

DECEMBER 2020 QUARTERLY REPORT

HIGHLIGHTS

- The probable location of the sulphide-gold feeder zone for the Nagambie Mine is becoming clearer with the drilling of the NWD001 and RAD004 diamond holes. The feeder zone is now considered to be immediately to the west of the West Pit and it is anticipated that the results for a justcompleted RAD004 Radial-DTH IP (Radial-Down-the-Hole Induced Polarisation) survey will support this view.
- Mawson Gold have now drilled 15 diamond holes (MDDRE001-015) for 2,775m at the Redcastle JV Property and first results are expected shortly. This drilling at Redcastle was completed immediately prior to Christmas 2020 and the drill rig has now moved to the Doctors Gully prospect in the Whroo JV Property.
- Nagambie Resources has established that an Australian laboratory is well equipped to carry out the bacterial speciation and ongoing testwork required to investigate the recovery of residual gold from the 1989-1997 Nagambie Mine heap leach pad using naturally-occurring bacteria. With the assistance of that organisation, Nagambie Resources has now successfully applied for an initial federal grant of \$50,000 for the bacterial testwork program.
- The North East Link Project (NELP) tender closed as scheduled in May 2020, with Nagambie Resources asked to provide pricing for "Underwater Storage" PASS Management, but Covid-19 delays have meant that the winning tenderer for the construction of NELP has not yet been announced. The Company now considers that the Victorian Government will announce the result of the tender in the March quarter.

COMMENTARY

Nagambie Resources' Chairman, Mike Trumbull said: "2021 is promising to be an exciting year for Nagambie Resources with several of our projects, particularly gold exploration and PASS Management, finally showing real impetus.

"We have continued to investigate new opportunities during 2020 and will continue to keep shareholders informed of significant developments as they materialise."

29 JANUARY 2021

NAGAMBIE RESOURCES

Exploration for Fostervillestyle, structural-controlled, high grade sulphide-gold underground deposits within 3,600 sq km of Waranga Domain tenements is being methodically carried out using geophysical targeting techniques, diamond drilling and analysis for hydrothermal alteration of the sediments.

> Underwater storage of sulphidic excavation material (WASS / 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.

Recycling of the tailings and overburden dumps can produce aggregates for concrete and gravel products respectively.

Quarrying and screening of sand deposits at the mine to produce various sand and quartz aggregate products is also planned.

Recovery of residual gold from the 1990s heap leach pad using naturallyoccurring bacteria is being investigated.

> <u>SHARES ON ISSUE</u> 499,932,346

> > ASX CODE: NAG

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James Earle CEO

GOLD EXPLORATION

Nagambie West Diamond Drilling Program - NWD001 and NAD004 Diamond Drill Holes

Summary

The East Pit at the Nagambie Mine and the Wandean Prospect, 9 km to the north west, are the only significant outcrop of the gold-bearing basement rocks in the immediate area with surface unconsolidated Murray Basin sediments (clays, sands and aggregates) occurring elsewhere, up to 100m or more in thickness. Nagambie Resources has been trialling Induced Polarisation (IP) survey techniques in an attempt to "see through" the Murray Basin sediments.

The location of the sulphide-gold feeder zone for the Nagambie Mine is becoming clearer with the drilling of the NWD001 and RAD004 diamond holes. The feeder zone appears to be immediately to the west of the West Pit and it is anticipated that the results for a just-completed RAD004 Radial-DTH IP (Radial-Down-the-Hole Induced Polarisation) survey will support this view.

NWD001 Diamond Hole

Drilling of NWD001, the first deep diamond hole to the west of the Nagambie Mine (refer Figure 1) commenced late in the September quarter and was completed in the December quarter.

Disseminated gold at both the Nagambie Mine and the Wandean Prospect occurs preferentially in east-weststriking, marine-formation, sandstone-rich brittle beds in the footwall (to the south) of east-west-striking, steeplynorth-dipping thrust faults. The widespread folding of the beds due to the north-south compression event that occurred in the Waranga Domain at the time of mineralisation (circa 475 Ma) resulted in the fracturing of the sandstone-rich beds at and near to east-west-striking anticlinal folds.



Figure 1 Plan View of Nagambie Mine showing Deformation of Bedding from East-West Strike

The bedding strike throughout the NWD001 hole is north-east to north-north-east (refer Figure 1) rather than the preferential east-west strike that occurs in both the West and East Pits at the Nagambie Mine. The deformation is more pronounced than the east-west to north-east bedding strikes observed in the NND001 and NND002 diamond holes to the east.



Photo 1 Sedimentary Pyrite Development in Shales in NWD001 Diamond Core

Photo 2 Hydrothermal Pyrite in NAD004 Diamond Core with Vuggy Quartz/Carbonate Veining



NWD001 was designed to test a dipole-dipole ground IP chargeability anomaly (refer Figure 1). Logging of the core indicates that the IP anomaly relates to sedimentary pyrite development in shales (refer Photo 1). No significant hydrothermal pyrite was observed in NWD001.

The fact that this test of a hydrothermal sulphide-gold IP anomaly on trend westwards from the Nagambie Mine returned a "false positive" result (marine sedimentary pyrite not crustal-sourced hydrothermal pyrite) illustrates the difficulties in attempting to "see through" the Murray Basin sediments, the focus of Nagambie Resources' R&D program.

Both Perseverance in the 1990s and Nagambie Resources have drilled on trend to the east of the East Pit without intersecting any significant gold and various IP surveys by Nagambie Resources have failed to indicate any sulphide-gold targets to the east. The IP surveys by Nagambie Resources have also failed to indicate any significant sulphide-gold targets beneath the oxide-gold East and West Pits.

NAD004 Diamond Hole

Given the non-preferred bedding strikes in NWD001, the decision was made to drill NAD004 only approximately 120m west of the West Pit (refer Figure 1), with a view to then being able to track the preferred east-west bedding strike westwards with follow up holes.

NAD004, drilled north-south, was commenced during the quarter and is currently 400m down hole, all drilled at 60 degrees below horizontal. Detailed logging of the hole has not yet been carried out but initial inspection of the core trays indicates the bedding strikes are generally east-west with zones of hydrothermal pyrite +/- arsenopyrite and stibnite associated with vuggy quartz/carbonate veining (refer Photo 2).

IP Surveys

With the South Australia / Victoria border open again, preparations were made late in the quarter for Adelaidebased-Zonge to carry out two lines of dipole-dipole ground IP to the west of the Nagambie Bypass Freeway and a NAD004 Radial-DTH IP survey.

Zonge has just completed these IP surveys and results are awaited.

Redcastle Joint Venture (Currently Mawson Gold 50%, Nagambie Resources 50%)

As previously announced, Mawson Gold Limited (TSX: MAW), which has the option to spend a total \$1.0 million to earn a 70% interest in the Redcastle JV Property (refer Figure 2), has already spent over \$0.5 million to earn 50%.

Mawson Gold is undertaking a twofold approach at Redcastle. Initially Mawson is systematically collecting "tenement scale" data to understand the broad mineral system and allow it to also explore beneath the significant alluvial cover. This includes ground magnetics, gravity and gradient array IP to test the entire Redcastle mineralizing system plus Mawson has also flown a LiDAR survey over the entire project. Secondly, Mawson has completed stage one diamond drilling to test beneath the high-grade old mines. The combination of the stage one drilling data with the "tenement scale" data (geophysics, geological reconnaissance and detailed analysis of historic mine records) will aid in the development of new drill targets.

15 holes (MDDRE001-015) for 2,774.8 m have now been drilled at the Redcastle JV Property. First results will be released shortly. This drill program at Redcastle was completed immediately prior to Christmas 2020 and the drill rig has moved to the Doctors Gully prospect in the Whroo JV Property.

The next step at Redcastle is to interpret the IP gradient array, gravity, ground magnetic surveys and LiDAR survey together with the first pass stratigraphic drilling at Redcastle.

Whroo Joint Venture (Currently Nagambie Resources 100%)

The Whroo JV Property (refer Figure 2) starts to the north of Nagambie Resources' Wandean oxide-gold mineralisation and runs northwards to the historic gold mines at Whroo (including the Balaclava Mine) and White Hills (including Doctors Gully). These northern mines are located in a roughly-east-west trend of several Whroo anticlines and thrust faults. The northern Balaclava and Doctors Gully Thrust Faults can be compared to the east-west-striking Nagambie Mine, Racecourse, Wandean and Wandean North Thrust Faults to the south.

Mawson Gold paid \$100,000 cash to Nagambie Resources after approval of the JV at Nagambie's 2020 AGM and is committed to spend an additional \$400,000 in the first year to earn no interest in the Whroo JV Property. Mawson then has the option to spend a cumulative \$2.75M (JV expenditure plus cash to Nagambie) to earn a 60% interest in the Whroo JV Property. When Mawson has earned that 60% interest, Nagambie has the option to call for the formation of a 60:40 Mawson:Nagambie JV. If Nagambie does not exercise that 60:40 option, Mawson then has two options: (1) to call for the formation of a 60:40 JV; or (2) to spend an additional \$1.5M (cumulative \$4.25M of JV expenditure and cash to Nagambie) to earn a 70% interest in the Whroo JV Property, leading to the formation of a 70:30 Mawson:Nagambie JV.

During the December quarter, Mawson Gold completed gradient array and ground magnetic geophysical surveys over the Doctors Gully property. Mawson has also flown a LiDAR survey over the Whroo-White Hills area within a 15km by 4km area.

The diamond drill rig that drilled 15 holes at Redcastle has now commenced a 400m initial program at Doctors Gully which was last drilled by Gold Mines of Kalgoorlie (GMK) in 1988.





Note: Adapted from Mawson Figure.

Gold Tenements and Changes

The Company's tenements as at 31 December 2020, totalling 3,694.6 sq km, are listed in Table 1. EL 5546, Redcastle, is now held 50:50 with Mawson Gold as Mawson has spent over \$500,000 on the Redcastle JV Property.

POTENTIAL BACTERIAL RECOVERY OF GOLD IN HISTORIC 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. In the USA, the use of naturally-occurring bacteria in solution has been shown to get significant recovery of residual gold in cyanide heap leach pads.

During the quarter, the Company established that an Australian laboratory is well equipped to carry out the bacterial speciation and ongoing testwork required. With the assistance of that organisation, Nagambie Resources has now successfully applied for an initial federal grant of \$50,000 for the bacterial testwork program.

PASS PROJECT

The North East Link Project (NELP) tender closed as scheduled in May 2020, with Nagambie asked to provide pricing for "Underwater Storage" PASS Management at the Nagambie Mine. NELP will be the biggest-ever road infrastructure project in Victoria and will require the management of around 5.4 million tonnes of PASS rock plus 1.2 million tonnes of PASS soil which will be excavated 24x7 by large tunnel boring machines.

Normal Victorian Government business has been significantly delayed by Covid-19 but Nagambie Resources considers that the winning tenderer for the construction of NELP will be announced in the March quarter.

	gamble Resources Tenements as at 31 December 2020	
Tenement Number		sq km
MIN 5412	Nagambie Mining Licence	3.6
EL 5430	Bunganail Exploration Licence	160.0
EL 5511	Nagambie Central Exploration Licence	24.0
EL 6158	Rushworth Exploration Licence	46.0
EL 6212	Reedy Lake North Exploration Licence	17.0
EL 6352	Miepoll Exploration Licence	414.0
EL 6421	Pranjip Exploration Licence	94.0
EL 6508	Tabilk Exploration Licence	63.0
EL 6606	Gowangardie Exploration Licence	120.0
EL 6719	Euroa Exploration Licence	81.0
EL 6720	Tatura Exploration Licence	199.0
EL 6731	Arcadia Exploration Licence	386.0
EL 6748	Waranga Exploration Licence	136.0
EL 6937	Nagambie East Exploration Licence	10.0
EL 6877	Nagambie Exploration Licence	8.0
EL 7205	Angustown Exploration Licence	69.0
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	498.0
EL 7212	Shepparton North Exploration Licence	321.0
ELA 7213	Pederick Exploration Licence Application	683.0
ELA 7237	Kirwans North (1) Exploration Licence Application	20.0
ELA 7238	Kirwans North (2) Exploration Licence Application	9.0
ELA 7264	Resource Recovery Exploration Licence Application	1.0
ELA 7265	Nagambie Town Exploration Licence Application	8.0
RL 2019	Doctors Gully Retention Licence	4.0
	Total Waranga Domain	3,619.6
EL 5546	Redcastle Exploration Licence	51.0
ELA 7498	Cornella Exploration Licence Application	19.0
ELA 7499	Sheoak Exploration Licence Application	5.0
	Total	3,694.6

Table 1 Nagambie Resources Tenements as at 31 December 2020

CORPORATE

Cash

At 31 December 2020, total cash held by the group was \$644,000.

Mawson Gold Limited Shares (TSX: MAW)

At 30 September 2020, Nagambie held 9.0 million MAW shares which had a total market value of \$3,677,000.

During the December quarter, Nagambie sold 1.2 million MAW shares, raising net proceeds of \$534,000. At 31 December 2020, the remaining 7.8 million MAW shares had a market value of \$3,104,000.

Under the agreements with Mawson, Nagambie could sell up to 3.05 million MAW shares during the March 2021 quarter which, as at 31 December 2020, had a market value of \$1,214,000.

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.