

31 July 2012

# **QUARTERLY REPORT**

FOR THE PERIOD ENDING 30 JUNE 2012

## **SUMMARY**

- 1. During the guarter, the Company completed a thorough review of all past exploration in the Nagambie region and substantially refined its gold mineralisation model. Key conclusions include:
  - Mineralisation is principally associated with east-west a) trending, north-dipping thrusts (or reverse faults);
  - b) Faults in the region that are not east-west trending are weakly mineralised or are barren;
  - The major east-west thrusts interpreted from airborne c) magnetics are around 1 km to 2 km apart; and
  - d) Mineralisation along a thrust can extend for over 2 km, as at the Nagambie Mine.
- 2. Late in the quarter, application was made for EL 5430, covering prospective ground to the north west, north east and east of the Nagambie Mine. The Longwood, Wandean and Bunganail East Prospects, within ELA 5430, in addition to Nagambie South and Nagambie North, are all considered to fit the new gold model.
- 3. At the Longwood Prospect, approximately 9 km east of the Nagambie Mine and on trend with the mapped east-west Nagambie Mine Thrust, a drill hole by Newcrest Operations Ltd ("Newcrest") in 2007 intersected 18 metres at 1.0 g/t gold from 59 metres depth;
- 4. At the Wandean Prospect, approximately 9 km north west of the Nagambie Mine, soil sampling by Metex Exploration Ltd ("Metex") in 1996-1997 indicated two strong, approximately east-west, gold-arsenic trends with gold values up to 236 ppb (0.24 g/t) and arsenic values up to 266 ppm;
- 5. In-fill soil sampling at Nagambie South has identified nine areas requiring further selective soil sampling ahead of Aircore drilling.
- 6. Work plans for detailed costeaning at Doctors Gully (Rushworth) and the Reservoir Prospect (Redcastle) have been approved by the Department of Primary Industries. programs are planned to define surface mineralisation grading better than 2.0 g/t gold that can be bulk sampled and tolltreated at one of the existing gold plants in central Victoria.
- 7. Global continued to produce significant stockpiles of sized gravel products for construction purposes.

#### **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

The Company currently holds 100% of over 260 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 was operated in the 1990s by Perseverance Mining Pty Ltd ("Perseverance"), 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\$1,600 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 Nagambie-style oxide mineralisation for other prospects in the region 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.

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 now holds a 100% interest in five granted Exploration Licences, two Mining Licences and one Exploration Licence application in Central Victoria with a total area of 371.4 km². All licences are for gold and associated minerals.

Group Area	Project	Name	Licence Number	Area km²	Interes t %		
EXPLORATION GROUP AREAS							
NAGAMBIE	RUSHWORTH	Doctors Gully EL 4723 34.		34.4	100		
	NAGAMBIE NORTH	Nagambie North	EL 4718	35.0	100		
	NAGAMBIE SOUTH	Nagambie South	EL 5327	64.0	100		
	NAGAMBIE SOUTH	Nagambie West	EL 5413	43.1	100		
	WANDEAN, BUNGANAIL EAST, LONGWOOD	Nagambie Regional	ELA 5430	102.0	100		
REDCASTLE	REDCASTLE	Redcastle	EL 3316	89.2	100		
	LAURA	Laura Mine	MIN 4465	0.1	100		
DEVELOPMENT GROUP AREA							
NAGAMBIE	NAGAMBIE	Nagambie Mine	MIN 5412	3.6	100		

TOTAL 371.4

**Tenement and Project Locations** Figure 1 WARANGA BASIN Rushworth EL4723 \* Doctors Gully REEDY LAKE Nagambie North Drill Target Redcastle Bunganail Pioneer EL5430 Nagambie RFZ Longwood MIN5412 Mullocky EL4718 ahbilk EL5413 EL3316 EL5327 Costerfield Nagambie South Golden Soil Anomaly Heathcote 10 20 kilometres



### **GOLD TARGETS PORTFOLIO**

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

Location		Gold Targets
Nagambie Mine	1. 2.	West Pit Extension Nagambie Footwall Mineralisation
Nagambie Regional	3. 4. 5. 6. 7.	Nagambie South Nagambie North Wandean Bunganail East Longwood
Redcastle		Reservoir Mullocky Laura RFZ Why Not Pioneer
Rushworth	14.	Doctors Gully

#### **DEVELOPMENT GROUP AREA**

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

# 1.1 MIN 5412 REHABILITATION AND SITE UTILISATION

The Company is continuing to develop all the non-gold material opportunities on the freehold land at the Nagambie Mine in conjunction with Global Constructions Pty Ltd ("Global").

Global have been producing and stockpiling 20 mm – 100 mm sized gravel for road construction and maintenance within the surrounding shires. Wet weather in the region has significantly affected demand for the product during the quarter, but demand is expected to pick up in Spring.

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

# **EXPLORATION GROUP AREAS**

1. NAGAMBIE GROUP Area: 278.5 km<sup>2</sup> Project Areas: 5 Prospects: 12

Nagambie South EL 4718, EL 5327 & EL 5413

Nagambie North EL 4718
Rushworth EL 4723
Wandean, Bunganail East and Longwood ELA 5430

During the quarter, the Company completed a thorough review of all other past exploration in the Nagambie region. Following this review, Nagambie Mining substantially refined its gold mineralisation model.



The updated gold model is built around conclusions reached after considering all the available information and data sets for the region (geological mapping, geophysical surveys, Nagambie Mine reports, stream sediment sampling, soil sampling and drilling), including:

- a) The Devonian basement marine sediments (fine grained mudstones/siltstones with minor sandstone) were subjected to north-south regional compression, resulting in east-west trending anticlinal (convex up) and synclinal (convex down) folding of the sedimentary beds:
- b) Continuing regional compression caused the folded Devonian rocks to fail with the subsequent development of east-west trending, north-dipping thrusts (or reverse faults). These thrusts have provided the plumbing system for the gold and arsenic mineralised fluids:
- c) The mineralisation contains quartz, disseminated sulphides (arsenic from arsenopyrite is an important pathfinder element), occasional massive stibnite and disseminated gold;
- d) Faults in the region that are not east-west trending are weakly mineralised or are barren;
- e) The Strathbogie Granite appears to be poorly mineralised;
- f) The Devonian basement appears to be poorly mineralised within about 4 km north of the Strathbogie Granite (the granite may or may not be a heat source for and/or the origin of the mineralised fluids);
- g) The major east-west thrusts interpreted from airborne magnetics are around 1 km to 2 km apart;
- h) Mineralisation along a thrust can extend for over 2 km (Nagambie Mine);
- i) The disseminated oxide gold is amenable to heap leach recovery (Nagambie Mine) and possibly well-controlled dump leach recovery (as at White Dam in South Australia); and
- j) Depth of oxidation is around 70 metres (Nagambie Mine).

Towards the end of the quarter, application was made for EL 5430, covering prospective ground to the north west, north east and east of the Nagambie Mine. The Wandean, Bunganail East and Longwood Prospects, within ELA 5430, in addition to Nagambie South and Nagambie North, are all considered to fit the new gold model.

A full update on Nagambie regional exploration was released to the ASX by the Company on 5 July 2012. Figure 2 summarises all the anomalous gold results reported in the area in relation to surface geology and Nagambie Mining's interpretation to date of east-west mineralised thrusts.

## 1.1 NAGAMBIE SOUTH PROJECT – ELs 4718, 5327 & 5413 Area: 107.1 km<sup>2</sup>

Over 250 infill soil samples were taken during the quarter within the main area of interest to better define the five gold anomalies located by the initial soil survey in December 2011. Nine areas are now considered to require further selective soil sampling 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.

# 1.3 WANDEAN, BUNGANAIL EAST AND LONGWOOD – ELA 5430 Area: 102 km<sup>2</sup>

Work on these prospects is planned to commence as soon EL 5430 is granted.



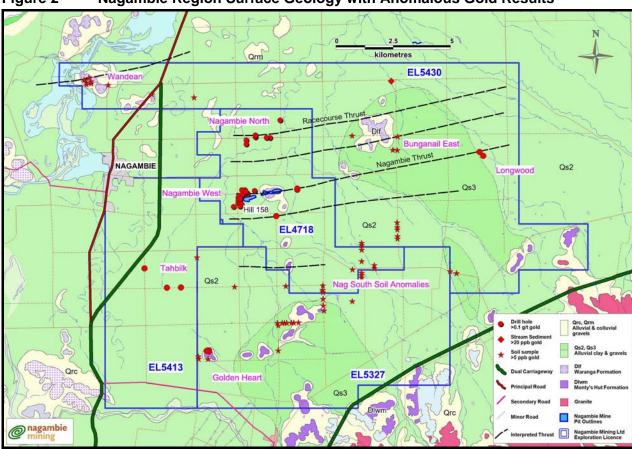


Figure 2 Nagambie Region Surface Geology with Anomalous Gold Results

## **Wandean Prospect**

The Wandean Devonian outcrop, approximately 9 km north west of the Nagambie Mine, was soil sampled by Metex in 1996-1997. The results indicated two strong, approximately east-west, gold-arsenic trends that are 150 metres to 200 metres apart, with gold values up to 236 ppb (0.24 g/t) and arsenic values up to 266 ppm. A similar strong gold-arsenic trend was evident at Hill 158 at the Nagambie Mine before it was later excavated as the East Pit by Perseverance.

The strong gold-arsenic anomaly at Wandean was never followed up (Metex ran into financial difficulties and all exploration staff were retrenched in 1997) and Nagambie Mining is planning an RC (reverse circulation) percussion drilling program to fully test this anomaly.

## **Bunganail East Prospect**

The Bunganail East Prospect, approximately 6 km north east of the Nagambie Mine, lies immediately east of the Bunganail Hill Devonian outcrop. This outcrop was explored without success by Perseverance in 1988-1992. However, an anomalous downstream sediment sample was recorded for the creek immediately to the east of the Bunganail outcrop. Further, three soil results on the south-east corner of Perseverance's sampling grid, and close to this creek, exceeded 5 ppb gold.

Nagambie Mining is planning a detailed soil sampling program for the area which is considered to be a high priority target with potentially shallow Tertiary cover.



### **Longwood Prospect**

The Longwood Prospect, approximately 9 km east of the Nagambie Mine and on trend with the mapped east-west Nagambie Mine Thrust, was drilled by Newcrest Operations Ltd in 2007. One drill intersection achieved was 18 metres at 1.0 g/t gold from 59 metres depth, including 3 metres at 3.2 g/t from 59 metres. It is currently the best basement gold result achieved outside of the Nagambie Mine mining lease.

Tertiary cover where Newcrest drilled was around 20 to 30 metres in thickness. Nagambie Mining is planning to soil sample the Longwood Prospect at the same time as the Bunganail East Prospect.

# 1.4 RUSHWORTH PROJECT - EL 4723 Area: 34.4 km<sup>2</sup>

Doctors Gully is the prime target in this licence and approval for detailed costeaning on this prospect was granted during the quarter. The program is 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.

2. REDCASTLE – HEATHCOTE Area: 89.2 km<sup>2</sup> Project Areas: 2 Prospects: 7

# 2.1 REDCASTLE PROJECT – EL 3316 (Central) and MIN 4465 (Laura) Area: 36.2 km<sup>2</sup>

The Redcastle portion of EL 3316 is 36 km<sup>2</sup> in area and MIN 4465 is 0.1 km<sup>2</sup> in area.

Reservoir is the priority target in EL 3316 and approval for detailed costeaning on this prospect was granted during the quarter. As for Doctors Gully at Rushworth, the program is 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.

# 2.2 HEATHCOTE SOUTH PROJECT - EL3316 Area: 53.1 km<sup>2</sup>

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

### **TENEMENT CHANGES**

Nagambie West EL 5413, totalling 43.1 km², was granted during the quarter, covering the possible western extension of the anomalous zones at Nagambie South. EL 5430, totalling 102 km², was applied for during the quarter, covering prospective ground to the north west, north east and east of the Nagambie Mine.

# **CORPORATE**

# **CASH POSITION**

At 30 June 2012, total cash held by the Company was \$909,000.

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

Income from the sale of non-gold materials for the June quarter was \$59,000 (March quarter \$58,000) as further unseasonal weather was experienced.

### **NAGAMBIE MINING LIMITED**

**Quarterly Activities Report – June 2012** 



#### **ISSUE OF CONVERTIBLE NOTES**

Nagambie Mining finalised a \$750,000 issue of unsecured convertible notes during the quarter to fund priority exploration work and provide additional working capital.

### **NEW WEB SITE**

Nagambie Mining redesigned and modernised its website during the quarter. The new site became operational on 31 May 2012.

#### **ASX ANNOUNCEMENTS DURING THE QUARTER**

21/06/2012	Change of Director's Interest Notice
01/06/2012	New Website
04/05/2012	\$0.75 Million Placement of Convertible Notes
04/05/2012	Appendix 3B
30/04/2012	Appendix 5B
30/04/2012	Quarterly Activities Report

#### **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

### **COMPANY SECRETARY**

Alfonso M G Grillo

### REGISTERED OFFICE, HEAD OFFICE, MINE AND EXPLORATION OFFICE

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## **AUDITOR**

William Buck Audit (Vic) Pty Ltd Level 1, 465 Auburn Road Hawthorn East VIC 3123

### **SHARE REGISTRY**

Advanced Share Registry Level 6, 225 Clarence Street, Sydney NSW 2000

Telephone: (02) 8096 3502

### **NAGAMBIE MINING LIMITED**

**Quarterly Activities Report – June 2012** 



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).

25.0 million unlisted convertible notes issued at 3.0 cents face value = \$0.75 Million

- Issued 4 May 2012;
- 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 3.0 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

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### **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'.