MAGNUM MINING AND EXPLORATION LIMITED

MAGNUM TO ADVANCE REE SEPARATION TECHNOLOGY

Magnum Mining & Exploration Limited (ASX: **MGU**, **Magnum**, or the **Company** OTCQB: **MGUFF**) is pleased to announce that it has executed a binding Memorandum of Understanding ("**MoU**") with Homerun Resources Inc. ("**Homerun**" (TSXV:HMR, OTC:HMRFF)), to jointly evaluate the application of Homerun's ultra-pure silica sand for the adsorption and chromatographic separation of rare earth elements ("**REE**") samples supplied by Magnum.

HIGHLIGHTS

- Magnum and Homerun will evaluate the use of Homerun's **high-purity silica and graphite (to be supplied from a sister company)** as potential column media for ion-exchange chromatography, as reported in scientific literature for REE separation.[1,2]
- The program of works to be undertaken will aim to determine whether Homerun's high-purity materials can be optimised for **ion-exchange or chromatographic separation of REEs from ore samples sourced from Magnum's Brazilian REE projects.**
- If successful, the program has the potential to lead to **a lower-footprint alternative to conventional solvent extraction for REEs**, and in particular, Heavy REEs. Any new process know-how or IP generated during testing will be **jointly owned** by the parties.
- It is envisaged that initial testing will be conducted at bench scale, with the possibility of further scalability through further **modular pilot-scale additions** if results are positive.
- Recent peer-reviewed studies[1,2] report bench-scale continuous extraction chromatography on silica-based media achieving **≥99.9% purity for individual Heavy REEs** using mineral-acid eluents, indicating potential process and **environmental advantages versus conventional bulk solvent extraction.**
- The research initiative complements Magnum's focus to accelerate the development and commercialisation of its Brazilian REE projects, which recently returned positive trench and rock-chip assay results at the Feirinha Prospect **(1.69% total rare earth oxides (TREO)[3])**, alongside leach testwork indicating **exceptional recoveries at ambient temperature and fast residency times.** [4]
- The MoU between Magnum and Homerun follows recent technology agreements from other ASX companies, such as **Locksley Resources (ASX: LKY)**, which have announced an

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[1] Journal of Chromatography, Volume 1745, 29 March 2025, *"Efficient extraction chromatography method for the separation of heavy rare earth elements from various sources."*

[2] Journal of Rare Earths, Volume 41, Issue 2, February 2023, *"Research progress of rare earth separation methods and technologies"*.

[3] Refer to ASX release, ASX:MGU, 20 December 2024, *"Palmares Delivers Up to 1.69% TREO Grades (Revised)"*.

[4] Refer to ASX release, ASX:MGU, 2 October 2025, *"Breakthrough REE Test Work Delivers Exceptional Results"*.

agreement with Rice University to advance DeepSolv™, a proprietary processing and extraction technology primarily targeting antimony feedstocks at its Mojave Project.[5]

- Magnum and Homerun consider Brazil a highly prospective **jurisdiction to develop ex-China REE ore & concentrate supply chains**, given the abundance of REE prospects, established laboratory infrastructure and potential operating cost advantages.

Magnum's Chairman, Michael Davy, commented: *"We are very pleased to be initiating this research collaboration partnership with Homerun. We believe this MoU adds smart optionality to our strategy to drive value across our REE portfolio. At minimal cost, we can test whether Homerun's high-purity silica and graphite, has the potential to streamline REE separation from our Brazilian ore with a reduced solvent footprint. If successful, Magnum could unlock faster and cleaner routes to supplying REEs to market from its highly prospective Brazilian REE assets, where we have achieved exceptional exploration and leach results to date. We look forward to working with Homerun and by extension contributing to the broader wave of innovation we are seeing in the REE space, both in Australia and internationally."*

Homerun's CEO, Brian Leeners, commented: *"This collaboration is an exciting opportunity for Homerun to advance the application of our ultra-pure silica and graphite products in a new generation of rare-earth element separation technologies. By leveraging our high-purity feedstocks with Magnum's promising Brazilian rare-earth assets, we believe we can deliver environmentally improved, lower-carbon-footprint processing solutions that are critical to the energy transition. We look forward to driving innovation, lowering costs, and creating value for the stakeholders of both companies through this partnership."*

DETAILS OF THE MOU

The MoU will joint evaluate on a non-binding basis, the following:

- The bench scale application of the HMR ultra-pure silica sand for adsorption and chromatographic separation of rare earth elements from MGU's REE projects in Brazil.
- Subject to the success of the bench scale test, a pilot test of the jointly developed solution.
- Eventual commercialisation of the jointly developed solution.

All IP created during the testing phases will be jointly controlled by the Parties. If a Party determines that chromatographic separation of rare earth elements is not suitable to their materials supplied for the purpose of the testing, they may exit the MoU and the other Party will have the right to utilise the IP obtained to their benefit.

The Parties shall develop budgets to jointly cover the costs incurred related to the testing phases. The MoU term will expire in 12 months (subject to renewal). The MOU may be terminated on 30 days notice' or due to an Event of Default or Force Majeure.

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[5] Refer to ASX release, ASX:LKY, 25 August 2025, *"Transformative Partnership to Fast Track Antimony Processing",* and ASX release, ASX:LKY, 1st October 2025, *"Assessment & Evaluation of DeepSolv Program Expansion."*

BACKGROUND INFORMATION ON HREE SEPARATION TECHNOLOGY

Recent peer-reviewed studies[6][7] report bench-scale continuous extraction chromatography on silica-based media, achieving ≥99.9% purity for individual HREEs using mineral-acid eluents, indicating potential process and environmental advantages versus conventional bulk solvent extraction (while SX remains the current industrial standard).

Magnum considers the research opportunity with Homerun an exciting and low-cost initiative that has the potential to accelerate the commercialisation of its Brazilian REE projects. The MoU between Magnum and Homerun follows recent technology agreements from other ASX companies, such as Locksley Resources (ASX: LKY), which have announced an agreement with Rice University to advance DeepSolv™, a proprietary processing & extraction technology primarily targeting antimony feedstocks at its Mojave Project.[8]

ABOUT HOMERUN RESOUCES

Homerun Resources Inc. (TSXV:HMR, OTC:HMRFF) is a materials and technology-focused company that targets high-purity (HPQ) silica and graphite feedstocks for specialty applications in the energy transition and industrial markets. Homerun is building the silica-powered backbone of the energy transition across four focused verticals: Silica, Solar, Energy Storage, and Energy Solutions. Anchored by a unique high-purity low-iron silica resource in Bahia, Brazil, Homerun transforms raw silica into essential products and technologies that accelerate clean power adoption and deliver durable shareholder value.

CAUTIONARY STATEMENTS

This release contains "forward-looking information" that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to studies, the Company's entry into a definitive agreement with Midmetal, the Company's business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely',' believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.

Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current development activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of metals; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities.

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[6] Journal of Chromatography, Volume 1745, 29 March 2025, *"Efficient extraction chromatography method for the separation of heavy rare earth elements from various sources."*

[7] Journal of Rare Earths, Volume 41, Issue 2, February 2023, *"Research progress of rare earth separation methods and technologies".*

[8] Refer to ASX release, ASX:LKY, 25 August 2025, *"Transformative Partnership to Fast Track Antimony Processing",* and ASX release, ASX:LKY, 1st October 2025, *"Assessment & Evaluation of DeepSolv Program Expansion."*

This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information.

Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

COMPETENT PERSON'S STATEMENT

The information in this announcement is based on information compiled by Mr Marcus Flis, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy and a full time employee of Rountree Pty Ltd. Mr Flis has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves." Mr Flis consents to the inclusion of the matters outlined in this announcement the form and context in which they appear.

The information in this announcement as footnoted throughout the release and as noted below relates to exploration results that have been released previously on the ASX. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that, all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's finding is presented have not been materially modified from the original market announcements.

ASX ANNOUNCEMENTS REFERENCED DIRECTLY IN THIS RELEASE

- *"Auger Drilling to Start on Brazil Rare Earths Project" released on the ASX on 3rd of October 2025 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*
- *"Palmares Delivers up to 1.69% TREO Grades (Revised)" released on the ASX on 20th of December 2024 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*
- *"Breakthrough REE Test Work Delivers Exceptional Results" released on the ASX on 2nd of October 2025 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*
- *"Greenlight Received to Drill Test Brazil REE Targets" released on the ASX on 7th October 2025 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*

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