

AUSTRALIA MINERALS

REALISE THE OPPORTUNITY

VICTORIA – World-class gold opportunities

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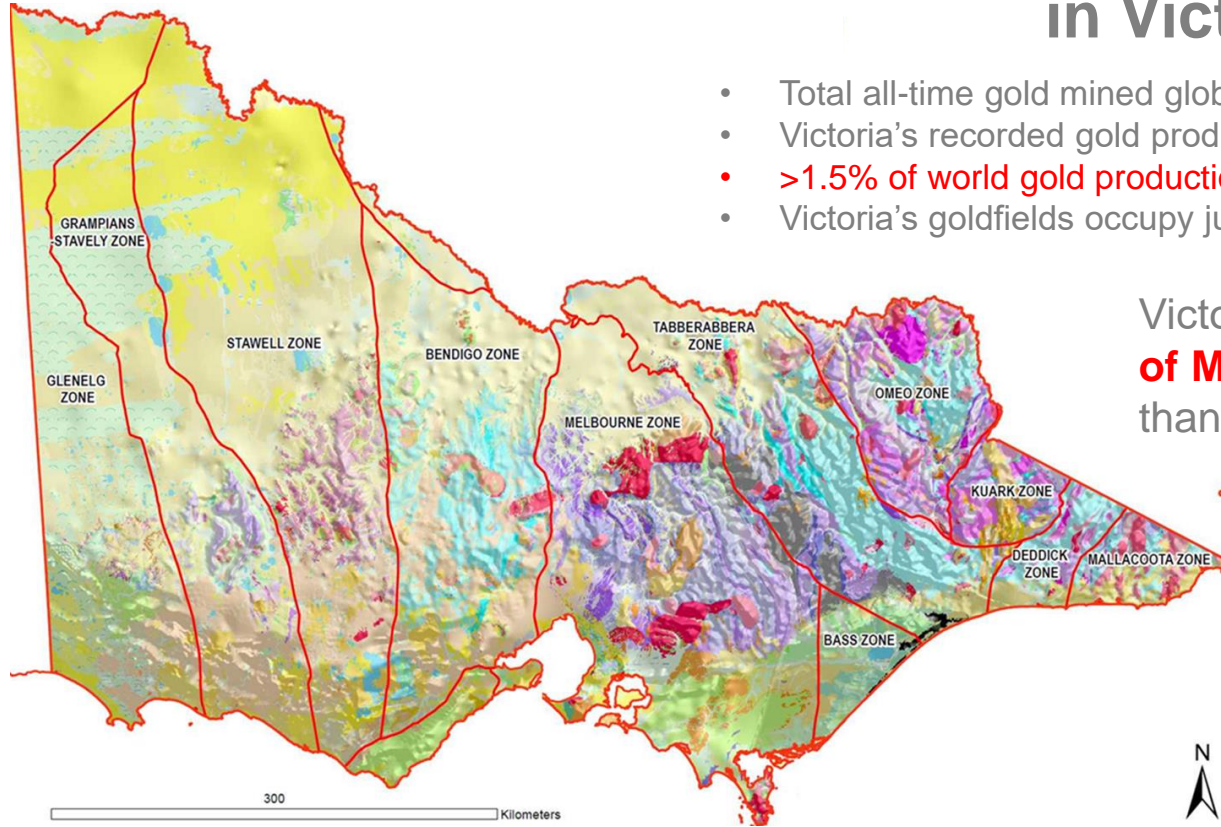
Manager Minerals Geoscience
Geological Survey of Victoria

earthresources.vic.gov.au/



Elephants and Headframes – Why explore for gold in Victoria?

- Total all-time gold mined globally: ~165,000 tonnes*
- Victoria's recorded gold production (since 1851): ≥2,500 tonnes
- **>1.5% of world gold production, from only 0.15% of global land area**
- Victoria's goldfields occupy just 0.03% of global land area



Victoria's goldfield geology: **2 Orders of Magnitude (100x)** richer in gold than the global average



*numbersleuth.org

The prize – Fosterville: 8.7Moz and growing

Production 2018

356,230oz @ 24.9g/t Au

Recovery: 97.3%

Operating: \$200/oz

AISC: \$442/oz

Current reserves (February 2019)

2.7Moz @ 31.0g/t Au

+60% on 2018

Swan Zone: 2.34Moz @ 49.6g/t Au

Guidance

2019: 550,000-610,000k (\$170-\$190/oz)

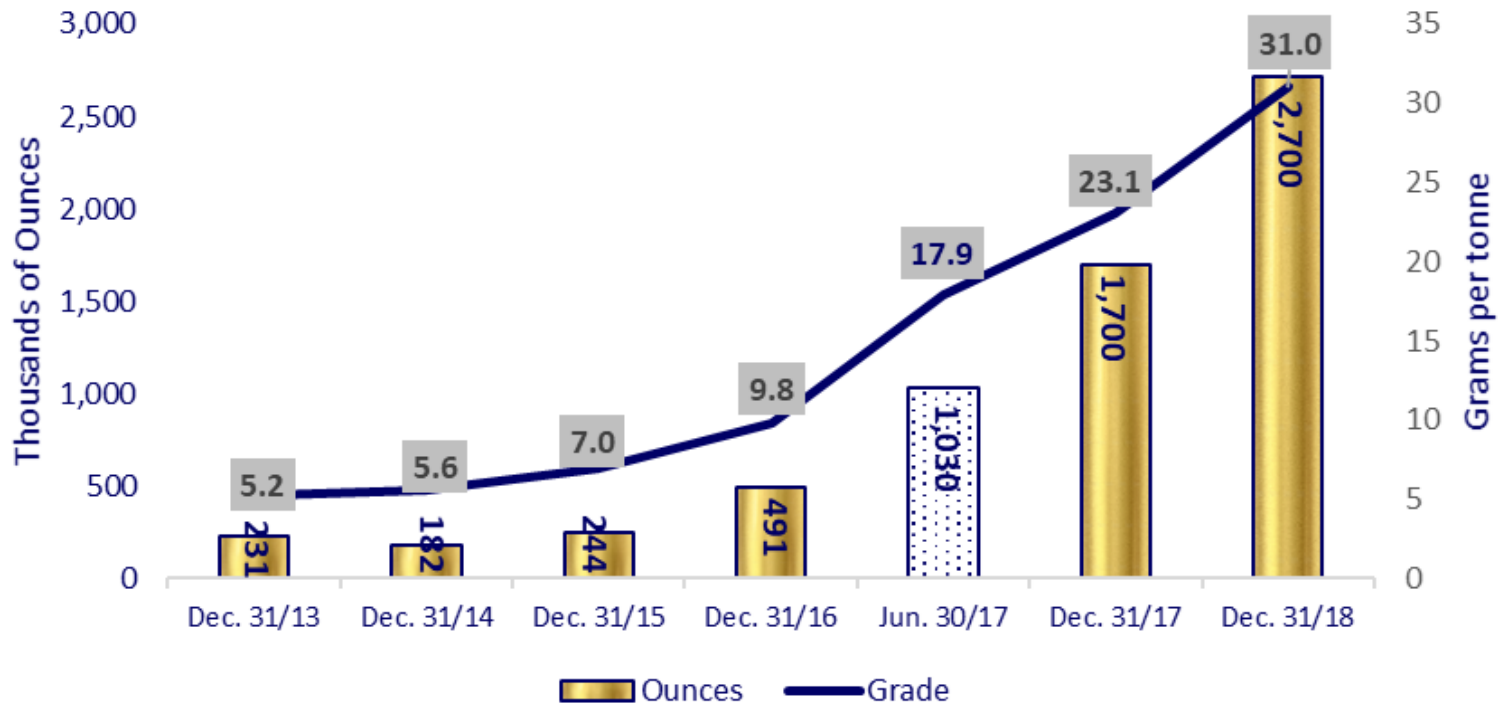
2020: 550,000-610,000k

2021: 570,000-610,000k



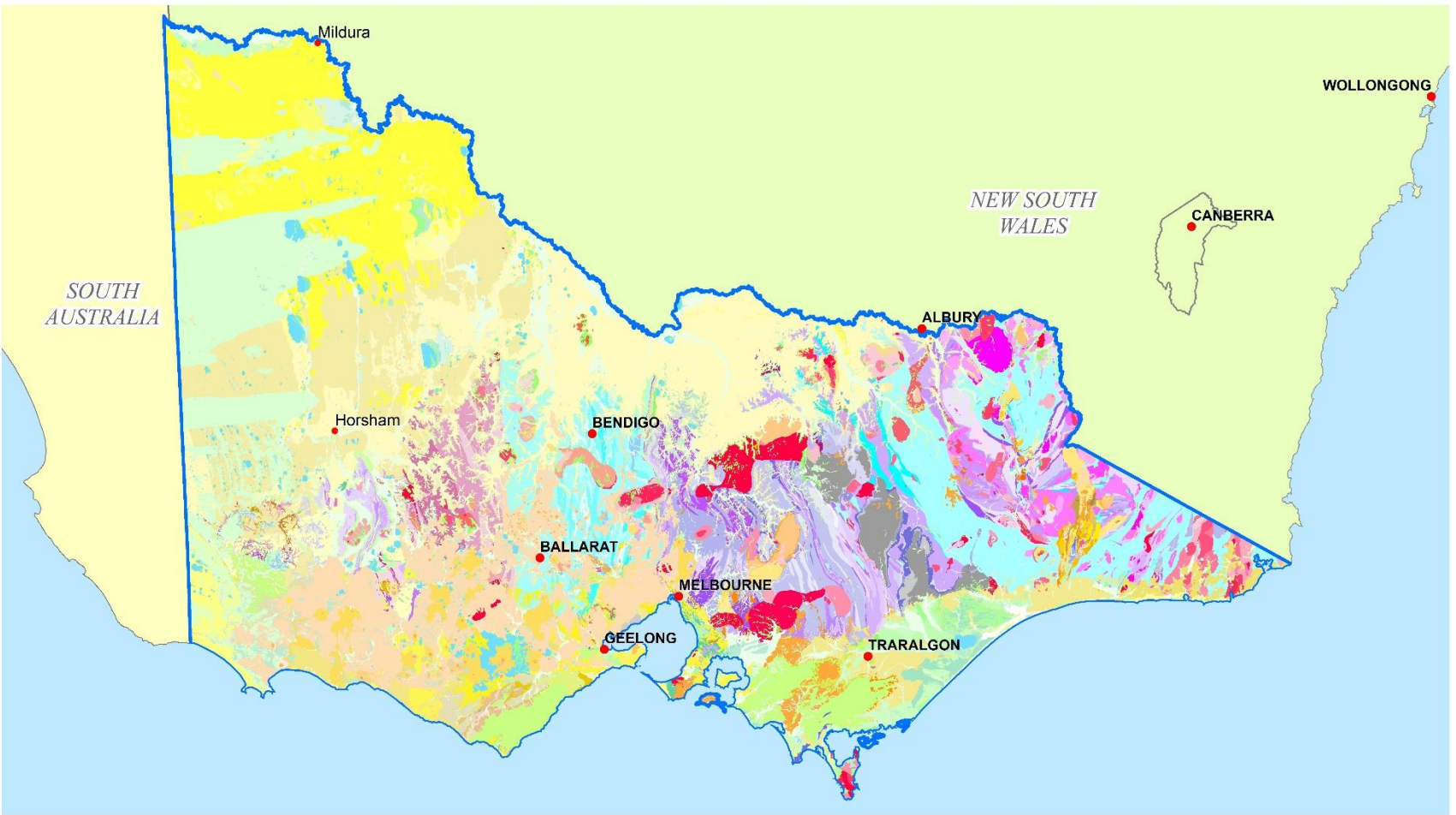
Fosterville: Lower Phoenix Fault - Eagle ore body, drill hole UDH1501: 12.5m @ 500.7 g/t Au (4.5m ETW)

Fosterville Mineral Reserves

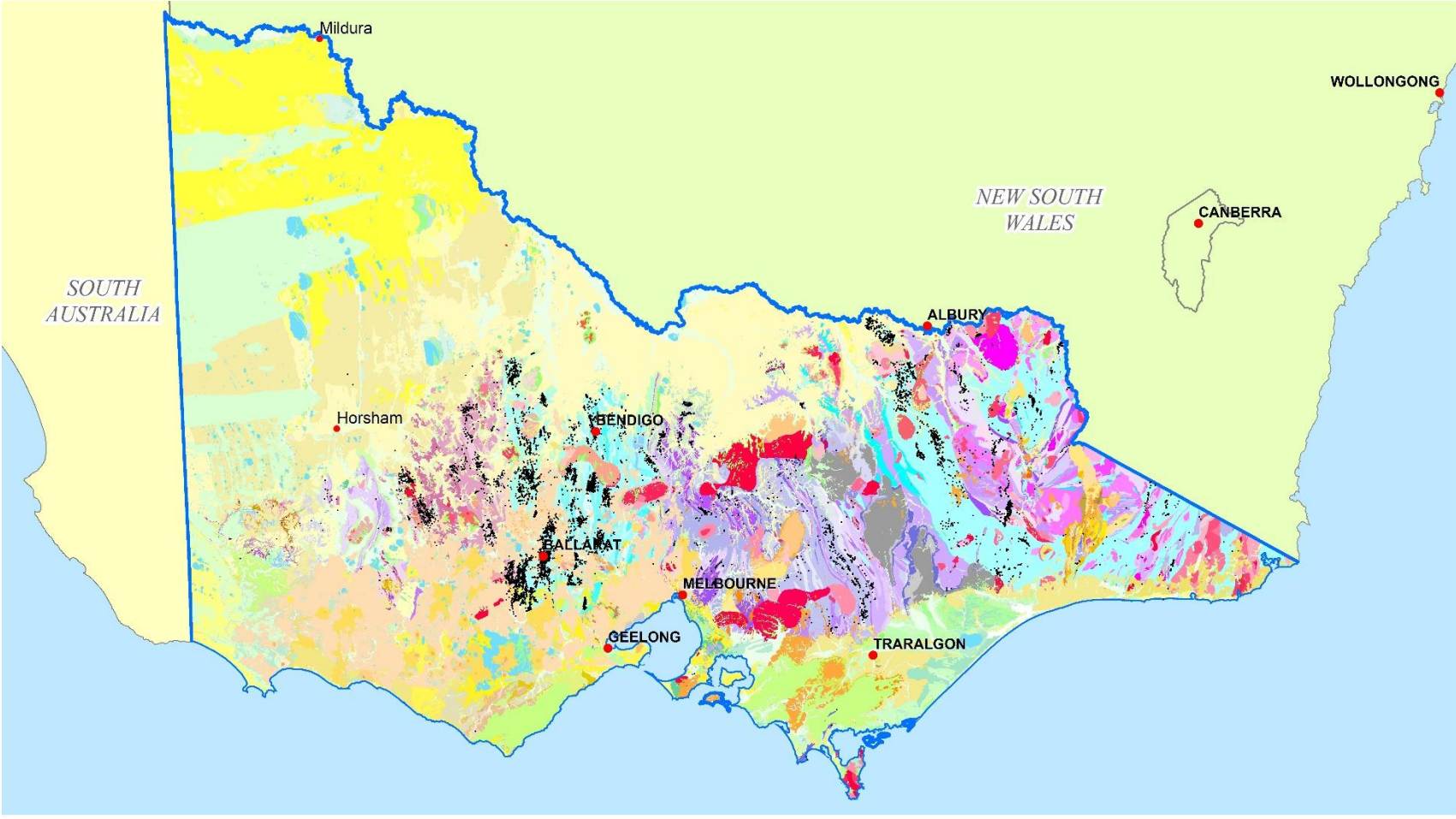


[Kirkland Lake Gold 21/02/19](#)

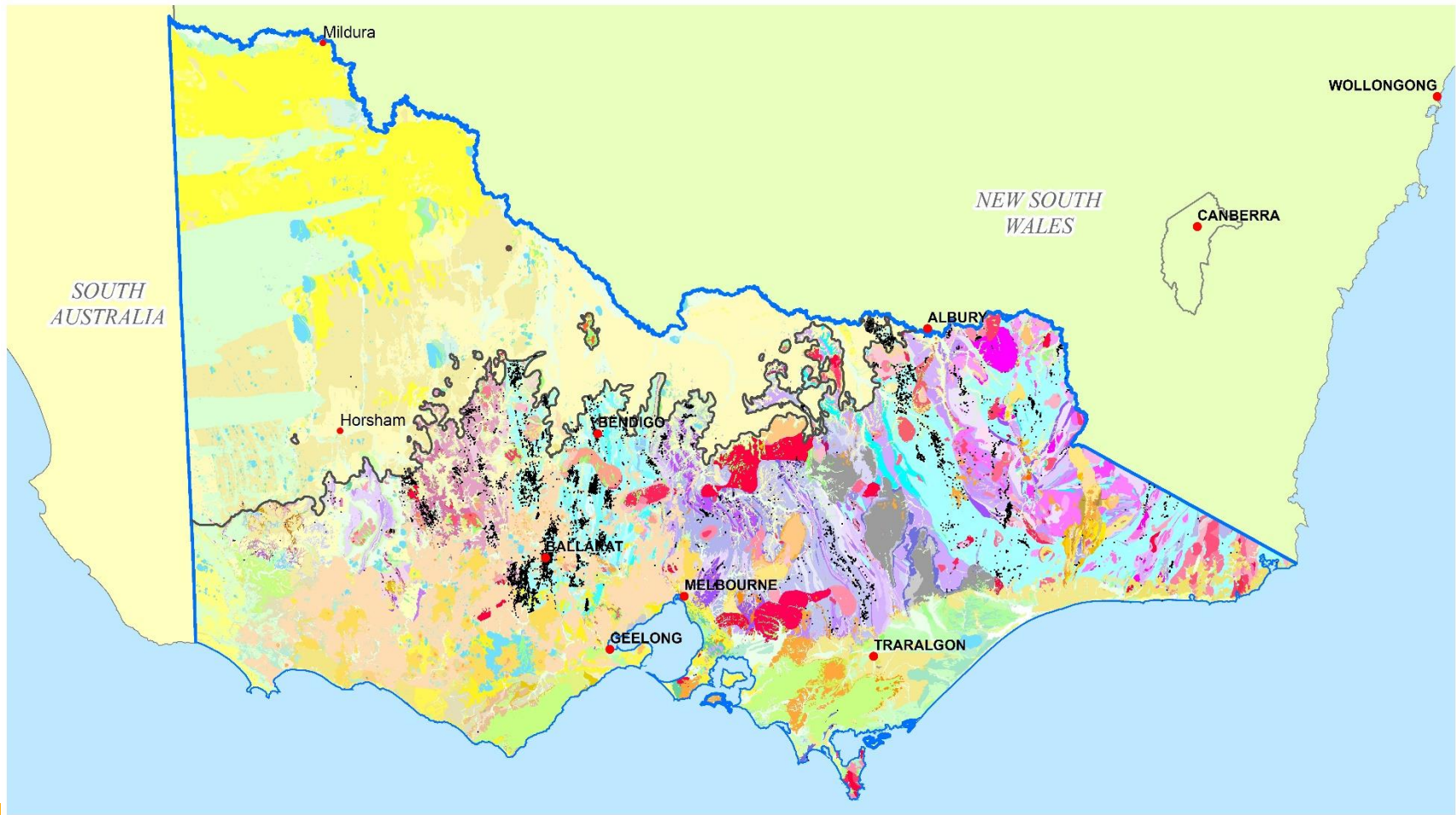
Victoria – Seamless geology



Victoria - gold occurrences

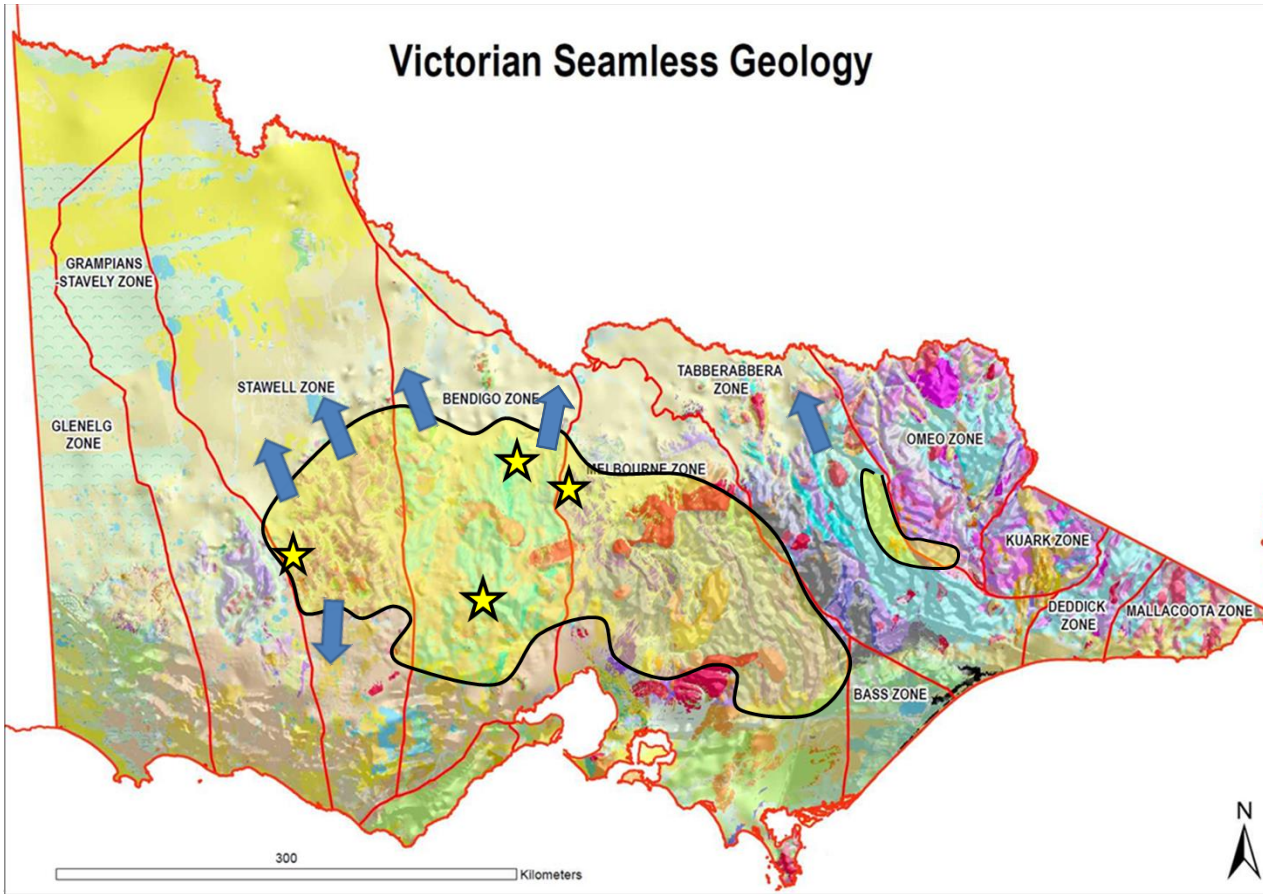


Victorian gold occurrences



Victorian gold occurrences

Victorian Seamless Geology



Nearly 50% of the surface area of known goldfield geology extends under (shallow) cover – geophysics demonstrates the connectivity.

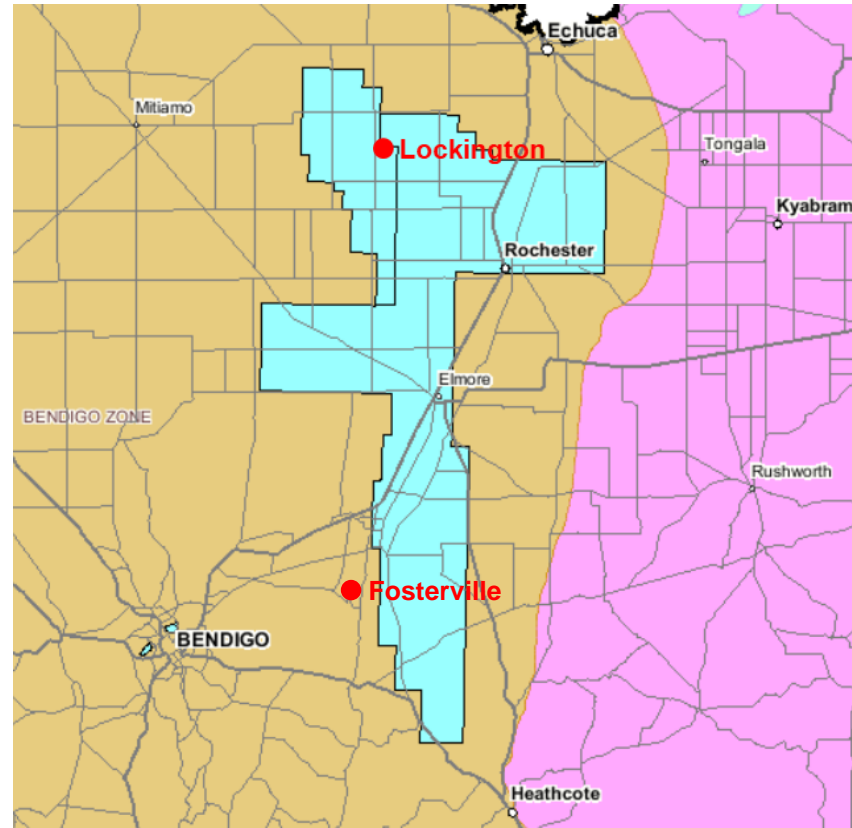
~1500+ tonnes Au yet-to-find – but predictive capacity has to grow

Recent success at Fosterville, Costerfield, Morning Star and Ararat demonstrate that brownfields can deliver.

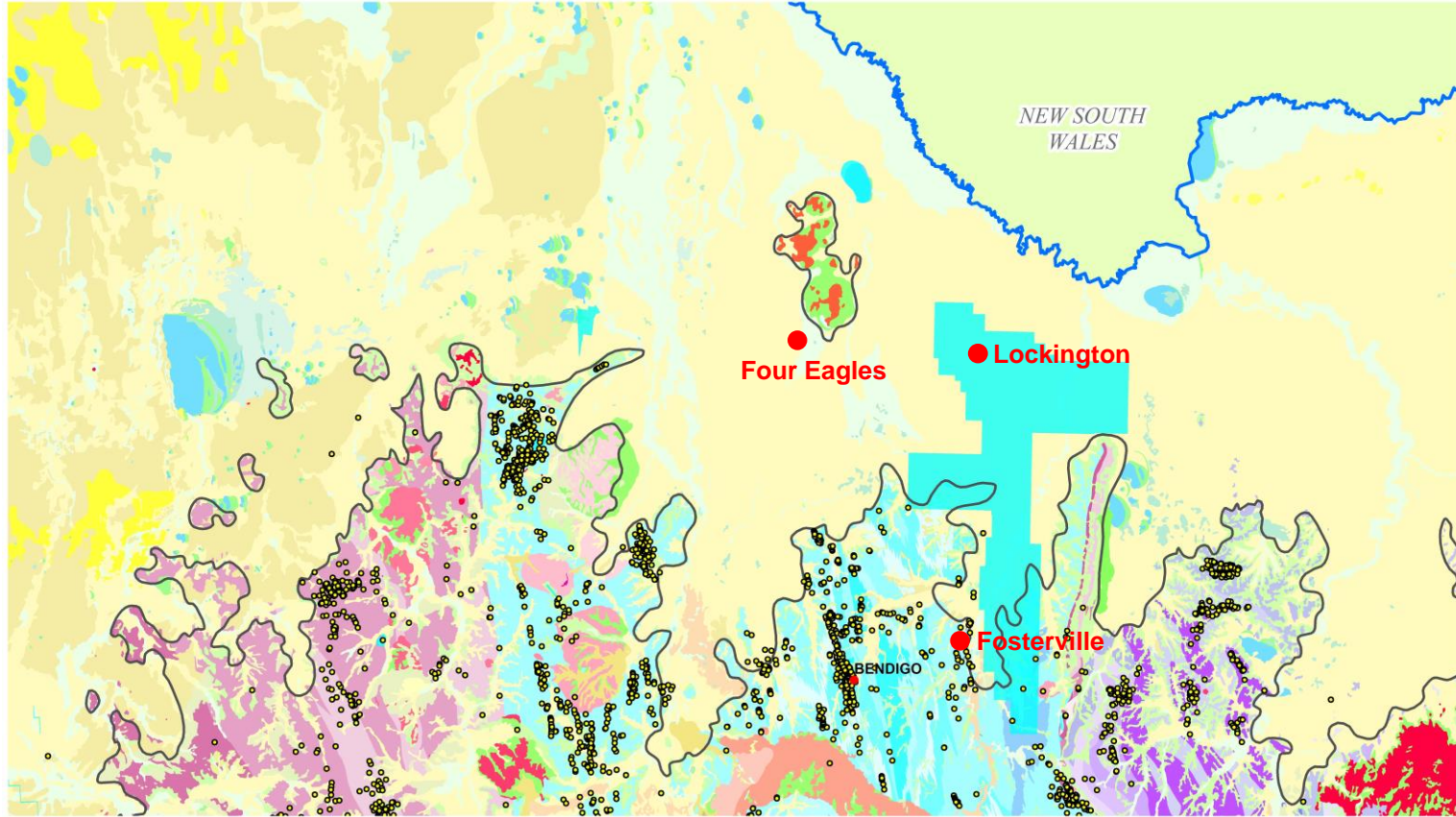
The opportunity – Lockington

- North Bendigo Zone (1,128 km²)
- Ordovician (turbidite) host-rocks
- Demonstrated vein-hosted orogenic gold (py-asp) under cover (40-100m)
 - 10km x 5km footprint
 - Surface geochemistry, gravity, drilling
- Fosterville to immediate west
 - Multiple coincident regional structural features
- Low population density, regional/rural setting
- Very active exploration environment

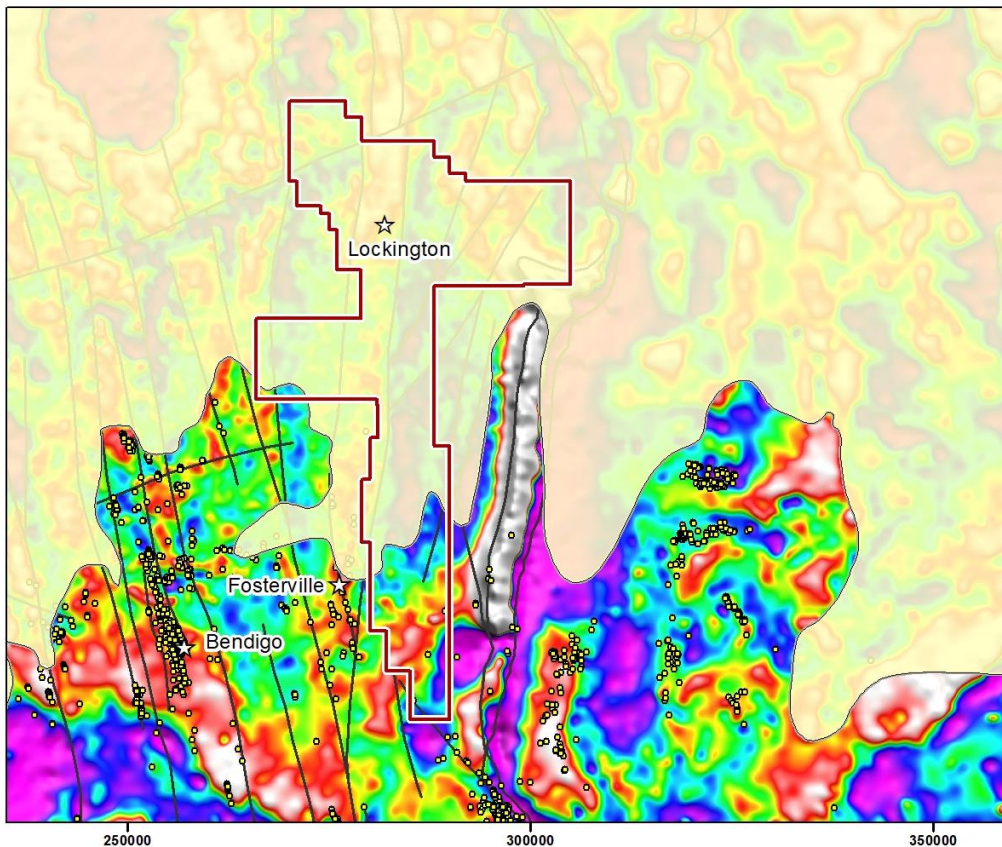
Ground release planned for 2019



Lockington – geology and gold



Lockington – Regional (ground) gravity



Successful regional aircore drilling program to investigate Au and As in soil profile (of overlying basin)

04LOKC001: 15m @ 0.53g/t Au, 203ppm As from 75m (first hole)

04LOKC010: 15m @ 1.27g/t Au, 290ppm As from 96m

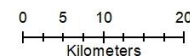
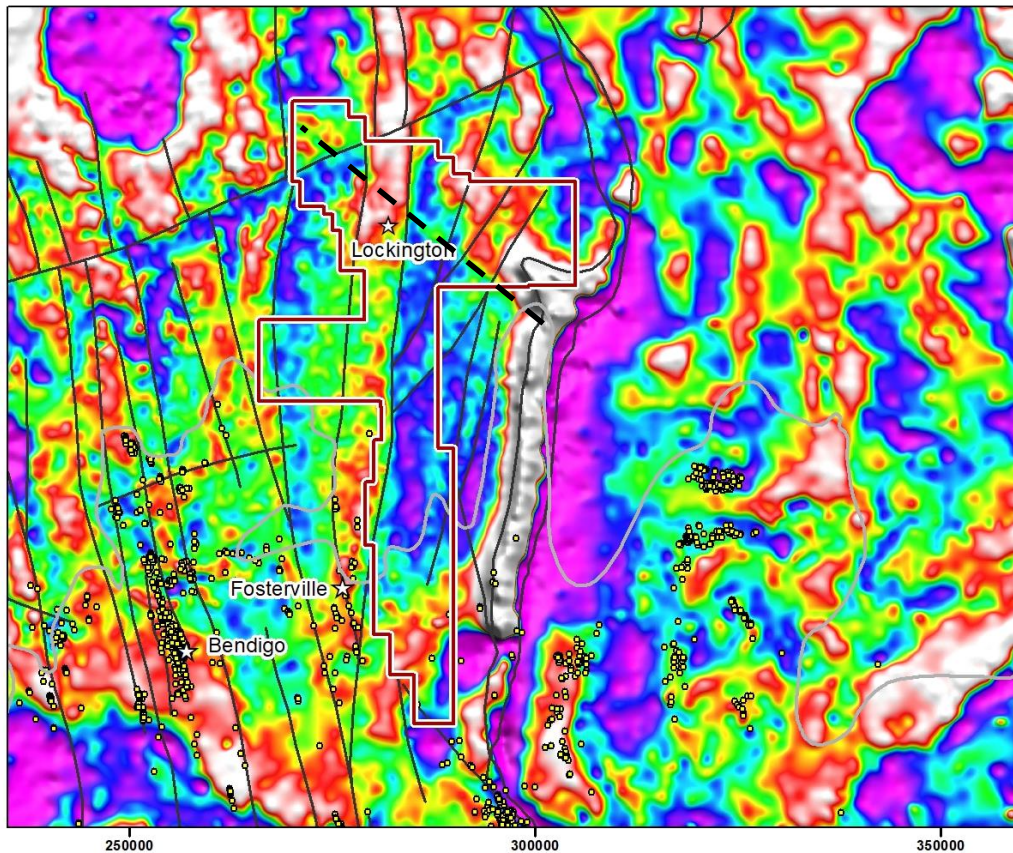


Image: Band pass filtered gravity

Lockington – Regional (ground) gravity



05LODH001

7.7m @ 4.24g/t Au from 166m

05LODH004

1.8m @ 12.40g/t Au from 154.6m

1.6m @ 19.49g/t Au from 224.5m

12m @ 2.47g/t Au from 270m

05LODH005

4.1m @ 6.28g/t Au from 230.8m

06LODH012

0.6m @ 10.40g/t Au from 289.6m

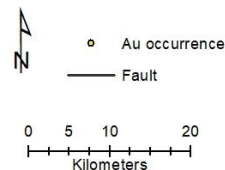
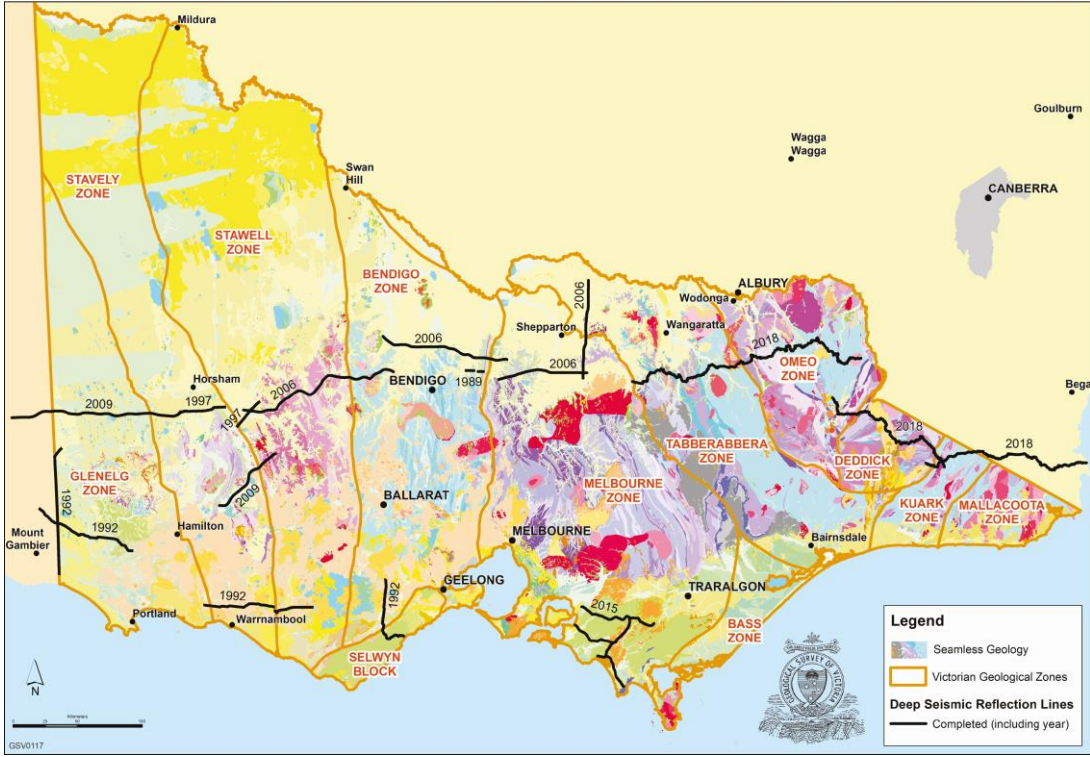


Image: Band pass filtered gravity

Select diamond drill hole results, down hole interval, no cut off supplied

Deep seismic reflection



Australian Journal of Earth Sciences (2011) 50, (113-156)

Crustal architecture of central Victoria: results from the 2006 deep crustal reflection seismic survey

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A ~400 km long deep crustal reflection seismic survey was acquired in central Victoria, Australia, in 2006. It has provided information on crustal architecture across the western Lachlan Orogen and has greatly added to the understanding of the tectonic evolution. The east-dipping Moyston Fault is

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Crustal-Scale Fluid Pathways and Source Rocks in the Victorian Gold Province, Australia: Insights from Deep Seismic Reflection Profiles

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Abstract

Deep seismic reflection data collected across the western Lachlan orogen of southeast Australia have provided important insights into crustal-scale fluid pathways and possible source rocks in one of the richest orogenic gold provinces in the world. The profiles span three of the most productive structural zones in Victoria: the Stawell, Bendigo, and Melbourne zones. zone-scale variations in the age and style of gold deposits correspond with differences in crustal structure and composition. The bilateral distribution of gold production in the

Gold Undercover

- Multi-disciplinary modern applied geoscience
- [24 reports](#), new (free) data, two seminal papers
- Potentially 70Moz yet to find

Pre-competitive data and knowledge

- free maps, reports, data - stats?

(Seamless) Geology

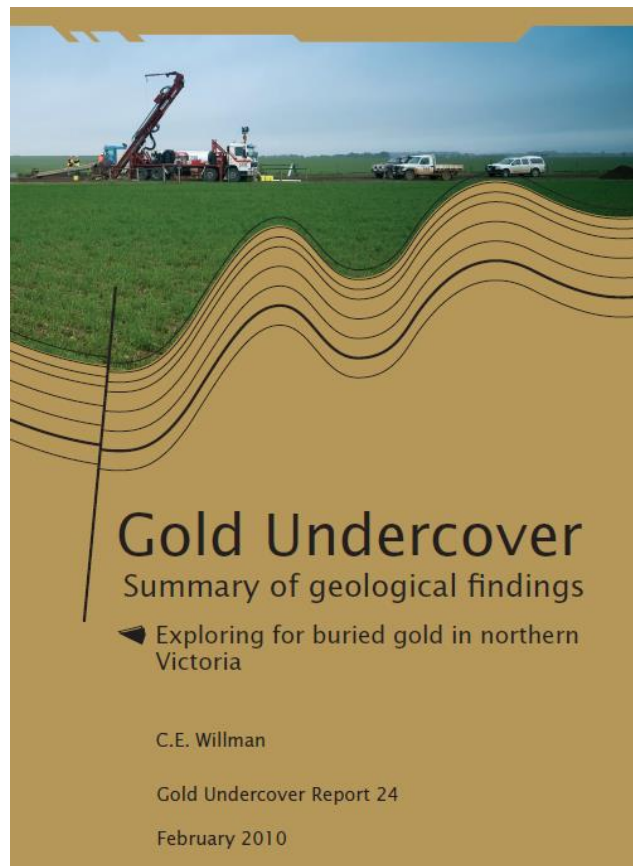
- 1:250k and 1:50k
- 3D 1:250k full-crust model

Modern state-wide geophysics

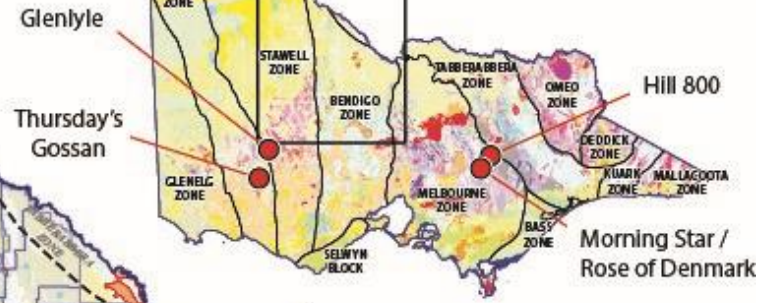
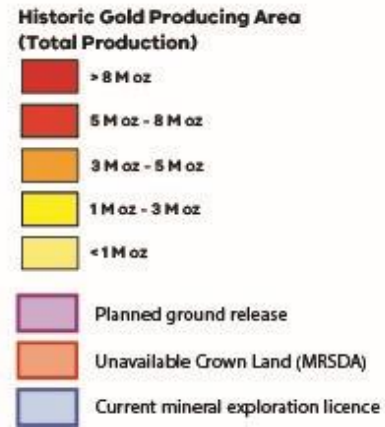
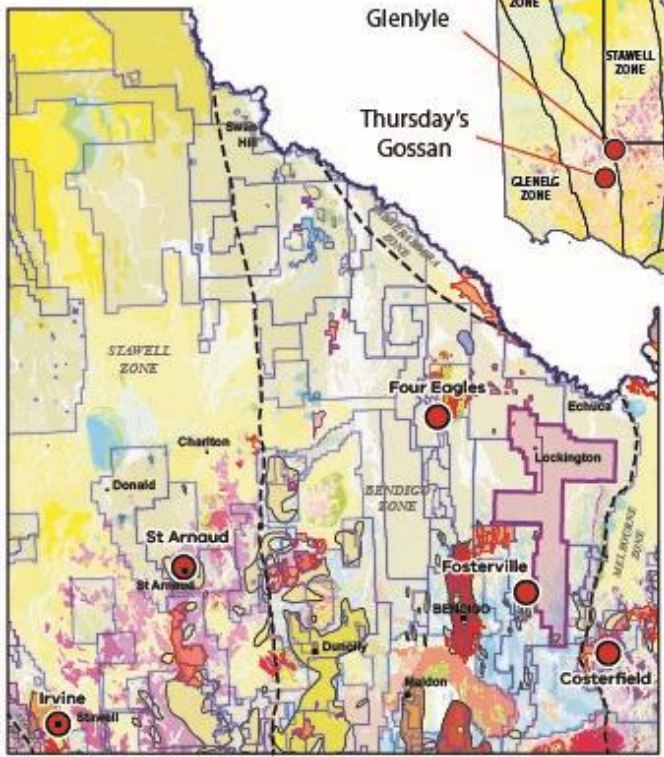
- Magnetics: 200-400m line spacing
- Ground gravity: 1.5 km nominal spacing
- Deep seismic reflection

Extensive Drill Core Library

- 1.5 million metres drill core/cuttings (~A\$2.3B)



Great drilling results 2018



Company **Intersection** **Production / Prospect**

MELBOURNE ZONE		
Mandalay Resources	0.58m @ 272.1 g/t Au & 13.3% Sb (ETW) 0.16m @ 551 g/t Au & 25.6% Sb (ETW) 1.4m @ 152 g/t Au & 18.1% Sb (ETW) 0.66m @ 338.8 g/t Au & 14.4% Sb (ETW)	Costerfield (Youle)
Carrowine Resources	92.7m @ 3.22 g/t Au 50.1m @ 3.1 g/t Au 37m @ 4.91 g/t Au & 0.4% Cu	Hill 800
Centennial Mining	24.8m @ 11.44 g/t Au 33.8m @ 7.74 g/t Au	A1 (1360 Area)
AuStar Gold Limited	1.3m @ 45.4g/t Au 0.5m @ 162.82 g/t Au 5.3m @ 28.2 g/t Au 0.78m @ 150.68 g/t Au 0.55m @ 734.31 g/t Au 9.75m @ 66.82 g/t Au incl 0.2m @ 876.12 g/t Au 1.8m @ 46 g/t Au	Rose of Denmark Morning Star (McNally's) Morning Star (Maxwells)

BENDIGO ZONE		
Kirkland Lake Gold	11.9m @ 134 g/t Au, incl 0.3m @ 3,441 g/t Au (ETW) 3.6m @ 167 g/t Au, incl 0.3m @ 1,776 g/t Au (ETW) 7.45m @ 289 g/t Au (6m ETW), incl 0.75m @ 2,857 g/t Au (0.6m ETW) 4m @ 353 g/t Au (3.4m ETW), incl 0.35m @ 3,740 g/t Au (0.3m ETW)	Fosterville (Swan)
Catalyst Metals	16m @ 63 g/t Au 14m @ 10.1 g/t Au 5m @ 36.2 g/t Au 16m @ 8.2 g/t Au	Four Eagles (Boyd's Dam)

STAWELL ZONE		
Navarre Minerals	10.6m @ 6.2 g/t Au 10.8m @ 3.8 g/t Au 4m @ 6.6 g/t Au 4m @ 5.5 g/t Au	Irvine (Resolution) St Arnaud

STAVELY ZONE		
Stavelly Minerals	92m @ 0.34% Cu & 0.12 g/t Au, 4.4 g/t Ag 283m @ 0.16% Cu 194m @ 0.16% Cu 73m @ 0.32% Cu, 0.13 g/t Au 63m @ 0.84% Cu & 0.11 g/t Au incl 6m @ 6.73% Cu, 0.84 g/t Au, 15 g/t Ag	Thursday's Gossan
Navarre Minerals	46m @ 8.1 g/t Ag 33m @ 2.1 g/t Ag	Glenlyle

Selected publicly reported mineralised intersections 2018, as of late January 2019. All intersections are downhole, unless Estimated True Width (ETW) is stated.

Thank you

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