bartons UG ⁵			0.41	3.5	0.22	3.5	0.63	4.9	97,900	
Billjim South ³					0.05	3.2	0.05	3.2	5,500	
Buzzard ³					0.11	1.8	0.11	1.8	6,100	
Condor (including NW) ⁵			0.11	4.9	0.02	3.5	0.13	4.7	20,300	
Crossing ³			0.30	1.2	0.06	1.3	0.36	1.3	14,600	
Crow ⁵			0.04	5.0	0.02	5.3	0.06	5.1	10,000	
Falcon ⁴	0.06	3.0	0.02	2.4			0.08	2.9	7,300	
Gambols Hill ³			0.13	1.6	0.17	1.6	0.30	1.6	15,700	
Golden Gate G Reef⁵ UG			0.01	3.6	0.00	2.4	0.01	3.3	700	
Golden Eagle ³	2.87	1.3	2.25	1.3	2.57	1.4	7.69	1.4	334,400	
Golden Gate ABC Reef + Harrier⁵ UG			0.08	6.4	0.11	4.6	0.19	5.4	32,100	
Golden Gate D Reef ⁵ UG			0.04	5.3	0.02	5.8	0.06	5.4	11,100	
Hopetoun-Endeavour ³			0.17	1.4	0.50	1.4	0.67	1.4	30,100	
Hut ³			0.29	1.2	0.09	1.0	0.38	1.1	13,800	
Junction ⁴	0.05	1.9	0.06	1.5	0.04	1.5	0.15	1.7	7,800	
Little Annie ³					0.12	1.4	0.12	1.4	5,200	
Little Wonder ⁴	0.06	1.5	0.29	1.5	0.81	1.7	1.16	1.6	60,400	
Majuba ³			0.31	1.4	0.05	1.5	0.35	1.4	16,100	
Mundalla ³			0.13	1.4	0.18	1.3	0.30	1.3	13,100	
Mustang ³			0.16	1.8	0.10	1.4	0.25	1.6	13,000	
Otways ³	0.48	1.1	0.76	1.1	0.54	1.0	1.78	1.1	60,700	
Redbeard	0.17	3.6	0.05	1.8	0.06	1.4	0.28	2.8	25,200	
Roscoes Reward ^{3 4}			0.58	1.4	0.32	1.3	0.90	1.4	40,400	
Round Hill/Bow Bells ³			0.51	1.8	0.10	2.1	0.61	1.9	36,400	
Shearers ³			0.62	1.5	0.31	1.3	0.93	1.4	42,400	
Shearers North ³	0.13	1.4	0.11	1.3	0.18	1.1	0.43	1.2	16,500	
Total	4.04	1.3	8.84	1.6	8.22	1.5	21.92	1.6	1,107,100	

^{1.} Figures in Table may not sum due to rounding.

^{2.} The Au81 deposit was estimated using ordinary kriging methodology for grade estimation by CSA Global.

^{3.} Agate, All Nations, Angela, Anne de Vidia, Au81 West Bartons Open Pit, Bow Bells, Crossing, Condor North-West, Gambols Hill, Golden Eagle, Hopetoun-Endeavour, Hut, Junction, Little Annie, Little Wonder, Majuba, Mustang, Otways, Roscoes Reward, Round Hill, Shearers and Shearers North were estimated by ordinary kriging by Millennium Minerals Ltd.

^{4.} Golden Gate satellite deposit, Falcon, was estimated using ordinary kriging by Dampier Consulting.

^{5.} Barton Underground and Golden Gate open pit and underground deposits reported by Entech Pty Ltd.



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