

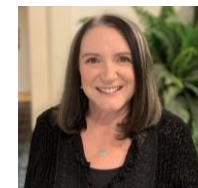
AUSTRALIA MINERALS

REALISE THE OPPORTUNITY

Critical Minerals in South Australia

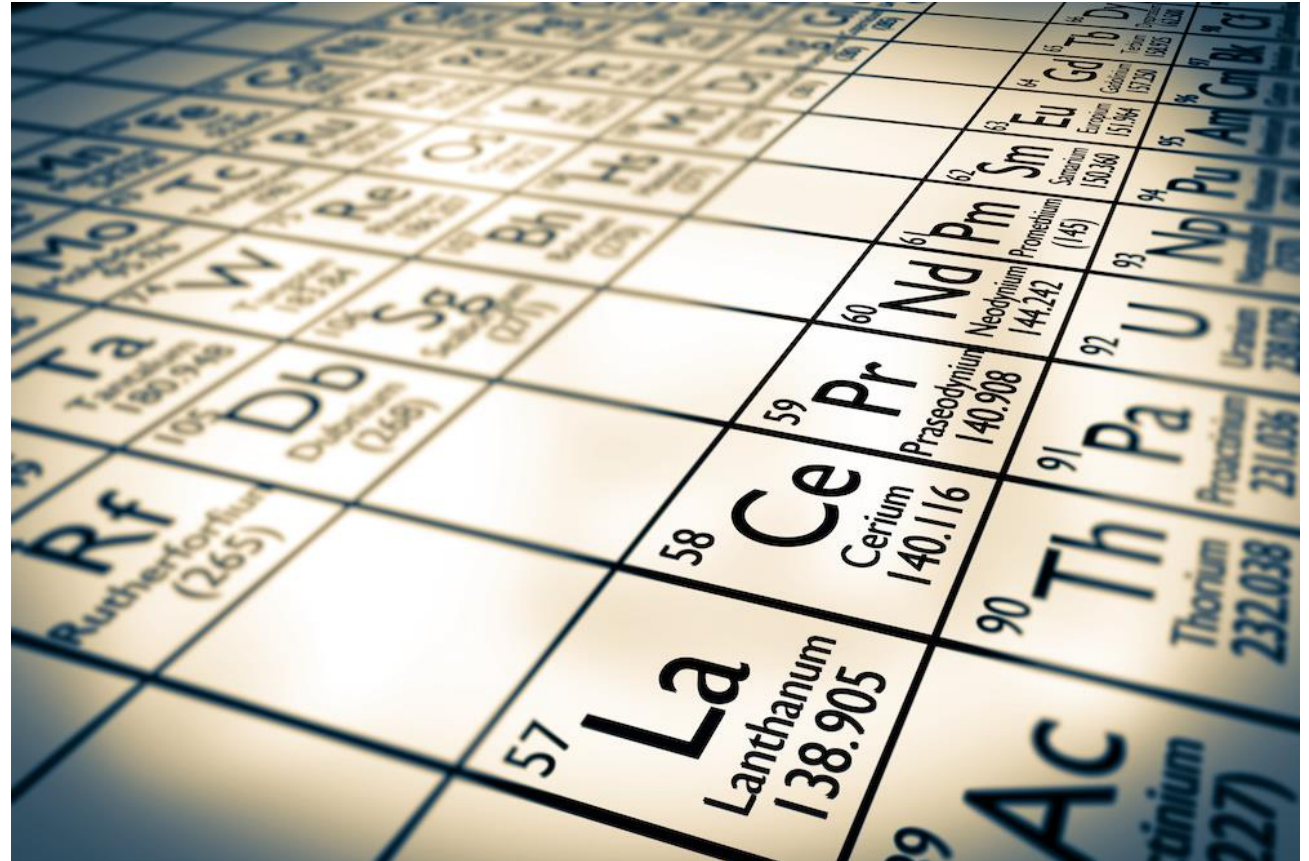
Geological Survey SA

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What's on the list?

- Every list is a little different!!!
 - US has 50 as defined under directive of the Energy Act 2020
 - International Energy Agency → adopted US list
- **Australia has 26 critical minerals listed**
- **SA is looking at it's prospectivity across the list**
- **& Yes! Copper is recognised as strategic**



South Australia: Interest in Critical Minerals

- Recent announcements confirming the geographic location, recent activity - geological domains and mineral systems
- Increase in demand for legacy data and access to Drill Core Reference Library
- Increase in critical mineral exploration interest

But how well do we understand critical minerals in South Australia?

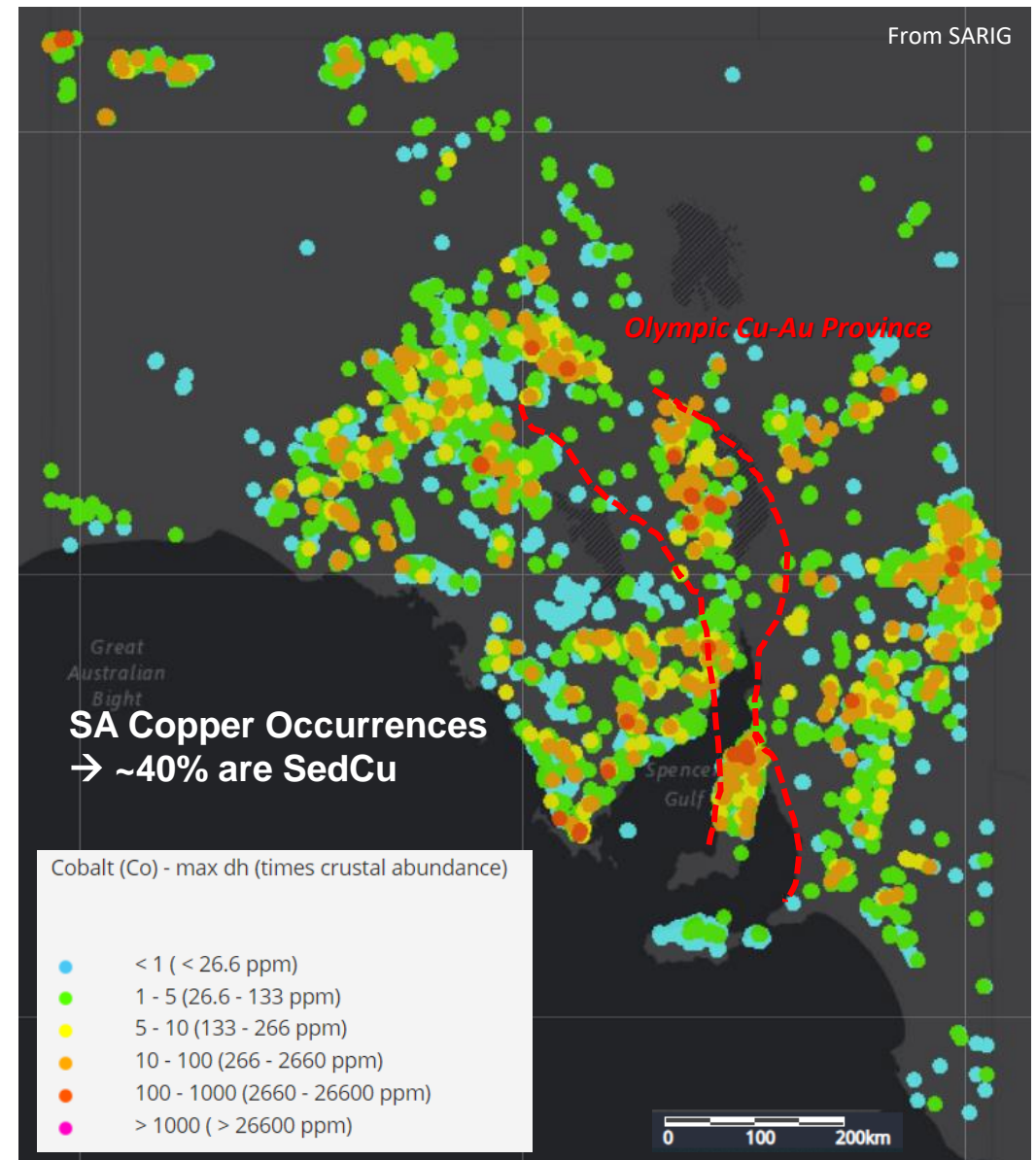
What we know we have!

- Mineral sands
- Graphite
- Cobalt
- Rare Earth Elements
- Halloysite-Kaolin (HPA)
- Magnesium



Renewed interest in Sed-Cu | Geochemistry data sets | Copper-Cobalt

- **CODA Minerals** – Elisabeth Creek
- **Taruga** – Worrumba Anticline
- **EnviroCopper** – progressing ISR project at Kapunda
- **ADI** Round 1-3 funding for several SedCu projects
- Other companies exploring in SedCu space in SA include:
IGO, First Quantum, FMG, OZ Minerals, Gold Road



Critical Minerals South Australia Project



- A state government funded, precompetitive geoscience project over next 2 years
- Will describe SA's potential and drive exploration and development of Critical Minerals
- Seeks to understand the economic potential of Critical Minerals to SA

Secondary Prospectivity of South Australia's Mine-waste

Easy pickings?

- Tailings dams and other mine wastes are potential environmental hazards
- But they also offer an incredible opportunity to extract critical minerals that have been discarded over time
- With the added benefit of treating and cleaning up these historical sites

Circular Economy

- Potential stockpile of minerals on the surface
- Cleaning up existing sites



Sustainable Minerals Institute



SA’s Mine-waste Desk-top study: Review of MINDEP via SARIG & open file information

- ~1000 sites ranked using a newly developed system of weighted criteria in consultation with the Geological Survey SA
- Develop a top 30 ranked list of opportunities that could be further high-graded for site sampling and geochemical and mineralogical analysis
- Number of detailed case studies are also provided in the report



Rank	Parameter (weighted)	“Better” Assumptions
1	Mine status	C&M, ceased, or abandoned
2	Known commodity	Ni, Co, Zn, Mn, Cu, Co, Au, Ag, Fe
3	Associated commodities	Known to have CM affinity
4	Discovery year	Older
5	Mine waste feature	Larger volume

Other considerations included: Distance to a major city, mine site or port; and environmental contamination

- South Australian mine waste is fertile in metals including Co, Cu, Ni, REEs and Au.
- The Middleback Ranges was recognised as a potential host for Mn, with notable enrichment likely in waste materials.
- The potential for bismuth in several sites

Results of Mine-waste Study and Next Steps:

Sites high-graded for phase 2, sampling and analysis

Sites	Mined Commodity	Potential Critical Minerals
Mt Gunson	Cu, Ag, Co	Cu, Co, Ag, Bi, Au, Zn
Port Pirie	REE, RT	REE
Iron Monarch-Knob-Prince	Fe	Mn
Brukunga	S	Cu, As, Ag, Co

In addition: operational companies have been stimulated into investigating mine waste opportunities of their own



Critical Mineral Strategy SA: Focus on doing what we do best; working together!

- Consolidated approach which draws together all sectors; addressing:
 - Supply chain diversity providing strategic advantages
 - Which minerals will see sustained demand – play to SA's strengths
 - Facilitate and support producers to meet demand
 - Have a clear understanding of our inventory – key characteristics? What new data is required to shift discovery to development?
 - Water and power – major barrier to delivery, how can we help?
- Centralised processing hubs?
- Support start-up metallurgy labs in SA
- Geoscience, Metallurgy, Processing upskilling hub – R&D / education powerhouse



AUSTRALIA MINERALS

REALISE THE OPPORTUNITY

Thank you



- Contact the SA team:
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