



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  
Updated Mineral Resource Estimate – Otways and Little Wonder Deposits**

**Highlights**

- **Otways and Little Wonder gold deposits add a further 49,900 ounces to the Nullagine Gold Project Mineral Resource estimate.**
- **The global Mineral Resource estimate at Nullagine now stands at 28.86 Mt at 1.24 g/t Au for 1.15M ounces.**
- **Optimisation studies to be undertaken on these two deposits to update the feasibility study and for Ore Reserve definition.**
- **An extensive exploration programme to commence in January focussed on reserve development and heap leach prospectivity.**

## Otways and Little Wonder Mineral Resources

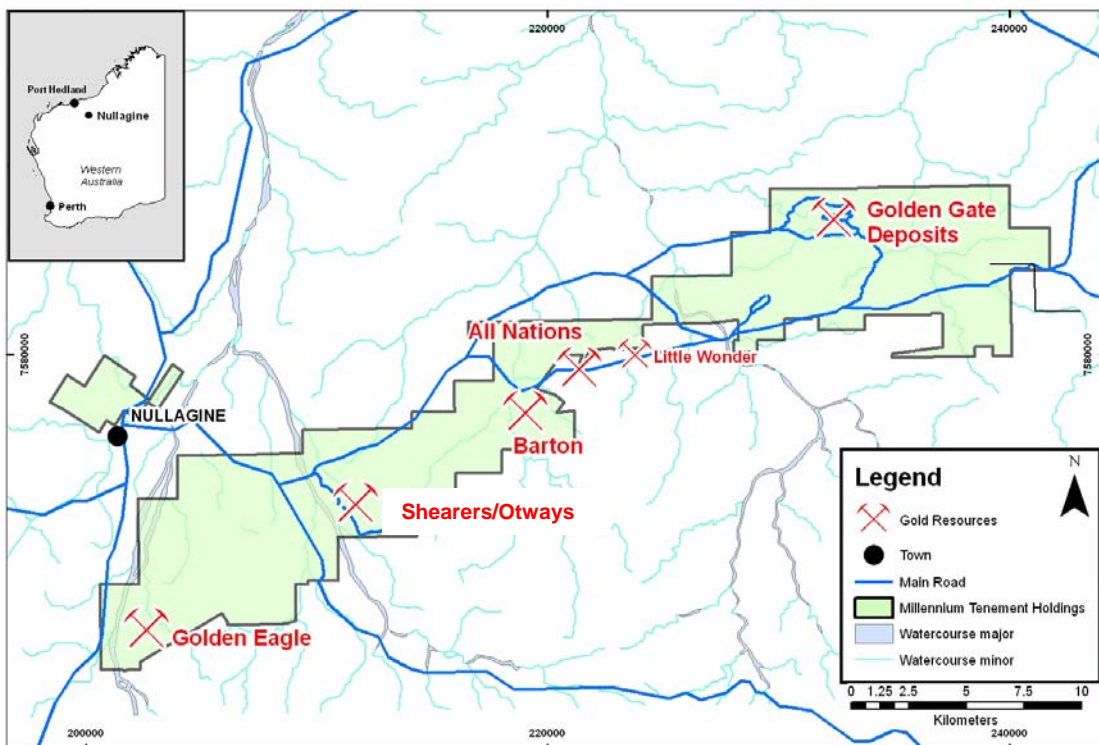
Millennium Minerals Limited (“Millennium” or “the Company”) is pleased to announce Mineral Resource estimates for 2 gold deposits located within the Nullagine Gold Project in the East Pilbara District of Western Australia. The two gold deposits, namely Otways and Little Wonder deposits were drilled during 2006 and 2007 but were never considered significant due to their size (Figure 1).

The Otways deposit is located approximately 300 metres to the south east of the Shearers deposit and contains a Mineral Resource estimate of 1,044,000 tonnes at 0.82 g/t Au using a 0.5 g/t cut-off for 27,000 ounces contained. These Mineral Resources are classified as Indicated and Inferred under the 2004 JORC code.

The Little Wonder deposit is located approximately 2.5km to the east northeast of All Nations and contains an Indicated Mineral Resource estimate of 583,000 tonnes at 1.22 g/t Au using a 0.5 g/t cut-off for 22,900 ounces.

Both deposits are open along strike and at depth.

**Figure 1: Golden Gate Satellite Deposits Location Plan**



## Resource Modeling and Grade Estimation

Resource modelling for the Otways and Little Wonder deposits was completed by CSA Global Pty Ltd. A combined Indicated and Inferred Mineral Resource estimate has been generated at a 0.5 g/t lower gold cut off grade, resulting in a Mineral Resource estimate of 1.63 Mt at 0.96 g/t Au for 49,900 ounces contained (Table 1).

The global Mineral Resource estimate for the Nullagine Gold Project is now stated at 28.8 Mt at 1.24 g/t Au for 1.15M ounces. A total of 23.24 Mt at 1.27 g/t Au is contained within the Measured and Indicated Mineral Resource categories (Table 2). This represents approximately 80% of the total Mineral Resource for the Nullagine Gold Project.

The Mineral Resource has been estimated using the Ordinary Kriging methodology for grade estimation, the method considered most suitable for this style of deposit. The results have been checked using a second method, that of Inverse Distance Squared, and produced similar validity results.

Detailed resource modelling has comprised:

- Resource modelling and wireframing
- Variography and statistical analyses
- Block modelling
- Resource estimation

**Table 1: Otways and Little Wonder Mineral Resource Estimates, using 0.5 g/t lower cut-off**

Deposit	Indicated		Inferred		Total		
	Tonnes	Au (g/t)	Tonnes	Au (g/t)	Tonnes	Au (g/t)	Ounces
Little Wonder	583,000	1.22	-	-	583,000	1.22	22,900
Otways	608,000	0.76	436,000	0.91	1,044,000	0.82	27,000
<b>Total</b>	<b>1,191,000</b>	<b>0.99</b>	<b>436,000</b>	<b>0.91</b>	<b>1,627,000</b>	<b>0.96</b>	<b>49,900</b>

*Note: The resource is quoted for blocks with a grade of greater than 0.5g/t. Differences may occur due to rounding.*

Optimisation of the block models to generate Ore Reserve estimates will be conducted shortly.

The Otways and Little Wonder deposits are hosted within east northeast trending, upright sequence of rhythmically interlayered sandstones, siltstones and shales of the Mosquito Creek Formation. Gold mineralisation is associated with a complex array of sub parallel, tabular quartz-carbonate veins and veinlets dipping between 60 degrees and vertical.

## Background

The Company's flagship asset, the Nullagine Gold Project, is located south east of Port Hedland in Western Australia's richly mineralised East Pilbara region, approximately 10 kilometres from the town of Nullagine.

A feasibility study completed in 2007 was recently updated to reflect current costs and gold price assumptions (ASX announcement of 19 October 2009). The base case option selected for the update of the feasibility study was a nominal 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 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. A more detailed Ore Reserve breakdown is given in Table 4.

**Table 3: Ore Reserves Summary**

Description	Ore (Mt)	Grade (g/t)	Ounces
Proven	6.6	1.8	377,000
Probable	1.3	2	86,000
<b>Total</b>	<b>7.9</b>	<b>1.8</b>	<b>463,000</b>

## Forward Programme

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 and Measured Resource categories.

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.

An exploration programme comprising approximately 10,000 metres of RC, 5,000 metres of RAB and 1,000 metres of diamond core is currently being planned with a commencement date scheduled for the end of January 2010.

On behalf of the Board of  
Millennium Minerals Limited

Brian Rear  
**Chief Executive Officer**

*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 2: Nullagine Gold Project Mineral Resource Estimate November 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	2.60	0.68	3.12	69,000
Golden Gate Satellites <sup>3</sup>	0.5			0.33	3.00	0.13	3.40	0.46	3.10	45,000
Otways <sup>3</sup>	0.5			0.61	0.76	0.44	0.91	1.04	0.82	27,000
Little Wonder <sup>3</sup>	0.5			0.58	1.22	-	-	0.58	1.22	22,900
<b>Totals</b>	<b>0.5</b>	<b>14.46</b>	<b>1.28</b>	<b>8.78</b>	<b>1.26</b>	<b>5.63</b>	<b>1.12</b>	<b>28.86</b>	<b>1.24</b>	<b>1,156,900</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 Otways, Little Wonder and 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 Otways, Little Wonder and 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.

**Table 4: 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
<b>Golden Eagle</b>	5,149,400	1.6	272,450	579,100	1.5	28,270	5,728,500	1.6	300,720
<b>Bartons</b>	663,100	1.8	39,170	313,200	1.9	19,610	976,300	1.9	58,780
<b>All Nations</b>	313,400	1.8	18,550	20,100	1.6	1,020	333,500	1.8	19,570
<b>Shearers</b>	172,500	1.7	9,290	199,500	1.3	8,190	372,000	1.5	17,480
<b>Golden Gate</b>	314,400	3.7	37,610	66,000	3.9	8,310	380,400	3.8	45,920
<b>Golden Gate Area</b>	-	-	-	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.

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)