

Powering the green transformation

General Meeting

June 2023



ASX: PEK



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Compliance Statement

Information contained in this presentation relating to financial forecasts, production targets, infrastructure, project execution, cost estimating, metallurgical test work, exploration results, Mineral Resource estimates, Ore Reserve estimates and studies are taken from the Company’s ASX announcement dated 24 October 2022 “Completion of Ngualla Project BFS Update” which is available to view on <https://www.peakrareearths.com/announcements/>. Further information relating to the Mineral Resource estimates is in the ASX announcements dated 22 February 2016 and 2 March 2017 which are also available to view on <https://www.peakrareearths.com/announcements/>. The Company confirms that at this time it is not aware of any new information or data that materially affects the information included in the relevant announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant announcement continue to apply and have not materially changed. The Company confirms that at this time the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements. The Company also advises that it is advancing towards execution of an Economic Framework Agreement with the Government of Tanzania, and the outcome of which may confirm new information or data that materially affects the information included in the announcement and this presentation.

This presentation is authorised for release by the Company’s Chief Executive Officer.

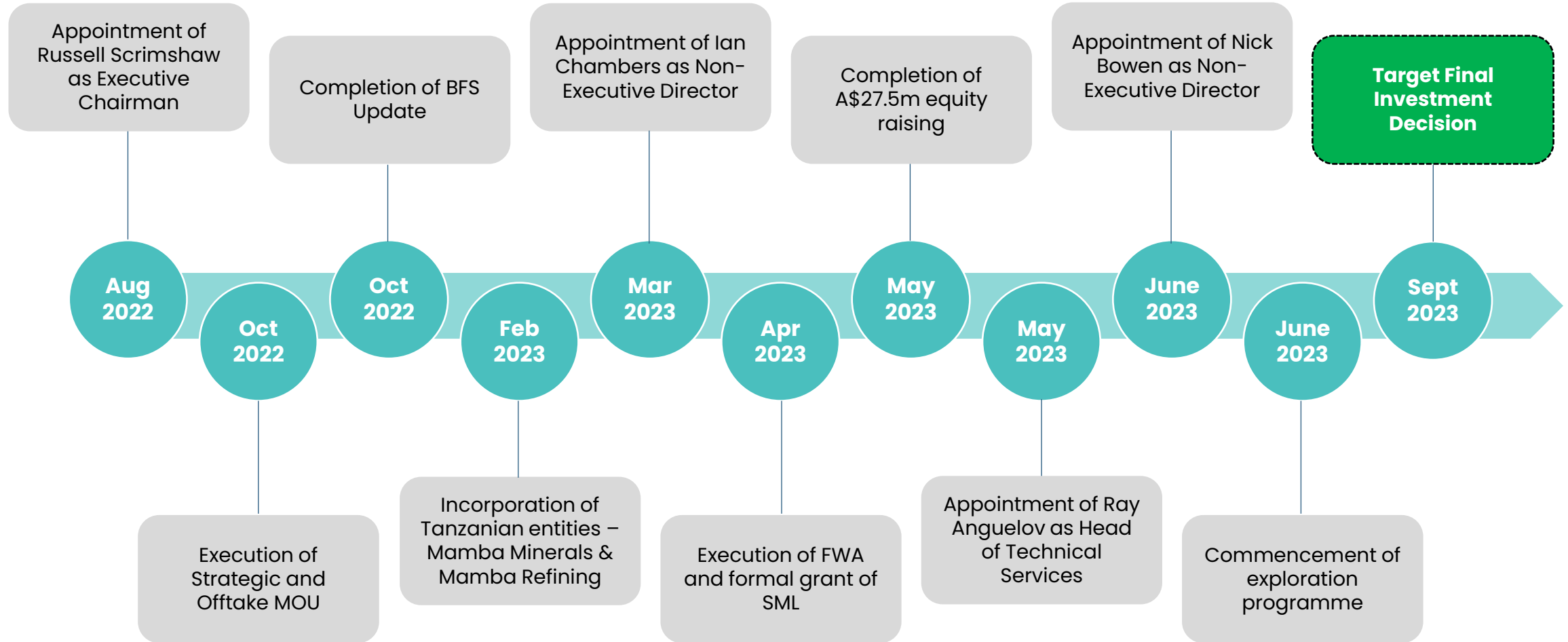
Executive summary

Peak is in the strongest position in its history

- 1. Ngualla has been de-risked from a technical, regulatory, offtake and leadership perspective**
- 2. Tanzania's rapid improvement as a foreign investment and mining jurisdiction**
- 3. Implementation of a low capital staged development approach with a supportive major shareholder**
- 4. Funded to a Final Investment Decision with key workstreams and optimisation initiatives underway**
- 5. Commencement of an exploration programme targeting critical mineral potential**

Achieved milestones ... progress and momentum

The Ngualla project is progressing rapidly towards development



Ngualla Project has been substantially de-risked

Significant progress has been made across key workstreams



Technical

- Completion of BFS Update
- Commencement of FEED and optimisation initiatives



Regulatory

- Execution of FWA
- Grant of SML
- Incorporation of two Tanzanian entities:
 - *Mamba Minerals*
 - *Mamba Refining*



Funding

- Completion of A\$27.5m equity raise
- Advancement of project financing process



Offtake

- Signing of non-binding Offtake and Strategic MOU
- Binding offtake negotiations are underway



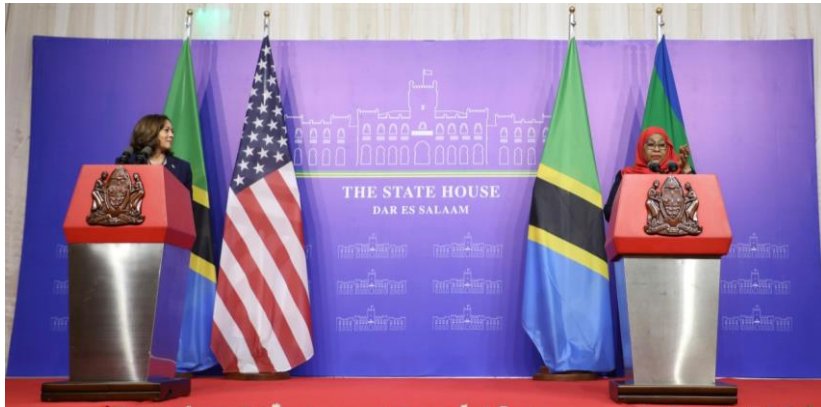
Leadership

- Strengthening of Board of Directors
- Key technical hires
- Appointments of Mamba Directors

Tanzania ... open for business

Rising international visibility and a rapidly developing mining and resources sector

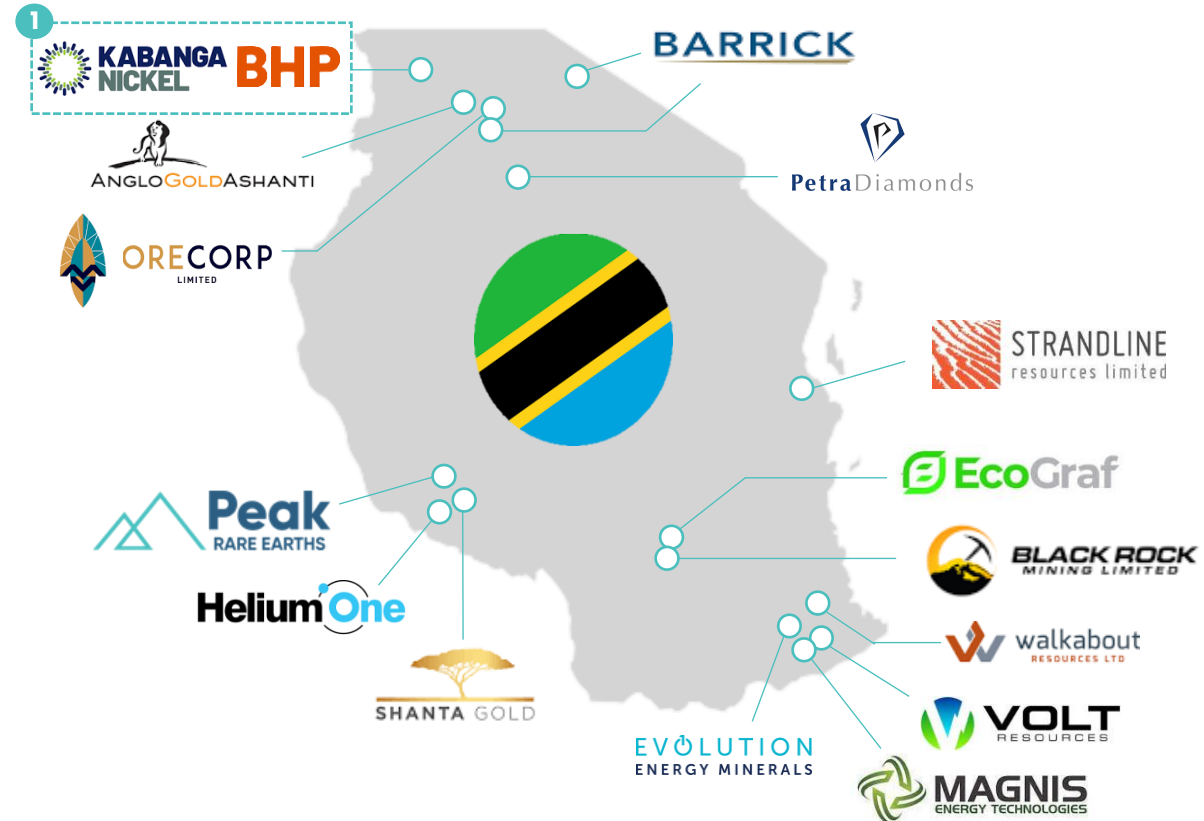
US Vice President – Tanzanian State Visit, March 2023



Execution of Framework Agreement, April 2023



Tanzanian mining operations and development projects



1. BHP has an option to earn up to 51% of the Kabanga Nickel Project. To date, BHP has invested a total of US\$90m into the project in exchange for a 14% project interest.

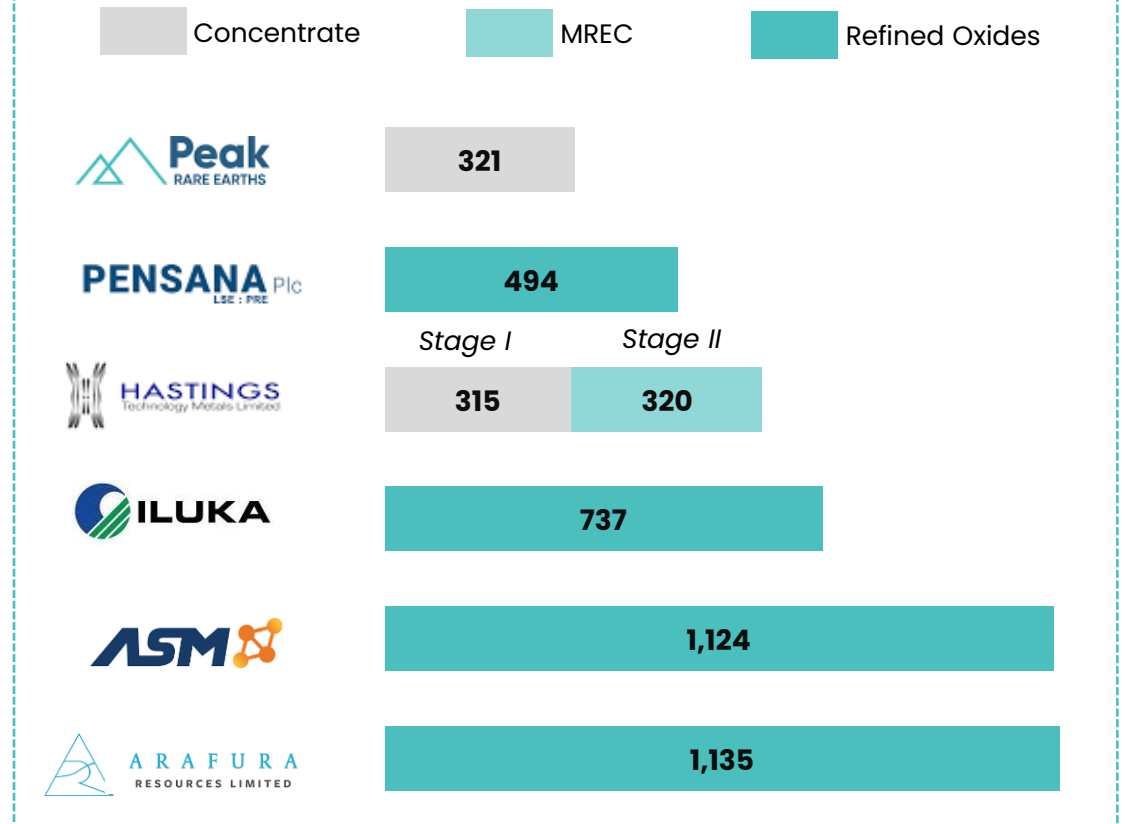
Peak's differentiated strategy ... simple, de-risked and low capex

Peak uniquely placed to capitalise on growing demand for bastnaesite concentrate

Sequenced development ... rationale

- ✓ Lower capital and funding requirements
- ✓ Reduced technical and execution risk
- ✓ Rising demand for high-grade bastnaesite concentrate
- ✓ Alignment with Government of Tanzania's regulations
- ✓ Opportunity to replicate successful MP Materials precedent

Peer comparison ... upfront capex requirement (US\$m)



Capital raising ... strongly supported by new and existing shareholders

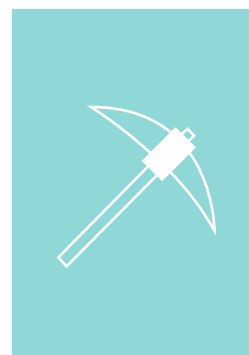
Offer proceeds of A\$27.5m¹ will be used to commence early works, FEED and finalise offtake and financing ahead of a Final Investment Decision

Placement overview

- ✓ Commitments to successfully complete A\$27.5m two-tranche institutional placement
- ✓ Strong demand received from Australian and international institutional and high net worth investors
- ✓ Shenghe Resources has committed to top-up its shareholding to 19.9% through the deferred tranche

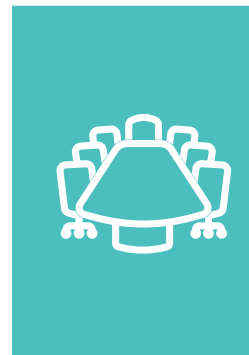
		Current	Pro-Forma ¹
Shares on issue	m	237.9	264.3
Cash	A\$m	16.4 ²	28.9 ³
Debt	A\$m	-	-
Market Cap	A\$m	119.0	132.2

Use of proceeds



Pre-FID Development Costs

- Commencement of early works at Ngualla
- FEED and construction contracts
- Environmental and social studies
- External consultants



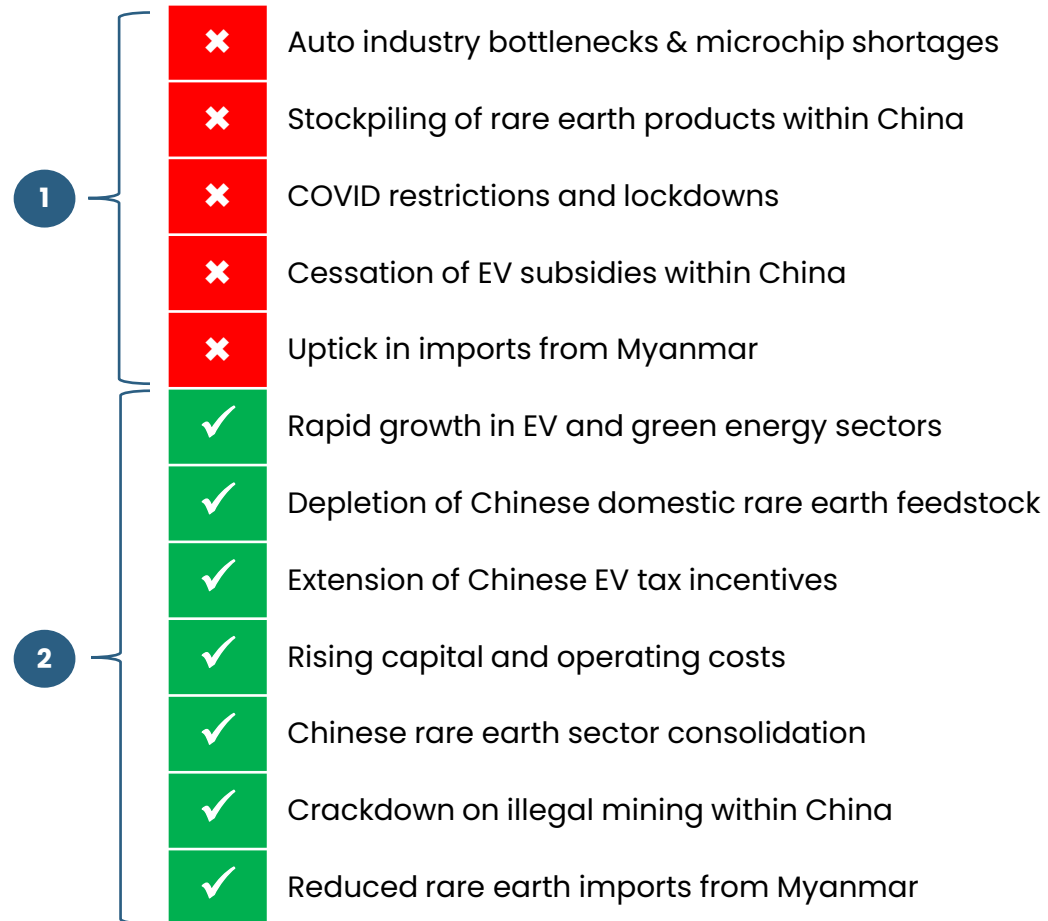
Corporate, Exploration and Other

- General corporate overheads
- Working capital requirements
- Exploration and drilling expenditure
- Project financing costs

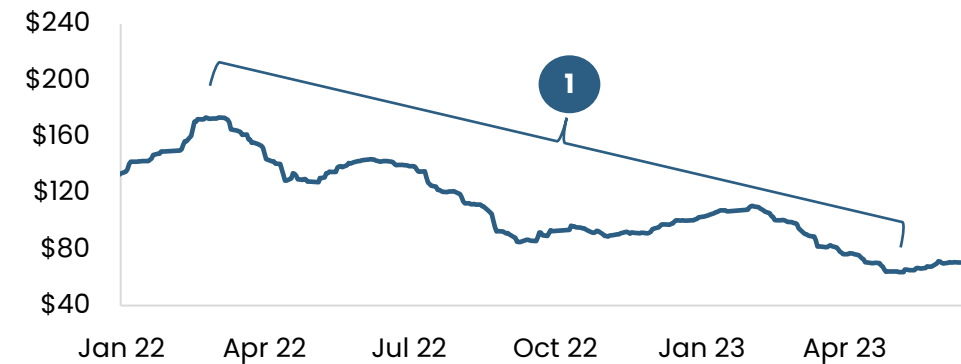
NdPr Oxide price ... attractive long-term fundamentals

NdPr Oxide price is recovering from several temporary headwinds, with the demand outlook remaining strong

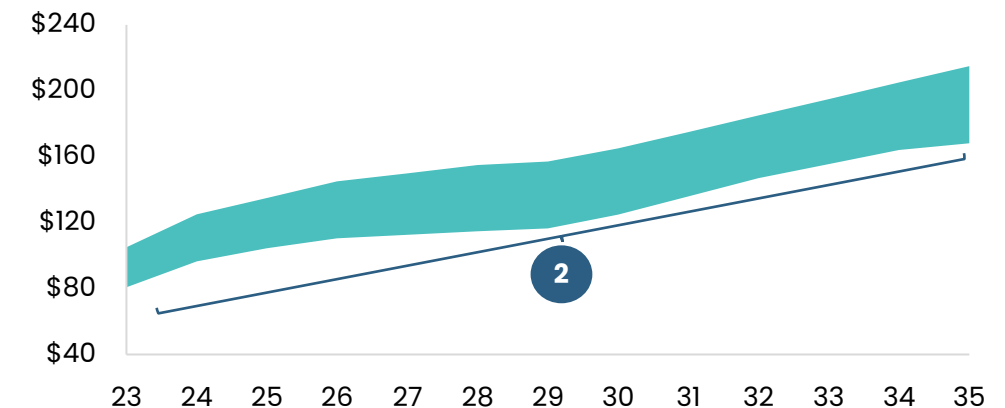
Price drivers



NdPr Oxide price - actual (US\$/kg)¹



NdPr Oxide price - forecast (US\$/kg)²



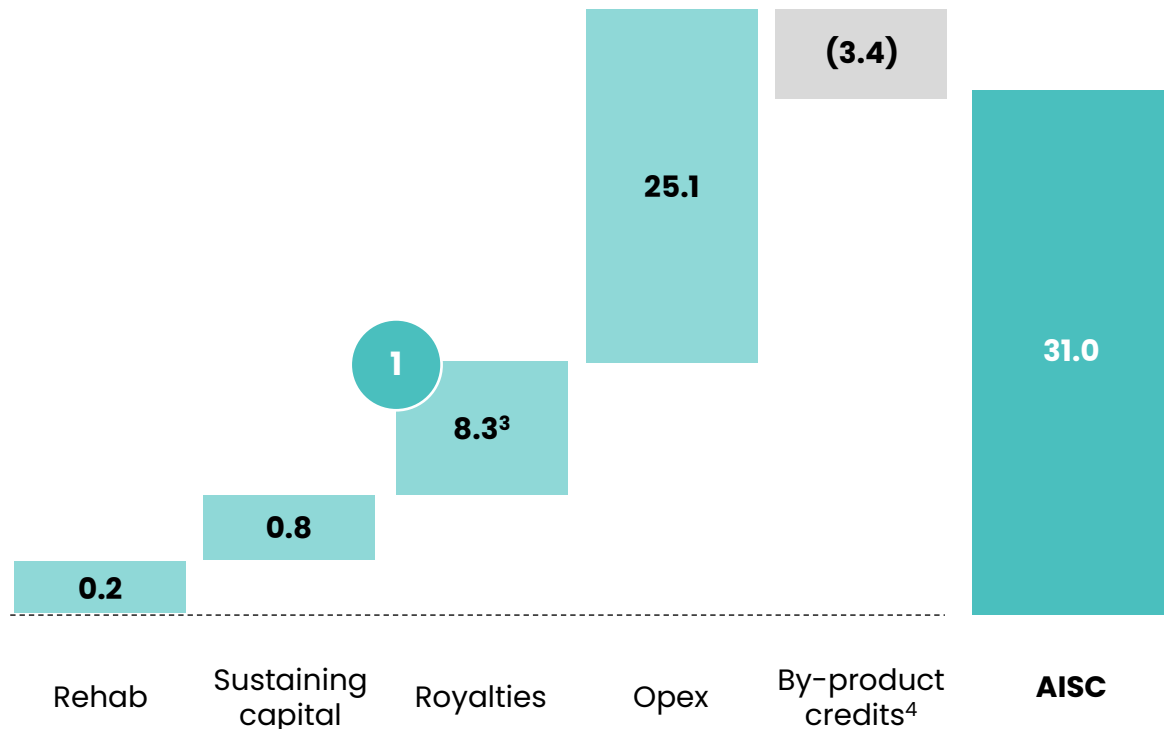
¹Asian Metal

²Adamas Intelligence – Rare Earth Magnet Outlook to 2040, May 2023

Competitive cost profile ... supporting robust margins

An all-in sustaining cost of ~US\$31.0/kg NdPr at Adamas Base pricing supporting attractive margins through rare earth price cycle

All-in sustaining cost breakdown (US\$/kg NdPr)^{1,2}



1 Royalty sensitivity (US\$/kg NdPr)

NdPr Oxide price (LOM average)	Royalty	AISC
US\$80/kg	2.2	24.9
US\$100/kg	3.0	25.7
US\$120/kg	3.8	26.5
US\$139/kg	4.6	27.3
Adamas Base	8.3	31.0

¹A payability factor is applied to NdPr Oxide price when converting to an equivalent concentrate price. Peak's BFS Update is based on a net payability factor of 60.9% of its basket value

²Based on LOM production of 3.6ktpa of contained NdPr Oxide. Royalty cost depicted is based on Adamas base pricing for NdPr Oxide

³Based on a royalty rate of 6% (on gross revenues) which is consistent with current legislation within Tanzania

⁴By-product credits are based on a lanthanum oxide price of US\$0.48/kg, a cerium oxide price of US\$1.45/kg, a SEG/heavy price of US\$15.62/kg and a net payability of 60.9%

Indicative timeline ... targeting Final Investment Decision by September 2023

First concentrate scheduled for September 2025 – 24 months after a Final Investment Decision

	2022			2023												2024												2025												
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
BFS Update completed	✓																																							
EPCM tender																																								
FEED																																								
Enabling works / bulk earthworks																																								
Final Investment Decision (FID)																																								
EPCM award scope of work																																								
Construction																																								
Commissioning																																								
Ramp-up																																								
First concentrate																																								

FID workstreams ... FEED, early works and optimisation initiatives

Key workstreams continue to be progressed ahead of FID

FEED

- Assessment of contract mining execution model as well as evaluation of surface mining technology
 - Logistics study and assessment of utilising TAZARA rail for transportation
 - Vendor packages and evaluation of possible EPC delivery solutions
-

Early Works

- Enabling works development including fly-camp, quarry and medical clinic
 - Orders for long-lead items
 - Development of water bores and geotechnical drilling
-

Optimisation initiatives

- Assessment of desliming – **potential to improve product grade**
 - Assessment of Wet High Intensity Magnetic Separation (WHIMS) – **potential to improve flotation circuit recoveries**
 - Evaluation of Dissolved Air Flotation (DAF) technology – **preferred technology for recycle water treatment**
-

FID workstreams ... offtake, funding, ESG and Tanzania initiatives

Key workstreams continue to be progressed ahead of FID

Offtake & Funding

- Ongoing negotiations on a binding offtake agreement
 - Project financing process well advanced
 - Evaluating potential for minority project partners
-

ESG

- Life cycle assessment and Digbee sustainability evaluation
 - Baseline studies including air, bio-diversity and water
 - Tailings and water studies (led by Knight Piésold)
-

Tanzania initiatives

- Community initiatives
 - Mamba Minerals planning
 - Key in-country hiring underway
-

Exploration ... offering additional upside

Commencement of exploration programme targeting highly prospective areas of the Ngualla deposit

Exploration overview

- No drilling undertaken at Ngualla since 2016 given focus on advancing rare earth project
- Commencement of exploration programme through H2 2023 targeting Northern Zone and Breccia Zone of Ngualla deposit
- Targeting 40 RC drill holes for ~4,000m of drilling
- SRK engaged to develop conceptual model of Northern Zone

1. Northern Zone

Phosphate

Niobium

Monazite

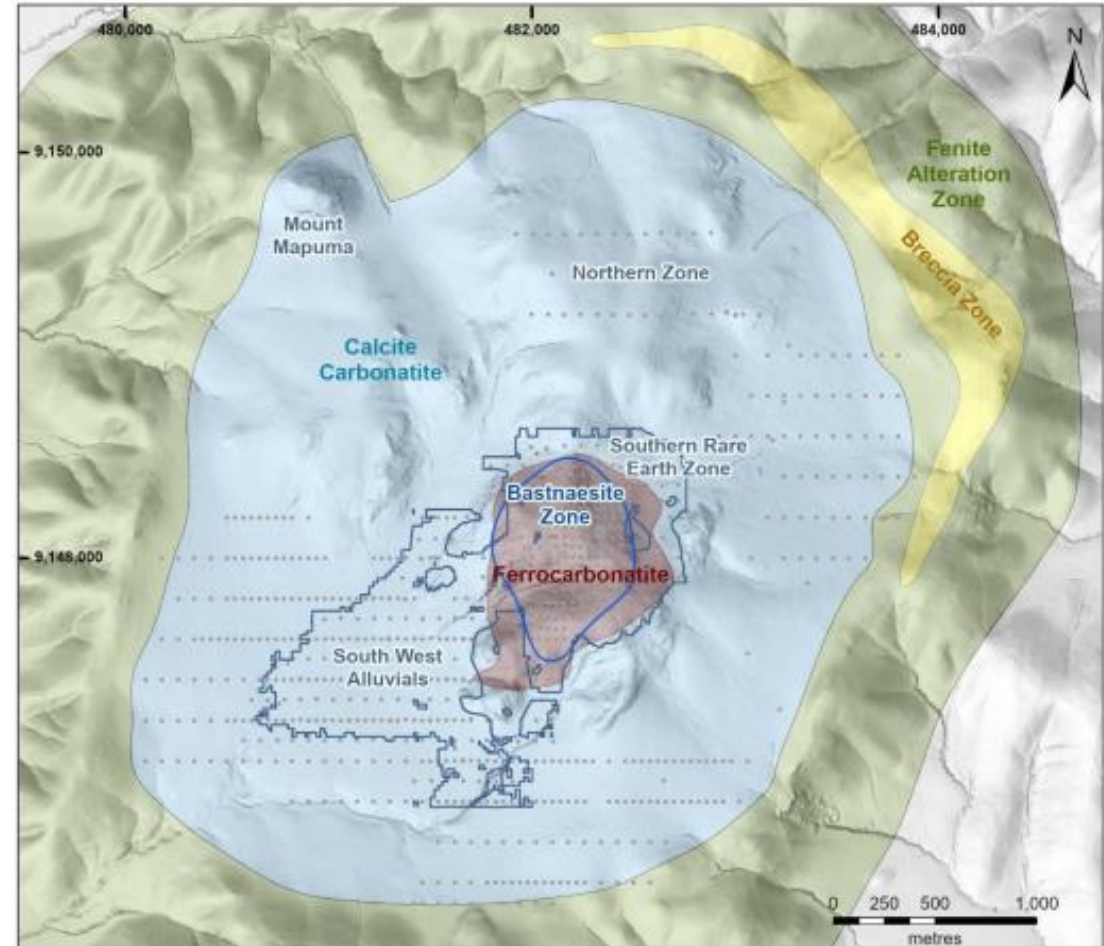
Heavy Rare Earths

2. Breccia Zone

Fluorspar (Fluorite)

Monazite

Other Commodities?



Ngualla ... up to and beyond FID

Targeted future milestones and potential newsflow through the next six months



Construction

Commencement of early works

Appointment of EPC / EPCM lead

Execution of construction contract



Technical

Completion of FEED and optimisation initiatives

Technical collaboration

Advancement of downstream options



Funding

Appointment of Mandated Lead Arranger (MLA)

Finalisation of term-sheets

Strategic partners / project-level investment



Exploration

Conceptual model and Exploration Target

Drilling and assay results

Reconnaissance work around other areas of Ngualla deposit



Offtake

Binding offtake

Partnerships targeting other commodities

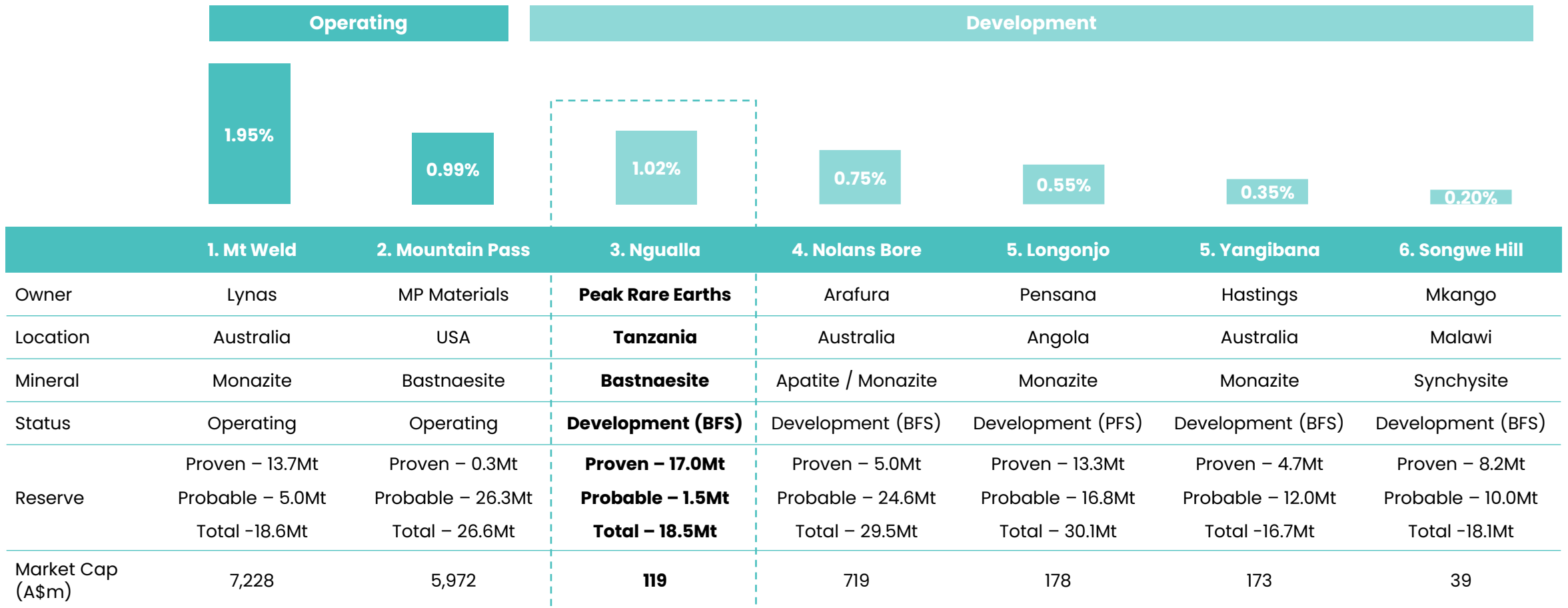
Appendix



Ore Reserves ... comparison

The Ngualla deposit is one of the world's highest grade undeveloped NdPr deposits

%NdPr (Ore Reserve)



MP Materials ... a comparison with Peak

Peak compares favourably with MP Materials

1. Ore Reserve (grade)^{1,2}

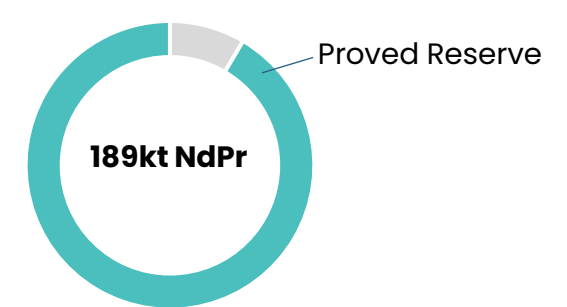
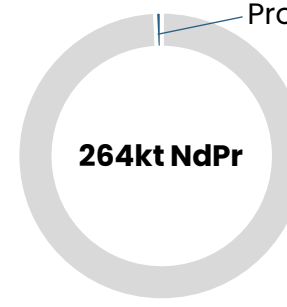
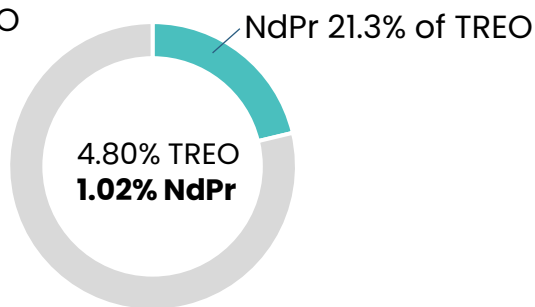
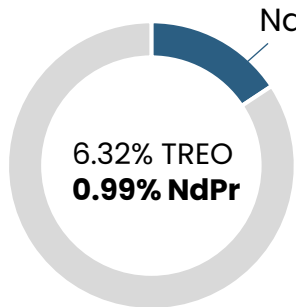
2. Ore Reserve (contained NdPr)^{1,2}

Mountain Pass

Ngualla

Mountain Pass

Ngualla



3. Bastnaesite concentrate production^{2,3}

4. Trading - Reserve (EV / Ct. NdPr) multiples⁴

Mountain Pass

Ngualla (targeted)

MP Materials (Operating)

Peak Rare Earths (Development)

6.7ktpa ct. NdPr

3.6ktpa ct. NdPr

US\$13,394/t NdPr

US\$341/t NdPr

42.5ktpa TREO

16.2ktpa TREO

EV: US\$3,536m

EV: US\$64m

Operating companies will generally trade on higher multiples than development companies. MP Materials has a track-record of profitable operations, while Peak remains a development company

Exploration ... offering additional upside

Ngualla is prospective for a range of growingly critical minerals

Niobium

- Alloy metal with a growing range of uses within high tech and green energy applications
- Recent emergence of niobium-titanium oxide EV anode cells
- Currently listed as a critical mineral by Australia, India, Japan, China, the EU and the USA (ranked second out of 50 minerals)

Phosphate

- Key end uses as fertilizer feedstock as well as a primary input within lithium iron phosphate (LFP) EV batteries
- Phosphate rock recently added to the EU's list of 20 Critical Raw Materials
- Spot price for rock phosphate has appreciated at a compound annual growth rate of ~60%¹ over the last three years

Fluorspar

- Key uses within EV batteries including as an electrolyte within lithium batteries and as a purifier for graphite anode
- Fluoride-ion battery technology also seen as a potential future alternative to lithium-based batteries
- Listed as a critical mineral by the USA, Canada, Japan and the EU

Monazite







- Other prevalent technology for light rare earths along with bastnaesite (which forms the basis of the Ngualla Ore Reserves)
- Monazite within the Northern Zone could be used as a direct export product or a feedstock for an integrated refinery
- Ngualla one of only a few deposits globally that contains both bastnaesite and monazite mineralogy

Heavy Rare Earths

- Heavy rare earths are a key input material for defense and military applications
- Doping of EV motors with dysprosium and terbium significantly improves operational performance and temperature resistivity
- Heavy rare earths listed as a critical mineral by Australia, Japan, the EU and the USA







Experienced Board ... with a proven track record

Deep sector, development, Tanzanian and funding experience

<p>Russell Scrimshaw Executive Chairman</p>  <ul style="list-style-type: none"> ✓ Founding Director and Deputy CEO of Fortescue Metals ✓ Previous Chair of Sirius Minerals <p>Leadership</p> <p>Project development</p> <p>Governance</p> <p>Sales & marketing</p>	<p>Ian Chambers Non-Executive Director</p>  <ul style="list-style-type: none"> ✓ Former Head of Wealth Management and Institutional Equities at Morgan Stanley Australia <p>Capital markets</p> <p>Financing</p> <p>Strategy</p> <p>Governance</p>	<p>Shasha Lu Non-Executive Director</p>  <ul style="list-style-type: none"> ✓ Managing Director – Shenghe Resources Overseas Development ✓ Previously Non-Executive Director of Arafura Rare Earths <p>Rare earths</p> <p>Sales & marketing</p> <p>Project development</p> <p>Emerging markets</p>	<p>Hon. Abdullah Mwinyi Non-Executive Director</p>  <ul style="list-style-type: none"> ✓ Member of Tanzanian Parliament ✓ Former lawyer and an Oil & Gas executive <p>Tanzania</p> <p>Government relations</p> <p>Legal</p> <p>Governance</p>	<p>Tony Pearson Non-Executive Director</p>  <ul style="list-style-type: none"> ✓ Chair of Cellnet and a Director of Xanadu and Communicare ✓ Former Group Executive at SouthGobi <p>Capital markets</p> <p>Financing</p> <p>Project development</p> <p>Emerging markets</p>	<p>Nick Bowen Non-Executive Director</p>  <ul style="list-style-type: none"> ✓ Extensive project development and operations experience ✓ Previously Managing Director of Macmahon Holdings <p>Project development</p> <p>Operations</p> <p>Africa</p> <p>Leadership</p>
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Proven management team ... well rounded expertise and experience

Tanzanian, mining, technical, development, marketing and rare earth expertise

Bardin Davis Chief Executive Officer Director MML ¹	Phil Rundell Chief Financial Officer / Company Secretary	Lello Galassi Head of Operations	Ismail Diwani Head of Tanzania Director MML ¹	Patrick Rutabanziba Senior Tanzanian Advisor Chairman MML ¹	Andrea Cornwell Head of Marketing
					
<ul style="list-style-type: none"> ✓ +25 years of mining and energy experience ✓ Former Head of Resources & Energy, Asia Pacific at HSBC and Head of Metals & Mining Asia at Macquarie 	<ul style="list-style-type: none"> ✓ Experienced mining CFO and Company Secretary ✓ Former Partner at Coopers & Lybrand (now PwC) 	<ul style="list-style-type: none"> ✓ Developer of 14x mining projects ✓ Previous roles with Sabina Gold & Silver, ICL, Rio Tinto, Freeport McMoran and Phelps Dodge 	<ul style="list-style-type: none"> ✓ Background in accounting, administration and government relations ✓ Deep government and community relationships 	<ul style="list-style-type: none"> ✓ +30 years within Tanzanian public service ✓ Country Chair of PanAfrican Energy ✓ Former Permanent Secretary, Ministry of Energy & Minerals 	<ul style="list-style-type: none"> ✓ +28 years of international resources marketing experience ✓ Previous senior marketing roles with South 32, Vale, Anglo American, Shell and BHP
Sector expertise	Accounting	Project development	Tanzania	Tanzania	Sales and marketing
Strategy	Compliance	Operations	Government relations	Government relations	Risk
Funding	Governance	Africa	Community engagement	Governance	Sustainability
Emerging markets	Risk	Leadership	Business development	Leadership	Emerging markets

Proven management team ... well rounded expertise and experience

Tanzanian, mining, technical, development, marketing and rare earth expertise

Ray Anguelov
Head of Technical Services



- ✓ +25 years metallurgical experience including commissioning of rare earth plants
- ✓ Previous roles with Vital Metals and Northern Minerals

Chemical engineering

Testwork and pilot plants

Research and development

Africa

Gavin Beer
Consulting Metallurgist



- ✓ Specialist in rare earths and critical minerals
- ✓ Previously GM metallurgy for Peak

Rare earths

Testwork and pilot plants

Research and development

Chemical engineering

Mark Godfrey
Consulting Metallurgist



- ✓ +40 years metallurgical experience
- ✓ Previous roles with Glencore, Newcrest, Rio Tinto, MMG, BHP and Impala

Chemical engineering

Testwork and pilot plants

Research and development

Africa

Matthew Horgan
Head of Corporate Development / IR



- ✓ Previously with Azure Capital
- ✓ Commercial and technical roles at Alcoa

Business development

Financing

Industry analysis

Chemical engineering

Mary Duncan
Community Liaison Officer



- ✓ Experienced Community Development expert
- ✓ Leads engagement and community initiatives at Ngualla

Tanzania

Community engagement

Sustainability

Government relations

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