

## **ANSTO DOWNSTREAM TESTWORK COMMENCES ON WORLD-CLASS KANGANKUNDE RARE EARTH MONAZITE CONCENTRATE**

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### **HIGHLIGHTS**

- **Testwork for offtake and strategic investment process underway with the Australian Nuclear Science and Technology Organisation (“ANSTO”), Australia's national centre of excellence for critical minerals processing and rare earth separation.**
- **Program focused on Lindian’s Concentrate to produce a Mixed Rare Earth Carbonate (“MREC”) via both sulfuric acid bake and caustic cracking routes, to define the optimal downstream path and support multiple offtake and strategic partnership discussions (including prepayment and strategic investment).**
- **Lindian’s premium monazite Concentrate is globally distinctive for its technical and strategic advantages:**
  - 55% Total Rare Earth Oxides (“TREO”) grade with no deleterious elements.
  - 60% recovery from gravity separation beneficiation plant with no reagents.
  - Ultra-low uranium and thorium content, reducing Actinium-227 and enabling access to premium markets with strict radionuclide thresholds.
  - Low iron content, significantly reducing reagent consumption and environmental burden for downstream MREC production.
- **Ideal feedstock for both conventional and alternative flowsheets, enabling:**
  - Simpler reagent recycling and solid-liquid separation.
  - Lower capital intensity and streamlined permitting.
  - Earlier rejection of phosphates and non-rare earth impurities
- **ANSTO test work will deliver representative MREC product and a formal Certificate of Analysis (“COA”), unlocking multiple commercial discussions with offtakers, refiners and alloy producers.**
- **First production targeted for 2026, as China’s newly implemented export controls heighten global urgency for independent, diversified, high-performance rare earth supply chains.**
- **The commencement of downstream testwork with ANSTO is driven by the exceptional quality of the rare earth Concentrate produced from our flagship Kangankunde Project in Malawi—reinforcing its potential to deliver high-value critical minerals into global supply chains.**

Lindian Resources Limited (“Lindian” or the “Company”) (ASX: LIN) is pleased to announce it has commenced downstream metallurgical testwork with the ANSTO to evaluate the production of MREC from its premium grade monazite Concentrate, produced from the Company’s Kangankunde Rare Earths Project (“Kangankunde” or the “Project”) in Malawi.

**Zac Komur Non-Executive Director and Chair, Project Delivery & Technical Committee commented:**

*"Lindian's monazite concentrate stands apart due to its exceptional grade, low iron, and ultra-low radionuclide content, making it the most technically desirable feedstocks globally for rare earth processing. These properties not only reduce reagent consumption and environmental complexity but unlock pathways to simpler permitting, lower capex, and enhanced product purity."*

*"The low uranium and thorium content translates to reduced Actinium-227 levels, a critical constraint in MREC sales outside China. This gives us a clear strategic advantage in pursuing premium markets in Europe and North America, where radionuclide thresholds are tightening. At 55% TREO with no deleterious elements, the Lindian concentrate is ideally suited for a cleaner, more efficient pathway to high-spec mixed rare earth carbonate."*

*"We are advancing test work with ANSTO to optimise both caustic and sulfuric cracking routes and validate the downstream commercial flowsheet. These results will form the basis of Lindian's downstream strategy, including multiple strategic partnership opportunities we have commenced discussions on with international offtakers, separation and alloy manufacturers."*

*"This is not just a concentrate, it's a high-performance, no penalty, strategically critical input to the global rare earth supply chain, capable of meeting the most demanding technical and regulatory requirements. With first production targeted for 2026, we are advancing at a time when China's sweeping export controls are redrawing the global rare earth map, and Lindian is uniquely positioned to respond."*

### **Kangankunde: A Globally Unique Rare Earth Feedstock**

The commencement of downstream test work with ANSTO is underpinned by the outstanding quality of the rare earth concentrate produced from Lindian's Kangankunde Project. ANSTO has acknowledged the superior technical characteristics of this monazite concentrate, which position Kangankunde as the most attractive feedstocks globally for rare earth production.

A key differentiator of the Kangankunde concentrate is its extremely low radionuclide content, particularly uranium and thorium. This unique feature reduces or eliminates many of the challenges commonly associated with monazite processing, including restrictions on transport, permitting, and environmental compliance. Importantly, it also enables Lindian to target international customers in jurisdictions with strict radioactivity limits, such as Europe and North America, broadening the addressable market and enhancing the concentrate's commercial appeal.

In addition to its low radioactivity, the concentrate is characterised by low concentrations of acid-consuming gangue minerals, particularly iron. Iron is known to significantly increase sulfuric acid consumption in traditional cracking routes, driving up reagent costs, increasing emissions, and complicating downstream processing. The reduced presence of these deleterious components in Kangankunde's concentrate results in a more cost-effective and environmentally friendly flowsheet, with lower acid demand and simplified waste management.

The Kangankunde concentrate's exceptionally high-grade monazite content and no deleterious impurities position it as an ideal candidate for both conventional sulfuric acid cracking and the less commonly applied caustic cracking route. While caustic conversion has historically been considered unsuitable for most monazite ores due to their complex impurity profiles, Lindian's concentrate

stands out as a preferred feedstock, precisely because of its purity, high TREO grade, and low radionuclide and iron content.

This enables caustic cracking to potentially become a technically robust and commercially viable processing option, offering a range of advantages over acid bake flowsheets. These include simplified reagent recycling, easier solid-liquid separation, earlier rejection of phosphate and non-rare earth impurities, and significantly lower capital intensity. Importantly, the process introduces fewer environmental challenges, supporting both permitting and long-term operational sustainability.

### **Strategic Importance of ANSTO Collaboration**

Partnering with ANSTO for this phase of test work reflects Lindian's commitment to building technical confidence and progressing its development strategy with world-class support. ANSTO is internationally regarded for its expertise in critical minerals processing and solvent extraction technologies. With more than 50 years of experience working across rare earths, uranium, lithium, and other strategic metals, ANSTO brings unmatched technical capability and credibility to the project.

The commencement of test work at ANSTO marks a significant milestone for Lindian, supporting three core objectives in the Company's downstream strategy:

1. **Accelerated value capture:** Producing a Mixed Rare Earth Carbonate (MREC) product (after Stage 1 – Concentrate) allows Lindian to move beyond Concentrate sales and capture more of the value chain, improving margins and creating stronger strategic relevance to end users and offtakers.
2. **De-risking future development:** By assessing both sulfuric acid and caustic cracking flowsheets using a world-class facility, Lindian is building a solid foundation for potential future investment in cracking or separation capacity, either independently or through joint ventures.
3. **Commercial enablement:** The MREC product and associated Certificate of Analysis (COA) generated through this work will support ongoing offtake discussions and strategic investors, many of whom require proven downstream pathways and product validation.

In combination, the quality of the Kangankunde feedstock and the calibre of ANSTO's technical support place Lindian in a strong position to unlock significant downstream value and progress its development ambitions in a global market seeking secure, high-purity rare earth supply.

**-ENDS-**

**This ASX announcement was authorised for release by the Executive Chairman of Lindian Resources Limited.**

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## ABOUT LINDIAN

Lindian Resources (ASX:LIN) is an Australian based company with world class rare earths and bauxite assets in Malawi and Guinea. Through the development of these assets, Lindian aims to become a globally significant critical minerals producer.

The Kangankunde Rare Earths Project in Malawi is the cornerstone of Lindian's asset portfolio. It is one of the world's largest, rare earths deposit and is top tier in terms of high REO grade, and low levels of impurities and radioactive minerals. Kangankunde has impressive development and significant future expansion potential. A feasibility study on the Stage 1 development delivered outstanding technical and economic results (see ASX announcement 1 July 2024), including that Kangankunde has one of the lowest capital and operating cost structures of global rare earths projects.

The Kangankunde Project has access to good supporting infrastructure, strong community and government support and has all key licences and approvals in place to commence construction. Following the feasibility study, Lindian is now advancing project financing discussions with the aim to commence Stage 1 construction in 1H2025.

In addition, Lindian also has bauxite assets in Guinea and Tanzania.

## Lindian asset and office locations



## Forward Looking Statements

This announcement may include forward-looking statements, based on Lindian's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Lindian, which could cause actual results to differ materially from such statements. Lindian makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of the announcement.