

# ASX ANNOUNCEMENT

## **27 FEBRUARY 2020**

# 3,600 SQ KM OF FOSTERVILLE-STYLE GOLD TENEMENTS

Nagambie Resources (ASX: NAG) has applied for 10 additional exploration licences (ELs) in the Waranga Domain during February 2020. The total area of the Company's tenements in the domain is now 3,684 sq km (refer Figure 1 and Table 1).

The holding is the largest contiguous group of tenements in Victoria that is prospective for Fosterville-style gold mineralisation (refer Figure 2).

# **Key Waranga Domain Structures**

The gravity structures in Figure 1 are presumed to represent deep crustal faults and predominately strike north-west to south east. The magnetic structures in Figure 1 have been shown to represent the principal nearer-surface thrust faults, predominantly east-west striking. Each principal thrust fault will usually have one or more secondary, adjacent thrust faults. The principal thrust faults shown in the Wandean – Nagambie Mine area were determined from aeromagnetic surveys. Several of these have been confirmed by mapping in road cuttings, as have some shown outside of that area. Nagambie Resources plans to ultimately conduct aeromagnetic surveys over all its Waranga Domain tenements and expects that the density of thrust faults in the Wandean – Nagambie Mine area will be generally replicated elsewhere in its 3,600 sq km of tenements.

The number of crustal fault – thrust fault intersections in the 3,600 sq km of tenements is expected to be a very large number, some of which are expected to be mineralised according to Nagambie Resources' Mineralisation Model for the Waranga Domain.

However, the chances of the mineralised intersections outcropping at the current-day surface is extremely low given that the great majority of the tenements are covered by Murray Basin sediments varying in thickness from a few metres to over 150 metres. Additionally, the mineralised intersections will predominately only occur in brittle sandstone-rich rocks which alternate irregularly with more-ductile, less-fractured siltstone-rich rocks.

For the above reasons, there are, unsurprisingly, limited known surface oxide-gold occurrences in Nagambie Resources' tenements - shown in yellow (ELs) and brown (EL applications) in Figure 1. Three key occurrences all fit the Company's crustal fault – thrust fault intersection gold model; the Nagambie Mine, Wandean and Tubbs Road.

The Nagambie Mine East Pit was mined between 1989 and 1992. Wandean was a virgin gold discovery by Nagambie Resources in 2014. Tubbs Road would have been worked in the late 1800s but has never been drilled or tested by geophysics. In all three cases, Nagambie Resources considers that gold-iron-arsenic-antimony-enriched hydrothermal fluids rose up and along deep north-west-striking crustal faults. The mineralising fluids then came into contact with nearer-surface east-west-striking thrust faults and dissipated into localised fractures to form disseminated gold deposits when the temperature and pressure conditions were conducive to precipitation.

# **Gold Potential of the Waranga Domain**

The Waranga Domain is the most northern part of the Melbourne Zone (refer Figure 3). In February 2010, Earth Resources Victoria released "Gold Undercover Report 17: Assessment of Undiscovered Orogenic Gold

#### NAGAMBIE RESOURCES

Exploration for Fostervillestyle, structural-controlled, high grade sulphide-gold underground deposits within 2,000 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 major infrastructure projects for Melbourne such as Metro Rail, West Gate Tunnel and 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 planned.

The first landfill site is planned to take advantage of the 17 Ha of engineered black plastic under the mine tailings pad.

<u>SHARES ON ISSUE</u> 449,932,346

## ASX CODE: NAG

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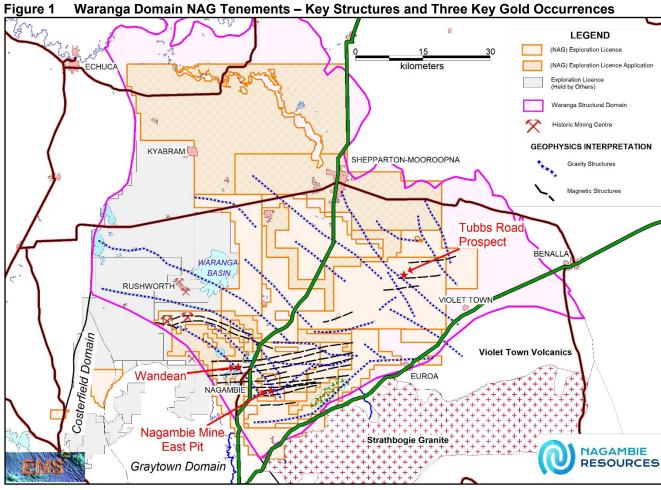
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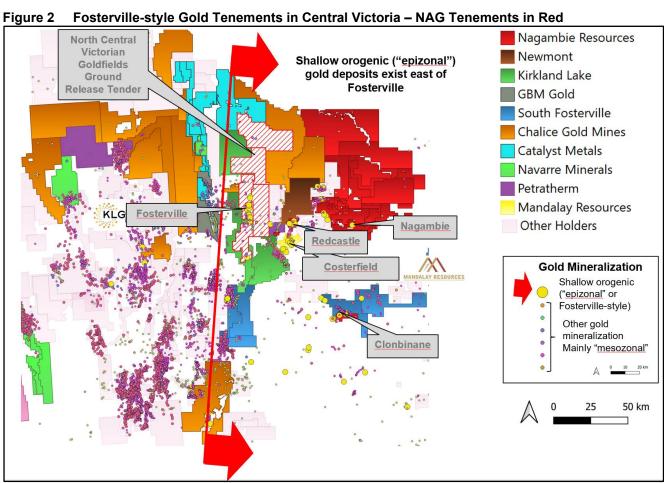
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#### Board

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James Earle CEO





# 3,600 Sq Km of Fosterville-style Gold Tenements – 27 February 2020

Endowment Under Cover in the Northern Part of the Melbourne Zone (Victoria)" ("GU17"). The link to GU17 is:

# http://earthresources.efirst.com.au/categories.asp?cID=42&c=191845

A comparison of Figure 1 with Figure 3 shows that Nagambie Resources' 3,600 sq km of tenements in the Waranga Domain constitutes the great majority of the undercover zone considered in GU17 to be capable of hosting shallow orogenic (epizonal) or Fosterville-style gold deposits.

The GU17 assessment was based on protocols developed and used extensively by the US Geological Survey. The probabilistic approach assumes that undiscovered mineral potential can be quantified using statistical grade, tonnage and spatial distributions of known deposits of the same type.

A grade and tonnage model was constructed for 10 known significant epizonal ore fields in the Melbourne and Bendigo Zones. From the largest original in-situ gold endowment to the smallest, they were Fosterville, Costerfield, Nagambie, Rushworth, Diamond Creek, Reedy Creek, Whroo, Heathcote, Bailieston and Warrandyte. At the time the GU17 model was constructed, the largest deposit, Fosterville, was taken to have an original insitu gold endowment of 65 tonnes or 2.09 million ounces of gold.

# Summary of Conclusions of Gold Undercover Report 17 (February 2010)

- Estimated to host 8 significant undiscovered epizonal and gold-antimony ore fields, with a likely range of 3 to 20 ore fields.
- One undiscovered ore field may contain more than 31 tonnes (1.0 million ounces) of gold.
- Mean expected total undiscovered gold endowment of 90 tonnes (3.0 million ounces) of gold. This compares with total past production of less than 20 tonnes (0.6 million ounces) of gold from known epizonal gold deposits in the Melbourne Zone.
- Further refinement of the grade and tonnage model, especially for the largest ore fields, and research into the controls on mineralisation under cover are needed.

# Nagambie Resources' Comments on the 2010 Undercover Gold Report

With the passage of time, the grade and tonnage model used in the February 2010 estimate is out of date. In the last 10 years, there has been no gold production or other increases in gold endowment for the eight smallest epizonal ore fields considered in the model but the two largest ore fields considered, Fosterville and Costerfield, have dramatically increased in size.

In particular, the 2010 study concluded that one of the undiscovered ore fields may contain more than 1.0 million ounces of gold - approximately half the endowment of 2.09 million ounces for the largest epizonal ore field considered in the model at the time, Fosterville. Fosterville's original in-situ gold endowment in 2020 now exceeds 10.0 million ounces of gold.

Nagambie Resources in the last decade has carried out the first significant research into the controls on mineralisation under Murray Basin sediments cover in the Melbourne Zone. Based on the Company's resultant Mineralisation Model for the Waranga Domain, Nagambie Resources considers that the total undiscovered, undercover gold endowment in the Melbourne Zone could greatly exceed the 3.0 million ounces estimated by Earth Resources Victoria in 2010.

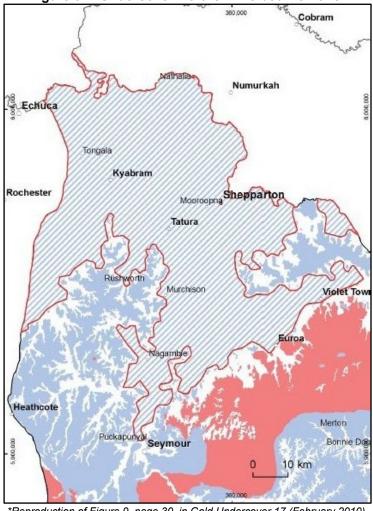
James Earle

Chief Executive Officer

Nagambie Resources' Tenements in the Waranga Domain Table 1

Tenement Number	Tenement Name	sq km
MIN 5412	Nagambie Mining Licence	3.6
EL 5430	Bunganail Exploration Licence	160.0
EL 5511	Nagambie 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	132.0
EL 6720	Tatura Exploration Licence	199.0
EL 6731	Arcadia Exploration Licence	386.0
EL 6748	Waranga Exploration Licence	136.0
ELA 6877	Nagambie Exploration Licence Application	8.0
EL 6937	Nagambie East Exploration Licence	10.0
ELA 7205	Augustown Exploration Licence Application	79.0
ELA 7207	Arcadia Exploration Licence Application	157.0
ELA 7208	Cullens Road Exploration Licence Application	29.0
ELA 7209	Goulburn West Exploration Licence Application	40.0
ELA 7210	Locksley Exploration Licence Application	26.0
ELA 7211	Shepparton Exploration Licence Application	500.0
ELA 7212	Shepparton North Exploration Licence Application	324.0
ELA 7213	Pederick Exploration Licence Application	683.0
ELA 7237	Kirwans North (1)	20.0
ELA 7238	Kirwans North (2)	9.0
RL 2019	Doctors Gully Retention Licence	4.0
Total Waranga Domain		3,683.6





<sup>\*</sup>Reproduction of Figure 9, page 30, in Gold Undercover 17 (February 2010)

### STATEMENT AS TO COMPETENCY

The Exploration Results in this report have been compiled by Mr Geoff Turner. Geoff Turner is a Fellow of the Australian Institute of Geoscientists. Geoff Turner 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 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 Resources assumes no obligation to update such information.