RAINBOW RARE EARTHS

How Rainbow Rare Earths is driving the Green Revolution

19 October 2023

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RAINBOW RARE EARTHS
NEAR-TERM PRODUCTION OF THE MAGNET RARE EARTHS DRIVING DECARBONISATION

PHALABORWA BASE CASE[1,2]

NPV_{10}
US$627m

IRR
40%

EBITDA
US$192m

Margin[3]
75%

Payback
<2 years

CRITICAL MINERALS: Demand for rare earth elements (REEs) will rise significantly to meet decarbonisation; urgent need for non-China supply

STRATEGIC ASSETS: Responsible rare earth production from secondary sources: near-term production in South Africa and earlier stage project in Brazil – significant investment from TechMet, which is backed by the US DFC

ROBUST ECONOMICS: Phalaborwa PEA demonstrates strong returns in all pricing scenarios, low capital intensity (US$295.5m) and expected to be one of the lowest cost producers of separated rare earth oxides globally

INNOVATIVE TECHNOLOGY: Proprietary RE oxide separation process is simpler, more environmentally friendly and cheaper than traditional processes

EXPERIENCED TEAM: Proven history of delivery

Investment opportunity

1. All figures based on base case using US$110/kg Nd; US$112.50/kg Pr; US$340/kg Dy; US$1,875/kg Tb
2. NPV and IRR calculations are both post tax
3. EBITDA operating margin

MULTI-ASSET RARE EARTH DEVELOPMENT COMPANY
DEVELOPING A WESTERN SUPPLY CHAIN OF ND, PR, DY AND TB

RAINBOW RARE EARTHS

PHALABORWA EXPECTED TO BE ONE OF THE LOWEST COST PRODUCERS OF SEPARATED MAGNET RARE EARTH OXIDES GLOBALLY

RAINBOW RARE EARTHS

Total Resource[1] of 30.4 Mt at 0.44% TREO

Production of ca. 1,850t of Nd, Pr, Dy, Tb annually

Project life of 14 years

Rainbow has an 85% interest in Phalaborwa, with an option to reach 100%

The Mineral and Petroleum Resources Development Act, 2002 in South Africa does not apply to the Phalaborwa project, so a mining right is not required to extract the minerals from the gypsum stacks; accordingly, there are no black economic empowerment requirements

RECOVERY OF MAGNET RARE EARTH ELEMENTS FROM HISTORIC GYPSUM STACKS

- The resource sits at surface thereby eliminating traditional mining risk and cost
- Low capital intensity: capex of **US$295.5 MILLION** significantly below that of a traditional hard rock rare earth mining project
- Low levels of radioactive elements: typical rare earth projects require complex processing to remove these
- Unique process flow sheet developed with K-Tech incorporates CIX / CIC technology to take material all the way to separated magnet rare earth oxides

OpEx[2]

US$/kg 33.86

Highest basket price of any project ex China[3]

US$/kg 175.89[4]

Phalaborwa project

1. Resource information provided on slide 27; 2. Operating cost per kg product; 3. Berenberg Metals and Mining Analyst – November 2022; 4. Numbers based on 2022 YTD average rare earth prices at time of publication of PEA in October 2022

RESPONSIBLE PRODUCTION OF RARE EARTHS
INTEGRATING STRONG ENVIRONMENTAL AND SOCIAL PRACTICES IN PHALABORWA'S DEVELOPMENT

RAINBOW RARE EARTHS

FOUNDED ON THE PRINCIPLES OF CIRCULARITY; RECOVERING RARE EARTHS FROM SECONDARY SOURCE

BROWNFIELD

- Phalaborwa is on an industrial site with legacy environmental issues
- Majority of environmental permits are in place and only require updating

REHABILITATION

- Rainbow will clean up legacy issues:
  - Neutralising acidic solution
  - Redepositing benign gypsum on lined stacks in accordance with IFC standards / Equator Principles
  - **Sale of benign gypsum will fully deplete stacks over time**

RECYCLING

- All process water needs will be met by neutralised water in ponds
- Certain key reagents[1] recovered from upfront leach process for use downstream
- Sulphuric acid from nearby plant waste stream

CLOSED-LOOP

- No water abstraction required for processing
- Any water discharged to the environment will be done so in line with regulations

REUSE

- Existing infrastructure can be repurposed and reused
- Potential for use of reclaimed, clean phosphogypsum in building and industrial sectors

RENEWABLE

- Exploring renewable energy options at Phalaborwa, including solar

CREATING SOCIAL VALUE

COMMUNITY

- Different social context from a greenfield project in a remote location
- Transparent payment of taxes
- Commitment to prioritise local supply chain

PEOPLE

- Focus on Zero harm
- Phalaborwa expected to provide c. 275-300 direct jobs
- Commitment to prioritise local employment

1. including fluorine, hydrofluoric acid and silica

PILOT PLANT IS DE-RISKING RAINBOW'S UNIQUE APPROACH
SEPARATED MAGNET RARE EARTH OXIDES EXPECTED IN Q4 2023

RAINBOW RARE EARTHS

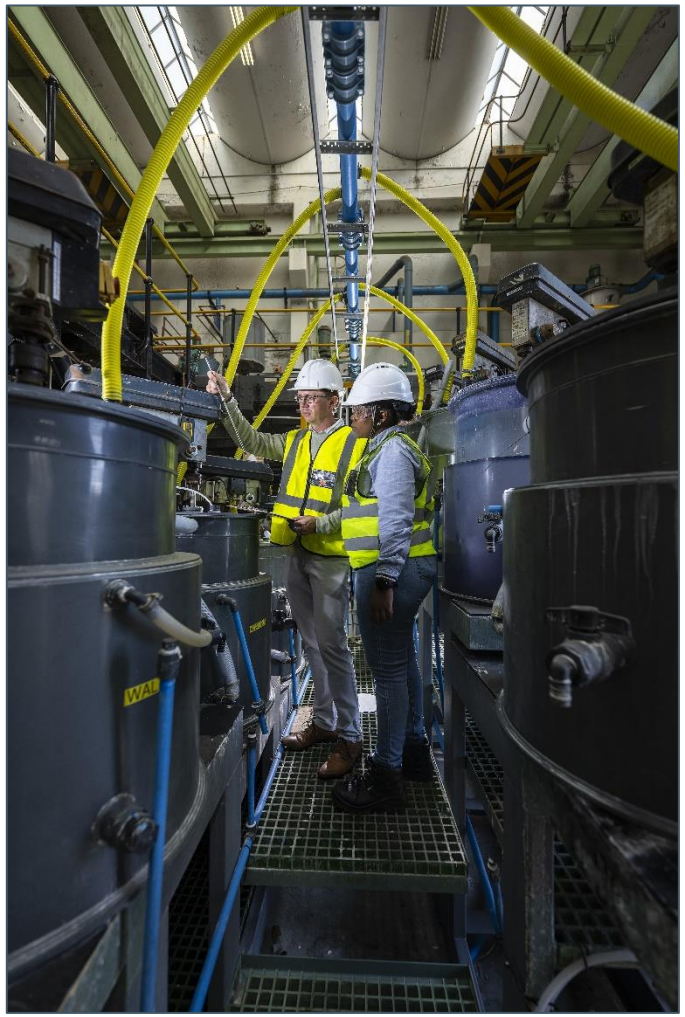
VALIDATES RAINBOW'S UNIQUE FLOW SHEET

- Front-end pilot plant located at Mintek in Johannesburg produced mixed rare earth sulphate in September 2023, incl all four of the critical 'magnet' rare earths: NdPr, Dy and Tb
- Front-end pilot plant results in line with the PEA:
  - Purity, grade, reagent consumption and overall recoveries of ca. 65%
- Back-end pilot plant built at K-Tech's facilities in Florida will process material further into separated magnet rare earth oxides
- K-Tech's patented IP utilises CIX / CIC separation technology, delivering efficiencies and cost benefits compared to traditional SX

Production of first mixed rare earth sulphate at the front-end pilot plant in Q3 2023

FRONT-END PLANT PROGRESS

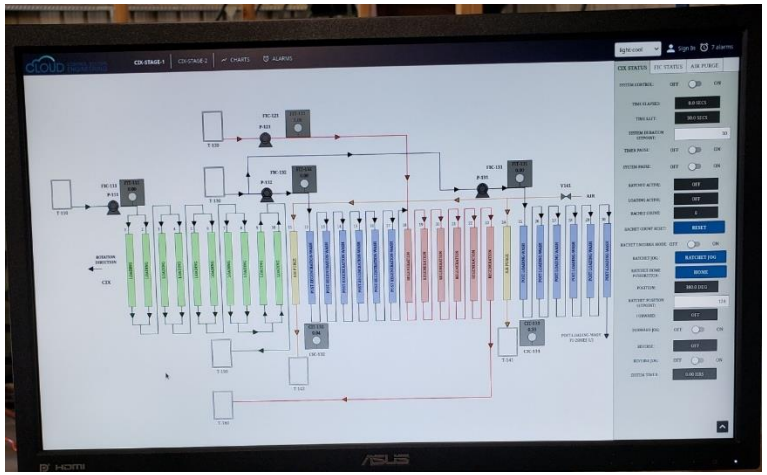
MANAGED BY MINTEK IN JOHANNESBURG

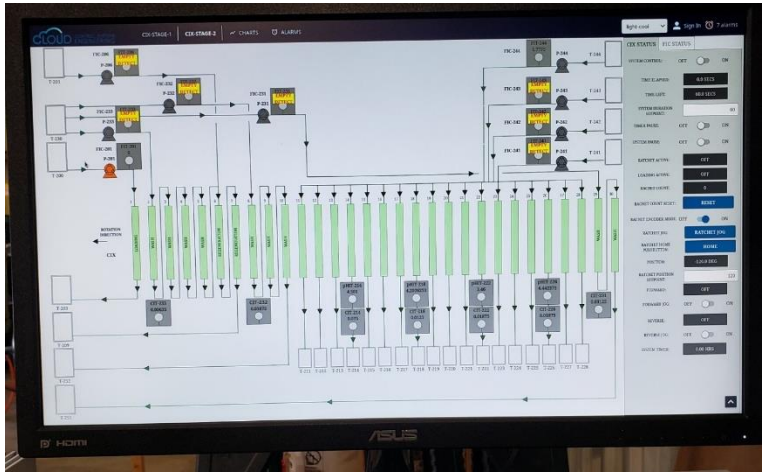


BACK-END PILOT PLANT PROGRESS

MANAGED BY K-TECH IN LAKELAND, FLORIDA

Rainbow's CIX/CIC Units have finished construction and are now being commissioned





Control software programming for the CIX (top) and CIC (bottom) units

STRATEGIC SUPPLY AGREEMENT WITH LESS COMMON METALS (LCM)
BUILDING AN ETHICAL AND WESTERN SUPPLY CHAIN FOR RARE EARTH ELEMENTS

PARTNERS ALIGNED IN THEIR VALUES

- LCM is a world leader in the manufacture and supply of complex alloy systems and metals for permanent magnet manufacturers
- LCM is the only metal and alloy manufacturing facility in the UK and one of the only facilities in the Western world
- It is currently in discussions to invest in expanded capacity in North America, the EU and Asia
- LCM chose Rainbow as a partner due to the robust economics of the Phalaborwa project and its ability to deliver separated magnet rare earth oxides in a volatile pricing environment
- Both Rainbow and LCM are aligned in their strategic positioning within a Western supply chain

"Given the concentration of the rare earth supply chain, a relationship with Rainbow offers the opportunity for LCM to secure ethical supply of all four of the magnet rare earth oxides vital for our business."

Albert Slot, Managing Director of LCM

LCM's state-of-the-art metal and alloy manufacturing facility in Ellesmere Port

MOU SIGNED WITH MOSAIC IN BRAZIL
DIVERSIFIES RAINBOW'S STRATEGIC POSITIONING

RAINBOW RARE EARTHS

UBERABA PHOSPHOGYPSUM STACK IN MINAS GERAIS

- Large phosphogypsum stack sitting at surface as a byproduct of phosphoric acid production
- Uberaba phosphate slurry feed is sourced from a hard rock carbonatite similar to the Foskor carbonatite mine that originally fed Sasol's phosphoric acid plant at Phalaborwa
- Ongoing phosphoric acid production is growing the stack annually
- MOU: Rainbow and Mosaic to collaborate on the development of a process flowsheet in order to extract the REEs from the stack, followed by a preliminary economic assessment
- Additional test work underway to understand the mineralogy and identify the rare earth phases
- Initial test work programme and PEA costs are being shared 50:50

INITIAL ASSAY RESULTS

TREO grade @

0.58%

NdPr % of basket

ca. 25%

Included in basket

Dy & Tb

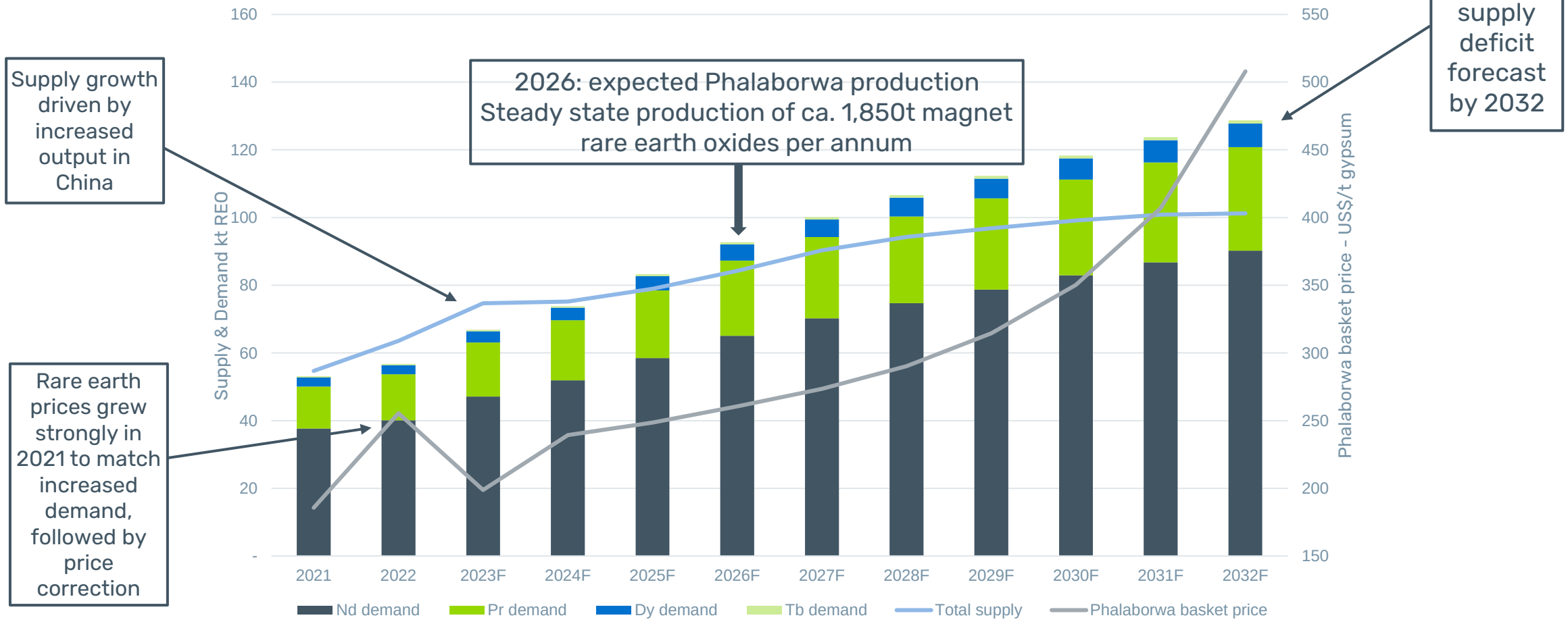
Results from SGS Laboratories in Toronto

Uberaba Project

LONG TERM SUPPLY DEFICIT EXPECTED FOR RARE EARTHS

MAGNET RARE EARTH SUPPLY WILL NEED TO GROW BY 8% PER ANNUM TO MATCH DEMAND

FORECAST RARE EARTH SUPPLY DEFICIT / PHALABORWA PRICE[1]



Market

Source: Argus Media Ltd

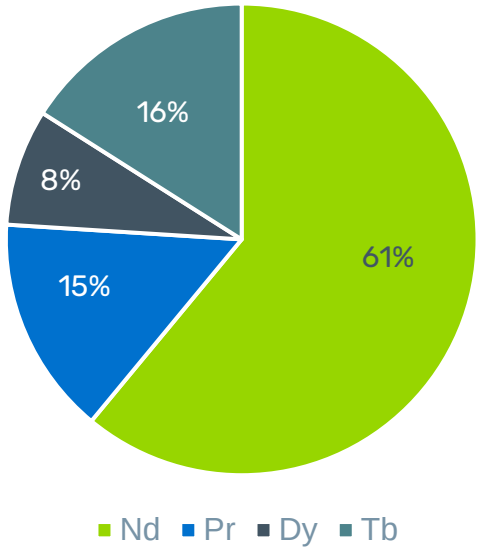
PHALBORWA BASKET INCLUDES ALL FOUR PERMANENT MAGNET RARE EARTHS
DY AND TB ARE ESSENTIAL FOR THE GREEN ENERGY TRANSITION

RAINBOW RARE EARTHS

DY AND TB: VITAL COMPONENTS OF THE PERMANENT MAGNETS NEEDED FOR DECARBONISATION

- The importance of Dy and Tb:
  - enable performance under high temperatures
  - improve energy density, increasing the power and size efficiency of the magnet
  - by improving efficiency, Dy and Tb enables high performance whilst reducing energy consumption
  - essential components of the NdFeB magnets used in electric vehicles and wind turbines
- China accounts for +90% of heavy rare earth production
- There are currently no facilities producing separated heavy RE oxides and only 1 facility producing separated light rare earth oxides outside of Asia

PHALABORWA MAGNET RARE EARTH OXIDE SUPPLY



Phalaborwa magnet rare earth basket by value[1]

NdPr production[2]

ca. 1,750t

Dy annual production[2]

ca. 60t

Tb annual production[2]

ca. 20t

1. Using Preliminary Economic Assessment (PEA) base case pricing 2. Average production per annum over the life of mine

DEVELOPING NEAR-TERM, RESPONSIBLE PRODUCTION OF ND, PR, DY AND TB

RAINBOW RARE EARTHS

PHALABORWA UPSIDE FORECAST[1]

NPV_{10}
US$1.0bn

IRR
44%

EBITDA
US$310m

Margin[2]
83%

KEY TAKEAWAYS

- **Phalaborwa offers unique benefits** over traditional rare earth projects:
  - Expected to be one of the lowest cost producers of rare earths globally
  - Contains all four permanent magnet rare earths, incl. 'heavies' Dy and Tb
  - Highly cash generative even at lower rare earth prices
  - Project de-risked by the production of a mixed rare earth sulphate in the front-end pilot plant in Johannesburg
- **Unique flow sheet and separation IP** - cheaper, safer and more environmentally friendly than traditional SX and can be applied to other phosphogypsum opportunities globally
- **Strategic position** – Rainbow expected to become one of the only producers of all four separated magnet rare earth oxides outside of Asia and will play a role in developing an independent Western supply chain to drive the green energy transition

1. Based on the long-term price forecasts received from Argus, with the first year of production assumed to occur in 2026 and prices assumed to remain constant from 2031 to the end of the project life
2. EBITDA operating margin

RAINBOW RARE EARTHS

APPENDIX

STRONG LEADERSHIP TEAM
WITH TRACK RECORD THROUGH PROJECT DEVELOPMENT TO PRODUCTION

RAINBOW RARE EARTHS

EXPERIENCED MANAGEMENT AND TECHNICAL TEAM

- CEO George Bennett established MDM Engineering which delivered multiple processing plants and feasibility studies under his tenure
- Technical Director Dave Dodd worked alongside George at MDM Engineering after a long career delivering multiple mine developments
  - At MDM, George and Dave delivered two RE studies, being Lofdal in Namibia and Ngualla in Tanzania
- Technical team strengthened to include Chris Le Roux and Roux Wildenboer; extensive experience in RE processing and project development
- Chairman Adonis Pouroulis, is a mining entrepreneur; extensive experience across Africa and a long-term strategic vision for growth
- CFO Pete Gardner is a Chartered Accountant with +15 years in the mining sector (development and producing assets)

1. As at 9 October 2023

Appendices

K-TECH PATENTED SEPARATION TECHNOLOGY
CONTINUOUS ION EXCHANGE (CIX) AND CONTINUOUS ION CHROMATOGRAPHY (CIC)

RAINBOW RARE EARTHS

RAINBOW HAS ACCESS TO K-TECH'S PATENTED CIX AND CIC TECHNOLOGY FOR RECOVERY OF SEPARATED RARE EARTH OXIDES

- Replaces traditional solvent extraction (SX) technology, which uses toxic and flammable solvents and diluents
  - Safer and more environmentally responsible
  - Reduced capital and operating costs due to simplified flowsheet and plant process
- CIX and CIC are proven technologies used in other industries at capacities up to 700m^3 per hour (larger than required at Phalaborwa) including food, biotech, mining and chemical industries globally
- Fast, efficient, and precise extraction of trace quantities of target materials from high volume streams
- Safe, simple to run, and can operate at a range of temperatures

An example of a commercial scale CIX unit built by K-Tech

STRONG PROGRESS TO DATE
DE-RISKS PHALABORWA PROJECT; UNLOCKS VALUE

PROJECT PROGRESS

- PEA publication – Phalaborwa expected to be one of the lowest cost global producers of separated magnet rare earth oxides
- Resource update announced March 2023
  - demonstrated increased confidence by upgrading the Inferred Resource to Measured and Indicated, a key requirement for the DFS

NEXT STEPS SUPPORTED BY POSITIVE PEA

- Workstreams underway to deliver DFS:
  - Front-end pilot plant with Mintek in Johannesburg: commenced operation in June 2023 and produced first mixed RE sulphate in Q3 2023
  - Back-end pilot plant with K-Tech in Lakeland, Florida; construction is complete and has commenced commissioning; first production of separated rare earth oxides due in Q4 2023
  - METC Engineering has commenced work on the DFS and managing the inputs from the various specialist consultants
  - Paragon Tailings advising on reclamation of the existing gypsum stacks and leading global gypsum experts Ardaman conducting test and design work for the new gypsum stacks
  - Drilling programme underway to update the Phalaborwa resource
  - Environmental work: full ESIA workstreams underway by WSP Golder for the DFS and permitting
  - Letter of Intent signed with NEXUS for sale of gypsum by-product – demand estimated at 400 to 600 kt per annum to domestic and neighbouring markets

1. Subject to necessary permits

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THANK YOU

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