

Quarterly Report

FOR PERIOD ENDING 31 DECEMBER 2024

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 31 December 2024.

Mount Douglas

- Semi-regional gravity survey completed over the tenure in collaboration with the NTGS/ Geoscience Australia's regional gravity survey (see ASX announcement, 3 October 2024).

Frome Project

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

Radium Hill South

- Ongoing engagement with Wilyakali Native Title Aboriginal Corporation to complete required processes to progress towards undertaking advanced stage exploration activities.

Higginsville

- Divestment of remaining interest in non-core Higginsville joint venture in Western Australia, consistent with the Company's strategy to refine its portfolio and prioritise Uranium exploration (see ASX announcement, 24 December 2024).

Business Development

- Application submitted for exploration licence (EL 34013 – Conways), proximal to T-Bone within the Northern Territory's Pine Creek Orogen.
- Extensive review of geologically relevant projects and generative areas for uranium exploration to refine the current tenement portfolio.

Corporate

- Completion of a successful capital raising during the quarter totalling \$1.66 million before costs (see ASX announcement, 28 November 2024).
- Cash and listed investments of \$4.49 million at the end of the December 2024 quarter.

Commenting on the December Quarterly results, CEO Clinton Dubieniecki commented:

"We are pleased to have further refined our uranium-focused project portfolio during the period, which was complemented by a successful capital raise. This strong investor support reaffirms confidence in our project pipeline, and we are excited to continue advancing these opportunities. Efforts are underway to further develop and progress our existing tenure, with a clear focus on moving towards advanced-stage exploration activities in the near term"

ORPHEUS URANIUM LIMITED

CAPITAL STRUCTURE

Issued shares: 237.3m
Debt: nil
Unlisted options: 19.5m
Cash on hand: \$3.73m
Liquid investments: \$0.76m

DIRECTORS

Mick Billing - Non-Exec Chairman
Simon Mitchell - Non-Exec Director
Richard Willson - Non-Exec Director & Company Secretary
Todd Williams - Non-Exec Director

ASX: ORP

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%
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.

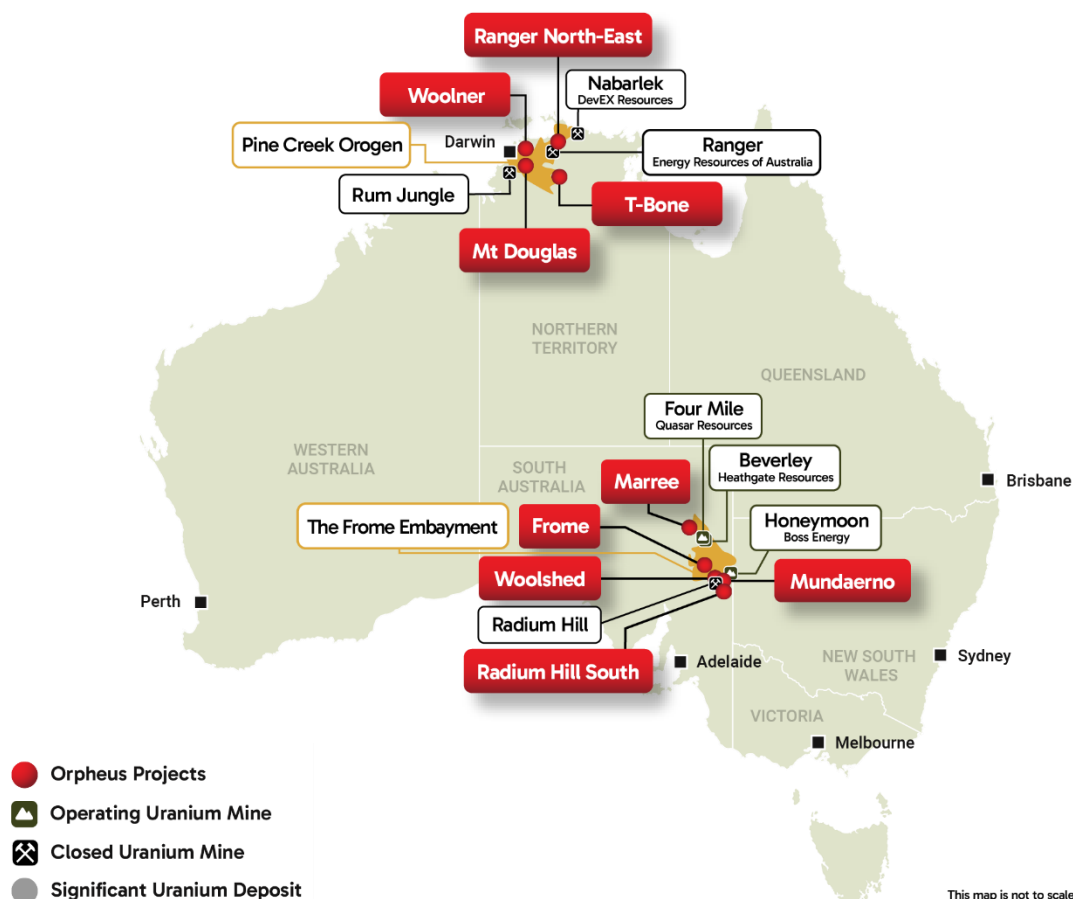


Figure 1: Location map of uranium assets owned by Orpheus located in South Australia and Northern Territory (not to scale)

Northern Territory – Unconformity-Style Uranium (General)

Orpheus holds strategic ground in Northern Territory (see Figure 2) 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 actively assessing opportunities to enhance the Northern Territory portfolio. During the quarterly period Orpheus applied for exploration licence (EL) 34013 – Conways, located south-south-east of the Companies T-Bone application.



Figure 2: Location map of uranium assets owned by Orpheus located in Northern Territory

Mount Douglas - Overview

- The Mount Douglas project is comprised of two exploration licences and an adjoining application (see Figure 3). Tenure is located on the eastern flank of the Rum Jungle Mineral Field (RJMF).
- 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 Australian unconformity-style uranium mineralisation has occurred.

In detail

Achievements for the Mount Douglas project during the December 2024 quarter include:

- Completion of a 1200 station ground gravity geophysical survey over the Mount Douglas tenure. Collaborative undertaking in association with the Northern Territory Geological Survey (NTGS) for which the preliminary results of the survey are being processed in combination with open file data.
- Results of the survey will be used to refine target areas for unconformity style uranium mineralisation, which will be subject to follow up geophysical surveys, associated modelling and target generation for advanced-stage activities.

- Mining Management Plan (MMP) approvals were recently obtained by Orpheus from the Northern Territory government. These approvals remain in place for activities to commence during the dry season. The implementation of the program will be dictated by the results of the predecesing activities and land accessibility.

Next Steps

- Processing of regional geophysics as to refine areas for infill activities to define masked unconformity-style targets.
- Commence advanced-stage activities over nominated areas subject to accessibility, including completion of the wet season.

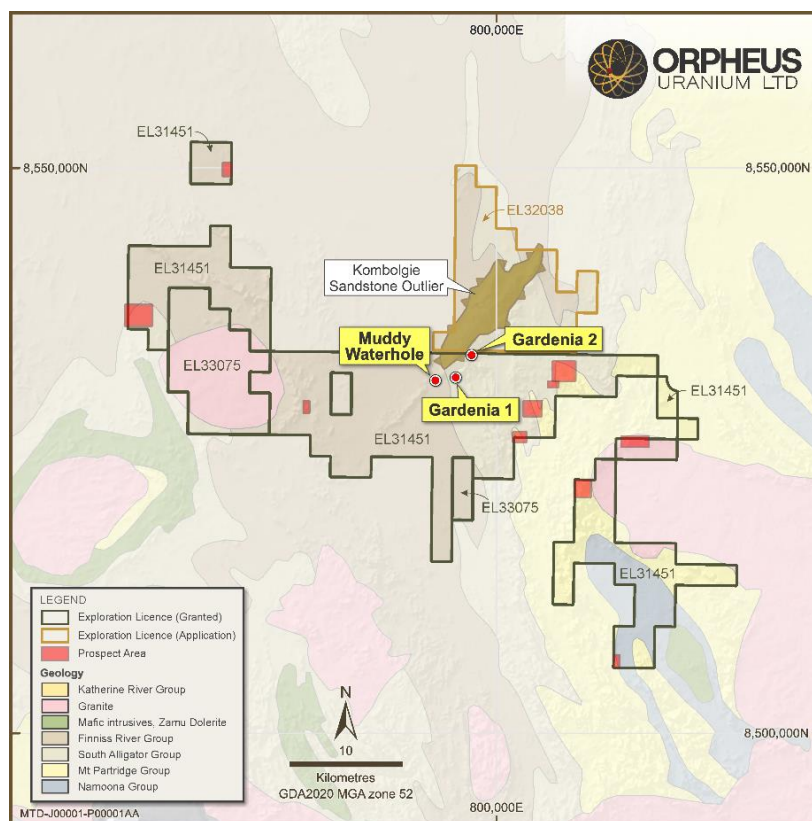


Figure 3: Mount Douglas Project (EL31451, EL 33075, & ELA 32038) Regional geological map displaying sites of radiometric anomalies (red dots) and prospect areas (red squares).

South Australia – Sedimentary-Style Uranium (General)

Orpheus Uranium has established itself as a leading explorer in the Frome Embayment of South Australia with a large tenement holding covering Tertiary paleochannels adjacent to the world-class Beverley-Four Mile and Honeymoon uranium districts (see Figure 4). The South Australian portfolio comprises the advanced Frome and Radium Hill projects, which are unique for the province and represent two separate greenfield discoveries by Areva (Orano) and Mega Hindmarsh respectively that were never fully explored

prior to the collapse in the uranium price following the Fukushima incident in 2011. Mundaerno represents a greenfield exploration opportunity located at the headwaters of the uranium-rich Yaramba Palaeochannel.

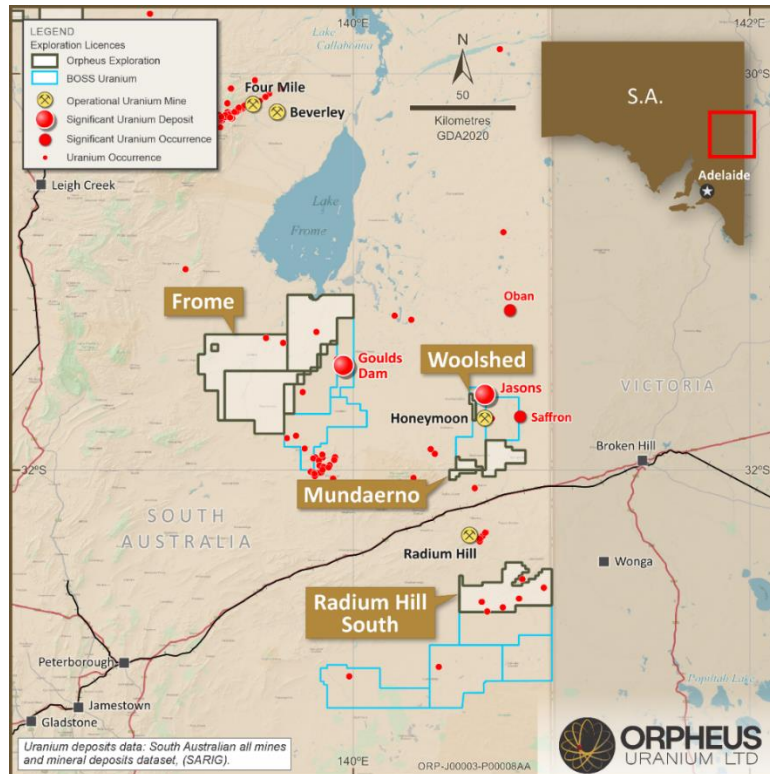


Figure 4: Project locations and uranium occurrences in the highly prospective region of the Frome Embayment, the Southern Curnamona Province and to the south, the northern margin of the Murray-Darling Basin.

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).
- Peak uranium grades in fertile Namba and Eyre Formation sediments of >1,500ppm EqU.

In detail

Achievements for the Frome project during the December 2024 quarter include:

- 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.

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

Next Steps

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

Radium Hill South Project – Overview

- Large 797km² exploration licence strategically located 20km south of the historic Radium Hill Uranium Mine (an important source of basement-hosted uranium mineralisation).
- Advanced greenfields project developed by Mega Hindmarsh in 2006.
- Five advanced prospects with proven potential for shallow sediment-hosted uranium mineralisation.
- Potential for new ‘step change’ discovery in emerging sedimentary Palaeochannel system.

In detail

Achievements for the Radium Hill project during the December 2024 quarter include:

- 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.

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.
- Geophysical survey to assist in definition of the target sediments and basement structures to further refine areas for drill testing.

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.

NON-URANIUM ASSETS

Higginsville (WA) - Overview

- Divestment of remaining interest in non-core Higginsville joint venture in Western Australia, consistent with the Company's strategy to refine its portfolio and prioritise Uranium Exploration.
- Orpheus has received \$150,000 cash consideration from minority JV partner Loded Dog Prospecting for the Company's 80% interest in the joint venture.
- Orpheus will utilise the funds to contribute to exploration activities associated with key assets in South Australia and the Northern Territory, whilst contributing towards developing Orpheus geologically relevant project pipeline.

Corporate Activity

Annual General Meeting

During the Quarter Orpheus held the Annual General Meeting and all proposed resolutions were approved.

Capital Raising

During the Quarter, Orpheus successfully raised \$1.66 million (before costs) through the share placement of approximately 47.5 million new fully paid ordinary shares at \$0.035 per share ("Placement"). The proceeds of which will be used to fund exploration of the Company's uranium projects in South Australia and the Northern Territory, in addition to developing Orpheus' geologically prospective project pipeline, general working capital and the Placement costs.

Investor Engagement

During the quarter, board and management presented an Orpheus historical technical and corporate presentation to investors at the Global Uranium Conference in Adelaide and the Noosa Mining Conference. The presentations are available in the Presentations section of the Company's website.

Cash and Investments

The total value of cash and investments in ASX listed companies on 31 December 2024 was approximately \$4.49 million, comprising:

- Cash at bank \$3.73 million
- Shares in listed companies (liquid investments) \$0.76 million

Other

ASX Listing Rule 5.3.1 - Exploration and evaluation expenditure incurred during the quarter was \$0.288m. Details of exploration activities during the quarter are set out in this report.

Expenditure	A '000
Tenement rents/rates	\$64
Land access	\$31
Tenement administration	\$15
Geological consultants	\$105
Geophysical surveys	\$4
Field expenses	\$13
Rehabilitation	\$11
Salaries and wages	\$45
Total	\$288

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 \$0.165m. 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:

CHIEF EXECUTIVE OFFICER

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Company Secretary

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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 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	18/08/2019	17/08/2024	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	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	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	484.52	Mount Douglas	Trachre Pty Ltd	100%
EL 33075	3/01/2023	2/01/2029	103.63	Mount Douglas (Ban Ban)	Trachre Pty Ltd	100%
EL 33088	3/01/2023	2/01/2029	473.23	Woolner	Trachre Pty Ltd	100%
EL 33089	3/01/2023	2/01/2029	458.81	Marrakai	Trachre Pty Ltd	100%

NORTHERN TERRITORY MINERAL EXPLORATION LICENCE APPLICATIONS						
Tenement	Applied	Expiry	Area (km ²)	Locality	Licensee	Interest
ELA 32445	25/06/2020	-	230.24	T-Bone	Trachre Pty Ltd	100%
ELA 32446	25/06/2020	-	63.71	Ranger NE	Trachre Pty Ltd	100%
ELA 32038	22/11/2018	-	127.49	Mount Douglas (Mary River)	Trachre Pty Ltd	100%
ELA 34013	07/10/2024		643.46	Conways	Trachre Pty Ltd	100%

There was one tenement with a change of interest in the December 2024 Quarter.

Table 2: Summary of mining tenements with change in interest during quarter

WESTERN AUSTRALIAN MINERAL EXPLORATION LICENCE						
Tenement	Granted	Expiry	Area (km ²)	Locality	Licensee	Interest
E15/1489 ³	14/08/2017	13/08/2027	20.94	Higginsville	Orpheus Uranium Limited	0% (previously 80%)

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

² Undergoing renewal.

³ The sale of the Joint Venture included the sale of Orpheus' interest in E15/1489