

# ANSTO TESTWORK CONFIRMS KANGANKUNDE MONAZITE CRACKS CLEANLY TO HIGH-GRADE, ULTRA LOW-RADIATION MREC WITH 97% NDPR RECOVERY

## Highlights

- **High-grade, low-radiation monazite concentrate confirmed:** ANSTO head assays on the composite Kangankunde concentrate report **55.9wt% TREO (46.5wt% TREY)**, with **Nd+Pr 20% TREY** and **83wt% monazite**. The concentrate is classified as **non-radioactive for transport**, a key advantage versus many monazite feeds.
- **Conventional sulphuric acid bake achieves high extraction of key rare earth elements:** Acid-bake water-leach tests achieved **91–94% TREY extraction** and **93–97% Nd+Pr extraction**, with ANSTO concluding that **very high (>97%) rare earth extraction** is readily achievable with further optimisation of acid dose and leach conditions.
- **Fast leach kinetics and broad operating window:** More than **90% of TREY dissolves within one hour** of leaching across all tests, indicating a **favourable operating window**.
- **Effective impurity removal:** Neutralisation and impurity-removal tests demonstrate **Fe, Al, Ca, P and other gangue elements can be removed efficiently retaining more than 90% of rare earths in solution**, providing a clean feed for final MREC precipitation.
- **High-grade MREC product with strong magnet-REE bias:** MREC product containing **45.0wt% TREY** (equivalent to **54.0wt% TREO including  $Y_2O_3$** ) and  **$Nd_2O_3 + Pr_6O_{11}$  of 10.7wt% (20% TREO)**. All major base-metal impurities at or below specification limits and **U and Th each <0.001wt%**.
- **Very low radionuclides in MREC:** Uranium and thorium in the MREC are **below analytical detection limits for standard instruments**, and **Ac-227 activity is negligible (~0.02 Bq/g)**. Radionuclide levels are so low that a **tertiary-amine ion-exchange step for U/Th removal is not required**, simplifying downstream flowsheets, reducing operating and compliance costs, and supporting long concentrate and MREC shelf life, **non-Class 7 logistics** and broad customer acceptance.
- **Excellent overall recoveries:** Combining acid bake and leach, impurity removal and carbonate precipitation gives an estimated **overall TREO recovery of 92% and Nd+Pr recovery of 97% from concentrate to MREC**, capturing virtually all of the magnet-REE value in the feed.
- **Simple and scalable flowsheet:** The Kangankunde concentrate is amenable to a **conventional sulphuric acid bake, ambient-temperature water leach, impurity removal and  $NaHCO_3$  precipitation flowsheet** using standard reagents and unit operations, supporting attractive operating-cost assumptions and **low downstream scale-up risk**.
- **Acid-consumption optimisation underway:** Initial tests used **1.2–1.4 t  $H_2SO_4$  per tonne of concentrate**. The next ANSTO program is focused on **reducing acid consumption while maintaining or improving TREY and Nd+Pr extraction**, providing direct input to operating-cost estimates.
- **Parallel caustic-conversion (caustic bake) program commenced:** A **caustic-conversion program is now underway at ANSTO** to benchmark reagent consumption, recoveries and product quality against the acid-bake route and **preserve flowsheet optionality** for downstream offtake customers.

**Lindian Resources Limited ("Lindian" or the "Company") (ASX: LIN)** provides an update on downstream hydrometallurgical testwork for its Kangankunde Rare Earths Project ("**Kangankunde**" or the "**Project**") in Malawi.

The testwork is being undertaken at the Australian Nuclear Science and Technology Organisation ("**ANSTO**"), which is a recognised global specialist in rare earth processing. The program is designed to confirm how the Kangankunde monazite concentrate performs in conventional flowsheets and to generate plant-ready data for a commercial mixed rare earth carbonate (MREC) product.

**Lindian Resources' Executive Director Zac Komur commented:**

*"ANSTO's work confirms that Kangankunde's monazite is a premium feed that cracks cleanly under conventional proven industrial conditions. We have produced a high-grade, ultra-low-radiation MREC grading 54% TREO, 20% NdPr with 97% NdPr recovery from concentrate to MREC.*

*The low thorium and uranium in concentrate and MREC means downstream separation plants can meet their radionuclide specifications without complex U/Th management. That translates into lower downstream opex, higher payabilities and lower environmental and compliance costs for our customers.*

*At the same time, acid consumption is already in a competitive range and ANSTO's next program is targeting further reductions while keeping recoveries at the top end. We are also benchmarking a refined caustic-conversion route to keep optionality for offtake partners.*

*Put simply, these results show Kangankunde can deliver a premium, specification-ready MREC using a standard flowsheet, with high recovery, low complexity, low radionuclides and strong REE exposure, exactly what customers and partners are looking for."*

## Metallurgical Testwork Overview

ANSTO Minerals, part of the Australian Nuclear Science and Technology Organisation and a recognised global specialist in rare earth hydrometallurgy, is undertaking a staged testwork program on Kangankunde monazite concentrate product. The program evaluates sulphuric acid baking, water leach, impurity removal and MREC precipitation, with a parallel caustic-conversion route now underway to benchmark alternative processing options.

For this phase, mineral concentrate from the Kangankunde beneficiation program was using standard gravity and magnetic separation as part of Stage 1 process flowsheet, and head assays confirm a very high-grade monazite feed with favourable magnet rare earth characteristics and ultra-low radionuclides.

## Kangankunde Monazite Concentrate Premium Feedstock

The concentrate grade of 55.9 wt% TREO (46.5 wt% TREY), with light rare earths accounting for 98% of TREY and Nd+Pr contributing 18% of TREY. Chemically, the material is equivalent to approximately 84–91% monazite, with about 10.1 wt% P consistent with phosphate mineralogy, 2.0 wt% carbonate identified as an acid consumer in the bake, and moderate Fe, Ba and Sr contents typical of Kangankunde mineralogy. Thorium and uranium levels are very low at 0.10 wt% Th and 0.003 wt% U, corresponding to specific activities of ~4.1 Bq/g and ~0.3 Bq/g respectively. Previous work has classified the concentrate as non-radioactive for transport, which is a key advantage over many monazite feeds.



Table 1: Kangankunde monazite concentrate: head assay

Element	Concentration (wt%)	Element	Concentration (wt%)
Al	0.05	La	13.4
Ba	5.25	Ce	23.3
Ca	0.39	Pr	2.11
F	0.3	Nd	7.08
Fe	1.11	Sm	0.41
K	0.05	Eu	0.09
Mg	0.05	Gd	0.12
Mn	1.29	Tb	0.01
Na	0.40	Dy	0.02
P	10.1	Ho	0.002
Pb	<0.001	Er	0.003
S	1.24	Tm	<0.01
Sc	<0.001	Yb	0.001
Si	0.16	Lu	<0.01
Sr	3.78	Y	0.05
Ti	0.11	LRE	45.8
Th	0.10	Nd+Pr	9.19
U	0.003	TREY	46.5
V	0.002	TREO	55.9
Zn	0.11		
Zr	0.002		

QEMSCAN modal mineralogy, summarised in Table 2 (QEMSCAN Modal Mineralogy), shows that the concentrate is dominated by monazite (83wt%) with minor bastnäsite-Ce, florencite and other REE phases, and a relatively simple gangue assemblage comprising barytes, strontianite, Mn- and Fe-oxide/hydroxide minerals and small amounts of carbonates and oxides. This mineralogy is consistent with the high REO grades reported and underpins the strong response observed in the cracking testwork.



Table 2: QEMSCAN Modal Mineralogy (wt%)

Mineral	Chemical Formulae	Kangankunde Concentrate
Monazite	(Ce,La,Nd,Th)PO <sub>4</sub>	83.0
Bastnasite-Ce	(Ce,La,Nd)(CO <sub>3</sub> )F	0.19
Florencite	(Ce,La,Nd)Al <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (OH) <sub>6</sub>	0.002
REE Minerals	REE, Y, CO <sub>3</sub> , PO <sub>4</sub> , O	0.40
Barytes	BaSO <sub>4</sub>	8.05
Strontianite	SrCO <sub>3</sub>	3.06
Mn-Oxide/Hydroxide	Mn, Fe, Ba, Pb, K, O, OH	2.71
Fe-Oxide/Hydroxide	Fe <sub>x</sub> O <sub>y</sub> /FeO(OH)	0.94
Pyrochlore	(Na,Ca,Sr) <sub>2</sub> Nb <sub>2</sub> O <sub>6</sub> (O,OH)	0.40
Columbite	Fe <sup>2+</sup> Nb <sub>2</sub> O <sub>6</sub>	0.24
Pyrite	FeS <sub>2</sub>	0.22
Rutile/Anatase	TiO <sub>2</sub>	0.13
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>	0.11
Zincite	ZnO	0.10
Zircon	ZrSiO <sub>4</sub>	0.10
Ilmenite	FeTiO <sub>3</sub>	0.02
Others	Various	0.31

## Key Results and Interpretation

ANSTO evaluated a conventional sulphuric acid bake followed by ambient-temperature water leach in three sighter tests (LAB-1, LAB-2 and LAB-3). All tests used a three-hour bake, with temperatures of 250 °C (LAB-1 and LAB-3) and 270 °C (LAB-2), and acid dosages of 1.2 t H<sub>2</sub>SO<sub>4</sub>/t concentrate for LAB-1 and LAB-2 and 1.4 t H<sub>2</sub>SO<sub>4</sub>/t for LAB-3. The baked solids were then leached in deionised water at ambient temperature at liquid-to-solid ratios of 25 L/kg (LAB-1 and LAB-2) and 21 L/kg (LAB-3) for 3–4 hours. Key outcomes include:

- TREY extraction to primary filtrate of 91–94%, with TREY tenor in solution of 16.6–19.0 g/L.
- Nd+Pr extraction of 93–97%, with LAB-3 delivering the highest extraction (97%) and highest tenor (3.86 g/L Nd+Pr).
- LRE extraction of 91–94%, consistent with the total TREY behaviour.
- Free acid levels in the primary filtrate of 33, 31 and 46 g/L for LAB-1, LAB-2 and LAB-3 respectively, demonstrating the ability to tune solution strength via acid dosage and liquid-to-solid ratio.

More than 90% of rare earth dissolution occurs within the first hour of leaching in all three tests, confirming fast leach kinetics and indicating that relatively short leach residence times. Overall, the testwork confirms that Kangankunde's monazite responds extremely well to a standard sulphuric acid bake and water leach flowsheet, with ANSTO indicating that very high rare earth extraction (>97%) should be achievable with modest optimisation of acid dosage and leach conditions.



Table 3: Summary of acid bake and ambient-temperature water leach conditions for ANSTO sighter tests LAB-1 to LAB-3.

Test ID	LAB-1		LAB-2		LAB-3	
Bake Temp	250		270		250	
Bake Residence	3		3		3	
Acid Addition (kg/t)	1199		1200		1409	
Liquid to solid ratio	25		25		21	
Residence Time (h)	4		4		3	
Free acid (g/L)	33		31		46	
	PF Conc.	Extraction	PF Conc.	Extraction	PF Conc.	Extraction
	mg/L	%	mg/L	%	mg/L	%
Al	20	93	11	87	12	93
Ba	<1	<0.1	<1	<0.1	<1	<0.1
Ca	118	94	117	94	130	95
Fe	300	67	228	52	418	86
Mg	21	>95	21	>95	22	>96
Mn	544	98	555	98	608	99
Na	<10		<10		<10	
P	3,570	85	3,340	83	4,380	90
Pb	<100		<100		<100	
S	14,000		13,600		20,400	
Si	10	79	9.4	78	5.4	75
Sr	112	8	113	8	97	
Th	2.1	6	<1	<3	12	56
U	1.6	90	<1		<1	
Zn	31	>99.8	35	>99.8	38	>99.8
La	5,140	95	5,120	94	5,870	97
Ce	7,930	89	7,820	89	9,040	92
Pr	833	94	849	93	953	97
Nd	2,610	94	2,580	93	2,910	97
Sm	147	95	153	94	180	98
Eu	23	95	24	94	29	
Gd	40	96	42	95	48	99
Tb	2.6	95	2.7	94	2.8	
Dy	6.2	>89	6.5	>89	7.3	
Ho	<1		<1		<1	
Er	<1		<1		<1	
Tm	<1		<1		<1	
Yb	<1		<1		<1	
Lu	<1		<1		<1	
Y	12	92	12	93	14	90
LRE	16,500	92	16,400	91	18,800	94
Nd+Pr	3,440	94	3,430	93	3,860	97
TREY	16,700	92	16,600	91	19,000	94



Pregnant leach solutions generated were taken through a stepwise impurity-removal and carbonate-precipitation sequence to produce a mixed rare earth carbonate. The impurity-removal and precipitation stages show:

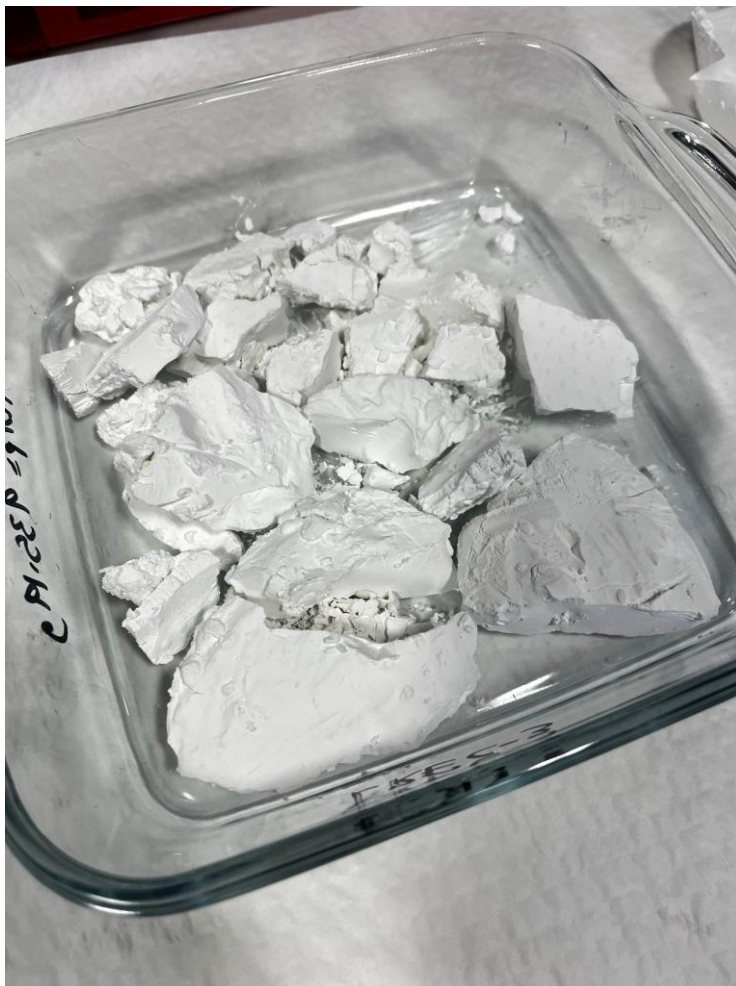
- Efficient precipitation of major impurities such as Ca, P, S and Sr, with limited uptake of these elements into the final product.
- >99.9% precipitation efficiency for all rare earth elements from the purified liquor, with LRE, Nd+Pr and TREY each showing precipitation yields above 99.9%.

On this basis and combining the bake and leach extractions with the near-complete precipitation, overall recoveries from concentrate to MREC are estimated at 92% TREO and 96–97% Nd+Pr, indicating that the flowsheet can capture almost all of the value contained in the Kangankunde monazite concentrate.

*Table 4: MREC Assays and Results*

Element	Composition (wt%)
TREO	54.0
Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>	10.7
LREO	53.2
Al <sub>2</sub> O <sub>3</sub>	0.04
CaO	0.7
Fe <sub>2</sub> O <sub>3</sub>	0.02
MgO	0.12
ZnO	0.05
La <sub>2</sub> O <sub>3</sub>	16.1
CeO <sub>2</sub>	26.5
Pr <sub>6</sub> O <sub>11</sub>	2.8
Nd <sub>2</sub> O <sub>3</sub>	8.0
Sm <sub>2</sub> O <sub>3</sub>	0.49
Eu <sub>2</sub> O <sub>3</sub>	0.08
Gd <sub>2</sub> O <sub>3</sub>	0.14
Tb <sub>2</sub> O <sub>3</sub>	0.01
Dy <sub>2</sub> O <sub>3</sub>	0.02
Ho <sub>2</sub> O <sub>3</sub>	0.002
Er <sub>2</sub> O <sub>3</sub>	0.003
Tm <sub>2</sub> O <sub>3</sub>	<0.001
Yb <sub>2</sub> O <sub>3</sub>	0.001
Lu <sub>2</sub> O <sub>3</sub>	<0.001
Y <sub>2</sub> O <sub>3</sub>	0.05





*Figure 1: High-grade mixed rare earth carbonate (MREC) produced from Kangankunde monazite concentrate during ANSTO testwork, dense, low-radionuclide product.*

## Implications for Flowsheet and Project Development

The ANSTO testwork has several clear implications for downstream development. First, it confirms that a conventional sulphuric acid bake followed by water leach is a suitable and effective route for the Kangankunde concentrate. The operating conditions used in the program so far are squarely within established industrial practice for monazite treatment.

Second, the behaviour observed in the tests reduces technical downstream risk. Leach kinetics are fast, the process shows only minor sensitivity to temperature over the range tested, and all the unit operations use common equipment and reagents rather than unproven or exotic technologies. This suggests a commercial plant should have a forgiving operating window and be easier to ramp up and operate reliably.

Third, the combination of high concentrate grade, strong overall recovery and low impurity levels supports competitive reagent consumption and operating costs. The very low radionuclide levels in both the feed and the MREC product position to supply non-Class 7 material into markets, which may prove to be a structural advantage over peers dealing with higher-radiation monazite.

Finally, having a clearly defined, industry-standard flowsheet that produces a high-grade, low-impurity MREC gives tangible data to take into downstream discussions. Potential customers and partners can see that the project is capable of delivering a specification-compliant product using a familiar process.



## Next Steps

Lindian has now locked in ANSTO to run the next phase of metallurgical work on Kangankunde. The program is tightly focused on turning the very strong sighter results into plant-ready design data and clearer cost assumptions. ANSTO will now:

- **Optimise the acid-bake route** – refine acid dose, temperature and leach conditions to maximise recoveries while driving sulphuric-acid consumption down, and then step liquor through impurity removal, MgO recycle and MREC precipitation at near-plant scale.
- **Tighten radionuclide and residue understanding** – fully characterise U/Th and Ac-227 across residues, liquors.
- **Benchmark a caustic-conversion option** – run a focused caustic bake program to see whether an improved caustic route can match or complement the acid-bake flowsheet on recovery, reagent use and product quality.
- **Variability Testing** – undertake tests on several concentrate samples to allow an understanding of variability of mineral concentrate quality on cracking or conversion performance.

The outcomes from this work will flow directly into downstream partnership and offtake discussions, positioning Lindian's premium grade concentrate and newly proven MREC product as a lower cost, high quality feedstock with exceptional credentials.

The above announcements are available for viewing on the Company's website - [www.lindianresources.com.au](http://www.lindianresources.com.au).

The information that has been extracted from prior announcements referred to in this release, are available on the Company's website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of exploration results, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

This announcement is authorised for release to the ASX by the Board.

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# About LIndian

## Overview

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. The Project has attracted strong interests globally given that Kangankunde is financially viable at both forecast prices and at the low current spot prices for Neodymium ("Nd") and Praseodymium ("Pr"). Lindian will produce a premium monazite Concentrate at 55% Total Rare Earth Oxides ("TREO") grade with no deleterious elements with operating costs in the lowest cost quartile globally, establishing as one of the largest, most promising underdeveloped rare earths deposits in the world<sup>1</sup>.

The Kangankunde Project has access to good supporting infrastructure, strong community and government support, and all key licences and approvals in place to commence construction. Following the announcement of a long-term strategic partnership with Iluka Resources Ltd<sup>2</sup> and a A\$91.5 million institutional placement<sup>3</sup>, the Company has announced the Final Investment Decision for Stage 1 and is now fully funded, with early construction works underway.

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

## Lindian Project & Office Locations



<sup>1</sup> Refer ASX announcement "Outstanding Kangankunde Stage 1 Feasibility Study Results" dated 1 July 2024.

<sup>2</sup> Refer ASX announcement "Strategic Partnership with Iluka for Funding and Offtake" dated 6 August 2025.

<sup>3</sup> Refer ASX announcement "\$91.5m Institutional Placement and FID Approved" dated 20 August 2025.



## Forward Looking Statement

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.

## Competent Persons Statement

The information in this release that relates to the Kangankunde Mineral Resource and supporting geological information is based on, and fairly represents, information compiled by Geoff Chapman, Consultant Geologist to Lindian Resources Limited and a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Chapman has sufficient experience which is relevant to the style of mineralisation, type of deposit and activity being undertaken to qualify as a Competent Person as defined in the JORC Code 2012. Mr Chapman has given his consent to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this release that relates to metallurgical testwork and MREC product characterisation is based on, and fairly represents, information compiled and/or reviewed by Kate Flower-Donaldson and Dr John Demol, both of whom are metallurgical professionals with ANSTO. Ms Flower-Donaldson and Dr Demol have sufficient experience, which is relevant to the style of mineralisation, type of deposit and metallurgical testwork under consideration, and to the activity being undertaken. Ms Flower-Donaldson and Dr Demol have given their consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.

## Appendix 1 Sample Location Details

Drill hole locations and composite drill intervals for MREC concentrate sample. All coordinates WGS84 UTM zone 36S

Drill Hole ID	East (m)	North (m)	RL (m a.s.l.)	From (m)	To (m)
KGKDD014	705398	8327117	772	0	21.2
				21.2	39.64
				39.64	62.75
KGKDD015	705359	8327120	784	0	25
				40.43	55.65
KGKDD016	705353	8327149	753	0	25.1
KGKDD016				25.1	33
KGKDD017	705085	8327100	734	0.8	14.22
				14.22	24.8
				37.4	47
KGKDD018	705108	8327108	742	1.1	9.3
				9.3	23.27
				23.27	38.5
KGKDD019	705363	8327174	744	8.4	16.3
				16.3	26.35
				26.35	36
				36	45
KGKDD020	705403	8327175	742	0	16.5
				16.5	25.36
KGKDD021	705355	8327081	786	0	10.11



## 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
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<p>Whole HQ core composites selected from 8 drillholes.</p> <p>20 composites of whole HQ drill core were compiled by Lindian geologists from 8 drillholes.</p> <p>Composite selection based on visible geological domain features and adjacent drillholes assay data.</p> <p>Composites were collated to a maximum mass of 120kg</p> <p>Composites were crushed at LDE Johannesburg with a 10kg subsample split from the primary crushed composite for analysis.</p> <p>Following analysis, a 400kg composite was split from the primary composites to achieve a blend near representative of material types and head grades consistent with the Project initial 5-year production plan.</p> <p>No individual interval assays were undertaken.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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.).</li> </ul>	HQ drill core
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<p>Core recovery &gt;85%</p> <p>Triple tube drilling.</p>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> </ul>	All drill core was geologically logged, and core photographed prior to composite selection

	<ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>Whole core crushed and rotary split to produce composite assays.</p> <p>Further subsampling of composites completed using a riffle splitter</p>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<p>Assaying of primary composites conducted by LDE Johannesburg using standard industry method borate fusion digest with XRF analysis.</p> <p>The composite sample was milled and subject to gravity and magnetic beneficiation steps. Gravity beneficiation consisted of multiple stages of multi-gravity separator (MGS) processing which was followed by magnetic cobbing using a hand magnet to remove highly magnetic minerals. Samples of concentrate products were dispatched to ANSTO.</p>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<p>This announcement does not report any new drilling results or significant intersections. All drilling and assay data used to select core for metallurgical compositing have been reported previously by Lindian for the Kangankunde Project and were verified at the time by Lindian's senior geological personnel.</p> <p>The metallurgical program at ANSTO is based on HQ core composites and derived monazite concentrates. Head assays on the master composite and on the MREC products are generated by ANSTO and/or accredited commercial laboratories using industry-standard fusion / acid-digest ICP-AES/ICP-MS methods. These results have been reviewed and cross-checked internally by ANSTO metallurgists and Lindian's technical team for consistency, mass balance and reasonableness.</p> <p>No twinned holes were drilled specifically for this metallurgical program.</p> <p>The core used for the HQ composites was drawn from existing drillholes within the Mineral Resource area. Verification of mineralisation continuity and grade distribution between holes has been addressed in previously reported Resource and drilling updates and is not re-reported in this metallurgical announcement.</p> <p>Rare earth element assays obtained on an elemental basis are converted to oxide form (TREO, TREY, individual REO grades) using standard stoichiometric factors. Nd+Pr proportions and NdPr/TREO ratios quoted in this release are derived directly from these oxide conversions.</p>

		<p>Uranium and thorium activities (Bq/g) are calculated from U and Th assays using standard decay constants. Calculated Ac-227 activity in the MREC is derived from measured U-235 and U-238 concentrations using accepted isotopic relationships.</p> <p>Apart from these standard and clearly described conversions (element → oxide; concentration → activity; aggregation of individual REOs into TREO/TREY and NdPr), no other adjustments have been made to the underlying assay data reported in this announcement.</p> <p>The only adjustments to the data were made- transforming the elemental values into the oxide values. Conversion of elemental analysis (REE) to stoichiometric oxide (REO) was undertaken by spreadsheet using defined conversion factors.</p> <table border="1"> <thead> <tr> <th>Element</th><th>Oxide</th><th>Factor</th></tr> </thead> <tbody> <tr><td>Ce</td><td>CeO<sub>2</sub></td><td>1.2284</td></tr> <tr><td>La</td><td>La<sub>2</sub>O<sub>3</sub></td><td>1.1728</td></tr> <tr><td>Sm</td><td>Sm<sub>2</sub>O<sub>3</sub></td><td>1.1596</td></tr> <tr><td>Nd</td><td>Nd<sub>2</sub>O<sub>3</sub></td><td>1.1664</td></tr> <tr><td>Pr</td><td>Pr<sub>6</sub>O<sub>11</sub></td><td>1.2082</td></tr> <tr><td>Dy</td><td>Dy<sub>2</sub>O<sub>3</sub></td><td>1.1477</td></tr> <tr><td>Eu</td><td>Eu<sub>2</sub>O<sub>3</sub></td><td>1.1579</td></tr> <tr><td>Y</td><td>Y<sub>2</sub>O<sub>3</sub></td><td>1.2699</td></tr> <tr><td>Tb</td><td>Tb<sub>4</sub>O<sub>7</sub></td><td>1.1762</td></tr> <tr><td>Gd</td><td>Gd<sub>2</sub>O<sub>3</sub></td><td>1.1526</td></tr> <tr><td>Ho</td><td>Ho<sub>2</sub>O<sub>3</sub></td><td>1.1455</td></tr> <tr><td>Er</td><td>Er<sub>2</sub>O<sub>3</sub></td><td>1.1435</td></tr> <tr><td>Tm</td><td>Tm<sub>2</sub>O<sub>3</sub></td><td>1.1421</td></tr> <tr><td>Yb</td><td>Yb<sub>2</sub>O<sub>3</sub></td><td>1.1387</td></tr> <tr><td>Lu</td><td>Lu<sub>2</sub>O<sub>3</sub></td><td>1.1371</td></tr> </tbody> </table> <p>TREO (Total Rare Earth Oxide) = La<sub>2</sub>O<sub>3</sub> + CeO<sub>2</sub> + Pr<sub>6</sub>O<sub>11</sub> + Nd<sub>2</sub>O<sub>3</sub> + Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub>.</p> <p>MREO (Magnet Rare Earth Oxide) = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub>.</p> <p>%MREO = MREO/TREO x 100.</p>	Element	Oxide	Factor	Ce	CeO <sub>2</sub>	1.2284	La	La <sub>2</sub> O <sub>3</sub>	1.1728	Sm	Sm <sub>2</sub> O <sub>3</sub>	1.1596	Nd	Nd <sub>2</sub> O <sub>3</sub>	1.1664	Pr	Pr <sub>6</sub> O <sub>11</sub>	1.2082	Dy	Dy <sub>2</sub> O <sub>3</sub>	1.1477	Eu	Eu <sub>2</sub> O <sub>3</sub>	1.1579	Y	Y <sub>2</sub> O <sub>3</sub>	1.2699	Tb	Tb <sub>4</sub> O <sub>7</sub>	1.1762	Gd	Gd <sub>2</sub> O <sub>3</sub>	1.1526	Ho	Ho <sub>2</sub> O <sub>3</sub>	1.1455	Er	Er <sub>2</sub> O <sub>3</sub>	1.1435	Tm	Tm <sub>2</sub> O <sub>3</sub>	1.1421	Yb	Yb <sub>2</sub> O <sub>3</sub>	1.1387	Lu	Lu <sub>2</sub> O <sub>3</sub>	1.1371
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<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	Drill holes positioned using handheld GPS with downhole survey completed using multi-shot camera survey tool.																																																
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Not applicable																																																
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	Not applicable																																																

<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<p>Whole core samples were shipped via road freight from Project to LDE Johannesburg. Freight was in secured covered truck directly from site to destination.</p> <p>Concentrate samples produced at Coremet were dispatched to ANSTO using an international freight-forwarder that allowed consignment tracking.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	No audits completed.

## Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<p>The Kangankunde Project comprising granted Mining Licence MML0290/22 is 100% owned by Rift Valley Resource Developments (RVRD) a Malawian registered company. Lindian Resources currently holds 67% of RVRD with a binding share purchase agreement in place to acquire 100 % of RVRD.</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<p>Previous exploration includes:</p> <p>1952-1958: Eight trenches excavated. No data records known to exist.</p> <p>1959: Geological mapping, ten trenches excavated, seven drill holes drilled below main trenches. Data not sighted.</p> <p>1972-1981: Trench mapping and sampling, adit driven 300 metres north to south with several crosscuts. Diamond drilling from crosscuts. Pilot plant operated producing strontianite and monazite concentrate. Limited data available in hard copy only.</p> <p>1987- 1990: Feasibility study activities including surface core drilling, processing studies, geotechnical and groundwater studies, estimation of "geological reserves" (Not JORC compliant). Limited data available in hard copy reports.</p> <p>Historical data is largely not available or not readily validated and is currently not reported.</p>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<p>Intrusive carbonatite containing monazite as the main rare earth bearing mineral.</p> <p>The Kangankunde carbonatite complex is characterized by an elliptic structure centring Kangankunde Hill. The diameters in N-S and E-W directions are 900m and 700m, respectively.</p> <p>In the ellipse, the following rocks are zonally arranged from the centre to the outer part; carbonatites, carbonatized breccias, wall rock / carbonatite breccias and basement rocks.</p> <p>The carbonatites are dolomitic, sideritic and ankeritic and at surface are distributed widely on the northern and western slopes of the Kangankunde Hill. Manganese carbonatite is found at the top and on the eastern slope of the hill.</p>





Criteria	JORC Code explanation	Commentary
		Monazite is found in all carbonatite types in varying quantities. Other associated minerals are strontianite, barite and apatite.
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Drillhole details and sample increments selected for the composite sample are shown in Appendix 1
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	Individual REE assays have been aggregated to industry standard
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>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').</i></li> </ul>	Not applicable
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>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 drill hole collar locations and appropriate sectional views.</i></li> </ul>	Nil
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	Not applicable
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	A range of additional datasets has been collected for the Kangankunde Project as part of the broader exploration and study programs. These include detailed geological logging of diamond and RC drilling, surface geological mapping, topographic surveys and downhole survey data. These datasets have been used to define the current Mineral Resource and underpin the geological and grade models referenced in previous Lindian ASX releases.
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling</i></li> </ul>	Metallurgical and process-development work: The next phase of work at ANSTO will focus on converting the current scoping-level results into plant-ready design and cost data. Planned work includes:





Criteria	JORC Code explanation	Commentary
	<i>areas, provided this information is not commercially sensitive.</i>	<p>Acid-bake optimisation: refining acid dosage, bake temperature and leach conditions to further improve rare earth extraction and reduce sulphuric-acid consumption, followed by step-through impurity removal, MgO recycle and MREC precipitation at larger scale.</p> <p>Radionuclide and residue characterisation: complete radionuclide assays and residue characterisation to support product classification, transport, permitting and long-term storage assumptions.</p> <p>Caustic-conversion optimisation: a focused program to test modified caustic-conversion conditions and additives, benchmarking recoveries, reagent consumption and product quality against the acid-bake route, and preserving optionality for different offtake partners.</p> <p>Variability: subsequent stages are expected to include variability testwork on additional composites representing different ore domains.</p>

