

**HIGHLIGHTS**

- ❖ Detailed re-analysis of the spectacular-looking 2006 NRP02 drill intersection under the West Pit at the Nagambie Mine, but which was not explained geologically at that time, concluded that the massive-stibnite-veining system could strike NNW, a direction never tested in the eight follow up holes drilled in 2006/2007. NNW is the prevailing strike direction for the gold-antimony mineralisation at Australia's only current antimony mine, the Costerfield Mine, 45 km to the west of the Nagambie Mine.
- ❖ The average grades for the NRP02 intersection, including all internal waste, are 4.8 g/t gold (Au), 7.5% antimony (Sb) and 22.5 g/t gold equivalent (AuEq) (refer Table 1). Excluding the internal waste using a lower cut-off of 1.0% Sb, the NRP02 intersection grades 7.2 g/t Au, 12.3% Sb and 36.2 g/t AuEq. Peak assays for the intersection are 24.0 g/t Au and 60.2% Sb.
- ❖ Drilling of NAD007, the first oriented diamond drill hole designed to intersect this high-grade Costerfield-Mine-style target (named C1) under the West Pit, has just commenced.
- ❖ Southern Cross Gold (ex Mawson Gold) drilled the first two deep diamond drill holes under Balaclava Hill within the Whroo JV Property (Nagambie Resources has the option to retain up to a 40% JV interest) and encouragingly obtained peak assays of 49.7 g/t gold and 16.5% antimony.
- ❖ Golden Camel Mining (GCM) and Nagambie Resources are in advanced negotiations to secure the use of a new technology that has been developed in Australia and which would improve recoveries for the toll treatment plant at the Nagambie Mine. GCM are still scheduling for plant commissioning in the December 2022 quarter.
- ❖ Stage 2 of laboratory testwork for the bacterial recovery of gold in the Nagambie Mine heap leach pad, using larger samples from the Nagambie Mine, is proceeding with additional R&D funding assistance from the Federal Government being sought.

**COMMENTARY**

Nagambie Resources' Executive Chairman, Mike Trumbull, commented: *"The drilling program for the C1 massive-stibnite-veining target under the West Pit is underway. Exploration success could lead to Victoria's next significant high-grade mine development since the Costerfield and Fosterville Mines.*

*"The Nagambie Mine toll treatment plant, utilising INCO cyanide detox and dry-stacked geotube tailings storage technology, is to be the first of its kind in Victoria. Securing the use of new technology to improve recoveries in the plant would enhance the economics for GCM and Nagambie Resources. Utilisation of sustainable, cheaper renewable electricity, from solar and/or anaerobic digestion installations on Nagambie Resources' freehold land, would further enhance the economics."*

**NAGAMBIE RESOURCES**  
[www.nagambieresources.com.au](http://www.nagambieresources.com.au)

*Oriented diamond drilling of Fosterville-style, structural-controlled, high grade sulphide-gold underground targets within the Waranga Domain tenements is being methodically carried out.*

*Nagambie Resources and Golden Camel Mining (GCM) have received approval for the construction and operation of a gold toll treatment facility at the Nagambie Mine. GCM will pay 100% of all construction and commissioning costs; thereafter all revenues and costs will be shared 50:50.*

*Underwater storage of sulphidic excavation material (PASS) in the two legacy gold pits at the Nagambie Mine is an excellent environmental fit with a major infrastructure project for Melbourne such as the North-East Link.*

*Recovery of residual gold from the 1990s heap leach pad using naturally-occurring bacteria is being investigated.*

*Mining and screening of sand and gravel deposits at the Nagambie Mine to produce sand and quartz aggregate products is also planned.*

**SHARES ON ISSUE**  
513,146,176

**ASX CODE: NAG**

**Nagambie Resources Limited**  
ABN 42 111 587 163

**Registered, Operations & Head Office**  
533 Zanelli Road  
Nagambie Vic 3608  
(PO Box 339)  
Tel: (03) 5794 1750

[info@nagambieresources.com.au](mailto:info@nagambieresources.com.au)

**Board**  
Mike Trumbull (Exec Chairman)  
Bill Colvin (Director)  
Alfonso Grillo (Dir/Company Sec)

James Earle CEO

**GOLD EXPLORATION**

**High-Grade, Gold-Antimony Mineralisation Intersected in the 2006 NRP02 Hole**

On 3 March 2022, Nagambie Resources reported the results from a detailed re-analysis of the spectacular-looking NRP02 intersection which was achieved by the Company under the West Pit at the Nagambie Mine in 2006, but which was never explained geologically at that time.

The re-analysis concluded that the massive-stibnite-veining system could strike NNW, a direction never tested in the eight follow up holes drilled in 2006/2007. NNW is the prevailing strike direction for gold-antimony mineralisation at the Costerfield Mine, 45 km to the west of the Nagambie Mine.

Table 1 sets out the intercepts from 109.0m to 136.1m down hole using a lower cut-off for antimony of 1.0% Sb, plus two internal intercepts of below cut-off material.

**Table 1 Intersections of Gold and Antimony in NRP02**

Hole ID	From (m)	To (m)	Sample Type	Intercept (m)	Gold Au g/t	Antimony Sb %	Gold Equiv. AuEq g/t*
NRP02#	109.0	117.0	RC	8.0	7.8	10.2	31.9
including	113.0	115.0	RC	2.0	14.4	33.4	93.2
NRP02	117.0	122.7	RC+Core	5.7	0.4	0.1	0.6
NRP02#	122.7	124.3	Core	1.6	12.5	20.2	60.2
NRP02	124.3	129.2	Core	4.9	2.2	0.2	2.7
NRP02#	129.2	136.1	Core	6.9	5.1	12.6	34.8
including	129.2	129.5	Core	0.3	24.0	60.2	166.1
including	131.3	132.3	Core	1.0	22.0	58.7	160.5
NRP02	109.0	136.1	RC+Core	27.1	4.8	7.5	22.5
NRP02#	Above Cut-Off Only			16.5	7.2	12.3	36.2

\* Using a gold equivalent factor of 2.36 (refer below).

The intercept lengths downhole are considered to greatly exaggerate the true widths of the gold-antimony mineralisation (the true widths could only be around 10% to 15% of the downhole intercepts). The gold and antimony grades however are representative of the mineralisation intersected in NRP02.

The gold-antimony Costerfield Mine currently calculates its gold equivalent (AuEq) factor, the relative value of 1.0% antimony (Sb) in the mine to 1.0 gram / tonne gold (Au) in the mine as:

$$\text{AuEq factor} = [\text{US\$/tonne antimony price} \times 0.01 \times 0.95 \text{ antimony recovery}] / [\text{US\$/ounce gold price} / 31.10348 \text{ grams per ounce} \times 0.93 \text{ gold recovery}]$$

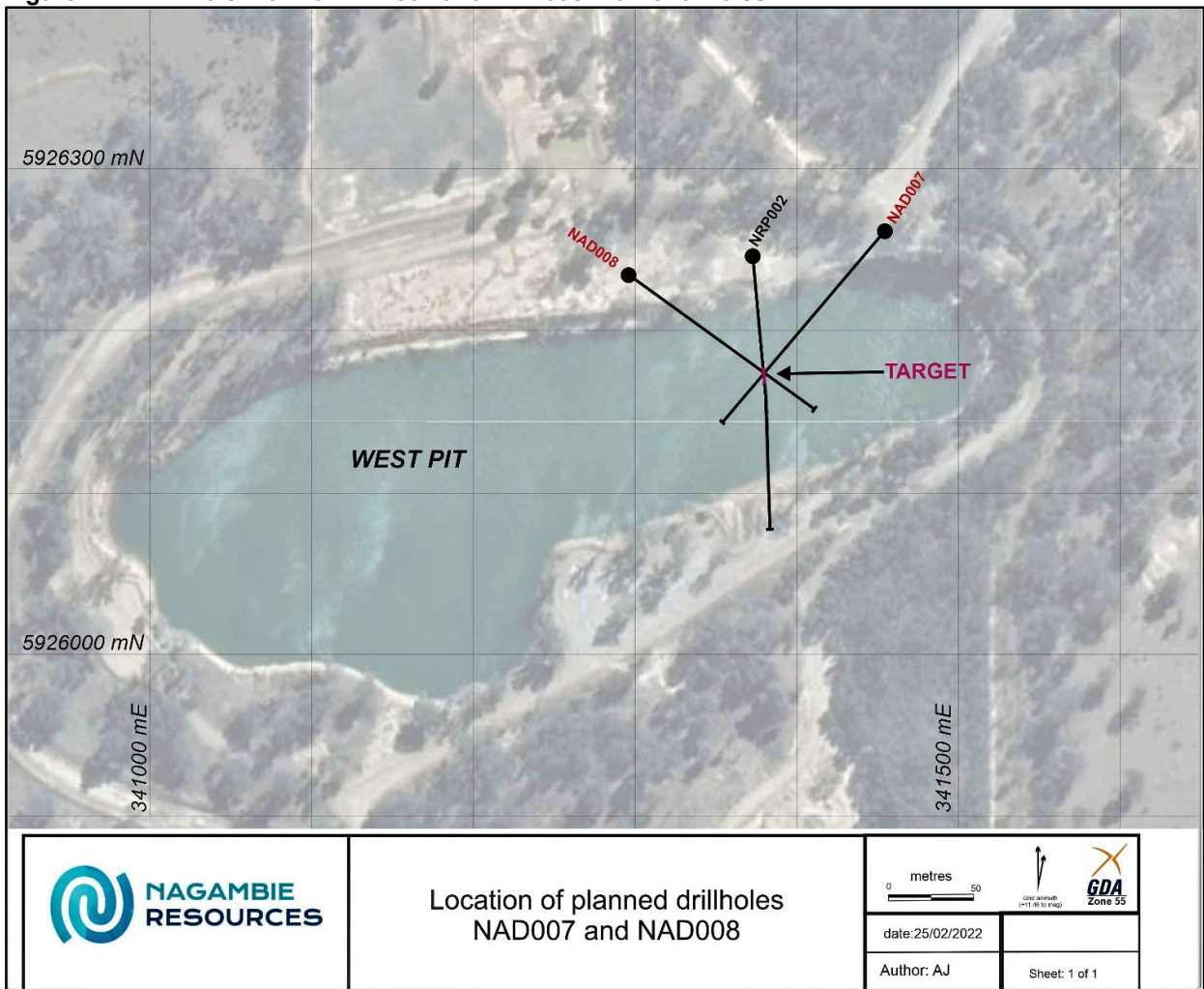
The Costerfield Mine is 100% owned by Mandalay Resources Corporation and the latest projections for CY2022 on the Mandalay website ( <https://mandalayresources.com> ) adopt average CY2022 prices for gold and antimony of US\$1,750 per ounce of gold and US\$13,000 per tonne of antimony. For these prices, the AuEq factor using the above equation is 2.36.

**Diamond Drilling of the C1 High-Grade, Gold-Antimony Target under the West Pit**

Nagambie Resources’ next two oriented diamond holes, NAD007 and NAD008, were provisionally designed to scissor, approximately 25 vertical metres apart, the massive stibnite veining in NRP02 (refer Figure 1).

NAD007 had been planned to commence in late March but the drilling contractor encountered ongoing problems with his workshop personnel being unable to work due to Covid directly, Covid close-contact family isolation rules, and other family illnesses. The drilling of NAD007 has just commenced with the first intersection of the C1 target expected in approximately one week’s time.

Figure 1 Drill Hole Plan for NAD007 and NAD008 Diamond Holes



**Redcastle and Whroo Joint Ventures with Mawson Gold**

Mawson Gold has transferred its Australian interests into Southern Cross Gold Limited which has been working towards an initial public offering (IPO) on the ASX in order to significantly increase its gold exploration in Victoria – that IPO funding offer closes today. Southern Cross had previously raised \$2.725 million to fund its ongoing drilling and IPO costs.

Southern Cross currently manages gold exploration within the Redcastle and Whroo JV Properties of 75 sq km and 199 sq km respectively.

**Balaclava Hill, Whroo JV Property**

On 18 February, Nagambie Resources reported the results of the first two diamond holes drilled by Southern Cross under the Balaclava Hill workings.

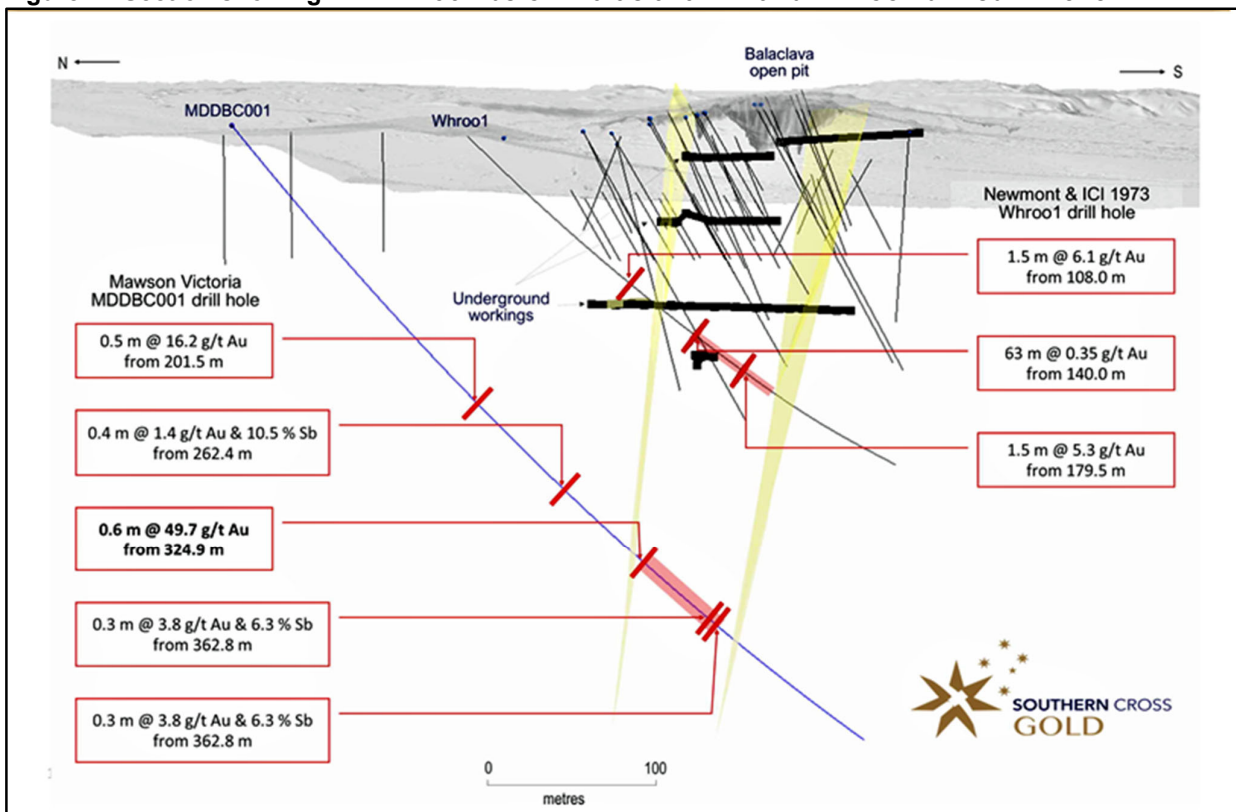
Table 2 sets out the intersections in the MDDBC001 and MDDBC002 diamond holes at Balaclava Hill using a lower cut-off of 0.5 g/t gold times the intersection width in metres (Au g/t x width (m) >= 0.5) except where significant antimony (Sb) grades have been intersected. Figure 2 is a section showing the MDDBC001 hole.

The significant intersections of antimony and gold clearly indicate that the target below Balaclava Hill is high grade gold-antimony, epizonal, Fosterville-style mineralisation. Southern Cross are comparing the early Whroo intersections with the published orebody dimensions and grades at the Costerfield Mine, the 6th-highest-grade global underground gold mine and the 5th-biggest antimony miner in the world.

Table 2 Intersections from MDDBC001 and MDDBC002

Hole ID	from (m)	to (m)	width (m)	Au g/t	Sb%
MDDBC001	201.0	202.0	1.0	8.4	0
including	201.5	202.0	0.5	16.5	0
MDDBC001	228.0	239.0	11.0	0.4	0
including	236.0	237.5	1.5	1.2	0
MDDBC001	262.4	262.8	0.4	1.4	10.5
MDDBC001	323.0	367.8	44.8	0.8	0.1
MDDBC001	324.9	325.5	0.6	49.7	0
MDDBC001	359.6	359.8	0.2	0.2	16.5
MDDBC001	362.8	363.0	0.2	3.8	6.3
MDDBC001	365.0	365.3	0.3	1.0	3.3
MDDBC001	403.0	416.2	13.2	0.3	0
MDDBC001	409.8	410.5	0.7	1.5	0
MDDBC002	69.0	70.0	1.0	1.1	0
MDDBC002	212.6	227.0	14.4	0.4	0
including	214.6	215.4	0.8	0.9	0
including	225.0	226.0	1.0	2.2	0
MDDBC002	332.1	332.8	0.7	5.0	0

Figure 2 Section showing MDDBC001 below Balaclava Hill and Whroo1 drilled in 1973



From a Southern Cross cross section.

**Gold Tenements**

The Company's tenements as at 31 March 2022, totalling 3,334.5 sq km, are listed in Table 3 and their general location in central Victoria is shown in Figure 3.



**Table 3 Nagambie Resources Tenements as at 31 March 2022**

Tenement Number	Tenement Name	sq km
MIN 5412	<b>Nagambie Mining Licence</b>	<b>3.5</b>
EL 5430	Bunganail Exploration Licence	160.0
EL 5511	Nagambie Central Exploration Licence	21.0
EL 6158	Rushworth Exploration Licence	46.0
EL 6212	Reedy Lake North Exploration Licence	17.0
EL 6352	Miepoll Exploration Licence	342.0
EL 6421	Pranjip Exploration Licence	45.0
EL 6508	Tabilk Exploration Licence	33.0
EL 6606	Gowangardie Exploration Licence	88.0
EL 6719	Euroa Exploration Licence	81.0
EL 6720	Tatura Exploration Licence	145.0
EL 6731	Arcadia Exploration Licence	218.0
EL 6748	Waranga Exploration Licence	102.0
EL 6937	Nagambie East Exploration Licence	2.0
EL 6877	Nagambie Exploration Licence	8.0
EL 7205	Angustown Exploration Licence	49.0
EL 7207	Arcadia Exploration Licence	156.0
EL 7208	Cullens Road Exploration Licence	29.0
EL 7209	Goulburn West Exploration Licence	34.0
EL 7210	Locksley Exploration Licence	26.0
EL 7211	Shepparton Exploration Licence	444.0
EL 7212	Shepparton North Exploration Licence	321.0
ELA 7213	Pederick Exploration Licence Application	683.0
EL 7237	Kirwans North (1) Exploration Licence	20.0
EL 7238	Kirwans North (2) Exploration Licence	9.0
EL 7264	Resource Recovery Exploration Licence	1.0
ELA 7265	Nagambie Town Exploration Licence Application	8.0
EL 7594	Miepoll East Exploration Licence	47.0
ELA 7595	Miepoll West Exploration Licence Application	113.0
ELA 7690	Nagambie South Exploration Licence Application	4.0
RL 2019	Doctors Gully Retention Licence	4.0
<b>Total Waranga Domain</b>		<b>3,259.5</b>
EL 5546	Redcastle Exploration Licence	51.0
EL 7498	Cornella Exploration Licence	19.0
EL 7499	Sheoak Exploration Licence	5.0
<b>Total</b>		<b>3,334.5</b>

**NAGAMBIE MINE GOLD TOLL TREATMENT PLANT**

Nagambie Resources Limited (NRL) and Golden Camel Mining (GCM) are proceeding with the construction and operation of a nominal 180,000 tonnes per annum toll treatment facility at the Nagambie Mine. GCM is the Manager and are paying 100% of all construction and commissioning costs; thereafter all revenues and costs will be shared 50:50. Initial feed for the plant is to be trucked from GCM's Golden Camel Mine.

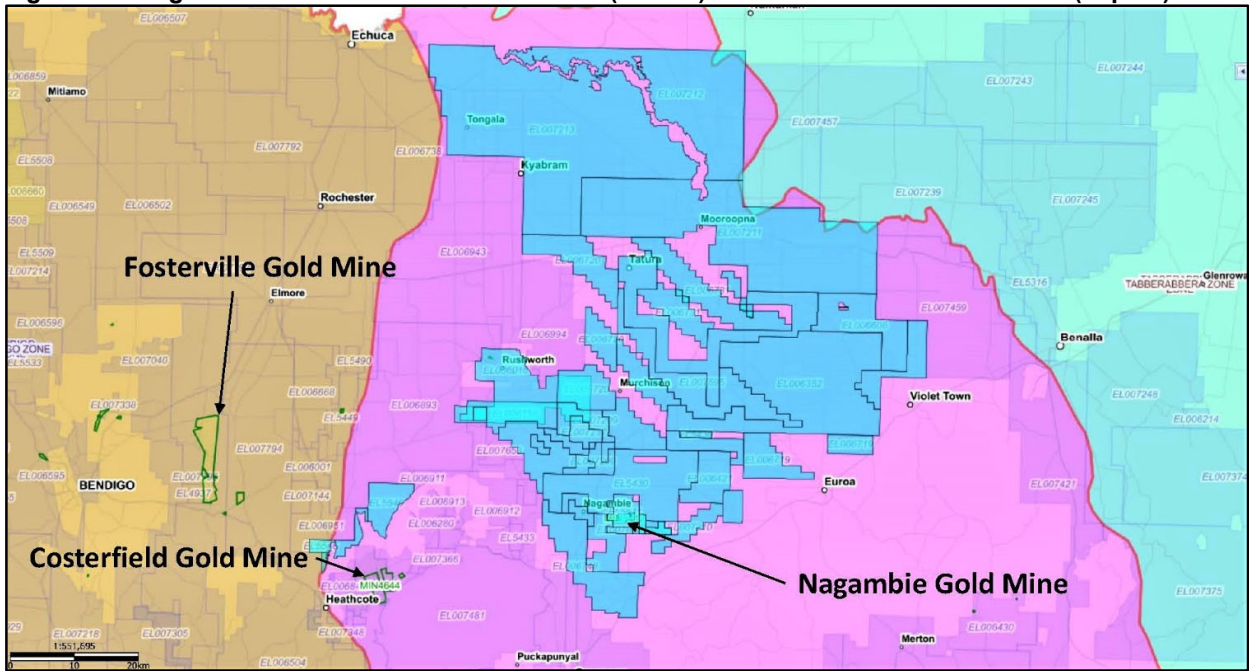
GCM and NRL are in advanced negotiations to secure the use of a new technology that has been developed in Australia and which would improve recoveries for the toll treatment plant. Once the negotiations are completed, some additional detailed design work will be required to incorporate the new technology.

Despite some ongoing issues, GCM are still scheduling for commissioning of the plant to occur in the December 2022 quarter.

**Use of Renewable Energy in Toll Treatment Plant Operations**

GCM and NRL have been investigating the potential to produce renewable energy to reduce the toll treatment plant's operating costs and to minimise carbon emissions.

**Figure 3 Nagambie Resources’ Gold Tenements (in blue) all within the Melbourne Zone (in pink)**



To date, analysis of photovoltaic solar power and bioenergy from anaerobic digestion has been considered to replace a large portion of the electricity needed to power the facility. Producing biogas to power haulage vehicles is also being considered.

Anaerobic digestion is the controlled biological decomposition of organic materials, such as food waste, cropping waste and animal manure, in tanks or vessels. A biogas is produced by the decomposition process, which can be used to power engines, produce heat and electricity, and run alternative-fuel vehicles. A by-product of the decomposition process is ‘digestate’ which can be utilised as a liquid or solid fertiliser. Water is also produced in the process.

Heat (to enhance bacterial bioleaching of gold from the heap leach material), electricity (to power the toll treatment facility), biogas (to run alternative-fuel vehicles), and water and fertiliser (to aid in site rehabilitation) could all be utilised in operations at the Nagambie Mine.

Potential sites within NRL’s freehold land have been identified. NRL’s recent purchase of land adjoining the mine site to the south (as reported in the June 2021 Quarterly Activity Report) provides ample land on which to potentially develop renewable energy.

Financial modelling has indicated that the cost of electricity generated from a photovoltaic solar plant could be approximately half the cost of electricity purchased from the grid. The cost of electricity produced from a bioenergy plant is expected to be even lower than that for the modelled solar plant. Further analysis will be undertaken throughout the year.

**POTENTIAL BACTERIAL RECOVERY OF GOLD IN 1990s HEAP LEACH PAD**

Total recorded gold production from the Nagambie Mine cyanide heap between 1989 and 1997 was 134,000 ounces and Nagambie Resources considers that a significant amount of gold remains in the heap. Extracting this gold in a toll treatment plant or by additional cyanide heap leaching is currently not viable or economic.

In 2021, Nagambie Resources, in partnership with Golden Camel Mining, and with the financial assistance of a Federal Government grant from the Innovations Connection Program, funded a research project (the Stage 1 Bioleaching Project) that involved laboratory-scale test work to evaluate the use of microorganisms to bioleach gold from gold heap leach tailings. The specific objectives of the Stage 1 Bioleaching Project were to:

- 1) Characterise the microbial communities in samples of heap leach tailings from the Nagambie Mine;

- 2) Evaluate the potential for gold bioleaching from the tailings using native microbes present in the tailings and mine water; and
- 3) Evaluate the potential for gold bioleaching from the tailing using iodide oxidising bacteria sourced from an external culture collection.

The Stage 1 Bioleaching Project was completed, and a final project report issued in February 2022. The findings of the stage 1 project indicated that gold can be bioleached from the tailings using native and externally sourced bacteria when suitable conditions are provided. Further research was recommended to refine and improve the rate of gold bioleaching.

During the quarter, Nagambie Resources reviewed the findings of the Stage 1 Project and negotiated with the research provider to scope and cost a second stage project to further test and optimise the gold bioleaching with native and/or externally sourced microorganisms at a larger scale using larger tailings volumes to simulate heap leach system conditions. A proposal has been received and project terms and conditions are being evaluated. Discussions are underway with the Federal Government's Innovations Connections Program to obtain a further grant to assist with the funding of the Stage 2 Project.

### **PASS MANAGEMENT PROJECT**

The next update on the timing for construction of the TBM tunnels by the Spark consortium for the North East Link Project could occur when the Victorian Government presents its budget on 20 May 2022.

### **CORPORATE**

#### **Cash**

At 31 March 2022, total cash held by the group was \$213,000.

#### **Mawson Gold Limited Shares (TSX: MAW)**

At 31 December 2021, Nagambie Resources held 2.525 million MAW shares which had a total market value of \$506,000. During the March quarter, no MAW shares were sold and at 31 March 2022, the 2.525 million MAW shares had a market value of \$378,000.

Under the agreements with Mawson Gold, Nagambie Resources could sell these 2.525 million MAW shares during the June 2022 quarter.

#### **2022 SPP and Placement of Shares**

The SPP closed on 10 March and \$342,300 was subscribed for the issue of 6,458,490 fully-paid ordinary shares at 5.3 cents per share.

In conjunction with the SPP, the Company also placed 6,755,340 fully-paid ordinary shares at 5.3 cents each to sophisticated and professional investors for an additional \$358,033.

The total equity raised was \$700,333 from the issue of a total 13,213,830 new shares at 5.3 cents per share. The new shares were issued on 16 March 2022 and the new total issued shares is now 513,146,176. Share dilution resulting from the total fund raising was 2.6%.

Southern Cross Gold Limited, which is being spun out of Mawson Gold Limited and is listing on the ASX, applied for sufficient new shares to maintain its 10.0% holding in Nagambie Resources.

#### **Related Party Payments**

In accordance with its obligations under ASX Listing Rule 5.3.5, Nagambie Resources advises that the only payments made to related parties of the Company in the quarter, as set out in item 6.1 of the accompanying Appendix 5B, were in respect of directors' and consulting fees.

By the order of the Board.



James Earle  
Chief Executive Officer

#### **STATEMENT AS TO COMPETENCY**

*The Exploration Results in this report have been compiled by Adam Jones who is a Member of the Australian Institute of Geoscientists (MAIG). Adam Jones 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 2012 edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. He 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 Resources 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 Resources assumes no obligation to update such information.*