

AUSTRALIA MINERALS

REALISE THE OPPORTUNITY

Victoria: an emerging critical minerals opportunity

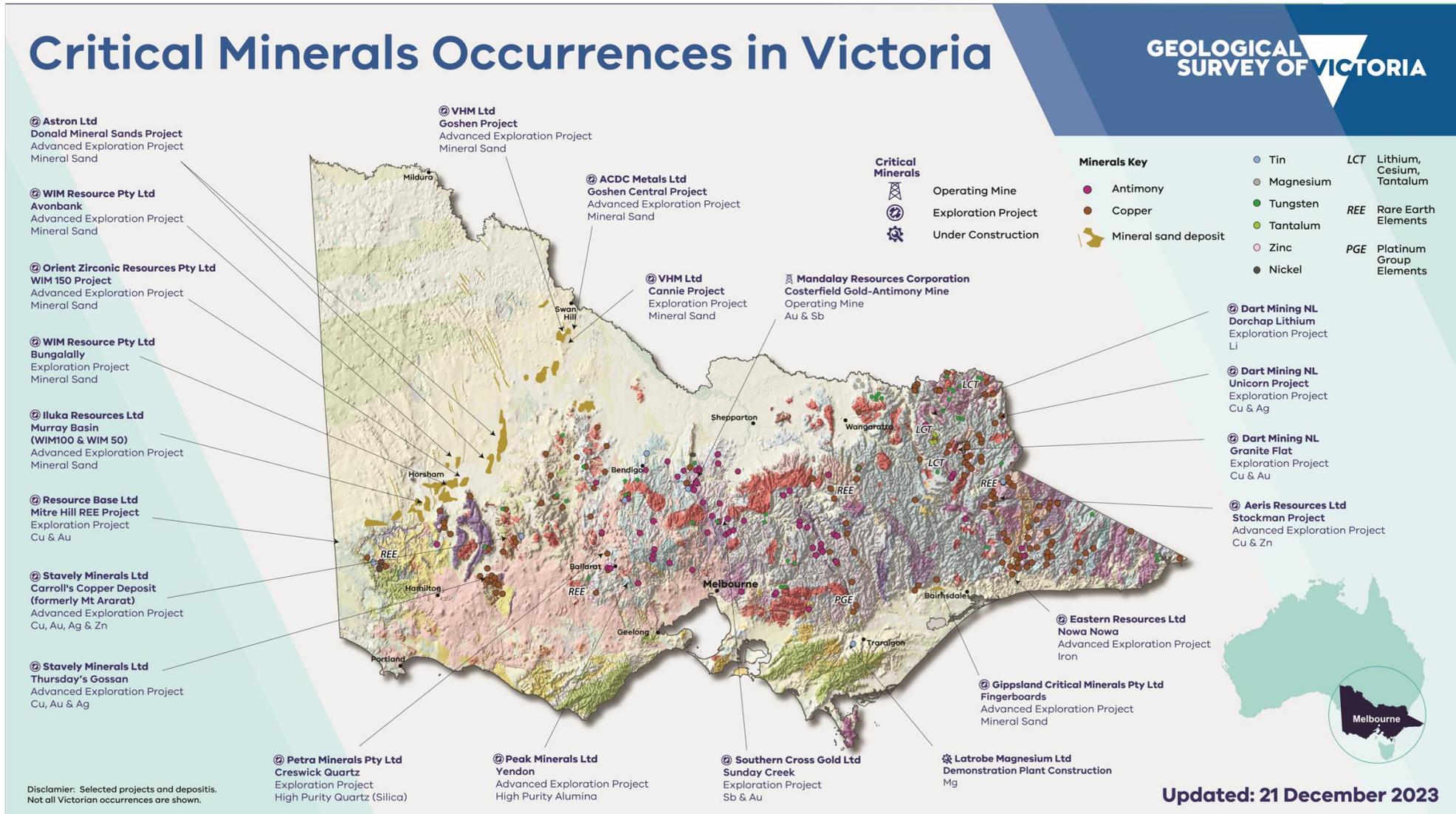
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PDAC - Victorian Critical Minerals | 5 March 2024 | #AustraliaMinerals

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Victorian critical minerals: Australia's best kept secret?



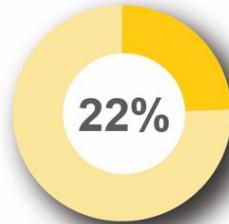
Australia's next global mining province

The Murray Basin mineral sands province in Northwest Victoria is home to the critical minerals required for electrification and decarbonisation.

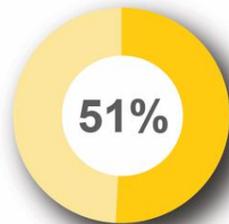
There are two different types of heavy mineral sands deposits:

- WIM style
- Strandline

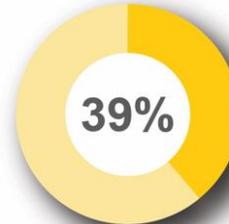
Victoria's share of Australian mineral sands



Ilmenite

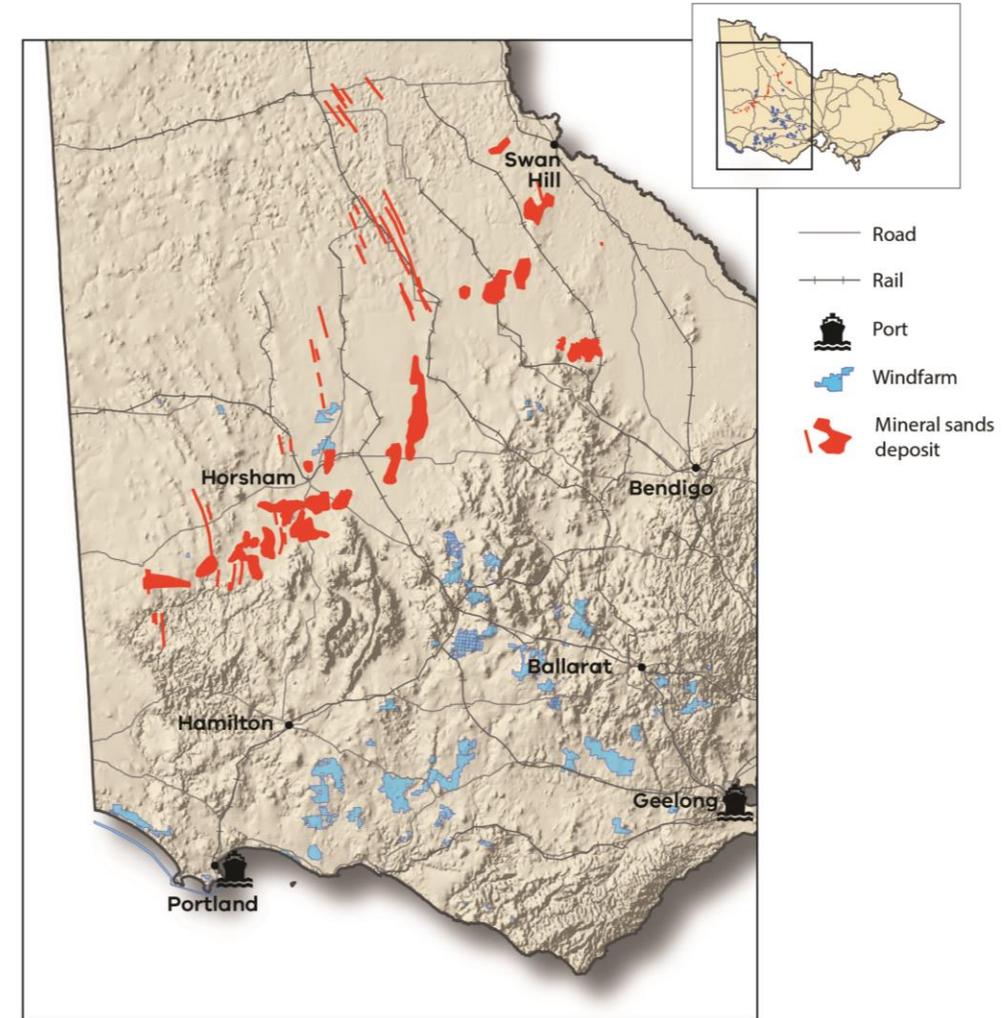


Rutile



Zircon

Heavy Mineral Sands Critical Mineral	Application
Titanium (contained in ilmenite and rutile)	Advanced healthcare (implants), aerospace, solar panel frames, paints
Zirconium (contained in zircon)	Hydrogen production, ceramics, water, air purification
Rare Earth Elements (contained in monazite and xenotime)	Wind turbines, electric vehicles, advanced healthcare, aircraft, submarines, satellites



Advanced mineral sands projects

Currently there are 5 projects ranging from advanced exploration to development stages (Astron, Iluka, VHM, WIM Resources, ACDC Metals).

- Known reserves and resources with plenty of upside
- Multi-decade mine life
- Access to renewable energy
- Access to ports via rail
- Access to residential workforce



From the [Australian Critical Minerals Prospectus](#):

Astron Corporation Donald Mineral Sands Project	VHM Limited Goschen Project	WIM Resource Avonbank
<p>2,634 Mt Mineral Resource 121,164 Kt of total heavy minerals Feasibility Study published in 2021 Environmental Effects Statement completed Mining Licence granted Mining Work Plan under assessment</p>	<p>629 Mt Mineral Resource 18,329 Kt of total heavy minerals Definitive Feasibility Study published in 2023 Currently in Environmental Effects Statement process</p>	<p>490 Mt Mineral Resource 19,600 Kt of total heavy minerals Feasibility Study published 2021 Environmental Effects Statement completed in 2023</p>

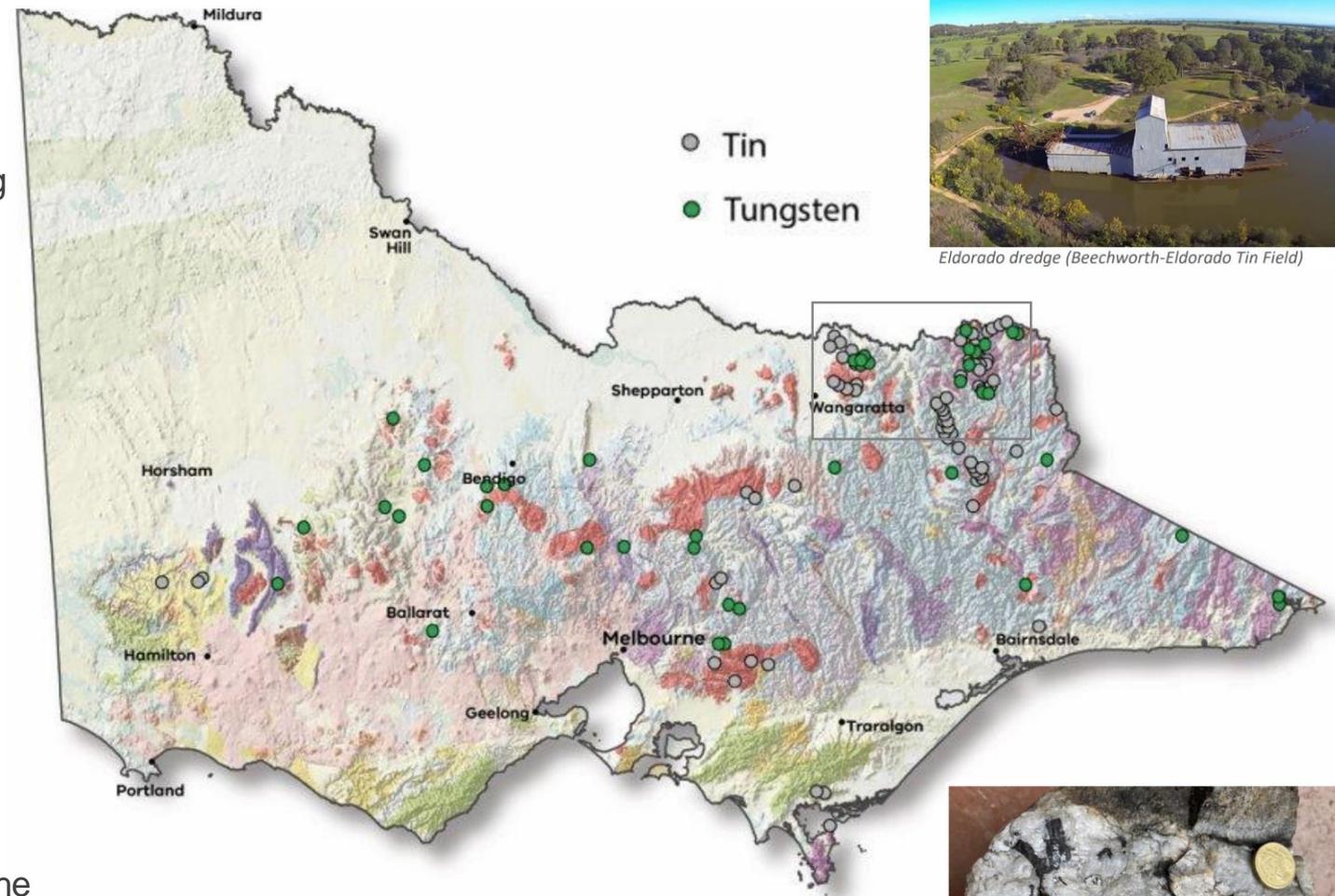
Victoria's unrecognised critical minerals opportunities

The Geological Survey of Victoria are currently conducting characterisation studies for:

- Tin and Tungsten
- Lithium (pegmatite)
- Antimony
- Kaolin-hosted high purity alumina and REE
- Alkaline-silicate REE
- Sedimentary phosphorous-hosted REE
- Sediment-hosted copper
- Platinum group elements

Many of these were historically mined in Victoria or were the by-products of historical mining.

Be on the lookout for reports from the GSV in the near future!



Eldorado dredge (Beechworth-Eldorado Tin Field)



Tungsten Ore (Mount Murphy)

Australia's only producing antimony mine

Mandalay Resources' gold-antimony Costerfield Mine is the largest [producer](#) of antimony outside of Russia, China and Tajikistan.

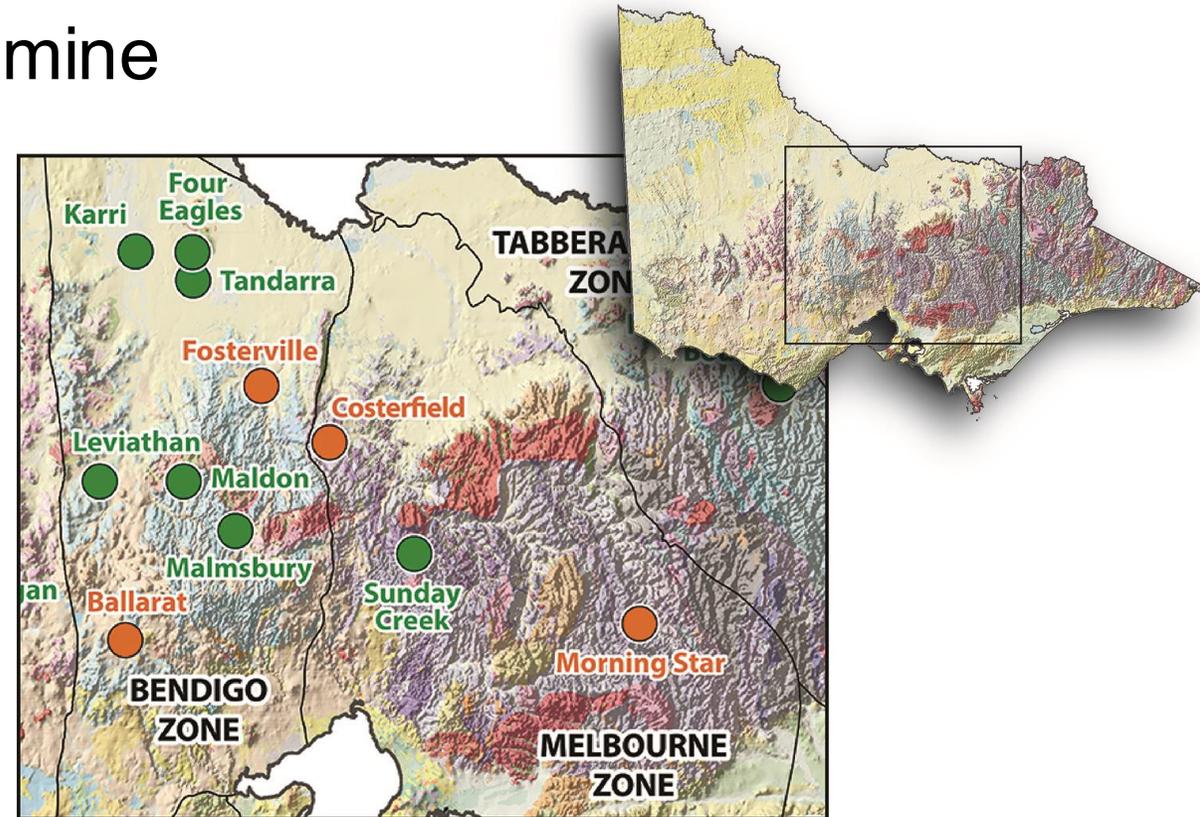
2023 gold production	2023 antimony production
36,057 ounces	1,860 tonnes

Critical uses of Antimony:

- Defence
- Semiconductors
- Solar panels
- Batteries (liquid metal (Sb-Ca) and Na-ion anode)

Multiple explorers are targeting antimony:

- Southern Cross Gold announced an [exploration target](#) of 53.5 – 62.8 Kt antimony for the Sunday Creek Project
- Nagambie Resources announced an [average antimony grade](#) of 5.4% for 40 economically mineable intersections



Don't forget the gold!

Gold isn't considered a critical mineral, however, it is used in electronics and will be required in a low-carbon economy.

Fosterville Gold Mine (Agnico Eagle, TSX-listed) and **Costerfield** (Mandalay Resources, TSX-listed) are some of the highest grade, lowest-cost producers in the world.

Victoria has a healthy junior exploration industry with several Canadian listed explorers:

- | | |
|--------------------|---------------------|
| A.I.S. Resources | Novo Resources |
| Great Pacific Gold | Serra Energy Metals |
| Leviathan Gold | |

The Geological Survey of Victoria estimates that there is another 75 million ounces yet to be found.

Recent drilling highlights include:

[Great Pacific Gold](#) – 2 m @ 413 g/t gold

[Southern Cross Gold](#) - 1 m @ 2,318 g/t gold

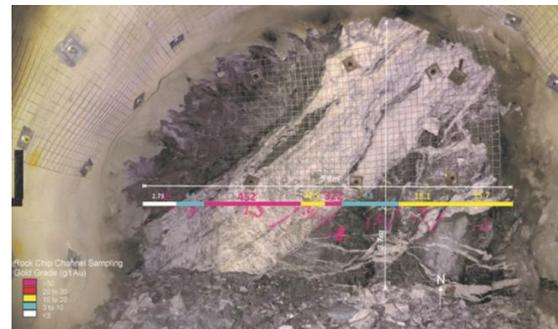
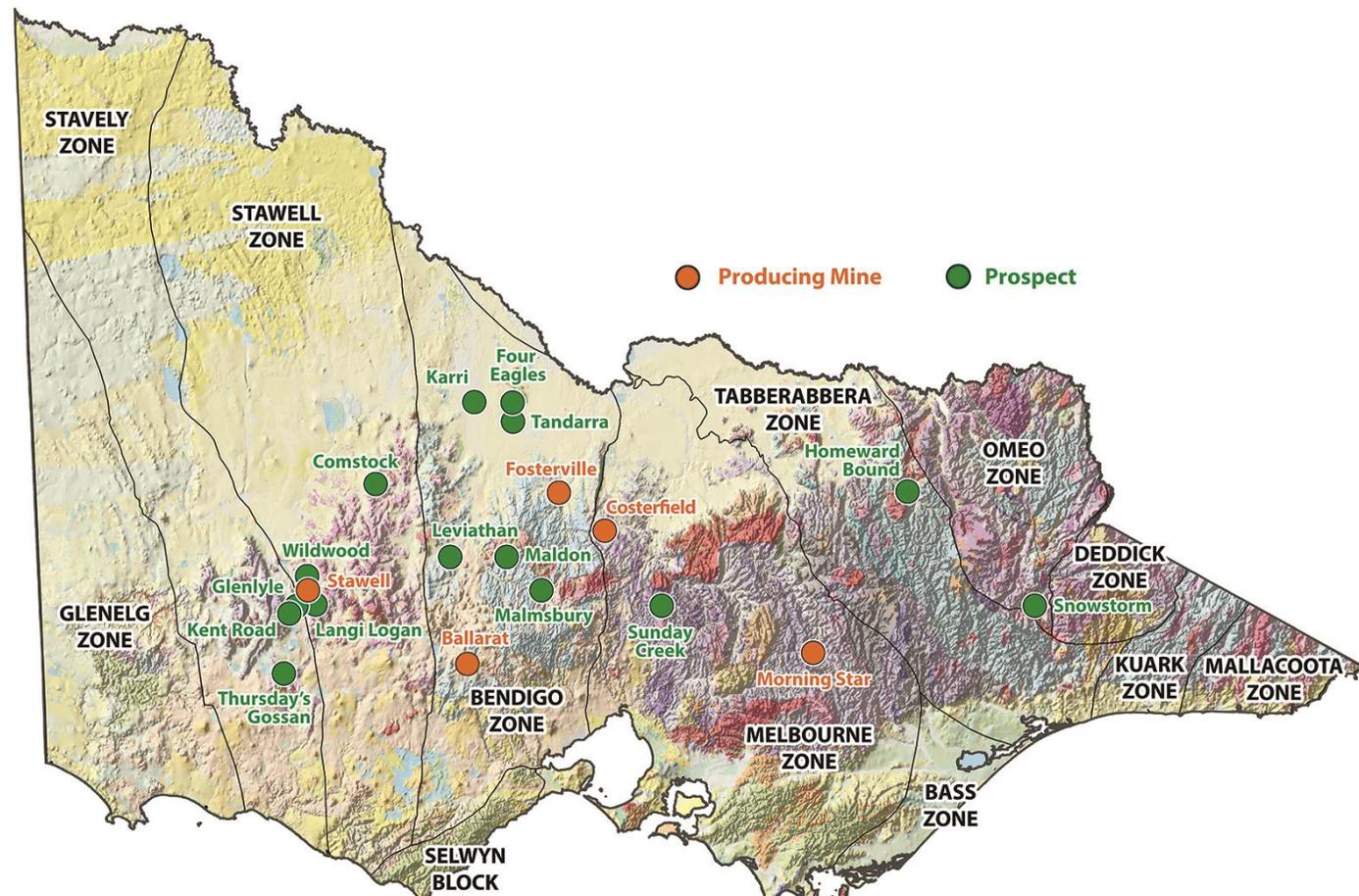


Photo: L. Rebbechi – Fosterville Gold

The Geological Survey of Victoria – custodians of geological data since 1852

Pre-competitive data and knowledge

- [Free maps, reports and data](#)
- [GeoVic](#) – free online application

Geology

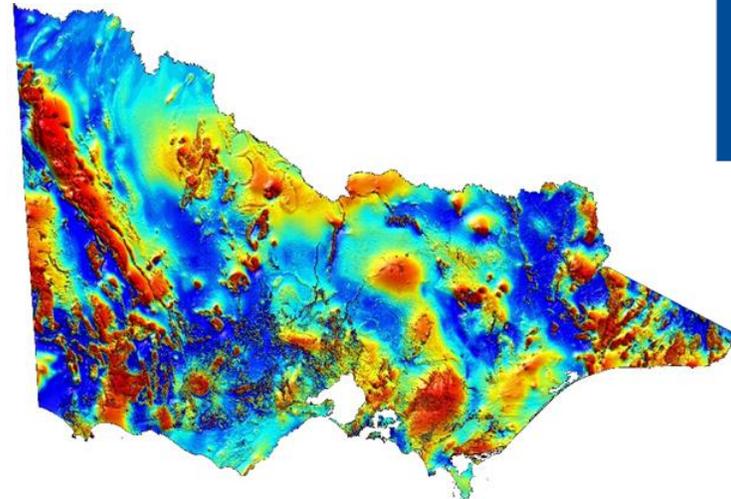
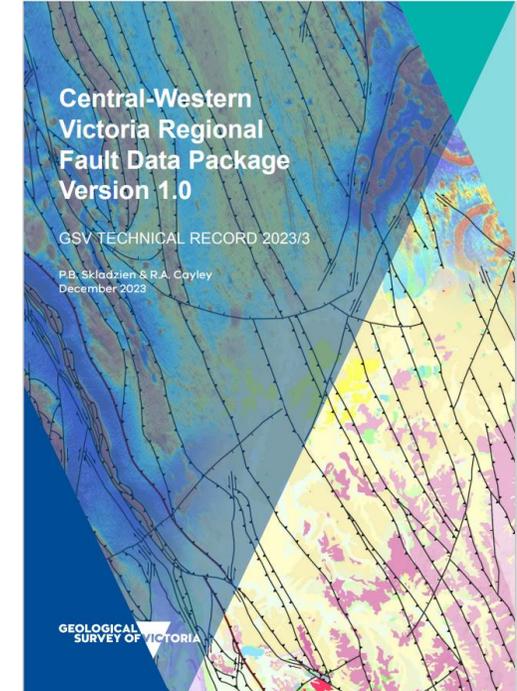
- Seamless – [1:250k](#) and [1:50k](#)
- [3D geological full crust model](#)

Geophysics

- Modern, state-wide
- Magnetics – 200-400m line spacing
- Ground gravity – 1.5km nominal spacing
- Deep 2D seismic reflection transect

Drill Core Library

- 1.5 million metres of drill core and cuttings
- [Over 18,000 drill holes](#)



It's not just about the rocks...

Victoria has:

- A thriving METS sector
- Strong manufacturing industry
- Global and domestic transport linkages – train, port and air
- World renowned jurisdiction
- Corporate headquarters
- Skilled and residential workforce



Great coffee!

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Thank you

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