



ORPHEUS
URANIUM LTD

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QUARTERLY ACTIVITIES REPORT

JUNE 2025

Managing Director's Message to Shareholders

I'm writing this message to you from outback South Australia, where I'm currently engaging with various community groups and stakeholders to establish access agreements to several of our projects. I think this is symbolic of how the June Quarter has marked the beginning of a new phase for Orpheus.

Over the past year, we have been working hard to lay the right foundations to transform Orpheus into a leading Australia-focused uranium explorer and give our investors exposure to the very best uranium districts in Australia. Over that period, we have successfully established strong ground positions in many of these districts, culminating in the execution of a sale agreement for the Pirie Basin Project, which occurred in the most recent quarter. The Pirie Basin has long been recognised as one of the most favourable settings for sedimentary-style uranium mineralisation. The addition of this project to our portfolio provides Orpheus with exposure to three of the most highly prospective and proven uranium provinces in South Australia—the Pirie, Frome and Murray (Radium Hill) basins — each having significant potential for high-quality uranium discoveries.

While we continue to review several new opportunities that have the potential to add value to our existing portfolio, my team and I have shifted our focus to exploration activities.

In areas where we have access, such as the Mt. Douglas Project in the Northern Territory, this is evident in the commencement of on ground exploration activities and commitment to undertake an extensive follow-up gravity survey at the project, which will be partially funded by a grant from the NTGS. The results of these new surveys will help us vector in on the best drill targets.

In South Australia, I have been working closely with other parties, stakeholders, and community groups to establish access agreements for several of our projects, I have several follow-up meetings scheduled over the coming weeks, and I look forward to sharing the outcomes of these with shareholders.

Overall, this transition is setting Orpheus up for an exciting exploration program across multiple projects that will run for the remainder of 2025 and into 2026. One that will put us in a good position to make a discovery and take advantage of the rising demand for uranium in an expanding nuclear energy industry.

- Managing Director Clinton Dubieniecki

Quarterly Report

FOR PERIOD ENDING 30 JUNE 2025

ASX: ORP



QUARTERLY HIGHLIGHTS

Orpheus Uranium Limited (ASX: ORP) (*Orpheus* or *the Company*) is pleased to report on its activities and cash flow for the quarter ending 30 June 2025.

Pirie Basin Project

- Successful execution of the sale agreement of the Pirie Basin Project.
- The acquisition was announced alongside a well-supported \$1.25 million capital raising that will fund the commencement of the exploration program on the Pirie Basin Project.

Frome Project

- Continued engagement with relevant stakeholders, including representatives of Adnyamathanha Traditional Lands Association (ATLA), to define the required processes which will enable regulatory approvals to be gained and exploration activities to commence.

Mount Douglas

- Exploration program underway at Mt Douglas, targeting unconformity-style uranium systems on Orpheus 100% owned Mt Douglas, Northern Territory (NT) project.
- Orpheus awarded ~\$80,000 (incl. GST) in NTGS co-funding to support a high-resolution gravity survey.

Radium Hill South

- Ongoing engagement with Wilyakali Native Title Aboriginal Corporation culminating in establishment of Native Title Mining Agreement (NTMA), a requirement to undertake exploration activities beyond early stage (announced post quarter).

Business Development

- Ongoing review of key uranium regions and potential projects that can add to the Orpheus portfolio.

Corporate

- Orpheus completed a \$1.25 million capital raise before costs to fund the acquisition of the Pirie Basin Project.
- Mr Mick Billing and Mr Richard Willson retired from the board effective 30 June 2025. Non-executive director Mr Simon Mitchell succeeded Mick Billing as Chair of the Board, and CEO, Mr Clinton Dubieniecki, joined the board as Managing Director.
- Cash and listed investments of \$4.90 million at the end of the June 2025 quarter.

ORPHEUS URANIUM LIMITED

CAPITAL STRUCTURE

Issued shares: 281.7m
Debt: nil
Unlisted options: 24.5m
Cash on hand: \$4.16m
Liquid investments: \$0.74m

DIRECTORS

Clinton Dubieniecki – Managing Director & CEO
Simon Mitchell – Non-Exec Director
Todd Williams – Non-Exec Director

ASX: ORP

orpheusuranium.com

URANIUM PROJECTS (SA)

Frome, SA 100%
Radium Hill South, SA 100%*
Mundaerno, SA 100%
Woolshed, SA 100%
Marree, SA 100%

URANIUM PROJECTS (NT)

Mount Douglas, NT 100%
Woolner, Marrakai, NT 100%
Ranger NE, NT 100%
Conways, NT 100%
T-Bone, NT 100%

Uranium Assets, South Australia and Northern Territory

Orpheus is an active explorer with uranium projects in proven uranium mining jurisdictions of South Australia and the Northern Territory (see Figure 1) prospective for large Tier-1 discoveries.

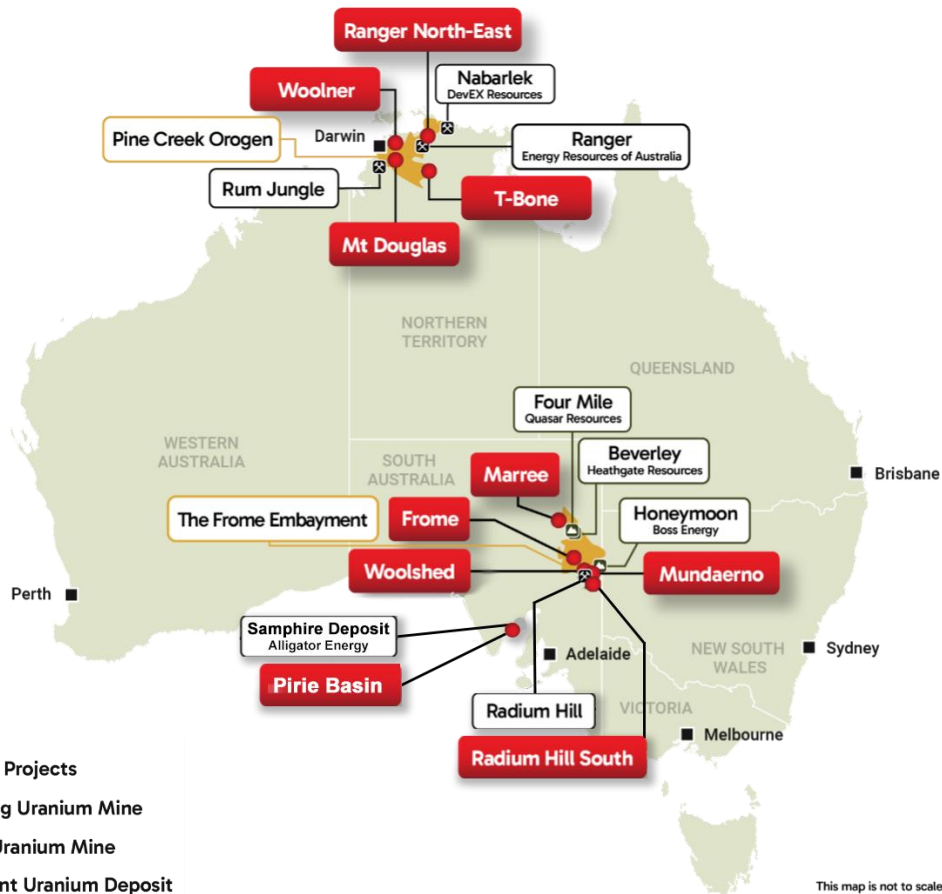


Figure 1: Location map of uranium assets owned by Orpheus located in South Australia and Northern Territory (not to scale)

South Australia – Sedimentary-Style Uranium (General)

Orpheus's South Australian tenure is strategically distributed across some of the most prospective regions for uranium exploration in the state. The company's landholdings span what could be considered three of the top five most promising regions for sedimentary-style uranium discovery in South Australia, underscoring Orpheus's strong competitive position in the sector (see Figure 2).

The recently acquired **Pirie Basin Project** is located in the underexplored western Pirie Basin. This basin is also home to Alligator Energy's Samphire Uranium Project, which has already demonstrated significant uranium mineralisation. The Pirie Basin Project offers Orpheus a unique opportunity to explore an area with substantial discovery potential.

Orpheus's **Frome Project** is located near the Billeroo Palaeochannel within the highly prospective Callabonna Sub-Basin. This region has long been recognised for its potential to host significant uranium deposits. The proximity to Boss Energy's Gould's Dam deposit bolsters the potential for exploration success.

Also within the Callabonna Sub-Basin, the Beverley/Four Mile uranium deposits in the Northern Flinders and Honeymoon/Jasons uranium deposits in the Yarramba Palaeochannel are both highly prospective regions. These regions are tightly held by Heathgate Resources and Boss Energy, respectively. But as part of its strategic plan, Orpheus has been building ground positions in nearby, prospective regions to position the company to capitalise on future exploration and development opportunities as demand for uranium continues to grow.

Orpheus's **Radium Hill South Project** is situated on the northern margins of the Murray Basin. The location of Radium Hill South is particularly notable as it is near the historic Radium Hill Field, which could act as source rocks for uranium within the system. This proximity to the potential source rocks significantly increases the likelihood of discovering concentrated uranium mineralisation, making the project an exciting target for future exploration.

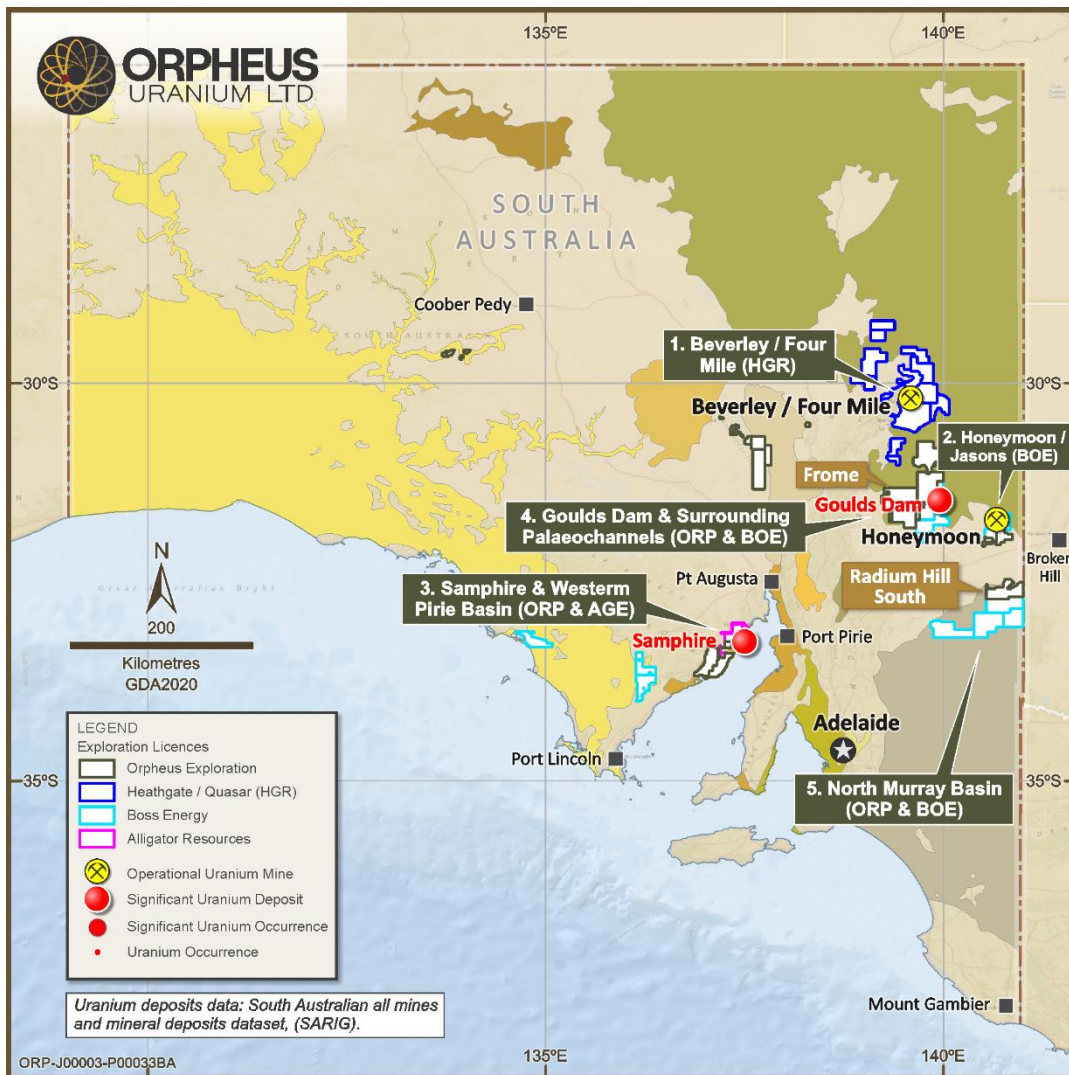


Figure 2: Orpheus Uranium's South Australian project locations relative to South Australia's known resources and the associated tenement holders (HGR = Heathgate Resources Pty Ltd; BOE = Boss Energy Ltd.; AGE = Alligator Energy Ltd.)

Pirie Basin Project

Overview

- The Pirie Basin is one of only two basins in South Australia to host sedimentary-style uranium deposits that have active advanced-stage feasibility or producing in-situ recovery uranium projects.
- Tenements host sediments of the highly prospective Pirie Basin underlain by fertile source rocks of the highly uraniferous Gawler Craton Hiltaba Suite.
- Up to ~535 ppm U_3O_8 (e.g., COD002) in historical drill holes, validating the source potential of the local Hiltaba Suite Granites and potential for new discoveries within the project.



Photo: Orpheus Uranium's Pirie Basin Project in South Australia

Recent Activities

- 100% acquisition of 1,100km² landholding (subject to completion of certain conditions precedent considered standard for a transaction of this nature) from FMG Resources Pty Ltd, a wholly owned subsidiary of Fortescue Ltd (ASX: FMG) which is adjacent to Alligator Energy's (ASX: AGE) Samphire Uranium Project with 18Mlbs U_3O_8 Mineral Resource¹.

Next Steps

- Progressing sale agreement to completion and transfer of tenure.
- Continue geological interpretation to refine geological modelling and target generation.
- Ongoing stakeholder engagement to enable on ground access of tenure.
- Obtain required regulatory approvals to enable the project to be drill ready.

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 U_3O_8). Refer to ASX: AGE announcement dated 06 May 2025

Radium Hill South Project

Overview

- Advanced greenfield project developed by Mega Hindmarsh in 2006.
- Large 797km² exploration licence strategically located 20km south of the historic Radium Hill Uranium Mine (an important source of basement-hosted uranium mineralisation).
- Five advanced prospects with proven potential for shallow sediment-hosted uranium mineralisation.



Photo: Orpheus Uranium's Radium Hill South Project in South Australia

Recent Activity

- Engagement with representatives of the Wilyakali Native Title Aboriginal Corporation along with other stake holders to progress access agreements and enable advanced on-ground activities.
- Native Title Mining Agreement (NTMA) executed with the Wilyakali Native Title Aboriginal Corporation (Wilyakali) Registered Native Title Body Corporate (RNTBC) – Announced post end of quarter.

Next Steps

- Continued engagement with Wilyakali Native Title Aboriginal Corporation and other key stakeholders to enable commencement of on-ground activities, including Heritage Surveys and drilling.
- Assessment of suitable geophysical surveys to assist with definition of target sediments and basement structures, further refining areas for drill testing.
- Obtain required regulatory approvals to enable the project to be drill ready.

Frome Project

Overview

- Advanced exploration project with 73,650m of historical regional and prospect drilling, mostly (~80%) completed by French nuclear company Areva (now Orano) between 2004 to 2014.
- Strategically located 12km west of Boss Energy's (ASX: BOE) Gould's Dam project, containing a JORC-compliant resource of 25Mlbs indicated and inferred¹.
- Widespread uranium mineralisation defined within the Erudina paleochannel over an area of 12km by 7km, with 56 drill holes intersecting uranium mineralisation with values over 100ppm EqU in wide 1 km spaced drill traverses (see ASX announcement, 18 December 2023).

Recent Activity

- Engagement with relevant stakeholder including representatives of the Adnyamathanha Traditional Lands Association (ATLA) to complete required processes to allow advanced stage exploration activities to commence.

Next Steps

- Progressing through requirements to obtain regulatory approval for advanced-stage activities on the tenure.
- Continued interpretation of available datasets to refine on-ground activities.

Marree

Overview

- Greenfields exploration project.
- Situated approximately 70 kilometres northwest of the significantly radiogenic region of the Mount Painter Uranium Domain host to the Mount Gee hard rock uranium deposits.
- Targeting Tertiary Eyre Formation Sediments which host the Four Mile and Honeymoon uranium deposits.

Recent Activity

- Engagement with representatives of the Dieri Native Title Aboriginal Corporation and ATLA, along with other stake holders to progress access agreements and enable advanced on-ground activities.

Next Steps

- Continued engagement with Native Title claimants and other key stakeholders to establish NTMAs and enable on-ground activities.
- Assessment of historical and regional data sets as to determine suitable workflows.

¹: Goulds Dam Uranium Deposit – Resource - Boss Energy Limited ASX: BOE - Combined Indicated and Inferred Resource – Average Grade 523 ppm U₃O₈ with Contained 25 Mlbs. U₃O₈. Refer to ASX: BOE announcement dated 23 January 2024

Northern Territory – Unconformity-Style Uranium (General)

Orpheus holds strategic ground in the Northern Territory (see Figure 3), prospective for unconformity-style uranium similar to the Tier-1 Ranger deposit (owned by Energy Resources of Australia (ASX: ERA)). The Company's current focus is advancing the Mount Douglas project from target definition to advanced-stage activities, including drilling.

Orpheus is also assessing several opportunities to enhance its Northern Territory portfolio, which has during the current reporting quarter included the grant of EL 34013 (Conways).

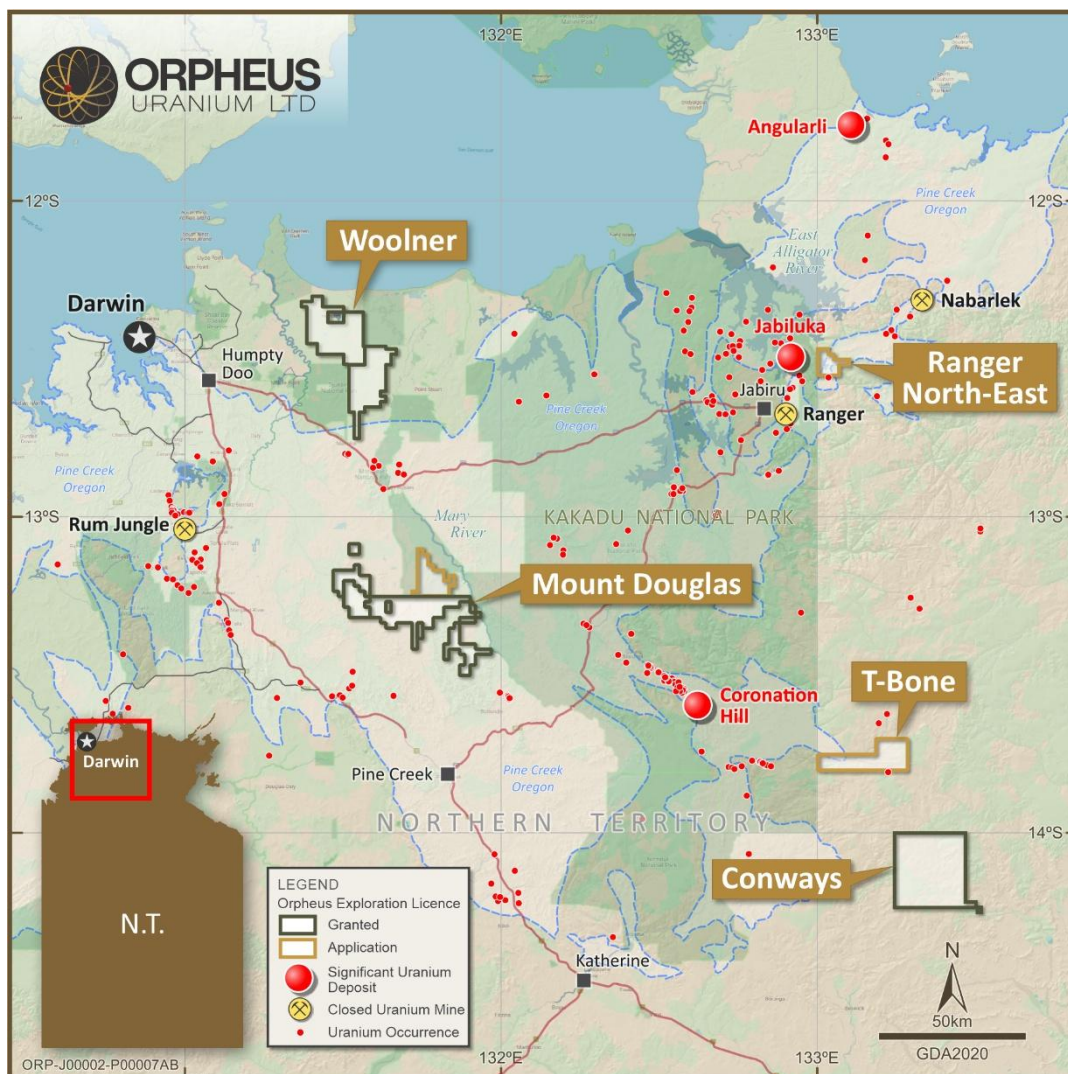


Figure 3: Location map of uranium assets owned by Orpheus located in Northern Territory

Mount Douglas Project

Overview

- The Mount Douglas Project is located on the eastern flank of the Rum Jungle Mineral Field (RJMF) and is comprised of two exploration licences and an adjoining application (see Figure 3).
- This field was the first major uranium mining and processing centre in Australia, and is contained within the Pine Creek Orogen, within which the most recent production of unconformity-style uranium mineralisation has occurred.

Recent Activity:

- Orpheus awarded ~\$80,000 (incl. GST) in NTGS co-funding to support a high-resolution gravity survey - scheduled for Q3 2025.
- Final plans for infill gravity stations over areas of interest completed. The survey will follow up on the nearly 1200 ground gravity stations acquired in 2024 and further refine the drilling target area.

Next Steps:

- Deploy gravity survey and refine the geological model for unconformity-style targets.
- Continued engagement with relevant stakeholders to prepare for more extensive on-ground activities later in 2025.



Photo: Orpheus Uranium's team on the ground in the Northern Territory (Mt Douglas)

Business Growth – Uranium (General)

Orpheus maintains an active watch and engages with companies throughout Australia that hold tenure within desired geological settings conducive to uranium mineralisation and consistent with the business strategy.

Other Assets – Non-Uranium (General)

Orpheus continues to review its historical tenement portfolio to ensure all assets remain in good standing and compliant with regulatory requirements. Recent geological assessments have been completed for the Torrens/Murdie IOCGU project (Figure 4) and the Myrtle Springs project in South Australia, as well as the Kroombit Cu/Zn project in Queensland. In the coming quarter, Orpheus will finalise remaining geological reviews, carry out activities necessary to meet ongoing regulatory obligations, and assess the strategic fit of these assets within the broader project portfolio.

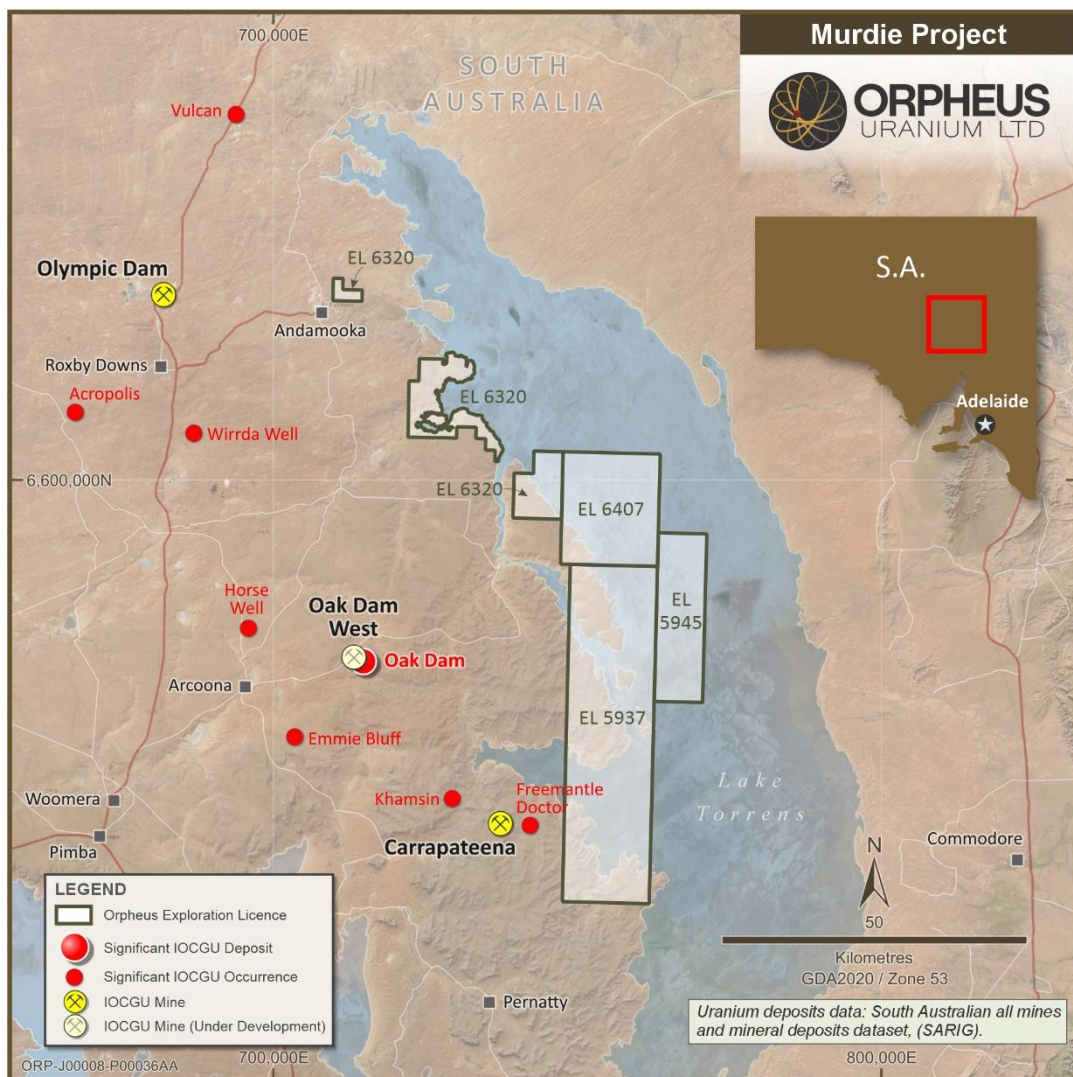


Figure 4: Location map of non-uranium assets owned by Orpheus located in South Australia's Torrens/Murdie Project

Corporate Activity

Capital Raise

In April 2025, Orpheus successfully raised \$1.25 million in capital to fund the acquisition of the Pirie Basin Project.

Board Changes

Directors Mr Mick Billing and Mr Richard Willson retired from the board at the end of the Quarter. Non-executive director Mr Simon Mitchell succeeded Mick Billing as Chair of the Board, and CEO, Mr Clinton Dubieniecki, joined the board as Managing Director. Mr Richard Willson will continue as Company Secretary.

Both Mick and Richard were instrumental in guiding the Company during a period of transition as it pursued a new strategy as an Australian-focused uranium exploration company. The transition period saw significant realignment of priorities, a rationalisation of legacy assets and a significant recapitalisation of the Company. Orpheus is now well-positioned to execute its uranium-focused strategy, and the Board would like to thank Mick and Richard for their significant contributions.

Zambian Litigation

Subsequent to the end of the Quarter, the Company received notice that proceedings had been commenced in the High Court of Zambia on behalf of Nsansala Resources Limited (**Nsansala**) seeking payment from the Company and its wholly owned Zambian subsidiary, Lumwana West Resources Limited (**Lumwana**), in respect of amounts alleged to be owed in respect of Lumwana's Zambian Exploration Licence 22399-HQ-LEL (**License**).

Nsansala was previously party to a joint venture agreement with Argonaut Resources Overseas Investments Ltd (AROI), being an entity in which Nsansala historically held a 20% shareholding and the Company had a 20% shareholding, before that agreement was terminated in 2012 and the Company acquired Nsansala's shares in AROI in consideration for, among other things, Nsansala retaining a residual right to receive \$2,000,000 (in cash or Shares) on the Company announcing a JORC Compliant Mineral Resource of not less than 1,000,000 tonnes of in ground copper metal (with an average grade of not less than 0.5% copper) within the area of the Licence or prospecting License 11916-HQ LPL (**Resource Announcement**).

The Company has never made a Resource Announcement and, as previously disclosed to the market, the Company is no longer pursuing the License following the 2021 decision of the Zambian government to cancel the License and grant Global Development Cooperation Consulting Zambia Limited (GDC) rights in respect of the same area as the License.

Nsansala's claim appears to be that the Company was complicit in the Zambian government's 2021 cancellation of the License and that the cancellation and subsequent sale of mining data to Prospect Resources Limited in 2024 (to try and recover some value for shareholders) was part of an elaborate scheme designed by the Company to defraud Nsansala of its entitlements.

Naturally, given the various legal and administrative appeals pursued by the Company to have the License restored over some 2.5 years (and the inherent costs in doing so), the Company denies the allegation, considers it to be without merit and intends to defend the proceedings.

Further updates will be provided to the market in due course as necessary.

Cash and Investments

The total value of cash and investments in ASX listed companies as at 30 June 2025 was approximately \$4.90 million, comprising:

- Cash at bank \$4.16 million
- Shares in listed companies (liquid investments) \$0.74 million

Other

ASX Listing Rule 5.3.1 - Exploration and evaluation expenditure incurred during the quarter was \$0.241 million. Details of exploration activities during the quarter are set out in this report.

Expenditure	A '000
Tenement statutory fees	\$56
Tenement management, administration & logistics	\$48
Geophysics	\$3
Technical & office studies	\$27
Land access	\$25
Salaries and wages	\$82
Total	\$241

ASX Listing Rule 5.3.2 - There was no production or development expenditure incurred during the quarter.

ASX Listing Rule 5.3.5 – Payments to related parties of the Company and their associates during the quarter totalled \$0.162m. Related party payments represented salaries, superannuation and fees paid to directors and the CEO of the Company.

This announcement was approved for release by the Board of Orpheus Uranium Limited.

For further information, please contact:

MANAGING DIRECTOR & CHIEF EXECUTIVE OFFICER

Clinton Dubieniecki

E. clinton@orpheusuranium.com

COMPANY SECRETARY

Richard Willson

E. richard@orpheusuranium.com

About Orpheus Uranium

Orpheus Uranium Limited is an Australian Securities Exchange listed exploration company exploring for uranium in South Australia and the Northern Territory, both jurisdictions which allow uranium mining and processing.

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 (AIG), Member of Australasian Institute of Mining and Metallurgy (AusIMM), 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.

Forward Looking Statements

The written presentation may contain forward-looking statement regarding the outlook for the Company's interpretation, work programs, and financial results. These forward-looking statements generally can be identified by phrases such as "anticipates", "potential", "plans", "intends", "believes", "likely", "appears", "expects", "likely", "appears" or other words or phrases of similar impact. There is inherent risk and uncertainty in any forward-looking statements. Variance will occur and some could be materially different from management's opinion. Developments that could impact the Company's expectations include a variety of known and unknown risks, uncertainties and other factors that could cause actual events or results to differ from those expressed or implied, including, without limitation, business integration risks; uncertainty of development plans and cost estimates, commodity price fluctuations; political or economic instability and regulatory changes; currency fluctuations, the state of the capital markets, Orpheus' ability to attract and retain qualified personnel and management, potential labour unrest, unpredictable risks and hazards related to the development and operation of exploration programs that are beyond the Company's control, the availability of capital to fund all of the Company's projects. These forward-looking statements are made as of the date of this presentation and the Company assumes no obligation to update these forward-looking statements, or to update the reasons why actual results differed from those projected in the forward-looking statements, except in accordance with applicable securities laws.

Tenement Schedule

Table 1: Summary of mining tenements

SOUTH AUSTRALIAN MINERAL EXPLORATION LICENCES						
Tenement	Granted	Expiry	Area (km ²)	Locality	Licensee	Interest
EL 6569	18/10/2020	17/10/2025	104	Sandstone	Coombedown Resources Pty Ltd	10% ¹
EL 5998	21/05/2017	20/05/2028	33	Campfire Bore	Coombedown Resources Pty Ltd	10% ¹
EL 6199	04/06/2018	3/06/2029	27	Myrtle Springs	Kelaray Pty Ltd	100%
EL 6407 ²	18/08/2024	17/08/2030	295	Lake Torrens	Kelaray Pty Ltd	100%
EL 5937	30/03/2017	29/03/2028	794	West Lake Torrens	Kelaray Pty Ltd	100%
EL 5945	20/04/2017	19/04/2028	221	Murdie	Kelaray Pty Ltd	100%
EL 6320	28/02/2019	27/02/2030	198	Andamooka Station	Kelaray Pty Ltd	100%
EL 6554	07/12/2020	6/12/2025	960	Frome Downs	Trachre Pty Ltd	100%
EL 6555	07/12/2020	6/12/2025	947	Curnamona	Trachre Pty Ltd	100%
EL 6703	3/02/2022	2/02/2028	987	Erudina	Trachre Pty Ltd	100%
EL 6900	19/01/2023	18/01/2029	143	Billeroo	Trachre Pty Ltd	100%
EL 6913	9/06/2023	8/06/2029	998	Mundowdna	Trachre Pty Ltd	100%
EL 6914	9/06/2023	8/06/2029	990	Muloorina	Trachre Pty Ltd	100%
EL 6915	9/06/2023	8/06/2029	978	Clayton	Trachre Pty Ltd	100%
EL 6958 ³	18/12/2023	17/12/2029	294	Mundaerno	Trachre Pty Ltd	100%
EL 6960	18/12/2023	17/12/2029	797	Radium Hill South	Trachre Pty Ltd	100%
EL 6989 ³	10/04/2024	9/04/2030	87	Woolshed	Trachre Pty Ltd	100%
QUEENSLAND MINING LEASE						
Tenement	Granted	Expiry	Area (km ²)	Locality	Licensee	Interest
ML 5631	16/05/1974	31/05/2026	0.32	Kroombit	Kelaray Pty Ltd	100%
QUEENSLAND MINERAL DEVELOPMENT LICENCE						
Tenement	Granted	Expiry	Area (km ²)	Locality	Licensee	Interest
MDL 2002	03/08/2016	31/08/2026	0.64	Kroombit	Kelaray Pty Ltd	100%
NORTHERN TERRITORY MINERAL EXPLORATION LICENCES						
Tenement	Granted	Expiry	Area (km ²)	Locality	Licensee	Interest
EL 31451	8/09/2017	7/09/2025	4845	Mount Douglas	Trachre Pty Ltd	100%
EL 33075	3/01/2023	2/01/2029	104	Mount Douglas (Ban Ban)	Trachre Pty Ltd	100%
EL 33088	3/01/2023	2/01/2029	473	Woolner	Trachre Pty Ltd	100%
EL 33089	3/01/2023	2/01/2029	459	Marrakai	Trachre Pty Ltd	100%
EL 34013 ⁴	16/05/2025	15/05/2031	643	Conways	Trachre Pty Ltd	100%

NORTHERN TERRITORY MINERAL EXPLORATION LICENCE APPLICATIONS

Tenement	Applied	Expiry	Area (km ²)	Locality	Licensee	Interest
ELA 32445	25/06/2020	-	230	T-Bone	Trachre Pty Ltd	100%
ELA 32446	25/06/2020	-	64	Ranger NE	Trachre Pty Ltd	100%
ELA 32038	22/11/2018	-	128	Mount Douglas (Mary River)	Trachre Pty Ltd	100%

¹ Kelaray holds a 33% interest in Coombedown Resources Pty. Ltd.

² Memorandum of renewal received during the quarter.

³ Partial Relinquishment of tenure submitted during the quarter.

⁴ Grant of tenement was received during quarter.

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