

# SEPTEMBER 2015 QUARTERLY REPORT

# **HIGHLIGHTS**

- The Company is preparing the surroundings of the water-filled West and East Pits at the Nagambie Mine to enable the pits to accept PASS from Melbourne excavations. Sulphidic material from excavations is known as PASS because of the potential for the sulphides to oxidise into acids and sulphates if the material is stored above ground. The best environmental solution for PASS is to store it under water to prevent the formation of acids and sulphates.
- PASS storage is a very exciting development for the Company and could be operational at the Nagambie Mine by early CY 2016 subject to approval by the Victorian Department of Economic Development, Jobs, Transport and Resources and the subsequent award of contracts. The potential scale of the PASS Project is:
  - Total Capacity to Store PASS Under Water: 6.2 Million Tonnes
  - Potential Life of PASS Project: 6.2 Years
  - Potential Average Storage per Year: 1.0 Million Tonnes
  - Comparative Market Storage Charge per Tonne: Around \$140
  - NAG Storage Charge per Tonne: Commercially Less than \$140
- Nagambie Mining has commenced excavating three costeans at Apollo-Gladys in the Clonbinane Goldfield, 1.5 metres deep and totalling approximately 380 metres in length, to better define the surface gold mineralisation ahead of a mining licence application.
- A section of the existing heap leach pad at the Nagambie Mine has been selected to treat Clonbinane gold ore. This new heap leach section would also be used to treat Wandean gold ore and possibly gold ore from Doctors Gully (Rushworth) and Redcastle.
- A separate section of the existing heap leach pad has been selected to be the first residual hard inert landfill site at the Nagambie Mine.
- Nagambie Mining receives royalties on sales of gravel and aggregate that are produced by a contractor from the historic overburden dumps and heap leach pad respectively as part of mine rehabilitation. After extensive testing and small scale trials, the contractor is now producing excellent washed and screened aggregate products from the heap leach material. The contractor is now installing large scale equipment to satisfy the indicated demand from buyers, particularly Melbourne concrete suppliers. Royalties to Nagambie Mining in CY 2016 could be in the range of \$300,000 to \$500,000.

# **COMMENTARY**

The Company Chairman, Mike Trumbull said: "Nagambie Mining is planning to be far more than just a gold mining company. We intend to take full advantage of the resource opportunities arising from owning a large degraded mine site which is now connected by 120 km of the Goulburn Valley and Hume Freeways to Melbourne.

"As a result, Nagambie Mining shareholders are being asked to approve a change of name to Nagambie Resources at this year's AGM."

# 29 OCTOBER 2015

#### NAGAMBIE MINING

Nagambie Mining is focussed on the discovery and development of shallow, open-pit and heapleachable gold deposits.

The Company has 100% of tenements encompassing historic Victorian goldfields at Nagambie, Clonbinane, Rushworth and Redcastle.

A preliminary Inferred Resource of 47,000 ounces of gold, 609,000 tonnes at 2.4 g/t, was estimated in 2008 for Clonbinane.

Underwater storage of sulphidic excavation material (PASS) in the two 1990s open pits at the Nagambie Mine is being advanced.

Aggregates and gravel are being produced from the old heap leach pad and overburden dumps respectively.

The first landfill site is being designed to take advantage of the 20 Ha of black plastic under the old heap leach pad.

Leasing and agistment of the freehold land at the Nagambie Mine is being maximised.

> <u>SHARES ON ISSUE</u> 336,352,557

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#### Board

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

# PASS PROJECT (100% Nagambie Mining Group)

The surroundings of the water-filled West and East Pits at the Nagambie Mine are currently being prepared to enable the pits to accept PASS from Melbourne excavations. The work involves the upgrading of haul roads from the 1990s-era mine site and the preparation of truck tipping areas with safety fencing and gating.

PASS storage is a very exciting development for the Company and could be operational at the Nagambie Mine by early CY 2016 subject to approval by the Victorian Department of Economic Development, Jobs, Transport and Resources and the subsequent award of contracts.

## Background

The sulphidic material is known as PASS because of the potential for the sulphides to break down into acids and sulphates once stored above ground. By far the best environmental storage solution for PASS is to put it under water to prevent the formation of acids and sulphates.

The open pits could accept a total of around 6.2 million tonnes of PASS under water, with water depths in the West Pit and the East Pit being up to 40 metres and 50 metres respectively. Underwater topography for the two pits is indicated in Figure 1. A view of the East Pit is shown in Photo 1.

### Figure 1 Underwater Topography for the West and East Pits



The PASS would be dozed into the pits from the prepared truck tipping areas. Trucks would not be allowed to tip directly into the pits for safety reasons.

A floating dredge would be used to pump the PASS from the sides of the pits to enable an even distribution of the PASS across the pits under water.

The water in the pits is naturally alkaline with regular pH readings over the last eight years varying between 7.4 (7.0 is neutral) and 9.2. The range is thought to result from variations in rainfall. pH measurements would be regularly taken during PASS storage and agricultural lime would be added to the water if required to ensure the water remained alkaline.

The water in the pits is also saline and neither potable (drinkable) or usable for farming purposes. Salt content in the pits, as measured by electrical conductivity (EC), over the last eight years has varied between 9,500 ECs and 19,000 ECs. Greater than 2,000 ECs is usually unsuitable for irrigation while good drinking water is less than 800 ECs.

Nagambie Mining has investigated whether there are any alternative large under-water sites that could accept PASS and has concluded that none exist. PASS can be stored above ground in Melbourne landfill sites but that alternative is a poor environmental outcome for Victoria and a very expensive solution, typically costing at least \$150 per tonne (including PASS mitigation costs of lime addition etc) plus the cost of trucking. The additional trucking cost to the Nagambie Mine of around \$10 per tonne is quite small in comparison to the cost of landfill storage.

Construction of numerous, large high-rise buildings in the Melbourne CBD and at Fishermans Bend, immediately south west of the CBD, are planned to commence in CY 2016. The large excavations required for solid foundations and underground car parking levels can result in large quantities of PASS that must be managed according to EPA policy. Nagambie Mining is aware that test drilling at a proposed building site at Fishermans Bend confirmed, as predicted, a thick layer of Coode Island Silt (PASS material) under one to two metres of introduced surface fill (bricks etc).

Potential PASS in the excavations of all currently approved high-rise buildings in the CBD and Fishermans Bend would amount to millions of tonnes. In the medium term, the Victorian Government has to date committed \$4.5 billion to the Melbourne Metro Rail Project, with construction planned to commence in CY 2018. This involves the excavation of five new underground rail stations and two nine-kilometre rail tunnels from South Kensington to South Yarra. Geotechnical drilling for the route is currently being carried out and is expected to indicate that millions of tonnes of PASS will need to be trucked away and stored.

### **Potential Revenue**

The potential revenue from the storage of PASS is very large for a small ASX-listed company such as Nagambie Mining.

Storage of PASS under water in the Nagambie Mine open pits will always be a better environmental outcome than storing the material above ground in Melbourne landfill sites, which would require significant mitigation against the formation of acids and sulphates. To be the preferred solution in terms of direct cost, the Company will need to bid a storage charge that is less than around \$140 per tonne, being the Melbourne landfill cost of at least \$150 per tonne (including PASS mitigation costs) less the additional trucking cost to Nagambie of around \$10 per tonne.

Nagambie Mining considers that, if it bid commercially less than \$140 per tonne to store PASS under water, it has the capacity to accept an average of around 1.0 million tonnes per year over a 6.2 year life.

The potential scale of the PASS Project is illustrated below:

- Total Capacity to Store PASS Under Water: 6.2 Million Tonnes
- Potential Life of PASS Project: 6.2 Years
- Potential Average Storage per Year: 1.0 Million Tonnes
- Comparative Market Storage Charge per Tonne: Around \$140
- NAG Storage Charge per Tonne: Commercially Less than \$140

Photo 1 View of the East Pit at the Nagambie Mine



## **CLONBINANE GOLDFIELD** (100% Nagambie Mining Group)

The Clonbinane Goldfield is approximately halfway between Melbourne and Nagambie, close to the Hume Freeway. A preliminary Inferred Resource (under the JORC Code (2004)) for the goldfield of 47,000 ounces of gold, 609,000 tonnes at 2.4 g/t, was estimated in 2008 by a previous owner.

Heap-leach testing on Apollo-Gladys oxide bulk samples by a previous owner has indicated 80% to 85% gold recoveries, which is very high by industry standards.

#### **Apollo-Gladys Prospect**

As reported in May 2015, shallow trenching at the Apollo-Gladys area confirmed widespread halo mineralisation. The Company has now commenced excavating three costeans, 1.5 metres deep and totalling approximately 380 metres in length, to better define the surface gold mineralisation ahead of a mining licence application.

The 21-tonne excavator contracted for the work has been digging the ore zones in the costeans quite easily, confirming that drilling and blasting will not be required during the mining phase.

The assays and geological logging to be obtained from the costeans will be the final inputs to the 3-D model being prepared for the Apollo-Gladys area. An updated resource will then be calculated and an optimum open pit designed using Micromine software.

A section of the existing heap leach pad at the Nagambie Mine has been selected to treat Clonbinane gold ore. This new heap leach section would also be used to treat Wandean gold ore and possibly gold ore from Doctors Gully (Rushworth) and Redcastle.

#### WANDEAN GOLD DEPOSIT (100% Nagambie Mining Group)

The Wandean deposit lies 9 km north west of the Nagambie Mine and 4 km north of the Nagambie township (refer Appendix 1).

A costeaning program at Wandean is planned to follow that for Apollo-Gladys. A bulldozer will be used to prepare the surface of the Wandean costeans to test the extent of ripping that would be required during mining. The assay results and geological logging for the costeans will enable the estimation of an initial oxide gold resource for Wandean, the design of an initial open pit, and other work necessary to apply for a Mining Licence.

#### **TENEMENT CHANGES**

The Nagambie Mining group's tenements as at 30 September 2015 are shown in Appendix 1 (plan and table). ELA 6158 in the Rushworth area and ELA 6163 at Clonbinane were applied for.

#### **RESIDUAL HARD INERT LANDFILL AT THE NAGAMBIE MINE** (100% Nagambie Mining Group)

#### Landfill Background

One of Victoria's most pressing waste management issues is the impending shortfall in landfill capacity to accept inert hard waste remaining after recycling operations ("residuals") in the Melbourne East area.

The proposed landfill site at the Nagambie Mine is being designed to take only residuals from waste recycling operations in central Victoria and Melbourne. The landfill would be sourced principally from construction & demolition activities or commercial & industrial operations.

GHD, a leading landfill consultant, has prepared a report, Supporting Planning and Environmental Information for a proposed Solid Inert Landfill at Nagambie. GHD considered that:

- Landfilling would be compatible with the degraded Nagambie Mine;
- The area could take over 15 million tonnes of compacted landfill;
- The sites would satisfy required buffer distances;

- The local groundwater was not potable quality (a problem with near-Melbourne sites);
- The sites were 10-15m above groundwater (2m minimum required by the EPA);
- 10-15m thick surface clays would be suitable for engineered clay liners;
- The sites would not be visible from the main road due to existing highwalls;
- Being located near a major freeway trucking route from Melbourne was a major advantage; and
- Residual waste could be sourced from north and east Melbourne, the Goulburn Valley and Bendigo.

## Utilizing the Existing Heap Leach Pad

A section of the existing heap leach pad has been selected to be the first landfill site at the Nagambie Mine.

The existing heap leach pad is approximately 500 metres east-west and 400 metres north-south or 20 hectares (roughly 50 acres) in area. The whole heap leach pad is underlain by HDPE black plastic and the pad has been constructed such that all rainfall runoff from a hard inert landfill section would flow to the existing plastic-lined pregnant pond.

## AGGREGATE SALES ROYALTY

Nagambie Mining receives royalties on sales of gravel and aggregate that are produced by a contractor from the historic overburden dumps and heap leach pad respectively as part of mine rehabilitation.

After extensive testing and small scale trials, the contractor is now producing excellent washed and screened aggregate products from the heap leach material. The products, with various size ranges between 5mm and 20mm, are particularly suitable for concrete manufacture. A photo of the 7mm to 14mm product, preferred by one Melbourne concrete firm, is shown below.

The contractor is now installing large scale equipment to satisfy the indicated demand from buyers. Royalties to Nagambie Mining in CY 2016 could be in the range of \$300,000 to \$500,000.

#### Photo 2 Washed and Screened Aggregate Product



## 20-YEAR DOD UETF LEASE

The Australian Department of Defence committed to its underwater explosives testing site at the east end of the East Pit during CY 2014.

The annual payment of \$150,000 plus GST will increase each year based on the Melbourne All Groups CPI figure for 30 June. As the CPI figure for 2015 was 1.1%, the quarterly payment increased to approximately \$37,900 (approximately \$152,000 per year) plus GST on 1 October 2015.

## CORPORATE

At 30 September 2015, total cash held by the Company was \$1,109,000.

On 31 July 2015, the Company announced that it had raised \$420,000 by placing 8,400,000 15 April 2020 Nagambie Mining Series 4 Convertible Notes at 5.0 cents per note to sophisticated and professional investors.

On 18 September 2015, the Company announced that the 2015 Shareholder Share Purchase Plan had raised a total of \$269,000. 8,151,542 shares were applied for at 3.3 cents each.

Mike Trumbull Executive Chairman Phone: 0411 430 845 Email: mike@nagambiemining.com.au

# 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", "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.

# **APPENDIX 1**



# APPENDIX 1 (Continued)

Tenement Number	Tenement Name	Area*	Holder**
MIN 5412	Nagambie Mining Licence	364.1 Hectares	NAG
EL 5430	Bunganail Exploration Licence	312 Graticules	NAG
EL 5511	Nagambie Exploration Licence	36 Graticules	NAG
EL 5536	Wandean North Exploration Licence	85 Graticules	NAG
EL 5413	Nagambie West Exploration Licence	33 Graticules	NAG
EL 5327	Nagambie South Exploration Licence	26 Graticules	NAG
EL 4987	Clonbinane North Exploration Licence	99 Graticules	CLO
ELA 6163	Clonbinane South Exploration Licence Application	79 Graticules	CLO
RLA 6040	Clonbinane Retention Licence Application	300 Hectares	CLO
EL 5516	Lancemore Exploration Licence	158 Graticules	NAG
EL 5546	Redcastle Exploration Licence	69 Graticules	NAG
RLA 2019	Rushworth Retention Licence Application	400 Hectares	NAG
ELA 6158	Rushworth Exploration Licence Application	56 Graticules	NAG

#### Nagambie Mining Group Tenements as at 30 September 2015

\* Graticules are mostly 1.0 square km or 100 hectares but can be less

\*\* NAG = 100% Nagambie Mining Limited

\*\* CLO = 100% Clonbinane Goldfield Pty Ltd

# **APPENDIX 2**

# **EXPLORATION & DEVELOPMENT OF GOLD ASSETS**

## The Nagambie Mining Group's key gold strategies in Victoria are:

- Focus on Central Victoria, particularly the Melbourne Zone;
- Focus on open-pit gold deposits underground mining costs are fast becoming prohibitive in Victoria;
- Focus on disseminated, non-nuggetty, oxide, heap-leachable gold;
- Take advantage of the lower capital and operating costs associated with heap leaching;
- Take advantage of the heap-leach facilities remaining from the 1990s operation at the Nagambie Mine truck all ore from the Company's deposits back to the Nagambie Mine for treatment;
- Only take on 100% ownership of gold properties joint ventures are inefficient and expensive;
- Don't take on production royalties royalties become problematic with multiple sources of heapleach ore;
- Don't take on bank project finance banks insist on acting in the interest of their shareholders ahead of the interests of their clients;
- Develop Resources (under the JORC Code) but not Reserves the money spent on drilling out reserves is better used on dividends to shareholders;
- Focus strongly on mine bench grade control to minimise waste dilution and maximise ore head grade; and
- Use local contractors wherever possible to minimise up-front capital costs and provide operational flexibility – except for mine bench grade control and gold room operations.

# Nagambie Mining's preference for exploring and developing gold assets in the Melbourne Zone of Victoria:

## • Melbourne Zone is Noted for Disseminated, Non-Nuggetty Gold:

- ♦ Extremely fine gold couldn't be panned by the "Old Timers" outcrop still exists;
- ♦ Gold in samples is evenly distributed the opposite of nuggetty;
- Reliable drilling results for disseminated gold versus problematic drilling of Bendigo and Ballarat-style nuggetty quartz veins;
- ♦ Reliable evaluation of each open-pit, heap-leachable deposit;
- ♦ Reliable bench grade control sampling during open-pit mining;
- Minimal quartz in disseminated oxide deposits can mean no drilling and blasting is required; and
- ♦ Fine, evenly-distributed gold means excellent heap-leach recovery.

### • Melbourne Zone has Outstanding Existing Infrastructure:

- Hume and Goulburn Valley Freeways connect the Nagambie and Clonbinane Goldfields;
- Operators for the mining and heap-leach operations could come from Shepparton, Nagambie, Seymour, Broadford, Kilmore, Wallan, Wandong etc.; and
- ♦ Operators would drive themselves to the gates of the operations each day the exact opposite, in terms of costs, of fly-in, fly-out operations in outback Australia.