



MILLENNIUM

MINERALS LIMITED

ABN 85 003 257 556

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Manager Company Announcements  
Company Announcements Office  
Australian Securities Exchange Limited  
Level 4, 20 Bridge Street  
SYDNEY NSW 2000

***Via Electronic Lodgement***

Dear Sir/Madam,

### ***Nullagine Gold Project shows robust feasibility study results***

Millennium Minerals Limited (“Millennium” or “the Company”) is pleased to report the results from the updated feasibility study on its Nullagine Gold Project in the East Pilbara District of Western Australia.

#### ***Highlights***

- Stage 1 Mining Ore Reserve of 7.97Mt at 1.8g/t containing 468,000 ounces, using a cut-off grade of 0.5g/t
- Initial mine life of 7 years from CIL process plant
- Forecast operating cash flow of \$211 million, using a gold price of A\$1185/oz
- Internal rate of return (IRR) of 47%
- Robust gross operating margin of 44%, EBIT margin 27%
- Average cash (C1) costs of US\$594/oz
- Process Plant and Infrastructure development core capital cost \$63 million
- Native Title completed, final permitting largely complete
- Inferred resource areas and depth extensions provide upside
- Stage 2 scoping study to evaluate heap leach production from year 2
- Board approval to proceed with development activity

## Nullagine Gold Project

The Nullagine Gold Project is a 1.13 million ounce gold resource contained within 5 deposits on granted mining leases. The largest deposit is Golden Eagle located approximately 10 km south of the township of Nullagine and contains 68% of the total Mineral Resource inventory. Much of the permitting and design work for a nominal 1 million tonne per annum Carbon-In-Leach (CIL) processing facility has been completed providing for an early start to development.

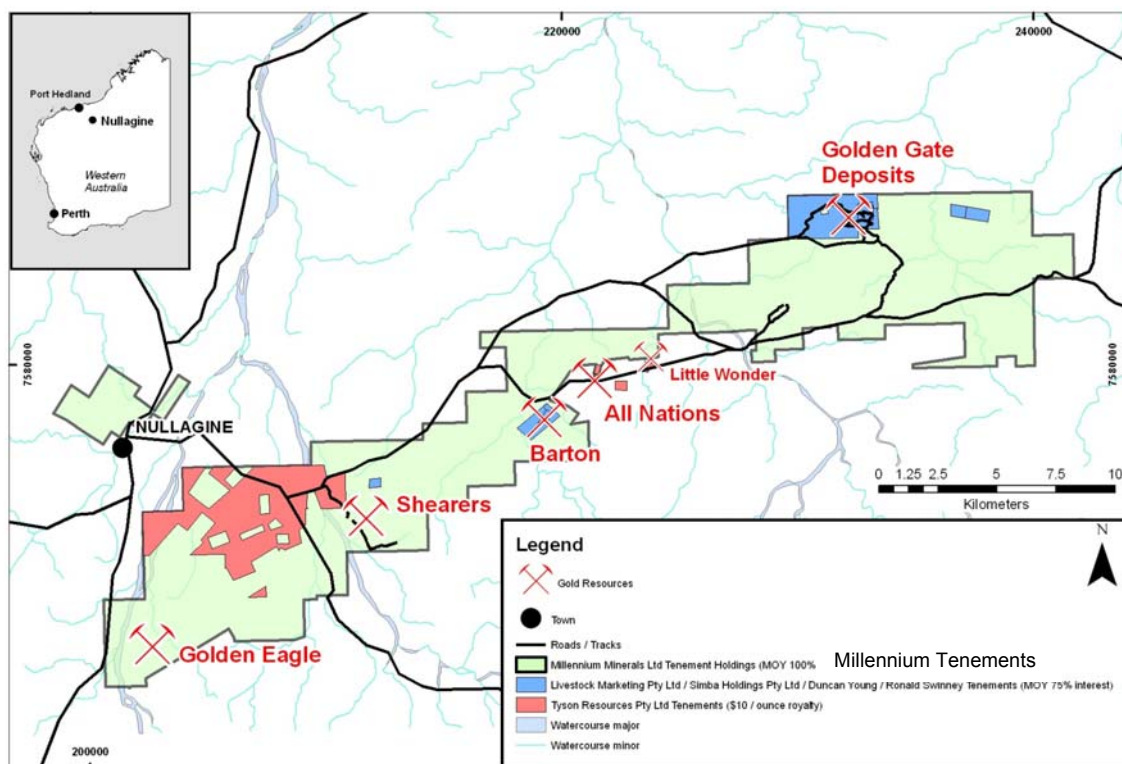


Figure 1: Nullagine Location Plan

The Company re-examined the basic economics of the Project in light of the improvements in the gold price and the more positive economic conditions generally. The current Mineral Resource estimate for the five project areas now totals 28.1 Mt @ 1.26 g/t Au using a 0.5 g/t Au cut-off grade for approximately 1.138 million ounces contained gold. A total of 22.16 Mt at 1.26 g/t Au is contained within the Measured and Indicated Mineral Resource categories (Table 5) representing approximately 80% of the total Mineral Resource.

The table below shows a summary of the combined material and grade contained within the supplied resource models for all areas included in the pit optimisation and mine design study.

**Table 1: Measured and Indicated Mineral Resources summary**

JORC Class	Volume	Tonnes	Au > 0.5g/t
Measured	5,778,342	14,918,300	1.33
Indicated	2,763,621	7,185,947	1.18
<b>M + I</b>	<b>8,541,963</b>	<b>22,104,247</b>	<b>1.28</b>

## **Base Case CIL Operation**

The base case option selected for the update of the feasibility study is an initial 7 year operation, mining and processing 7.97Mt ore using an average gold extraction of 87% yielding 404,000 ounces. This case is confined to those mineral resources classified under the Measured and Indicated resource categories as defined by the JORC Code. To finalise the base case, pit optimisations were run using a September 2009 operating cost base and a gold price of \$1185/oz. Mine design and scheduling were driven by a desire to maximise gold production in the first four years of the project life. The base case plan shows milling throughput rates of 1.25Mt per annum in the first four years, reverting to 1Mt per annum for the remaining three years. The higher milling rates in the early years are achievable within the existing process design and exploit excess mill capacity when treating a majority of oxide ore types. Taking this approach gives annual gold production for years 1 to 4 of between 60,000 oz and 72,000 oz, reducing to between 45,000 oz and 50,000 oz for the remaining three years reflecting a mill throughput rate of 1Mt per annum.

The rationale for the two step production plan recognises that upside exists in bringing other Inferred Mineral resources into the Measured and Indicated categories, capable then of being assessed for reserve status; and the potential to exploit mineralised waste and other material through lower cost heap leach operation. In addition, depth and strike extension potential exists that will require further exploration to define. These upside factors will have been assessed, and if the potential is realised, brought into the project well before Year 4 with the objective of producing an increase in gold output before then. The table below summarises the initial Ore Reserves derived from the study.

**Table 2: Ore Reserves Summary**

<b>Description</b>	<b>Ore (Mt)</b>	<b>Grade (g/t)</b>	<b>Ounces</b>
Proven	6.6	1.8	377,000
Probable	1.3	2.0	86,000
Total	7.9	1.8	463,000

Input costs, both capital and operating, have been updated to September 2009 levels. Incorporation of the mining schedules, costs and economic factors produces the key project metrics set out below. The base case shows an initial mine life of 7 years producing 404,000 ounces at a robust gross operating margin of 44%. Mining costs reflect an Owner operate “supply and maintain” approach with the Company maintaining direct control of mining operations. Process costs assume single stage SAG milling and on-site diesel power generation. Labour costs have been referenced to industry surveys dated October 2009 and the fly in-fly out manning levels assume a two week on – one week off schedule. Average C1 cash cost amount to US\$594/oz under these assumptions.

The capital estimate for the process plant assumes all new equipment, but we can expect savings as the company owns core CIL leach plant equipment. The hard number estimate for the plant will recognise this fact and the required refurbishment of existing plant following detailed engineering and ahead of a start to construction. The key outputs are summarised below in Table 3.

**Table 3: Key Project Output Factors**

Item	Unit	Oct-09 Metrics
<b>Production</b>		
Ore production	Mt	7.97
Ore grade	g/t Au	1.80
Processing recovery	%	87
Gold production	koz	404
Mining strip ratio	waste t: ore t	3.45
Life of mine	years	7
<b>Operating Costs</b>		
Mining	\$/t mined	17.06
Processing	\$/t milled	18.00
Other	\$/t milled	2.94
Total	\$/t milled	38.00
Total	\$/oz	594
<b>Capital Expenditure</b>		
Plant	\$M	40.42
Infrastructure	\$M	16.60
Working Capital	\$M	6.30
Sustaining/Rehabilitation	\$M	8.00
EPCM	\$M	7.00
Total	\$M	78.32
<b>Economics</b>		
Revenue	\$M	538
Operating cash flow	\$M	212
EBIT	\$M	142
IRR	%	47%
C1 Costs in USD		594
Pay Back Period (1.6 years from start of production)		<2 years
<b>Assumptions</b>		
Gold price	AUD\$/oz	1185
Discount rate	%	7%
Tax rate	%	30%
Royalty rate	%	2.5%

The gold price assumption reflects current Australian dollar denominated pricing that matches the price used for pit optimisation and mine design. The gross operating margin of 44% is robust under the realistic operating cost assumptions used. Investment payback occurs mid way through the second production year, demonstrating the project's capacity to fund further investment early in the project life.

## **Going Forward**

Focus will be on preparing the project for development. This will consist of:

- Establishing a contractual base for engineering and construction of the process plant and infrastructure and selecting the mining equipment provider
- Tendering drill and blast, camp catering and reagent supply contracts
- Recruiting key personnel in project management, site management, mining, process and geology
- Undertaking diamond core drilling at specific locations for metallurgical testing
- Undertaking selected exploration drilling to understand the potential for depth and strike extension to existing deposits and converting Inferred Resources to the Indicated Resource category.

It is the Company's intention to push on with the exploration and testing of the heap leach potential of mineralised waste, scheduled for removal from existing pits, and evaluate the prospectivity south west of Golden Eagle for medium grade gold mineralisation that may be amenable to a parallel heap leach operation early in the project life.



Brian Rear  
**CEO**

**ENQUIRIES:** *Brian Rear*  
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### **Qualifying Statement**

*This release 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 release, to reflect the circumstances or events after the date of this release.*

Table 5: Nullagine Gold Project Mineral Resource Estimate October 2009

Deposit	Cut-off Grade (g/t Au)	Measured		Indicated		Inferred		Total		Ounces (Au)
		Mt	Grade (g/t Au)	Mt	Grade (g/t Au)	Mt	Grade (g/t Au)	Mt	Grade (g/t Au)	
Golden Eagle <sup>2</sup>	0.5	11.43	1.26	4.60	1.02	4.04	1.00	20.07	1.16	749,000
Shearers <sup>2</sup>	0.5	0.59	1.09	1.04	0.87	0.40	0.90	2.03	0.93	61,000
Bartons <sup>2</sup>	0.5	1.33	1.47	0.85	1.48	0.37	1.70	2.55	1.51	125,000
All Nations <sup>2</sup>	0.5	1.11	1.30	0.19	1.04	0.14	1.10	1.45	1.25	58,000
Golden Gate (ABCD Reef) <sup>2</sup>	0.5			0.58	3.24	0.11	2.6	0.68	3.12	69,000
Golden Gate Satellites <sup>3</sup>	0.5			0.33	3.0	0.13	3.4	0.46	3.10	45,000
Little Wonder <sup>2</sup>	0.5			0.44	1.13	0.40	1.2	0.85	1.17	31,000
<b>Totals</b>	<b>0.5</b>	<b>14.46</b>	<b>1.28</b>	<b>8.03</b>	<b>1.30</b>	<b>5.59</b>	<b>1.14</b>	<b>28.09</b>	<b>1.26</b>	<b>1,138,000</b>

**Notes:**

1. Figures in Table may not sum due to rounding.
2. The Mineral Resources were estimated using Multiple Indicator Kriging methodology for grade estimation by Hellman and Schofield Pty Ltd.
3. The Golden Gate satellite deposits namely Falcon, Harrier, Crow, G Vein and Condor were estimated using Ordinary Kriging methodology for grade estimation by CSA Global.
4. The table excludes royalties payable to third parties.
5. The Golden Gate and Bartons deposits are the subject of a mining licence agreement whereby Millennium has the sole and exclusive right to explore and mine gold and other minerals. Millennium then is required to pay 25% of the net proceeds to the tenement owners (Livestock Marketing Pty Ltd, Duncan Thomas Young, Simba Holdings Pty Ltd and Ronald Lane Swinney) after mining and processing cost deductions.

**Compliance Statements**

The reported Mineral Resource as it relates to Golden Eagle, Bartons, Shearers, All Nations, Little Wonder and Golden Gate ABCD reefs has been compiled by Mr Nic Johnson. Mr Johnson is a Member of the Australian Institute of Geoscientists and an employee of Hellman & Schofield Pty Ltd. He has sufficient experience, relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking, to qualify as a Competent Person as defined in the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves' of December 2004 ("JORC Code") as prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Minerals Council of Australia. The Competent Persons listed consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The reported Mineral Resource as it relates to the Golden Gate satellite deposits was completed under the overall supervision and direction of Steven Hodgson, MAIG, of CSA Global who is a Competent Person as defined by the Australasian Code for the Reporting of Exploration Results, Mineral Resources or Ore Reserves (JORC Code 2004 Edition) and who consents to the inclusion in this report of the matters based on the information in the form and context in which it appears. The information in this report that relates to in-situ Mineral Resources based on information provided by Millennium Minerals Limited. The Mineral Resource estimate was compiled by Steven Hodgson, MAIG, of CSA Global. David Williams, MAusIMM, of CSA Global was responsible for the technical review of the Mineral Resource estimate.

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Table 6: Nullagine Gold Project Ore Reserve Estimate October 2009

Pit	Proven			Probable			Total		
	Ore (t)	Grade (g/t)	Ounces	Ore (t)	Grade (g/t)	Ounces	Ore (t)	Grade (g/t)	Ounces
Golden Eagle	5,149,400	1.6	272,450	579,100	1.5	28,270	5,728,500	1.6	300,720
Bartons	663,100	1.8	39,170	313,200	1.9	19,610	976,300	1.9	58,780
All Nations	313,400	1.8	18,550	20,100	1.6	1,020	333,500	1.8	19,570
Shearers	172,500	1.7	9,290	199,500	1.3	8,190	372,000	1.5	17,480
Golden Gate	314,400	3.7	37,610	66,000	3.9	8,310	380,400	3.8	45,920
Golden Gate Area	-	-	-	187,200	3.4	20,570	187,200	3.4	20,570
<b>Totals</b>	<b>6,612,800</b>	<b>1.8</b>	<b>377,070</b>	<b>1,365,100</b>	<b>2.0</b>	<b>85,970</b>	<b>7,975,000</b>	<b>1.8</b>	<b>463,040</b>

**Notes:**

1. Numbers may not sum due to rounding.
2. Golden Gate Area comprises 5 small deposits being Falcon, Harrier, Crow, G Reef and Condor.
3. The information in this public statement that relates to the Ore Reserves at the Millennium Minerals Nullagine Project is based on information compiled by Mr Steve Lampron and Mr. Daniel Tuffin. The Ore Reserve estimate was completed by Mr. Daniel Tuffin of Auralia Mining Consulting. Mr Daniel Tuffin is a Member of the Australasian Institute of Mining and Metallurgy (#228649) and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that they are undertaking to qualify him as a Competent Person as defined in accordance with the Australasian Joint Ore Reserves Committee (JORC).