# MINERR

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- Lindian gets government support to kickstart rare earths project
- Kangankunde touted as world's best developing rare earth project



Left to right: Principal Secretary of Ministry of Ministry of Ministry of Ministry of Minister Lindian Resources Ltd Chairman Mr Asimwe Kabunga, Minister of Mining Dr Albert Mbawala MP, Rift Valley Principal Geologist Mr John Nkhoma and the CEO of Lindian Resources Ltd Mr Alistair Stephens.

#### By Marcel CHIMWALA

here is great excitement that Malawi will in the near future start reaping benefits from rare earth mining at Kangankunde in Balaka following the takeover of the mining project by ASX-listed Lindian Resources Limited.

Lindian has taken over the project through a purchase agreement it has signed with Rift Valley Resource Development, a local company that holds the mining licence for the Kangankunde deposit. Today, Lindian is well-funded with a large and committed shareholder base and a market capitalisation approaching 250 million Australian dol-

Meanwhile, Lindian's Executive Chair Asimwe Kabunga and Chief Executive Alistair Stephens, an experienced Rare Earth specialist who has worked in Malawi for almost a decade, have met Malawi's Ministry of Mining officials in Lilongwe, at a meeting that was attended by the Minister of Mining Honourable Dr Albert Mbawala MP and Principal Secretary Dr Joseph Mkandawire to discuss progress to the acquisition and planned site visits.

"The Ministry was provided an update to the acquisition of Rift Valley by Lindian, to which the Government maintained its position of support," says Stephens.

Mr. Kabunga and Mr. Stephens also met with members of the local Balaka District Council Authorities and traditional leaders for the area including Traditional Authority (TA) Senior Chief Chanthunya and Chief Makolela for the Kangankunde Project area to introduce the Company and the development plans for Kangankunde.

The representatives present remain eager to see the development of Kangankunde and the opportunities for community development programmes that provide community support and growth. We are very committed to community development and will maintain regular and open dialogue," says Stephens.

He says following the positive developments, Lindian is now actively advancing the planned fourth quarter works program stressing that "Kanngunkunde is now becoming the world's best developing rare earth project and it will bring huge benefits to Malawi and indeed the local community.'

(Read an exclusive article on Kangankunde Project on Pages 6 and 7)

DEUTZ



**Malawi Government to scale** up regulation of coal industry

Page 3



**Miner wary of Malawi's** economic hiccups Page 8



**Abandoned Mines and their Management** Page 9



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### EDITORIAL)



### Kangankunde rare earths project deserves support from **Malawians**

The exciting news in this edition is that there is now hope that the Kangankunde Rare Earth Mining project, which has for years been rocked in legal wrangles pitting government and investors, will move into production.

This follows the take-over of the project by ASXlisted Lindian Resources through a purchase agreement it has signed with Rift Valley Resource Development, a local company that holds the mining licence for the deposit.

Following the positive developments, Lindian is now actively advancing preparations for the planned works at the site and as the CEO for the Company Alistair Stephens is quoted in our lead article Kanngunkunde which was dubbed the world's best undeveloped rare earth project is now becoming the world's best developing rare earth project.

The good thing is that as witnessed in the visit to Malawi by Lindian Chairman Mr Asimwe Kabunga and Mr Stephens, the project is receiving support from the Ministry of Mining, District Council officials and Traditional Leaders for the area.

We hail these stakeholders for backing this important project which is expected to be a game changer for Malawi through generation of the much needed foreign exchange through exports of rare earth elements.

We also urge all Malawians to emulate these stakeholders by offering their support to the project to move to production stage.

It is high time Malawi exploited its resources such as rare earths at Kangankunde to spur economic

It will be absurd for Malawi to be complaining of shortage of foreign exchange to import essential commodities such as fuel and fertiliser while we have mineral resources such as these rare earths that can easily generate the dollars for the country.

What is encouraging is that rare earth elements have a growing demand in modern technology applications including the production of high strength magnets for electric vehicles and wind turbines.

Malawi has to take advantage of this demand to exploit its globally significant rare earths deposits including Kangankunde and Songwe Hill in Phalombe, which is being pursued by UK Firm Mkango Resources.

It also has to be noted that besides raking in foreign exchange for the country, large scale mines such as Kangankunde bring a lot of benefits including royalties and taxes paid to government, employment and business opportunities to locals, and development projects for the local community that the company conducts as part of Community Development Agreement and Corporate Social Responsibility.

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# Coal mine put on sale

By Tawonga MAYUNI

The Directors of Mean Jalawe Coal Mine in Livingstonia Coalfield in Rumphi has put the mine on sale at an asking price of US\$1.5-million.

MD for Mean Jalawe Chisulo Milton Mughogho explained that they have decided to sell the mine due to the prevalence of the Covid-19 pandemic which has had adverse impacts on the volume of coal sales forcing the Directors to suspend production for a

"There were market challenges due to Covid-19, as the pandemic played the most retarding factor forcing us to have a break,"

Mughogho said due to the pandemic, many companies that used to buy coal from the mine for energy production stopped buying as they either closed down or reduced production.

"The current economic challenges in the country also contributed to the company facing difficulties to sell the coal so we have really decided to sell the mine," he said

Mughogho said difficulties in finding an appropriate market forced them to use middlemen in selling their coal, which drastically reduced their profit margin as the middlemen bargained for very low prices.

In addition, Mughogho said that the high government royalties and taxes have also contributed to the downfall of the

"The taxes are very high for small and startup businesses like Mean Jalawe mine so much that sometimes it is very tough for us to comply. From the little that we produce, we are forced to pay taxes and pay our workers the same



Mean Jalawe has proven tonnes of coal

amounts paid by bigger companies," he said

He said currently the mine is "under the revamping stage" after a year-long break in production.

Mean Jalawe is located along Mzuzu-Karonga M1 Road, 107km from Mzuzu and just 300m from the main road.

The mining licence covers 2.88km2 with an extension area of 1.62km2 for possible expansion, and has proven reserves of 1,250, 000 tonnes of coal. Further definition is required by the use of drill rig mechanism.

Laboratory results at the Geological Survey Department confirmed that the mine has good quality coal with an ash content of 17.7%.





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#### -- MININ

## Lindian gets Malawi Government support to pursue Kangankunde REE project

**By Bester KAYAYE** 

SX-listed Lindian Resources says it is pleased with the support it is getting from the Malawi Government and the people of Malawi including traditional leaders and the local community to pursue the Kangankunde Rare Earth project in Balaka district.

Lindian made the announcement in a Press Statement following a series of meetings its management team comprising Chairman Asimwe Kabunga and CEO Alistair Stephens convened in Malawi after the Company agreed terms to acquire 100% interest in local tenement holder for Kangankunde, Rift Valley Resource Developments.

#### Meeting with Malawi's Ministry of Mining

Stephens reports in the statement that in a meeting, the Malawi Ministry of Mining reaffirmed its commitment to Lindian's 100% acquisition of Rift Valley Resource Developments Limited and its fully tenured mining licence, and 100% owned Kangankunde projects.

He also says the Ministry's representatives who included Ministry of Mining Honourable Dr Albert Mbawala MP and Principal Secretary Dr Joseph Mkandawire confirmed Malawi Government's enthusiastic support to Lindian's acquisition and development plans for the Kangankunde project. Also present at the meeting was Mr John Nkhoma, Rift Valley Resource Developments Limited's Principal Geologist.

"The Ministry was provided an update to the acquisition of Rift Valley by Lindian, to which the Government maintained its position of support," says Stephens.

#### **Meeting with Local District Authorities**

Subsequent to the meeting with the Ministry of Mining, Stephens says Lindian met with the local area authorities in Balaka, 14km north-east of Kangankunde, to introduce the Company's development program.

He says: "It was agreed that a full meeting of all the relevant local delegates representing all aspects of local district development programs would be arranged in mid to late September."

"The representatives present remain eager to see the development of Kangankunde and the opportunities for community development programmes that provide community support and growth."

#### Meeting with the Traditional Senior Chief

Kabunga and Stephens also met with Traditional Authority (TA) for the area, Senior Chief Chanthunya, to introduce the Company and the development plans for Kangankunde.

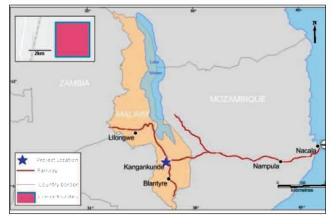
Stephens reports that Chief Chanthunya remained positive about the opportunities but stressed that he wished to see real development on the mine and not talk of opportunity or repetitive sampling programs.

Kabunga and Stephens, however, made clear Lindian's intent to develop the project as soon as practical in a fully informed, open and honest process that would make full consideration of the broader community development needs.

#### **Meeting with Local Area Chief**

Lindian met with the local area chief, Chief Makolela, for the Kangankunde Project area. Stephens reports that the Chief stated that she was delighted that they had come to meet her and that she wished to see development and jobs for her people.

Kabunga and Stephens stated that the Company wished to be endorsed by the community as a good neighbour and that it would work honestly, faithfully, and constructively to



Kangankunde Project location map

ensure community development in a fully engaged process.

#### Kangankunde Site Visit

Whilst in the country, the Lindian team also visited the Kangankunde site ahead of commencement of first works program.

The site visit included visitation to the old underground workings (the adit entrance) and infrastructure that remained around the mine workings. Stephens says mineralisation was seen in the hill side for about 75 metres in width.

"The site review included the crusher wall infrastructure and an area suitable for a plant location. A nearby laydown area was suitable for plant support facilities," he says.

#### • Hill top Mineralisation

Stephens states that on a traverse walk up the Kangankunde Hill, carbonatite monazite mineralisation was seen in thick veins (up to 15 metres wide) close to the old plant facility. Additional veins were also seen up the side of the hill. Near the top, an area of extensive agglomerate was mapped beside an extensive area of carbonatite mineralisation with visible coarse-grained monazite.

The monazite was crystalline, up to 15cm in length, but typically 1.7cm to 1.5cm, and green in colour and samples have been taken for analysis. In the northern part of the hill, in an area of dolomitic carbonatite, old drill pads and pits were visible in mineralisation that extended from 50 metres to 75 metres in width and 200 metres to 300 metres long. To the south, an area of intense iron mineralisation in carbonatite was visible.

#### • Site Civil Infrastructure

Stephens explains that the visit included a rudimentary assessment of infrastructure needed for site operations, and there were no topographic impediments to a new site access road about 4.5km in length from the M1 to the old plant operations location

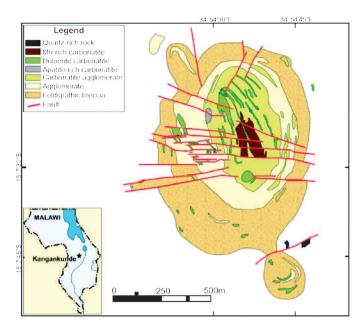
He observes that an old power-line that was once present was dismantled but easy to re-establish, and that another area sighted was deemed suitable for a water dam.

He says the Company was informed that it may be possible to establish a water pipe pumping fresh river water from the Shire River 25 km to the east.

The Shire River is Malawi's largest river, the only outlet of Lake Malawi, and extends for 400 km before joining the Zambezi River. It typically flows at a rate between 50m3 per second to 1000m3 per second, for an average rate of 43 billion litres per day.



Kangankunde Aerial view showing historical drilling tracks



Geology map from: Magmatic-Hydrothermal Processes Associated with Rare Earth Element Enrichment in the Kangankunde Carbonatite Complex, Malawi, Special issue "Rare earth Deposits and challenges or World REE demand for High-Tech and Green-Tech at the beginning of the 3rd Millennium", 2019



Looking East to Kangankunde from the M1 highway rising 200 metre above the grass terrain—distributor power off the main high voltage transmission line



Old underground adit into the north zone of dolomite carbonatite mineralisation. The adit is about 1.5m x 1.5m and extends for about 300m into the hill toward the South.

#### MINING



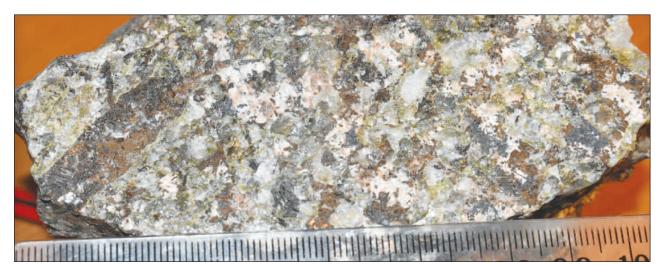


Old plant infrastructure wall (left) and process plant facility area (right)





Top left: Lindian Chairman Mr Kabunga with mineralisation near the old plant area at the base of the Kangankunde Hill. Top right: Agglomerate (camera lens cap is 55mm in diameter). Bottom left: large monazite crystals with long handle Estwing hammer as scale (42cm long). Bottom Right: Large radial monazite crystal growth about 12cm in diameter.



Above: Large mega-crystals of brown and green monazite with white-pink strontianite (strontium carbonate) and dolomite



Shire river at Liwonde, Malawi, 25 Km to the east of Kangankunde.

Lake Malawi is the fifth largest fresh water lake in the world, about 570 Km long, 75 Km wide and up to 700 metre deep.

Malawi has eight hydroelectric power generation stations generating a total of 360MW of power, three planned hydroelectric power generation projects (totalling 720MW), one thermal 300MW power station and 150MW of planned solar power generation.

#### **Planned Site Activities**

Mr Stephens returned to Malawi in the second half of September to present to the full Balaka District Development Committees the Company's plans to conduct site aerial topographic survey, re-establishing site access tracks, establishing drill pads, and a drill program this year.

A geophysical gravity survey has been postponed till next year due to the necessity to clear lines through thick grass.

Stephens comments: "We have wasted no time getting on the ground in Malawi and assessing the Kangankunde Project and its potential. We have also held extensive discussions with Government, regional representatives and other critical stakeholders – all of which are supportive of developing Kangankunde. As such, we are now actively advancing the planned Quarter 4 works program.

"I started this role stating that Kangankunde is the world's best undeveloped rare earths project. It is now becoming the world's best developing rare earth project. My work has only just begun, and I look forward to leading the Company on this journey of development in what I believe will present as the best opportunity for a rare earths project ever."

Located in the Southern Region of Malawi, 100km north of Blantyre and 9km from the Nacala rail corridor, the Kangankunde project is touted to be a globally significant rare earth deposit.

Whilst the carbonatite mineralisation was first discovered in 1907, the importance of rare earth mineralization within the deposit was not noted until the early 1950s. Since then, the project has had several phases of exploration, with the most comprehensive geological and process test work completed between 1987 and 1990 by the French geoscience organisation Bureau de Récherches Géologiques et Minières (BRGM).

The Kangankunde deposit has a previously reported Inferred Resource of 107,000 tonnes of Rare Earths Oxide (REO) at an average grade of 4.24% TREO ("total rare earth oxide") in 2.53 million tonnes of mineralisation, using a cut-off grade of 3.5% TREO<sub>1</sub>. The mineralisation is exposed at surface and the deposit remains open at depth. Historic metallurgical testwork has demonstrated the mineralisation is amenable to low-cost gravity separation to produce a high-grade concentrate.

Reducing the cut-off grade to 3% TREO increases the Inferred resource to 180,000 tonnes at an average grade of 3.8%

#### Kangankunde Geology

The Kangankunde Hill rises to a height of up to 200m above the surrounding plain. The Kangankunde carbonatite occurs as discrete tabular bodies and carbonatite layers. Individual bodies are continuous over several hundred metres and have continuity between cross sections. The deposit contains a central zone of carbonatite rocks passing outwards to a series of broadly concentric zones of altered agglomerate, breccia, and ultimately into unaltered gneiss host rock.

Similar to many rare earth deposits, the main rare earth containing mineral in the deposit is monazite with minor amounts of bastnaesite.

The project tenure is secured by Mining Licence (ML 0290) valid to April 21, 2032 and allows an acceleration of work programmes to commercialisation; and prior to the commencement of the Malawian wet season the company intends to focus on re-establishing road access for drilling to assess the extent and grade of mineralisation.

The Company will also recover enough samples for metallurgical test work over the wet season.