

## **DECEMBER 2013 QUARTERLY REPORT**

## **HIGHLIGHTS**

- Breakthrough results from RC drilling at Wandean included:
  - 37m at 0.85 g/t gold from 7m down hole (including 15m at 1.45 g/t from 7m) in drill hole WRC 21;
  - 2m at 11.0 g/t from 7m (including 1m at 21.1 g/t from 7m) in WRC 23;
  - 4m at 3.3 g/t from surface (including 1m at 10.6 g/t from 1m) in WRC 42;

  - ♦ 5m at 1.9 g/t from 46m in WRC 25;
  - 3m at 3.0 g/t from 30m (including 1m at 6.2 g/t from 31m) in WRC 34; and
- 21.1 g/t gold is the highest gold grade ever recorded in drilling for the Nagambie region. The previous best oxide gold assay was 16.3 g/t gold at the historic Nagambie Mine.
- The presence of shallow high grade gold at Wandean will significantly increase the average grade and improve the potential economics of the gold mineralisation.
- The Company continued to progress its proposal for a landfill site at the Nagambie Mine to take residual inert hard waste from Melbourne recycling operations.

## **COMMENTARY ON THE QUARTER**

Nagambie Mining Chairman, Mike Trumbull said: "The Wandean gold intersections announced on 20 January represent an exciting development for the Company. They have shown that:

- The soil sampling protocols developed by Nagambie Mining for the Nagambie region are successful in locating gold mineralisation under cover;
- There is at least one strong gold mineralising event associated with the east-west trending Wandean Thrust; and
- The Nagambie Goldfield, 100% owned by Nagambie Mining, has the potential to host numerous economic gold deposits.

"Follow up exploration drilling at Wandean is planned to commence in late February. Once those assays are received, Nagambie Mining could be in a position to announce the first economic virgin gold discovery in Victoria in decades."

## 30 JANUARY 2014

#### NAGAMBIE MINING

Nagambie Mining Limited is an Australian ASX-listed gold company that is focussed on the discovery, evaluation and development of shallow, open-pit and heapleachable gold deposits.

The Company holds 100% of over 500 km<sup>2</sup> of exploration tenements in central Victoria encompassing historic goldfields at Nagambie, Redcastle and Rushworth. It is testing new structural and mineralisation concepts for gold mineralisation by employing geological, geophysical and geochemical techniques.

Nagambie Mining is also developing construction material and landfill opportunities at the Nagambie Mine site in order to maximise the value of the freehold land owned by the Company at the mine.

> SHARES ON ISSUE 264,440,832

#### ASX CODE: NAG

Nagambie Mining Limited ABN 42 111 587 163

Registered, Operations & Head Office 533 Zanelli Road Nagambie Vic 3608 PO Box 339

> Tel: (03) 5794 1750 Fax: (03) 5794 1790

www.nagambiemining.com.au info@nagambiemining.com.au

#### Board

Mike Trumbull (Chairman) Geoff Turner (Exploration Dir.) Kevin Perrin (Finance Dir.) Alfonso Grillo (Company Sec.)

# **EXPLORATION**

The only significant exploration work carried out during the quarter was the second RC (reverse circulation percussion) drilling program at Wandean, 4 km north of Nagambie and 9 km north west of the Nagambie Mine in EL 5430 (refer Figure 1).



Figure 1 Interpreted Thrusts and Anomalous Gold Results in the Nagambie Region

The first RC drilling program had tested the western end of the Wandean Prospect. The results had established the presence of low grade basement gold mineralisation with the mineralisation open to the east.

The second RC program, drilled to the east during the quarter, resulted in numerous significant gold intersections. Detailed drilling information and results were reported to the ASX by Nagambie Mining on 20 January 2014.

A total of 33 RC (reverse circulation) percussion holes, WRC 21 through to WRC 53, were drilled in the second program. The location of the holes is shown in Figure 2. The RC holes were located to test the soil anomaly shown in Figure 2 (red outline) which follows the interpreted position of the Wandean Thrust (dashed red line). Geological logging of the rock chips in the RC holes has shown two principal east-west trending zones of silicification and quartz stockwork veining – a northern zone and a southern zone shown in Figure 2.

Both quartz (silicified) zones are roughly parallel to the trend of the Wandean Anticline and the Wandean Thrust. Near-vertical local fracturing of the harder sandstone and siltstone sedimentary units has allowed for the flow of mineralising fluids and deposition of quartz, sulphides and gold. These mineralising fluids would have initially flowed up the regional east-west Wandean Thrust, probably during various earthquake episodes, and then flowed outwards under pressure to the north and south. Disseminated primary gold, generally grading around 1.0 g/t gold, is associated with the zones of quartz stockwork veining.



Figure 2 Wandean Second RC Program Drill Plan

Very significantly, gold to 21.1 g/t (repeat assay 18.9 g/t) was also intersected in soft mudstone sediments adjacent to the zones of quartz stockwork veining. The lack of quartz veining and sandstone layers in these mudstone intersections point to such mineralisation being of supergene origin, rather than primary. Panning of selected high grade mudstone intervals has shown that the gold mineralisation is extremely fine.

Supergene enrichment processes remobilise or redistribute primary gold in the near surface oxide zone. The presence of high grade, very fine supergene gold can substantially lift both average gold grade and average heap-leach gold recovery.





Table 1 shows all gold intersections greater than 2.0 g/t gold for the second RC program at Wandean. Of the 17 intersections greater than 2.0 g/t gold, only three intersections are associated with significant logged quartz. Of the 14 quartz-poor intersections (highlighted in red), eight occur in logged soft mudstone.

RC Hole	From	То	Lithology	Quartz %	Au (g/t)
WRC 21	9	10	sandstone	0.1	2.0
WRC 21	12	13	sandstone		2.2
WRC 21	14	15	sandstone	15	2.1
WRC 23	7	8	mudstone		21.1
WRC 25	48	49	mudstone	30	4.4
WRC 25	49	50	sandstone	40	2.5
WRC 34	31	32	mudstone	0.1	6.2
WRC 35	23	24	mudstone		2.1
WRC 38	56	57	shale	0.1	2.2
WRC 40	52	53	sandstone	1	3.6
WRC 41	32	33	mudstone		5.4
WRC 42	1	2	siltstone		10.6
WRC 42	44	45	shale		2.5
WRC 46	31	32	mudstone		3.0
WRC 46	34	35	mudstone		4.8
WRC 47	31	32	mudstone		3.2
WRC 49	62	63	mudstone		5.3

Table 1Gold Intersections + 2.0 g/t

## Interested "Steakholders"



Supergene enrichment also occurred at the Nagambie Mine which was mined (at an overall average ore grade of 0.8 g/t) and heap-leach treated in the 1990s. The average heap-leach gold recovery at the Nagambie Mine of approximately 80% was high by industry standards because the very fine supergene gold, after agglomeration of the soft mined ore, was rapidly dissolved and recovered.

Given that both Wandean and the Nagambie Mine host/hosted high grade supergene gold, the Company now considers that supergene gold will be the norm, not the exception, in the Nagambie region.

### **TENEMENT CHANGES**

No tenement changes occurred during the quarter.



Figure 3 Nagambie Mining Tenements and Gold Targets

## NAGAMBIE MINE REHABILITATION AND SITE UTILISATION

### PROPOSED LANDFILL SITE

Nagambie Mining is seeking to obtain a landfill licence on freehold land owned by the Company at the Nagambie Mine. Nagambie Mining at this stage is uncertain if it will be successful in obtaining a licence and, if it is successful, how long it will take to get the necessary regulatory approvals from the Environmental Protection Authority of Victoria (EPA) and the Strathbogie Shire.

The proposed landfill site is being designed to take only inert dry waste, the residue from waste recycling operations in Melbourne.

Late in the quarter, Nagambie Mining made a written submission to the Victorian Department of Sustainability (Sustainability) in response to the Department's call for submissions regarding the

Draft Statewide Waste and Resource Recovery Infrastructure Plan 2013-2014 (SWRRIP) for Victoria. Nagambie Mining's submission was also accepted by the Metropolitan Waste Management Group (MWMG) as a submission regarding the Draft Metropolitan (Melbourne) Waste and Resource Recovery Strategic Plan (MWRRSP).

The MWMG and Sustainability will be reviewing all the written submissions made regarding the Draft MWRRSP and the Draft SWRRIP respectively in coming months.

Victoria's most pressing waste management issue is the impending shortfall in landfill capacity to accept inert hard waste remaining after recycling operations ("residuals") in the Melbourne East area. The shortfall is estimated to be 1.2 million tonnes per year.

Melbourne suburban growth has extended eastwards to the hilly and mountainous country depicted as "Elevated Topography" in Figure 4. As a result, there are no obvious new significant landfill sites to the east of Melbourne.

Trucking residuals from the east of Melbourne westwards across the city to landfill sites to the west of Melbourne is a possible solution but the Draft MWRRSP recognises the large transport and environmental costs that would be involved.

Figure 4 illustrates trucking options for residuals from the east of Melbourne. Trucking to the south east, via the Princes Highway, to new landfill sites in Gippsland is one option. Another option is to truck to the north, via the Hume Freeway and the Maroondah Highway, to new landfill sites such as the Nagambie Mine.



Figure 4 Trucking Options for Melbourne East Residuals

In its written submission, the Company said that the Nagambie Mine has the following unique attributes as a significant potential landfill site for Victoria:

- 1. The first of several proposed sites at the mine is capable of taking around 8 million tonnes in total of compacted residuals over an area of approximately 400,000 square metres in a series of adjoining landfill cells, all around 20 metres high;
- 2. If the first proposed site took one fifth of the projected Melbourne East shortfall in residuals capacity of 1.2 million tonnes per year (that is, 240,000 tonnes per year) it would last for 33 years. If it took one quarter (300,000 tonnes per year), it would last for 27 years. If it took one third (400,000 tonnes per year), it would last for 20 years;
- None of the cells in the first site would be visible from the public access road (Zanelli Road) during operations due to three pre-existing west, north and east highwalls, all 20 metres or more in height;
- 4. The site is within a designated industrial area with good bitumen road access;
- 5. The Strathbogie Shire is supportive of the proposed landfill operation, dependent on all relevant authorities giving approval. The new business would be a good fit within the Zanelli Road industrial area which includes a number of poultry operations, the Costa mushroom mulching operation, the Nagambie Water Treatment Facility, the Nagambie Waste Transfer Station and the various activities at the Nagambie Mine;

### First Landfill Site looking north east



- 6. There are no nearby residences in the industrial area, greatly reducing the potential of any community objections;
- 7. Importantly from an environmental point of view, the site is significantly degraded due to the gold mining and treatment operations during the 1990s;

- 8. The site is naturally clay-lined (thick unit of totally impermeable Shepparton Formation clay at surface) and is 15 metres above the water table, meaning that any leachates from the inert residuals would not affect the groundwater;
- Nagambie Mining regularly monitors groundwater quality via a series of boreholes as part of the Mining Licence conditions: these historical data provide an excellent baseline reference of the groundwater quality and monitoring will continue during the life of any landfill operation;
- 10. The Department of State Development, Business and Innovation (DSDBI) has indicated to Nagambie Mining that, once EPA Victoria was moving towards approving a landfill licence for the Company, DSDBI would move to excise that portion of the Mining Licence (MIN 5412) required for the landfill operation as EPA would then monitor the excised area;
- 11. All required basic operational infrastructure (fencing, gating, office, telephone, internet, haul roads, electricity, potable water, toilets, etc) is in place at the mine except for a purpose-built, state-of-the-art weighbridge and associated CCTV coverage, which has been designed and costed; and
- 12. Importantly, the Nagambie Mine landfill site could be fully operational within three months of the Company obtaining an EPA licence.

### **GRAVEL PRODUCTION**

As part of Nagambie Mining's rehabilitation of the overburden dumps at the Nagambie Mine, Global Contracting Pty Ltd (Global) had been producing sized gravel products for sale. During the quarter, Nagambie Mining was advised by Global that Global was experiencing financial difficulties and was not able to carry out its commitments under its agreement with Nagambie Mining. The Global agreement was terminated as a result.

After the termination of the Global agreement, Nagambie Mining was approached by Nagambie Crushed Rock and Stone Supplies Pty Ltd (Nagambie Rock). Following negotiations, Nagambie Mining and Nagambie Rock entered into a rehabilitation and agency agreement in late December.

As a result of the Global termination, there were no gravel sales during the quarter.

### DEPARTMENT OF DEFENCE UNDERWATER EXPLOSIVES TESTING FACILITY

The Australian Department of Defence (DOD) for many years has conducted underwater explosives testing at a disused quarry in suburban Melbourne. For environmental reasons, DOD is planning to set up a new underwater explosives testing facility (UETF) in regional Victoria, with the chosen site being the eastern end of the East Pit at the Nagambie Mine. Water depth in the East Pit is greater than 50 metres which is in excess of DOD's requirements.

During the quarter, Nagambie Mining was informed by DOD that they want to progress the development of the new UETF at the Nagambie Mine as soon as possible in calendar year 2014.

### CORPORATE

### CASH POSITION

At 31 December 2013, total cash held by the Company was \$935,000.

### US\$ GOLD PRICE

The following graph, based on data from the Kitco website (<u>www.kitco.com</u>), shows the US\$ gold price per ounce from 1 January 1975 to the present. The graph is plotted in log scale to highlight

exponential trends, which appear as straight lines. It is a useful graph in that it puts recent movements in the \$US gold price in a long term historical perspective.



### **A\$ GOLD PRICE**

Weakness in the A\$/US\$ exchange rate during the quarter has improved the A\$ gold price. On 28 January 2014, gold closed at US\$1,251 per ounce. The A\$/US\$ exchange rate was 0.88, meaning that the A\$ spot gold price was A\$1,422 per ounce (13.6% higher than the US\$ price).

Mike Trumbull Executive Chairman Phone: 0411 430 845 Email: trumbull.mike@gmail.com

### STATEMENT AS TO COMPETENCY

The Exploration Results in this report have been compiled by Mr Geoff Turner, who is a Fellow of the Australian Institute of Geoscientists, has more than ten years in the estimation, assessment, and evaluation of mineral resources and ore reserves, and has more than 20 years in exploration for the relevant style of mineralisation that is being reported. In these regards, Geoff Turner qualifies as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Geoff Turner is a Director of Nagambie Mining Limited and consents to the inclusion in this report of these matters based on the information in the form and context in which it appears.

### FORWARD-LOOKING STATEMENTS

This report contains "forward-looking statements" within the meaning of securities laws of applicable jurisdictions. Forward-looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "target", "intend", "plan", "estimate", "anticipate", "believe", "continue", "objectives", "outlook", "guidance" or other similar words, and include statements regarding certain plans, strategies and objectives of management and expected financial performance. These forward-looking statements involve known and unknown risks, uncertainties and other factors, many of which are outside the control of Nagambie Mining and any of its officers, employees, agents or associates. Actual results, performance or achievements may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. Exploration potential is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Readers are cautioned not to place undue reliance on forward-looking statements and Nagambie Mining assumes no obligation to update such information.