ASX Announcement

15 September 2025

HEAVY RARE EARTHS LIMITED

HRE advances exploration at its Critical Minerals and Uranium Projects

Highlights

- **Bulk metallurgical sample from Radium Hill submitted to Auralia Metallurgy for sighter program aimed at testing recovery of uranium (U), scandium (Sc) and rare earths (REEs)**
- **Anomalies generated from interpretation of Radium Hill aerial geophysical survey:**
  - **Field mapping and geochemical sampling, to prioritise targets, currently underway**
- **Interpretation of geophysical surveys at Lake Namba-Billeroo and Prospect Hill projects complete:**
  - **Target generation and planning for maiden drilling programs nearing completion**
- **Acquisition of Prospect Hill non-uranium mineral rights, including tin, advancing**
- **Prospect Hill has SA's largest known and most advanced tin project**
- **Review of historical Prospect Hill tin exploration data completed:**
  - **Planning underway to advance maiden South Ridge mineral resource**
- **Heritage site clearance and Government drilling permit applications initiated**
- **Cowalinya rare earth bulk sample prepared for process optimisation and product qualification**

Heavy Rare Earths Limited ("**HRE**" or "**the Company**") is pleased to announce an update on the multiple exploration workstreams across its highly prospective minerals' portfolio in South Australia and Western Australia. HRE's total South Australian portfolio covers 2,949km^2 and includes the historic Radium Hill *Line of Lode*, the Prospect Hill Project and the Lake Namba-Billeroo Project (Figure 1).

Mineralisation across the portfolio comprises uranium (U) and multiple critical minerals, including scandium (Sc), tin (Sn) and rare earth elements (REEs) such as terbium (Tb), dysprosium (Dy), lutetium (Lu), and yttrium (Y).

HRE's Exploration Manager, Joseph Ogiermen, said:

"Since my appointment in February 2025, we have completed a deep dive and analytical assessment of the Company's exciting and highly prospective exploration portfolio, including i) cataloguing the 70+ years of historical archived reports from Australia's first uranium mine at Radium Hill and ii) processing, interpreting and generating targets from detailed geophysical surveys across our portfolio, including aerial magnetic-radiometrics and ground-based passive seismic surveys.

"We are working towards maiden drilling programs at each of our three South Australian exploration assets with a view to identifying an economic resource. We understand the uranium and especially the critical mineral markets have increasingly become a geopolitical and government priority and we are well positioned to leverage our portfolio into this market. We have also captured the rights to all of the mineral elements at Prospect Hill, including the emerging and highly prospective South Ridge tin deposit."

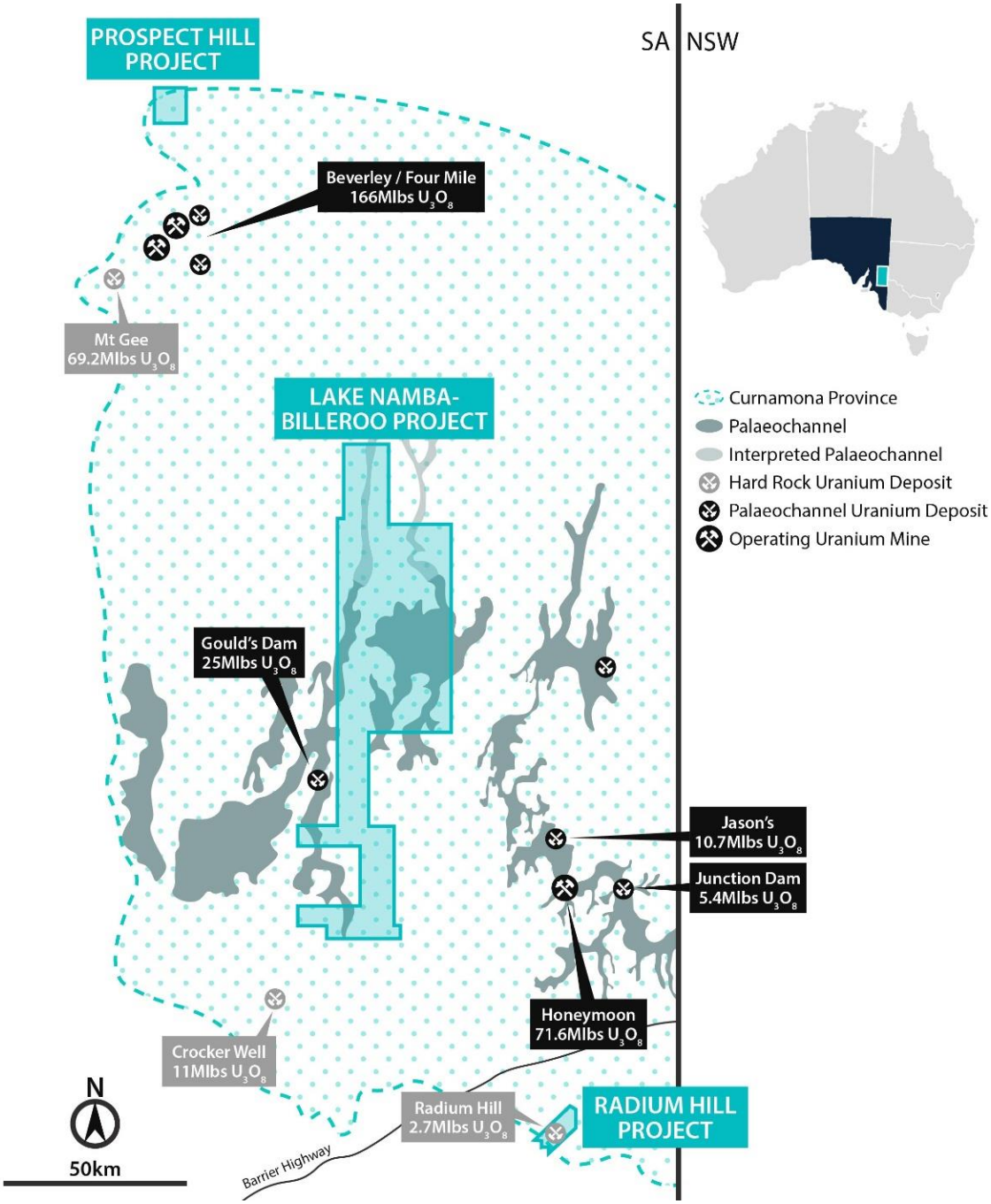

Figure 1. Location of HRE's project areas and uranium deposits[1] in the Curnamona Province of eastern South Australia.

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[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.*

Radium Hill U-Sc-REE Project, South Australia

Bulk Ore Sample for Metallurgical Testing

During August 2025, the Company collected approximately 60kg of bulk Fe-Ti Oxide-rich mineralised rock (including davidite, ilmenite and rutile)from surface stockpiles within the historic Radium Hill Mine Lease for a preliminary sighter program to investigate recovery parameters of U, Sc and REEs (Figures 2A and 2B). The bulk sample has been delivered to the laboratories of Auralia Metallurgy in Perth, Western Australia and metallurgical testwork has commenced.

The Company's aim is to establish a technically and commercially feasible method for concentrating Radium Hill-style mineralisation, including understanding the optimum crushing, grinding, flotation and leaching parameters to optimise process flows and achieve the best possible concentrate grade and mineral recoveries.

Although the bulk sample was collected from the historic Radium Hill Mine Lease which is excluded from HRE's project area, it is considered by HRE to be representative of Radium Hill-style, shear zone-hosted mineralisation which occurs throughout the 5km+ Radium Hill *Line of Lode*, the vast majority of which potentially lies within HRE's project area.

Recent reconnaissance rock and historic drill core sampling by HRE has confirmed the high-grade nature of critical minerals in Radium Hill-style U-Sc-REE mineralisation *(refer to ASX announcements - 30 October 2024 and 19 May 2025)*. HRE received assays of up to **9,068ppm (20 lb/t) U_3O_8**, **936ppm Sc_2O_3** and **18,899ppm (1.89%) TREO**. REE assays feature material concentrations of the high-value heavy rare earths (HREEs; Table 1) which remain at a heightened risk of supply disruption due to political and supply chain constraints, as evidenced by China's recent application of export controls on key HREEs and Sc.

Figure 2A. Bulk sample collected from historic ore stockpile at surface – Radium Hill Mine Lease.

Figure 2B. Davidite mineralisation from historic ore stockpile at surface – Radium Hill Mine Lease.

Critical Mineral	Average Grade (ppm)[1]	Proportion of Total Rare Earths + Scandium[2]	Traded Price (US$/kg)[3]
Terbium (Tb)	33	0.3%	$1,005
Dysprosium (Dy)	283	2.2%	$228
Lutetium (Lu)	60	0.5%	$722
Yttrium (Y)	1822	14.4%	$6.59
Scandium (Sc)	560	4.4%	$722

Table 1: HREE and Sc critical minerals at Radium Hill subjected to Chinese export controls in April 2025.

1. Average of individual rare earth oxide (REO) and Sc oxide grades for 18 mineralised samples listed in Table 2 of ASX announcement 17 July 2025. RHR002, RHR003, RHR004, RH-A, RHR005, RHR006, RHR007, RHR008, RH-B, RHR009, RHR010, RHR012, RHR016, RH-C, RH-1, RH-2, RHR017, RHR018.
2. "Total Rare Earths + Scandium" = La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Lu_2O_3 + Y_2O_3 + Sc_2O_3.
3. "Traded Price" is as quoted by Shanghai Metals Market https://www.metal.com/price/Rare%20Earth/Rare-Earth-Oxides as at 12 September 2025, for fully separated, high-purity (generally >99.95%) oxide products, inclusive of 13% VAT, delivery to buyer.

Target Generation and Drill Hole Targets

During the June 2025 Quarter, the Company completed an aerial magnetic-radiometric survey over Radium Hill, which was flown to highlight the potential structural control of Radium Hill-style mineralisation. Throughout July and August, data from the survey has been processed and interpreted by Southern Geoscience Consultants in Perth and the Company's geological team is corroborating these results against the historical database to determine HRE's priority drill-hole targets. Field mapping and sampling has commenced to aid this process. Finalisation of the target generation workstream will be completed in the near term, with the results expected during October.

HRE believes there is considerable potential to discover extensions to the mineralisation along Radium Hill's *Line of Lode*, north-east of the Radium Hill Mine, where 2.6 million lbs @ 0.12% (1,200 ppm or 2.6 lb/t) U_3O_8 was mined between 1954 and 1961.

Groundwork and pXRF Sampling

HRE's geological team is investigating outcropping target areas and in-situ soils for anomalous U and critical mineral values (Sc, REE and others). A particular focus is to investigate the relationship between Sc-rich mineralisation and the U mineralising event which, once clear, may have the potential to expand the critical minerals search profile for the project. The results from this program will also assist with HRE's target generation drill-hole ranking and priority.

Prospect Hill U Project, South Australia

Data from a passive seismic/gravity survey, completed during H1 CY25, over Wattleowie Valley in the eastern portion of the Prospect Hill Project has now been processed and interpreted. In August, industry-leading geophysical consultants, Resource Potentials Pty Ltd (RESPOT), meshed the seismic data with regional magnetic, radiometric and gravity data to interpret pathways for potential U-bearing groundwaters, shedding off U and RE- anomalous basement granites to the south.

The primary target horizon for U deposits at Prospect Hill is a Cretaceous-age glacial sandstone/tillite sitting directly on Mesoproterozoic basement. This geological setting is analogous to Heathgate Resources' Four Mile West deposit (44.9 Mlb U_3O_8[2]), 35km due south of Wattleowie Valley. A review of RESPOT's work is being undertaken to assist with planning HRE's maiden drilling program in the Wattleowie Valley. Results of this review will be presented shortly.

Lake Namba-Billeroo U Project, South Australia

Data from passive seismic/gravity surveys, completed during H1 CY25, over the Billeroo Palaeochannel has now been processed and interpreted. The surveys were conducted over four grids (A to D), with two grids (A and B) located south (up-channel) of Boss Energy's Gould's Dam deposit (25 Mlbs @ 520ppm U_3O_8) and two grids (C and D) located north (down-channel) of Gould's Dam (Figure 3).

In August 2025, RESPOT meshed the seismic/gravity data with regional magnetic, radiometric and gravity data to interpret Billeroo Palaeochannel geometry and potential trap sites for U-bearing groundwaters, based on palaeogeography and structural interactions with reactivated basement structures. RESPOT stated the preliminary interpretation for Grids C and D show "classic palaeochannel signal", confirming the South Australian Government's interpretation of a regional airborne electromagnetic survey flown in 2010.

As at Prospect Hill, a review of RESPOT's work is nearing completion to assist with planning HRE's maiden drilling program in the Billeroo Palaeochannel, downstream from the Gould's Dam U deposit . Results of this review will be presented shortly. Heritage site clearance survey requests have been initiated with the Adnyamathanha Traditional Lands Association Aboriginal Corporation for Grids C and D.

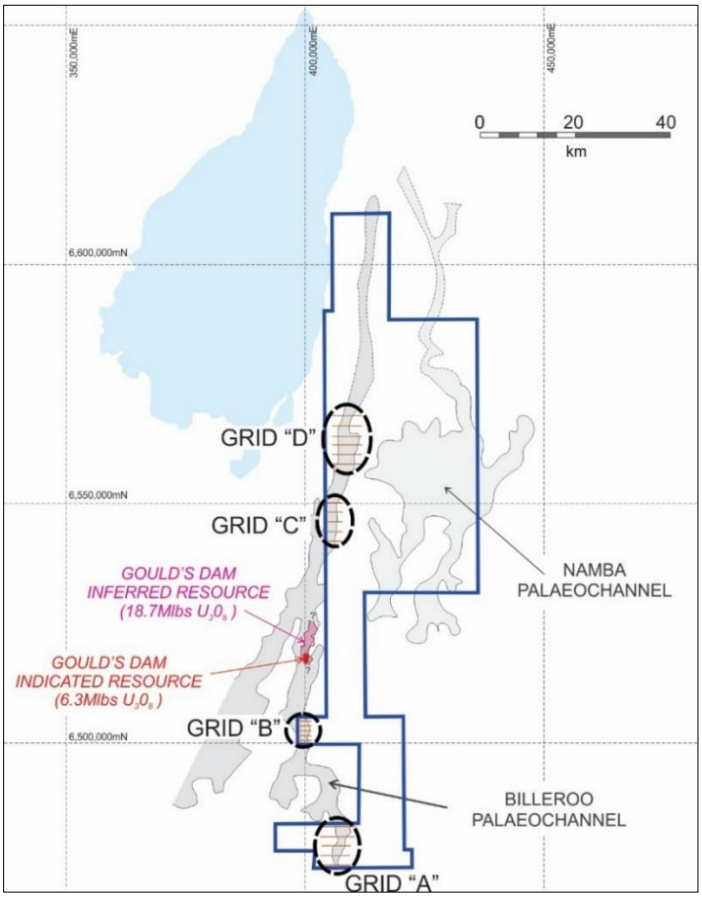

Figure 3. Billeroo Palaeochannel with location of HRE's Passive Seismic/Gravity surveys.

[2] https://www.energymining.sa.gov.au/industry/minerals-and-mining/mining/major-projects-and-mining-activities/major-operating-and-approved-mines/four-mile-uranium-mine

Preliminary interpretation of the passive seismic data for Grids A and B is adversely impacted by "noise" (low signal-to-noise ratio in the data), possibly due to shallow basement and/or environmental conditions during data acquisition. Correlation of the data with open file reports of nearby historical drillholes in adjacent tenements is being undertaken to determine if the data can be better interpreted.

Prospect Hill Sn Project, South Australia

Tin Acquisition

In August 2025, the Company announced it had acquired all the mineral rights (subject to shareholder approval, which is proposed to be finalised over the coming month) to the Prospect Hill Project inclusive of the previously discovered Sn deposit at the South Ridge prospect *(refer to ASX announcement 4 August 2025)*. The project comes with extensive historical geological and geochemical data collected over several decades including:

- 350 rock samples;
- 4,520 soil samples;
- 305 stream samples;
- 40 trenches (536.8m);
- 19 percussion holes (1,156m);
- 71 RC holes (5,698m);
- Detailed geological mapping;
- Extensive petrographic sampling; and
- Metallurgical testwork.

Drilling has confirmed Sn mineralisation over 500m of strike and to a depth of 120m at South Ridge. This includes 56 holes, many with high-grade Sn intercepts including:

- **3m @ 4.85% Sn** from 44m (hole PHRC03);
- **5m @ 3.32% Sn** from 84m (PHRC55); and
- **6m @ 2.33% Sn** from 14m (PHP-15).

The Company is progressing ground access and heritage clearance with the Dieri Aboriginal Corporation to undertake surface sampling and trenching along strike at South Ridge (Figure 4).

South Ridge Sn Deposit

Several mineral resource estimates (MRE) for the South Ridge deposit have previously been disclosed to the ASX. HRE's view is that the prior MRE disclosures do not meet JORC 2012 reporting requirements, however the previous exploration, including drilling and trenching, did reach an advanced exploration stage.

The Company believes that the available data presents a solid foundation to upgrade the South Ridge deposit to an initial JORC 2012 MRE and potentially to expand the mineralisation at depth and along strike, within a short time frame. This will involve infill drilling, including twinning of selected historic holes by diamond drilling for verification which will also provide HRE with samples of Sn mineralisation for metallurgical test work. Subject to reporting a JORC 2012 MRE, HRE's near-term objectives will include a scoping study, potentially supported by a targeted bulk sampling program, to ascertain a Sn target size for future development.

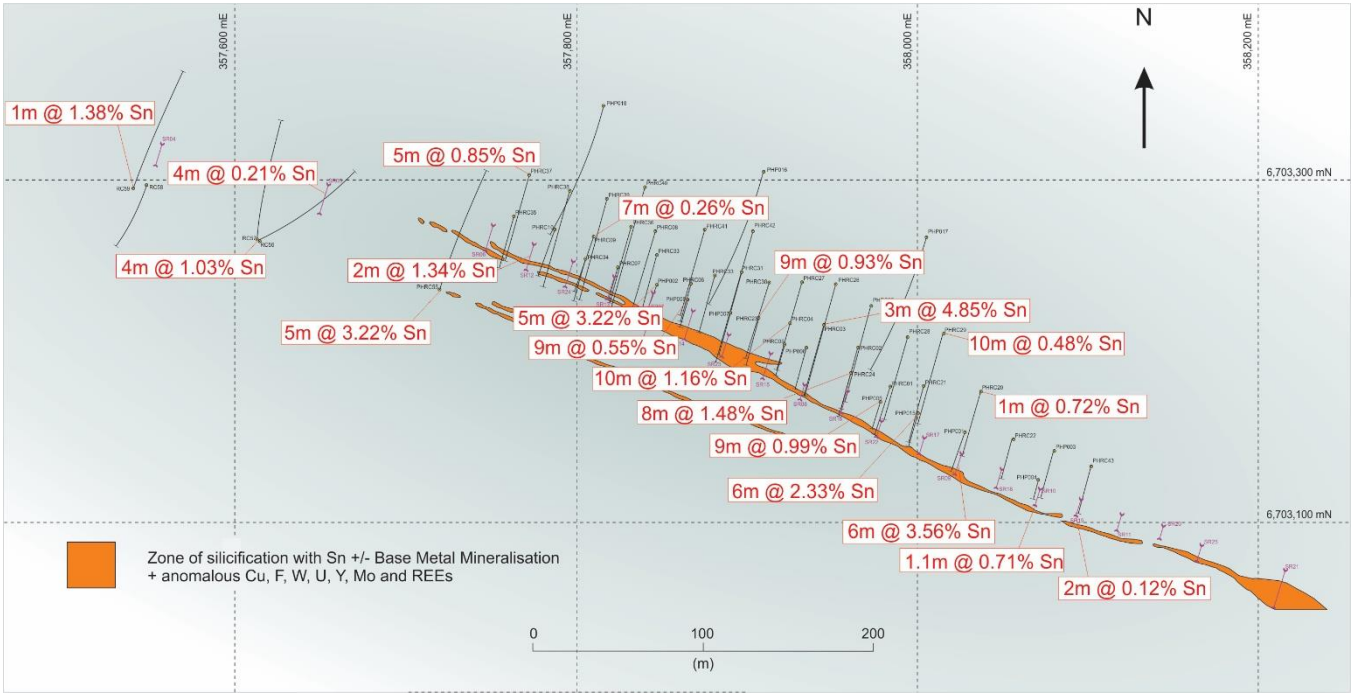

Figure 4. Plan view of South Ridge prospect with selected drill and trench intersections.

Tin Exploration

HRE's immediate priority has been to collate all geological, geochemical and geophysical data into a single database which provides the framework for future drilling programs.

Geological teams will be onsite in Q4 of this year to assess the status of access to historic South Ridge drill sites and to undertake detailed geological mapping and sampling of the main South Ridge outcrop and potential strike extensions of the deposit to the west and east.

Compliance Conditions

The acquisition of the remaining mineral rights is subject to shareholder approval at a General Meeting, with relevant compliance documents being assembled including an Independent Expert Report and Independent Technical Assessment Report. HRE expects to finalise all its compliance reports this month and call a shareholder General Meeting at the earliest opportunity.

Cowalinya REE Project, Western Australia

Bulk Sample and Product Qualification

HRE's Cowalinya project hosts a sizeable inventory of saprolite-hosted REEs with **Inferred Mineral Resources of 159 million tonnes @ 870 ppm TREO**[3] *(refer to ASX announcement 3/10/2023 and Figure 6)*. The Company believes it has the potential to materially expand and upgrade the Cowalinya MRE as confirmed via the substantial **Exploration Target of 280-1390 million tonnes @ 330-1330 ppm TREO** *(refer to ASX announcement 23/10/2023 and Figure 6)*.

In 2024, HRE produced a sample of mixed rare earth carbonate (MREC) grading **51.8% TREO** from HRE's Cowalinya project, inclusive of the magnet rare earths *(refer to ASX announcement 12 May 2024)*:

- Pr_6O_{11}: **2.46% (Pr oxide)**;
- Nd_2O_3: **10.14% (Nd oxide)**;
- Tb_4O_7: **0.20% (Tb oxide)**; and
- Dy_2O_3: **1.01% (Dy oxide)**.

This was a 'first pass' concept program which demonstrated that MREC can be produced from the Cowalinya deposit.

The Company subsequently collected material from 167 drill holes across the Cowalinya project area for a 3-tonne mineralised bulk sample which included all composites from its comprehensive metallurgical variability program *(refer to ASX announcement 12 March 2024)* (Figures 5 and 6). This material is in the process of being homogenised in Perth in preparation for an upscaled metallurgical program focused on optimising magnet rare earth recovery and reagent use, and to produce sufficient MREC to both establish product marketability and investigate collaboration/funding opportunities in the ongoing development of Cowalinya.

Figure 5. Cowalinya 3-tonne metallurgical bulk sample (11 x 220 litre drums) at HRE's storage facility in Perth.

[3] Using a 400ppm TREO-CeO_2 grade cut-off

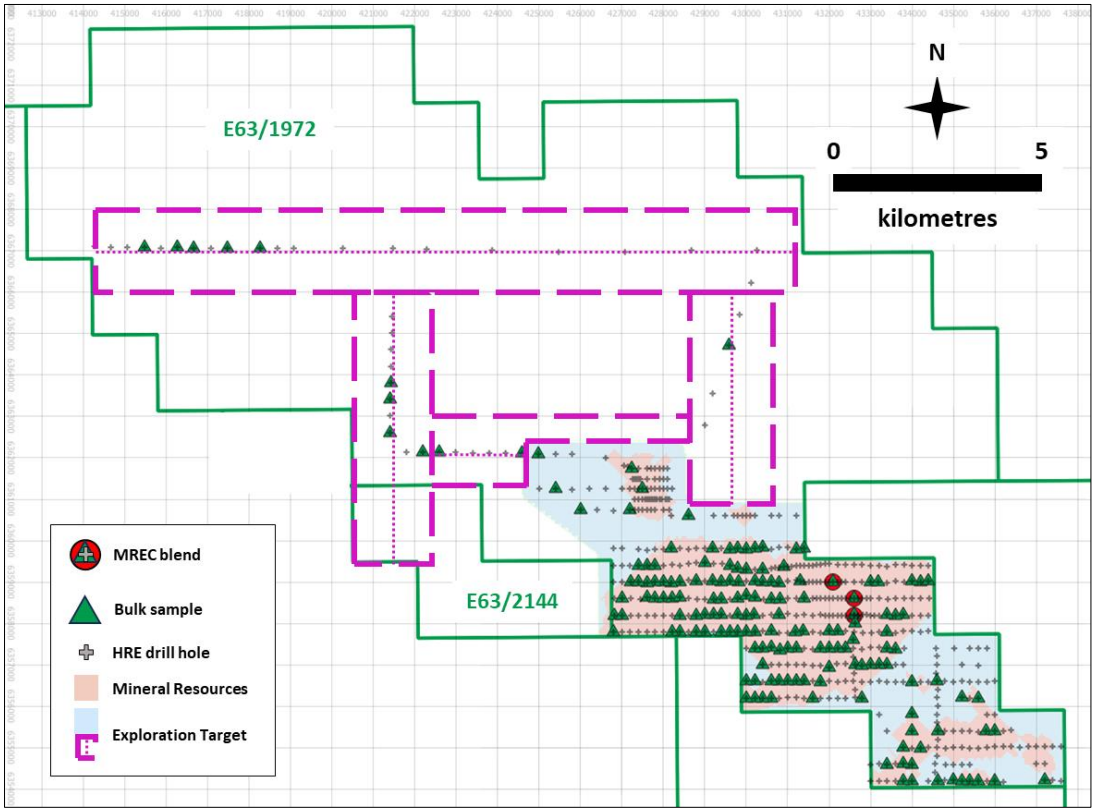

Figure 6. Location of mineralised samples used to produce MREC blend and 3-tonne bulk sample, Cowalinya project.

- Ends -

This announcement has been approved by the Board of HRE.

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About Heavy Rare Earths Limited

Heavy Rare Earths Limited (ASX:HRE) is an Australian uranium and critical minerals exploration and development company. HRE's key exploration projects are in the uranium-and critical minerals-rich Curnamona Province of eastern South Australia and in the Mid-West region of Western Australia.

Competent Person's Statement

The Exploration Results contained in this announcement were compiled by Mr Joseph Ogierman. Mr Ogierman is a Member (#4469) of the Australian Institute of Geoscientists (MAIG). He is a full-time employee of Heavy Rare Earths Limited. Mr Ogierman has more than 35 years' experience in mineral exploration and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 JORC Code. Mr Ogierman consents to the inclusion in this announcement of the matters based on the Exploration Results in the form and context in which they appear.

The Company confirms that it is not aware of any new information or data that materially affects the Cowalinya Mineral Resources or Exploration Target as contained in the 3 October 2023 and 23 October 2023 ASX releases, respectively. All material assumptions and technical parameters underpinning the Cowalinya Mineral Resources and Exploration Target in the ASX releases dated 3 October 2023 and 23 October 2023 respectively, continue to apply and have not materially changed.

Forward Looking Statement

This announcement includes "forward-looking statements" as that term within the meaning of securities laws of applicable jurisdictions. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond HRE's control. These forward-looking statements include, but are not limited to, all statements other than statements of historical facts contained in this presentation, including, without limitation, those regarding HRE's future expectations. Readers can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "continue," "could," "estimate," "expect," "forecast," "intend," "may," "plan," "potential," "predict," "project," "risk," "should," "will" or "would" and other similar expressions. Risks, uncertainties and other factors may cause HRE's actual results, performance, production or achievements to differ materially from those expressed or implied by the forward-looking statements (and from past results, performance or achievements). Readers are cautioned not to place undue reliance on forward-looking statements. Although HRE believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.