INTERNSHIP ROLE PROFILE

General details	
Role title	Mineral processing/flotation engineer
Department	Mkango Head Office
Reports to	Senior Management
Location	Northwest London office, ~4 days office, 1 day remote
Duration and start date	Minimum six weeks, ideally eight weeks, flexible on start date

Context

Rare earth elements (REEs) are categorised as critical minerals/critical raw materials across a number of jurisdictions, either as a group, subgroup, or as individual elements. This is the case across UK, US, EU, Canada, Japan, Australia, and many other jurisdictions. Their criticality is largely centered around the crucial technologies that they underpin. Circa 95% of the REE market value revolves around the rare earth permanent magnet (REPM) sector, whereby predominantly neodymium, praseodymium, dysprosium, and terbium (but also samarium, with minor gadolinium and holmium) are utilised in alloys utilised for magnet manufacturing. These magnets are used in a number of critical energy transition sectors such as in electric vehicles, wind turbines and consumer electronics, with an ever growing demand case for robotics and advanced air mobility. The most notable of these alloys is the neodymium-iron-boron (NdFeB), utilised in high strength permanent magnets, typically utilizing a mix of REEs, with Nd and Pr making up the bulk of the contained REEs.

Mkango Resources is present throughout the REE supply chain, and has developed the Songwe Hill rare earth mining project in southeastern Malawi since 2009, taking the project through three drilling campaigns (2011, 2012, 2019), a full Definitive Feasibility Study (DFS) completed in 2022, the Environmental Social Health Impact Assessment (ESHIA) completed in 2023 to IFC Performance Standards, and a signed Mine Development Agreement with Government of Malawi in 2024. The product produced at Songwe Hill will be a mixed rare earth carbonate (MREC), produced through mineral processing and flotation, and on-site hydrometallurgy. Mkango also owns the Pulawy separation project in Poland, which aims to develop a separation plant for rare earths, taking MREC as feedstock from Songwe Hill (and other sources) to produce separated rare earth oxides. Both Songwe and Pulawy were awarded strategic project designation under the Critical Raw Materials Act by the European Union in 2025. The Front End Engineering and Design (FEED) programme for Songwe is targeted to commence in 2026 – the wider programme is expected to take 7-9 months and is US Government supported through the US International Development Finance Corporation.

Through its subsidiaries, Mkango is also involved in short-loop hydrogen based rare earth magnet recycling and magnet manufacturing in Birmingham, UK and Pforzheim, Germany, with a joint venture in the USA to roll out the same technology. Mkango has also piloted long-loop hydrometallurgical recycling of rare earth magnets and has a facility in Birmingham.

Purpose

To support Mkango's ongoing development of its assets across the rare earth supply chain – with a focus on the Songwe Hill mining project in Malawi. There are significant opportunities to optimise the flowsheet ahead of construction and operation of the mine. These workstream have been identified, and work packages have been formulated with consultants. It is expected that these workstreams will be live during the foreseen internship period.

The role will involve a mixture of independent workstreams involving flowsheet and literature review, whilst also collaborating and working closely with expert consultants Mkango colleagues in the fields of mineral processing and flotation. Working closely with Mkango colleagues on these work packages, this would be rewarding hands-on experience for an intern to work on a near-term mining project.

Ultimately, the role will support in the optimisation of the overall mining project and optimse its techno-economic viability in a sector and commodity space which is growing in size due to the energy transition.

Typical tasks

Flotation Optimisation, Project Optimisation

Work packages and tasks will revolve around the constitutent components of the FEED programme for Songwe Hill. The main work package on the flotation is to develop and validate optimal process flowsheets for the project. This comprehensive package includes sample preparation, mineralogical analysis, metallurgical testing using various flotation circuits, and the analysis of results to predict full-scale plant performance under diverse ore conditions. This testwork will be carried out by a consultant group, but the process, outcomes, and development of the work package will be overseen and reviewed by Mkango's lead engineers and its in-house team, including the successful applicant to this internship. Tasks and responsibilities are likely to be as follows:

- Researching existing literature on flotation of REE minerals
- Reviewing past workstreams and technical documentation on Songwe Hill to develop a strong understanding of the context, challenges, and opportunities.
- Working closely with the appointed consultants and experienced Mkango colleagues on the relevant flotation workstreams, including attending meetings (online, and in-person if required), reviewing technical documentation, and test results and analysis
- Compiling bulletins/summary notes for Mkango senior management through the work package.

Applicants with more general mining/mining engineering, or other natural resources-related study are strongly encouraged to apply. The successful candidate will be supported throughout the internship process by colleagues and will have direct access to the management team. There are other constituent components and workstreams of the FEED programme.

In addition to these tasks, you may shadow and support management in everyday activities, mainly attending meetings and industry events on a case by case basis. This will likely provide some useful additional insights and experiences in the workings of a junior mining/technology company, though not an essential component of the internship itself. There may also be opportunities to assist on other projects within the Mkango Group alongside the main responsibilities outlined above, if of interest to the applicant.

Essential requirements

Application/Energy	• An interest in the energy transition metal industry. • Have an analytical mindset and be able to apply knowledge to situations of incomplete data. • Highly self-motivated. • Professional work ethic and behaviour. • Willingness to travel on company business domestically (also internationally, if the need arises)
Knowledge	• Ongoing study/recently graduated in a relevant field • Understanding of mining processes and mineral economics and appreciation of mineral supply chains and mineral criticality would be beneficial • **Applicants with more general mining engineering and other natural resources-related study are strongly encouraged to apply.** • Some existing exposure to the Rare Earth Element supply chain is desirable, but not essential

Technical skills	• Have strong oral and written fluency in English. • Keen attention to detail with data input, data management, and written deliverables. • Competency with MS Office, primarily Word, Excel, Powerpoint • Abiity to utilise Excel for modelling is desirable, but not essential

About Mkango Resources Ltd.

Mkango is listed on the AIM and the TSX-V. Mkango's corporate strategy is to become a market leader in the production of recycled rare earth magnets, alloys and oxides, through its interest in Maginito, which is owned 79.4 per cent by Mkango and 20.6 per cent by CoTec Holdings Corp ("CoTec"), and to develop new sustainable sources of neodymium, praseodymium, dysprosium and terbium to supply accelerating demand from electric vehicles, wind turbines and other clean energy technologies.

Maginito holds a 100 per cent interest in HyProMag Limited and a 90 per cent direct and indirect interest (assuming conversion of Maginito's convertible loan) in HyProMag GmbH, focused on short loop rare earth magnet recycling in the UK and Germany, respectively, and a 100 per cent interest in Mkango Rare Earths UK Ltd ("Mkango UK"), focused on long loop rare earth magnet recycling in the UK via a chemical route. Maginito and CoTec are also rolling out HPMS recycling technology into the United States via the 50/50 owned HyProMag USA LLC joint venture company.

Mkango also owns the advanced stage Songwe Hill rare earths project in Malawi ("Songwe") and the Pulawy rare earths separation project in Poland ("Pulawy"). Both the Songwe and Pulawy projects have been selected as Strategic Projects under the European Union Critical Raw Materials Act. Mkango has signed a business combination agreement ("Business Combination Agreement") with Crown PropTech Acquisitions ("CPTK") to list the Songwe Hill and Pulawy rare earths projects on NASDAQ via a SPAC Merger under the name Mkango Rare Earths Limited ("Proposed Business Combination").