

30 January 2012

# **QUARTERLY REPORT**

FOR THE PERIOD ENDING 31 DECEMBER 2011

# **REPORT SUMMARY**

- The soil sampling program at Nagambie South has given very encouraging results. 5 gold anomalies lie within a corridor of interest approximately 5 km south of the Nagambie Mine. The corridor of interest is currently approximately 10 km in length and has the same ENE-WSW trend as the Nagambie Mine workings and the Nagambie North basement gold target. The maximum values within 4 of the 5 anomalies, west to east, of 33, 142, 20 and 94 ppb gold are significantly higher than the maximum value of 9 ppb gold obtained from all the soil sampling at Nagambie North and the general background for the Nagambie area of 0 to 2 ppb gold. Target size for a gold discovery under shallow cover at Nagambie South is 200,000 ounces.
- The third costeaning (trenching) program at Redcastle at the Mullocky, Pioneer and Laura Prospects provided further encouragement with a best result of 4m at 4.0 g/t gold at Laura.
- Surface bulk sampling of the most defined area at Doctors Gully and the most defined target at Redcastle, the Reservoir Prospect, is now the preferred option of the Company before any RC (reverse circulation percussion) drilling is carried out. Detailed (20 metre spacing) costeaning programs are being planned to define surface mineralisation grading better than 2.0 g/t gold that can be bulk sampled and toll-treated at one of the existing gold plants in central Victoria. At the Reservoir Prospect, two costeans approximately 100m apart have intersections (previously reported) of 6m at 2.3 g/t gold (including 2m at 6.1 g/t) and 6m at 2.8 g/t (including 2m at 8.1 g/t). At Doctors Gully, the best RC drilling intersections by a previous explorer in the 1980s included 7 metres at 4.1 g/t gold from 40 metres downhole and 8 metres at 3.2 g/t from 40 metres downhole.
- Global, as agents for Nagambie Mining, have acquired new screening and loading equipment and commenced producing sized gravel products (predominantly minus 25mm) for sale to local Shires and developers. Abigroup continued excavating and trucking undifferentiated rock fill from around the Eastern Overburden Dump, although quantities were significantly less than anticipated due to continued rainfall in the first half of the quarter.

#### ABOUT NAGAMBIE

Nagambie Mining Limited (ASX Code: NAG) listed on the ASX in 2006 and is an Australian gold company whose principal focus is on the evaluation and development of shallow open cut gold deposits in Victoria.

The Company currently holds 100% of over 240 km<sup>2</sup> of exploration tenements in Central Victoria encompassing several historic goldfields.It is testing new structural and mineralisation concepts through employing geological, geophysical and geochemical techniques over the tenements.

The Company is also looking to fully develop all the construction material opportunities at the Nagambie Mine site, principally for rock & sand products and to ultimately maximise the value of the freehold land owned by the Company at the mine.

#### SHARES ON ISSUE Quoted: 168,859,948

Issued: 168,859,948

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#### NAGAMBIE MINING OBJECTIVES FOR GOLD DEVELOPMENT AND PRODUCTION

The medium term objective for Nagambie Mining is to produce 10,000 ounces of gold per year at an operating cost of around A\$700 per ounce with a projected mine life of at least 10 years. The Company is evaluating and developing 100%-owned oxide gold prospects on and within economic trucking distance of the Nagambie Mine, targeting a minimum of 100,000 to 200,000 ounces in total of heap-leachable gold mineralisation. The current focus is on the three historical goldfields at Nagambie, Redcastle and Rushworth (refer Figure 1). Redcastle is 40 km west of the Nagambie Mine, 19 km east of the Fosterville Mine and 12 km north of the Costerfield Mine. Doctors Gully at Rushworth is 28 km north west of the Nagambie Mine.

Heap leach operations can be developed quickly and are much lower cost than conventional gold treatment operations, both in terms of total capital cost and operating cost per tonne. The recommencement of heap leach operations at the Nagambie Mine will benefit from the proven technology and successful operations history at the Mine in the 1990s. Recommencement will also benefit from the bitumen public road access to the Mine gate, the Company's freehold land (roughly 200 hectares) and the process water that can be pumped from the East Pit. Other infrastructure remaining on site includes the haulage roads, the pondage civil works, the operations shed, the grid electricity supply and the potable water supply.

When the Nagambie Mine operated in the 1990s under its previous ownership, the average head grade of the 184,000 ounces of gold ore stacked on the heap leach pad was approximately 0.8 g/t gold. Heap leach gold recovery was approximately 80%. Importantly, the gold price averaged around only A\$500 per ounce at that time but is currently trading in a range of A\$1,500 to A\$1,800 per ounce. Costs for contract activities such as open-pit mining, trucking, crushing, agglomerating and conveyor stacking have not increased nearly as much as the A\$ gold price in the intervening years.

The planned West Pit Extension at the Nagambie Mine is targeted to contain 25,000 ounces of gold mineralisation over 200 metres strike length at 0.8 g/t gold. At 80% heap leach recovery, this would give 2 years' life at 10,000 ounces of gold production per year. The target grade for prospective Nagambie-style oxide mineralisation at Nagambie South and Nagambie North is also 0.8 g/t gold. Target size for a gold discovery under shallow cover in the Nagambie region is 200,000 ounces given the size of the Nagambie Mine orebody (184,000 ounces of gold mined in the 1990s plus 25,000 ounces targeted in the West Pit Extension).

The Company estimates that ore trucking costs from Redcastle and Rushworth to the Nagambie Mine (MIN 5412) would equate to around 0.2 g/t gold head grade equivalent. Hence an average head grade of 1.0 g/t gold or higher for Redcastle and Rushworth ore should produce attractive returns. Nagambie Mining is confident of being able to delineate various open pits at Redcastle and Rushworth containing a significant tonnage of mineralisation averaging 1.0 to 2.0 g/t gold, with a total target of at least 100,000 ounces of gold mineralisation.

Historical production at Redcastle and Rushworth focussed entirely on narrow, high-grade quartz veins hosted by sedimentary rocks, predominantly sandstones and siltstones. Apart from the mineralised quartz veins which occur in fractures associated with local anticlinal folding, lower-grade, disseminated gold has been identified within the sediments, thus presenting as large open-cut style targets. The depth of oxidation is around 60 to 70 metres. Nagambie Mining is planning to mine by open pit the lower-grade disseminated oxide gold, none of which was mined by the historical miners, together with the mineralised quartz veins that remain. These remnant quartz veins would have been either too thin or too low grade for previous underground mining operations, but will lift the average grade of the open-pit mineralisation.



# **NAGAMBIE MINING PROJECTS**

Nagambie Mining holds a 100% interest in four Exploration Licences and two Mining Licences in Central Victoria, with a total area of 249.7km<sup>2</sup>. All licences are for gold and associated minerals.

Table 1 **Nagambie Mining Limited Tenement Holdings** 

Group Area	Project	Name	Licence Number	Area km <sup>2</sup>	Interest %		
EXPLORATION GROUP AREAS							
NAGAMBIE	RUSHWORTH	Rushworth	EL 4723	34.0	100		
	NAGAMBIE NORTH	Nagambie North	EL 4718	59.0	100		
	NAGAMBIE SOUTH	Nagambie South	EL 5327	64.0	100		
REDCASTLE	REDCASTLE	Redcastle	EL 3316	89.0	100		
	LAURA	Laura Mine	MIN 4465	0.1	100		
DEVELOPMENT GROUP AREA							
NAGAMBIE	NAGAMBIE	Nagambie Mine	MIN 5412	3.6	100		
			TOTAL	249.7			



**Tenement and Project Locations** 





# **GOLD TARGETS PORTFOLIO**

Nagambie Mining's current portfolio of gold targets is as follows:

Location		Gold Targets
Nagambie Mine	1.	West Pit Extension
	2.	Nagambie Footwall Mineralisation
Nagambie Regional	3.	Nagambie South
	4.	Nagambie North
Redcastle	5.	Reservoir
	6.	Mullocky
	7.	Laura
	8.	RFZ
	9.	Why Not
	10.	Pioneer
Rushworth	11.	Doctors Gully

# DEVELOPMENT GROUP AREA

1. NAGAMBIE MINE - MIN 5412	Area: 3.64 km <sup>2</sup> lo
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**Identified Projects: 4** 

#### 1.1 MIN 5412 REHABILITATION AND SITE UTILISATION

The Company is developing all the non-gold material opportunities on the freehold land at the Nagambie Mine, including the sale of sized rock overburden and the commercialisation of sand deposits. Projected income from sales of non-gold materials is \$500,000 per year.

The growth in non-gold income is largely a result of the liaison between Nagambie Mining and Global Contracting Pty Ltd ("Global") since June 2010. Global has a successful civil engineering, contracting and earthmoving business with a large equipment fleet that includes excavators, loaders, graders, tandem tippers and a portable screening unit.

Discussions between Nagambie Mining and Global in regard to producing marketable sized gravel products for supply to local Shires, developers and nurseries continued during the quarter.

In early January 2012, Global acquired new screening and loading equipment (refer following photographs) and commenced producing three sizes of gravel from the Eastern Overburden Dump – predominately minus 25mm together with plus 25mm / minus 50mm and plus 50mm / minus 100mm.

Abigroup, the main construction contractor for the Nagambie Bypass, continued excavating and trucking undifferentiated rock fill from around the Eastern Overburden Dump. Quantities excavated however were significantly less than anticipated due to continued rainfall in the first half of the quarter.

The proposed Green Organics Recycling Facility of Australian Native Landscapes at the Nagambie Mine is still awaiting final Council and EPA approvals.



# **Global Gravel Production**



# **EXPLORATION GROUP AREAS**

# 1. NAGAMBIE GROUP

Nagambie South Nagambie North Rushworth Area: 157 km<sup>2</sup>

EL 4718 & EL 5327 EL 4718 EL 4723

# 1.1 NAGAMBIE SOUTH PROJECT – ELs 4718 & 5327

The soil sampling program at Nagambie South was completed during the quarter after numerous delays due to heavy rain. The gold-in-soil assay results received are very encouraging.

5 gold anomalies lie within a corridor of interest approximately 5 km south of the Nagambie Mine (refer Figure 2). The corridor of interest is currently approximately 10 km in length and has the same ENE-WSW trend as the Nagambie Mine gold mineralisation and the Nagambie North Aircore gold target. ENE-WSW trending thrusts (fractures), known to exist at the outcropping Nagambie Mine and interpreted by the Company to exist at Nagambie North and Nagambie

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# Area: 64 km<sup>2</sup>

Project Areas: 3 Prospects: 6



South, are considered to provide the "plumbing system" necessary for the later emplacement of quartz-sulphide-gold mineralisation.

Importantly, the maximum values within 4 of the 5 anomalies in the Nagambie South corridor of interest, west to east, of 33, 142, 20 and 94 ppb gold (refer Figure 2) are significantly higher than the maximum value of 9 ppb gold obtained from all the soil sampling at Nagambie North and the general background value for the Nagambie area of 0 to 2 ppb gold. The corridor of interest remains open to the west and Nagambie Mining has applied for additional exploration ground in that direction.



# Figure 2 Nagambie South Gold-in-Soil Anomalies in relation to the Nagambie Mine and the Nagambie North Aircore Target



Target size for a gold discovery under shallow cover at Nagambie South is 200,000 ounces given the size of the Nagambie Mine orebody (184,000 ounces of gold mined in the 1990s plus 25,000 ounces targeted in the West Pit Extension).

Closer-spaced soil sampling will be carried out within the corridor of interest to better define the areas of anomalous gold ahead of Aircore drilling.

# 1.2 NAGAMBIE NORTH PROJECT – EL 4718 Area: 58.5 km<sup>2</sup>

No significant work was carried out on the project during the quarter although follow-up drilling at Nagambie North is planned in the future. The very encouraging soil results at Nagambie South may well result in higher priority drill targets being defined south of the Mine.

# 1.3 RUSHWORTH PROJECT - EL 4723 Area: 35 km<sup>2</sup>

The most advanced prospect at Rushworth is Doctors Gully in the historic Whroo Goldfield.

The Company has decided that the next step at the Doctors Gully Prospect should be to surface bulk sample the most defined area, which extends N-S over a 200m strike length, before carrying out any additional RC drilling. Over this strike length, drilling intersections by a previous explorer in the 1980s included 7 metres at 4.1 g/t gold from 40 metres downhole and 8 metres at 3.2 g/t gold from 40 metres downhole.

A detailed (20 metre spacing) costeaning program is being designed to define the surface mineralisation grading better than 2.0 g/t gold that could be bulk sampled and toll-treated at one of the existing gold plants in central Victoria. The maximum size permitted by the DPI for each bulk sample is 5,000 cubic metres (around 10,000 tonnes). The mineralisation outlined by the detailed costeaning will also allow for better planning and interpretation of future RC drilling.

At the southern end of the strike length to be tested, a shallow historic surface pit clearly shows the primary style of mineralisation. In the following photo, the trend of an anticlinal fold is roughly drawn on in black. Gold mineralisation is associated with the near-vertical thin quartz veining (as outlined to the right-hand side of the tree) in the sandstone host.



# 2. **REDCASTLE – HEATHCOTE** Area: 89 km<sup>2</sup>



# 2.1 REDCASTLE PROJECT – EL 3316 (Central) and MIN 4465 (Laura)

The Redcastle portion of EL 3316 is 36 km<sup>2</sup> in area and MIN 4465 is 8.6 Ha in area.









The third costeaning (trenching) program at Redcastle at the Mullocky, Pioneer and Laura Prospects provided further encouraging definition of surface mineralisation. The best result was 4m at 4.0 g/t gold at Laura.

As for the Doctors Gully Prospect at Rushworth, the Company has decided that the next step at Redcastle should be to surface bulk sample the most defined target, the Reservoir Prospect, before any RC drilling is carried out. At Reservoir (refer Figure 3), two costeans approximately 100m apart have given intersections (previously reported) of 6m at 2.3 g/t gold (including 2m at 6.1 g/t) and 6m at 2.8 g/t (including 2m at 8.1 g/t).

A detailed (20 metre spacing) costeaning program is being designed to define the surface mineralisation grading better than 2.0 g/t gold at Reservoir that could be bulk sampled and toll-treated at one of the existing gold plants in central Victoria. The maximum size permitted by the DPI for each bulk sample is 5,000 cubic metres (around 10,000 tonnes). The mineralisation outlined by the detailed costeaning will also allow for better planning and interpretation of future RC drilling.

# 2.2 HEATHCOTE SOUTH PROJECT - EL3316 Area: 53 km<sup>2</sup>

No significant work was carried out at Heathcote South during the quarter.

# **TENEMENT CHANGES**

Heathcote North, a 15 km<sup>2</sup> portion of EL 3316, was relinquished during the quarter.

# CORPORATE

#### **CASH POSITION**

At 30 December 2011, total cash held by the Company was \$606,000.

#### **INCOME FROM NON-GOLD ACTIVITIES**

Income from non-gold activities for the December quarter was \$74,000 (September quarter \$66,000), again significantly lower than anticipated due to heavy rain in the quarter.

Income for the March 2012 quarter, given generally dry weather, is projected to be \$180,000.

#### PLANNED ISSUE OF CONVERTIBLE NOTES

A further issue of convertible notes is planned for March 2012 to fund priority exploration work. At Nagambie South, closer-spaced soil sampling is planned, to be followed by basement Aircore drilling of the best gold-in-soil anomalies. At Reservoir (Redcastle) and Doctors Gully (Rushworth), detailed costeaning is planned ahead of surface bulk sampling and toll-treatment at one of the existing gold plants in central Victoria.

Any shareholders or investors who qualify as sophisticated or professional investors under the Corporations Act and would like to register their interest in participating in the convertible notes issue should contact the Nagambie Mining Finance Director, Kevin Perrin (phone: (03) 5331 3711 or e-mail: KevinP@ppt.com.au).

# **ASX ANNOUNCEMENTS DURING THE QUARTER**

- 15/12/2011 Change of Director's Interest Notice
- 01/12/2011 Change of Directors' Interest Notices
- 30/11/2011 Appendix 3B
- 28/11/2011 Results of Meeting
- 28/11/2011 Chairman's Address to Shareholders
- 18/11/2011 Change of Fax Number
- 18/11/2011 Details of Company Address
- 15/11/2011 Change of Director's Interest Notice
- 31/10/2011 Appendix 5B
- 31/10/2011 Quarterly Activities Report
- 28/10/2011 Notice of Annual General Meeting / Proxy Form
- 25/10/2011 Annual Report to Shareholders
- 24/10/2011 Change of Director's Interest Notice

#### **COMPANY INFORMATION**

#### DIRECTORS

Michael W Trumbull	Non-Executive Chairman
Colin Glazebrook	Executive Director
Geoff Turner	Non-Executive Director - Exploration
Kevin J Perrin	Non-Executive Director - Finance and Deputy Chairman

#### CHIEF EXECUTIVE OFFICER AND EXPLORATION MANAGER Colin Glazebrook

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#### **COMPANY SECRETARY**

Alfonso M G Grillo

#### **REGISTERED OFFICE, HEAD OFFICE, MINE AND OPERATIONS OFFICE**

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# **AUDITORS**

William Buck Level 1, 465 Auburn Road HAWTHORN VIC3123 Telephone: (03) 9824 8555

#### SHARE REGISTRY

Computershare Investor Services Pty Ltd Yarra Falls 452 Johnston Street ABBOTSFORD VIC 3067 Telephone: 1300 850 505





# SHARES ON ISSUE ASX CODE: NAG

168.9 Million

#### SIGNIFICANT SHAREHOLDERS

- 16.98% Mr Ralph Douglas Russell & Ms Anne-Maree Hynes;
- 13.92% Cairnglen Investments Pty Ltd; and
- 10.22% Mr Michael Ward Trumbull

#### **TOP 20**

The Top 20 Shareholders currently hold 74.7% of the shares on issue.

#### **CONVERTIBLE NOTES ON ISSUE**

38.75 Million unlisted convertible notes issued at 4.0 cents face value = \$1.55 Million.

- 25.0 Million issued 13 September 2010 and 13.75 Million issued 2 September 2011;
- Interest payable every 6 months at a rate of 10% per annum;
- Convertible 1:1 into fully paid ordinary NAG shares at a conversion price of 4.0 cents per share any time within the maximum 5-year life of the notes at the option of the holder;
- Redeemable in cash in full after 5 years if not converted;
- Unsecured but rank ahead of shareholders; and
- Protected for reorganization events (bonus issues, share consolidations etc).

# **OPTIONS ON ISSUE**

15.9 Million unlisted options issued to employees and directors.

- All have an exercise price of 10.0 cents per share; and
- Expiry dates from 4 September 2013 to 30 November 2016.

For further information regarding the Company and its projects, contact:

# Colin Glazebrook

Chief Executive Officer Phone: (03) 5794 1750 Email: colin@nagambiemining.com.au

#### **COMPETENT PERSON'S STATEMENT**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Colin Glazebrook, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Glazebrook is a Director of Nagambie Mining Limited and consents to the inclusion in this report information in the form and context in which it appears.

Mr Glazebrook has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.