

# COMPLETION OF PHASE 2 DRILL PROGRAM AT KANGANKUNDE RARE EARTHS PROJECT

#### TEXTUAL FEATURES OBSERVED IN SECOND HOLE CONSISTENT WITH SURFACE MINERALISATION1

- Two-hole Phase 2 depth extension drill program at the Kangankunde Rare Earths project has been completed on-schedule
- The second diamond-core drillhole was drilled north-to-south down the long axis of the mineralised system, reaching end-of-hole at its targeted depth of 1,000m
- Drillhole 2 (KGKRC009) further demonstrates the depth extension potential at Kangankunde, with similar textural features to the first drillhole observed at depth
- Visual observations from both drillholes show textual features consistent with surface mineralisation observed all the way to the end-of-hole
- The initial 400m of second diamond-core drill hole has been sampled
- First assay results for the Phase 2 drill program are expected in late July, with ongoing reporting of assays in August and September
- Results from Phase 2 drill program will form the basis of an Exploration Target at Kangankunde
- Final 1700 samples from the Phase 1 drill program are currently in assay at laboratory and are expected be reported market in the near term and prior to the declaration of Lindian's maiden Mineral Resource Estimate for Kangankunde in mid-July

**Lindian's Chief Executive Officer, Alistair Stephens commented:** "We are pleased to confirm the successful completion of Lindian's Phase 2 Exploration Target drill program, with the second drillhole reaching the target depth of 1,000m. Similar to the first drill hole, the second drillhole in the Phase 2 program showed textual features consistent with surface mineralisation to end-of-hole.

"Initial assays from the first hole have been despatched for sampling, and the Company looks forward to progressively reporting assay results for the Phase 2 program from late July to September 2023. These assays will help the Company determine how far Kangankunde's mineralisation extends at depth and provide context to an Exploration Target estimate below the Mineral Resource Estimate.

"In the interim, a review of final assays for the Phase 1 drill program is currently being completed ahead of Lindian's maiden Mineral Resource Estimate, which we very look forward to reporting in mid-July 2023."

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<sup>&</sup>lt;sup>1</sup> Refer Cautionary Statement on page 3



**Lindian Resources Limited (ASX:LIN) ("Lindian" or "the Company")** is pleased to advise that the Phase 2 Deep Drilling Program at the Kangankunde Rare Earths Project in Malawi has now been completed on-schedule.

#### PHASE 2 DRILL PROGRAM (DEPTH EXTENSION)

The Phase 2 Exploration Target drill program has been specifically designed to test for mineralisation at depth and evaluate the mixed breccia mineralisation around the central carbonatite. The second hole of the two-hole diamond-core drill program was successfully completed to its targeted depth of 1,000m.

The second drillhole was designed to drill north-south down the long axis of the mineralised system, complementing the first drillhole which drilled east-west along the short axis. As with the first drillhole in the Exploration Target program (*refer ASX Announcement May 24, 2023*), the textual consistency of the mineralisation at surface for the second hole remained evident through to its targeted depth of 1,000m<sup>2</sup>.



Image 1: Pieces of the drill core from KGKRC009 that appear to show the crystal texture of the monazite at depth, similar to the textual consistency of mineralisation observed at surface. Estimation of abundance of monazite range 0.5% to 3%<sup>2</sup> for this interval from 994.3m to 999.77m consistent with the observation in entire hole.

Assays for the initial 440m of the second drillhole have been sampled on-site and are ready for despatch. The expected turnaround time for assays in connection with the Phase 2 Exploration Target drill program is 6-8 weeks, with initial results for the first drill-hole expected in late July 2023 and additional results continuing thereafter.

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<sup>&</sup>lt;sup>2</sup> Refer Cautionary Statement on Page 3





Image 2: Serah Misuku, Site Program Geologist, with a section of drill core showing textual features of monazite, strontianite and baryte (replacing original burbankite crystal pseudomorphs) at 995.3m downhole. Estimation of abundance of monazite range 0.5% to 3% in a 0.5m interval at 995.3 to 995.8m consistent with the range of observations for the entire drill hole from surface to 999.77m.

Cautionary Statement: In relation to the disclosure of visual observations of mineralisation, the Company cautions that visual estimates of monazite abundance should never be considered a proxy or substitute for laboratory analysis. Laboratory mineralogical, metallurgical and assay analyses are required to validate the proportions of monazite and the rare earths content in relevant drill intercepts and rock samples. The Company will update the market with this information when it becomes available. (refer ASX:LIN release dated 24 May 2024 for drill hole survey)

Core cutting for assay sampling has been completed for drillhole 1 and has progressed to 400m for the second drillhole. Results for the Phase 2 Exploration Target program will follow Lindian's forthcoming maiden Mineral Resource Estimate (MRE). The Company is currently in the process of reviewing final assays from the Phase 1 drill program before finalising the MRE, which is on schedule to be reported in mid-July 2023.

#### **PROGRAM SUMMARY**

The Company commenced phase 1 drilling at Kangankunde in late October 2022 with the intention to undertake a drill program that will culminate in a mineral resources estimate (MRE) and a subsequent Explortation Target below a mineral resource supported from phase 2 drilling.

#### PHASE 1 DRILL PROGRAM (MINE DEFINITION)

The Phase 1 program has been completed with 12,520m of RC drilling completed and 1,643m of core drilling.



#### PHASE 2 DRILL PROGRAM (DEPTH EXTENSION)

The Phase 2 program planned to drill two deep drillholes that were designed to test the E-W and N-S axies of the carbonatite between 300 metres and 800 metres below the hill top, approximately 500 metres below the current deepest drilling. The first drill hole (KGKRCDD074) from the western side of the Central Carbonatite was completed at a depth of 980.5 metres. The first batch of assays have been sent to the laboratory, with results expected progressively from July 2023. The second drill hole (KGKRC009) from the northern end of the Central Carbonatite has now been completed to its targeted depth of 1,000m. The first 440m has been sampled and is ready for despatch, with results expected progressively from August 2023.

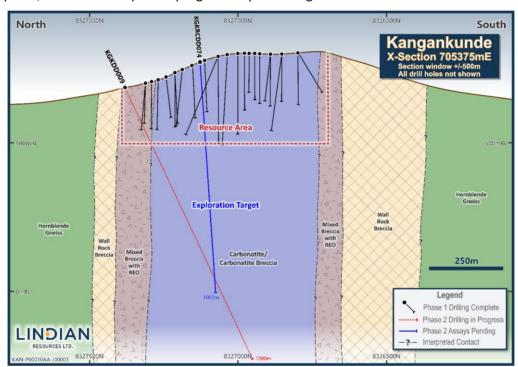


Figure 1: Cross section looking east showing Phase 2 depth extension drillholes KGKRCDD074 (complete) and KGKDD009 in progress with Phase 1 drilling resource area. Window view is ±500m and not all drill holes in Phase 1 drilling are shown.

#### -ENDS-

This ASX announcement was authorised for release by the Lindian Board.

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#### **About Lindian**

#### **RARE EARTHS**

Lindian Resources Limited will progressively acquire 100% of Malawian registered Rift Valley Resource Developments Limited and its 100% owned title to Exploration Licence EPL0514/18R and Mining Licence MML0290/22 (refer ASX announcement ASX:LIN dated 1 August 2022) issued under the Malawi Mines and Minerals Act 2018. The Exploration and Mining Licences have an Environmental and Social Impact Assessment Licence No.2:10:16 issued under the Malawi Environmental



Management Act No. 19 of 2017. The Kangankunde Project, located within MML0290, has been subject to significant historic exploration by Lonrho Plc (Lonrho) in the 1970's and the French geoscience Bureau de Récherches Géologiques et Minières (BRGM) in the 1990's. The project has an underground adit (a horizontal drive with cross cuts extending at least 300 metre underground) and exploration sampling by trenching and drilling has identified significant non-radioactive monazite mineralisation over a footprint of at least 800m by 800m.



Malawi is a country in southern and eastern Africa that parallels the great Lake Malawi, the 5th largest freshwater lake in the world that fills part of the massive rift valley of the Africa continent. Malawi is a peaceful country known ubiquitously as "the warm heart of Africa", with a government and legal system emanated from the English Westminster system (from colonial rule up to 1964). The Malawi economy is currently heavily reliant on agriculture, a small manufacturing sector and foreign aid. Over 80% of Malawians living in rural areas are engaged in traditional subsistence agriculture. The mining industry in Malawi is in its infancy with a new Mining Act introduced in 2019 expected to forge the way for significant expansion and growth. Having seen the impact of mining in neighbouring countries, the Malawi Government has placed mining as the primary growth sector to diversify the Malawi economy and improve living conditions for its people. A growing mining industry is the central plank of the current President's plans for employment. Significant mineral endowment exists in the form of rare earths, uranium, niobium, tantalum, and graphite in a country substantially underexplored.



Kangankunde is located 90 kilometres north of the city of Blantyre, the main economic and commercial centre in Malawi. The town of Balaka, 15 kilometres to the north of Kangankunde, a regional trade centre, has a population of about 36,000 people. The project is located close to the main M1 highway, rail lines to ports and high voltage transmission lines.

#### **Tenure and licences**

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#### **BAUXITE**

**Lindian Resources Limited** has over 1 billion tonnes of **Bauxite** resources (refer company website for access to resources statements and competent persons statements) in Guinea with the Gaoual, Lelouma and Woula projects. Guinean bauxite is known as the premier bauxite location in the world, having high grade and low impurities premium quality bauxite.

Guinea is a country in western Africa located on the Atlantic coast. Most of the country has a humid tropical climate. Its topography varies from coastal plains to inland mountains that account for about 60 per cent of the land area. Several of West Africa's major rivers, in particular the Niger, Senegal and Gambia, all originate from these highlands, making Guinea the 'water tower" of West Africa. Its developing mixed economy is based on agriculture, mining, and trade. Over 80% of its population of ~12 million people are engaged in agriculture. Major crops include rice, bananas, cashews, cocoa and coffee. Its Atlantic shoreline supports a large-scale fishing industry and has developed large commercial harbors, such as Conakry. Guinea is endowed with huge deposits of mineral resources. It has extremely large high-quality deposits of bauxite (nearly one-third of the world's total bauxite resources) and iron ore and is a gold and diamond producer. Mining currently contributes 25% of Guinea's GDP. Thanks to these mineral resources, Guinea has the potential of being one of Africa's richest countries. Guinea, under the name French Guinea, was a part of French West Africa achieved independence in 1958. and since this time conflicts between those countries and Guinea have continued to flare up over the refugee population since.

### **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.

## **Competent Persons Statements**

The information in this Report that relates to drilling, sampling, and assay results is based on information compiled by Mr. Alistair Stephens, who is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Stephens is the Chief Executive Officer of Lindian Resources Limited. Mr. Stephens has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code).



# JORC Code, 2012 Edition – Table 1 report template

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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>	Drill sampling has been undertaken by visual observations of mineralisation, mineralisation type zones and core cutting.
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).	Core drilling using diamond drill technique
Drill sample recovery	<ul> <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>	Typical sample recovery is better than 90%. These are preliminary estimates and requires validation and final assessment.
Logging	<ul> <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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Logging is appropriate to carbonatite mineralisation by experienced and qualified geologists. All the drill holes have been geotechnically and geologically logged. All core has been photographed.
Sub-sampling techniques and sample preparation	<ul> <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</li> </ul>	The report refers to visual identification of monazite and mineralisation types.  Drill holes are being progressively cut to half and quarter core for assay. Quarter core is sampled and bagged in



Criteria	JORC Code explanation	Commentary
	<ul> <li>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 subsampling 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>	relevant intervals to mineralisation type. The remaining quarter core and half core are kept in tray. Core samples for assay are bagged and secured for secure transport to laboratory by qualified and certified transport agents.
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.	Not applicable – visual inspection – samples in progress of being sampled and assayed.
	<ul> <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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	Samples in preparation for assay are undertaken by quality certified preparation and assay laboratories.
Verification of sampling and assaying	<ul> <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>	For this release: Site geologists have reviewed the visual identification for collaborative verification consistent with other visual observations and assay results in other drill holes.
Location of data points	<ul> <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>	GPS units used to locate drill holes that require accurate survey at the end of the programme. WGS84.
Data spacing and distribution	<ul> <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>	Visual inspection of drill core by qualified geologists. Sampling has been done using observed mineralization type intervals. Samples are weighed and density measurements undertaken at relevant intervals.
Orientation of data in relation to geological structure	<ul> <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>	The complex is a volcanic intrusion with an annulus of breccia mineralisation and has an oval shape. Drilling has been planned to ensure appropriate orientation balance with intrusive complexes.



Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	Standard procedures for sample security has been undertaken consistent with the previous sampling and transport procedures. Core is stored onsite in a locked sea container, within a fenced secured compound with security personnel. All sample data is housed in a Company database and backed up with external database.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	In progress

## Section 2 Reporting of Exploration Results

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	MML0290/22 owned by Rift Valley Resource Developments Limited a subsidiary of Lindian Resources Limited.
Exploration done by other parties	obtaining a licence to operate in the area.  Acknowledgment and appraisal of exploration by other parties.	Historic works by Lonrho Plc 1970's and BRGM in the 1990's
Geology	Deposit type, geological setting and style of mineralisation.	Carbonatite intrusive with monazite mineralisation surrounded by monazite bearing carbonatite host rock breccia.
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  • downhole length and interception depth  • hole length.  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.	This information refers to KGKRCDD074 and KGKDD009 for visual observations in this report WGS84 KGKDD009: 705388 E, 8327378N, RL 685, Dip -65, Azimuth 183 End depth 980.5m KGKRCDD74: 704975E, 8327118N, RL682, Dip -50, Azimuth 090 End depth 999.77m Final survey yet to be undertaken
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.	Applicable to visual inspection of mineralisation types.



Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.  If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g., 'downhole length, true width not known').	Monazite mineralisation is variable in proportion in carbonatite and breccia rock types and partially visible in drill core and chips.
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.	Refer text and previously ASX releases on mineralisation geometry.
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.	Visual estimates of proportions of monazite in samples by geologists has been undertaken. Investors are cautioned that these estimates of abundances are no substitute for assay data or instrumental mineralogical assessment techniques. Assay results will follow in due course.
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.	Na.
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.	Continue drilling, sampling, assaying, surveying, and geological logging.