ASX: ORP

ORPHEUS URANIUM LTD

CORPORATE PRESENTATION

UNLOCKING TOMORROW'S ENERGY TODAY

JUNE 2026

orpheusuranium.com

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Financial data

All references to dollars ($) and cents are to Australian currency, unless otherwise stated.

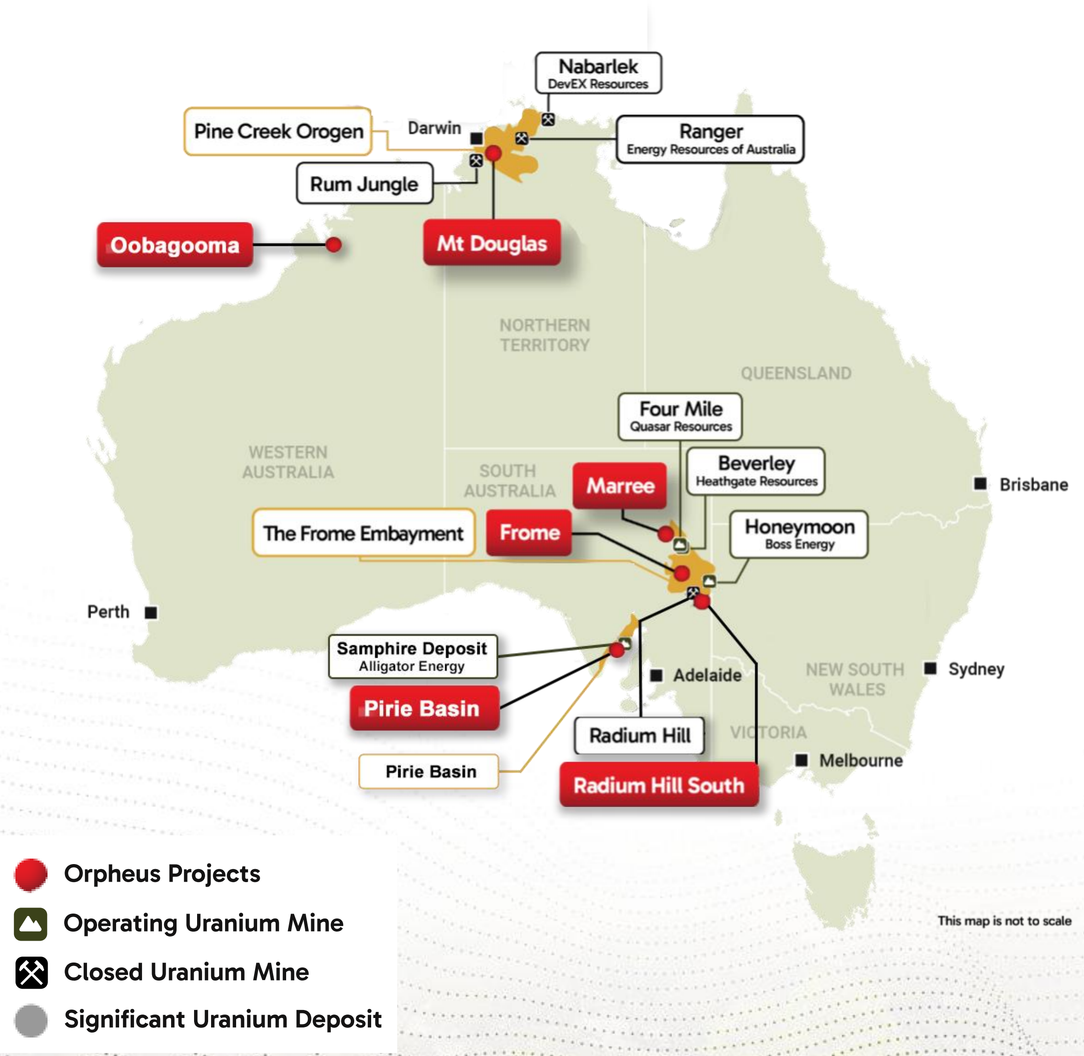
Market and industry data

This Presentation contains third party data relating to the industries, segments and markets in which the Company operates or aims to operate (Industry Data). This information has been prepared using publicly available data. The Industry Data includes third party market data, estimates and projections. There is no assurance regarding the accuracy of the Industry Date, and the Industry Data has not been independently verified by the Company.

Competent Person Statement

Sections of information contained in this report that relate to Exploration Results were compiled or reviewed by Mr Clinton Dubieniecki BSc (Hons), who is a Member of the Australian Institute of Geoscientists, Member of Australian Institute of Mining and Metallurgy, and is a full-time employee of Orpheus Uranium Limited. Mr Dubieniecki has sufficient experience which is relevant to the style of mineral deposits 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 Mineral Resources and Ore Reserves". Mr Dubieniecki consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Major Investment Highlights



A Focus on Portfolio Development & Discovery

- **Pure-play uranium investment opportunity** with 100% ownership, offering strong leverage to uranium market fundamentals
- **Exposure to tier-one uranium jurisdictions** with supportive regulatory frameworks (South Australia, Northern Territory)
- **High-impact and developing uranium exploration portfolio-** targeting underexplored Australian assets with district-scale discovery potential (e.g., Marree and Oobagooma)
- **Strategically positioned portfolio** near established JORC resources (>50Mlbs), leveraging proven geological systems to reduce risk and enhance upside (e.g., Frome and Pirie Basin)
- **Led by an experienced, technically proven team** with a track record in world-class uranium operations
- **Clear pathway to value creation through discovery, resource growth, and market re-rating catalysts**

Orpheus Uranium Project Pipeline

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Business Development (incoming Assets) →

Greenfield Exploration

Mt Douglas (NT)

Mundaerno (SA)

McArthur (NT)

Advanced Exploration

Pirie Basin (SA)

Marree^ (SA)

Frome (SA)

Radium Hill South (SA)

Oobagooma* (WA)

Exploration Target

JORC Resource

Producing Assets →

AS AN INDUSTRY,
WHEN WE EXPLORE FOR URANIUM,
WE DISCOVER URANIUM!

Project rationalisation routinely occurring to minimise unnecessary outgoings, and maximise portfolio value

DUAL STRATEGIC APPROACH: LEVERAGING DISTINCT URANIUM-SPECIFIC EXPERIENCE

* Sale agreement executed, working to completion of sale

^ Binding agreement executed for incoming tenure, working to execute sale agreement

Near Term Milestones

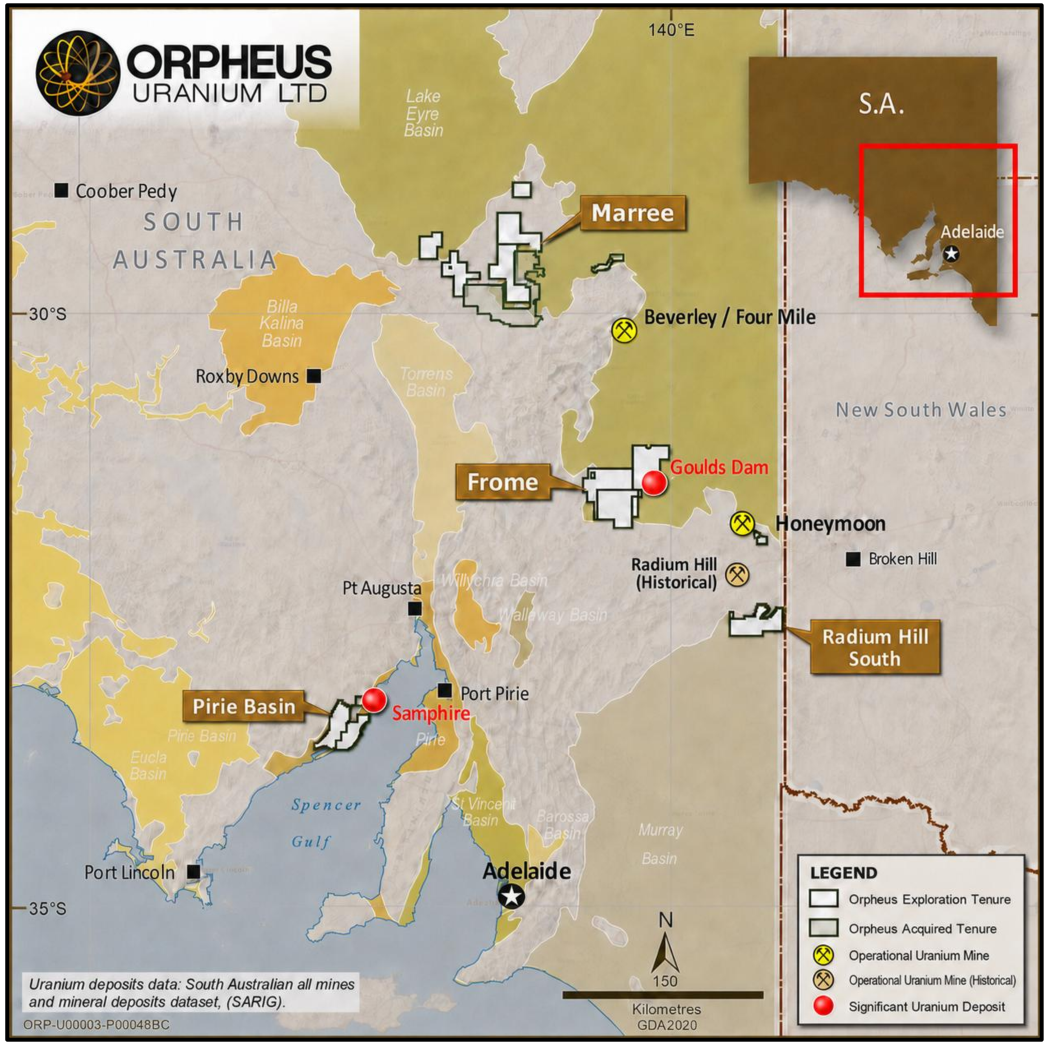
2026: Advancing The Portfolio

- **Progress highly prospective South Australian projects** through regulatory approvals as to **enable 'decision to drill',** ***targeting sedimentary-style mineralisation*** (e.g., Frome, Pirie Basin and Marree)
- **Complete Orpheus' inaugural drill program,** as to refine project stratigraphic and redox interpretation, whilst building pathway toward future resource-scale evaluation
- **Complete Oobagooma sale agreement,** continue development of geological and resource modelling to **publish exploration target**, alongside land access agreements
- **Continued refinement of portfolio** including project **generative assessments** of **geologically relevant tenure and projects** (e.g., Marree acquisition) - ongoing rationalisation
- **Position the Company for success through drill discovery and/or growth in the Uranium market with a high-quality advancing portfolio**

Key South Australian Projects

Sedimentary-Style Mineralisation

- **Marree Uranium Project**
  Progressing acquisition-led tenure consolidation near globally significant Flinders Ranges source region, expanding a district-scale sedimentary-style U opportunity
- **Frome Uranium Project**
  Located in a globally significant Callabonna Sub-Basin ~12km west of Boss Energy's 33.1 Mlb. Gould's Dam Uranium Deposit[2]
- **Pirie Basin Uranium Project**
  Over 40km strike of highly prospective Pirie Basin - adjacent to Alligator Energy's 18 Mlb. Samphire Uranium Project[1]
- **Radium Hill South Uranium Project**
  ~20 km south of Radium Hill Uranium Field hosts five known uranium occurrences
- **Leveraging results of previous explorers' activities who halted due to changing market conditions not lack of prospectivity**
- **Proximal to Existing and Developing Operations**
  Proximal to operations and developing **assets recently approved** for uranium mining or development activities **in a jurisdiction that allows uranium mining**



1. Samphire Uranium Project – Alligator Energy Limited ASX: AGE - Increased Mineral Resource Estimate and Upgrade of Indicated Resource for the Blackbush Deposit, Samphire U Project. (18.0 Mlbs. at an average grade of 676ppm U3O8). Refer to ASX: AGE announcement dated 06 May 2025

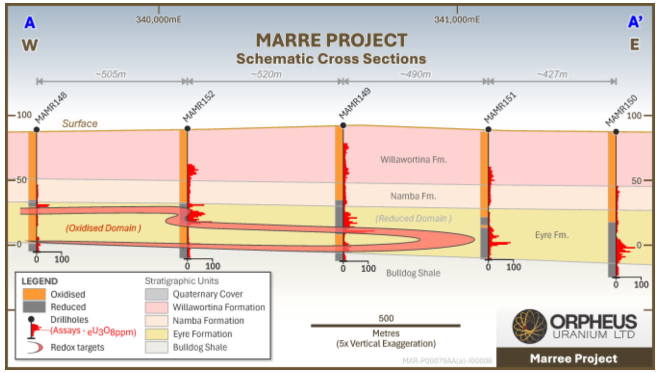
2. Goulds Dam Uranium Deposit – Resource - Boss Energy Limited ASX: BOE - Combined Indicated (23%) and Inferred Resource (77%) – Average Grade 388 ppm U3O8 with Contained 33.1 Mlbs. U3O8. Refer to ASX: BOE announcement dated 19 March 2026.

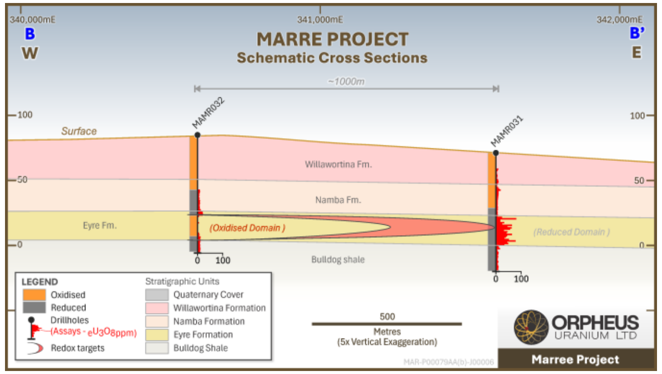
Marree Project

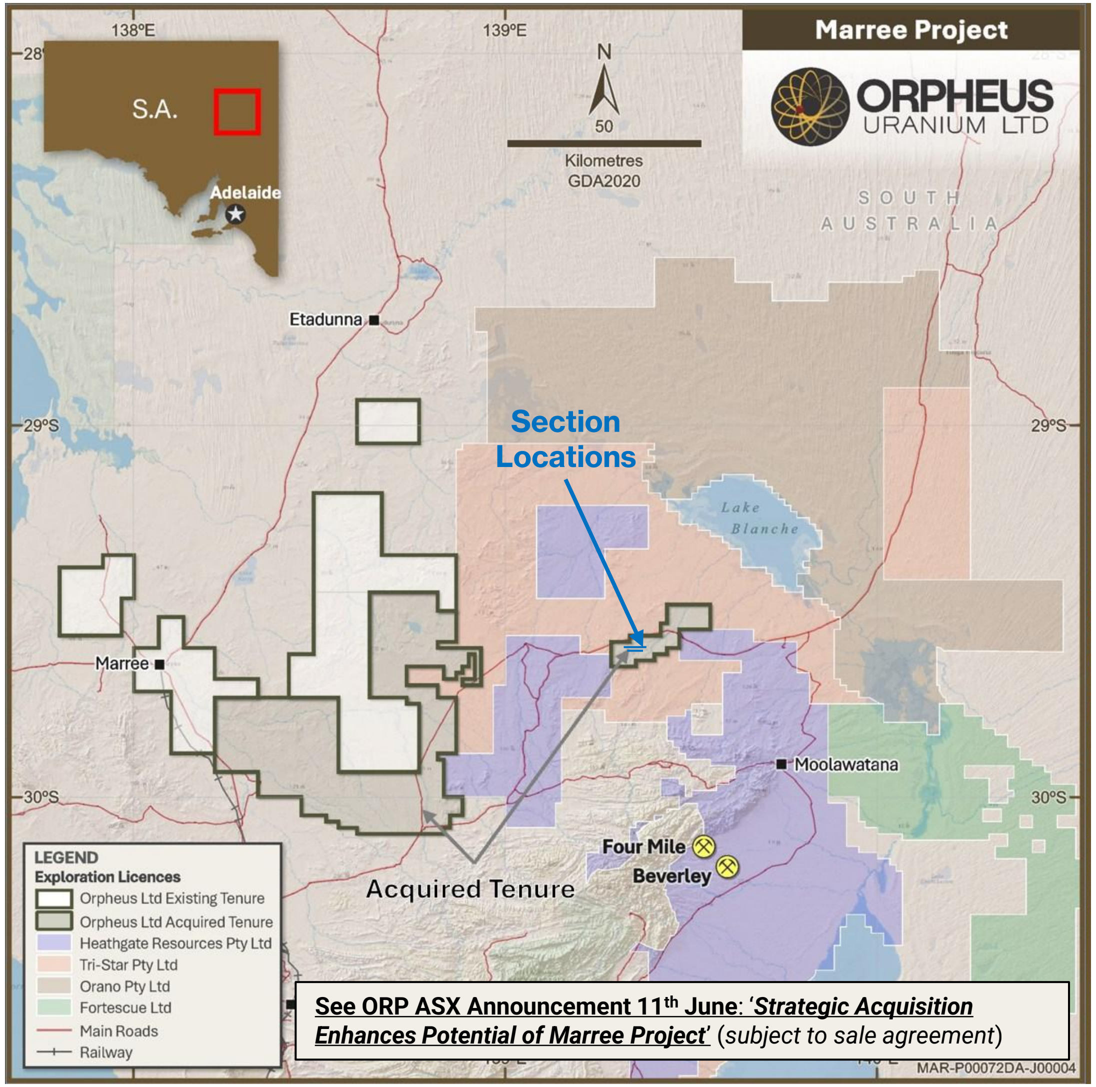
Advanced Exploration

STRATEGICALLY DEVELOPING DISTRICT-SCALE TENURE

- **District-scale uranium position** in the Lake Eyre Basin, **host to known** and **prospective for** sediment-hosted **palaeochannel uranium mineralisation**
- Execution of binding agreement to **acquire surrounding tenure** strengthens Orpheus' footprint and **include intersects up to 450ppm eU3O8**
- **Strategic exposure** within **district occupied by private global uranium explorers & producers** (only ASX-listed company with district scale tenure)
- Incoming datasets being interrogated by Orpheus' in-house geological team to refine drilling targets & validate pathway toward potential Exploration Target
- Native Title Mining Agreements (**NTMAs**) established over existing & incoming tenure - **enables expedited pathway** for **regulatory approvals/drilling**







Frome Project
Advanced Exploration

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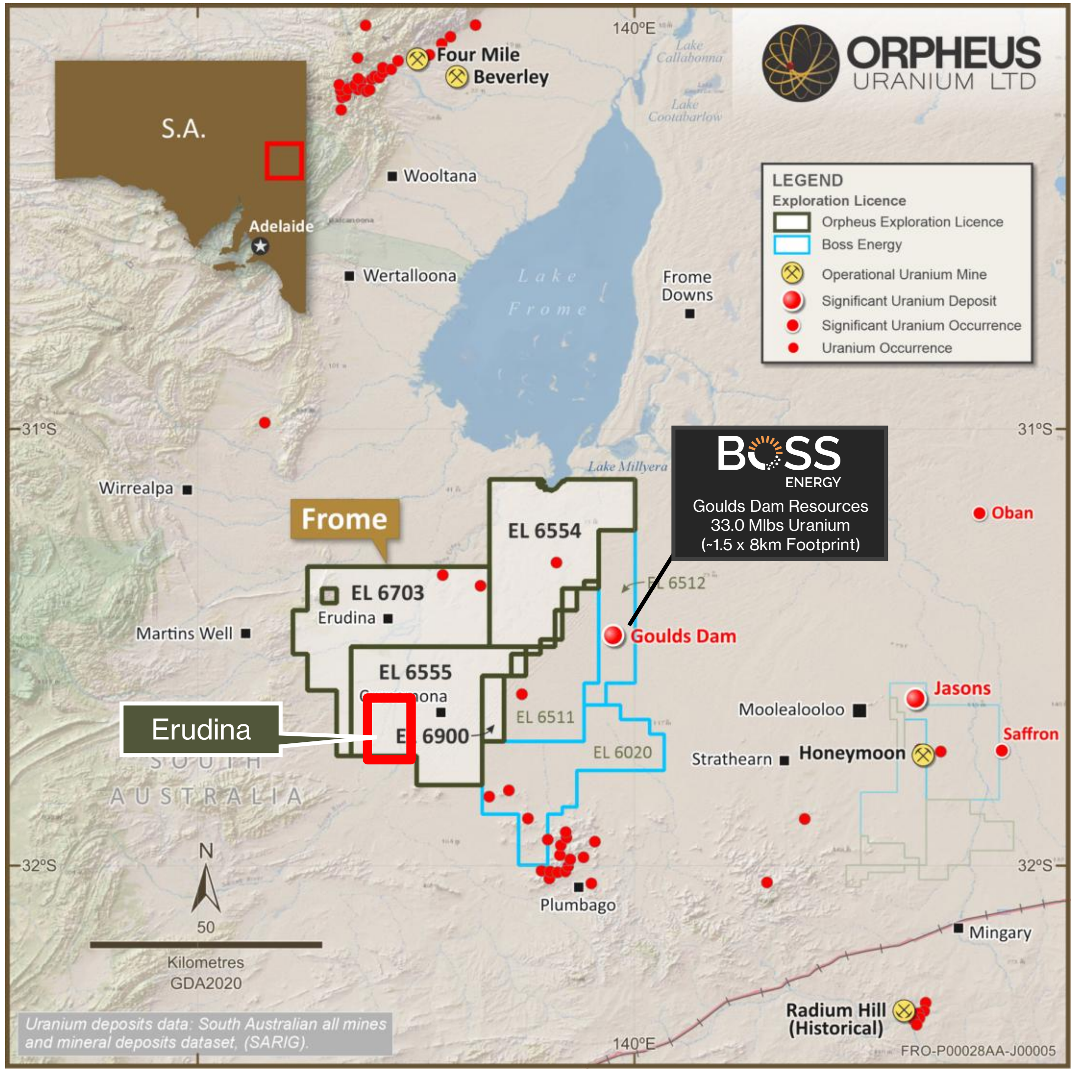
DATA-RICH, UNDEREXPLORED URANIUM PROJECT IN A PROVEN BASIN

- Positioned within the **Callabonna Sub-basin** within (Lake Eyre Basin), which **hosts** the **producing Four Mile** and **Honeymoon Uranium Mines**
- **Adjacent to** and **sharing geological synergy** with developing **33.0Mlb. Goulds Dam uranium deposit**
- Mechanisms for (**source, transport & trap**) and evidence of Uranium mineralising system (**historic intersects >1,000ppm eU3O8**)
- Project has **government endorsed regulatory approvals** → Landmark NTMA established and recent heritage survey completed over refined target areas
- Inaugural drill program designed to **refine updated stratigraphic and redox interpretation** along with **pathway toward future resource-scale evaluation** → Upon commencement will be first drill program in ~15 years



Pirie Basin Project
Advanced Exploration

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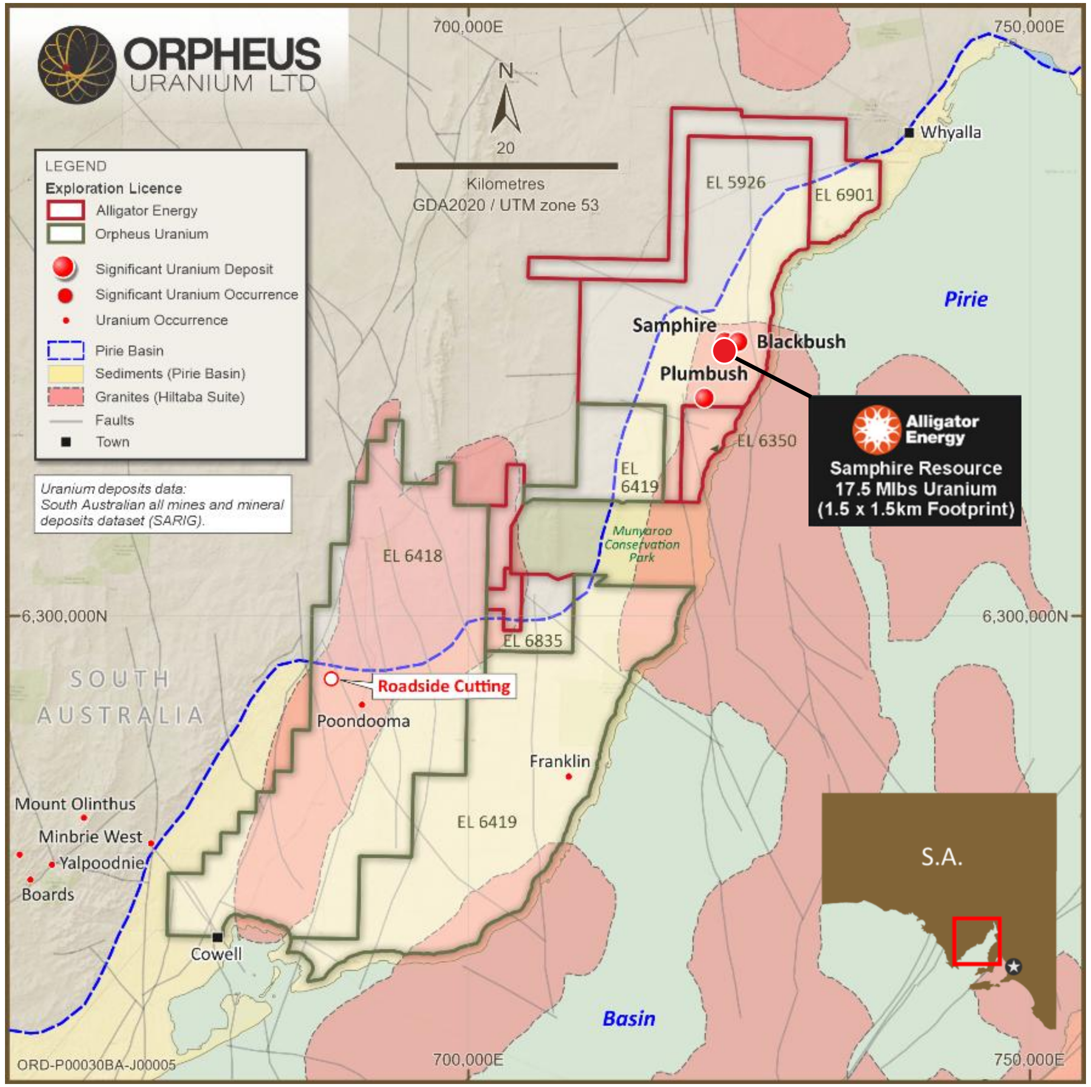
FIRST TIME EXPOSURE TO URANIUM FOCUSED JUNIOR EXPLORER

- Over **40km strike** of **highly prospective Pirie Basin sediments** which are **host** to the **18 Mlb. (U) Samphire Project** & **underlain** by **fertile granites**
- **Pirie Basin one of only two basins** in South Australia to host sedimentary-style uranium deposits that have **active advanced staged feasibility or producing in-situ recovery uranium projects**
- **Proximal, along strike** and **geological synergy** with **known and developing uranium deposit** → target area **underexplored** due to market conditions not geological setting
- **Progressing regulatory approvals** → positive preliminary engagement with landholders/other key stakeholders

Roadside Cutting: exposed sediments on weathered basement

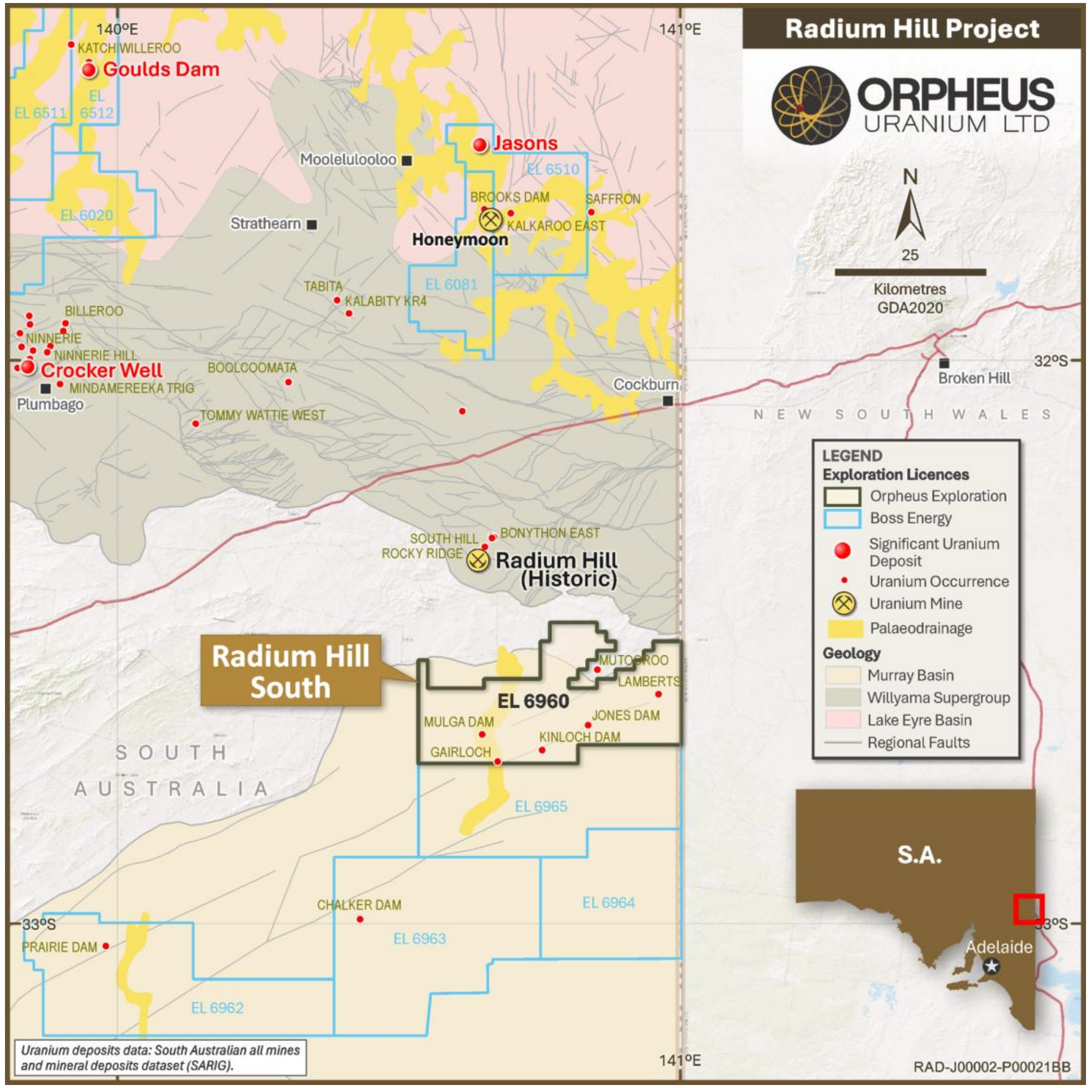


Radium Hill South Project
Advanced Exploration

FIVE EXISTING PROSPECTS READY FOR IMMEDIATE FOLLOW-UP

- **Located ~20km south of the highly radiogenic region of the historic Radium Hill Uranium Field** 2.6 Mlbs. @ 1,310ppm U_3O_8
- Mechanisms (**source, transport & trap**) for **uranium mineralising systems**, with **evidence of uranium mineralisation** at shallow depths of ~80 to 110m
- Project at '**Decision to Drill**' stage – **Heritage survey completed, regulatory approvals acquired (PEPR)**, positive and commercial relationship with other key stakeholders
- Continued assessment of exploration activities and associated timing


Radium Hill South Project: conducting the heritage survey



Key West Australian Project

Oobagooma Uranium Project [3]

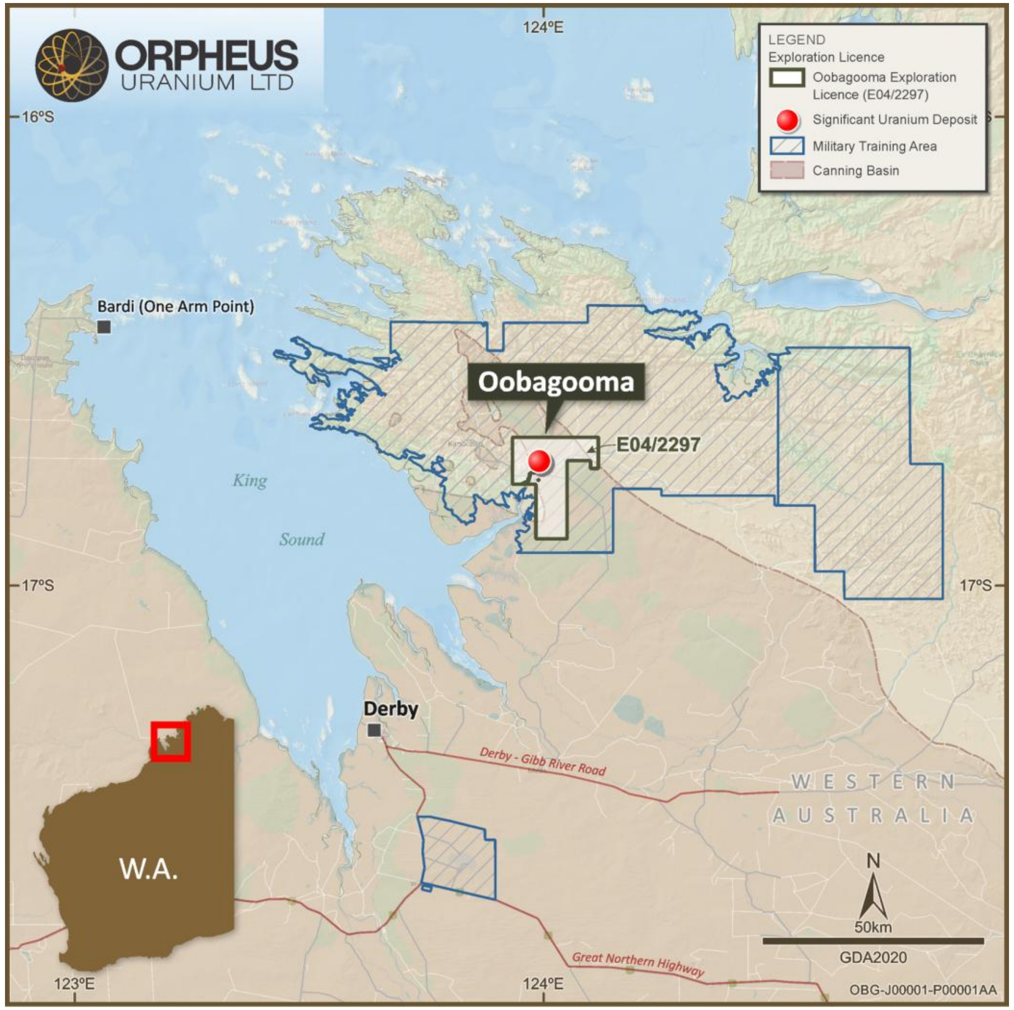
- **Targeting "Sedimentary" redox-style mineralisation**
  Hosted within Yampi Sandstone of the Carboniferous Canning Basin

- **Limited Contemporary On-ground Exploration**
  Discovered in 1981 by Australian French Mining & Exploration Company (Afmeco), most recent drilling in 1983

- **Geological setting conducive to uranium mineralisation**
  Evidence of mineralising source rocks, transport mechanism and geochemical trap sites

- **Elevated uranium grades – Forty-Eight (48) holes with GT* > 1,000 (m x ppm)**
  Known uranium mineralisation extends over approximately 4 km of strike and 1.5 km width

- **Awaiting completion of sale agreement**
  Progressing conditions precedent considered standard for a transaction of this nature (completion timeline extended as progressing transfer of third-party agreements)



3: Oobagooma Uranium Project – Orpheus Uranium Limited ASX: ORP - Acquisition of Oobagooma Uranium Project. Refer to ASX: ORP announcement dated 14 October 2025

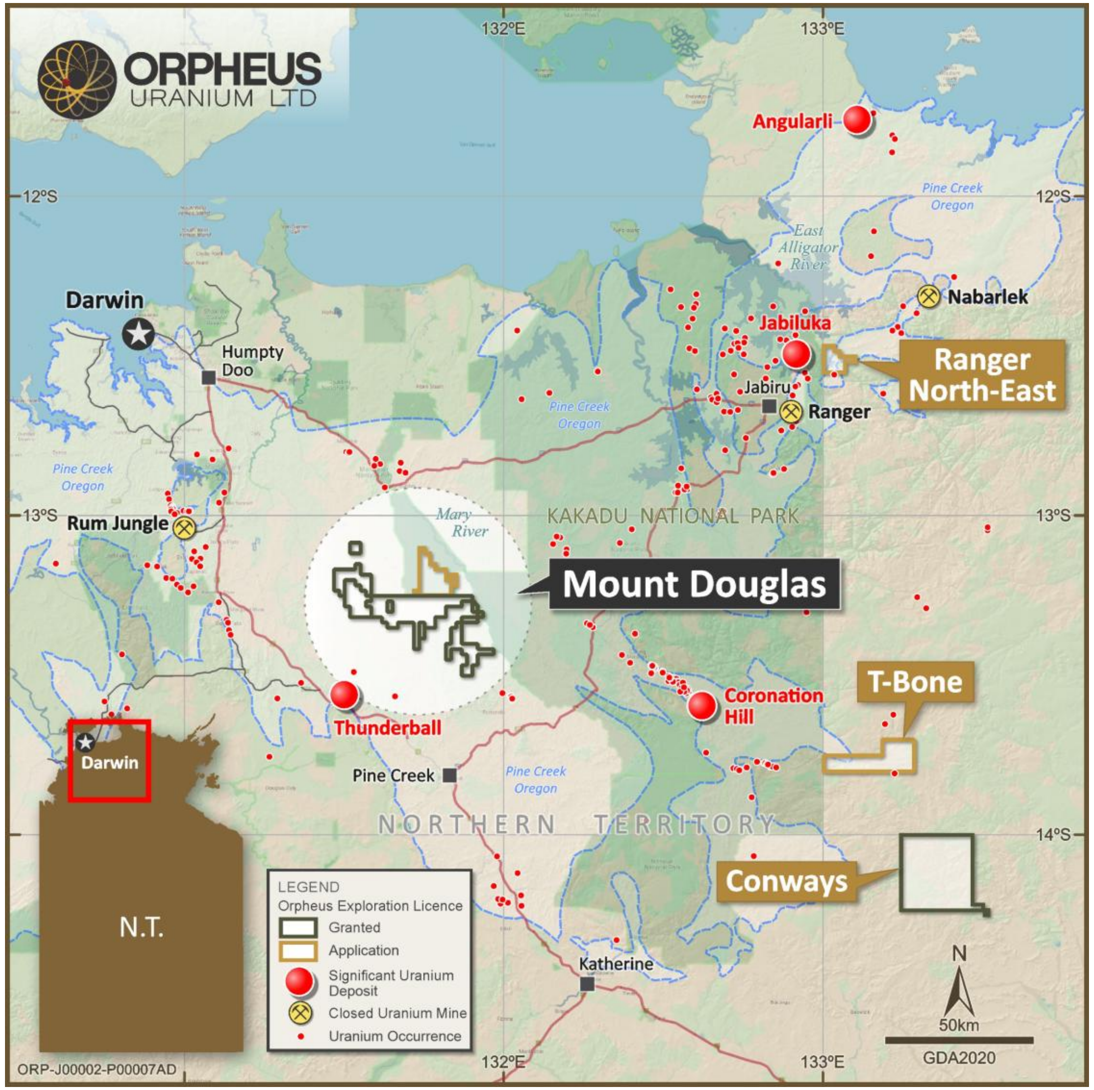
* GT = Grade Thickness - calculated as uranium grade (ppm eU_3O_8) x Thickness (m)

Key Northern Territory Project

Mt Douglas

- **Targeting the Pine Creek Orogen**
  Strategic NT uranium exposure within the Rum Jungle / Pine Creek uranium province
- **High-Grade Unconformity & Vein-Style Mineralisation**
  Retained high-grade discovery optionality while Orpheus prioritises sediment-hosted portfolio development
- **Geological Synergy with Known Deposits**
  Nearby Thunderball U deposit supports district fertility for high-grade uranium mineralisation whilst NT uranium systems including regional deposits demonstrate broader province-scale potential
- **Technical and Regulatory endorsement**
  NTGS co-funded gravity work supports systematic refinement of priority drill targets with approved Mining Management Plan (MMP)

Mt Douglas Project: Consultant Geologist Geoff Eupene preparing for field work



Why Orpheus Uranium?

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Scalable Development of Uranium Portfolio with Knowledgeable Dynamic Exploration Approach

- **Core exposure** to **South Australia** and the **Northern Territory**, Australia's **premier uranium jurisdictions** with potential upside to Western Australian sector through incoming asset
- **Multiple projects** with **multiple prospects** positioned near operating, developing and historically mined uranium systems
- Applying **proven sediment-hosted uranium workflows** to **data-rich projects** in **districts with known uranium systems**, regulatory precedent
- Lead by **specialist uranium team** with **contemporary sediment-hosted exploration and production experience**
- **Disciplined execution model**: compile, reinterpret, rank, a permit, drill and refine
- **Multiple potential catalysts across various stages of the exploration and development cycle**

Corporate Summary

ORPHEUS URANIUM LTD

CAPITALISATION DATA

Shares on issue+^

352.1M

Share Price (12 June 2026)

$0.07

Market Cap (12 June 2026)

$24.7M

Cash (31 March 2026)

$5.09M

Liquid Investments (31 March 2026) *

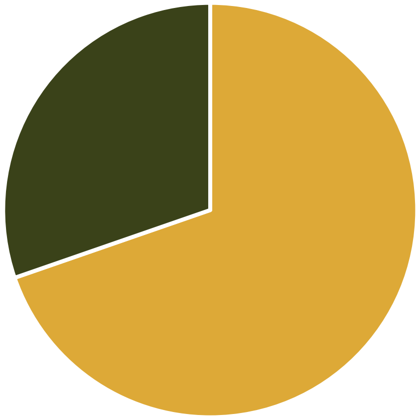
$1.88M

+ 20M shares to be issues upon completion of Oobagooma Sale Agreement with Elevate Uranium (ASX: EL8)

^ 5M shares to be issues upon settlement (2.5M) and completion (2.5M) of Marree Sale Agreement with Adavale Resources (ASX: ADD)

** ORP holds 6.25M shares in Prospect Resources (ASX: PSC) as last reported in associated with 2026-Q1 Activities report*

ASX: ORP Shareholder Spread



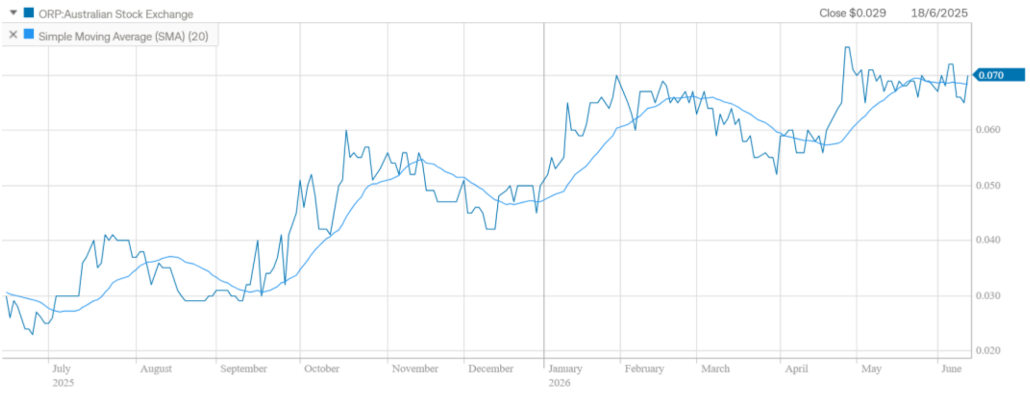
69.7% Top 20 Shareholders

30.3% Outside Top 20 Shareholders

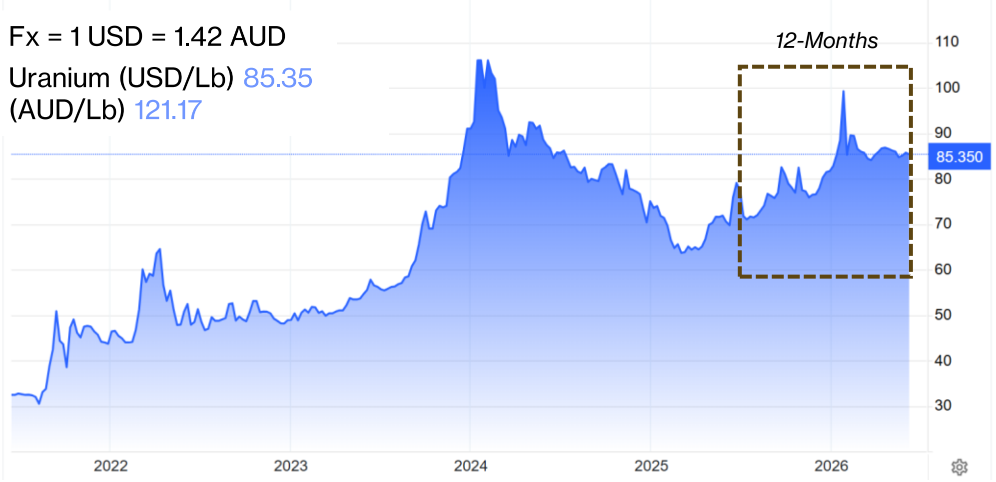
BOARD & MANAGEMENT

Clint Dubieniecki – Managing Director & CEO
Simon Mitchell – Non-Exec Chairman
Todd Williams – Non-Exec Director
Richard Willson – Company Secretary

12 Month Share Price



5 Year Uranium Spot Price (USD/Lbs)



Comparable Projects

Orpheus reports Mineral Resources of uranium mines, deposits or past production that it considers comparable to the style and location of uranium mineralisation in which it explores, as presented within this presentation, and listed in the table herein.

Project	Development Phase	Location	Company / Operator	Resource Classification	Average Grade (ppm U_3O_8)	Contained Metal (Mlbs, U_3O_8)	Source
Honeymoon Uranium Mine	Mine	Lake Eyre Basin/Callabonna Sub-basin South Australia	Boss Energy Limited ASX: BOE	Mineral Resource	660	36	*Refer to ASX: BOE announcement dated 23 January 2024* *Note: 2021 Enhanced feasibility study (EFS) withdrawn in 2025 - Refer to ASX: BOE announcement dated 18 December 2025*
Jasons Uranium Deposit	Resource			Combined Indicated and Inferred Resource	410	12	Refer to ASX: BOE announcement dated 19 March 2026
Goulds Dam Uranium Deposit	Resource			Combined Indicated and Inferred Resource	388	33.1	Refer to ASX: BOE announcement dated 19 March 2026
Saffron Deposit	Resource		Marmota Limited ASX: MEU	Inferred Resource	557	5.4	Refer to ASX: MEU announcement 26 October 2023
Radium Hill Historic Mine	Historic Mine	Curnamona Province South Australia	Areas reserved from the Mining Act, 1971 and Opal Act, 1995	Past production	1,310	2.6	Refer to https://minerals.sarig.sa.gov.au/MineralDepositDetails.aspx?DEPOSIT_NO=962
Samphire Uranium project (Black bush)	Resource	Pirie Basin	Alligator Energy Limited ASX: AGE	Combined Indicated and Inferred Resource	676	18.0	Refer to ASX: AGE announcement dated 06 May 2025

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Clinton Dubieniecki
Managing Director

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Board and Management

Orpheus is led by a Board with decades of experience and current connections with all aspects of today's uranium industry.

Clinton Dubieniecki
Managing Director

Clinton is a trained geologist with over 18 years of experience and extensive exposure to the uranium sector. He has worked across the full value chain of uranium projects – from exploration through to resource development and production – with multinational companies including Orano, Uranium One, and most recently Heathgate Resources, where he spent nearly a decade contributing to the operation of the Beverly and Four Mile projects. Clinton joined Orpheus in May 2024.

Simon Mitchell
Chairman

Simon is a trained geologist with more than 35 years of experience spanning technical, financial, and corporate roles, including significant exposure to exploration and mine development. He spent over six years with uranium development company Toro Energy, and more recently has provided consulting services to several Canadian uranium companies, including NexGen Energy Ltd, developer of the world-class Rook I uranium project in the Athabasca Basin, Canada. Simon joined Orpheus in October 2023.

Todd Williams
Non-Executive Director

Todd is a trained geologist with more than a decade of experience across all aspects of mineral exploration. He is currently the Managing Director of Unico Silver and brings extensive uranium sector experience through his time with Power Minerals (formerly PepinNini). Notably, he was instrumental in vending the 'Big Lake' uranium project – recently recognised as Discovery of the Year – into Alligator Energy. Todd joined Orpheus in December 2023.

Exploration Team

The Orpheus exploration team has extensive uranium-specific expertise. Each geologist has experience across all stages of sedimentary-style uranium exploration and production at Australia's Beverley/Four Mile operation.

Isaac Lord
Senior Geologist

Isaac is a geologist with five years of experience at Heathgate Resources, Australia's premier sedimentary-style (ISR) uranium producer. He has gained exposure across the full uranium value chain, from exploration through to production, with the past two years spent in the company's Resource Development department focusing on the Four Mile deposits. Isaac joined Orpheus in October 2025.

Jack Maughan
Lead Geodata Scientist

Jack is a geologist with 10 years of international experience across multiple sectors of the mining and exploration industry. He began his career with Heathgate Resources, contributing to successful exploration programs and production activities. Jack later gained experience in North America, including as a data scientist with BHP, before returning to Australia to consult to Heathgate and subsequently joining Data Rock as a data scientist. Jack joined Orpheus in May 2025.

Chloe Reddaway
Project Geologist

Chloe is a geologist with two years of experience at Heathgate Resources, Australia's longest continuously operating sedimentary-style (ISR) uranium producer. She has worked across multiple geological departments, including uranium exploration and production, before contributing to regional exploration programs. Chloe joined Orpheus in June 2025