Quarterly Report

FOR PERIOD ENDING 30 JUNE 2024

ASX: ORP

ORPHEUS URANIUM LTD

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 2024.

Frome Project

- Completion of 100% acquisition of the Frome Project (see ASX announcement, 9 April 2024).
- Program for Environmental Protection and Rehabilitation (PEPR) submitted to the Government of South Australia. Final drill permits are subject to determination by the Adnyamathanha Traditional Lands Association (ATLA) in respect of the Heritage Survey report (see ASX announcement, 18 March 2024).
- Ongoing review of historical exploration drill hole data in conjunction with newly acquired passive seismic and induced polarisation (IP) geophysical techniques has led to refined drill targets and priorities. Multiple redox constrained environments typical of "stacked" uranium roll-front mineralisation systems are prioritised for expanded future drill programs.

Radium Hill South

- Preliminary engagement with Wilyakali Native Title Aboriginal Corporation. Strategy of progressing to a field visit and Heritage Survey to enable on-ground activities, including prospect drilling.

Woolshed

- Licence application for the Woolshed project, located 4km from Boss Energy's (ASX: BOE) Honeymoon Uranium Mine in South Australia, granted (see ASX announcement, 18 April 2024).

Corporate

- In April, the Company executed an Agreement with Prospect Resources Limited (ASX: PSC) (Prospect), which resulted in Orpheus exiting from its exploration projects in Zambia.
- Prospect allotted Orpheus 8,333,333 fully paid PSC shares as partial reimbursement of prior exploration expenditure (see ASX announcement, 9 April 2024 & 6 May 2024).
- The Company had cash and listed investments of $4.98m at the end of the June 2024 quarter.

Commenting on the June Quarterly results, Managing Director Clint Dubieniecki commented:

"I'm pleased to commence work at Orpheus and look forward to contributing to the exploration strategy and future work programs. It is worth noting that, prior to my role at Heathgate Resources, I held the position of geologist at Areva (now Orano), and my role included the implementation and interpretation of the historical drilling at the Erudina prospect within the Frome Project. From experience at the Beverley and Four Mile mines, I believe that Orpheus is uniquely placed to deliver new discoveries in this world-class uranium province. While permitting has incurred delays, we are confident that ATLA will provide a determination allowing the Company to advance to its maiden drill program, and this time has allowed us to complete further interpretation to set up our projects for success. In parallel, we have taken steps to elevate Radium Hill South to permit status, with stakeholder engagement underway."

Uranium Assets, South Australia and Northern Territory

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

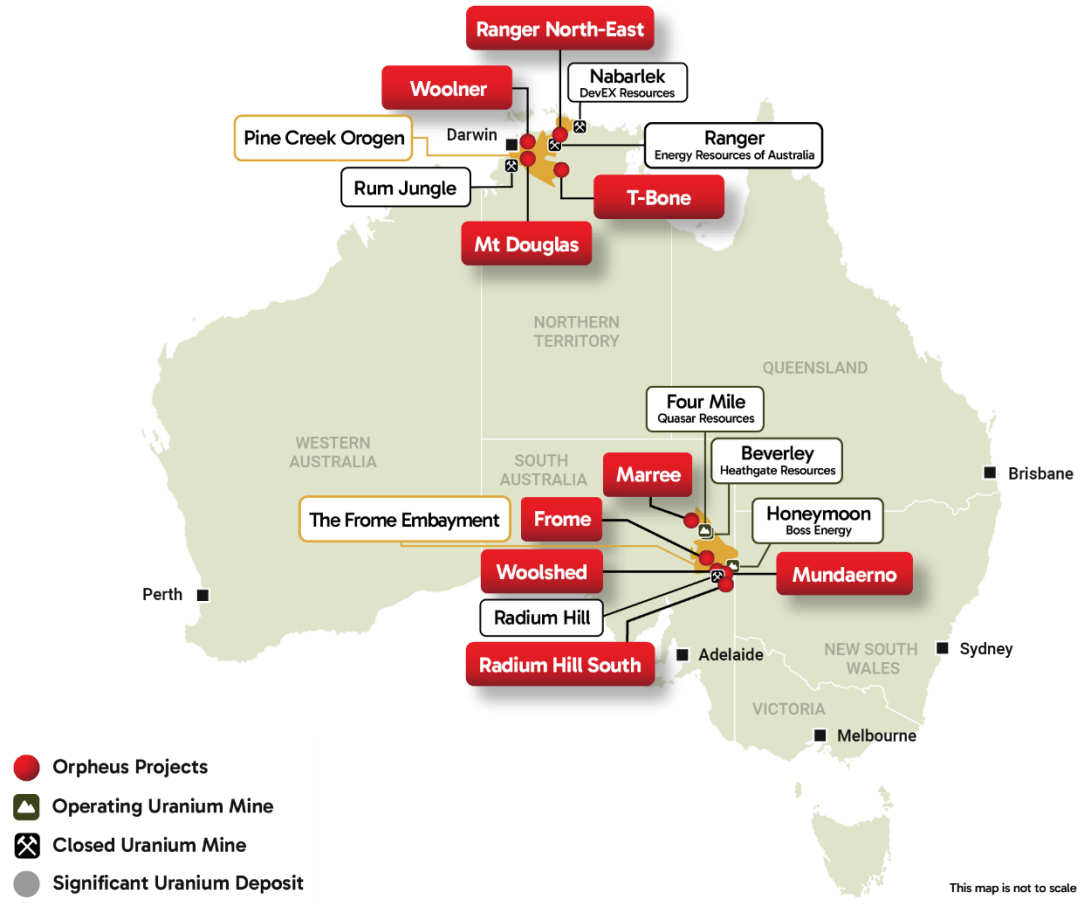


Figure 1: Location map of uranium assets owned by Orpheus located in South Australia and Northern Territory (not to scale)

South Australia – Sedimentary-Style Uranium (General)

Orpheus 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 2). The 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 that were never fully explored prior to the collapse in the uranium price following the Fukushima incident in 2011.

Orpheus optioned the Frome project in February 2021 prior to the recent increase in the uranium spot price and finalised the 100% acquisition in April 2024. Separately, Radium Hill South was awarded to Orpheus by the Government of South Australia via a competitive application process, an endorsement of the unique technical capacity of the Company (see ASX announcement, 7 December 2023).

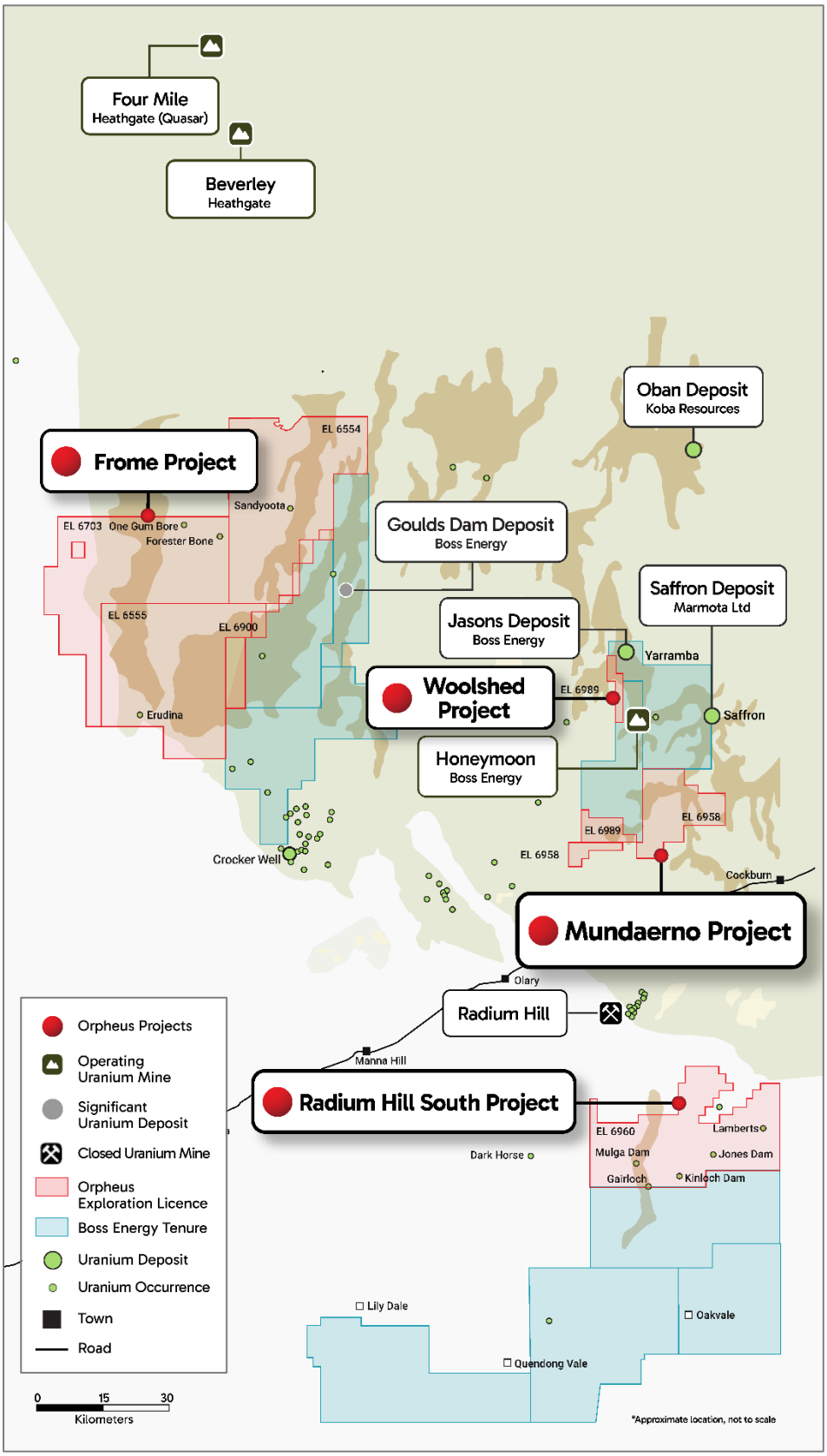


Figure 2: Project locations and uranium occurrences in the highly prospective region of the Frome Embayment, the Southern Curnamona Province and to the south, the northern margin of the Murray-Darling Basin (map not to scale).

Frome Project – Highlights

- 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 inferred[1].
- 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.
- Maiden Phase 1 drill program planned.

In detail

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

- Completion of 100% acquisition of the Frome Project (see ASX announcement, 9 April 2024) from Groundwater Geoscience Pty Ltd (Groundwater). Total consideration of $330,000 cash was paid to Groundwater in July after the current reporting period.
- Program for Environmental Protection and Rehabilitation (PEPR) submitted to the Government of South Australia. Orpheus awaits a formal response from the Adnyamathanha Traditional Lands Association (ATLA) in respect of the Heritage Survey report based on a heritage survey completed in January.
- Ongoing review of historical exploration drill hole data in conjunction with newly acquired induced polarisation (IP) and passive seismic geophysical data to refine drill targets and priorities. Specifically, the Company has leveraged extensive 1km spaced prospect drill holes at Erudina to develop a subsurface model for reduced and oxidised sediments ("REDOX") as a potential fluid-pathway and vector to higher-grade "roll front" style uranium mineralisation (see Figure 3).
- Review of drill hole sections reveals multiple environments, within the Exploration Target Zone and regionally, where the geological and geophysical characteristics are typical of "stacked" uranium roll-front mineralisation (see Figure 4), representing priority targets for an expanded drill program.

Next Steps

- The Company acknowledges delays in the planned drill program at Frome and is taking all necessary steps to resolve these delays.

1: Goulds Dam Uranium Deposit – Resource - Boss Energy Limited ASX: BOE - Combined Indicated and Inferred Resource – Average Grade 523 ppm U_3O_8 with Contained 25 Mlbs. U_3O_8. Refer to ASX: BOE announcement dated 23 January 2024

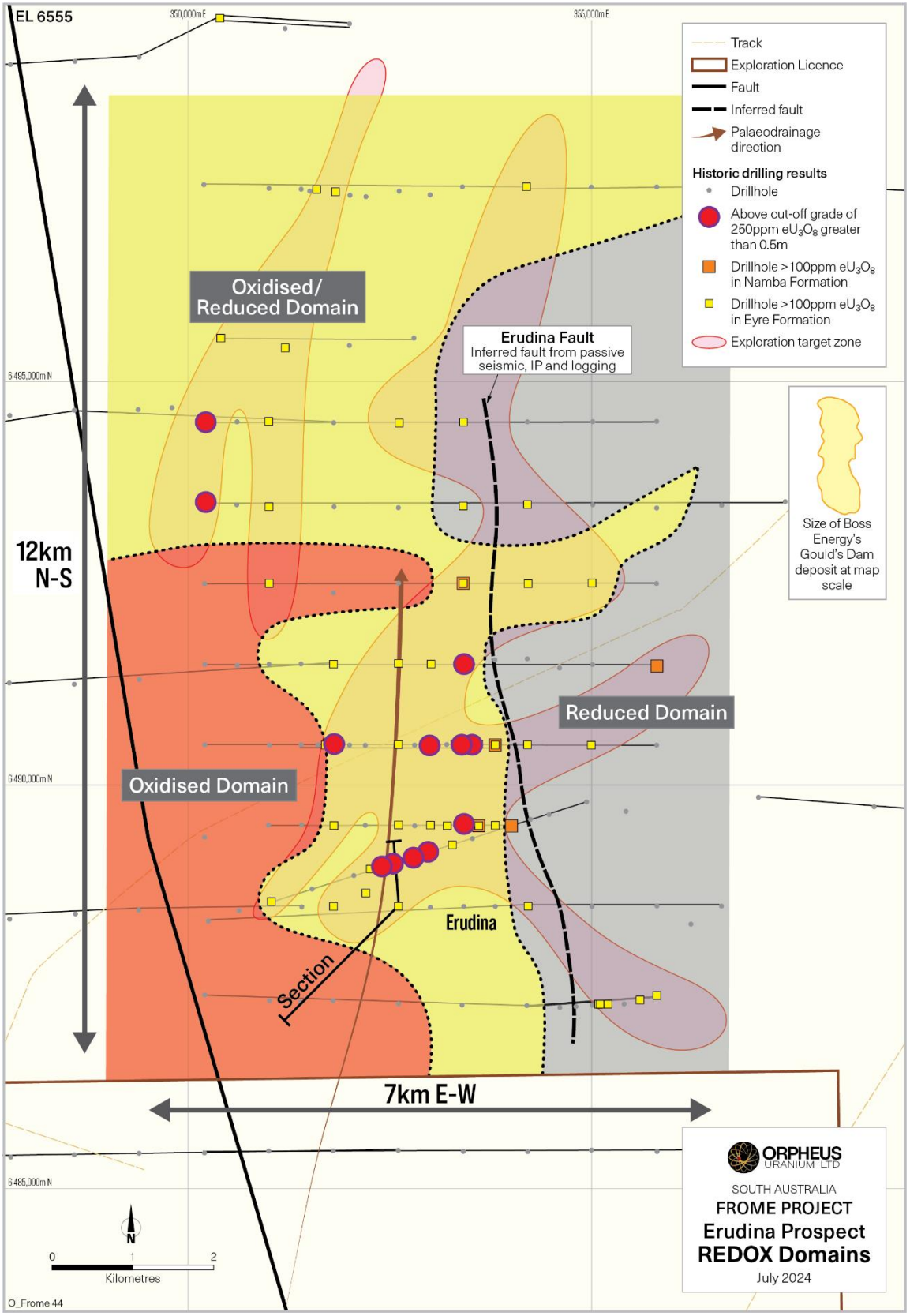


Figure 3: Curnamona (EL 6555) – Subsurface interpreted model for reduced, transitional and oxidised sediments ("REDOX characteristics") as a vector to "roll front" style uranium mineralisation within Eyre Formation of the Erudina Prospect.

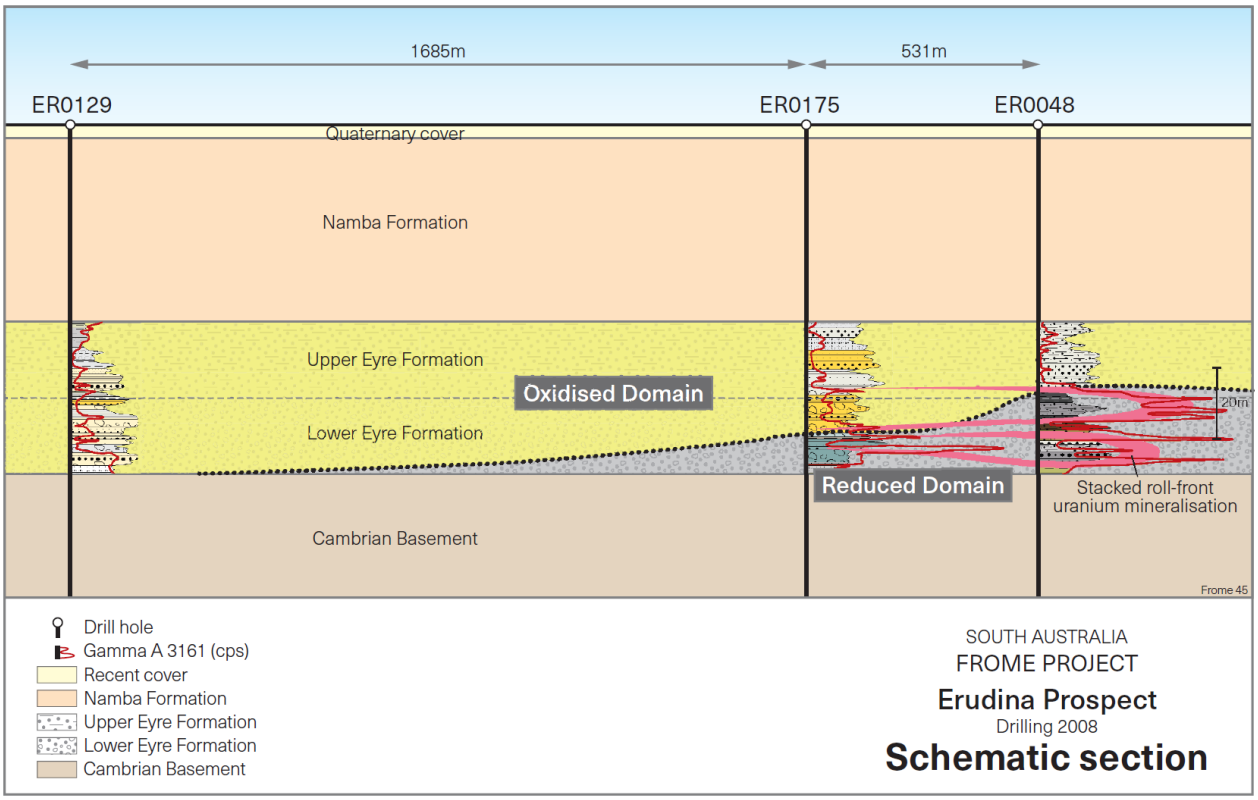


Figure 4: Curnamona (EL 6555) - Schematic section of select drill holes with geological, redox and geophysical characteristics which are interpreted as having potential for typical "stacked" uranium roll-front mineralisation within Erudina Prospect.

Radium Hill South Project – Highlights

- Large 797km^2 exploration licence awarded to Orpheus Uranium by the Government of South Australia in December 2023 via a competitive tender process.
- Strategically located 20km south of the Radium Hill uranium mine (an important source of basement-hosted uranium mineralisation).
- Advanced greenfields project developed by Mega Hindmarsh in 2006.
- 5 advanced prospects with proven potential for shallow sediment-hosted uranium mineralisation; historical results include:
    - Kinloch Dam: 3m at 507ppm U_3O_8 from 105m
    - Jones Dam: 2m at 401ppm U_3O_8 from 86m
- Potential for new 'step change' discovery in emerging sedimentary Palaeochannel system.

In detail

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

- Ongoing review of 37,564m of historical exploration drill hole data in conjunction with open-file geophysical datasets (airborne electromagnetics, gravity, magnetics, IP) to refine target areas for an inaugural drill program.

- The work has defined a regional-scale REDOX corridor trending east-northeast through the project area (see Figure 5). The REDOX corridor is interpreted as a significant fluid-pathway and potential control on uranium mineralisation.

- The potential for a new discovery within Radium Hill is further supported by the geological and geophysical characteristics of the target Gairloch Formation as identified from historical drill holes. Drill spacing exceeds the dimensions of a "stacked" uranium roll-front mineralisation system (see Figure 6), whilst the REDOX corridor provides abundant target locations.

Next Steps

- Continued engagement with Wilyakali Native Title Aboriginal Corporation along with a field visit and Heritage Survey to commence on-ground activities, including prospect drilling.

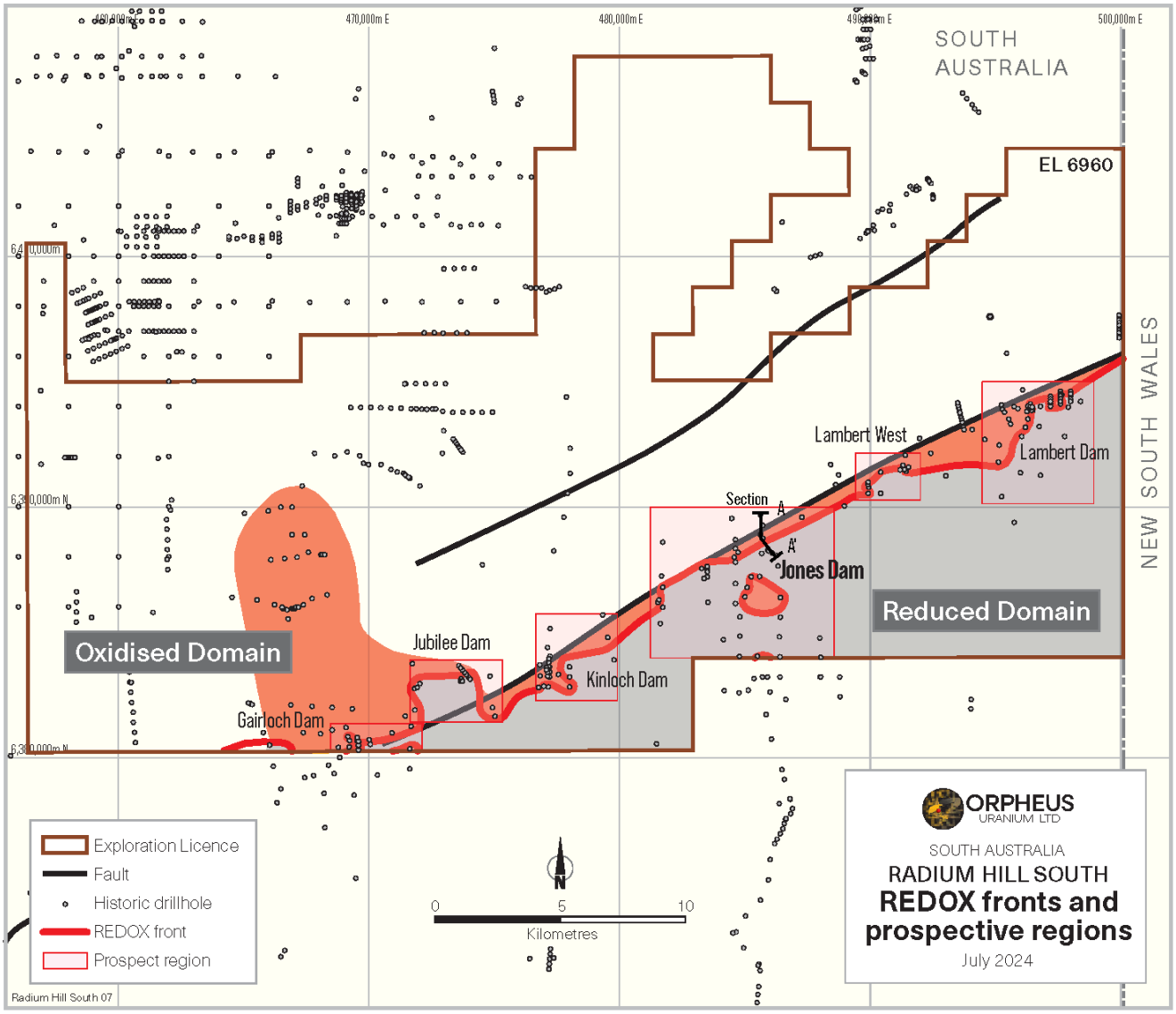


Figure 5: Radium Hill South (EL6960) Subsurface interpreted model for reduced and oxidised sediments ("REDOX characteristics") as a vector to "roll front" style uranium mineralisation within the Gairloch Formation.

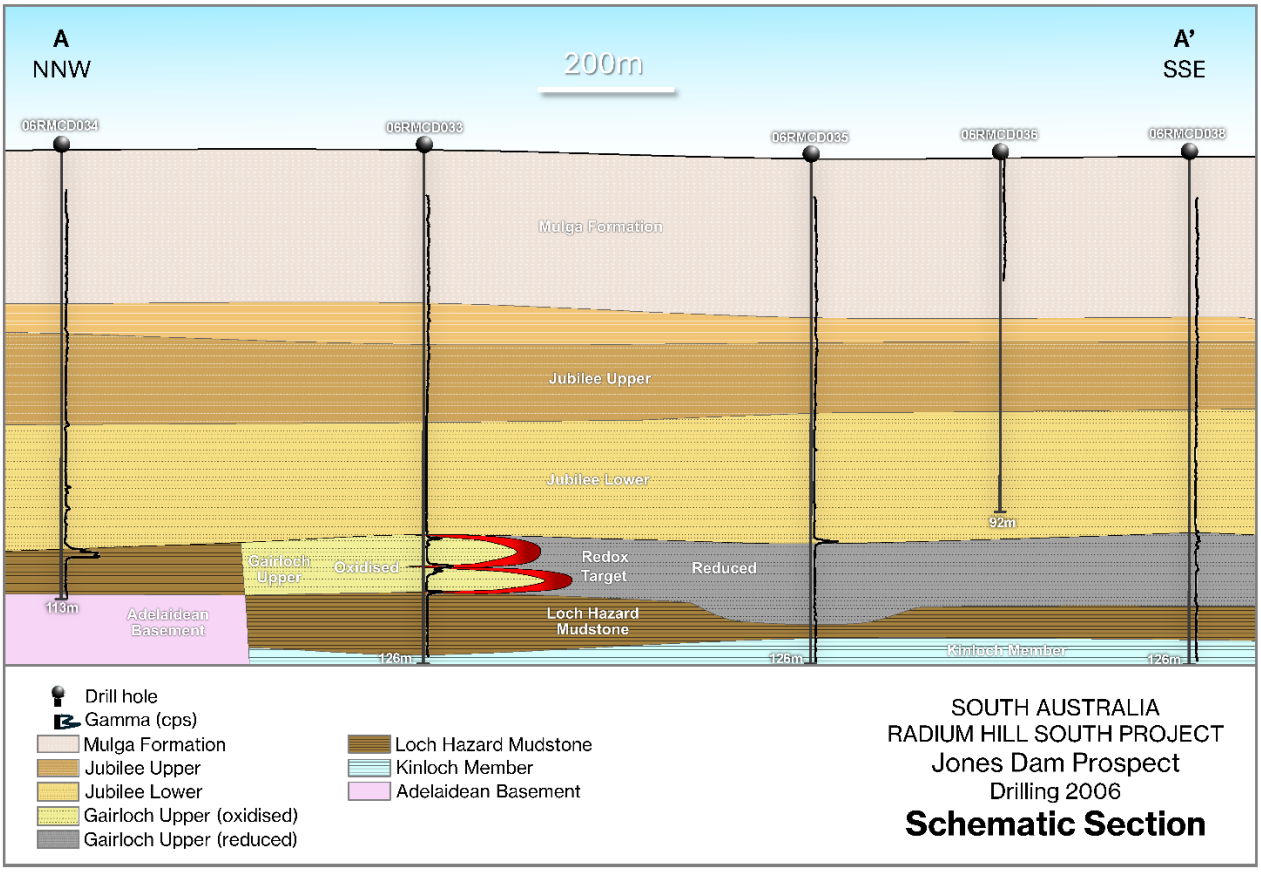


Figure 6: Radium Hill South (EL6960) – Schematic section of select drill holes with geological, redox and geophysical characteristics which are interpreted as having potential for typical "stacked" uranium roll-front mineralisation within, Jones Dam Prospect.

Pipeline Projects – Highlights

- Woolshed and Mundaerno: strategic landholding immediately west and south of Boss Energy's Honeymoon mine, covering the geological extension of the highly prospective Yarramba Palaeochannel (see Figure 7).

In detail

Achievements for the Woolshed and Mundaerno projects during the June 2024 quarter include:

- During the quarter, Orpheus received confirmation that the application for the Company's Woolshed project had been granted by the South Australian Department for Energy and Mining (DEM) (see ASX announcement, 18 April 2024).

- Work on the Woolshed and Mundaerno projects was limited to stakeholder engagement.

Next Steps

- Preliminary engagement with Native Title claimants is planned along with a detailed geological review of historical datasets and field visit.

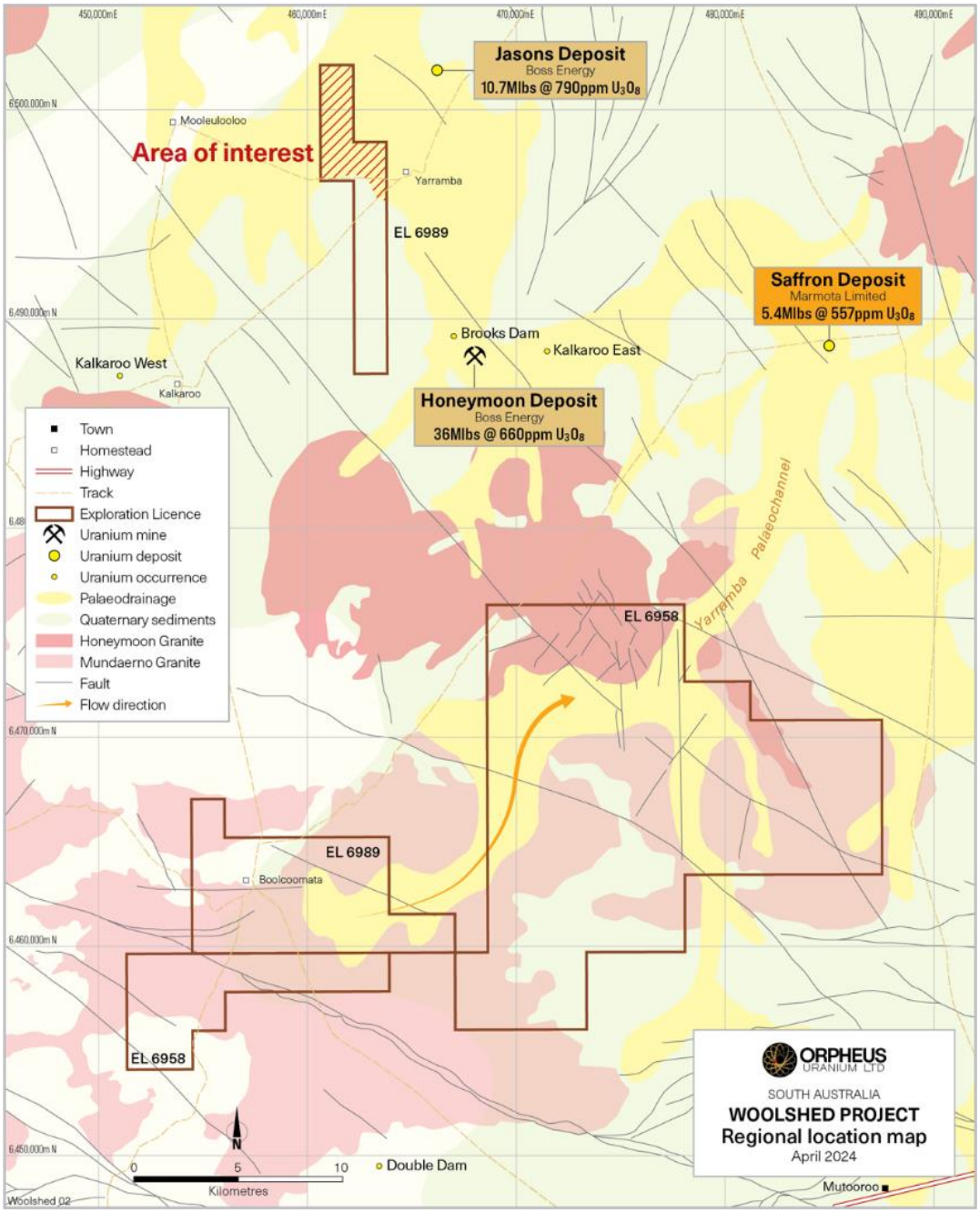


Figure 7: Woolshed (EL 6989) – Project location and nearby uranium occurrences, highlighting the 'Area of Interest' within the Yarramba Palaeochannel, within Orpheus' Mundaerno project (EL 6958)

* Honeymoon Uranium Deposit – Resource - Boss Energy Limited ASX: BOE – Mineral Resource – Average Grade 660 ppm U_3O_8 with Contained 36 Mlbs. U_3O_8. Refer to ASX: BOE announcement dated 23 January 2024

Northern Territory – Unconformity-Style Uranium (General)

Orpheus holds strategic ground in Northern Territory prospective for unconformity-style uranium like 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.

Mount Douglas - Highlights

- Mining Management Plan (MMP) for exploration activities submitted to the Northern Territory Government. The submission, designed for advanced-stage activities awaits approval.
- Detailed geological review and generation of proposed mineralising models for unconformity-style mineralising systems.
- Preparation for ground-based reconnaissance and associated geological activities commenced.
- Commitment to undertake a co-funded (NTGS) gravity survey over the Mt Douglas tenure.

In detail

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

- During the quarter, Orpheus has continued to analyse open-file data for the project which has defined a number of radiometric surface anomalies coherent with target geological formations that will be subject to follow up ground activities (see Figure 8).
- The implementation of the program will be dictated by the results of the planned on-ground geological reconnaissance program, regulatory approvals and land accessibility.
- In parallel, Orpheus has executed contracts with the Northern Territory Geological Survey to co-fund the acquisition of quasi-regional ground gravity geophysical data over the Mount Douglas tenure. The results of the incoming survey will be combined with open file data and included in future geophysical modelling and target generation.

Next Steps

- Stakeholder engagement to establish the timing and requirements for reconnaissance and advanced-stage activities.

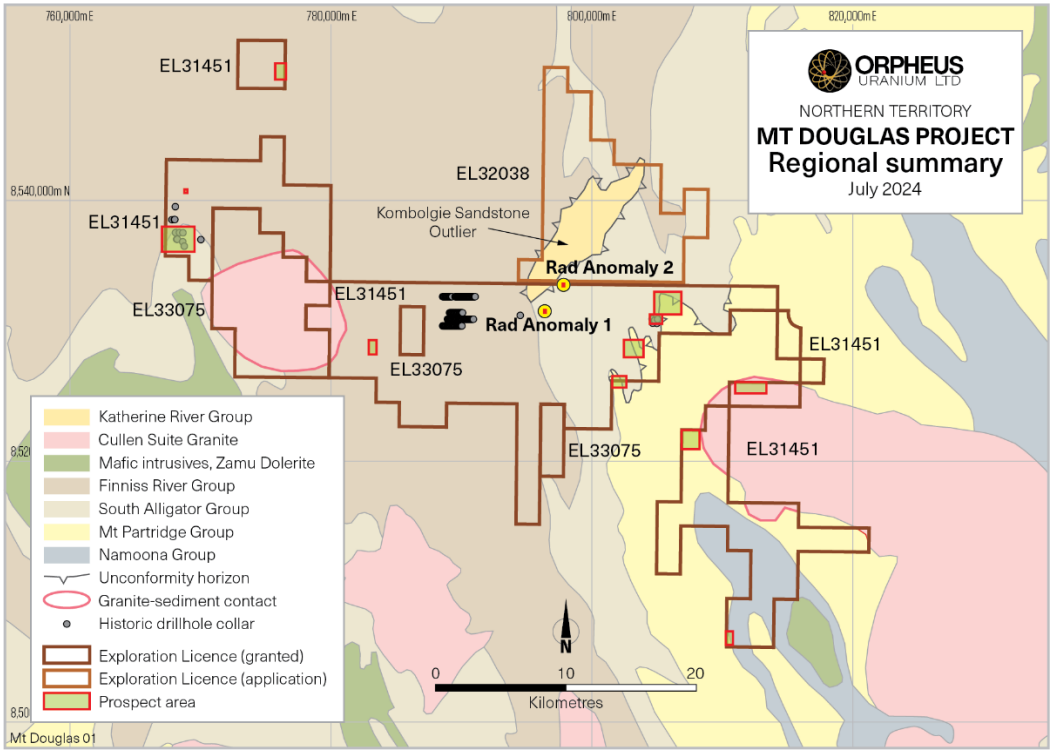


Figure 8: Mount Douglas Project (EL31451, EL 33075, & ELA 32038) Regional geological maps displaying location of radiometric anomalies and prospect areas.

Business Growth – Uranium (General)

Orpheus maintains an active watch and engages with companies in South Australia and Northern Territory that hold tenure within desired geological settings conducive to uranium mineralisation and consistent with the business strategy of undertaking exploration within jurisdictions supportive of uranium exploration and mining, whilst generating material benefits for stakeholders.

NON-URANIUM ASSETS

Zambian Project Withdrawal

In April, the Company executed an Agreement with Prospect Resources Limited (ASX: PSC) (Prospect), which resulted in Orpheus exiting from its exploration projects in Zambia.

Prospect paid Orpheus A$1 million in fully paid PSC shares (8,333,333 shares) as partial reimbursement of prior exploration expenditure, along with 6,250,000 options to acquire ordinary PSC shares, at 15 cents per share, expiring three years after issue.

Upon the definition of a JORC-reportable mineral resource exceeding 500,000 tonnes of contained copper metal, at a cutoff of 0.5% Cu or above, Prospect will make a milestone payment of A$2.5 million to Orpheus.

Orpheus provided Prospect with all mining data relevant to the project, paid a total of A$236k in back-dated project fees and withdrew its appeal application to the Mining Appeals Tribunal of Zambia regarding the cancellation of the Zambian license.

Corporate Activity

Appointment of Uranium Specialist CEO

During the quarter, uranium industry expert Mr. Clinton Dubieniecki commenced as new Chief Executive Officer of Orpheus Uranium (see ASX announcement, 30 May 2024). Clinton brings over 15 years of global experience in uranium-focused businesses, with notable roles in Australia's licensed uranium operations, including his recent position as Principal Geologist at Heathgate Resources in South Australia.

Clinton's expertise encompasses the production and development of uranium resources at Beverley and Four Mile Uranium Deposits, where he played a key role in implementing exploration programs and refining technical skills for resource discovery and extension. His leadership has led to innovative techniques for accessing resources, oversight of successful regional exploration initiatives, and the recruitment of specialised technical teams proficient in identifying uranium mineral systems.

With a diverse background in multiple commodities, including a strong focus on uranium, coupled with exceptional leadership and mentoring capabilities, Clinton is well-suited to lead Orpheus towards success in uranium exploration.

Following Clinton's appointment, Mr. Mick Billing has transitioned from Executive to Non-Executive Chairman, with the Board acknowledging and thanking Mick for his contributions during the CEO search process.

Completion of Frome Uranium Project Acquisition

During the quarter, Orpheus executed a Letter Agreement with Groundwater Science Pty Ltd ("Groundwater Science") to finalise the 100% acquisition of the Company's flagship Frome Project in South Australia.

The acquisition of Exploration Licence (EL) 6703, the Erudina licence, serves as the focal point for Orpheus' ongoing development of assessing the regional mineralisation potential of the Frome Project, and provides a logical extension of Orpheus' upcoming maiden drilling campaign.

The total consideration amounted to $330,000, paid in early July.

Orpheus further confirmed its agreement with Groundwater Science to transfer 100% ownership of the Cummins Project ("Cummins") back to Groundwater Science. Located in the southern region of Eyre Peninsula, Cummins no longer aligns with Orpheus' core focus moving forward.

Investor Engagement

During the quarter, board and management presented the Orpheus corporate presentation to investors at the RIU Sydney Resources Round Up Conference and the Gold Coast Investment Showcase. Both investor 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 at 30 June 2024 was approximately $5 million, comprising:

- Cash at bank $3.69 million
- Shares in listed companies (liquid investments) $1.29 million

Other

ASX Listing Rule 5.3.1 - Exploration and evaluation expenditure during the Quarter comprised:

Expenditure	A '000
Rehabilitation	$24
Drilling and related activities[1]	$196
Geophysics, assaying	$7
Heritage Surveys	$47
Field Costs	$45
Tenement expenditure	$86
Total	**$405**

[1] Drilling includes costs associated with back-dated project fees associated with the withdrawn Zambian project.

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

ASX Listing Rule 5.3.5 - Related party payments for the June 2024 quarter totalled $153,000 which 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:

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INVESTOR RELATIONS

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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	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	27/02/2024	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 6624[2]	23/07/2021	22/07/2027	952	Cummins	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 6923	30/08/2023	29/08/2029	977	Lake Frome	Kelaray 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%

ZAMBIAN LARGE SCALE EXPLORATION LICENCES						
Tenement	Granted	Expiry	Area (km^2)	Locality	Licensee	Interest
23232-HQ-LEL[3]	10/04/2019	9/04/2023	226	North-Western Province	Sunrise Exploration and Mining Limited	90%
23474-HQ-LEL[3]	18/12/2018	17/12/2022	41.58	North-Western Province	Sunrise Exploration and Mining Limited	90%

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

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	Granted	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%

There were no tenements acquired in the June 2024 Quarter.
There was one tenement surrendered in the June 2024 Quarter.

Table 2: Summary of mining tenements surrendered in Quarter

ZAMBIAN SMALL SCALE EXPLORATION LICENCE						
Tenement	Granted	Expiry	Area (km^2)	Locality	Licensee	Interest
26458-HQ-SEL[4]	10/06/2020	9/06/2024	9.72	North-Western Province	Sunrise Exploration and Mining Limited	90%

[1] *Kelaray holds a 33% interest in Coombedown Resources Pty. Ltd.*
[2] *Licence returned to Groundwater Science pending transfer.*
[3] *Undergoing renewal.*
[4] *Small-scale Exploration Licence was non-renewable.*