ASX: ORP

ORPHEUS URANIUM LTD

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Orpheus granted Woolshed Uranium Project, 4km from Honeymoon Mine in SA

Orpheus Uranium Limited (ASX: **ORP**) (*Orpheus* or the *Company*) is pleased to announce the recent licence application for the Woolshed project has been granted by the Department, located 4km from Boss Energy's (ASX: BOE) Honeymoon Uranium Mine in South Australia. The Woolshed project is considered highly prospective for sedimentary-hosted roll-front and tabular-style uranium mineralisation, located in the south-eastern portion of the Frome Embayment, Southern Curnamona Province region of South Australia.

Woolshed Project – 4km west of Honeymoon Uranium Mine and Jasons Uranium Deposit

- **Woolshed project (EL 6989) contains the Northern Block, situated 4km west of the Honeymoon Uranium Mine (36Mlbs contained U_3O_8)[1] and 4km west of the Jasons Uranium Deposit (11Mlbs contained U_3O_8)[2] both held by Boss Energy Ltd (ASX: BOE)**
- **Woolshed contains a portion of the Yarramba Palaeochannel that is host to the uranium mineralisation within Cenozoic sediments of the Eyre Formation in the region (Figure 1)**
- **The inferred Yarramba Palaeochannel located within the Northern Block has only one known historic drillhole (K-26) that penetrated the prospective Namba and Eyre Formations including carbonaceous matter and lignite particles reaching 169m total depth, importantly this confirms an established sedimentary sequence within EL 6989 Woolshed project**
- **Airborne radiometric imagery reveals evidence of erosional processes, indicative of radionuclides shedding off the radiogenic Honeymoon Granite, directly across the Woolshed project and toward the Yarramba Palaeochannel (Figure 2)**
- **Orpheus has recently visited the highly prospective area, close to the Honeymoon Uranium Mine, met with stakeholders, and preparations for geophysical surveys, geochemical sampling and drilling are underway**

Photo 1: Conceptual road sign to Orpheus' projects, situated extremely close to the Honeymoon Uranium Mine

1 Source: https://bossenergy.com/honeymoon-project
2 Source: https://bossenergy.com/honeymoon-project/exploration

Woolshed Project

The Woolshed project covers 87km^2 and is considered prospective for sedimentary-hosted roll-front and tabular-style uranium mineralisation associated with Cenozoic palaeochannels. The Northern Block contains a large portion of a bend in the inferred Yarramba Palaeochannel that is 4km west of Jasons Uranium Deposit and is proximal to the radiogenic Honeymoon Granite that is considered the source of uranium in the area, including the Honeymoon Uranium Mine, Jasons Uranium Deposit and the Saffron Uranium Deposit (5.4Mlbs contained U_3O_8) held by Marmota Limited (ASX: MEU)[3]. The Southern Block contains the headwaters of the Yarramba Palaeochannel that lies directly on top of Mesoproterozoic granites (Figure 1).

Prospectivity

The Woolshed project contains evidence of surficial uranium anomalism visible in state-wide airborne radiometric imagery[4]. This is highly encouraging as it confirms erosional processes of detrital material carrying radionuclides are shedding from the radiogenic Honeymoon Granite, along drainage tributaries directly across the Woolshed project in the direction of the Yarramba Palaeochannel, refer to Figure 2.

The location of the Yarramba Paleochannel has been recently revised by the Geological Survey of South Australia from an airborne electromagnetic (AEM) TEMPEST™ survey, flown in 2010 by Geoscience Australia, covering much of the Frome Embayment, Callabonna Sub-basin, and a portion of the northern Murray Basin. AEM is an optimum geophysical technique at mapping palaeodrainages in this region where thick sedimentary successions include stacked fluvial systems with channel sands saturated by variably saline groundwater[5].

Historically, the region was explored by the Minad-Teton joint venture as part of the South Eagle Uranium Project, leading to the discovery of Honeymoon in 1972.

- One historic drillhole (K-26) located within EL 6989 (on the margin of the AEM inferred Yarramba Palaeochannel) and historic drillholes directly west of the licence boundary, intersected the prospective Namba and Eyre Formations containing: *Tertiary (Cenozoic) sands including carbonaceous matter with lignite particles*, considered a reductant to precipitate dissolved uranium from groundwaters.
- Drillhole K-26 penetrated Cenozoic sediments reaching 169m total depth[6], importantly, this confirms an established sedimentary sequence within EL 6989 Woolshed project (Figure 2).

Exploration Program

Orpheus' exploration objective is to locate suitable trap sites for sedimentary-hosted roll-front and tabular-style uranium mineralisation within the Yarramba Palaeochannel and its tributaries back toward the source of the radiogenic Honeymoon Granite.

Orpheus has recently visited the area and has commenced preparations for land access and exploration programs that will involve:

- Review of historic passive seismic geophysical data and the recent acquisition of the Sentinel-2 Satellite Imagery and Thermal Analysis data that covers the Woolshed project.
- Geophysical surveys, geochemical sampling, and drilling within the Area of Interest of the inferred Yarramba Palaeochannel and its tributaries that shed directly from the radiogenic Honeymoon Granite.

3 Source: https://marmota.com.au/projects/uranium-projects/
4 Airborne radiometrics detects gamma radiation emanating from the land surface using a spectrometer that detects radionuclides; potassium, uranium and thorium that emit specific energies during their decay sequence, advanced processing techniques convert raw data into ground radioelement concentrations.
5 Hou, B., Fabris, A.J., Michaelsen, B.H., Katona, L.F., Keeling, J.L., Stoian, L., Wilson, T.C., Fairclough, M.C., 2012. Paleodrainage and Cenozoic coastal barriers of South Australia: new map and GIS dataset, Geological Survey of South Australia, DMITRE
6 Source: https://minerals.sarig.sa.gov.au/Details.aspx?DRILLHOLE_NO=144557

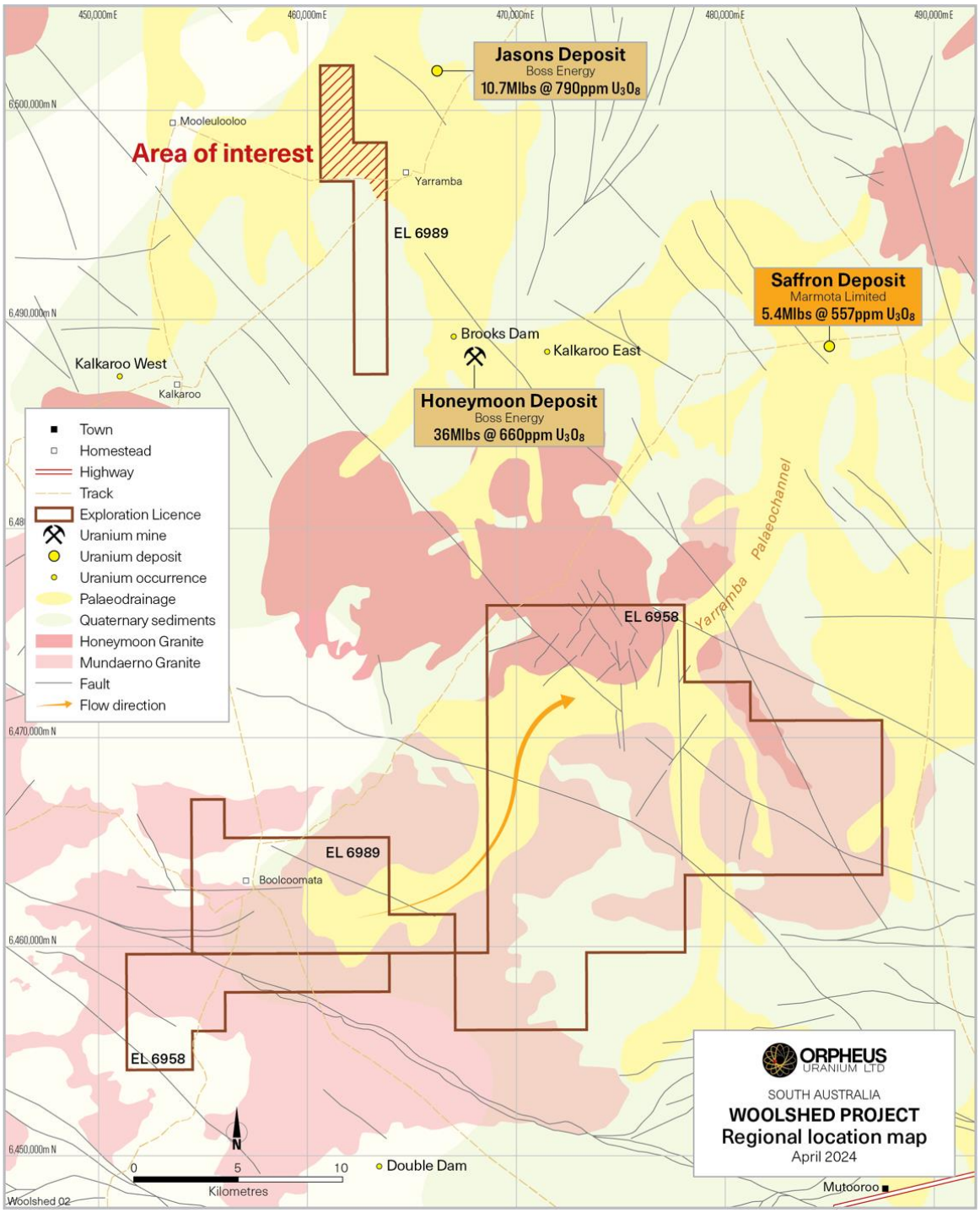

Figure 1: Woolshed project location (EL 6989) and nearby uranium occurrences, highlighting the 'Area of Interest' within the Yarramba Palaeochannel, 4km west of the Honeymoon Uranium Mine and Jasons Uranium Deposit, and contiguous with Orpheus' Mundaerno project (EL 6958)

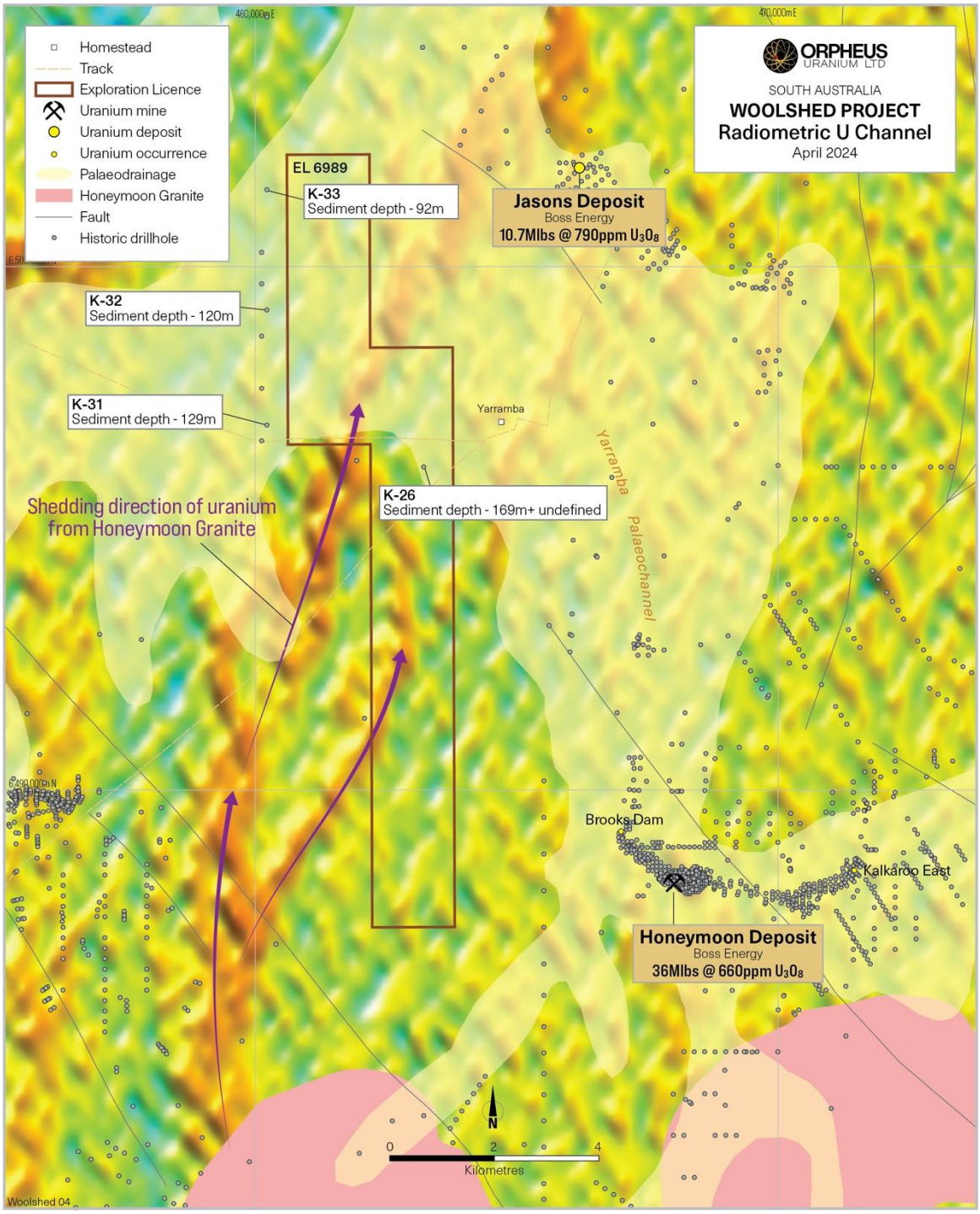

Figure 2: Northern Block of the Woolshed project location EL 6989 and nearby uranium occurrences, highlighting evidence of shedding of radionuclides from the radiogenic Honeymoon Granite transgressing toward the Woolshed project and the Yarramba Palaeochannel, historic drillhole labels indicate depth of Cenozoic sediments to basement

Tenure

Orpheus holds a 100% interest in EL 6989 Woolshed project that comprises two non-contiguous Blocks for a combined area of 87km^2. This recent asset acquisition increases the Company's considerable surface footprint of paleochannels in the highly prospective regions of the Frome Embayment in the north and to the south, the northern margin of the Murray-Darling Basin, in the exploration for sedimentary-hosted roll-front and tabular-style uranium mineralisation.

Refer to Figure 3 for project locations.

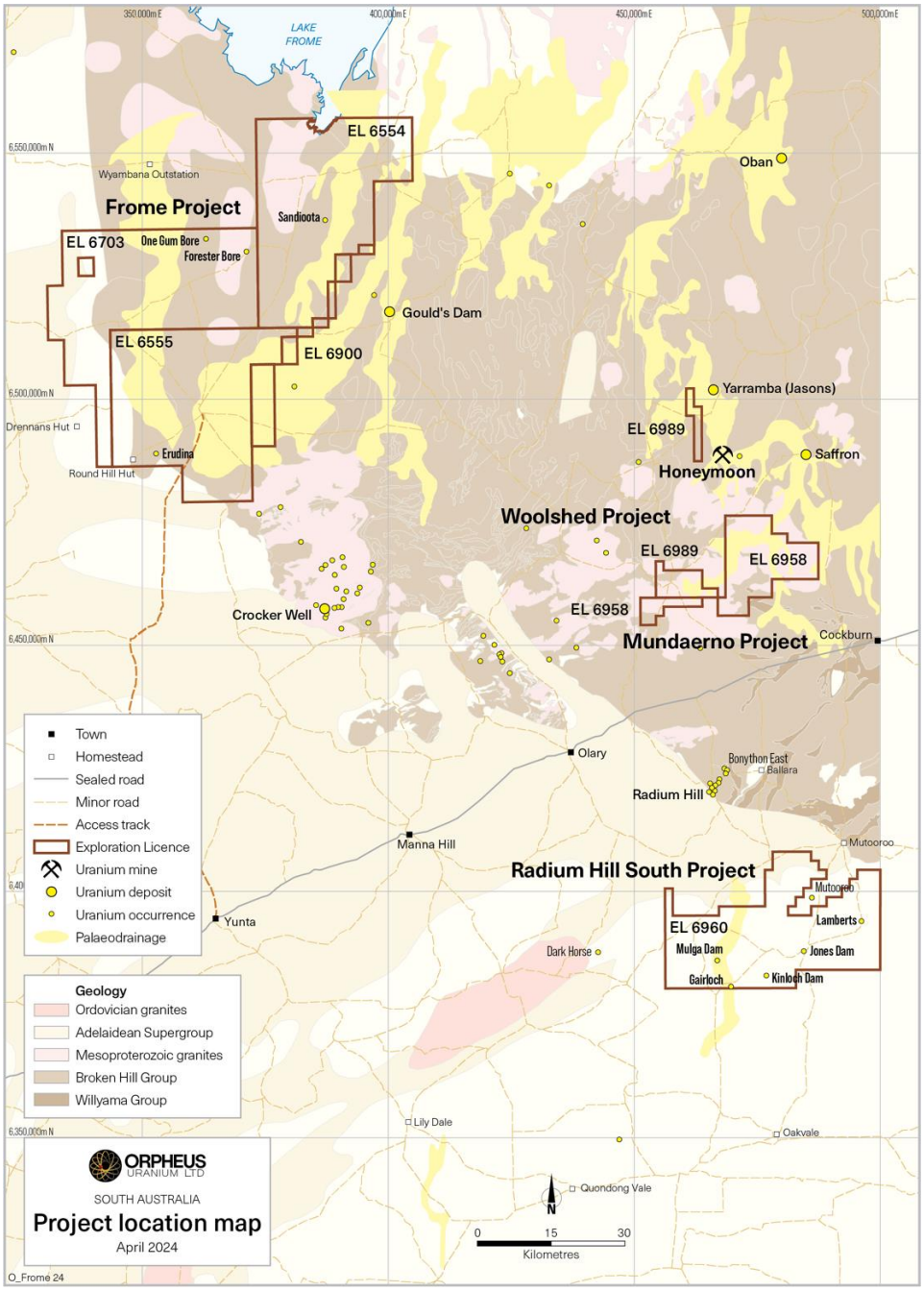

Figure 3: Project locations and uranium occurrences in the highly prospective region of the Frome Embayment, the Southern Curnamona Province and the northern margin of the Murray-Darling Basin

About Orpheus

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.

Figure 4: Location map of uranium assets owned by Orpheus located in South Australia and Northern Territory

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This announcement was approved for release by Mick Billing, Executive Chairman of Orpheus Uranium Limited.

For further information please contact:

EXECUTIVE CHAIRMAN

Mick Billing

E. admin@orpheusuranium.com

MEDIA & INVESTOR RELATIONS

Melissa Tempra

E. melissa@nwrcommunications.com.au

FORWARD LOOKING STATEMENTS

This announcement may contain certain forward-looking statements that have been based on current expectations about future acts, events, and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events, and circumstances to differ materially from the expectations described in such forward-looking statements. These factors include, among other things, commercial and other risks associated with exploration, estimation of resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to Orpheus Uranium or not currently considered material by the company. Orpheus Uranium accepts no responsibility to update any person regarding any error or omission or change in the information in this presentation or any other information made available to a person or any obligation to furnish the person with further information.

COMPETENT PERSON STATEMENT

Sections of information contained in this report that relate to Exploration Results were compiled or reviewed by Miss Bethany Lawrence BScAppGeol(Hons),MAIG,GIA(Aff),CG(Aff) who is a Member of the Australian Institute of Geoscientists and is a full-time employee of Orpheus Uranium Limited. Miss Lawrence holds shares in Orpheus Uranium Limited. Miss Lawrence has sufficient experience which is relevant to the style of mineral deposits under consideration and to the activity which she 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". Miss Lawrence consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.