

# Uranium in South Australia

## Global Uranium Conference

Dr Paul Heithersay | 15 November 2023

[energymining.sa.gov.au](http://energymining.sa.gov.au)



# Acknowledgement of Country

As guests here on Kurna land, we acknowledge everything this department does impacts on Aboriginal country, the sea, the sky, its people and their spiritual and cultural connection which have existed since the first sunrise. Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future. We are ready to walk, learn and work together.

*Ngaityalngadlu taikunthitya yalaka*

*Yantupinarna Kurna yartangka, ngadlu tampinhi tupa yaintyia pirku wapinhi, wiwunthi yaitya yarta, yarlu, ngayirda, miyurnakuma paraku tuwila tapa purruna tarraitpayinhi. Muna tirntu parrka-parrka wanti.*

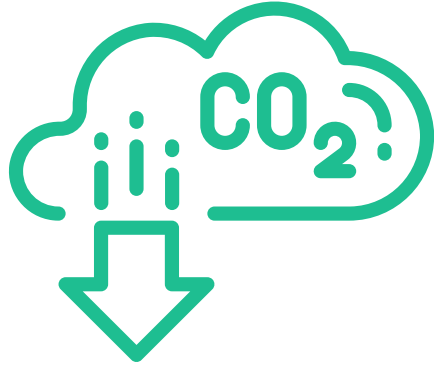
*Ngadluku taingi ngutu yungkurinhi, tampinhi yurni ngantanhi pukingka, niipurna pintyathi mankurrititya, taingintya tarrkarri pintyanhi.*

*Nata ngadlu padnitha, tirkatha Kuma kumangka warpulayi-utha.*



# URANIUM from South Australia

OFFICIAL



**Helping global  
economies  
decarbonise**



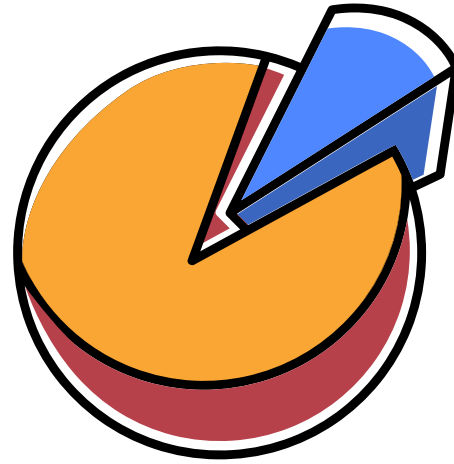
**High quality  
regulatory  
framework**



**Exporting to  
Europe, Asia  
and North  
America**



# SOUTH AUSTRALIA'S URANIUM Leadership

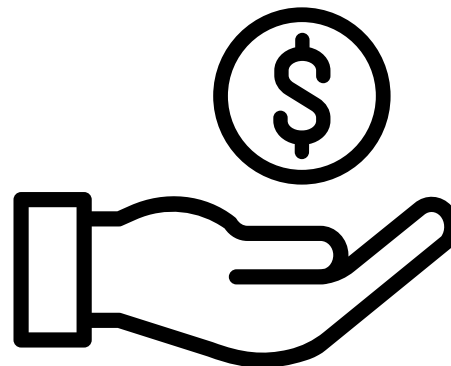


**82% of Australia's identified economic uranium resources**



**Produced 5,469 tonnes in 2022-23**

Up from 4,384 tonnes in 2021-23



**Production value \$878 million in 2022-23**

Up from \$558.5 million in 2021-22

# Major Mines

- **Olympic Dam**

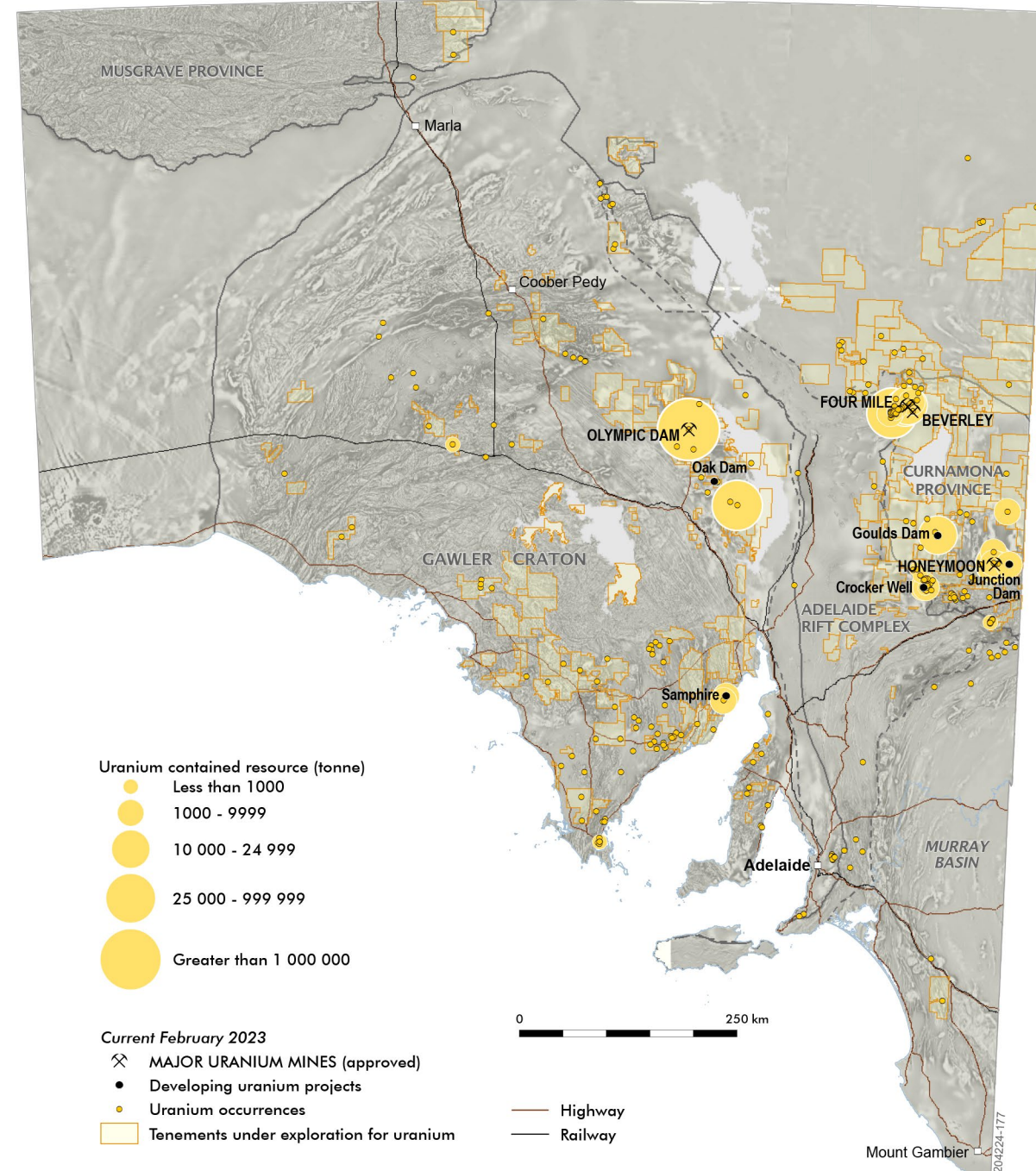
- World's largest uranium deposit
- 2<sup>nd</sup> stage smelter

- **Honeymoon**

- Restarting
- reported high grade results from satellite deposit Gould's Creek

## Beverley-Four Mile

- Australia's largest producing in-situ recovery mining
- More rolling fronts discovered



# One of the world's most prospective regions for uranium discovery

- Hybrid-uranium mineral system – IOCG ±U
  - Olympic Dam, Acropolis, Emmie Bluff, Vulcan, Wirrda Well breccia complex, iron– oxide–copper–gold±uranium, 'Olympic Dam' style.
- Basin and surface-related uranium mineral system
  - Four Mile, Beverley, Beverley North, Billeroo, Honeymoon, Oban, Warrior, Yarramba Paleochannels (sandstone-hosted) and Ranger, Jabiluka (unconformity-related).
- Magmatic-related uranium mineral system - eg Crocker Well.
- Metamorphic-related uranium mineral system - eg Curnamona Province, Radium Hill, the Mount Painter region and the Adelaide Geosyncline.

# Bulletin 57: Early Cretaceous sediments reveal a story of prolonged cold climate, glaciations, oscillating sea level and tectonic changes

by Dr Neville Alley and Stephen Hore (2022)

South Australia has the only physical evidence of an **Early Cretaceous glacial period** in marine and terrestrial outcrops in the northern Flinders Ranges.

Bulletin 57 is the culmination of detailed geological research over many years, supported by the Geological Survey of South Australia (GSSA). It highlights evidence of an Ice Age during the **Early Cretaceous**, a time when we previously thought the planet was hot and humid.

This work contributes to an evolved understanding of our planet's geology through:



Surveys of rock outcrops



New and time-proven analytical processes



Literature research



Rigorous testing of existing theories

Which revealed:



A story of a prolonged cold climate



Potential pathways for future critical elements to accumulate in the sediments



Download now: [energymining.sa.gov.au/bulletin57](https://energymining.sa.gov.au/bulletin57)

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# Value for Heathgate

## Interpretation

- Stratigraphic dating and correlation
- Landform change over time, implication for uranium mineral systems - source, transport and trap

## Prospectivity

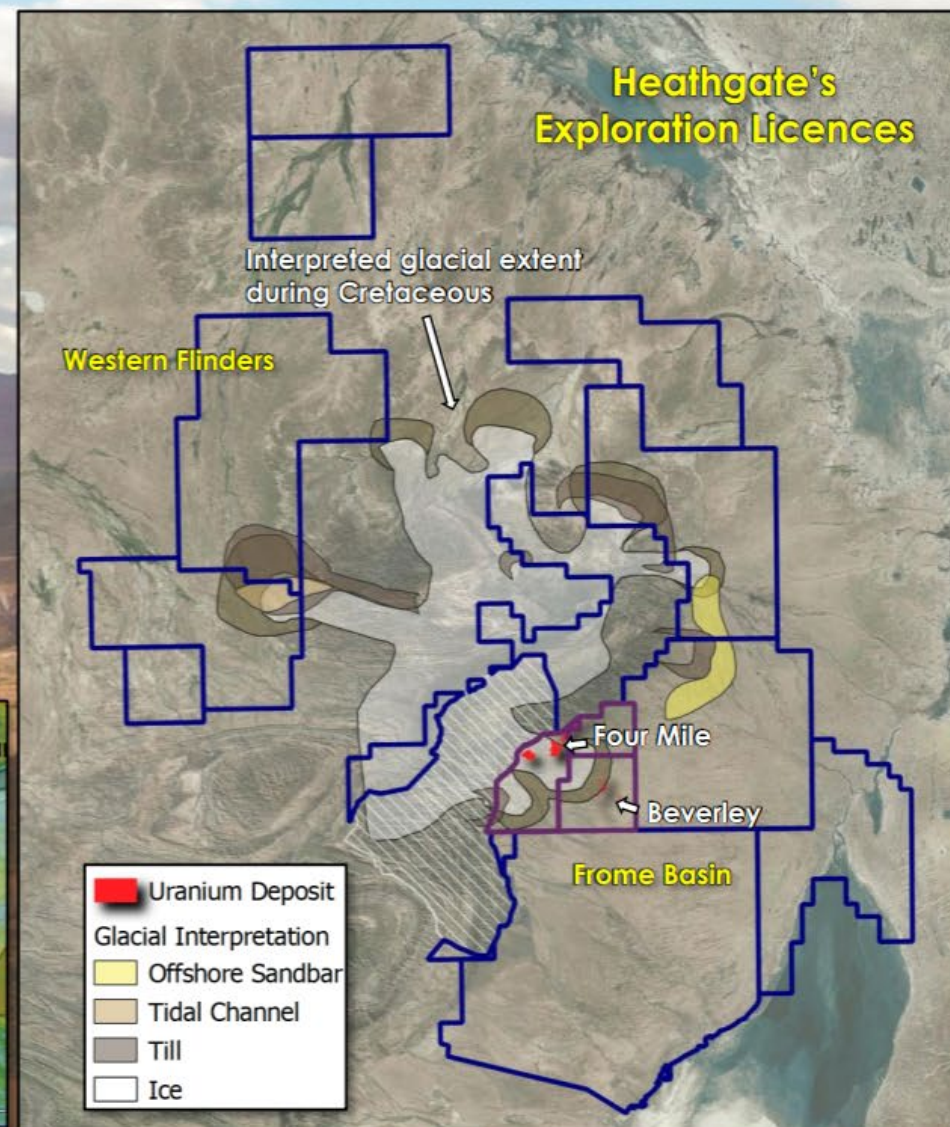
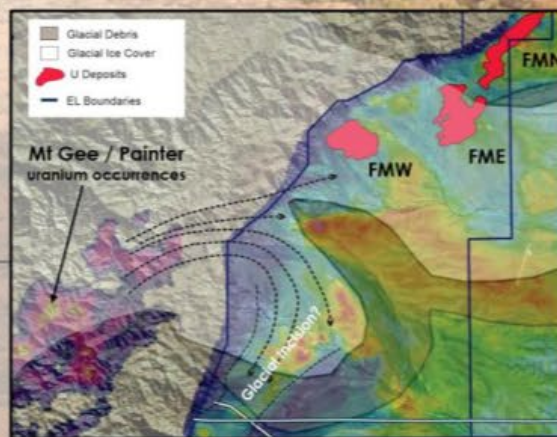
- Identification of new areas for exploration

## Idea Generation

- Refine or test new exploration models
- Generate discussion within Heathgate
- Apply local knowledge to the region

## Collaboration

- Strengthen ties with the GSSA
- Exposure to new ideas and expertise





# National ARC Training Centre in Radiation Innovation - Radinnovate

## RadInnovate

- Australian National University partnership with University of South Australia and the University of Adelaide.
- \$4.99 m funding – ARC grant
- 15 programs over 5 years
- Partner organisations include BHP



Professor Mahananda Dasgupta



# One DEM One Window



# DEPARTMENT FOR ENERGY AND MINING



**SA uranium  
has a big role  
in the world's  
push to  
net zero.**



Government  
of South Australia  
Department for  
Energy and Mining

Parabana Hill site, view of ramp fault, exposing outcrops of the reference sections for Trinity Well Sandstone and the Sheehan Tillite Member.

# Contacts

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