For personal use only

ASX ANNOUNCEMENT
Heavy Rare Earths Limited (ASX: HRE)
21 October 2024

ACQUISITION OF THREE HIGHLY PROSPECTIVE URANIUM PROJECTS IN SOUTH AUSTRALIA

- **HRE signs binding Term Sheet with Havilah Resources Limited (ASX: HAV) to acquire an 80% initial interest in uranium rights on a highly significant land package in uranium-rich Curnamona Province**
- **Projects include *Radium Hill*, located along strike from the historic Radium Hill uranium deposit from which 2.6 million lbs @ 0.12% (1,200 ppm) U_3O_8 (plus rare earths) was mined between 1954 and 1961**
- **High-grade uranium mineralization in drilling and trenching at *Radium Hill Project* along 10 kilometres of potential strike, with historic intercepts of up to 1.24% (12,400 ppm) eU3O8 reported**
- **Projects also include *Lake Namba-Billeroo* comprising 50 kilometres of prospective palaeochannels, and *Prospect Hill* host to an untested geological analogue to the prolific Beverley-Four Mile uranium camp**
- **Identified targets present a low-cost opportunity to discover both hard rock and sedimentary (palaeochannel-hosted) uranium deposits in South Australia, the only Australian jurisdiction where uranium mines are currently operating**
- **HRE funded via a Placement lead managed by Cygnet Capital and an Entitlement Offer fully underwritten by Cygnet Capital and Taylor Collison**

Heavy Rare Earths Limited ("**HRE**" or "**the Company**") is pleased to announce it has entered into a binding Term Sheet with Havilah Resources Limited (ASX: HAV; "**Havilah**") to acquire a significant portfolio of uranium exploration assets in the uranium rich Curnamona Province of eastern South Australia. The portfolio comprises highly prospective targets that include:

- Radium Hill Project
  - 10 kilometres of potential strike extension to Radium Hill Mine's main lode where 2.6 Mlbs of U_3O_8 (plus rare earths) was mined during 1954-1961
  - Historical intercepts of up to 1.24% eU_3O_8 (12,400 ppm) in drilling and costeans
  - No exploration since 1961

For personal use only

- Lake Namba-Billeroo Project
  - 15 kilometres of unexplored prospective Billeroo Palaeochannel that also hosts Boss Energy Ltd's Gould's Dam resource (25 Mlbs @ 520 ppm U_3O_8)
  - In addition, 35 kilometres of Namba Palaeochannel which presents discovery opportunities building on wide-spaced historic drilling
  - Assays from previous exploration drilling of up to 210 ppm eU_3O_8 in uraniferous basal sands of the Eyre Formation
  - No reported uranium exploration since 2012
- Prospect Hill Project
  - Untested geological analogue to Heathgate Resources Pty Ltd's prolific Beverley-Four Mile uranium camp (166 Mlbs @ 0.26% (2,600 ppm) U_3O_8) located 30 kilometres south
  - Targeting palaeochannels draining uraniferous Curnamona Province basement rocks

The transaction involves HRE earning an 80% initial interest in the uranium rights on three projects by spending $3 million over three years, including a minimum of $1 million in the first year, on exploration and development activities.

HRE Executive Director, Richard Brescianini, said, "*HRE is thrilled to announce the acquisition of three highly prospective uranium projects from Havilah Resources Limited, who we thank for its collaborative approach in this transaction.*

"This agreement provides us with access to a commanding ground position with an excellent pipeline of projects spanning greenfields at the Prospect Hill and Lake Namba-Billeroo projects, through to brownfields at Radium Hill, along strike from where 2.6 million pounds of uranium was mined in the 1950's yet has seen no modern exploration in the 60 years since.

It is very exciting to have the opportunity to explore such quality projects, and in a region with significant resource endowment and host to several active low-cost, long-life uranium operations. We look forward to updating investors on the progress of the acquisition and pending its completion our focus will be to commence exploration as soon as practicable."

New Project portfolio: Radium Hill, Lake Namba-Billeroo and Prospect Hill

The three projects acquired from Havilah – Radium Hill, Lake Namba-Billeroo and Prospect Hill – comprise a total area of 2,949 km^2 across 22 tenements or part-tenements (Table 1).

They are located in South Australia's Curnamona Province which hosts two operating in-situ leach (ISL) uranium mines at Four Mile (Heathgate Resources Pty Ltd) and Honeymoon (Boss Energy Ltd; ASX: BOE), with another on care and maintenance at Beverley, an historic hard-rock uranium operation at Radium Hill, and uranium resources at several other sites (Figure 1).

For personal use only

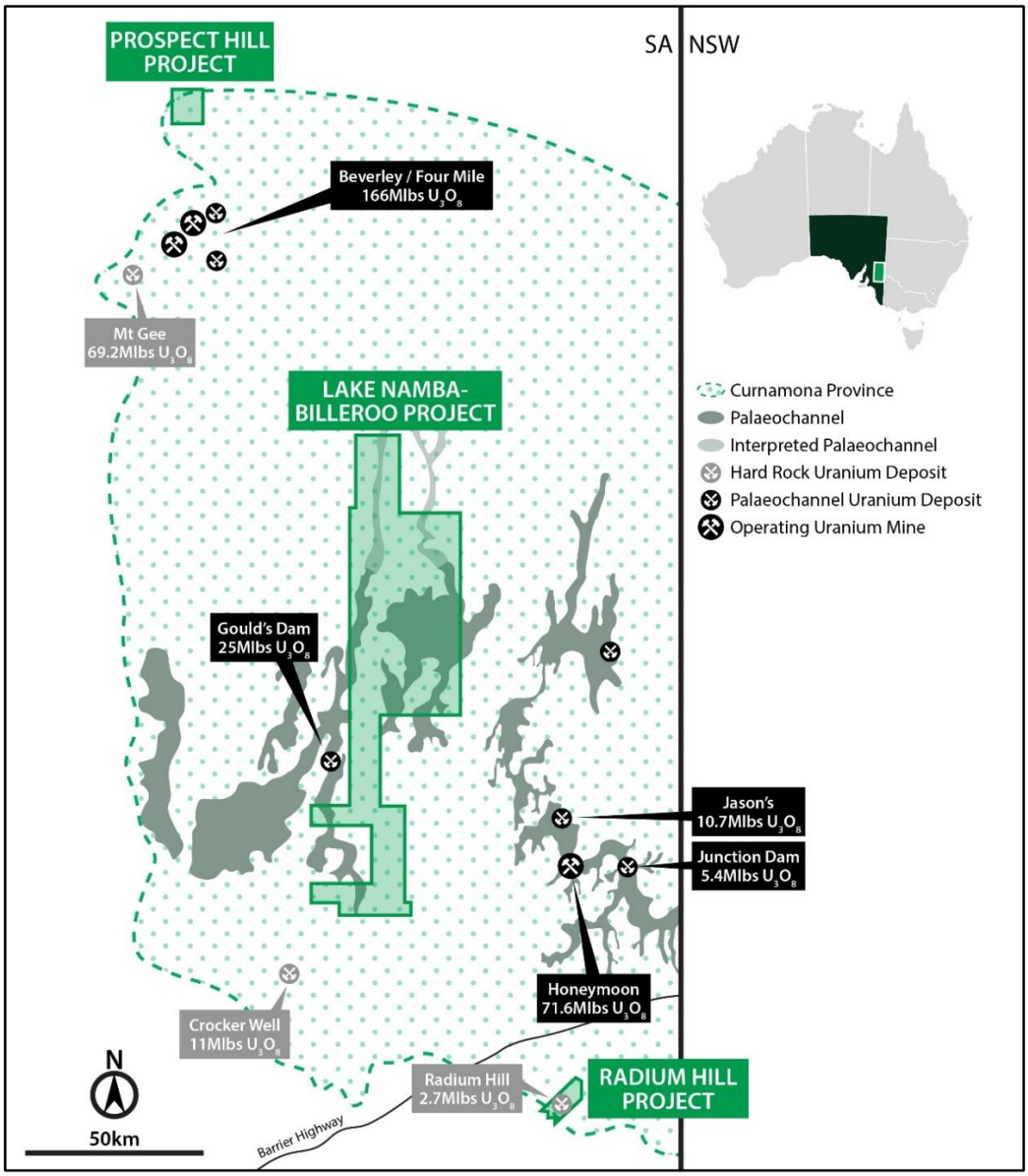


Figure 1: Location of HRE project areas and uranium deposits in the Curnamona Province of eastern South Australia

The total known uranium endowment of deposits in the Curnamona Province, and in palaeochannels of the Frome Embayment and Callabonna Sub-basin that overlie it, is approximately 362 million pounds of U_3O_8[1].

[1]*Data sources:*
- Boss Energy Ltd (ASX: BOE) Annual Report 2024.
- Marmota Limited (ASX: MEU) ASX announcement 26/10/2023: "Marmota to grow Junction Dam uranium resource".
- SARIG SA Geodata MINDEP Database https://drillhole.pir.sa.gov.au/MineralDepositDetails.aspx?DEPOSIT_NO=962.
- Wilson T 2015. Uranium and uranium mineral systems in South Australia – Third edition, Report Book 2015/00011. Department of State Development, South Australia, Adelaide.
- World Nuclear Association: https://world-nuclear.org/information-library/appendices/australia-s-uranium-mines.

For personal use only

Project details and initial targets

The geology and exploration history of HRE's projects are described in Appendix 1 of this announcement.

Initial target zones for HRE include extensions of the Radium Hill uranium deposit, the southern extension of the Billeroo Palaeochannel, the southern Namba Palaeochannel and potential palaeochannels north and east of Prospect Hill.

Radium Hill Project (Figure 2)

Location	180 km ENE of Peterborough, SA
Area	57 km^2 (excludes Mine Exclusion Zone)
Target Commodities	U-REE-Sc (HRE earning 80%)
Target Type	Hard rock shear/fracture fill
Previous Exploration	- 2.6 Mlbs U_3O_8 mined at Radium Hill during 1954-61 - Up to 1.24% eU_3O_8 (12,400 ppm) in drilling and costeans - No exploration since 1961

At the Radium Hill Project, there is considerable potential to discover extensions of uranium mineralization north-east of the main mine lode system and the following represent immediate targets for exploration:

- Railway Prospect: deep drilling to establish if there is continuation of the Main/Cain/Whip Lodes plunging north-east at depth below 150 m;
- Radium Hill West Prospect: drilling along strike to the north-east to test for the continuation of mineralization encountered in historic drilling;
- Harry's Prospect: drilling to confirm observations from surface mapping;
- Bristowe's Prospect: deeper drilling as recommended by previous explorers; and
- Bonython Prospect and Taylor's Shaft: mapping and drilling in the area of airborne radiometric anomalism north-east along strike.

Note that the historic Radium Hill uranium mine is covered by a 2.5 km^2 exclusion zone within EL 6041 that is administered by the South Australian Government and is excluded from the Radium Hill Project.

For personal use only

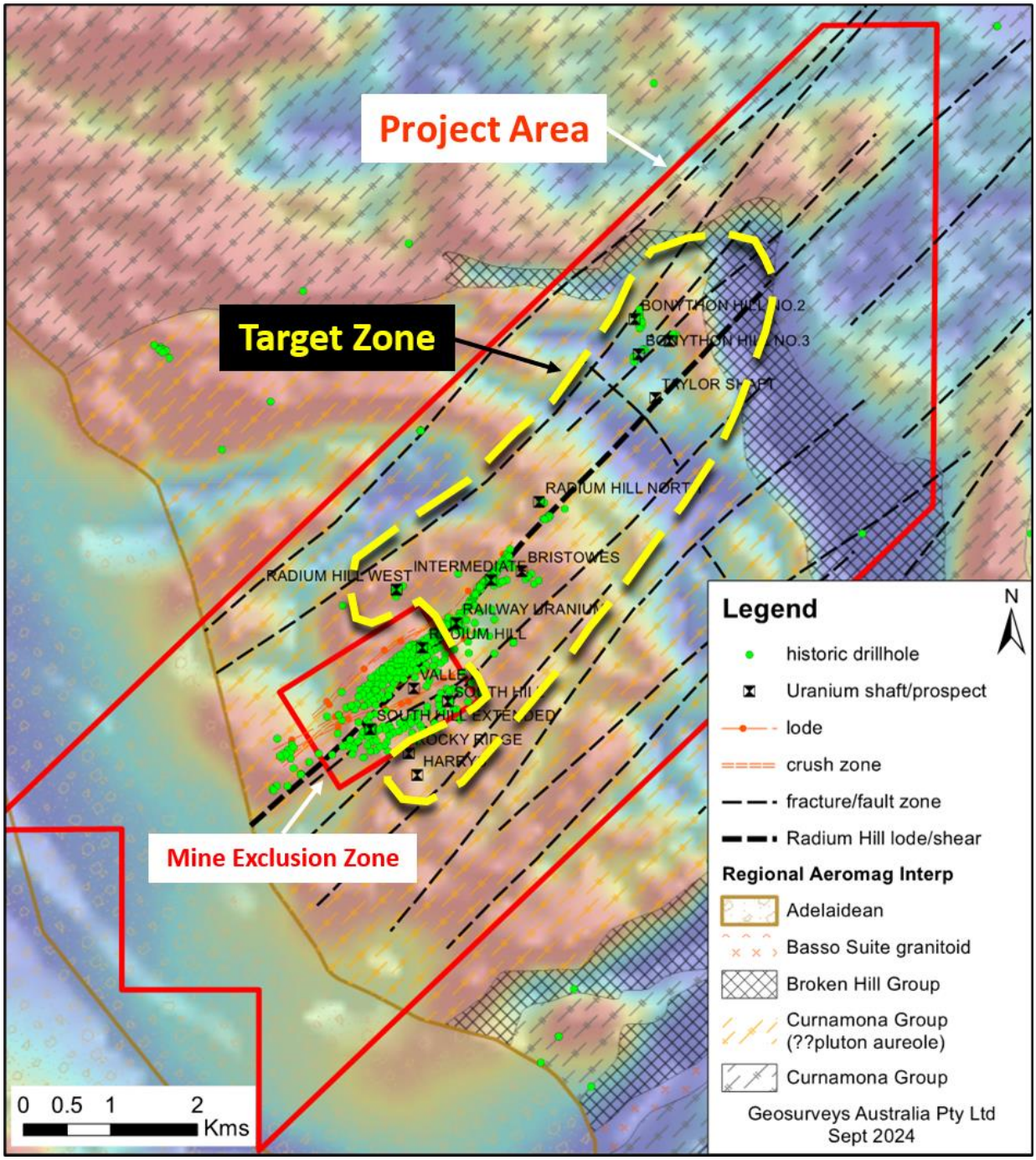


Figure 2: Radium Hill Project.
Background image: SARIG airborne magnetics

Lake Namba-Billeroo Project (Figure 3)

Location	160 km NE of Peterborough, SA
Area	2,817 km^2
Target Commodity	U (HRE earning 80%)
Target Type	Tertiary palaeochannel
Previous Exploration	- Up to 210 ppm eU_3O_8 in drilling - No exploration for palaeochannel U since 2012

In the Billeroo Palaeochannel, the southernmost sectors south of Boss Energy Ltd's Gould's Dam uranium resource are highly prospective for potential sedimentary uranium mineralization. They contain possible east-west oriented basement structures that may represent potential trap sites for localising uranium mineralization in the basal sands of the Eyre Formation at depths of about 80-110 m below ground level.

With only one previous drillhole in these sectors, this target area (total 15 km in strike length) is highly prospective being relatively close to and directly overlying uraniferous Willyama Supergroup basement (*c.f.,* Honeymoon).

The southern 35 km of the Namba Palaeochannel is also prospective for potential sedimentary uranium mineralization. It comprises well defined palaeochannels containing reduced Eyre Formation basal sands, redox fronts and low-order uranium anomalism.

Drilling to date in this part of the Namba Palaeochannel has been along relatively wide-spaced (3-5 km) traverses so there remains potential for further discoveries between traverses.

For personal use only

For personal use only

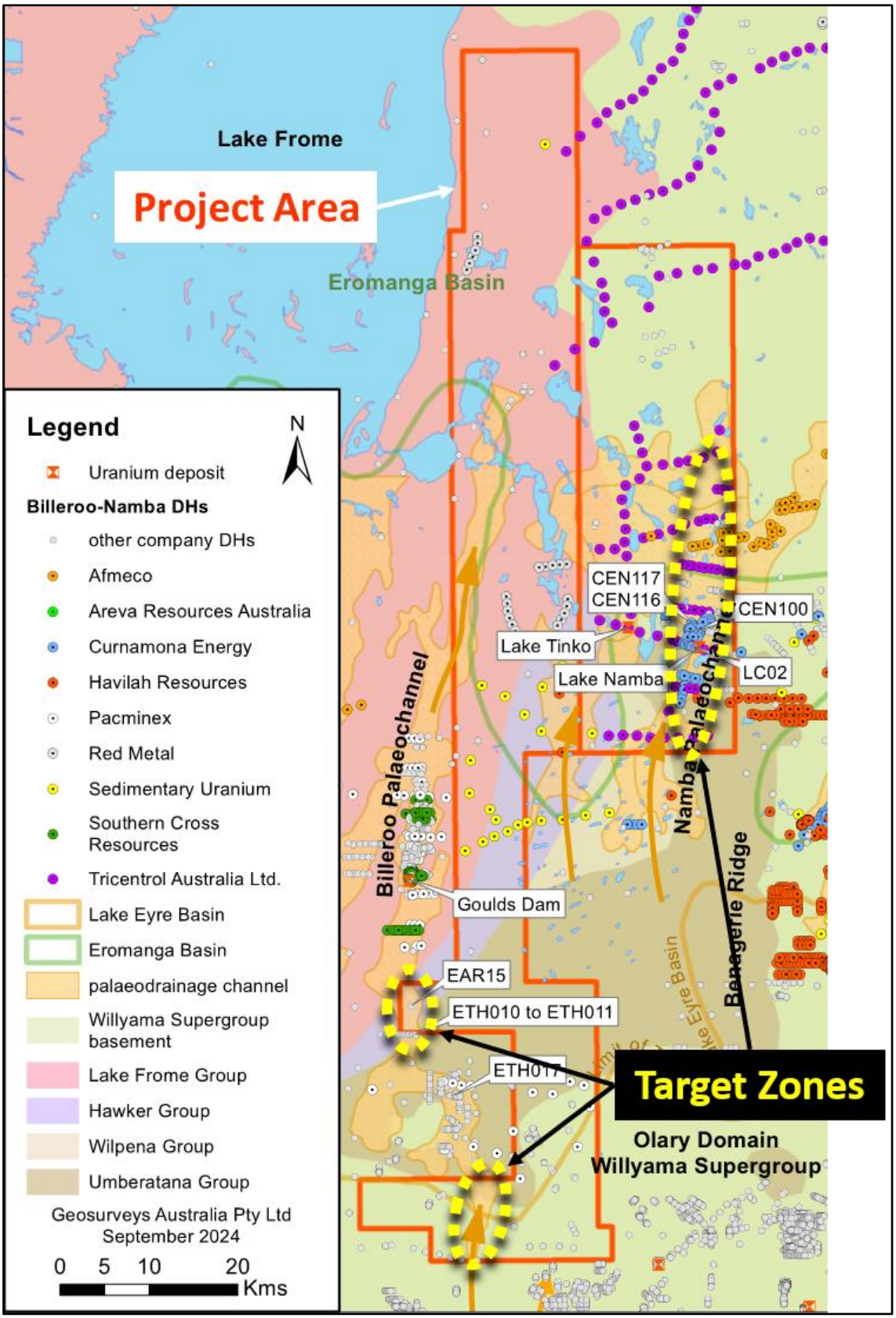


Figure 3: Lake Namba-Billeroo Project.

For personal use only

Prospect Hill Project (Figure 4)

Location	135 km NE of Leigh Creek, SA
Area	75 km^2
Target Commodity	U (HRE earning 80% of Havilah's interest)
Target Type	Tertiary palaeochannel
Previous Exploration	- Up to 526 ppm U in drilling (potential source rocks) - No exploration for palaeochannel U

The Prospect Hill Project is a credible geological analogy to the Beverley- and, in particular, Four Mile-style sedimentary uranium deposits and there is **potential for Four Mile-style mineralization immediately to the east and north of Prospect Hill** within Quaternary, Tertiary and perhaps even Cretaceous palaeochannels draining north and east from uraniferous granites and metavolcanics. They represent immediate drill targets across mapped Lake Eyre Basin sediments along the eastern margin of the project area.

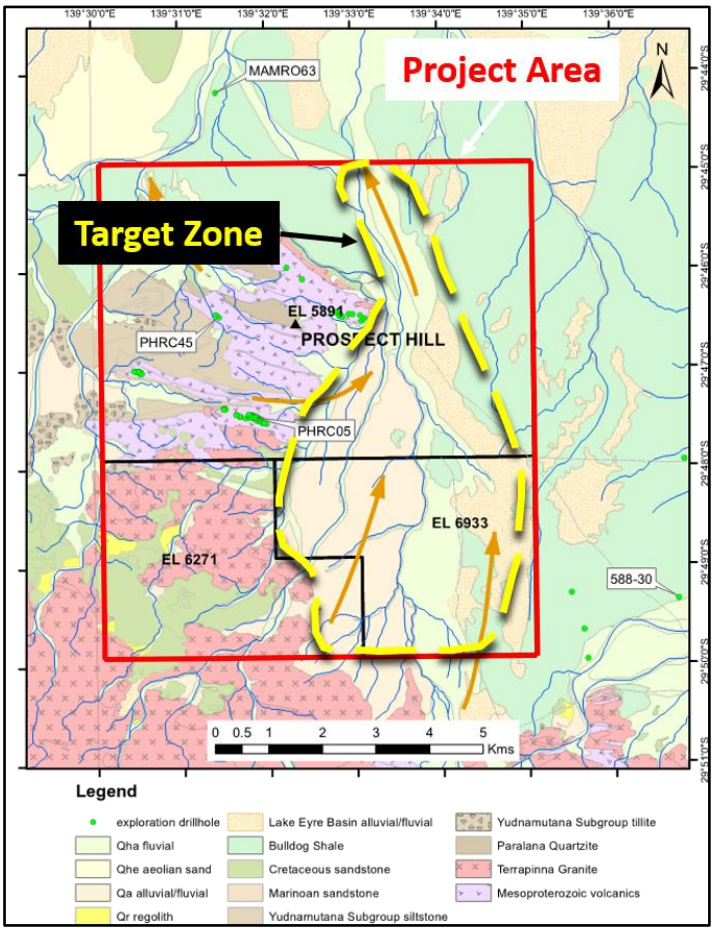


Figure 4: Prospect Hill Project.

For personal use only

Transaction summary

Project Acquisition

HRE has executed a binding term sheet ("**Term Sheet**") with Havilah that provides it the right to acquire an 80% initial interest in uranium mineralization within the Radium Hill, Billeroo-Namba and Prospect Hill project areas ("**Acquisition**").

HRE's interest also extends to rare earths and scandium on the Radium Hill project.

As Havilah will retain the rights to all other minerals within the project areas, HRE and Havilah have also entered into a tenement access and mineral rights agreement that governs the access rights of the Company to Havilah's relevant exploration licences.

Under the Term Sheet, HRE is required to issue to Havilah:

i 38,000,000 fully paid ordinary shares in HRE ("**Consideration Shares**"); and
ii 17,500,000 unlisted options, each with an exercise price of $0.06 and a term of 3 years from their date of issue ("**Consideration Options**").

In addition, HRE must spend a minimum of $3 million on exploration and development within three years, including $1 million in the first year.

Once HRE has earned its 80% interest in the uranium rights, Havilah will be free-carried until the completion of a bankable feasibility study ("**BFS**") on any uranium deposit discovered. Following completion of a BFS, Havilah will have the right to contribute its pro-rata share of all future expenditure, or otherwise dilute to a 1.5% net smelter royalty ("**NSR**") on production from that uranium deposit.

Completion of the transaction is subject to the remaining conditions precedent:

i HRE completing due diligence, to its sole satisfaction;
ii HRE completing a capital raise of at least $2.2 million (see below);
iii Havilah obtaining all necessary third-party approvals, consents, waivers and undertakings that may be required by any third-party agreements in respect of the grant of the uranium rights in accordance with the Term Sheet and the tenement access and mineral rights agreement; and
iv the parties obtaining all other shareholder, regulatory and third-party approvals, consents or waivers which are required to complete their respective obligations under the Term Sheet.

As part of the Acquisition, Havilah will have the right to nominate a non-executive director to the board of HRE (with one current HRE director to resign) and will also assist HRE with the appointment of suitably qualified persons to the roles of exploration manager and chief executive officer of HRE.

Annual General Meeting

HRE will seek shareholder approval at the Company's forthcoming Annual General Meeting (which is due to occur on 28 November 2024) ("**AGM**") to, among other things, issue the Consideration Shares and Consideration Options to Havilah.

Cygnet Capital Pty Ltd ("**Cygnet**") has acted as corporate adviser in relation to the transaction and will be issued, subject to completion, 10,000,000 shares ("**Introducer Shares**"). The Introducer Shares are subject to shareholder approval at the AGM.

Placement

HRE has received firm commitments for a two-tranche placement to raise $1,200,000 (before costs) at an issue price of $0.03 per share ("**Placement**"), being a 15.1% discount to the Company's 15-day volume weighted average price ("**VWAP**") and a 11.4% discount to the 30-day VWAP to the close of trading on Friday 18 October 2024.

The Placement is strongly supported by sophisticated and professional investors, including some of HRE's largest shareholders. The Placement will result in the issue of 40,000,000 Shares (in aggregate) ("**Placement Shares**"). Tranche 1 of the Placement will be issued under the Company's existing ASX Listing Rule 7.1 (9,241,272 Shares) and 7.1A (6,758,728 Shares) capacity ("**Tranche 1 Placement Shares**"). The Company will issue the Trance 1 Placement Shares in accordance with the indicative timetable set out below and seek shareholder approval to ratify their issue at the AGM.

Settlement of tranche 2 of the Placement (being 24,000,000 Shares ("**Tranche 2 Placement Shares**") is expected to occur in accordance with the below indicative timetable following the AGM.

The Placement Shares will rank equally with the Company's existing shares.

Cygnet is lead manager for the Placement and will be paid a 6% capital-raising fee on the total funds raised.

Entitlement Offer

In addition to the Placement, the Company is proposing, subject to shareholder approval, to undertake a non-renounceable entitlement offer to existing shareholders of one (1) share for every two (2) shares held in the Company ("**Entitlement Offer**") at an issue price of $0.03 per share, to raise up to $1,024,000 (before costs) that will result in the issue of 34,137,575 shares.

The Entitlement Offer will not be open to investors who participated in the Placement.

Settlement of the Entitlement Offer is expected to occur in accordance with the below indicative timetable. Shares issued under the Entitlement Offer will rank equally with the Company's existing shares.

The Entitlement Offer is fully underwritten by Cygnet and Taylor Collison Limited ("**Taylor Collison**"), with each of Cygnet and Taylor Collison underwriting 50% of the Entitlement Offer respectively.

Cygnet and Taylor Collison will be paid a fee of 6% (in aggregate) of total funds raised under the Entitlement Offer.

For personal use only

For personal use only

Indicative Timetable

HRE anticipates completing the Acquisition in accordance with the below indicative timetable.

EVENT	DATE
Announcement of Acquisition	Monday, 21 October 2024
Lodgement of Entitlement Offer Document with ASX	Thursday, 31 October 2024
"Ex" Date	Monday, 4 November 2024
Record Date	Tuesday, 5 November 2024
Issue of Tranche 1 Placement Shares	Wednesday, 6 November 2024
Entitlement Offer Opens	Friday, 8 November 2024
Annual General Meeting	**Thursday, 28 November 2024**
Entitlement Offer Closes	7.00pm (AEDT) on Friday, 29 November 2024
Issue of Shares under the Entitlement Offer	Friday, 6 December 2024
Issue of Tranche 2 Placement Shares, Consideration Shares, Consideration Options and Introducer Shares	Wednesday, 11 December 2024
Completion of Acquisition	Wednesday, 11 December 2024

Note: *These dates are indicative only and subject to change. The Company reserves the right, subject to the Corporations Act and the ASX Listing Rules, to vary the above dates. In particular, the Company reserves the right to extend the closing date of the Entitlement Offer, to accept late applications either generally or in particular cases or to withdraw the Entitlement Offer without prior notice. The commencement of quotation of shares is subject to confirmation from ASX.*

Issue of shares to Directors and consultants

The Board has resolved to issue up to 9,621,100 HRE shares in total (representing approximately $288,633) to Directors and consultants of HRE in lieu of outstanding fees and salaries ("**Director and Consultant Shares**"). The issue of the Director and Consultant Shares is subject to the Company obtaining shareholder approval at the AGM.

The deemed issue price of the Director and Consultant Shares is $0.03 per HRE share, being the same issue price as the Placement.

Further details in relation to the proposed issue of the Director and Consultant Shares are included in the Appendix 3B following this announcement and will be included in the explanatory statement accompanying HRE's notice of AGM.

For personal use only

Table 1: Tenement Register – Radium Hill, Lake Namba-Billeroo and Prospect Hill projects

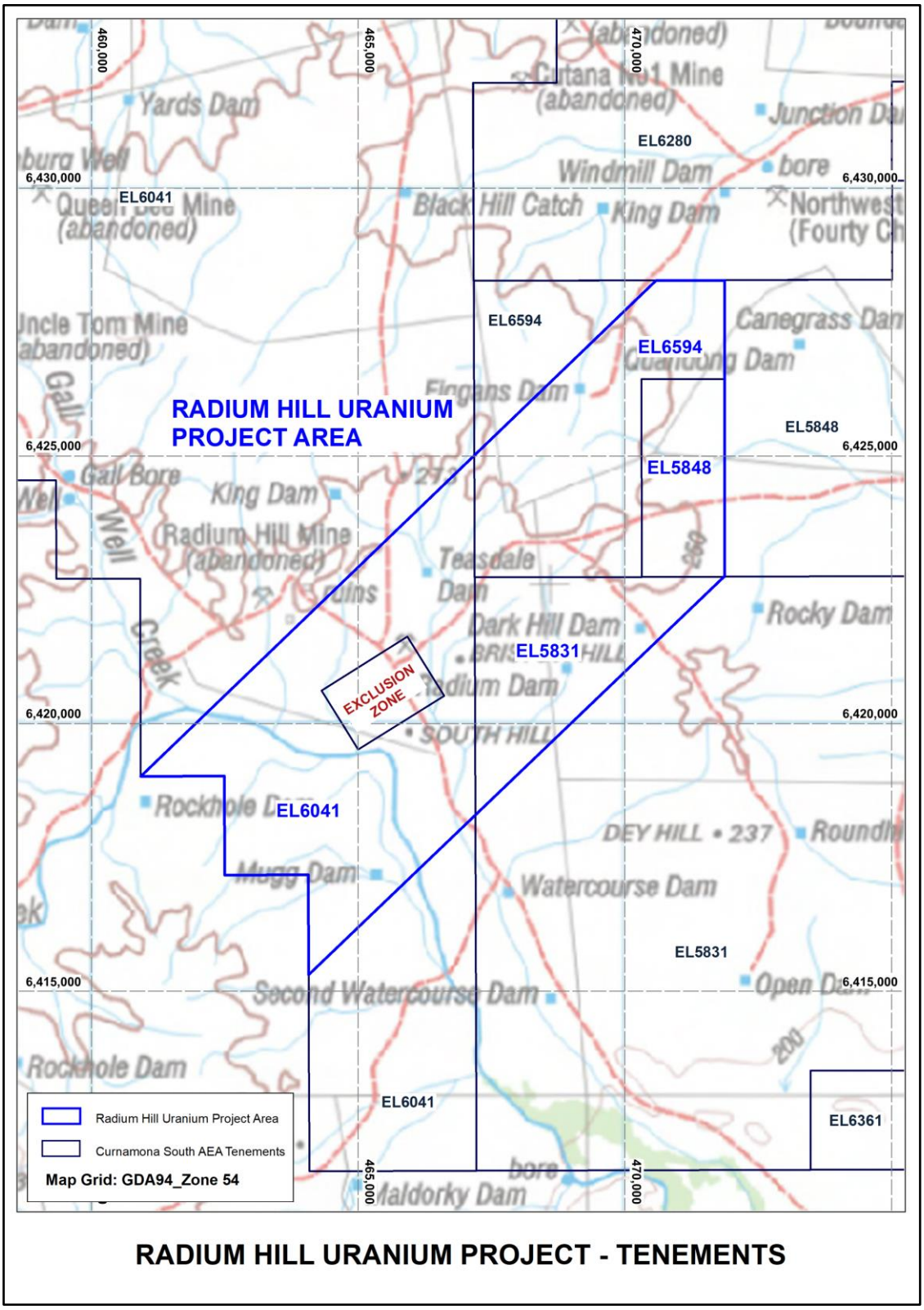
PROJECT	TENEMENT	HOLDER
Radium Hill	EL 6041 (PART)*	Iron Genesis Pty Ltd (100%)**
	EL 6594 (PART)	Copper Aura Pty Ltd (100%)**
	EL 5831 (PART)	Copper Aura Pty Ltd (100%)**
	EL 5848 (PART)	Iron Genesis Pty Ltd (100%)**
Lake Namba-Billeroo	EL 5785 (PART)	Havilah Resources Limited (100%)
	EL 5824	Havilah Resources Limited (100%)
	EL 5915 (PART)	Havilah Resources Limited (100%)
	EL 5940 (PART)	Havilah Resources Limited (100%)
	EL 6056	Havilah Resources Limited (100%)
	EL 6356 (PART)	Havilah Resources Limited (100%)
	EL 6358	Havilah Resources Limited (100%)
	EL 6408 (PART)	Havilah Resources Limited (100%)
	EL 6409	Havilah Resources Limited (100%)
	EL 6410	Havilah Resources Limited (100%)
	EL 6411	Havilah Resources Limited (100%)
	EL 6434	Havilah Resources Limited (100%)
	EL 6546 (PART)	Havilah Resources Limited (100%)
	EL 6661	Havilah Resources Limited (100%)
	EL 6662 (PART)	Havilah Resources Limited (100%)
Prospect Hill	EL 5891^	Havilah Resources (82.5%) Teale and Associates (17.5%)
	EL 6271	Havilah Resources Limited (100%)
	EL 6933	Havilah Resources Limited (100%)

**There is a DEM exclusion zone covering the old Radium Hill workings and tailings dam within EL 6041, which is excluded from EL 6041 and the transaction between Havilah and HRE (see map below).*

***Iron Genesis Pty Ltd and Copper Aura Pty Ltd are wholly owned subsidiaries of Havilah Resources Limited.*

^The Teale Agreement documents Havilah's right to an 82.5% interest in EL 5891, subject to transfer of the relevant tenement interests to Havilah by DEM. The Uranium Rights for this tenement will be 80% of Havilah's interest which is currently 82.5% with

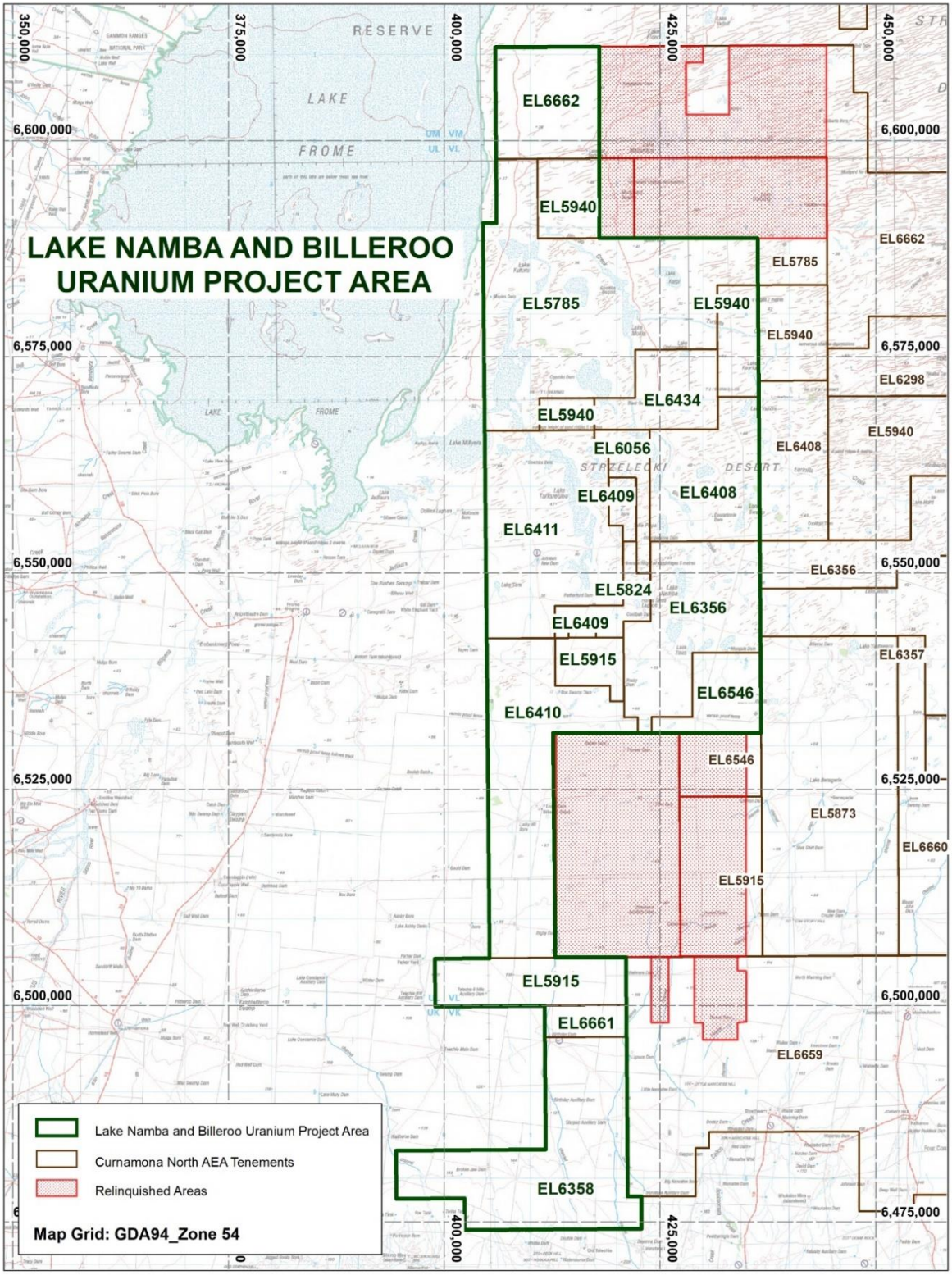
the right to move to 92.5% and 100% under certain conditions specified in the Teale Agreement. For the avoidance of doubt, HRE will earn an 80% interest in Havilah's interest in EL 5891 from time to time.



RADIUM HILL URANIUM PROJECT - TENEMENTS

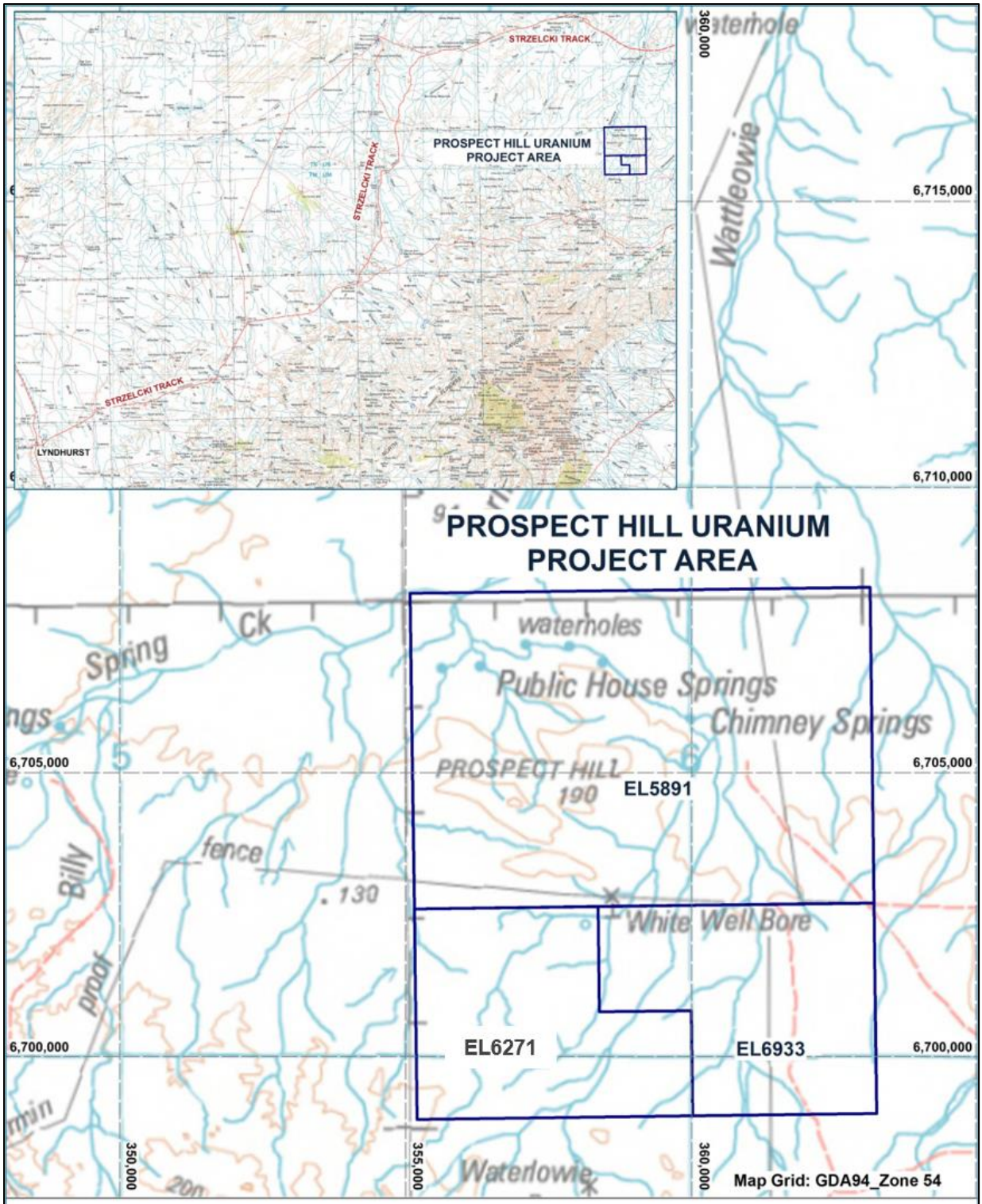
For personal use only

For personal use only



LAKE NAMBA AND BILLEROO URANIUM PROJECTS - TENEMENTS

For personal use only



PROSPECT HILL URANIUM PROJECT - TENEMENTS

For personal use only

-- Ends --

This announcement has been approved by the Board of HRE.

For more information, please contact:

Executive Director
Richard Brescianini
info@hreltd.com.au

Media Enquiries
Ryan Batros
info@brcapital.com.au

About Heavy Rare Earths Limited

Heavy Rare Earths Limited (ASX: HRE) is an Australian rare earth and uranium exploration and development company. HRE's key exploration project is Cowalinya, near Esperance in Western Australia. This is a clay-hosted rare earth project with an Inferred Resource of 159 Mt @ 870 ppm TREO and a desirable rare earth composition where 28% are the valuable magnet rare earths and 23% the strategic heavy rare earths.

Competent Person's Statement

The Exploration Results contained in this announcement were compiled by Dr. John Parker of Geosurveys Australia Pty Ltd. Dr. Parker is a Member (#2225) of the Australian Institute of Geoscientists. He has more than 30 years' experience in mineral exploration and has sufficient experience relevant to the style of mineralization and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 JORC Code. Dr. Parker consents to the inclusion in this announcement of the matters based on the Exploration Results in the form and context in which they appear.

For personal use only

APPENDIX 1

GEOLOGY, URANIUM MINERALIZATION AND EXPLORATION HISTORY OF THE RADIUM HILL, LAKE NAMBA-BILLEROO AND PROSPECT HILL PROJECT AREAS

Regional Geology

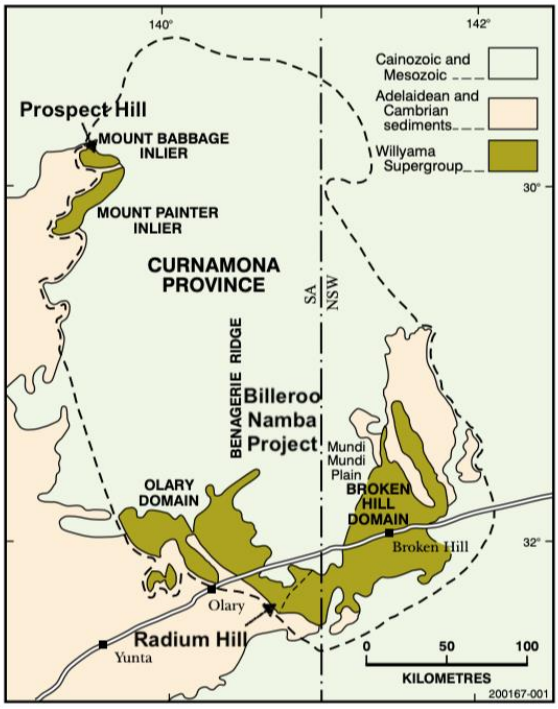


Figure 5: Geological framework of the Curnamona Province (after Tonkin, 2009).

The geology of the project areas is summarized in Figures 1 and 5 and comprises a sequence of metasediments and metavolcanics of late Palaeoproterozoic age (Willyama Supergroup), which was intensely deformed and metamorphosed by the Olarian Orogeny (ca. 1640–1580 Ma). These metamorphic rocks are intruded and overlain by, respectively, granitoid intrusives of early Mesoproterozoic age (ca. 1590–1580 Ma) and less deformed or undeformed Mesoproterozoic volcanics (ca. 1580 Ma) and sediments within both the central cratonic area beneath the Frome Embayment (Benagerie Ridge) and in the Olary Domain (*e.g.,* Crocker Well), and Mt Painter and Mt Babbage Inliers.

Along the western and southwestern margins of the Curnamona Province, the Willyama Supergroup and Mesoproterozoic granitoids and volcanics are overlain by Neoproterozoic and Cambrian sediments of the Adelaide Geosyncline (predominantly the Neoproterozoic Wilpena and Umberatana Groups). Both the basement rocks and Neoproterozoic sediments of the Adelaide Geosyncline were deformed by the Delamerian Orogeny (ca. 500 Ma).

In the central cratonic part of the Curnamona Province, the Palaeo-Mesoproterozoic basement and the overlying Neoproterozoic and Cambrian sediments are covered by shallow to moderately thick Cretaceous to Quaternary sediments of the Frome Embayment and Lake Eyre Basin.

Uranium Mineralization

Palaeoproterozoic and Mesoproterozoic rocks in the Curnamona Province are commonly uranium rich. The Radium Hill Mine produced uranium from fractures and shears in Willyama Supergroup gneisses. Mesoproterozoic granites in the Mt Painter and Mt Babbage Inliers are uraniferous and low-grade deposits are known at Crocker Well and Mt Victoria. At Mt Painter, uranium was mined from Palaeozoic hydrothermal breccias. These older uranium-rich rocks were the ultimate source of sediment-hosted roll-front uranium mineralization in fluviatile sands within buried Tertiary palaeochannels mined at Beverley, Four Mile and Honeymoon and contained in the Gould's Dam, Jasons, Junction Dam and Oban resources (Tonkin, 2009).

For personal use only

Radium Hill Project

Geology

Radium Hill was discovered in 1906 by Sir Douglas Mawson who identified the presence of uranium in the mineral he named davidite. Mineralization occurs within narrow, steep SE-dipping to subvertical, pegmatitic quartz-biotite-ilmenite-rutile-feldspar veins in sericitic shears and fractures cross-cutting formerly high metamorphic grade quartzo-feldspathic gneiss and amphibolite of the Curnamona Group (Willyama Supergroup). The Government of South Australia operated the Radium Hill Mine from 1954 until 1961, mining 990,000 t of ore grading 1.2 kg/t U_3O_8 to produce 850 t of U_3O_8 (in concentrate) and some rare earth minerals including appreciable lanthanum, cerium, yttrium and scandium. The mineralization was worked in several lodes up to 7m wide but averaging 1.25 m wide, trending northeast over a strike length of ca. 1.5 km and to depths of 300 m but intersected in drilling to more than 450 m (Figure 6). The Government of South Australia maintains an Exclusion Zone over the Radium Hill mine area.

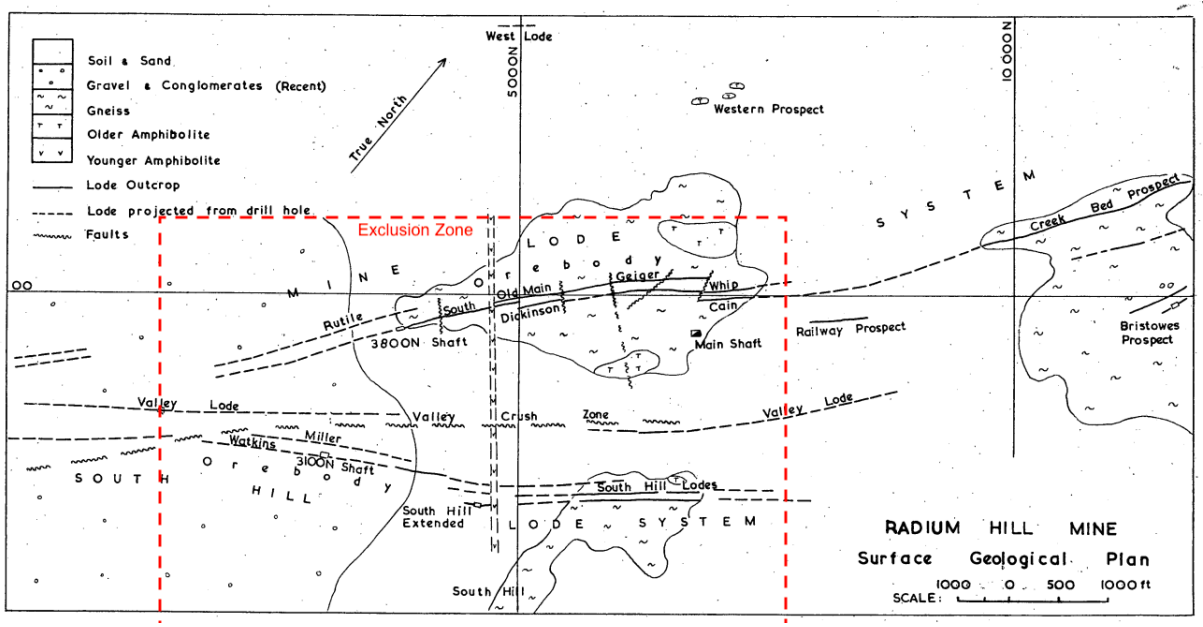


Figure 6: Surface geological map of Radium Hill Mine area (Thomas, 1961 – RB52/158).

The uranium mineralization is extremely variable in grade but appears to be concentrated in dilation zones where the shears-lodes change strike direction. The lode-shears persist well beyond the limits of mined economic mineralization, and have been mapped up to ca. 5 km northeast and ca. 750 m southwest in the hinge zone of a regional “dome” or NE-plunging anticlinal structure (Figure 7).

Airborne magnetic data and regional geological interpretation from the South Australian Resources Information Gateway (SARIG) (Figure 2) clearly defines a “domed” anticlinal structure which may or may not represent a folded and/or zoned, granitic pluton aureole, overlain by Neoproterozoic Adelaidean sediments on the southwest side. No geochemical zonation/aureole has been described but it has been noted that there are numerous pegmatite, aplite and amphibolite plugs/dykes in the mine area albeit many post-date mineralization.

For personal use only

The SARIG magnetic interpretation and observed structural data in the mine area support an anticlinal model plunging ca. 10-20^0 NE. Irrespective of the preferred dome versus anticline model, first-pass interpretation of linear aeromagnetic structures supports the continuation of fractures and the line-of-load to the northeast of Radium Hill. On this basis, the main Radium Hill structure can be traced for ca. 10 km northeast of the exclusion zone and ca. 750 m southwest of such. Uranium-channel radiometric data supports both the fracture model and the domed anticlinal structure but most of the radiometric anomalies reflect shallow or outcropping basement.

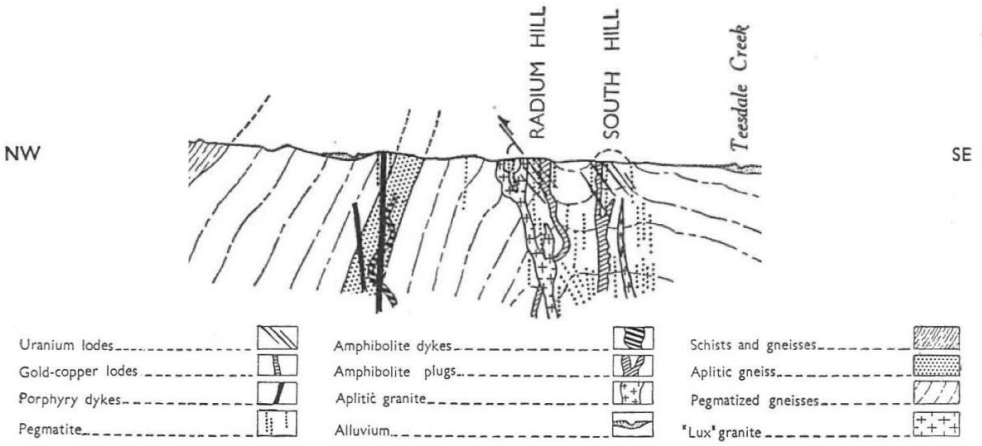


Figure 7: Regional geological cross-section through Radium Hill (Sprigg, 1954 - Bull 30).

Previous Exploration

From the mid-1940s up to 1962, there was a large amount of exploration in and around the Radium Hill Mine including ground scintillometer surveys, airborne surveys, mapping, trenching and diamond drilling driven by the-then "AUKUS" demand for strategic uranium supplies.

From 1956-1959, a number of radiometric surveys were carried out in the Radium Hill area over a total area of 5.7 square miles principally northeast and southwest of the mine area but also including prospects to the north and south. Radiometric anomalies identified in these surveys included Railway, Creek Bed, Intermediate, Radium Hill North, Bristowe's, Taylor's Shaft, Bonython, South Hill Extended, Harry's, Rocky Ridge and West Prospects. Several radiometric anomalies were directly related to mapped uranium mineralization.

A programme of bulldozing, costeaning and mapping to determine the significance of the surface radioactive anomalies due to the disseminations of davidite in the soil showed significant radioactivity associated with narrow NW-trending "lodes". Several programmes of diamond drilling were carried out to identify uranium mineralization of economic value. Most drillholes were drilled ca. 45-60^0 to the NW. Very limited assays are available although most holes have radiometric logs.

Around 670 cored drillholes in total were drilled in the Radium Hill area (Figure 2) ranging in depth up to 534 m albeit mostly less than 100 m. Of these, ca. 480 drillholes are in the mine exclusion zone. However, ca. 190 drillholes were drilled within the Radium Hill Project area but outside the exclusion zone including:

For personal use only

- 19 drillholes up to 365 m deep southwest of the exclusion zone along the Watkin's Lode and southwest along strike from the South Hill Extended. Ker (1961) noted that this area was highly fractured with older amphibolite and abundant aplite but no significant mineralization;
- 10 shallow drillholes up to 45 m at Radium Hill West Prospect (Hiern, 1958). DDH126 intersected good, albeit thin mineralization (up to 1 m at ca. 0.3% eU_3O_8) and, while there wasn't a mineable orebody, mineralization is potentially open to the northeast; and
- 105 drillholes northeast along strike from the Main Shaft at Railway, Intermediate, Creek Bed, Bristowe's and Radium Hill North Prospects (Figure 8) mostly 50-80 m deep but with several holes up to 307 m deep.

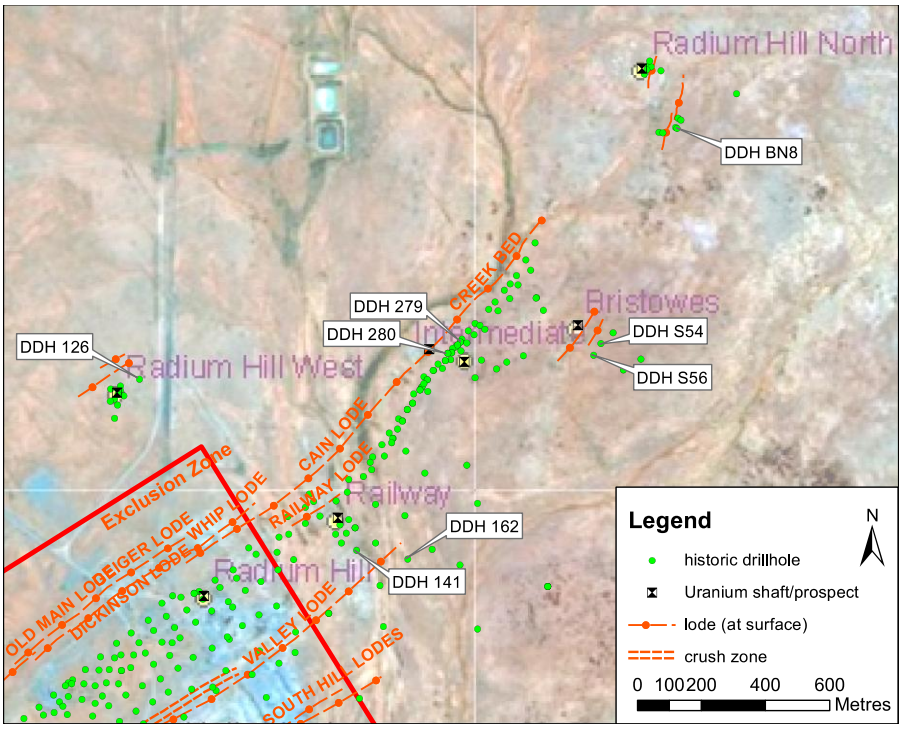


Figure 8: Location of selected drillholes outside the Radium Hill Mine Exclusion Zone.

The Railway Prospect comprises two well-defined lodes extending over a strike length of ca. 75 m within parallel, steeply SE-dipping (ca. 65-70º) shear zones identified by ground scintillometer surveys and surface mineralization (costeans) grading up to 0.5 m at 0.48% eU_3O_8. Being immediately northeast of the main mine lodes which appeared to be plunging northeast, it was suggested that a suitable target could be 125-165 m below the outcrop (BGL). Drilling to a downhole depth of ca. 300 m has been undertaken with one of the deeper holes DDH 141 (total depth 210 m) intersecting 0.9 m at 0.15% eU_3O_8 at ca. 120 m BGL (Zani, 1958). Hole DDH 162 intersected 0.5 m at 0.2% eU_3O_8 at ca. 106 m BGL (1958 – SADEM Plan UR3155 Railway Prospect).

The Creek Bed Prospect (and adjacent Intermediate Prospect) has been extensively drilled and costeaned. It is an extension of the main mine lode structure (Cain Lode) and has been tested up to a vertical depth of 60 m BGL over a strike length of ca. 1200 m. A ca. 25 m line of lode (quartz-rutile with some davidite) from 10,000' grid N to 10,100' grid N (Figures 6 and

8) averaged 1.5m width at 0.103% eU_3O_8. A small parcel of 450 t of this had been mined by 1961 (Ker, 1961). The average dip of the lode is 75-80º SE and the best drill intercepts were 0.9 m at 0.8% eU_3O_8 (DDH 280; 28m BGL) and 0.15 m at 1.24% eU3O8 (DDH 279; 30 m BGL). Ker concluded that while "*no major surface ore shoots are indicated….it is a major structure which warrants further testing at depth*".

Bristowe's Prospect comprises two parallel "lodes" ca. 30 m apart and continuous over ca. 150 m SW-NE. A shaft sunk to 15 m with ca. 30 m of drives to the NE and SW followed a 0.4-0.5 m thick "lode" of quartz-rutile-biotite gneiss bounded by a biotite-sericite shear zone but with little uranium. Drilling failed to identify any significant mineralization with the best intersections being 0.2 m at 0.1% eU_3O_8 (DDH S56) and 0.6 m at 0.05% eU_3O_8 (DDH S54). Ker concluded that there was "*little prospect of near surface ore but …. warrants further investigation at depth*".

There were 12 holes drilled in the Radium Hill North Prospect area. Ker (1961) noted that the mineralized "lode" (quartz-biotite gneiss with patchy rutile and davidite) was 0.1-0.9 m thick in subcrop and extended over a strike length of ca. 275 m. The best drill intersection was 1.9 m at 0.11% eU_3O_8 in BN8. Following further drilling, Ker concluded that there were "*minor pods of mineralization with little vertical extent*" but no near-surface ore was indicated.

At Bonython Hill 1, 2 and 3 Prospects 17 holes ca. 30-77 m deep were drilled. O'Driscoll & Webb (1956a and b) reported "*local narrow and weak concentrations which do not persist horizontally or vertically*" and concluded that there was no mineralization of economic interest from diamond core drilling. Nevertheless, there were significant intersections in costeans of 0.6 m at 0.2% eU_3O_8 (Bonython 2 Prospect, #1 lode) and, at Bonython 3 prospect, 1.5 m at 0.39% eU_3O_8 (#2 lode) and 0.46 m at 1.11% eU_3O_8 (#3 lode). No drilling is recorded at the nearby Taylor's Shaft (ca. 20 m deep) where a lens of several tons of ilmenite containing weak intergrowths of davidite was intersected at about 8 m depth in massive pegmatite and schist.

Harry's and Rocky Ridge Prospects don't appear to have been drilled though Mumme (1958) identified several anomalous radioactive areas up to 175 m in strike length with trace uranium mineralization.

Conclusion

There is good support for ca. 10 km of strike potential for fracture-controlled uranium mineralization in the Radium Hill Project area which, excluding the area of Adelaidean sediments and the Radium Hill Mine Exclusion Zone, measures ca. 47 km^2.

There has been no modern uranium exploration undertaken in the Radium Hill Project area since 1961 when the Radium Hill Mine closed.

For personal use only

For personal use only

Lake Namba-Billeroo Project

Geology

The southern Lake Eyre Basin is a significant uranium province, hosting the sedimentary uranium deposits of Beverley, Four Mile and Honeymoon within Tertiary palaeochannels (Figure 1).

Sediment deposited in these channels was derived mainly from the uranium-rich Proterozoic Willyama Supergroup metamorphics and granitic rocks from the surrounding Olary Domain, Mt Painter and Mt Babbage Inliers and Benagerie Ridge. Anaerobic decay of organic matter in the water-saturated sands produced a reducing alkaline environment. Post-depositional oxidising groundwater leached the uranium from channel fill, and/or was itself uranium enriched and reprecipitated downslope at a redox interface. These tabular or roll-front shaped mineralised bodies formed along the edges of clay horizons and along the palaeochannel margins (Curtis et al., 1990).

In the southern area and adjacent to Mt Painter, early Tertiary sand of the Eyre Formation was deposited in channels incised into Precambrian and Cambrian basement. It hosts the Honeymoon, Gould's Dam, Jasons, Oban and Four Mile uranium deposits. Interbedded clay, sand and dolomite of the Namba Formation disconformably overlie the Eyre Formation. In the northern Frome Embayment adjacent to the Mt Painter Inlier, uranium mineralization is confined to sand horizons within the Namba Formation (Beverley deposit).

The Honeymoon deposit is hosted by coarse-grained pyritic fluvial sand of the Eyre Formation along the outer margin of a major bend in the Yarramba Palaeochannel at a depth of 100–120 m. Controls on mineralization include, but are not limited, to position within the roll-front palaeovalley, valley floor topography, presence/absence of reductant, basement lithologies/structure, and proximity to Willyama Supergroup source rocks.

Bars, channel constrictions and river bends within the palaeochannels created by more resistive horizons in the underlying basement rocks or meandering rivers has formed trap sites which are key for uranium exploration.

Except for the very southernmost area, throughout much of the Billeroo-Namba Project area, the Tertiary sediments are underlain by Cambrian and/or Adelaidean sediments which are not regarded as source rocks for uranium (Figure 3).

Previous Exploration

The southern Billeroo Palaeochannel within the Project area has only a single drillhole within it (EAR15) so has not been tested adequately for sedimentary uranium. EAR15 did not intersect any Eyre Formation basal sand but from 73-84.5 m intersected sand and clay with a very slight gamma log anomaly. Rudd (1970) interpreted an E-W trending basement ridge at EAR15 and showed isopachs of the basal sand thickening to the north towards Gould's Dam. Basement structures are considered important in the localisation of redox fronts and uranium mineralization within palaeochannel systems.

In 2001, Southern Cross Resources Australia Pty Ltd (SXR) reported palaeochannel uranium mineralization in one hole, ETH017, with 8 m of uranium mineralization from 136-144 m and a best interval of 0.4 m @ 0.036% eU_3O_8 (135.86-136.26 m) in the interpreted basal section

of the Eyre Formation. SXR drilling across the Billeroo Palaeochannel immediately adjacent to the Project area (ETH011 to ETH010) identified Eyre Formation basal sands but no uranium mineralization (Figure 3).

The Namba Palaeochannel has also been a focus of past exploration for sedimentary uranium (Figure 3) and, following drilling in the early to mid-1970s, Tricentrol Australia Ltd (Tricentrol; 1975 & 1975) identified the Lake Namba Palaeochannel over a length of ca. 30 km. Uranium anomalism up to ca. 0.03% eU_3O_8 (in LC02 gamma log) was identified in basal sands of the Eyre Formation at depths of ca. 60-85 m below ground level. While no significant economic uranium mineralization was identified, they noted that the change from oxidation to reducing conditions in the Eyre Formation just south of LC02 was encouraging.

Afmeco Mining and Exploration Ltd and Areva Resources Australia Ltd acquired ground gravity and airborne EM surveys to investigate the distribution of sediments and palaeodrainage features along the Namba Palaeochannel and noted:

- Presence of valley-fill Eyre Formation channel sands;
- Development of a secondary, mobile oxidation front within the originally reduced Eyre Formation sands; and
- Existence of radiometric anomalies in the Eyre Formation.

Rotary mud drilling and wireline geophysical well logging confirmed the location of palaeochannels inferred from geophysics and intersected a few channel sands. Several drillholes intersected Eyre Formation sands and several of the sand intercepts (20-30 m thick) were reduced. A few minor radiometric anomalies were intersected (maximum 750 cps) at redox contacts between clay and sand. Most of the channel-like airborne EM features were confirmed to be sand paleochannels of the Eyre Formation but Afmeco concluded that exploration data obtained to date tended to invalidate the possibility of finding an economically-sized, sedimentary, redox-related uranium deposit.

During 2010, Curnamona Energy Ltd (a subsidiary of Havilah, now renamed NU Energy Resources Pty Ltd) undertook mud drilling and gamma ray downhole logging over the southern part of the Namba Palaeochannel in the vicinity of the uranium anomalies identified by Tricentrol. Many of the holes intersected uraniferous basal sands of the Eyre Formation from ca. 50-70 m below ground level but again did not identify an economic uranium deposit. Significant eU_3O_8 intersections included (Curnamona Energy Ltd, 2012):

- CEN100: 5.5 m @ 0.017% eU_3O_8;
- CEN116: 11.7 m @ 0.014% eU_3O_8; and
- CEN117: 4.45 m @ 0.021% eU_3O_8.

Conclusion

Within the Lake Namba-Billeroo Project area, the southern Billeroo Palaeochannel (ca. 15 km cumulative length) south of Gould's Dam is highly prospective for sedimentary uranium and the southern 35 km of the Namba Palaeochannel is still prospective despite previous company programs: there are well defined palaeochannels containing reduced Eyre Formation basal sands, Redox fronts and low-order uranium anomalism. Drilling to date in the Namba Palaeochannel has been along relatively wide-spaced (3-5 km) traverses so there remains potential for further discoveries between those traverses (*e.g.,* the main

For personal use only

mineralization at Honeymoon extends for ca. 900 m, is around 450 m wide and averages 4.3 m in thickness at a depth of 110 m).

Prospect Hill Project

Geology

The Prospect Hill Project is situated in a geologically analogous setting to, and just 25-30 km north of, the Beverley and Four Mile uranium mines that have produced over 40 Mlbs of U_3O_8 over 20 years of continuous operation. The Prospect Hill Project area has apparently never been explored for sedimentary uranium and there are no known drillholes in the Quaternary-Tertiary areas of immediate interest (Figure 4).

Uranium at the Beverley deposit is associated with a redox front in channel sands of the upper Tertiary (Miocene) Namba Formation whereas the nearby Four Mile mineralization is within reduced Eocene sands and sandy siltstones of the lower Tertiary Eyre Formation. The ultimate uranium source for both deposits is presumed to be the highly uraniferous rocks of the Mt Painter Inlier. The Beverley deposit lies 12 km east of the outcropping rocks, the Four Mile deposit is only 2 km east of the Inlier and there are uranium-rich streams draining from the hills directly into the basin sediments.

At Prospect Hill, the major sources of primary uranium mineralization are the Mesoproterozoic Terrapinna Granite of the Moolawatana Suite and Mesoproterozoic felsic Petermorra Volcanics. The Moolawatana Suite granitoids are characteristically enriched in REE, Zr, Nb, F, U, Th, Y and W. High heavy rare earth content and uranium (up to 311 ppm) are present with tin (± Cu) mineralization in the area and are contained within xenotime (Teale et al., 2007).

Tertiary palaeochannels draining north and east from this region are an obvious target. Quaternary channels draining these inliers are also possible targets.

Previous Exploration

Previous exploration within the Prospect Hill Project area has focussed almost entirely on tin and base metals in the Mesoproterozoic basement rocks around the Prospect Hill occurrence. Most of the drilling (total ca. 70 RC DHs; Teale et al., 2007) has been assayed for uranium and, while most assays are less than 25 ppm U, anomalous assays range up to 317 ppm U in tin “lode” rocks (PHRC05) and 526 ppm U in metavolcanics (PHRC45).

In the Prospect Hill area, granite intrusives are enriched in REE with high concentrations of Y (~120 ppm), Nb (~40 ppm), U (8-78 ppm), Sn (8-500 ppm), Pb (55-65 ppm) and Th (55-187 ppm) (Teale et al., 2007).

While no drilling has been undertaken for sedimentary uranium within the Prospect Hill Project area, drilling 2.5 km east of it by Western Nuclear Australia Ltd (DH 588-30; 1973) intersected grey Tertiary-Cretaceous sand to 93-116 m with up to 200 cps gamma log in the interval ca. 100-105 m.

CRA Exploration Pty Ltd (1996) reviewed the potential for finding Beverley-type sedimentary roll-front uranium orebodies in the area east of Prospect Hill and Scimitar Resources Ltd/Cauldron Energy Ltd (2016) explored an extensive area of Tertiary Lake Eyre Basin and Mesozoic Eromanga Basin sediments lying immediately to the north and northwest of the uranium-rich Mount Babbage and Mount Painter inliers for possible economic roll-front style

For personal use only

palaeochannel hosted uranium mineralization. Present-day drainage patterns and airborne radiometric survey imagery show that uranium is presently being shed into that area from the adjacent outcropping uranium-rich basement. Scimitar Resources drilling ca. 25 km NW of Prospect Hill (Blanchwater Prospect) intersected 20-40 m of variably oxidised and reduced, uraniferous, sand-dominated and lignitic-rich clays of the Eyre Formation at depths of ca. 75-110 m. This was in a SW-NE directed palaeochannel so not directly derived from the Mt Babbage Hill Inlier but rather from further SW towards the Gawler Craton. The one hole drilled just north of Prospect Hill by Scimitar/Cauldron, MAMRO63, did not intersect any Tertiary sediments or anomalous uranium.

Conclusion

The Prospect Hill Project is a credible geological analogy to the Beverley- and, in particular, Four Mile-style sedimentary uranium deposits.

Although several companies have explored for such east and north of the Mt Babbage Inlier with only minor success (ca. 20-25 km away), there remains **good potential for Four Mile-style mineralization immediately to the east and north of Prospect Hill** for the following reasons:

- Highly uranium-enriched Precambrian basement rocks crop out in the immediate area;
- Quaternary, Tertiary and perhaps even Cretaceous palaeochannels draining north and east from this region are obvious targets;
- Mapped Lake Eyre Basin sediments along the eastern margin of the Project area and modern fluvial channels suggest that near-surface drainage is from south to north (Figure 4); and
- There is no drilling to date to test the exploration concept close to Prospect Hill.

For personal use only

For personal use only

Table 2: Summary of drill collars and significant intercepts referenced in this announcement.

Hole ID	Prospect	Easting GDA94_Z54	Northing GDA94_Z54	RL (m)	Total Depth (m)	From (m)	Interval (m)	Grade (%eU_3O_8)	Company
DDH126	Radium Hill West	465731	6421833	-	30.8	~15	~1.0	0.3	SA Govt
DDH141	Railway	466410	6421301	-	209.7	~155	0.9	0.15	SA Govt
DDH162	Railway	466570	6421273	-	192	~125	0.5	0.2	SA Govt
DDH279	Intermediate	466734	6421950	-	45.95	-33	0.15	1.24	SA Govt
DDH280	Creek Bed	466694	6421915	-	39.7		0.9	0.8	SA Govt
DDHS54	Bristowe's	467173	6421945	-	61.9	52.1	0.6	0.05	SA Govt
DDHS56	Bristowe's	467150	6421909	-	56.1	52.7	0.2	0.1	SA Govt
DDHBN8	Radium Hill North	467410	6422616	-	61.5	44	1.9	0.11	SA Govt
Costean	Bonython 2	468450	6424870	-	-	~0.5	0.6	0.2	SA Govt
Costean	Bonython 3	468510	6424555	-	-	~0.5	0.46	1.11	SA Govt
Costean	Bonython 3	468505	6424555	-	-	~0.5	1.5	0.39	SA Govt
EAR15	Billeroo South	400123	6502880	102.6	111.6	-	-	-	Eric A Rudd PL
ETH017	Billeroo South	405020	6492805	120	148	135.9	0.4	0.036	Uranium One Aust. PL
LC02	Lake Namba	431723	6543680	36.8	79.5	74.4	1	0.03	Tricentrol Australia Ltd
CEN100	Lake Namba	432474	6545397	27.8	78		5.5	0.017	Curnamona Energy Ltd
CEN116	Lake Namba	431869	6546078	29.4	83		11.7	0.014	Curnamona Energy Ltd
CEN117	Lake Namba	431775	6546262	28.1	84		4.45	0.021	Curnamona Energy Ltd
PHRC05	Prospect Hill	358044	6703383	157	40	14	1	317 ppm U*	Teale & Assoc PL
PHRC45	Prospect Hill	357335	6705299	100	118	77	2	526 ppm U*	Teale & Assoc PL
588-30	Prospect Hill	365923	6700080	97.8	117.6	100	5	200 cps	Western Nuclear (Aust) Ltd
MAMR063	Prospect Hill	357258	6709501	71	172	NA	NA	NA	Cauldron Energy Ltd

* Assay by ME-XRF5 (PHRC05) and ME-MS61 (PHRC45), ALS Laboratories

For personal use only

References

Cauldron Energy Limited, 2016. Data release: Blanchewater Hill, Camp Hill, Murnpeowie and Ooloo Hill (the Marree Uranium Project). Joint annual reports for the period 10/8/2005 to 9/8/2016. *South Australia. Department of Energy and Mining. Open file envelope 11322.*

CRA Exploration Pty Ltd, 1996. EL 1715 Emu Hill, Quarterly and Annual Reports for the period 22/4/91 to 21/4/96. *South Australia. Department of Energy and Mining. Open file envelope 08446.*

Curnamona Energy Limited, 2012. Data release: Curnamona Project (uranium exploration spinoff). Joint annual reports for the period 1/1/2009 to 31/12/2011. *South Australia. Department of Energy and Mining. Open file envelope 11217.*

Curtis, J.L., Brunt, D.A. and Binks, P.J., 1990. Tertiary palaeochannel uranium deposits of South Australia. *In*: Hughes, F.E. (Ed.), Geology of the mineral deposits of Australia and Papua New Guinea. *Australasian Institute of Mining and Metallurgy. Monograph Series*, 14:1631-1636.

Hiern, M.N., 1958. Exploration of the Western Prospect - Radium Hill. *South Australia. Department of Mines. Mining Review 108: 50-61.*

Ker, D.S., 1961. Report on surface exploration at Radium Hill. *South Australia. Geological Survey. Report Book, 52/00001.*

Mumme, I.A., 1958. Ground Scintillation Survey – Radium Hill Area. *South Australia. Department of Mines. Mining Review 108: 62-65*.

O'Driscoll, E.S.T. & Webb, B.P., 1956a. Special Geological Investigations, Radium Hill Mine. *South Australia. Geological Survey. Report Book, 68/00104.*

O'Driscoll, E.S.T. & Webb, B.P., 1956b. Results of Recent Geological Investigations and Diamond Drilling, Radium Hill Mine. *South Australia. Geological Survey. Report Book, 70/00011.*

Rudd, E.A., 1970. SML 268, Frome Downs Homestead, progress and technical reports for the period 1/1/1969 to 31/12/1970. *South Australia. Department of Energy and Mining. Open file envelope 01110.*

Southern Cross Resources Australia Pty Ltd, 2015. Data release: Ethiudna. Annual reports to licence expiry/renewal, for the period 22/2/2004 to 22/2/2015**.** *South Australia. Department of Energy and Mining. Open file envelope 10381.*

Sprigg, R.C., 1954. *In*: Dickinson, S.B., Sprigg, R.C., King, D., Wade, M.L., Webb, B.P., Whittle, A.W.G., Stillwell, F.L., & Edwards, A.B., Uranium Deposits in South Australia. *South Australia. Geological Survey. Bulletin 30.*

Teale & Associates Pty Ltd, 2007. EL 3605 PACE Initiative drilling partnership – Prospect Hill area Proterozoic basement tin and base metal mineral prospects. *South Australia. Department of Energy and Mining. Open file envelopes 11515 & 13041*

Tonkin, D., 2009. Curnamona Province exploration review and mineral systems. *South Australia. Department of Primary Industries and Resources. Report Book* 2009/10.

Thomas, A., 1961. The structural control of uranium at the Radium Hill Mine. *South Australia. Geological Survey. Report Book,* 52/158.

Tricentrol Australia Limited, 1974. EL 69, Lake Tinko, Progress and Final Reports for the period 1/6/73 to 31/5/74. *South Australia. Department of Energy and Mining. Open file envelope 2308.*

Tricentrol Australia Limited, 1975. EL 127, Lake Coonarbine, Progress and Final Reports for the Period 1/6/74 to 31/5/75. *South Australia. Department of Energy and Mining. Open file envelope 2432.*

Western Nuclear Australia Limited, 1973. Paralana Plains. Progress reports for the period 3/6/1971 to 2/6/1973. *South Australia. Department of Energy and Mining. Open file envelope 01626.*

Zani, J.A., 1958. Notes on the Radium Hill Mine. *South Australia. Geological Survey. Report Book, 70/00012.*

For personal use only

For personal use only

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this Section apply to all succeeding Sections)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g., cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralization that are Material to the Public Report.*	• The vast majority of all U_3O_8 values are calculated from downhole gamma logs or hand-held scintillometers and are therefore regarded as "equivalent U_3O_8" (eU_3O_8). • Gamma tools (Geiger counters and scintillometers) are regularly calibrated. • At Radium Hill, no prospect reports describe assaying techniques but a couple of geophysical reports describe calibration of scintillometers regularly throughout the day against known standards. For downhole gamma logs post ca.1955, upon reaching the top of each drillhole the probe was taken out and inserted in a calibrating tube. • Tricentrol Australia Ltd. (Tricentrol) used a calibrated gamma probe provided by the SA Department of Mines based on 1200-1300 cps = 0.5 lb/t. • It is not known how other operators calibrated their tools. • Gamma tools are an indirect measure of uranium content (measure decay products from uranium) and the radiometric response vs grade can vary from deposit to deposit. • There is only limited data from chemical assays.

For personal use only

Criteria	JORC Code Explanation	Commentary
Drilling techniques	*Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• All the drilling at Radium Hill was undertaken using diamond coring techniques by the SA Department of Mines. No specific details are available. • The majority of the drilling in the Lake Namba-Billeroo Project was undertaken utilising rotary mud drilling rigs. • Drilling at Prospect Hill was undertaken by reverse circulation (RC) drilling.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximize sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• For most of the drilling, the Company does not have access to drill recovery data or measures taken to maximize sample recovery. • Diamond drill core is representative but mud rotary drilling can be subject to sample contamination. • Down-hole logging with a gamma probe was the primary method to determine eU_3O_8 values and recovery does not affect the integrity of a downhole gamma survey.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant intersections logged.*	• Most drillholes have been geologically logged to varying levels of detail and presented either as summary logs, visual/graphic logs or, in the case of more recent exploration, detailed hand-written logs. • Detailed geological logs are not available for historic Radium Hill drill core and it has not been possible to locate any logs at all for many holes in that project. • No sample or core photography is available.

For personal use only

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.* *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Drill core from Radium Hill is no longer available and it is not known if or how it was cut, sawn, sampled or assayed. • Rotary mud samples are typically collected at the collar/standpipe so are not fully representative of the interval drilled and are often not suitable for assay. • No sub-sampling appears to have been undertaken for rotary mud samples. • RC sampling procedures for Prospect Hill have not been reported. However, duplicate samples were split from selected laboratory bulk pulp samples and assayed separately. • Sample sizes have not been reported.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• Gamma tools are an indirect determination of uranium grades and while tools have been variously calibrated against known standards, the radiometric response vs grade can sometimes vary from deposit to deposit. • A variety of different calibrated natural gamma tools have been used but their makes and models have not been recorded. • Tricentrol used a gamma probe calibrated based on 1200-1300 cps = 0.5 lb/t but other companies have not identified calibration formulae.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	• No information regarding documentation, data verification etc. protocols is available for historic data. • No verification of significant intersections has been reported.

For personal use only

Criteria	JORC Code Explanation	Commentary
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	• Radium Hill drillholes and maps are based on a local mine grid (including location, declination and azimuth) but no information is available on survey methods. The grid has been transcribed to latitudes and longitudes by SA Department of Mines cartographers. • Most recent data have been located by hand-held GPS.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	• Data spacing is highly variable depending on the status of exploration. • At Radium Hill, the density of shallow drilling immediately along strike from the main lodes is considered close enough to establish if there is a significant shallow mineral deposit. • The density of drilling is generally inappropriate for a mineral resource estimate. • All known drillholes are plotted on figures in Appendix 1 of this announcement.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The majority of drillholes at Radium Hill have been drilled at declinations of 45-70° from horizontal and are oblique to the interpreted mineralized "lodes" (*i.e.,* drilled to the NW) with occasional scissor holes drilled in the opposite direction (to the SE). • The majority of holes in the Lake Namba-Billeroo Project are vertical, which is appropriate as sedimentary uranium mineralization is generally flat-lying or sub-horizontal. • There should be limited or no bias due to drillhole orientations.
Sample security	*The measures taken to ensure sample security.*	• Security procedures for the limited assaying undertaken are not known. • The majority of the uranium values are calculated from gamma logging therefore sample security is not an issue.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of sampling/assaying techniques are known to have been undertaken.

For personal use only

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding Section 1 also apply to this Section)

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Heavy Rare Earths Limited (HRE) has entered into a binding Term Sheet with Havilah Resources Limited (Havilah) to acquire an initial 80% interest in the uranium rights on all or part of 22 tenements in South Australia (Table 1). Thereafter HRE and Havilah will co-fund exploration and development activities under a joint venture arrangement. • The Term Sheet excludes access to a 2.5 km^2 area over the historic Radium Hill uranium mine (Figure 2). This area is administered by the South Australian Government. • Havilah will remain the title holder of each tenement and HRE as operator will work with Havilah on all tenement governance matters including annual technical reporting, tenement administration and heritage access agreements. • A program for environment protection and rehabilitation (PEPR) approval from the South Australian Department for Energy and Mining (DEM) will be required to undertake ground disturbing works. • Havilah has Native Title Mining Agreements (NTMA) in place with all the relevant Native Title parties covered by the Tenements and these NTMA's are registered with DEM.

Criteria	JORC Code Explanation	Commentary
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Exploration at Radium Hill was undertaken solely by the SA Department of Mines in the years up to 1962. Exploration in the specific project area by private companies has only reviewed Government data. • Several companies have undertaken previous drilling for sedimentary uranium within the Lake Namba-Billeroo Project area as identified in Figure 3. • Multiple geophysical surveys have been undertaken over all or portions of the Project areas by DEM, Geoscience Australia and multiple companies.

For personal use only

For personal use only

Criteria	JORC Code Explanation	Commentary
Geology	*Deposit type, geological setting and style of mineralization.*	• All three project areas are located in South Australia's Curnamona Province / Frome Embayment region where Neoproterozoic, Cambrian, Mesozoic and Cainozoic sediments of the Adelaide Geosyncline, Eromanga Basin and Lake Eyre Basin overlie Palaeoproterozoic and Mesoproterozoic metamorphics, metavolcanics and granitoids of the Curnamona Craton. • The Radium Hill area comprises a sequence of gneisses of late Palaeoproterozoic age (Willyama Supergroup), which was intensely deformed and metamorphosed by the Olarian Orogeny (ca. 1640–1580 Ma) and intruded by granitoid intrusives of early Mesoproterozoic age (ca. 1590–1580 Ma). Uranium mineralization occurs in NE-trending fractures and shears that cross-cut the regional banding in a domal NE-plunging anticlinal structure. • In the central cratonic part of the Curnamona Province, the Palaeo-Mesoproterozoic basement and the overlying Neoproterozoic and Cambrian sediments are covered by shallow to moderately thick Cretaceous to Quaternary sediments of the Frome Embayment and Lake Eyre Basin which host multiple sedimentary uranium deposits in tabular to roll front style uranium deposits in paleochannels of the Tertiary Lake Eyre Basin (Namba Formation and basal sands of the Eyre Formation). • Palaeoproterozoic and Mesoproterozoic basement rocks in the Curnamona Province are commonly uranium rich and are the source of uranium mineralization in palaeochannel deposits such as at Beverley, Four Mile, Honeymoon, Gould's Dam, Junction Dam, Jasons and Oban.

For personal use only

Criteria	JORC Code Explanation	Commentary

Drillhole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:*
	- *easting and northing of the drillhole collar*
	- *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar*
	- *dip and azimuth of the hole*
	- *down hole length and interception depth*
	- *hole length.*
		• The projects cover a combined area of 2,750 km^2 and since 1950 there have been:
		  • ca. 670 diamond core drillholes drilled in the Radium Hill area of which ca. 190 drillholes were drilled within the Project area outside the Radium Hill Mine Exclusion Zone;
		  • ca. 405 holes drilled in the Lake Namba-Billeroo Project area; and
		  • ca. 73 holes drilled in the Prospect Hill Project area.
		• Figures 2, 3 and 4 show all known drillholes in the Company's database to date.
		• Table 2 tabulates collars and significant intercepts for holes mentioned in the document.
		• The Company has not provided collar and intercept information for all drillholes as they are not believed to be material at this stage of exploration.

Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No new exploration data is being reported here. • Known details of reported assays are provided in Table 2. • Aggregates reported are simple averages and were calculated by the Competent Person. • Other than the use of gamma logs for estimating "equivalent U_3O_8" (eU_3O_8), no metal equivalent values are reported.

For personal use only

Criteria	JORC Code Explanation	Commentary
Relationship between mineralization widths and intercept lengths	*If the geometry of the mineralization with respect to the drillhole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	• Mineralization at Radium Hill is subvertical to steeply SE dipping. Reported intercepts in costeans are believed to represent the true thickness of mineralization but drillhole intercepts are believed to be greater than true thickness (true width is not known but maybe ca. 50-75% of intercepts). • Most sedimentary uranium exploration holes are drilled vertical for sub-horizontal sand-hosted deposits so, therefore, drilled intervals are approximately true thickness.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	• No new discoveries are being reported here. • Figures 2, 3 and 4 show all known drillholes in the Radium Hill, Lake Namba-Billeroo and Prospect Hill Project areas, respectively.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Due to the large number of historic exploration drillholes in the Project areas, it is impractical to present a comprehensive report of such. At Radium Hill there is often very little information except for uranium intercepts mentioned in brief summary texts or on maps and sparse sections. • Most exploration reports have been reviewed by the Competent Person and it is believed that the summary review presented in this announcement is representative.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• The majority of exploration within the Project areas has been drilling but also includes multiple Government and company geophysical surveys including airborne electromagnetics, magnetics and radiometrics, and ground gravity, to map out geological basement structure and palaeochannels. • Metallurgical work was undertaken at Radium Hill prior to and during mining from 1954-61. This is not considered material at this stage of investigation.

Criteria	JORC Code Explanation	Commentary
Further work	*The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Technical review of existing data is ongoing to generate and prioritise specific drill targets for testing in 2025 and beyond. • Initial drill targets include extensions of the Radium Hill uranium deposit immediately NE along strike, the southern Billeroo Palaeochannel prospects, the southern Namba Palaeochannel and potential palaeochannels northeast of Prospect Hill (Figures 2, 3 and 4).

For personal use only