ASX Announcement 24 October 2022

Ngualla Rare Earths Project

Completion of Bankable Feasibility Study Update

- **Bankable Feasibility Study Update ("BFS Update") supports a technically and economically robust standalone Ngualla Rare Earth Project ("Ngualla Project")**
- **Under a recently announced staged integration and development approach:**
  - **Ngualla Project to be initially developed on a standalone basis to produce a high-grade rare earth concentrate for export to third-party refiners; and**
  - **Depending upon the outcome of an independent study into the feasibility of a Tanzanian refinery, the potential to develop further downstream processing in either Tanzania or at Peak's Teesside site in the United Kingdom**
- **Reasons for adopting a staged development approach:**
  - **Supports the Government of Tanzania's policy of maximising in-country processing and value addition where feasible;**
  - **Substantially reduces upfront capital expenditure and funding requirements;**
  - **Lowers commissioning and technical risks around the concurrent development of the Ngualla Project and a rare earth refinery; and**
  - **Capitalises on growing offtake appetite for high-grade rare earth concentrate**
- **BFS Update follows a BFS completed in 2017 and reflects a 14% increase in annual production capacity and optimisations relating to reagents, flotation collectors, power plant, tailings storage and logistics**
- **Post-tax NPV$_{(8\%,\ real)}$ of US$1,483m (A$2,353m) and an equity IRR of 37.3% based on Adamas rare earth pricing forecasts and US$321m upfront pre-production capital expenditure**
- **Ore Reserves of 18.5Mt at 4.80% TREO comprising of 21.26% NdPr**
- **An initial life-of-mine of 24 years based on Ore Reserves, with Ore Reserves accounting for less than 20% of the Mineral Resource of 214Mt at 2.15% TREO**
- **Average annual concentrate production of ~18ktpa (contained TREO) over the first 6 years and 16ktpa over the life of the project**
- **Concentrate benefits from a high grade, high NdPr ratio and low levels of radionuclides (thorium & uranium) and acid consuming minerals**
- **Front End Engineering and Design and cost optimisation studies to be completed ahead of a target Final Investment Decision by 31 May 2023**

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Peak Rare Earths Limited (ASX: **PEK**) (**"Peak"** or the **"Company"**) is pleased to announce the completion of a Bankable Feasibility Study Update (**"BFS Update"**) on the Ngualla Rare Earth Project (**"Ngualla Project"**).

The BFS Update follows a Bankable Feasibility Study (**"BFS"**) that was completed in April 2017. Both the BFS and BFS Update are backed by extensive pilot plant test work, detailed engineering design and cost studies and JORC 2012 Compliant Ore Reserves and Mineral Resources estimates.

The BFS Update was commissioned in August 2021 to reflect a material improvement in the outlook for Neodymium-Praseodymium (**"NdPr"**) Oxide prices, an expansion in production capacity, movements in capital expenditure and operating costs, optimisation opportunities, a reduction in carbon footprint and the potential to further de-risk development.

Initially the BFS Update was to cover both the Ngualla Project and the Teesside Refinery. However, following a decision to defer the selection of a refinery site until the completion of an independent study on the feasibility of an in-country Tanzanian rare earth refinery, the BFS Update on the Teesside Refinery has been put on hold.

The BFS Update on a standalone Ngualla Project supports a technically robust project with an increased capacity and highly attractive economics and shareholder returns.

Commenting on the BFS Update, the CEO of Peak, Bardin Davis, said:

"The BFS Update reaffirms the world-class status of the Ngualla Rare Earth Project and its competitive positioning to meet rapidly rising demand for rare earths. It is distinguished by its high grade, low levels of radionuclides and attractive cost structure. The initial development of the Ngualla Project on a standalone basis reduces upfront capital costs, lowers commissioning risk, generates strong financial returns and provides greater optionality around future downstream options."

The Executive Chairman of Peak, Russell Scrimshaw, further commented:

"With the BFS Update complete and the Framework Agreement nearing finalisation, Peak can now focus its efforts on progressing the Ngualla Rare Earth Project towards a Final Investment Decision and establishing itself as the next major global rare earth producer. The Ngualla Project will support the creation of hundreds of jobs, improved local infrastructure and a major source of income for the Tanzanian Government. "

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Project Metrics and Financial Summary

Financial outputs for the Ngualla Project are shown below net of distributions to the Government of Tanzania which include corporate taxes, royalties and other fees, and dividends attributable to the Government of Tanzania's 16% Free Carried Interest ("**FCI**"). The NPV for Peak's interest in the Ngualla Project is estimated at US$1,483m under the base case pricing assumption.

Table 1. Ngualla Project Output Summary

Production Metrics	Unit	Yrs 1-6	LOM
Grade mined	% TREO	5.4%	4.8%
Concentrate production	ktpa dry	40.5	36.0
Concentrate production	ktpa TREO	18.2	16.2
Concentrate grade	% TREO	45.0%	45.0%
NdPr % (of concentrate basket)	% mass	22.6%	22.3%
Mine life	Years	24[1]	
Cost Metrics	**Unit**	**US$**	**A$[2]**
Pre-production capital	$m	321	509
Average annual operating cost	$m p.a.	93	148
Average annual operating cost	$/kg TREO	5.8	9.2
Revenue and Profit Metrics[2]	**Unit**	**US$**	**A$**
Average annual revenue	$m p.a.	538	854
Average annual EBITDA	$m p.a.	448	711
Average operating cashflow	$m p.a.	276	438
Financial Outputs[3]	**Unit**	**US$**	**A$**
Peak post-tax $NPV_{8\%, real}$	$m	1,483	2,353
Equity IRR	%	37.3%	

[1]Based on Ore Reserves only
[2]Based on AUD-USD exchange rate of US$0.63 / AUD$1.00 (as at Friday 21 October 2022)
[3]Real discount rate (all modelling is in real terms)

A comparison of financial outputs and metrics for the BFS Update with the BFS completed in April 2017 and an optimisation study completed in August 2017 is set out in following table.

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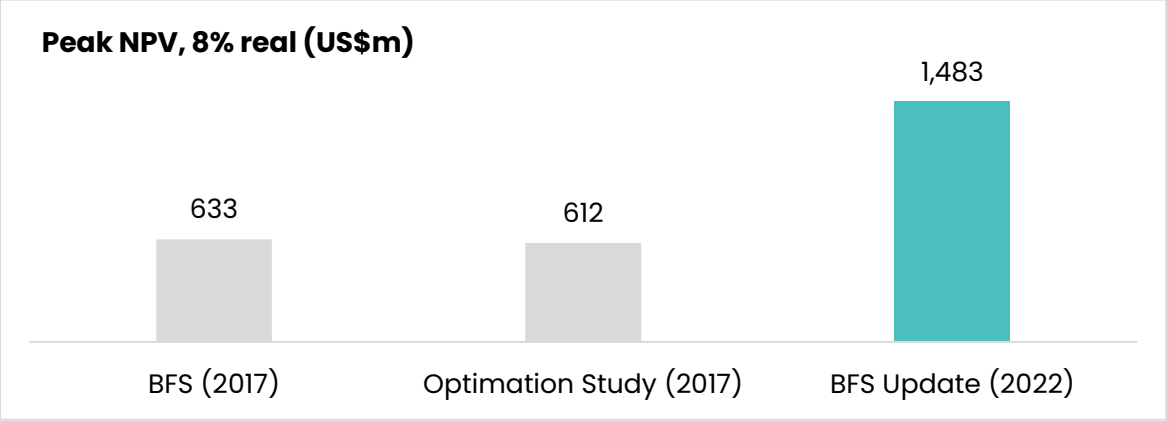
Table 2. Peak Study Comparisons



Key outputs	Unit	BFS (2017)	Optimisation Study (2017)	BFS Update (2022)
Key outputs				
Product		Refined oxides	Refined oxides	Concentrate
Production[1]	ktpa TREO	12.7	14.7	16.2
Upfront capex	US$m	356	365	321
Operating cost	US$m p.a.	83	91	93
Revenue	US$m p.a.	228	241	538
EBITDA	US$m p.a.	145	150	448
Peak $NPV_{8\%, real}$	US$m	633	612	1,483
Equity IRR	%	21.0%	22.0%	37.3%
Fiscal assumptions				
FCI	%	-	-	16%
Royalty	%	4%	4%	6%
Corporate tax	%	30%	30%	30%
Withholding tax	%	-	-	10%
Price assumptions				
NdPr Price (LOM)	$US/kg	85	78	232
VAT deducted?[2]		No	No	Yes
Payability (net)	%	100%	100%	60.9%

[1]Production equivalent from Ngualla site
[2]The price forecast for refined rare earth oxides is inclusive of the Chinese VAT rate of 13%. It is assumed that VAT will be deducted from the net price that the Ngualla Project receives from customers.

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Key Contributors

To support the delivery of the BFS Update, Peak engaged a broad suite of experienced professional parties, which are set out in Table 3.

Table 3. BFS Update Key Contributors

Party	Description
wood.	Project management & BFS Update lead
ORELOGY MINE CONSULTING	Ore Reserve update and mine planning
Knight Piésold CONSULTING	Tailings management and water hydrology
DHAMANA consulting	Environmental management
FUTURE PROOF.	ESG strategy and reporting
PAULSAM GEO-ENGINEERING COMPANY LIMITED	ESIA Update (Tanzania)
Ai	Market analysis and pricing outlook
WATERBORNE CAPITAL	Financial modelling and analysis
AURALIA METALLURGY	Metallurgical testing

Project overview

The Ngualla Project is one of the largest and highest-grade undeveloped NdPr Oxide projects in the world. It is centered on the Ngualla Carbonatite in southern Tanzania, 147km from the city of Mbeya on the edge of the East African Rift Valley (Figure 1). The weathered bastnaesite zone that is the initial target for development occurs as a thick blanket of high-grade rare earth mineralisation from surface on Ngualla Hill. Mineralisation occurs close to surface which supports a simple open-pit mining operation with a low strip ratio and a minimal requirement for blasting.

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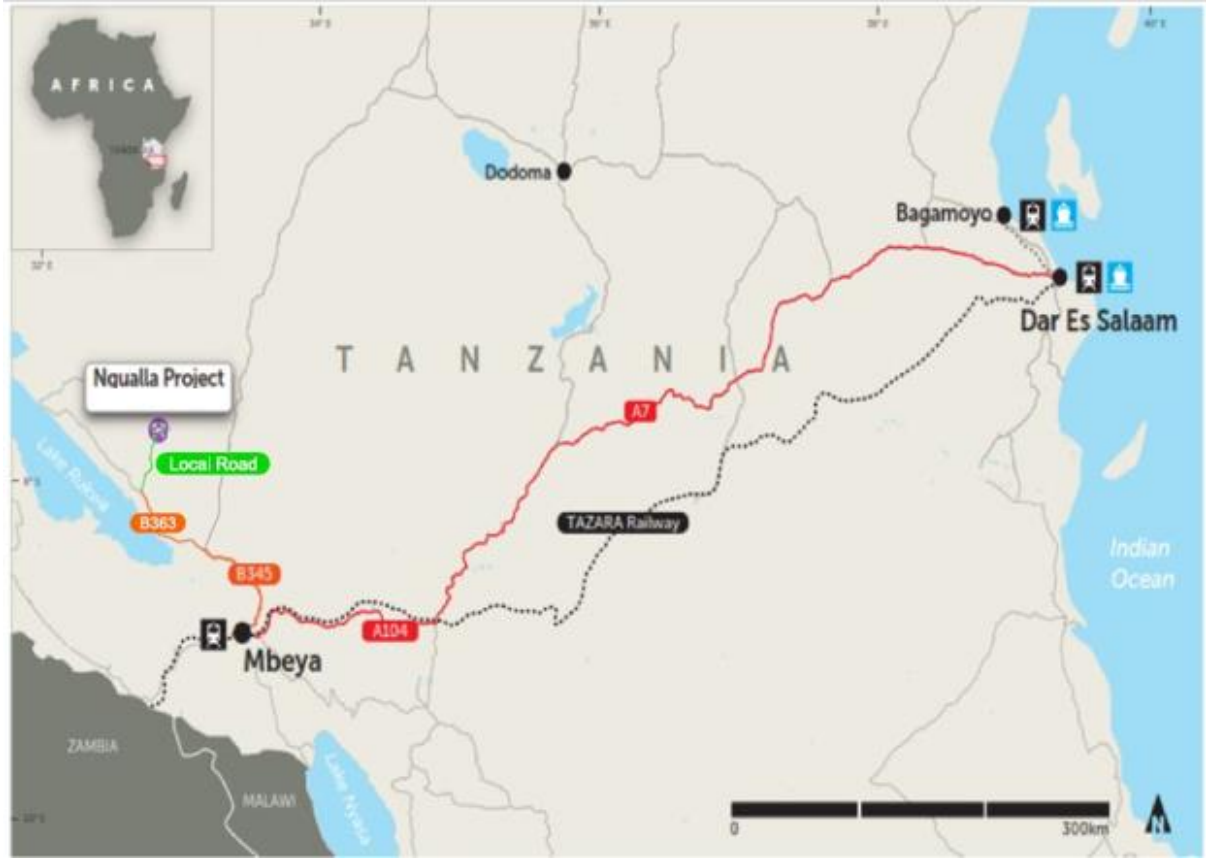
Rare earth ore that is mined from the Ngualla Project deposit will be processed through a concentration plant which is co-located at the mine site. Ore will be beneficiated through a milling and two-stage flotation circuit resulting in a high-grade rare earth concentrate of approximately 45% TREO. Concentrate will be filled into double-lined 1m^3 bulky bags loaded directly into trucks for transport to the Dar es Salaam Port and shipment to customers.

Figure 1. Ngualla Project Location

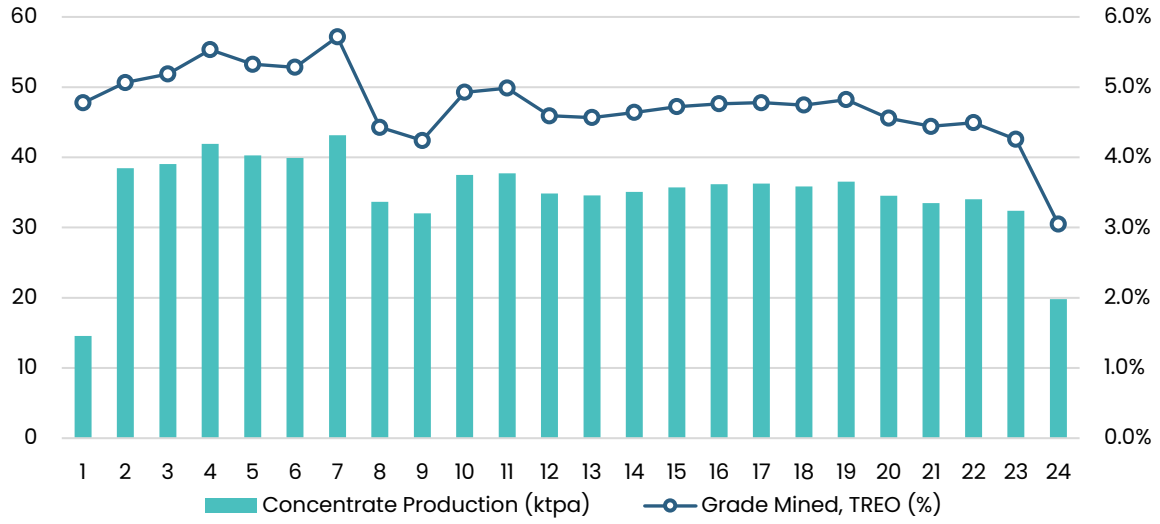


Production Overview

Key production outputs for the Ngualla Project are shown in Table 4. The Ngualla Project will benefit from an initial high-grade zone that is mined through Years 1 – 6 of the operation, resulting in a higher feed rate through the mill and higher production rate of concentrate. The ratio of neodymium and praseodymium within this high-grade zone is also slightly higher than the remaining ore body.

Table 4. Ngualla Project Production Outputs

Production Metrics	Unit	Yrs 1-6	LOM
Annual tonnes mined	ktpa	1,223.6	786.8
Grade mined	% TREO	5.4%	4.8%
Strip ratio	waste:ore	1.7x	1.7x
Annual tonnes milled	ktpa	800.7	794.8
Recovery (TREO)	%	42.6%	42.6%
Concentrate production	ktpa dry	40.5	36.0
Concentrate production	ktpa TREO	18.2	16.2
Concentrate grade	% TREO	45.0%	45.0%
NdPr % (of concentrate basket)	% of TREO	22.6%	22.3%



Ore Reserves and Mineral Resource

As part of the BFS Update, Orelogy was commissioned to undertake an Ore Reserves study which has been modelled on the basis of a standalone concentrate operation. For the purposes of estimating Ore Reserves, relatively conservative rare earth price assumptions were adopted, which included an equivalent NdPr Oxide price (net of an assumed concentrate payability) of US$49/kg. As set out in Tables 5(a) and (b) there has been no material change in Ore Reserve for the Ngualla Project. The Competent Person's Statements

and JORC Reserve Table are included as an appendix within the adjoining Executive Summary.

The Mineral Resource for the Ngualla Project is shown in Table 6. There has been no change to the Mineral Resource relative to the original February 2016 Resource Study completed by SRK.

Table 5(a). Ngualla Project Ore Reserves (October 2022)[1]

Category	Ore (Mt)	TREO %	Contained TREO (kt)
Proved	17.0	4.78%	813
Probable	1.5	5.10%	74
Total	**18.5**	**4.80%**	**887**

[1]Based on the following rare earth oxide prices (net of payability): Neodymium US$49.6/kg, Praseodymium US$46.8/kg, Lanthanum US$0.7/kg, Cerium US$0.8/kg, Samarium US$1.1/kg, Europium US$15.9/kg, Gadolinium US$20.0/kg, Terbium US$666.4/kg, Dysprosium US$205.2/kg, Holmium US$69.0/kg, Erbium US$18.1/kg, Ytterbium US$8.1/kg, Lutetium US$403.8/kg and Yttrium US$3.2/kg

Table 5(b). Ngualla Project Ore Reserves Change

Category	2017 Ore Reserve	2022 Ore Reserve
Ore Tonnes (Mt)	18.5	18.5
TREO (%)	4.80%	4.80%
Contained TREO (kt)	887	887

Table 6. Ngualla Project Mineral Resource (all resources ≥1% TREO)

Category	Tonnage (Mt)	TREO %	Contained TREO (kt)
Measured	86.1	2.61%	2,250
Indicated	112.6	1.81%	2,040
Inferred	15.7	2.15%	340
Total	**214.4**	**2.15%**	**4,620**

Rare Earth Market and Concentrate Outlook

Development of the Ngualla Project is projected to benefit from increasingly favourable market fundamentals for rare earths and rising demand for high-grade rare earth concentrate. Key market factors include the following:

- Rapid growth in demand for NdFeB magnets attributable to global decarbonisation and high production growth in electric vehicles and direct-drive wind turbines;

- Accelerating depletion of primary rare earth feedstock both within and outside of China;
- Increasing crack-down on illegal and unlicensed rare earth mining within China;
- Emerging rare earth refining projects and expansions, corresponding to a growing surplus of rare earth refining capacity and demand for rare earth concentrate and feed;
- Restrictive rare earth mining quotas within China; and
- MP Materials' near-term downstream integration into the production of refined rare earth oxides, removing ~15% of global supply of rare earth concentrate[1].

As a near-term producer of a high-grade concentrate, Peak is uniquely positioned to support the growing market deficit. Key characteristics of Peak's concentrate product include the following:

- **Bastnaesite mineralogy** – the current market for third-party light rare earth concentrate (excluding clays) is predominantly bastnaesite;
- **NdPr assemblage** – Ngualla Project concentrate consists of 22% (of total TREO) of high value NdPr – making it one of the highest value rare earth baskets of current and near-term concentrate producers;
- **Low radionuclides** – due to Ngualla Project concentrate containing minimal levels of radionuclides it avoids the environmental and regulatory constraints in shipping faced by many competing projects as well as value-in-use penalties from customers for management and disposal of radioactive waste; and
- **Low levels of acid consuming minerals** – Peak's weathered bastnaesite ore, which is the initial target for development, has been naturally leached of minerals such as calcite and dolomite which otherwise consume acid within the refining process.

Price Outlook

As part of the BFS Update, Adamas was commissioned to complete a rare earths market study to support pricing assumptions. Adamas developed three pricing scenarios that have been derived from a supply-demand analysis with each of the three scenarios assuming different rate of uptake of EVs in the coming years. Under its Base Case pricing scenario, Adamas projects the NdPr Oxide price to increase to US$200/kg by 2025 and to US$247/kg by 2035 due to accelerating growth in EVs and direct drive wind turbines as well as a rapidly expanding market deficit in NdPr Oxide. Adamas completed its market study

[1] MP Materials BMO Conference Presentation (2022), Slide 10

for Peak in Q2, 2022 with findings within the report consistent with Adamas' view of the market at the time of publishing.

Adamas also projected basket values for the Ngualla concentrate based on its forecasted price of contained rare earth oxides within the concentrate. The Ngualla concentrate basket value is strongly tied to the price of NdPr Oxide, which accounts for over 93% of Ngualla concentrate basket value. Price forecasts for refined rare earth oxides and for the basket value of Ngualla Project concentrate are shown below in the figures below (in real terms). Peak has adopted the Adamas Base Case pricing scenario for the purposes of its BFS Update financial analysis.

Figure 2(a). Forecast NdPr Oxide Price (real), including VAT (shaded area represents the range covering 'downside', 'base' and 'upside' scenarios)

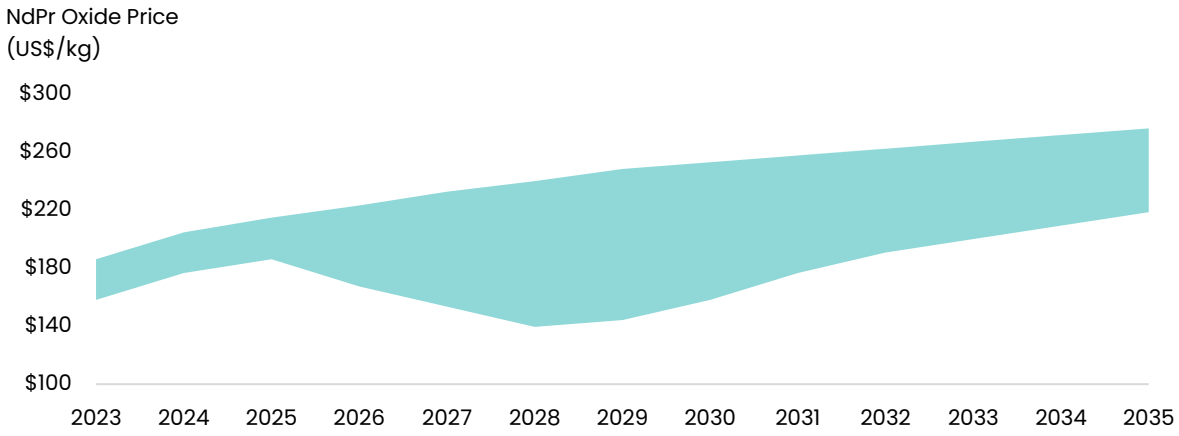
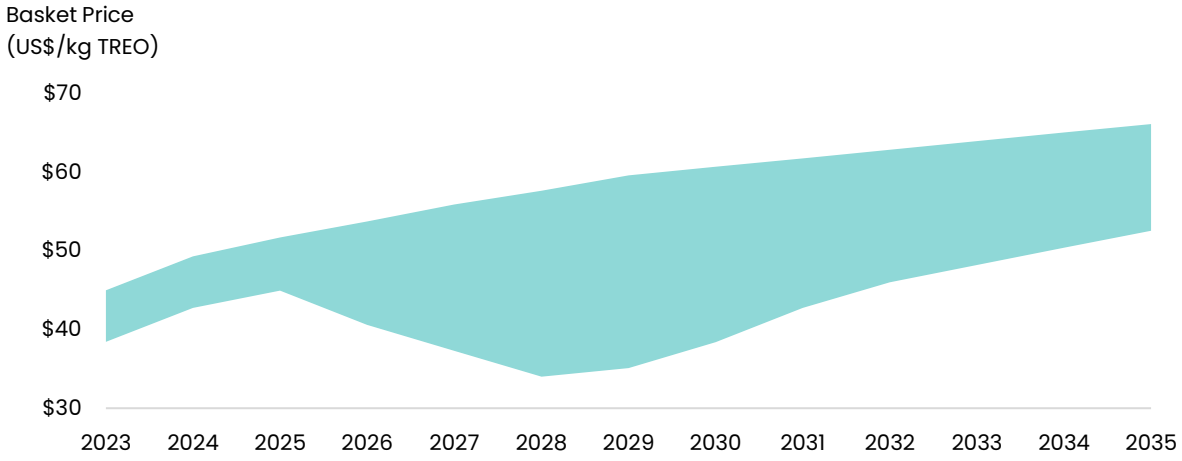


Figure 2(b). Forecast Ngualla Project Basket Value of Concentrate including VAT (shaded area represents the range covering 'downside', 'base' and 'upside' scenarios)



To derive a net realisable price for Ngualla concentrate, a net payability factor is applied to the gross basket value of the concentrate. The net payability factor reflects a combination of the following price adjustments:

- a market / product factor representing the ease by which third-party refineries are able to sell the refined product – which is typically >95% for highly saleable products such as NdPr Oxide and a lower percentage for products such as cerium and lanthanum;
- a refinery charge representing the cost to refine a mineral concentrate into a saleable refined oxide(s) – which also includes an embedded refinery margin;
- a recovery factor representing the natural loss of rare earth material through the refining process;
- a sales / distribution fee payable to the offtaker of the concentrate; and
- a deduction for Chinese VAT (of 13%).

Based on observable third-party data for bastnaesite concentrate and ongoing offtake discussions, the net payability for Ngualla concentrate (e.g. the price received as a proportion of total basket value) after the above adjustments is estimated to be between 56-62% across the life of the project. The table below shows forecasted sale price (in US$/kg of dry concentrate) for Ngualla concentrate across various rare earth pricing scenarios.

Table 7. Ngualla Project Concentrate Pricing Assumptions

US$/kg (dry)	Year										
	25	26	27	28	29	30	31	32	33	34	35
Upside	14.1	14.7	15.4	15.9	16.5	16.8	17.2	17.5	17.8	18.2	18.5
Base	13.0	12.7	12.5	12.3	12.7	13.4	14.2	14.9	15.4	15.9	16.4
Downside	12.0	10.6	9.6	8.6	8.9	10.0	11.3	12.3	13.0	13.7	14.3

Sensitivity Analysis

Sensitivity analysis covering Adamas Upside, Base and Downside pricing scenarios are set out in Table 8. An additional Average Year-to-Date (**"YTD"**) scenario reflecting a flat NdPr Oxide price equivalent to the 2022 YTD average price (as at 1 September 2022) of US$138.80/kg (inclusive of VAT) has also been included. The analysis highlights that the long-term economics and returns for the Ngualla Project remain robust even at more recent rare earth pricing levels.

Table 8. Price Scenario Analysis

Metric	Unit	Adamas			Average YTD
		Downside	Base	Upside	
NdPr price (2026 – 2030)	US$/kg	153.92	195.70	237.48	138.80
NdPr price (LOM)	US$/kg	198.73	231.88	265.03	138.80
Average annual revenue	US$m	453	538	623	301
Average annual EBITDA	US$m	363	448	553	212
Peak $NPV_{8\%, real}$	US$m	1,087	1,483	1,873	539
IRR (post tax and royalties)	%	30.4%	37.3%	43.3%	22.5%

Next steps and timeline

With the completion of the BFS Update, Peak's focus will now shift to progressing the Ngualla Project towards a Final Investment Decision by the end of May 2023.

Peak is hopeful that a Framework Agreement with the Government of Tanzania can be finalised and executed prior to the end of the 2022 calendar year. The Framework Agreement and associated documentation will establish and set out the rights and obligations of Peak and the Government of Tanzania as well as economic sharing principles and governance arrangements. It is expected that a Special Mining Licence will be formally granted for the Ngualla Project following the execution of a Framework Agreement.

Other key workstreams include the following:

- **Front-End Engineering and Design ("FEED")** – expected to commence in February 2023 and encompass further project optimisation studies;
- **Project and Export Financing** – with the assistance of debt financial adviser, WaterBorne Capital, target gearing of 60-70% is being sought from a prospective syndicate of export credit agencies as well as development and commercial banks; and
- **Concentrate offtake** – MOU and offtake negotiations are being progressed with multiple refiners and trading companies.

Potential optimisation opportunities to be further assessed during FEED include:

- Use of column flotation within beneficiation plant;
- Optimisation and/or deferral of regrind mill and slurry heating stages;
- Optimisation of reagent dosage;

- Combined scope of works for road and airstrip;
- Combined tender for power plant and fuel supply; and
- Use of an owner-operated team for bulk earthworks.

Following the execution of a Framework Agreement, Peak intends to commission an independent study into the feasibility of a Tanzanian refinery and further downstream processing in partnership with the Government of Tanzania. This study would assess the technical, economic and environmental feasibility of a Tanzanian refinery as well as the potential to produce intermediate products such as a Mixed Rare Earth Carbonate.

An indicative timeline for the development of the Ngualla Project and potential refinery solutions is set out below.

Table 9. Ngualla Project Indicative Timeline

Task	Date/Month
BFS Update completed	Oct 2022
Early works commencement	Nov 2022
Commencement of competitive EPCM tender	Nov 2022
FEED commencement	Feb 2023
EPCM tendering complete	Mar 2023
Commencement of enabling works and bulk earthworks	Mar 2023
FEED completion	May 2023
Financial Investment Decision	**31 May 2023**
EPCM award and transition to full scope of work	Jun 2023
Construction commences	Jun 2023
Commissioning commences	Dec 2024
Ramp-up commences	Apr 2025
First concentrate	May 2025
Schedule contingency added	Oct 2025

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This announcement is authorised for release by the Company's Board of Directors.

Bardin Davis

Chief Executive Officer

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Forward Looking Statements

This announcement contains forward-looking information which is based on the assumptions, estimates, analysis and opinions of management and engaged consultants made in light of experience and perception of trends, current conditions and expected developments, as well as other factors believed to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect.

Assumptions have been made by the Company regarding, among other things: the commodity prices, the timely receipt of required approvals, the accuracy of capital and operating cost estimates, the completion of studies on its exploration and development activities, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used by the Company.

Although management believes that the assumptions made and the expectations represented by such information are reasonable, there can be no assurance that the forward-looking information will prove to be accurate.

Forward-looking information involves known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any anticipated future results, performance or achievements expressed or implied by such forward-looking information. Readers should not place undue reliance on forward-looking information. Neither the Company nor its directors undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Peak
RARE EARTHS

Ngualla Rare Earth Project:

Bankable Feasibility Study Update

OCTOBER 2022

DISCLAIMER

This document was prepared by Peak Rare Earths Limited (the Company). While it is provided in good faith, no representation or warranty is made by the Company nor its advisers, agents or employees as to the accuracy, completeness, currency or reasonableness of the information in this report or provided in connection with it, including the accuracy or attainability of any forward-looking statements in this announcement. The Company does not accept any responsibility to inform you of any matter arising or coming to the Company's notice after the date of publication of this report which may affect any matter referred to in this report. Any liability of the Company, its advisers, agents and employees to you or to any other person or entity arising out of this announcement including pursuant to common law, the *Corporations Act 2001* (Cwth), the *Trade Practices Act 1974* (Cwth), or any other applicable law is, to the maximum extent permitted by law, expressly disclaimed and excluded.

FORWARD-LOOKING STATEMENTS

The document contains forward-looking information and prospective financial material, which is predictive in nature and may be affected by inaccurate assumptions or by known or unknown risks and uncertainties and may differ materially from results ultimately achieved. Such forward-looking statements, including those with respect to permitting and development timetables, mineral grades, metallurgical recoveries, and potential production reflect the current internal projections, expectations or beliefs of the Company based on information currently available to it. All references to future production, production targets and resource targets and infrastructure access are subject to the completion of all necessary permitting, construction, financing arrangements and infrastructure-related agreements. Where such a reference is made, it should be read subject to the following cautionary statements and in conjunction with further information about the Mineral Resources and the accompanying Competent Person's statements.[1]

NO GUARANTEE OF FUNDING

Investors should note that there is no certainty that the Company will be able to raise the amount of funding indicated by this report when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other "value realisation" strategies such as a sale of the project.

SEEK APPROPRIATE PROFESSIONAL ADVICE

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this report. All persons should consider seeking appropriate professional advice in reviewing the document and all other information with respect to the Company and evaluating the business, financial performance, and operations of the Company. Neither the provision of the document nor any information contained in the document or subsequently communicated to any person in connection with the document is, or should be taken as, constituting the giving of investment advice to any person.

[1] As defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves produced by the Joint Ore Reserves Committee, 2012 edition (JORC 2012)

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Appendix 1 Competent Person's Statements and JORC Table

ABBREVIATIONS

Abbreviation	Definition
2017 BFS	2017 Bankable Feasibility Study
ANCOLD	Australian National Committee on Large Dams
Bq	becquerel (SI unit of radioactivity)
Capex	capital expenditure
COP26	26th United Nations Climate Change Conference (2021)
EBITDA	earnings before interest, taxes, depreciation, and amortisation
EIS	Environmental Impact Statement
EPCM	engineering, procurement and construction management
ESG	environment, society and governance
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EV	electric vehicle
FCI	free-carried interest
FEED	Front-End Engineering Design
FID	Final Investment Decision
FWA	Framework Agreement
GISTM	Global Industry Standard on Tailings Management
Golder	Golder Associates
GOT	Government of Tanzania
HREO	heavy rare earth oxides
HSE	health, safety and environment
HSSEC	health, safety, security, environment, and community
Hz	hertz
ICOLD	International Commission on Large Dams
IFC	International Finance Corporation
IRMA	Initiative for Responsible Mining Assessment

Abbreviation	Definition
IRR	internal rate of return
JORC	Joint Ore Reserves Committee
kt	kilotonne (thousand tonnes)
ktpa	kilotonnes per annum (kt/yr)
LOM	life-of-mine
-m	million (e.g. $35m)
MREC	mixed rare earth carbonate
Mt	megatonne (million tonnes)
MWe	megawatt (electrical)
NdFeB	neodymium iron boron
NdPr	neodymium-praseodymium
NEMC	National Environment Management Council
Ngualla Project	Ngualla Rare Earth Project comprising mine and beneficiation plant
NML	Ngwala Mining Limited
NPV	net present value
NSR	net smelter return
NZ	Northern Zone (Ngualla deposit)
Opex	operation expenditure
pa	per annum (per year)
Peak	Peak Rare Earths Limited
PFD	process flow diagram
ppm	parts per million
PR NG	PR NG Minerals Limited (a 100% subsidiary of Peak)
PV	photovoltaic
REO	rare earth oxides
RORO	roll on roll off
SEG	samarium, europium and gadolinium
SEP	Stakeholder Engagement Plan
SML	Special Mining Licence
SREZ	Southern Rare Earth Zone (Ngualla deposit)
SWA	Southwest Alluvials Zone (Ngualla deposit)
t	tonne (also kt and Mt)

Abbreviation	Definition
TCFD	Taskforce for Climate-related Financial Disclosures
Th	thorium
tpa	tonnes per annum (t/yr)
TREO	total rare earth oxides
TSF	tailings storage facility
U	uranium
US$m	million US dollars
VAT	value-added tax
YTD	year-to-date
µm	micrometre (micron)

1. INTRODUCTION

1.1. Project summary

Peak Rare Earths Limited (Peak) is advancing pre-development activities for its Ngualla Rare Earth Project (Ngualla Project) in Tanzania, which comprises an open-pit mining operation and multi-stage processing facility.

Figure 1. Ngualla Rare Earth Project

The Ngualla Project is underpinned by a world-class rare earth deposit. With a JORC Code[2]-compliant Ore Reserve[3] of 18.5 million tonnes (Mt) at 4.8% total rare earth oxides (TREO) and Mineral Resource[2] of 214 Mt, the Ngualla deposit is one of the world's largest and highest grade undeveloped rare earth deposits. Once developed, the Ngualla Project will produce a high-grade concentrate containing approximately 16.2 thousand tonnes per annum (ktpa) TREO over the life-of-mine (LOM). Critically, the Ngualla deposit also contains very low levels of radionuclides (thorium and uranium), which are often associated with rare earth mineralisation, and acid-consuming minerals, such as calcite and dolomite, resulting in lower overall processing and waste management costs. In addition to rare earths, the Ngualla deposit is highly prospective for several other elements, including barite, fluorspar, niobium,

[2] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves produced by the Joint Ore Reserves Committee, 2012 edition (JORC 2012).
[3] As defined by JORC (2012).

and phosphate, which Peak aims to further evaluate following the development of the Ngualla Project.

The Ngualla Project is strongly aligned with emerging global trends in decarbonisation and green energy. Over 92% of the value of the concentrate from the Ngualla Project will be attributable to neodymium and praseodymium (NdPr), which is a key component of neodymium iron boron (NdFeB) magnets, used in the production of electric vehicles (EVs) and wind turbines. Global momentum around decarbonisation has continued to build, particularly following the UN Climate Change Conference in November 2021 (COP26), with renewed pledges on carbon emission targets and increased funding for renewable energy and EVs. The development of the Ngualla Project will provide the world with a critical supply of rare earths and play an important role in assisting the global green transformation process.

Following the signing of a Framework Agreement (FWA) for the Ngualla Project with the Government of the United Republic of Tanzania (GOT), which is expected to be completed by the end of the 2022 calendar year, and the subsequent granting of a Special Mining Licence (SML), Peak's Ngualla Project will have all major permits and approvals in place. With the completion of this Bankable Feasible Study Update (BFS Update) and the advanced stage of offtake and project financing workstreams, Peak is targeting a Final Investment Decision (FID) by 31 May 2023, with construction targeted to commence shortly thereafter.

The Ngualla Project value proposition

1 COMPELLING MARKET

Strong nexus to global decarbonisation initiatives

Rapid growth in EV and wind turbines

Rising prices and market tightness

2 ATTRACTIVE JURISDICTION

Rapid growth and transformation of Tanzanian economy

Established mining sector

FWA grants prioritised under current President

3 WORLD-CLASS ASSET

High grade and low radionuclides

Multi-generational (20+ years based on Reserves)

Significant exploration and development upside

4 DE-RISKED SEQUENCED DEVELOPMENT STRATEGY

Reduced upfront capex and funding requirements

Lower commissioning and technical risk

Optionality around the future location of a refinery

5 EXPERIENCED BOARD AND MANAGEMENT

Well-rounded and experienced Board and Management

Strong on-the-ground Tanzanian team

Extensive international / African mining, marketing and rare earth expertise

6 STRONG ESG CREDENTIALS

Committed to ESG best practices

Strong community investment and relationships

Significant revenue generation for Tanzanian Government

1.2. Project history

The Ngualla Project BFS Update was commissioned in August 2021. Its purpose was to reaffirm the attractiveness of the Ngualla Project prior to the commencement of development activities. The BFS Update builds upon the BFS completed in April 2017 (2017 BFS) in partnership with Amec Foster Wheler (now part of Wood Group plc) and is the culmination of over 10 years of technical studies and pilot plant test work (Figure 2).

Figure 2. Project history

Aug 2010	Ngualla Discovery
Feb 2012	Maiden Mineral Resource Estimate
Dec 2012	Scoping Study
Oct 2013	Successful completion of solvent extraction pilot plant
Mar 2014	Maiden Ore Reserve
Mar 2014	Preliminary Feasibility Study
Apr 2017	Bankable Feasibility Study
Oct 2017	Process Optimisation Study
Oct 2022	**Bankable Feasibility Study Update**

1.3. BFS Update scope

The BFS Update incorporates the following key changes and additions to the original 2017 BFS:

Overall project activities

- **Price forecasts for NdPr and other rare earth products:** updated for current price forecasts
- **Capacity increase:** nameplate production capacity increased by ~14%
- **Cost estimates:** changes to capital and operating cost estimates
- **Project execution:** implementation of an EPCM execution strategy

Ngualla Project activities

- **Change to Ngualla access road route:** modification to the proposed Ngualla site access road to deliver a more direct and lower cost route
- **Replacement of flotation collector:** adoption of a lower cost fatty acid collector to replace the hydroximate collector used in the previous pilot plant testwork
- **ESIA study:** update to previous Environmental and Social Impact Assessment (ESIA) to incorporate capacity increase and updates to previous baseline environmental and social impact studies
- **Ore Reserve and mine plan optimisation:** updated Ore Reserve estimate and mine plan
- **Tailings strategy:** integration of Global Industry Standard on Tailings Management (GISTM) design and operating standards and principles
- **Reduction of power plant carbon footprint:** replacement of heavy fuel oil with light diesel as fuel source, as well as the integration of a hybrid solar-battery-diesel power solution

On 28 May 2021, Peak exercised its option for a 250-year lease with The Homes and Communities Agency trading as Homes England (a UK Government body) over a 19-hectare parcel of land within the Invista Site, Wilton, Redcar (Wilton International Site) near the town of Middlesborough in the Tees Valley, United Kingdom. At the time of exercising this option, Peak intended to construct a rare earth refinery on this site, known as the Teesside Refinery.

Initially the BFS Update was to cover both the Ngualla Project and the Teesside Refinery. However, following a decision to defer the selection of a refinery site until the completion of an independent study on the feasibility of a Tanzanian rare earth refinery, the BFS Update on the Teesside Refinery has been put on hold.

Following the finalisation of a Framework Agreement, Peak intends to commission, in partnership with the GOT, an independent study on the feasibility of a Tanzanian refinery and further downstream processing. This study will assess the technical, economic, and environmental feasibility of a Tanzanian refinery and the potential to produce intermediate products, such as mixed rare earth carbonate (MREC).

1.4. BFS Update contributors

To support the delivery of the BFS Update, Peak engaged a broad suite of experienced professional parties, listed in Table 1.

Table 1. BFS Update key contributors

Party	Description
wood.	Project management & BFS Update lead
ORELOGY MINE CONSULTING	Ore Reserve update and mine planning and design
Knight Piésold CONSULTING	Tailings management and water hydrology
DHAMANA consulting	Environmental management
FUTURE PROOF.	ESG strategy and reporting framework
PAULSAM GEO-ENGINEERING COMPANY LIMITED	ESIA Update (Tanzania)
Ai	Market analysis and pricing outlook
WATERBORNE CAPITAL	Project funding, financial modelling and analysis
AURALIA METALLURGY	Metallurgical testing

Additionally, the BFS Update also builds upon work previously completed by contributors to previous studies, listed in Table 2.

Table 2. BFS Update previous contributors

Party	Description
ALS	Mineralogical testwork
srk	Mineral Resource estimation and geology data collection
ANSTO	Testwork and pilot plant

2. PROJECT OWNERSHIP AND KEY AGREEMENTS

2.1. Ngualla Project ownership

The investment structure for the Ngualla Project following the formal granting of a Special Mining Licence (SML) by the GOT is shown in Figure 3. The SML for the Ngualla Project will be held under a newly formed Tanzanian entity, Ngwala Mining Limited (NML), which will be owned 84% by Peak's Tanzanian subsidiary, PR NG Minerals Limited (PR NG), and 16% by the GOT.

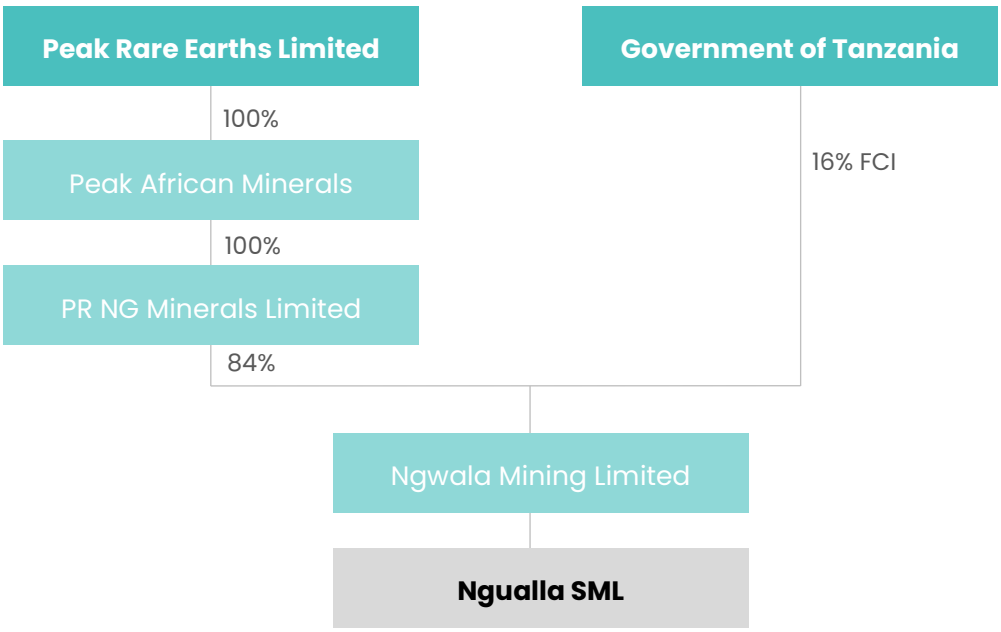
2.2. Framework Agreement with the Government of Tanzania

Peak and the GOT have progressed negotiations on the Framework Agreement (FWA), and it is expected that the FWA will be finalised by the end of 2022. The FWA sets out the basis of a joint venture between Peak (via PR NG) and the GOT with respect to the development and operation of the Ngualla Project. The FWA is expected to provide Peak with formal approval to export a high-grade concentrate pursuant to a Beneficiation Development Plan approved by the Mining Commission.

Following the execution of the FWA and subsequent grant of Peak's SML, the Ngualla Project will be fully permitted. The GOT has a stated policy that the refining of mineral products should be undertaken in Tanzania, where feasible. In acknowledgement of this policy, Peak has agreed to fund the completion of an independent study into the technical, economic, and environmental feasibility of a Tanzanian rare earth refinery.

Under the terms of the FWA, and consistent with Tanzanian Law, the GOT will have a share of the economic benefits of the Ngualla Project through a combination of royalties, taxes, and dividends attributable to its 16 % free-carried interest in NML.

Figure 3. Ngualla Project - indicative structure



2.3. NML Memorandum and Articles of Association and Shareholders Agreement

Peak and the GOT have progressed negotiations on the NML Memorandum and Articles of Association and Shareholders Agreement. The Shareholders Agreement will govern the parties' agreement in respect of, among other things, (i) maintaining the GOT's 16% non-dilutable free-carried interest throughout the life of the project, (ii) the parties' rights to dividends and distributions, (iii) transfer restrictions and rights of pre-emption, (iv) board composition and decision-making, (v) the appointment of management of NML, and (vi) the funding of NML.

Other provisions in the NML Memorandum and Articles of Association and Shareholders Agreement will also apply to the parties' joint venture relationship and the governance of NML with respect to the development and operation of the Ngualla Project.

3. GEOLOGY

3.1. Regional setting

The project area is centred on the Ngualla carbonatite, which is a pipe-like intrusive body composed of carbonate mineral-rich, alkaline igneous rocks. The Ngualla carbonatite was emplaced into a deeply penetrating zone of crustal weakness along the eastern margin of the thick and stable Congo and Kalahari cratons, which is broadly coincident with the current western margin of the Red Sea-East African Rift. The NW-SE Ubendian Belt of south-east Tanzania is bordered by the Tanzanian Craton to the north-east and the Bangweulu Block to the south-west. The Ubendian Belt comprises high-grade metamorphic rocks of sedimentary and igneous origin. Granites are the main intrusive rocks, but granodiorites, diorites, gabbros, and carbonatites are also present, including the Ngualla carbonatite.

3.2. Exploration history

Reconnaissance rock sampling and geological mapping completed by Peak in 2009 confirmed occurrences of phosphate, rare earths, niobium-tantalum, and minor vein-associated base metal mineralisation within the carbonatite. The systematic soil and rock sampling that followed in 2010 identified widespread, high-grade anomalism in phosphate, niobium-tantalum, and rare earths.

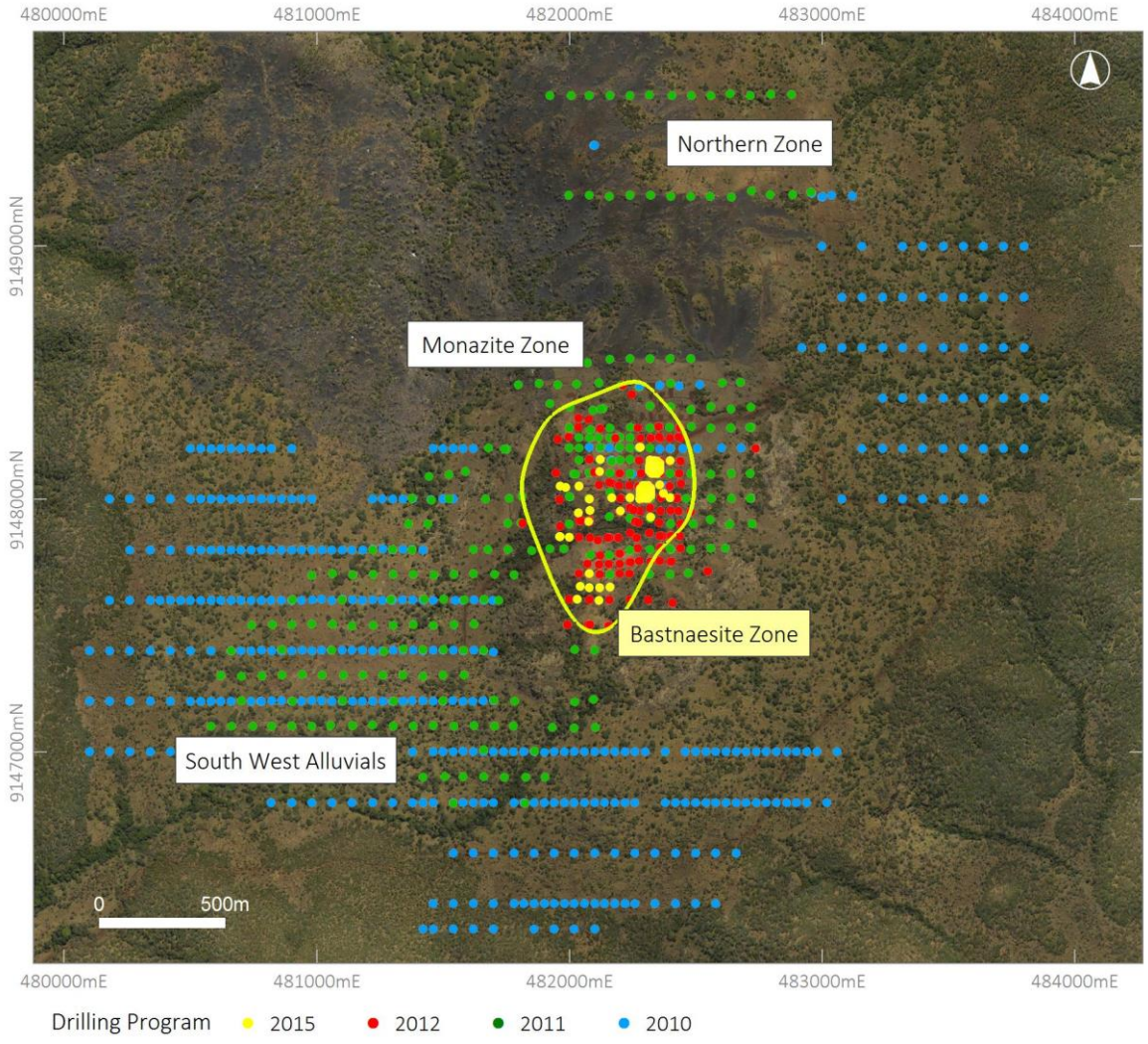
Three test pits were dug in the widespread alluvial sediments surrounding the central hills (Southwest and Northeast Alluvials) and assay results received in March 2010 included channel sample results of 4 m at 16.5% phosphate, 3.5 m at 0.33% niobium oxide, and 3.5 m at over 4% TREO. The first (air core) drilling program commenced in May 2010 to evaluate the potential of this unconsolidated, near-surface, free-dig style of mineralisation, which might be amenable to simple beneficiation. At the same time, further infill soil and rock sampling programs were completed in the central hills area (in what became known as the Southern Rare Earth Zone and Northern Zone).

The potential for significant niobium-tantalum and phosphate mineralisation within the Ngualla carbonatite is recognised by Peak but remains at an early stage. No Mineral Resources for these commodities has been defined to date.

Table 3. Summary of drilling activity at Ngualla Project

Year	Total		Air core		Reverse circulation		Diamond drilling	
Year	**holes**	**m**	**holes**	**m**	**holes**	**m**	**holes**	**m**
2010	398	7,720	373	5,961	22	1,467	3	292
2011	253	19,046	107	1,980	140	16,204	6	862
2012	130	13,612	1	2	121	12,583	8	1,027
2015	112	5,305	0	0	87	3,992	25	1,313
Total	**893**	**44,056**	**481**	**7,943**	**370**	**34,246**	**42**	**3,494**

Figure 4. Previous drilling activity



3.3. Ngualla carbonatite complex

The Ngualla carbonatite complex (Figure 5) comprises three major carbonatite phases—calcite carbonatite, ferroan dolomite, and magnesiocarbonatite—plus three silicate-rich igneous phases—ultramafic rock and two varieties of glimmerite.

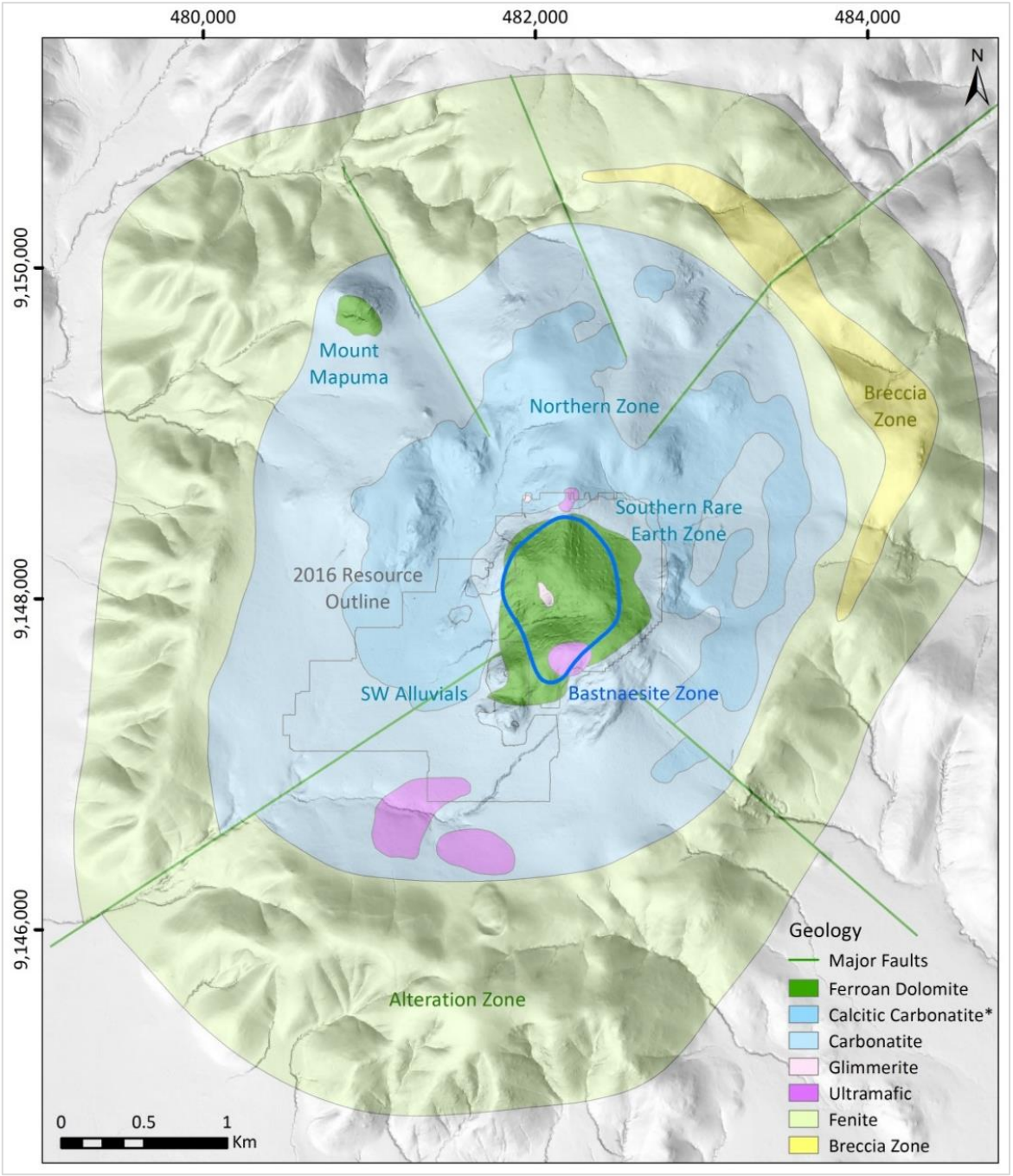
The central plug of ferroan dolomite (approximately 1 km in diameter) within the calcite carbonatite is poorly exposed. The ferroan dolomite carbonatite is important as it is the host to the primary rare earth mineralisation at Ngualla. This zone is marked by a topographic high around and immediately south of Mt Ngualla but is partly covered by ferricrete (near-surface iron oxides deposited from groundwater). A second, smaller ferroan dolomite plug is exposed at Mt Mapuma, in the northwest section of the complex.

Ferroan dolomite comprises predominantly close-packed, euhedral to subhedral grains of ferroan dolomite (1 to 4 mm). One of the characteristic textural features of the ferroan dolomite is the presence of up to 10% interstitial calcite, quartz, barite, fluorite, and rare earth fluorocarbonate minerals forming millimetre-scale miarolitic cavities and vugs between ferroan dolomite crystals. In contrast to calcite carbonatite, ferroan dolomite contains little or

no magnetite, but aggregates of haematite-barite and barite-calcite mesostasis and/or immiscible melt globules, up to several centimetres across, are locally common and reach metre-scale size on Mt Ngualla. Accessory ilmenite and trace amounts of sulfides (pyrite, chalcopyrite, and sphalerite) have also been recorded.

The ferroan dolomite forms the core of the Bastnaesite Zone (which also includes the "transitional zone") and can be distinguished from the calcite carbonatite in fresh rock by low phosphate (<1.5%) and higher barium content (<4.2% BaO) as well as a lower CaO/MgO ratio in the overlying weathered carbonatites.

Figure 5. Ngualla carbonatite complex

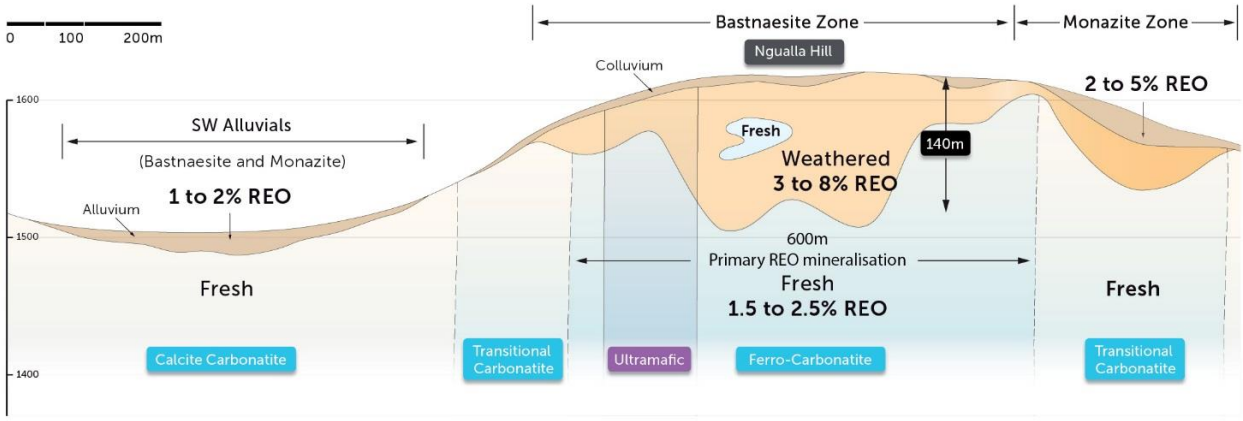


3.4. Weathering of the Ngualla carbonatite complex

Weathering of the Ngualla carbonatite complex and landscape evolution are critical factors in the formation of the Ngualla economic rare earth mineralisation. The Ngualla deposit is hosted within the weathered profile of the central Bastnaesite Zone ferroan dolomite (Figure 6). A highly irregular karstic weathering profile is developed and preserved over the Bastnaesite Zone, Monazite Zone and Northern Zone. There is usually a very sharp contact between fresh or relatively fresh carbonatite and the overlying regolith (weathered rock and colluvium). The depth of weathering over the irregular karstic surface ranges from zero to 140 m vertically.

The Ngualla ferroan dolomite weathering is concentrated on several north-to-northeast-trending zones, which probably reflect structurally weak fracture or fault zones, apparently concentrated along some contacts between carbonatite and ultramafic units.

Figure 6. Weathered Bastnaesite Zone of the Ngualla deposit



3.5. Colluvium and ferricrete

Colluvium (mainly colluvial scree) covers most of the Bastnaesite Zone, Monazite Zone and Southwest Alluvials. The colluvium comprises unconsolidated or loosely consolidated mixtures of iron oxide-rich "saprolite", pisolitic gravel and ferricrete, together with variable but mostly minor amounts of calcite carbonatite, quartz, barite, and other minerals, depending on the local provenance.

Most of the colluvium in the Bastnaesite Zone is relatively thin and typically less than 5 m thick. Patches and cappings of ferricrete of irregular thickness occurs along the top of the north-south ridge linking the Southern Rare Earth Zone and the Northern Zone, as well as in a more continuous, probably still forming, drainage channel deposit in the Southwest Alluvials area. The ferricrete in the Southwest Alluvials area is a relatively recent deposit, possibly still actively forming. A colluvial fan can be seen extending from the southwest of the Bastnaesite Zone and covering most of the southwest corner of the resource area to an average depth of 10 m to 15 m.

3.6. Rare earth mineralisation

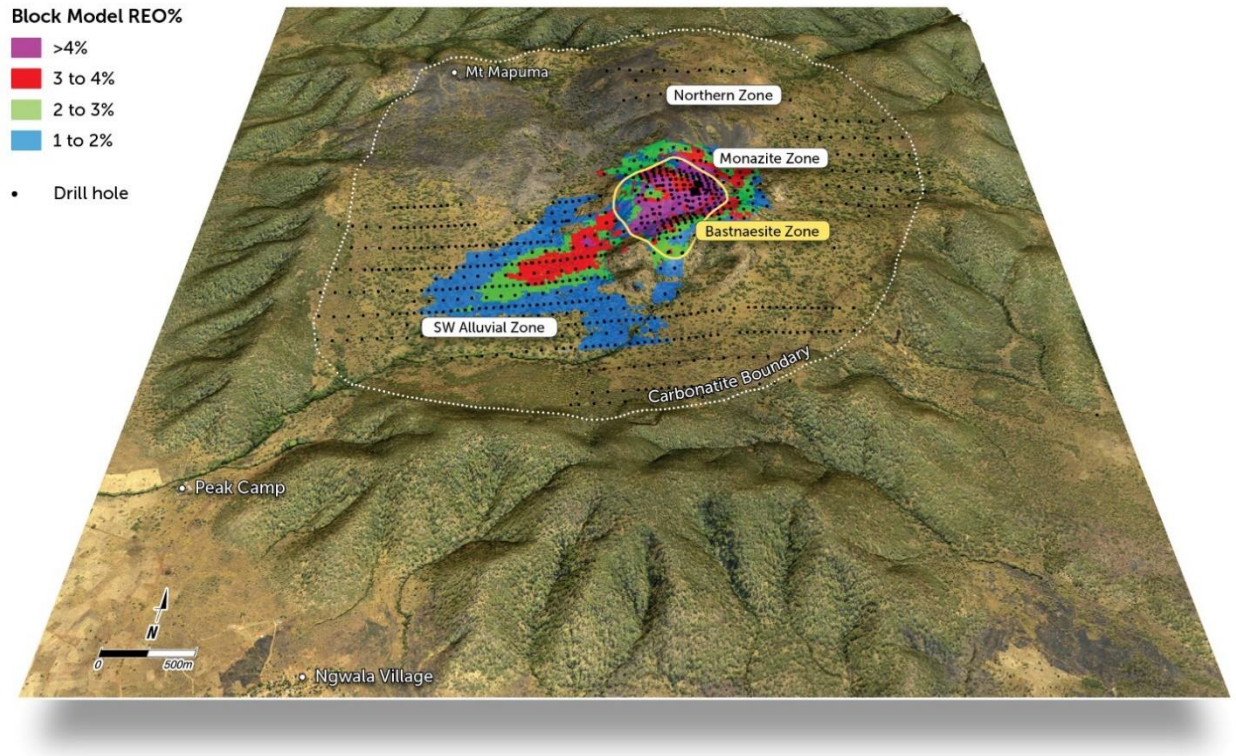
Rare earths are the main commodities of current economic interest within the project. Rare earths were first enriched in the carbonatite intrusions by igneous processes and further

upgraded to economic or subeconomic levels by weathering processes and subsequent partial erosion. The major zones of mineralisation identified in the project area (Figure 7) are:

- Southern Rare Earth Zone (SREZ), comprising the Bastnaesite Zone (hosted in fresh and weathered carbonatite) and Monazite Zone
- Southwest Alluvials (SWA)
- Northern Zone (NZ)

The SREZ is a 1.0 km by 1.2 km area in the low magnetic central core of the Ngualla carbonatite complex. The SREZ itself is a geographic area that contains three different styles of rare earth mineralisation. Central to the SREZ is the Bastnaesite Zone, where rare earth mineralisation is hosted by primary ferroan dolomite at 1% TREO to 2% TREO and enriched to 3% TREO to 8% TREO in overlying in situ iron oxide and barite-rich residual weathered regolith. The Bastnaesite Zone is surrounded by the 200 m wide Monazite Zone.

Figure 7. Oblique view looking north of the Ngualla carbonatite showing drill holes



3.6.1. Southern Rare Earth Zone (SREZ): Weathered Bastnaesite

The large size of the Ngualla deposit has enabled the selection of the most geologically and mineralogically favourable portion for initial development. Metallurgical test work has identified the high-grade Weathered Bastnaesite Zone as the most favourable due to the combination of host rock and rare earth mineralogy. The Weathered Bastnaesite Zone comprises 22% of the total Mineral Resource estimate at a 1% TREO cut. Geological and mineralogical studies have shown the Weathered Bastnaesite Zone is consistent in terms of both rare earth and gangue mineralogy.

The Weathered Bastnaesite Zone is distinguished from the peripheral (weathered) Monazite Zone by significantly lower calcium and phosphorous contents, higher barium content, and differences in mineralogy of the underlying fresh carbonatite and rare earth minerals.

Rare earth mineralisation is hosted by in situ iron oxide and barite-rich weathered ferroan dolomite, which is completely leached of carbonate minerals. The depth of weathering is highly variable and is partly structurally controlled. Grades of >3% TREO are common within the saprolitic iron oxide-rich regolith, which extends from surface to a depth of up to 140 m.

The weathered bastnaesite mineralisation contains very low levels of uranium (U) and thorium (Th) compared with other rare earth deposits, averaging 15 ppm U and 53 ppm Th. Grades are slightly elevated where rare earths grades are also higher in the northeast-trending deep-weathering trough and the southwest high-grade zone due to the uranium and thorium being concentrated by the same geological processes that upgraded the rare earths.

The majority of rare earth minerals occur as the fluorocarbonate mineral bastnaesite. Trace amounts of monazite (rare earth phosphate) and cerianite (cerium oxide) also occur in some local areas.

The bastnaesite is predominantly liberated, with grain sizes in the range of 10 to 100 micrometres (µm), with the majority under 40 µm. Bastnaesite is observed as free grains and, generally more abundantly, as fine-grained composites with iron oxides. Bastnaesite is generally fine grained, but fine acicular textures can be identified in some samples. This is in contrast with the solid, magmatic, tabular habit of bastnaesite seen in fresh carbonatite.

The average rare earth grade in the Weathered Bastnaesite Zone mineralisation is 4.75% TREO, and ranges from a lower 12.5 percentile of 3.49% TREO to a higher 87.5 percentile of 5.92% TREO. Higher TREO grades are concentrated along a west-southwest trending zone and a north trending zone, with the highest grades occurring in the southwest.

Rare earths within the Weathered Bastnaesite Zone are predominantly and consistently held within bastnaesite, which contributes to the individual rare earth ratios remaining fairly constant throughout the zone. The heavy rare earth (HREO) to TREO ratios show a slight increase towards the margins of the Weathered Bastnaesite Zone, particularly on the eastern and southern margins of the zone.

3.6.2. Southern Rare Earth Zone (SREZ): Fresh Bastnaesite

Primary rare earth mineralisation is enriched in the central ferroan dolomite relative to the surrounding calcite carbonatite and magnesiocarbonatite. Within the ferroan dolomite, TREO grades increase inwards from about 0.5% or less in the transitional carbonatite to 1% to 2% in the centre of the intrusion, whereas TREO concentrations in the fresh calcite carbonatite are generally <0.25% TREO.

In contrast to the surrounding calcitic carbonatite, the central ferroan dolomite (primary fresh rock) contains a significant amount of barite and very little apatite. These geochemical discriminants are useful in distinguishing the two zones and carbonatite lithologies.

The ferroan dolomite mineralisation is characterised by lower ratios of heavy rare earths to lower rare earths compared with the calcite carbonatite. The central ferroan dolomite contains rare earth elements in fluorocarbonate minerals (bastnaesite and synchesite), which are found associated with primary carbonate minerals (dolomite, ankerite and calcite), barite, quartz, and other minor components.

3.6.3.Southern Rare Earth Zone (SREZ): Monazite

In contrast to the predominantly bastnaesite mineralogy in the central saprolite and ferricrete-hosted Weathered Bastnaesite Zone mineralisation, rare earths in the Monazite Zone are hosted by monazite and lesser cerianite. The Monazite Zone contains >3% TREO grade within the weathered zone and colluvium over transitional and calcite carbonatite. The zone is coincident with higher phosphate grades than the central Bastnaesite Zone. This colluvium was probably formed partly by erosion of calcite carbonatite. Monazite is a minor component of the calcite carbonatite, which does not contain bastnaesite or synchesite.

3.6.4.Southwest Alluvials (SWA)

The Southwest Alluvials (SWA) comprise a mixture of detrital weathered ferroan dolomite derived from Mt Ngualla (i.e. Weathered Bastnaesite Zone and weathered SREZ material), the Northern Zone and calcite carbonatite derived from adjacent outcrops during the recent and continuing period of erosion. Consequently, rare earths are hosted by variable proportions of bastnaesite, monazite and cerianite. Rare earth mineralisation occurs from surface within these unconsolidated ferruginous gravels over a 1 km by 0.6 km area to depths of up to 30 m and reaches average grades of 1% to 3.5% TREO.

The SWA also host niobium-tantalum and phosphate mineralisation within the ferruginous gravels. Niobium-tantalum and phosphate mineralisation tends to be offset vertically from the TREO mineralisation.

3.6.5.Northern Zone (NZ)

Located 1 km to the north of the SREZ, the Northern Zone (NZ) represents a large exploration target for rare earths, with mineralisation identified over a 1 km by 1 km area. This zone is also prospective for niobium–tantalum and phosphate mineralisation that limited wide-spaced drilling shows is broadly coincident with the rare earths. The rare earth, phosphate, and niobium-tantalum mineralisation on the peripheries of the SREZ extends northwards into the NZ within karstic infill sediments and deeply weathered calcite carbonatite bedrock.

Rare earth grades in the residual apatite-magnetite regolith unit are generally in the range 0.5% TREO to 3% TREO. The NZ rare earth mineralisation contains a higher proportion of magnet rare earths than the SREZ. The higher neodymium and HREO contents reflects the rare earth host mineralogy of predominantly apatite and monazite as compared to bastnaesite.

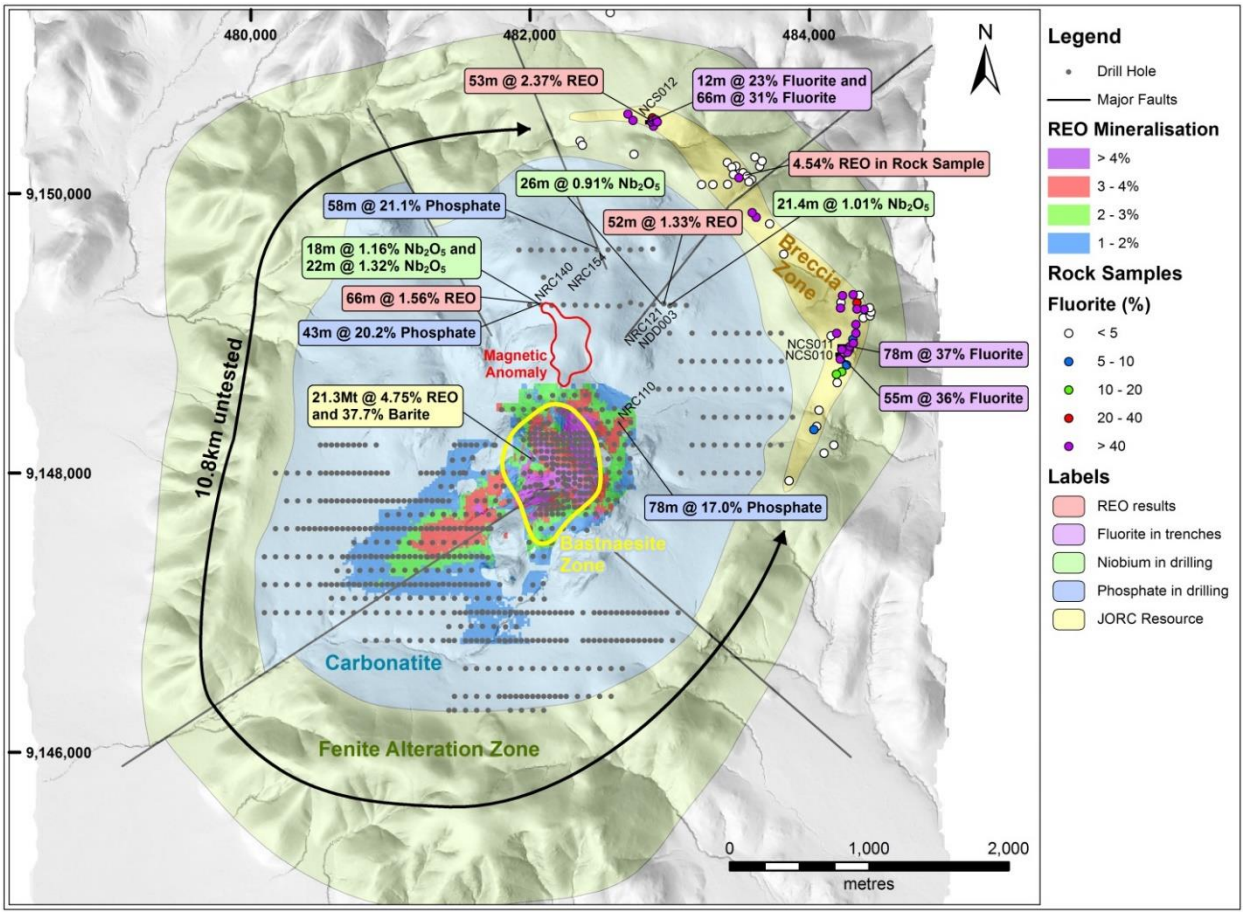
There is considerable potential to significantly extend the rare earth mineralisation in most directions in the NZ and to locate higher-grade zones of rare earth mineralisation than have been identified in this area to date.

3.7. Other commodities

The evaluation of other commodities known to occur within the Ngualla carbonatite complex are only at an early stage of evaluation due to the strategic corporate focus on rare earth mineralisation. Additional commodities identified at Ngualla include niobium, phosphate, barite, fluorite, and vermiculite (Figure 8).

These other identified minerals deliver the potential for future production of supplementary valuing-adding commodities in addition to the planned rare earth operation at Ngualla. Peak intends to undertake further drilling and assessment of other commodities following the commencement of development.

Figure 8. Selected multi-commodity exploration highlights



4. MINERAL RESOURCES

4.1. Background

Leading geological consultancy, SRK, prepared the 2016 Mineral Resource estimate for the Ngualla rare earth deposit. Mr Rod Brown (SRK) acted as Competent Person for the reporting of the Ngualla Mineral Resource estimate.

For full details of the Ngualla Mineral Resource estimate, refer to Peak ASX release dated 22 February 2016, *Higher grade Ngualla Mineral Resource contains nearly 1 million tonnes rare earth oxide*[4]. Peak confirms that it is not aware of any new information or data that materially affects the Mineral Resource estimate information included in that release. All material assumptions and technical parameters underpinning the Mineral Resource estimate in that release continue to apply and have not materially changed.

4.2. Key parameters

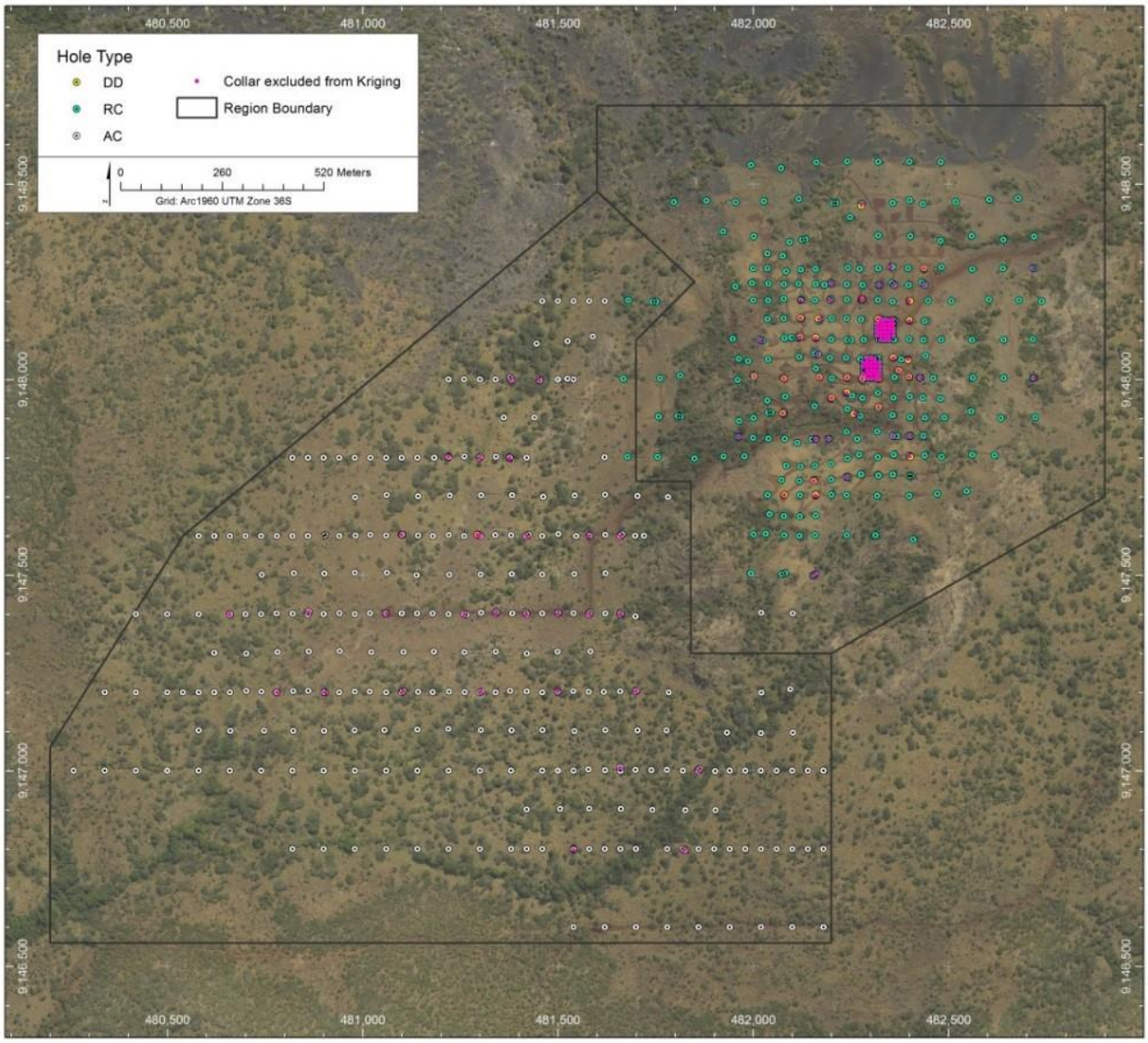
The drill hole database used for Mineral Resource estimation contained 878 holes. Of these, a total of 229 holes were located outside of the defined study area and were excluded from all subsequent assessment. The remaining 649 holes were used for geological interpretation and variography studies. A total of 137 holes were excluded from the grade estimation dataset because they either twinned existing holes (88 holes) or were part of the close-spaced grade control drilling dataset (49 clustered holes).

The Ngualla geological model defined five lithological units: colluvium, low calcium weathered carbonatite, high calcium weathered carbonatite, fresh carbonatite, and ultramafic. Nine separate lithological domains were then defined for the purposes of Mineral Resource estimation. Mineral Resource modelling was performed using CAE® Studio 3. The grade model was prepared using conventional block modelling techniques and ordinary block kriging.

A single block model was created to cover the extents of the SREZ and SWA deposits. The drill spacing and sampling interval, the interpreted geometry and thickness of the lithological units, the expected end-user requirements for the Mineral Resource models, and the results from kriging neighbourhood analysis were taken into account when selecting a parent cell size. Subcelling was applied to ensure that the model volumes accurately represented the domain wireframe volumes. The variography studies indicate that grade continuity is well defined for most oxides, with low nugget values and ranges in the major continuity directions of up to several hundred metres.

[4] <https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2995-01713794-6A753376?access_token=83ff96335c2d45a094df02a206a39ff4>

Figure 9. Ngualla drill hole collar locations



4.3. Mineral Resource statement

The Ngualla Mineral Resource estimate is summarised in Table 4. These estimates are based on the application of cut-off grade criteria to individual model cells and expressed on a dry tonnage basis.

The Mineral Resource estimate has been classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves produced by the Joint Ore Reserves Committee, 2012 edition (JORC 2012). The classifications have been applied to the Mineral Resource estimates based on a consideration of the confidence in the geological interpretation, the quantity and quality of the input data, the confidence in the estimation technique, and the likely economic viability of the material.

Table 5 summarises the combined Mineral Resource in the Weathered Bastnaesite Zone reported at a cut-off grade of 3% TREO.

Table 4. Ngualla Project Mineral Resource summary – all resources ≥1% TREO

Cut-off grade	Classification	Tonnage	REO grade	Contained REO
		Mt	%	kt
1% TREO	Measured	86.1	2.61	225
	Indicated	112.6	1.81	2,040
	Inferred	15.7	2.15	340
	Total	**214.4**	**2.15**	**4,620**

Table 5. Ngualla Project Mineral Resource – TREO breakdown – Weathered Bastnaesite ≥3%

	TREO grade			% of Total REO		
	Measured	Indicated	Inferred	Measured	Indicated	Inferred
	%	%	%	%	%	%
La_2O_3	1.346	1.43	1.328	27.61	27.83	27.45
CeO_2	2.354	2.478	2.327	48.28	48.22	48.07
Pr_6O_{11}	0.233	0.244	0.23	4.77	4.74	4.75
Nd_2O_3	0.803	0.842	0.821	16.46	16.38	16.96
Sm_2O_3	0.078	0.082	0.076	1.6	1.59	1.56
Eu_2O_3	0.014	0.015	0.014	0.29	0.28	0.28
Gd_2O_3	0.03	0.031	0.029	0.61	0.6	0.6
Tb_4O_7	0.002	0.002	0.002	0.04	0.05	0.05
Dy_2O_3	0.004	0.004	0.003	0.07	0.07	0.07
Ho_2O_3	0.00	0.00	0.00	0.01	0.01	0.01
Er_2O_3	0.002	0.002	0.002	0.03	0.03	0.03
Tm_2O_3	0.00	0.00	0.00	0.00	0.00	0.00
Yb_2O_3	0.001	0.001	0.00	0.01	0.01	0.01
Lu_2O_3	0.00	0.00	0.00	0.00	0.00	0.00
Y_2O_3	0.01	0.01	0.008	0.2	0.19	0.16
REO	**4.88**	**5.14**	**4.84**	**100.00**	**100.00**	**100.00**

The Weathered Bastnaesite Zone Mineral Resource ≥3% TREO is contained within and is a subset of the total All Resources Ngualla Mineral Resources ≥1% TREO reported in Table 3.

Table 6. Ngualla Project Mineral Resource – Weathered Bastnaesite Zone ≥3% TREO

Cut-off grade	Classification	Tonnage	TREO grade	Contained TREO
		Mt	%	kt
3% TREO	Measured	17.9	4.88	871
	Indicated	1.7	5.14	87
	Inferred	0.4	4.84	18
	Total	**20**	**4.88**	**975**

The Weathered Bastnaesite Zone Mineral Resource ≥3% TREO is contained within and is a subset of the total All Resources Ngualla Mineral Resources ≥1% TREO reported in Table 3.

5. MINING AND ORE RESERVES

5.1. Mining method

Mining is based on conventional selective mining methods, utilising hydraulic excavators, dump trucks and drill-and-blast, coupled to a ROM stockpile. All the ore is oxidised material categorised as "free dig", so only the fresh waste rock requires blasting.

Both ore and waste will be excavated in 2.5 m flitches following mark-out by grade control. Ore will be hauled to either the ROM pad skyway and tipped onto a designated ore finger or a designated low-grade stockpile. All mine waste will be hauled directly from the pit and placed onto a designated location of the tailings storage facility (TSF) dam wall; there are no other external waste dumps.

The mining fleet comprises 41-tonne articulated dump trucks (Caterpillar 745) loaded by a 90-tonne excavator (Caterpillar 395). A 30-tonne front-end loader (Caterpillar 980M), which is capable of loading the 41-tonne dump trucks, will be used as back-up for the primary loading unit and also to make up shortfalls in periods where additional material movement is required. Other ancillary support will be supplied by a Cat D9R dozer, Cat 14M grader, and Cat 745 watercart. Maintenance will be conducted on site.

Owner-operated mining was selected as the operating strategy at Ngualla, with the intent of further reviewing potential contract mining offerings during the Front-End Engineering Design (FEED) phase.

5.2. Dilution

A large proportion of the Ngualla orebody has lateral widths of more than 30 metres and mineralisation that is visually distinguishable by colour from the adjacent fresh rock, thereby providing ease of selectivity and minimal overall effect from ore loss at edges. The diluted model reported a global ore loss of 6% and a global dilution of 0%.

5.3. Geotechnical

The pit wall slope design parameters were provided by independent geotechnical consultant Golder Associates. Golder provided bench height and berm widths with a recommended bench face angle for each of four design sectors, and three weathering profiles. Final overall slope angles are Saprolite (21.3°), Mixed (27.6°) and Fresh (38.8°).

The geotechnical investigation by Golder reported that very little groundwater was intersected by drilling within the SREZ, with the water table generally more than 100 m below surface and in many areas not encountered in bore holes. Mine dewatering could be undertaken using in-pit drainage and sumps, together with suitable contingency measures for unexpected pit inflows.

5.4. Mine design

The pit and stage designs were based on the slope parameters described above, using ramp widths of 23 m for dual lane and 15 m for single lane. The pit designs feature some switchbacks

(using a 30 m centreline diameter), that take into consideration the location of ramps relative to the orebody orientation to maximise ore extraction. A minimum mining width of 30 m was used between stages, 20 m for the lower two benches and 12 m for the final goodbye cut.

The final Ngualla pit design is divided into five stages as described in Table 7 and illustrated in Figure 10. The material mined in each of these five stages is summarised in Table 8.

Table 7. Ngualla Project pit design stages

Stage	Description
Stage 1	High value stage located in the centre of the deposit
Stage 2	Small cut-back located to the east of Stage 1
Stage 3	Southern cut-back to the final pit walls with upper benches developed in the pre-strip period for sourcing of construction waste
Stage 4	Northern cutback of the ultimate pit
Stage 5	Smaller final stage located to the north end of the design

Figure 10. Final pit design staging

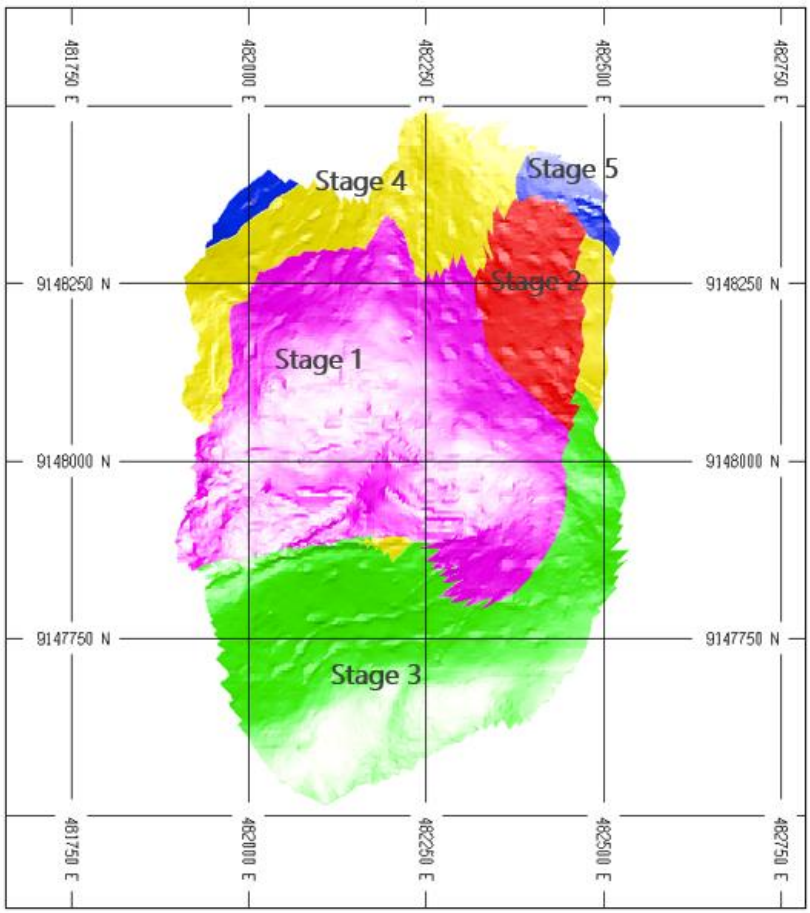


Table 8. Material movement across Ngualla pit stages

Stage	Ore									Waste	Total	Strip ratio
	Proved			Probable			Total					
	Mt	TREO %	TREO kt	Mt	TREO %	TREO kt	Mt	TREO %	TREO kt	Mt	Mt	W:O
1	5.9	4.9	287.9	0.3	5.9	18.3	6.2	4.9	306.2	6.0	12.2	0.96
2	0.9	4.9	43.4	0.0	4.9	1.8	0.9	4.9	45.2	0.7	1.6	0.73
3	2.6	4.5	115.0	0.2	4.6	11.0	2.8	4.5	126.0	9.8	12.6	3.52
4	6.0	4.8	289.0	0.4	5.1	18.5	6.4	4.8	307.5	11.8	18.1	1.85
5	1.7	4.7	77.8	0.5	4.9	24.4	2.2	4.7	102.3	4.4	6.6	2.03
Total	**17.0**	**4.8**	**813.1**	**1.5**	**5.1**	**74.0**	**18.5**	**4.8**	**887.1**	**32.7**	**51.1**	**1.77**

All mine waste rock will be dumped external to the pit (Figure 11) and used for the construction of the walls for the TSF. This has eliminated the need for an external rock dump. Low-grade ore stockpiles are reclaimed and processed in the final years of the schedule.

To enable the processing of the highest-grade material with a consistent iron oxide grade profile, long-term ore stockpiles will be created during the initial 7 years of production. From year 7 onwards, the lower grade ore stockpiles are blended with the open pit ore to provide the feed to the plant. The Ngualla LOM schedule is summarised in Table 9 and Figure 12.

Figure 11. General mine site layout

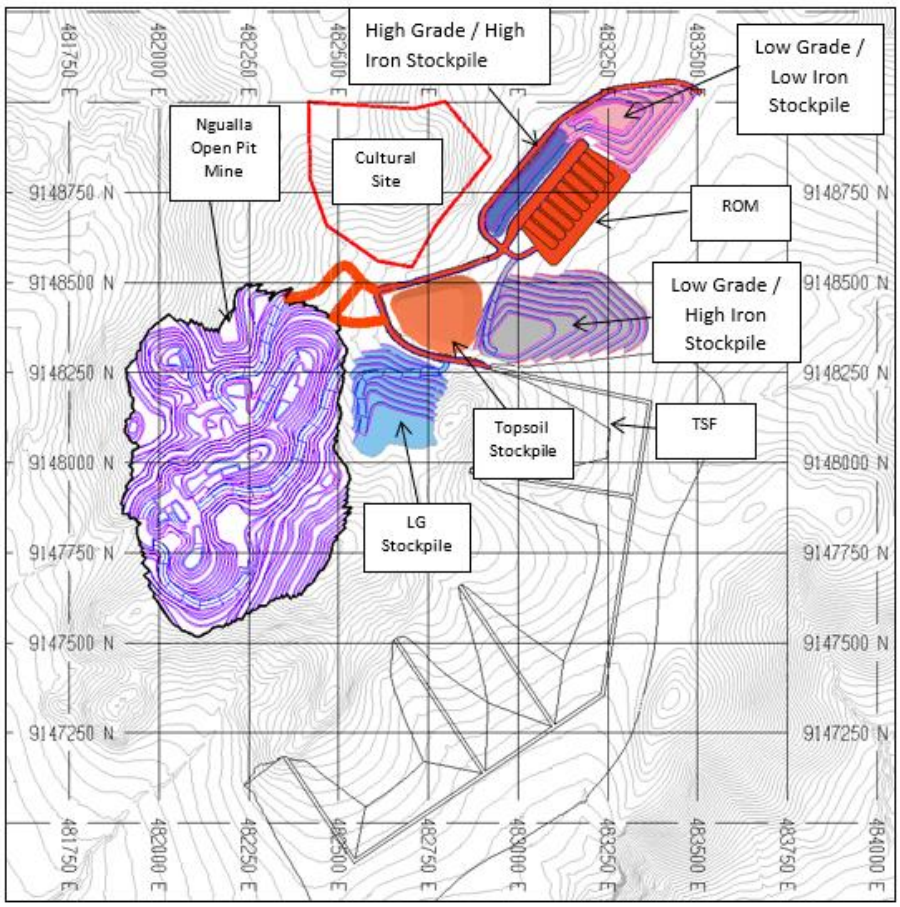
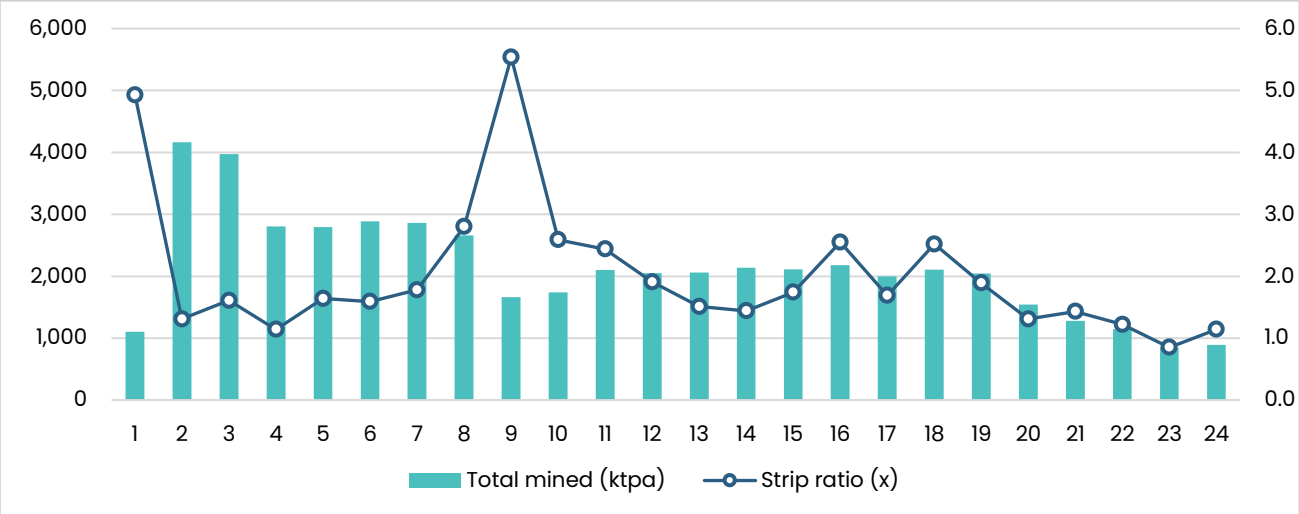


Table 9. LOM mining schedule

Year	Total mined	Ore to mill	Ore to stockpile	Waste	Total ore	Reclaim ore	Strip ratio	Crusher feed	TREO grade
	kt	kt	kt	kt	kt	kt	W:O	kt	%
0	1,104	0	186	918	186	0	4.93	0	0.00
1	4,165	655	1,145	2,365	1,800	68	1.31	723	4.90
2	3,973	720	801	2,452	1,521	84	1.61	804	5.16
3	2,805	782	527	1,496	1,309	19	1.14	801	5.28
4	2,792	761	297	1,734	1,058	40	1.64	801	5.48
5	2,887	793	320	1,774	1,113	7	1.59	800	5.28
6	2,860	800	229	1,831	1,029	0	1.78	800	5.40
7	2,658	563	136	1,958	699	240	2.80	803	5.34
8	1,663	178	76	1,409	254	623	5.54	802	4.15
9	1,739	439	45	1,255	484	365	2.59	804	4.70
10	2,102	586	26	1,490	611	219	2.44	805	4.95
11	2,050	564	140	1,346	704	235	1.91	799	4.73
12	2,062	662	159	1,241	822	143	1.51	805	4.49
13	2,136	727	148	1,260	876	73	1.44	800	4.65
14	2,111	753	19	1,340	772	48	1.74	801	4.85
15	2,179	606	8	1,566	613	196	2.55	801	4.53
16	1,996	734	8	1,255	742	72	1.69	806	4.82
17	2,107	560	38	1,509	598	243	2.52	804	4.73
18	2,046	676	32	1,338	708	125	1.89	801	4.89
19	1,543	645	22	875	667	157	1.31	802	4.67
20	1,277	523	3	752	525	278	1.43	801	4.55
21	1,144	515	0	629	515	287	1.22	803	4.45
22	846	457	0	389	457	347	0.85	804	4.26
23	889	412	3	474	415	392	1.14	804	4.32
24	1	1	0	0	1	103	0.13	104	3.69
Total	**51,134**	**14,110**	**4,368**	**32,656**	**18,478**	**4,368**	**1.77**	**18,478**	**4.80**

Figure 12. Ngualla Project mine production summary



The mine life is 24 years, with mine production finished in year 23 and the remaining feed for the final year sourced from stockpile. A pre-strip period of 5 months is required to allow for the sourcing of waste material required for the TSF.

Production levels for load and haul during the first three years are close to the maximum capacity of the mining fleet. The higher productivity requirements during the first three years have been influenced by the waste requirements for the TSF embankment construction. From year 4 to the end of mine life, the utilisation rate of the mining fleet is significantly reduced.

There are always two active mining stages in each year, which enables the pre-strip and setup of the following stage while the leading stage is providing the ore feed to the mill. Each of the two ore parcels located on the ROM pad can provide for approximately one month of feed. Hence, excavator moves between stages will be approximately once per fortnight.

The stockpiles reach a maximum combined size of 3.2 Mt in year 6, with approximately 3.0 Mt being classified in the lower TREO ore bins, and 0.2 Mt in the high TREO ore bins with high contaminate grades. Reclaim of the two low net smelter return (NSR) ore bin stockpiles commences in year 8, with the last of the stockpiles to be reclaimed in the final year.

5.5. Ore Reserves

The Ore Reserve estimate for the Ngualla Project was prepared by Orelogy Consulting as at October 2022 in accordance with the guidelines of JORC 2012[2].

Mineral Resources were converted to Ore Reserves in line with the material classifications that reflect the level of confidence within the resource estimate. The Ore Reserve reflects the portion of the Mineral Resource that can be economically extracted by open pit mining methods. The Ore Reserve considers all modifying factors and other parameters, including but not limited to the mining, metallurgical, social, environmental, statutory, and financial aspects of the Ngualla Project. The Ore Reserve includes an allowance for mining dilution and ore loss.

In line with the JORC 2012 guidelines, the Proved Ore Reserve estimate is based on Mineral Resources classified as Measured, and the Probable Ore Reserve is based on Mineral Resources classified as Indicated. The Ore Reserve comprises approximately 92% Proved and 8% Probable reserves, which reflects the proportions within the underlying resource model. All mined ore within the Ngualla life-of-mine schedule comprises Ore Reserves. The Ngualla Ore Reserve is summarised in Table 10. The Competent Person's Statements and JORC Table are included as an appendix within this document.

Table 10. Ngualla Project Ore Reserve estimate as at October 2022[1]

Classification	Ore tonnes (Mt)	TREO grade (%)	Contained TREO (kt)
Proved	17	4.78	813
Probable	1	5.10	74
Total	18	4.80	887

[1]Based on the following rare earth oxide prices (net of payability): Neodymium US$49.6/kg, Praseodymium US$46.8/kg, Lanthanum US$0.7/kg, Cerium US$0.8/kg, Samarium US$1.1/kg, Europium US$15.9/kg, Gadolinium US$20.0/kg, Terbium US$666.4/kg, Dysprosium US$205.2/kg, Holmium US$69.0/kg, Erbium US$18.1/kg, Ytterbium US$8.1/kg, Lutetium US$403.8/kg and Yttrium US$3.2/kg

6. BENEFICIATION AND CONCENTRATE PRODUCTION

6.1. Metallurgical testwork and pilot plants

As part of the previous 2017 BFS, a comprehensive piloting program of the beneficiation flowsheet was conducted for the Ngualla Project at ALS Metallurgy's laboratory in Perth (Figure 13). For this pilot plant, a total of 56 dry tonnes of Ngualla ore typical of the weathered bastnaesite mineralisation at Ngualla was crushed and homogenised to form a single bulk sample grading 5.9% TREO. The bulk sample was piloted at a feed rate of 250 kg/h using the milling and two-stage flotation flowsheet developed by Peak, before successfully producing two tonnes of concentrate grading >40% TREO.

Peak's pilot plant testwork validated the operating and design parameters used in this study and are the foundations of a highly robust beneficiation flowsheet to process Ngualla ore.

Figure 13. Ngualla beneficiation pilot plant at ALS

As part of the 2017 BFS, Peak also successfully completed testwork for the leaching and separation of Ngualla concentrate, which are the subsequent processing steps in the production of rare earth oxides from the flotation concentrates. Using a 1.3-tonne concentrate sample produced from the ALS pilot plant campaign, Peak evaluated dry roast and solvent extraction processes at ANTSO's laboratory in Sydney. By the completion of the campaign, four high purity separated rare earth oxides were successfully produced from Ngualla concentrate, making Peak one of a small number of rare earth development companies to have successfully demonstrated the processing of ore into NdPr oxide, cerium and lanthanum carbonates, and a combined medium and heavy rare earth product.

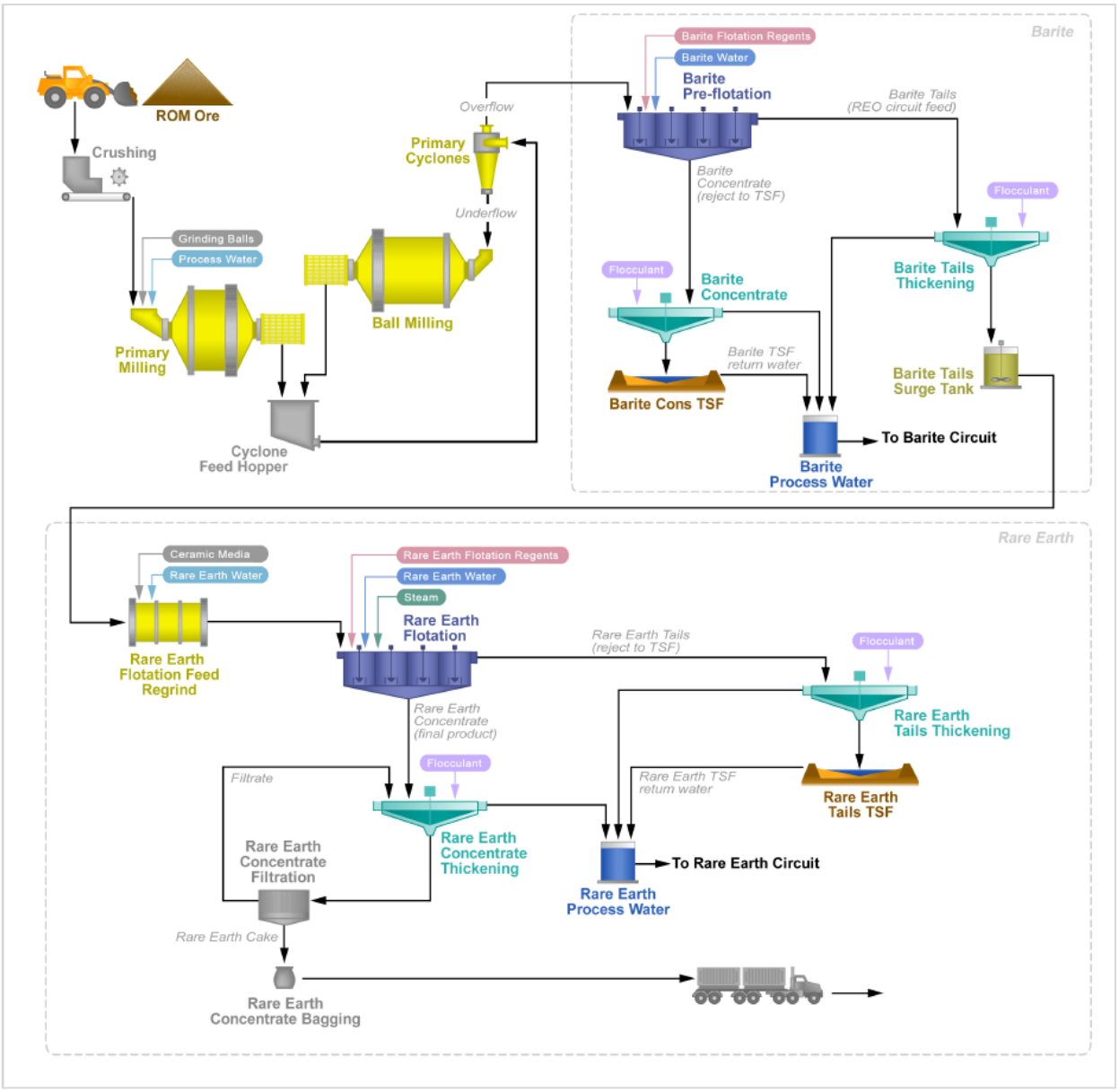
This testwork on the separation of Ngualla concentrate will support ongoing discussions with downstream offtakers of Ngualla concentrate as well the future downstream development of the project.

6.2. Beneficiation flowsheet

The Ngualla ore concentration process flowsheet (Figure 14) will upgrade the ore feed to produce a high-grade mineral concentrate. The key steps in this beneficiation process can be summarised as:

- **Primary crushing:** ROM ore is fed to bin with a square static grizzly configured with 500 mm square apertures. A feeder breaker then reduces the ore feed to a maximum top size of 200 mm before entering the feed system to the milling area.
- **Grinding:** Milling via an open circuit primary semi autogenous (SAG) mill and a secondary ball mill in closed circuit with cyclones. Ore is milled from F80 (design) of 25 mm to a final product size with a P80 of 53 µm.
- **Barite flotation:** A pre-flotation circuit is employed to separate barite from mill slurry ahead of rare earth flotation. Barite separation is achieved using a rougher flotation stage followed by two stages of cleaning to produce a final barite concentrate.
- **Barite concentrate thickening:** The high-grade cleaned barite concentrate is dewatered prior to being deposited in the barite tailings storage facility.
- **Barite tails thickening:** The barite flotation tails (TREO flotation circuit feed) is dewatered prior to regrind. Thickening helps densify barite tailings ahead of regrinding.
- **Flotation feed regrind:** The regrind mill processes the barite tails in a single pass from a feed F80 of 53 µm to a product P80 of 38 µm. The mill is fed at a target 50% solids weight-for-weight density and the grinding action is achieved with the aid of ceramic mill media.
- **Flotation:** After regrind, flotation reagents are added and the slurry heated by high pressure steam. The conditioned slurry overflows into the rare earth roughers feed hopper from where it is pumped to the rare earth roughers and then on to the first of four stages of cleaning. Reagents are used to further condition the concentrate through this process.
- **Concentrate thickening:** The final concentrate is dewatered in the rare earth concentrate thickener. Flocculant is added to promote the settling characteristics of the concentrate solids and the rare earth concentrate slurry is dewatered to 65% solids by mass.
- **Concentrate tails thickening and TSF deposition:** The final rare earth tails is dewatered in the rare earth tails thickener. Flocculant is added to promote the settling characteristics of the solids and the rare earth tails slurry is dewatered to 55% solids by mass. The rare earth tails is then pumped to the rare earth tailings storage facility.
- **Concentrate filtration:** The rare earth concentrate is dewatered in the filter press to a final moisture content of approximately 15% solids.
- **Concentrate handling and product despatch:** The bagging plant loads bulk bags to the designated weight with the loaded bulk bag moved either directly for shipment or stored in the concentrate storage.

Figure 14. Ngualla flowsheet



6.3. Plant design and recoveries

The Ngualla flotation plant is designed to operate at an ore processing rate of 800 thousand tonnes per annum (ktpa). Overall TREO recovery to product is designed at 42.7%, with individual recoveries set out in Table 11. The Ngualla Project will produce a targeted concentrate grade of 45.0% TREO.

6.4. Concentrate product and output schedule

Key production outputs for the Ngualla Project are shown in Table 12 and Figure 15. The project will benefit from an initial high-grade zone that is mined through years 1–6 of the operation, resulting in a higher feed rate through the mill and higher production rate of concentrate. The ratio of neodymium and praseodymium within this high-grade zone is also slightly higher than the remaining ore body.

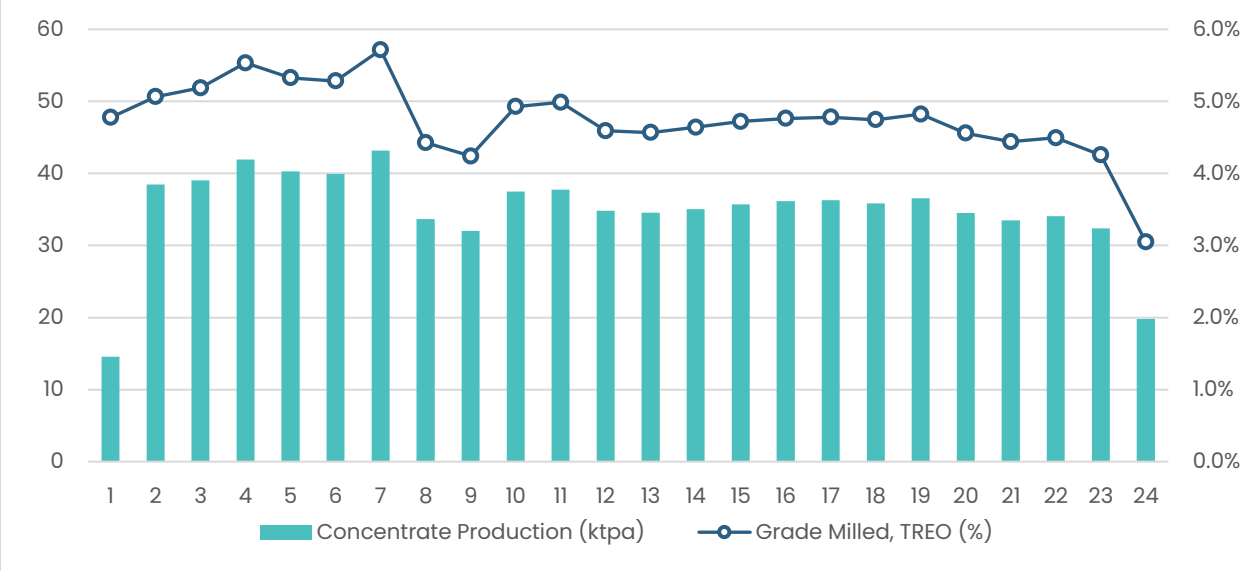
Table 11. Ngualla Project flotation plant recoveries

Rare earth element	Recovery %
Lanthanum	47.2
Cerium	38.9
Praseodymium	46.4
Neodymium	44.0
Samarium, europium and gadolinium (SEG)	43.1
All other RE elements	34.2
Weighted average	**42.7**

Table 12. Ngualla Project production summary

	Unit	Years 1-6	LOM
Annual tonnes milled	ktpa	800.7	794.8
Average grade milled	%	5.4	4.8
Concentrate production	ktpa (dry)	40.5	36.0
Concentrate grade	%	45	45
Concentrate production	ktpa TREO	18.2	16.2
NdPr % (of concentrate basket)	% mass	22.6	22.3

Figure 15. Ngualla Project process plant production summary



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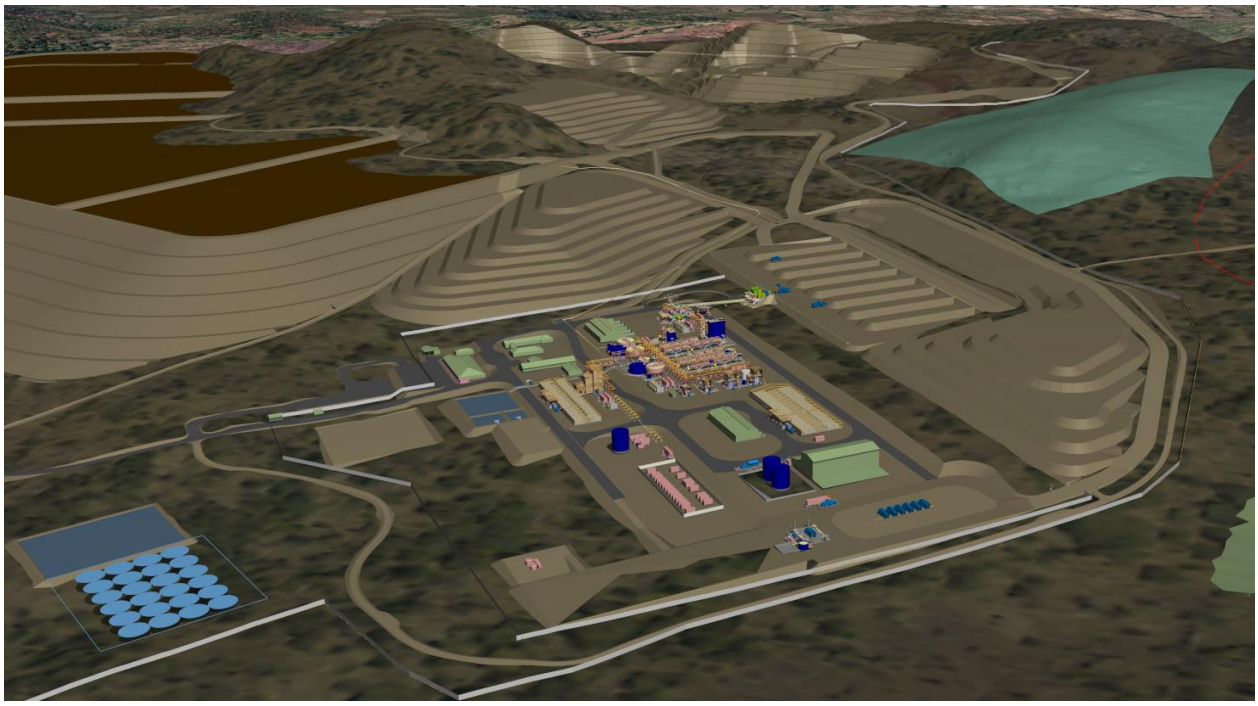
7. INFRASTRUCTURE AND ANCILLARY SERVICES

7.1. Site layout

The site infrastructure has been arranged to keep the physical footprint to a minimum. All required infrastructure, the accommodation village, process buildings, stockpiles, water resources, and TSF will be located within the current licence boundaries. The infrastructure and process areas have been, as far as practical, consolidated to reduce the footprint, minimise materials handling distances (including that of ROM ore), and exploit or adapt to the topography (Figure 16). The layout incorporates space for future expansion of selected process units, enabling Peak to increase the capacity of the initial facility.

Figure 16. Ngualla site layout



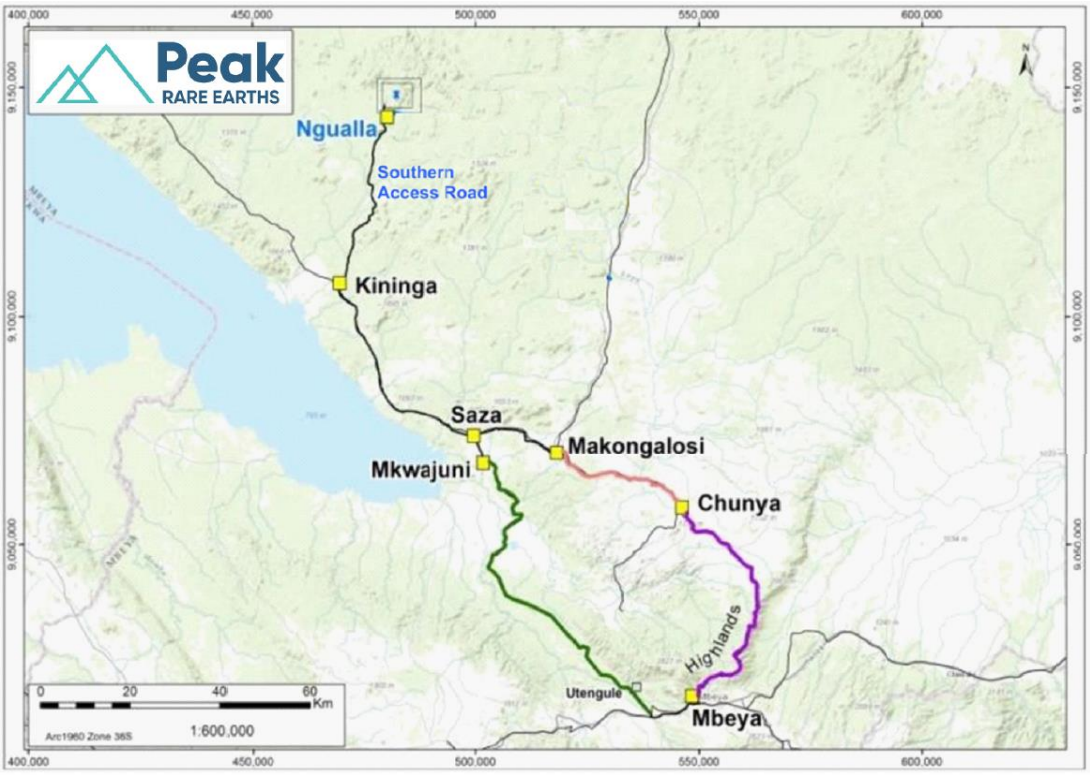
7.2. Access

There are two primary means of accessing the site and infrastructure. Primary access for cargo and personnel is by road. There is also an existing airstrip, which will primarily be used for transporting workers to and from the mine site but will also be used for expedited shipments of critical equipment and spares.

7.2.1. Road

Road access to the Ngualla Project is via the Southern Access Road (Figure 17), which includes the recent upgrade of the 48 km of rural road that connects the Ngwala Village and the Ngualla Project to Kininga Village. The Plant Access Road will branch from the end of the Southern Access Road through the Construction Camp and Operation Village and extend to the beneficiation plant entrance gate.

Figure 17. Ngualla Project Access Road



7.2.2.Airstrip

A two-staged approach to the refurbishment and further development of the existing airstrip is envisaged. During stage 1, the existing runway will be upgraded to allow the landing of small aircraft to support the transfer of the construction workforce. Typically, three Cessna 208 Caravans per week are expected in stage 1. During stage 2, the airstrip will be extended and widened to allow the operation of medium sized aircraft to support the peak construction workforce of up to 800 personnel. Approximately four De Havilland Canada Dash 8-400s per week are expected in stage 2 plus a few smaller aircraft.

Figure 18. Ngualla airstrip

7.3. Power supply

The 10.8 MWe electrical power maximum demand of the Ngualla site will be provided at 11 kV, 50 Hz by a hybrid power generation plant. The plant will comprise a diesel-powered electrical generator station and solar photovoltaic (PV) power station supported by a battery energy storage system. Cables will link the power station substation to the process plant substation. Solar PV generation is expected to contribute approximately 25% to the overall generation. The solar PV power station is contained in a separate area, 800 m upwind from the process plant.

The diesel generators will be located adjacent to the process plant facilities and be capable of providing the maximum power demand with a N+1 level of redundancy for maintenance shutdowns or failure of a single generator. All diesel generator units are planned to be individually housed in acoustic containers and located in a section of the beneficiation plant that can be bermed off to further isolate noise from the general plant site. Fuel storage and a control room will be included in the installation.

Site electrical power will be distributed by means of overhead lines for remote facilities, such as the borehole field, accommodation camp, tailings storage facility, and explosives magazine. The process plant, being in proximity to the power station, will have electrical power distributed by cables buried or on racks.

7.4. Water supply

The water demand for the Ngualla site will be supplied by on-ground overland pipelines from the bore field. Various sites for bore water have been identified and well tested. The bore field selected will provide water to the accommodation camp, process plant and become a stand-alone water supply for the village. An allowance has been made for five boreholes to provide water to the accommodation camp and process plant, and two bores to provide a new water supply for the local Ngwala village.

Three qualities of water will be required on the Ngualla site:

- Raw water for bulk use in the process plant and mining for dust suppression
- Potable water for eye wash stations, food preparation and human consumption
- Demineralised water for steam production

A containerised potable water treatment plant comprising activated filter media filtration, softening, chlorine dosing and UV disinfection will be used to treat the water required for potable water services. A containerised demineralisation plant will be used to treat the raw water required for the boiler plant.

The retentate from the reverse osmosis plant and the blowdown from the demineralisation plant will be discharged along with the waste process streams to the TSF. The supernatant water from the TSF will be reclaimed and recycled to the process plant with zero discharge. All wastewater arising from domestic use including from kitchen, canteen, and laundry will form part of sewage. Wastewater from the sewage treatment will be directed to either a spray field during the dry season or discharged through a leach field during wet season.

7.5. Communication

A fibre optic network will be reticulated around the site, allowing for the installation of IP telephone, high-speed internet and VPN connection, and will be connected through the central node room located at the main office. Consistent and reliable site and external communications can be delivered to every location across the operational mine site, process plants and power facilities.

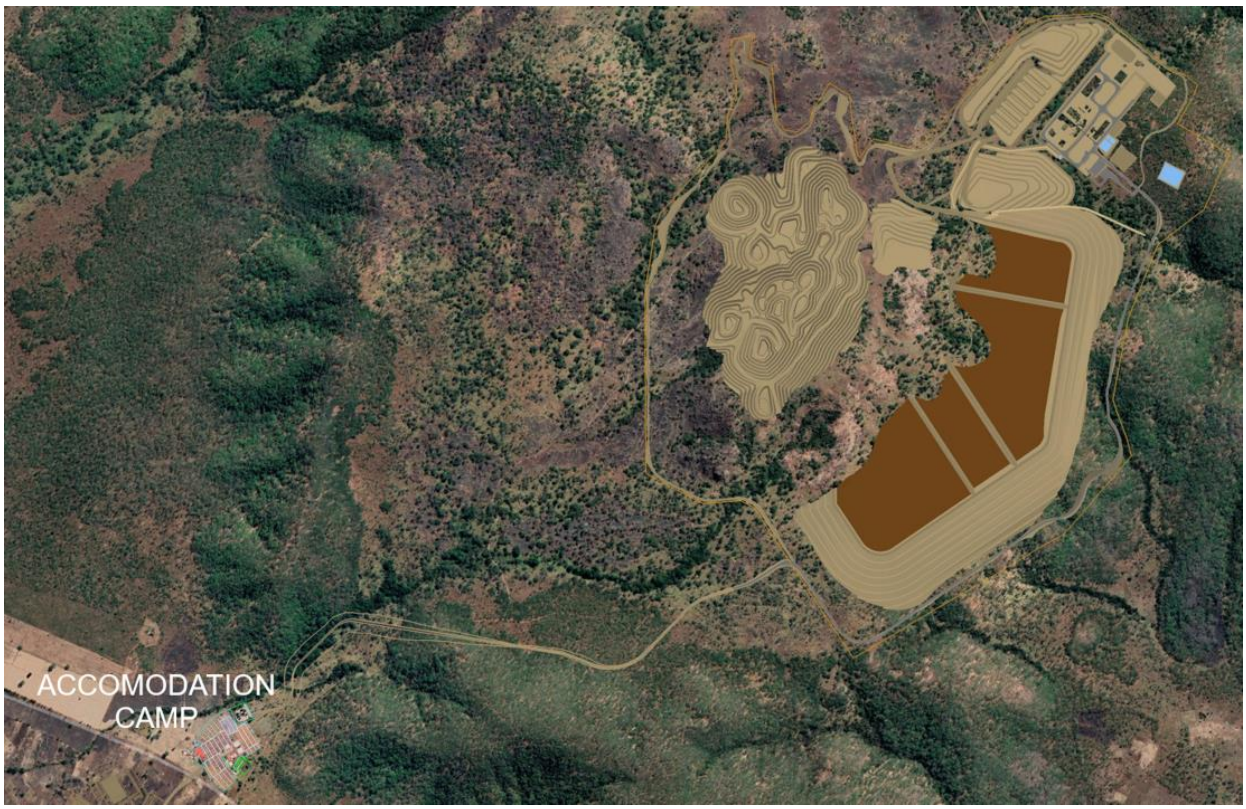
7.6. Accommodation

A single accommodation village for both the construction phase of work and for operations is located to the southeast of the mine site (Figure 19). A single village will be built in phases to meet the demand of the growing workforce. During construction, the workforce will reach a peak of approximately 800 workers on site. As construction is nearly complete and commissioning activities start, the workforce will decrease over a period of approximately 6 months until the completion of commissioning. At the conclusion of commissioning, the workforce will primarily be the operations workers, estimated at 281 personnel.

The construction accommodations will be refurbished to meet the needs of operations, where multiple occupancy rooms will largely be converted to single occupancy rooms. Refurbishment of the common-use buildings is also planned to ensure these facilities meet requirements for long-term use over the life of the mine.

The accommodation village will be connected to the hybrid power station via overhead power line connection with backup electrical generator for critical equipment including communications, food storage, etc.

Figure 19. Ngualla accommodation camp



8. NGUALLA PROJECT LOGISTICS

8.1. Sea transport

All major inbound and outbound sea freight cargos to and from the Ngualla Project will be processed via the Port of Dar es Salaam (Figure 20), which is one of the largest ports in East Africa and a key logistics channel for Tanzania and neighbouring countries. The Port of Dar Es Salaam is serviced by all major sea freight carriers (Maersk, MSC, CMA-CGM, Cosco) and is also served by roll-on roll-off (RORO) vessels allowing an alternative for break bulk charter and transport for sensitive equipment (electrical).

Figure 20. Dar es Salaam Port

8.2. Overland transport

There are two major road routes from the Ngualla site to the Port of Dar es Salaam. While of similar overall distance (~1,050 km), the southern route is preferred for its superior condition delivering safer and lower cost haulage (Figure 21). The Ngualla site is also proximate to the Tazara rail line, which extends to the Port of Dar es Salaam. Although this is not considered as a viable logistics route during the construction phase of the project due to irregular rail service and inadequate supply of rolling stock, it could be a viable option during the operations phase where inbound shipment of bulk reagents, fuel and other consumables could be balanced with the regular shipment of outbound concentrate.

8.3. Concentrate product outbound logistics

The major outbound cargo from the Ngualla Project is the beneficiated rare earth concentrate product. The expected option for transporting this product is double-lined 1 m^3 bulky bags

(Figure 22), placed on pallets or loaded directly. The mine site will have mobile equipment capable of loading either conventional flatbed type trucks or containers with these bags. These transport arrangements are expected to result in approximately 2,000 truck journeys per annum of bagged concentrate product to Dar es Salaam. The bags will then be containerised at Dar es Salaam prior to shipping to customers.

Figure 21. Preferred road route from site to Dar es Salaam Port

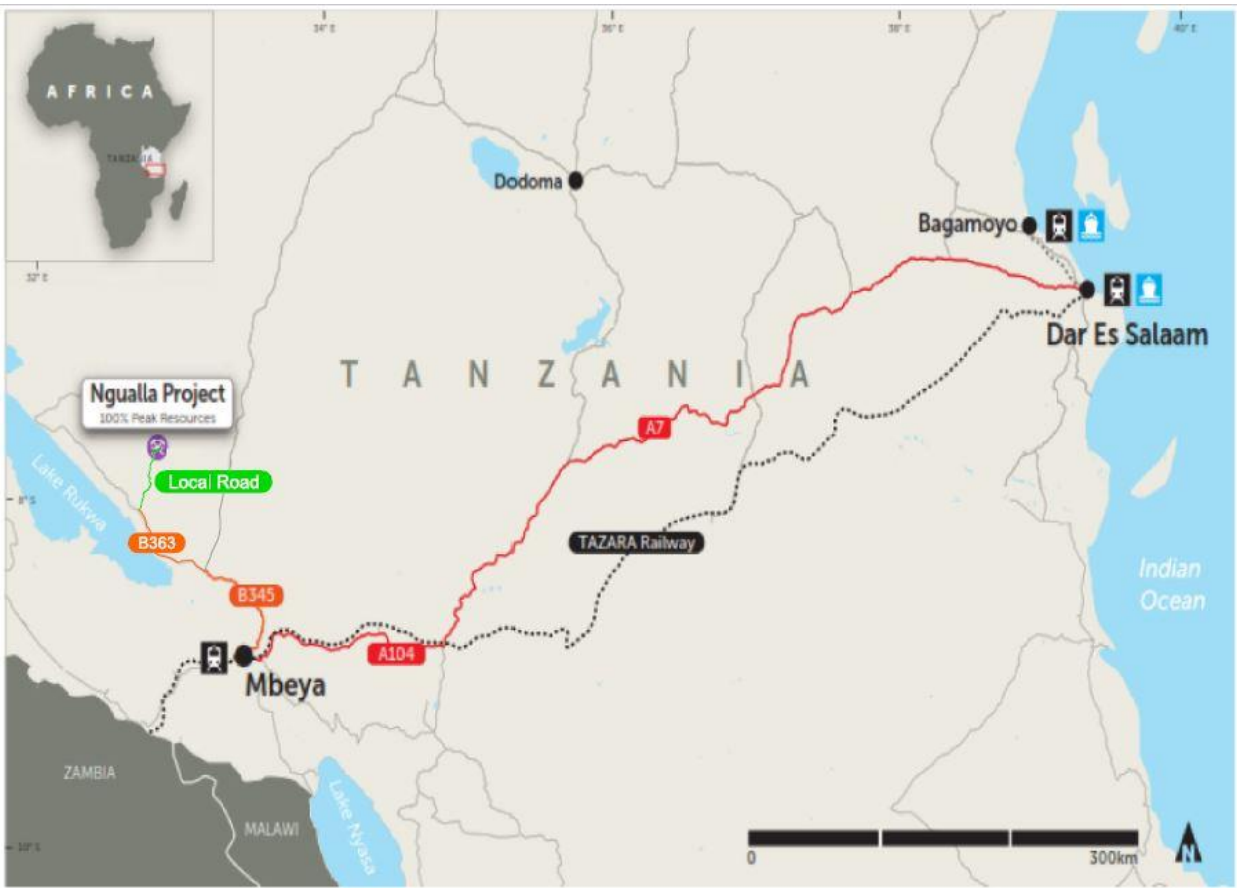


Figure 22. Concentrate bulky bags

9. SUSTAINABILITY

9.1. Peak's sustainability approach

Peak's approach to sustainability is well captured by the Swahili phrase "*Kazi Wajibu Utu*", which reflects the themes of "Work, Responsibility and Humanity".

The sustainability strategy for the Ngualla Project is also aligned with Peak's purpose, core values and sustainability ambition statements:

- **Purpose:** To develop and operate world-class and sustainable rare earths projects that support global decarbonisation, local communities, and shareholder value creation.
- **Values:** To act with Integrity to achieve our purpose and to ensure the safety, health and wellbeing of our people and communities. We are accountable to our shareholders, employees, and stakeholders to deliver and operate our assets by employing a sustainability ethos and a progressive mindset.
- **Sustainability ambition:** Working responsibly to build a better, greener, and more sustainable future for our communities, customers, and stakeholders.

Sustainability is central to all Peak's activities and its dealings with local communities, customers, suppliers, and shareholders. Peak is committed to the highest standards of sustainability performance and ensuring that the Ngualla Project is a long-term, environmentally, and socially sustainable rare earth producer.

The development of the Ngualla Project will supply the global market with responsibly mined and processed rare earth products that will enable low-carbon technologies to facilitate decarbonisation and power the green transformation.

Peak recognises that its long-term commitment to sustainability is integral to its licence to operate and is committed to delivering sustainable operations that meet or exceed the expectations of its stakeholders.

9.2. Environmental, Social and Governance framework

Peak is developing a detailed Environmental, Social and Governance (ESG) framework and roadmap to facilitate the ongoing development and expansion of the scope and transparency of its sustainability activities.

Reporting against relevant ESG frameworks will enable Peak to communicate with its stakeholders about the sustainability of its business in a clear and straightforward way, meet stakeholder needs, draw comparisons to peers, and drive deeper integration of sustainability into the business, while identifying new opportunities to increase value for stakeholders.

The Global Reporting Initiative Sustainability Reporting Standards[5] (GRI) is Peak's primary ESG reporting framework. GRI is one of the oldest and most widely recognised reporting standards and highlights a company's impact on the economy, environment, and society.

Peak is also reviewing the specific needs of its future customers, prospective lenders, and financiers and may also adopt additional frameworks such as the Taskforce for Climate-related Financial Disclosures[6] (TCFD) and the Initiative for Responsible Mining Assessment[7] (IRMA) to supplement the GRI framework.

[5] <https://www.globalreporting.org/standards/>
[6] <https://www.fsb-tcfd.org/>
[7] <https://responsiblemining.net/>

10. ENVIRONMENT

10.1. Permitting status

Peak is developing the Ngualla Project to be a long-term, environmentally, and socially sustainable rare earth producer. Peak's values and standards match the modern needs of global industry to have a responsible source of materials throughout their product supply chain. Peak is committed to make this green and sustainable approach a fundamental part of its business strategy and a point of differentiation for its products compared with some other sources of rare earths.

Peak maintains the highest standards of environmental, health, safety and social behaviour and aims to ensure that the development of the Ngualla Project benefits all stakeholders including the communities in which it operates.

An Environmental Impact Statement (EIS) for the Ngualla open pit mine, processing plant and access was completed by PaulSam Geo-Engineering Company Ltd in compliance with the Tanzanian *Environmental Management Act 2004* and the Environmental Assessment and Audit Regulations 2005 and submitted to the National Environment Management Council (NEMC) in December 2016. Environmental approval was granted in March 2017 with the issuing of Environmental Impact Assessment Certificate (EC) Registration No. EC/EIA/2917 for the project.

A subsequent ESIA report by Align Environment and Risk in 2018 expanded the scope of the 2016 ESIA to ensure the requirements of the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability[8] were also addressed.

Due to the proposed increase in throughput, an update to the ESIA, also referred to as an updated Environmental and Social Management Plan (ESMP) was submitted to NEMC in May 2022. The update included a description of additional baseline data collected and proposed changes to the activities in the Special Mining Licence area of the project. Approval of the updated ESMP was received on 16 June 2022.

In addition, a separate ESIA for the 48 km long Southern Access Road was submitted for review to NEMC in February 2022. The intent is to rehabilitate and upgrade the existing Ngwala-Kininga road to high class engineered gravel standard with a 40 m road reserve. Comments from NEMC on the report were incorporated and a revised version submitted in late July 2022.

10.2.Stakeholder engagement and consultation

Peak and its Tanzanian subsidiary, PR NG Minerals, promotes transparent communication among affected stakeholders. To this end, a project-specific Stakeholder Engagement Plan (SEP) was developed to guide interactions with affected stakeholders during the ESIA process, so as to proactively address any stakeholder issues and concerns that arise as a result of the project and to maintain stakeholder relationships as part of the project's social licence to

[8] <https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_pps>

operate. The SEP will be implemented throughout the life of the project and updated and revised as appropriate.

Comprehensive stakeholder consultation at national, regional, and local levels was undertaken during the ESIA, and was conducted by a combination of Tanzanian specialists, technical advisors, and PR NG Minerals personnel. Stakeholder consultation activities included stakeholder interviews, focus group discussions, community mapping, and public meetings. The focus during the ESIA was on the project's potential impacts and appropriate mitigation and management.

10.3.Cultural heritage

Traditional religious practices are observed by many residents at various shrines and natural sites, including private homes, burial sites, forest trees, and large anthills. Based on information obtained from the ethno-historical survey, a ritual site was identified on a hilltop immediately northeast of the proposed location of the open pit, as shown in Figure 23. This site has been used for many years as the primary location for various traditional rituals. The area has been clearly demarcated, and the mine site layout modified to ensure the site is undisturbed and its access protected. These modifications were made in consultation with affected residents and cultural leadership in the project area.

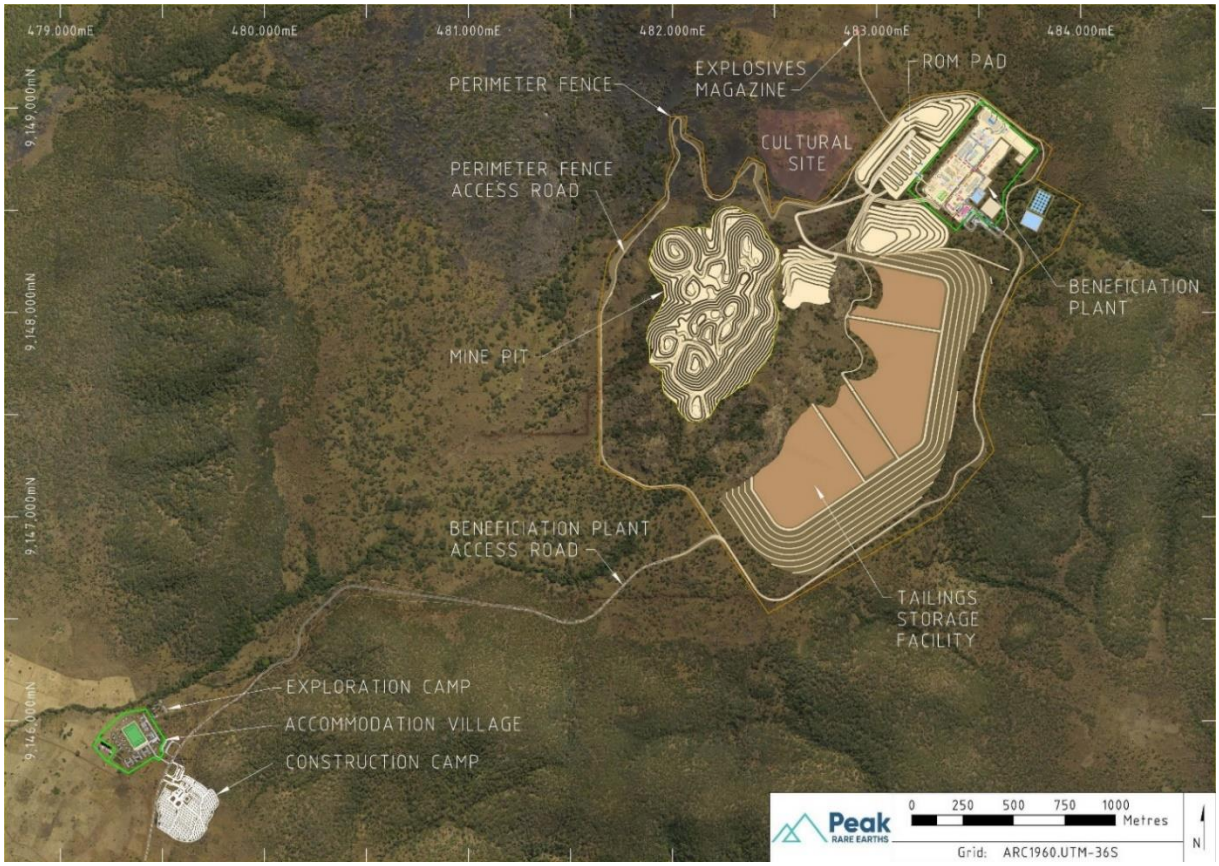
During the surveys undertaken in support of the ESIA for the Southern Access Road, three cultural heritage sites were recorded. The community requested that this site be protected during the project implementation and a buffer zone placed around it.

10.4.Radiation management

The Ngualla ore contains low levels of thorium (Th) and uranium (U). The LOM average concentrations for the weathered bastnasite ore are 54 ppm Th and 15 ppm U, which is favourably low compared with other rare earth deposits. The Ngualla flotation tailings will contain lower levels of radioactivity because thorium and uranium are mostly associated with the rare earth minerals (and hence removed from the tailings). The concentrate produced from Ngualla will provide a LOM average of 415 ppm Th and 106 ppm U, which, at a specific radioactivity of 3.0 Bq/g, is not deemed a Class 7 Hazardous Goods Radioactive Substance (specific radioactivity >10 Bq/g). As a result, the Ngualla concentrate is transportable as General Cargo with no need to placard the shipments as radioactive goods.

Peak will undertake regular monitoring of radioactivity levels of the concentrate to ensure that concentrate cargoes are appropriately permitted.

Figure 23. Cultural site location relative to planned mine site



10.5.Tailings storage

The tailings storage facilities (TSF) have been designed in accordance with the respective ANCOLD[9], ICOLD[10] and GISTM[11] guidelines. The TSF design employs zoned earth fill embankments constructed in stages using a combination of downstream embankment geometry and centreline embankment geometry. The facility will be constructed in stages. Stage 1 will provide 12 months storage. Stage 1 works will be constructed in part from borrow within the TSF basin due to the limited ROM waste available in the early stages of design. Subsequent stages will be constructed primarily from ROM waste.

Four independent cells will be constructed, two for barite and two for TREO tails. The four cells will allow for two cells operating and two cells being raised at any one time. The basin of the TSF will be lined with a low permeability soil liner to reduce seepage from the facility. A pipe/pumped underdrainage system will be installed in each cell to intercept a portion of the seepage from the tailings mass. Underdrainage flows will be pumped directly back into the supernatant pond on each cell. Tailings will be discharged into each cell using subaerial deposition techniques via a spigoted offtake system. Decant turrets will be installed in each

[9] <https://www.ancold.org.au>
[10] <https://www.icold-cigb.org/>
[11] <https://globaltailingsreview.org/global-industry-standard/>

TSF cell. Decant causeways will be constructed within each cell, allowing for the installation of a trailer-mounted pump, discharging directly to the process plant.

10.6.Closure and remediation

The intent for closure planning at the project is that disturbed areas will be rehabilitated and closed in a manner to make them physically safe to humans and animals, geotechnically stable, geochemically non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use, without unacceptable liability to stakeholders. In addition, environmental rehabilitation will be ongoing throughout the life of the operation.

Decommissioning activities are likely to include the following:

- Dismantling of buildings and infrastructure that cannot be transferred to the community surrounding the project
- Rehabilitating haul roads and hard stand areas
- Ensuring access to the void left from open pit mining is restricted
- Reprofiling slopes and top surfaces of waste rock dumps, stockpiles and TSF to ensure stable landforms
- Revegetation of previously disturbed areas with indigenous vegetation

10.7. Environmental and social impacts

The ESIA identified, described, and assessed the significance of a range of potential environmental and social impacts. Potential impacts were identified and assessed using good professional judgement, informed by the baseline studies and project description. The significance of each potential impact was assessed prior to mitigation or management measures and ranked by considering occurrence and severity. Following impact significance ranking, the level of environmental consequence was then determined by considering the financial and technical feasibility of planned impact management measures included in the preferred alternative; mitigation or enhancement measures to be prescribed in the Environmental and Social Management Plan (ESMP); and the level of consideration recommended by the assessment practitioners the impact is given in project decision-making.

10.8.Environmental and social management planning

A comprehensive ESMP will be developed prior to construction, informed by the impacts and management measures identified in the ESIA. The purpose of the ESMP is to ensure that environmental and social impacts, risks and liabilities identified are effectively managed and monitored throughout all phases of the project. The ESMP specifies the mitigation, management, and monitoring measures and schedules to which Peak and PR NG Minerals is committed and shows how the project will ensure adequate organisational capacity is in place and mobilise resources to implement these measures. The ESMP will include site- and aspect-specific management plans and procedures to guide and monitor the project's environmental and social performance.

These plans will be implemented and periodically updated at appropriate points in the project life cycle to ensure that the ESMP remains responsive to changing operational, environmental, human health and safety, community, and other needs, as well as providing levels of detail that are commensurate with available resources and the nature of the activities being conducted. Collectively, the ESMP and its supporting documents will constitute a flexible adaptive management of environmental and social impacts that that is based directly on IFC Performance Standard 1[12] and can readily accommodate the changing needs of the project.

Once construction commences, annual compliance audits against the ESMP will be conducted, and the results submitted to NEMC in accordance with Tanzanian regulations.

[12] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/ps1

11. SOCIAL INVESTMENT AND COMMUNITY

11.1. Social investment

Peak's Tanzanian subsidiary, PR NG Minerals, began exploration in the Ngualla area in September 2009. Since that time, Peak has actively engaged in a wide range of community development projects, as part of its long-term Social Investment Plan. The overarching objective of Peak's Social Investment Plan is to work as part of the community to ensure ongoing and sustainable social development of the Ngwala Village and the surrounding region long after Peak leaves the area.

Peak believes that it has a responsibility to help improve the lives of the people and communities in which it operates through employment, utilisation of local contractors and suppliers, and financing and/or assisting in community projects. The critical infrastructure projects undertaken to date have directly benefited the Ngwala Village, the local primary and secondary schools, and the surrounding district.

11.2. Recent community initiatives

To date, Peak has funded, assisted with, or donated to, the projects listed below. It is important to note that most of these projects were planned in conjunction with community leaders and that, after completion, the community has taken ownership and responsibility for their management and upkeep. The projects include:

- A School Development Program involving the construction of two new classrooms; refurbishment of five existing classrooms; construction and donation of new school desks; donation of beds and mattresses; donation of textbooks, stationery, and sports equipment; and donation of cement for the Kapalala Laboratory.
- Construction of four duplex teacher houses at Ngwala, Itiziro, and Ngwala Magereza Primary Schools and refurbishment of one teacher house at Ngwala primary school providing accommodation for nine teachers and their families.
- Community programs at Ngwala Ward, including donation of new football kits and equipment, donations and assistance for official visits, emergency medical transport, and delegate transport for official meetings.
- Village water supply repairs and maintenance.
- Major repairs and remediation of 46 kilometres of the Ngwala–Kininga Road last year. With the new road, accessibility to Ngwala has dramatically improved, changing the lives of the Ngwala local community and government officials. Previously, Ngwala to Mbeya was a 2-day trip, whereas today it is around 6 hours. The roadworks have also enabled the Tanzanian Government to prepare for the connection of Ngwala Village to the national power grid.
- Assistance with airstrip preparation and maintenance and licencing.
- Sponsorship of the annual Ngwala Ward football league and Farmers' Day (Nanenane) tournament.

In all its community development projects, Peak utilises the knowledge and skills of local craftsmen and labourers and, where possible, sources materials from local suppliers and businesses. All community development projects that have been funded by Peak were initiated by the Ngwala Ward Development Committee and approved by District Development Office. This process ensures that projects are prioritised to meet the needs of the community and the community leaders take ownership of the community development projects.

Figure 24. Nanenane tournament

Figure 25. Commencement of Ngwala-Kininga Road repairs

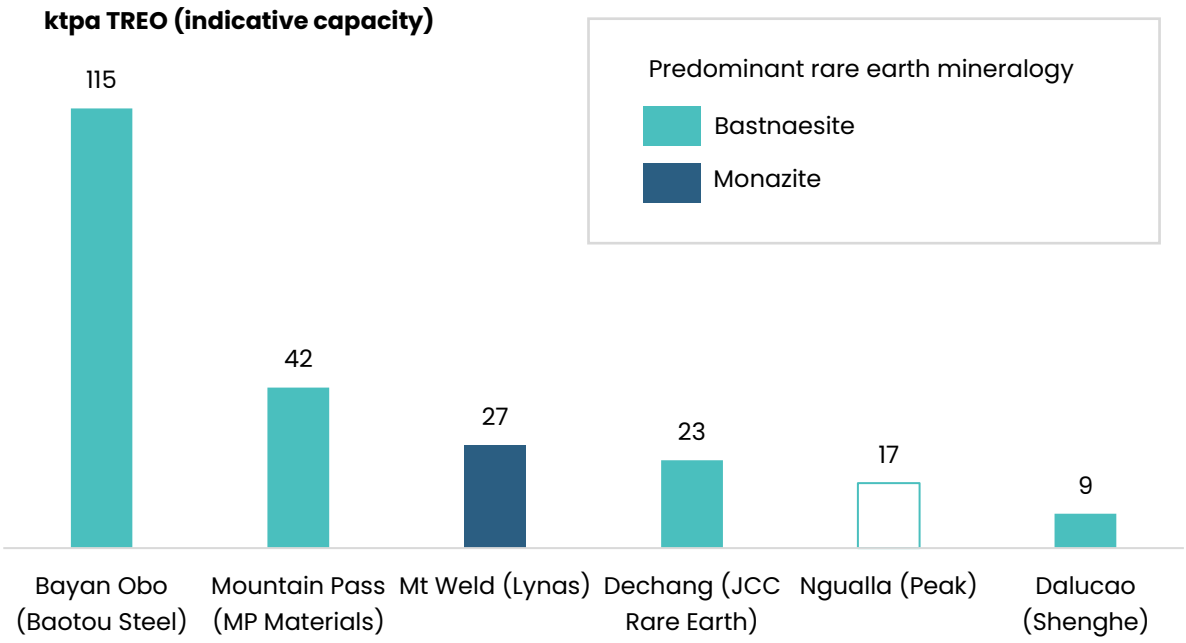
12. MARKETING AND PRICE OUTLOOK

12.1. Market outlook

Development of the Ngualla Project is projected to coincide with increasingly favourable market fundamentals for rare earths as well as growing demand for high-grade rare earth concentrate. Key market factors include:

- Rapid growth in demand for NdFeB magnets attributable to global decarbonisation and high production growth in EVs and direct-drive wind turbines
- Accelerating depletion of primary rare earth feedstock both within and outside of China
- Increasing crack-down on illegal and unlicensed rare earth mining within China
- Emerging rare earth refining projects and expansions, corresponding to a growing surplus of rare earth refining capacity and demand for rare earth concentrate and feed
- Restrictive rare earth mining quotas within China
- MP Materials near-term downstream integration into production of refined rare earth oxides, removing ~15% of global supply of rare earth concentrate[13]

Figure 26. Major light rare earth mines in production[14]

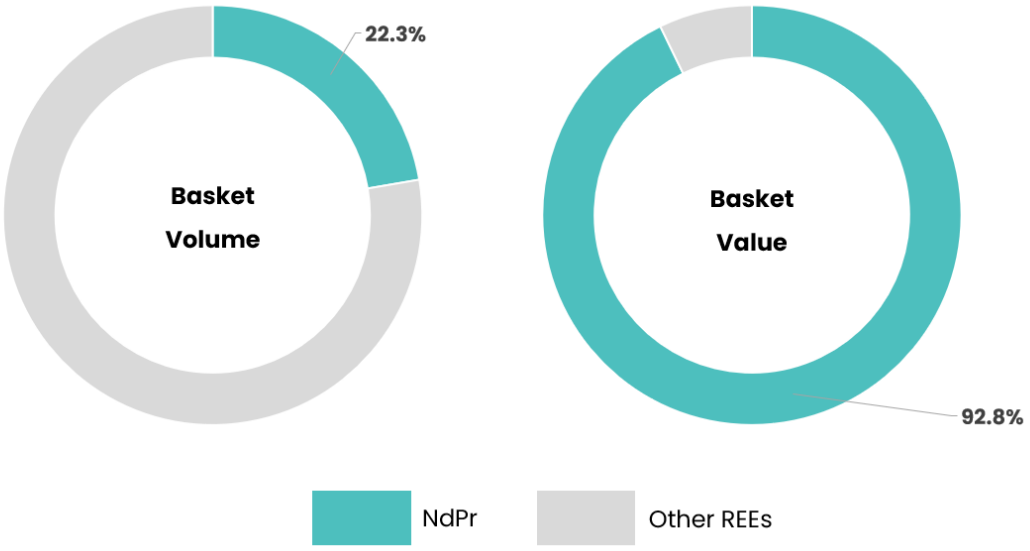


As a near-term producer of a high-grade concentrate, Peak is uniquely positioned to support the growing market deficit. Key characteristics of Peak's concentrate product include:

[13] MP Materials BMO Conference Presentation 2022, Slide 10
[14] Bayan Obo production from company disclosure Jan 2022; Mountain Pass production from 2021 annual report; Lynas production from company website; Dechang production from 2020 China production quota allocation; Dalucao production from Shenghe April 2021 quarterly production report

- **Bastnaesite mineralogy:** the current market for third-party light rare earth concentrate (excluding clays) is predominantly bastnaesite.
- **NdPr assemblage:** Ngualla's concentrate consists of 22–23% (of total TREO) of high value NdPr, making it one of the highest value rare earth baskets of current and near-term concentrate producers.
- **Low radionuclides:** due to Ngualla's concentrate containing minimal levels of radionuclides, it avoids the environmental and regulatory constraints in shipping faced by many competing projects as well as value-in-use penalties from customers for management and disposal of radioactive waste.
- **Low levels of acid consuming minerals:** Peak's weathered bastnaesite ore, which is the initial target for development, has been naturally leached of minerals such as calcite and dolomite which otherwise consume acid within the refining process.

Figure 27. Ngualla concentrate basket[a]



[a]Attributable basket value breakdown based on 2022 YTD average prices for rare earth oxides (Asian Metal)

12.2. Marketing strategy

Prior to the decision to move towards a sequenced development strategy and pursue a standalone development of the Ngualla Project, Peak received several unsolicited approaches from Chinese and other international parties in relation to long-term supply of rare earth concentrate. Those enquiries related to the supply of concentrate to existing refineries, expansion projects, and new greenfield refineries. Peak intends to continue to progress offtake discussions and negotiations with several parties with the intention of executing long-term binding offtake agreements ahead of the Final Investment Decision (FID).

12.3. Price outlook

As part of the BFS Update, Adamas was commissioned to complete a rare earths market study to support pricing assumptions. Adamas developed three pricing scenarios that have been

derived from a supply-demand analysis based on differing rates of EV growth rates. Under its Base Case pricing scenario, Adamas projects the NdPr Oxide price to increase to US$200/kg by 2025 and to US$247/kg by 2035 due to accelerating growth in EVs and direct drive wind turbines as well as a rapidly expanding market deficit in NdPr Oxide. Adamas completed its market study for Peak in Q2, 2022 with findings within the report consistent with Adamas' view of the market at the time of publishing.

Adamas also projected basket values for the Ngualla concentrate based on its forecasted price of contained rare earth oxides within the concentrate. The Ngualla concentrate basket value is strongly tied to the price of NdPr Oxide, which accounts for over 92% of basket value. Price forecasts for refined rare earth oxides and for the basket value of Ngualla concentrate are shown in Figure 28 and Figure 29 (prices shown are in real terms). Peak has adopted the Adamas Base Case pricing scenario for the purposes of its BFS Update financial analysis.

Figure 28. Forecast NdPr oxide price (real) including VAT (shaded area represents the range covering 'downside', 'base' and 'upside' scenarios)

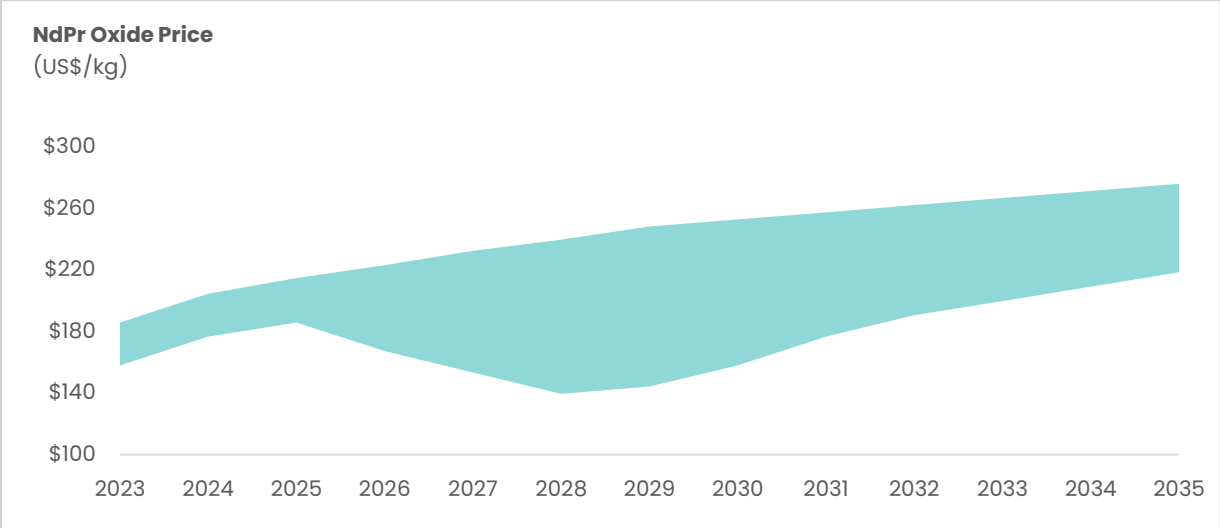
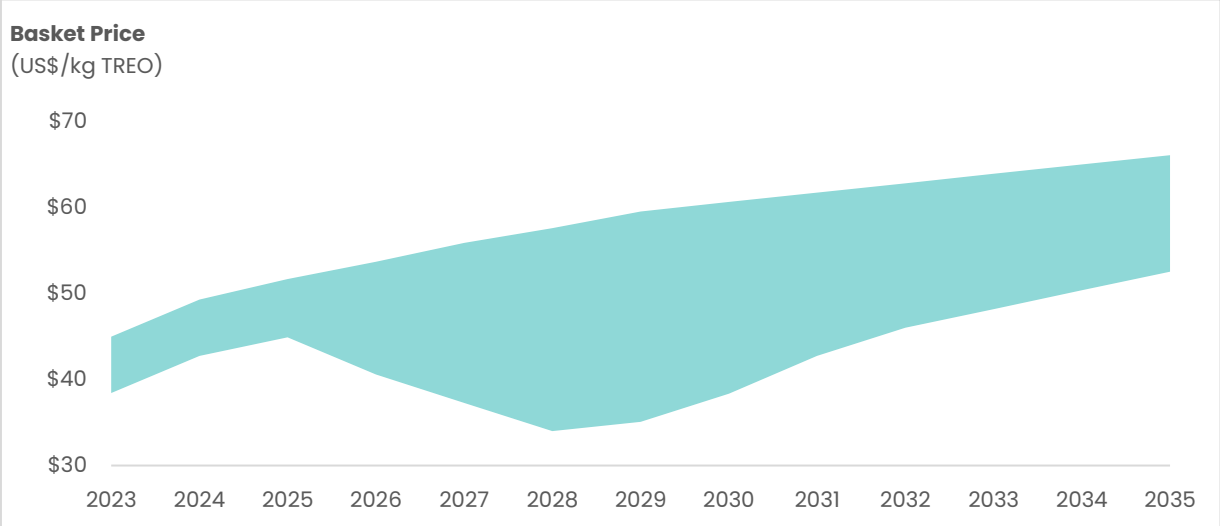


Figure 29. Forecast Ngualla Project basket value of concentrate including VAT (shaded area represents the range covering 'downside', 'base' and 'upside' scenarios)



To derive a net realisable price for Ngualla concentrate, a payability factor is applied to the gross basket value of the concentrate. The payability factor reflects a combination of the following price adjustments:

- a market / product factor representing the ease by which third-party refineries are able to sell the refined product – which is typically >95% for highly saleable products such as NdPr Oxide and a lower percentage for products such as cerium and lanthanum;
- a refinery charge representing the cost to refine a mineral concentrate into a saleable refined oxide(s) – which also includes an embedded refinery margin;
- a recovery factor representing the natural loss of rare earth material through the refining process;
- a sales / distribution fee payable to the offtaker of the concentrate; and
- a deduction for Chinese VAT (of 13%).

Based on observable third-party data for bastnaesite concentrate and ongoing offtake discussions, the net payability for Ngualla concentrate (e.g. the price received as a proportion of total basket value) after the above adjustments is estimated to be between 56–62% across the life of the project. Table 13 shows forecasted sale price (in US$/kg of dry concentrate) for Ngualla concentrate across various rare earth pricing scenarios.

Table 13. Ngualla Project concentrate pricing assumptions

US$/kg dry	Year										
	25	26	27	28	29	30	31	32	33	34	35
Upside	14.1	14.7	15.4	15.9	16.5	16.8	17.2	17.5	17.8	18.2	18.5
Base	**13.0**	**12.7**	**12.5**	**12.3**	**12.7**	**13.4**	**14.2**	**14.9**	**15.4**	**15.9**	**16.4**
Downside	12.0	10.6	9.6	8.6	8.9	10.0	11.3	12.3	13.0	13.7	14.3

13. COST ESTIMATES

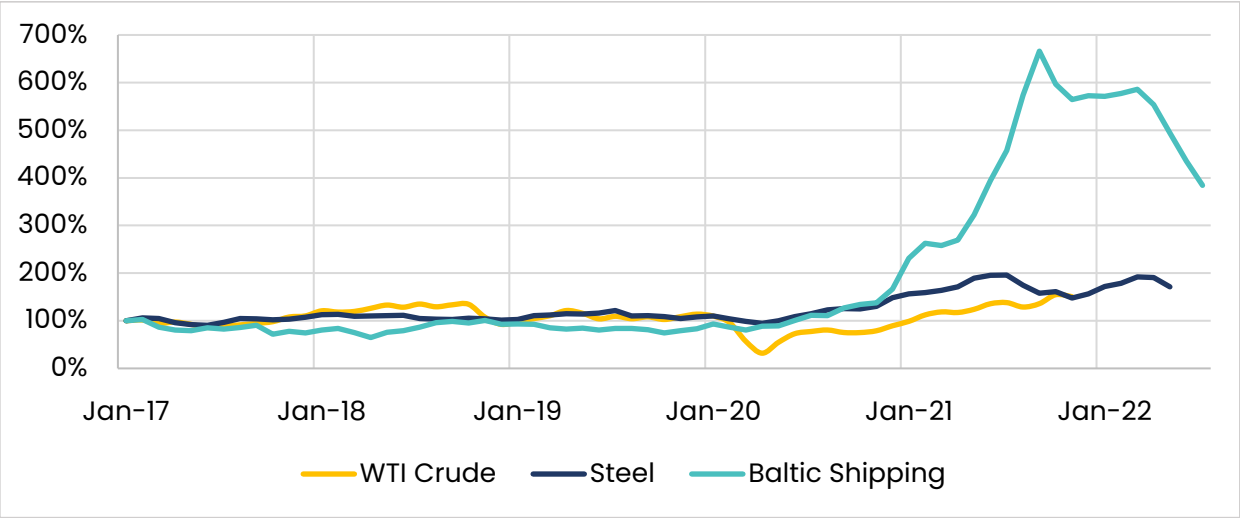
13.1. Macro environment

The BFS Update was completed during a period of significant global macroeconomic and sector inflationary pressure. Raw material, shipping and energy prices were impacted by COVID-19 related global supply chain disruptions and Russia's invasion of Ukraine. As set out in Figure 30, since the completion of the 2017 BFS, cost indices for WTI crude oil, steel and chemical products have risen by ~100%, while the Baltic Shipping Index has risen by ~300%. Table 14 highlights the increase in several key cost inputs for the Ngualla Project.

Due to global inflationary pressures, there have been material increases in the estimated capital expenditure and operating costs for the Ngualla Project. Notwithstanding that many of the contributing cost pressures are expected to moderate over time, the BFS Update has treated costs on an "as-is" basis using current estimates provided by vendors and suppliers. No adjustments have been made to any input costs as a means of normalising against the current cost environment.

Ahead of the FID, and in conjunction with FEED, Peak intends to commence a cost optimisation and value engineering exercise where it will work closely with key suppliers and vendors to identify possible cost rationalisation and strategic sourcing opportunities.

Figure 30. Various cost indices, rebased (Jan 2017)[a]



[a] WTI Crude and steel indices sourced from IMF. Baltic Shipping index source from Freightos

Table 14. Ngualla Project key cost drivers

Cost	Unit	2017 BFS	2022 BFS	Change
Diesel	US$/L	0.65	1.39	+114%
Concentrate transport	US$/t	292	602	+106%
Sodium silicate	US$/t	461	992	+115%
Sodium hydroxide (pearl)	US$/t	701	1,489	+112%

13.2. Capital cost estimate

The upfront capital cost for the Ngualla Project is detailed in Table 15. The total upfront capital requirement for the project is US$320.7m, which represents a 64% increase from the 2017 BFS estimate and a 44% increase after adjusting for the 14% expansion in targeted production capacity. Factors behind the observed increase in capital cost include:

- Inflationary cost pressures and increases in prices for raw materials in light of the macro environment, particularly with respect to fabricated steel, concrete and fuel
- Scope additions and changes to the BFS Update, including:
  - Change to an EPCM execution model (EPC previously assumed)
  - Replacement of a heavy fuel oil power plant at Ngualla with a hybrid light fuel oil, solar and battery power plant
  - Increase in targeted production capacity of approximately 14%

Capital costs have been estimated to ACE Class III accuracy (+15% / -10% with a probability of 90% achievement).

Table 15. Ngualla Project capital cost breakdown

Item	Capital cost (US$m)	% of total
Plant	95.7	30
Services	35.0	11
Accommodation Camp	25.0	8
Tailings	18.2	6
Mining	16.5	5
Regional Roads & Infrastructure	11.4	4
Access Roads	11.0	3
Earthworks	9.3	3
Airstrip	5.7	2
Other	12.6	4
Direct cost subtotal[a]	**240.5**	**75**
EPCM	32.6	10
Owners Cost	14.3	4
Contingency	33.4	10
Total upfront cost	**320.7**	**100**

[a] Direct costs include US$20.6m in growth allowances that have been added to the bare (neat) cost quantities.

13.3.Operating costs and sustaining capital

Operating costs for the Ngualla Project are summarised in Table 16. The annual average operating cost for the Ngualla Project is US$93.3m per annum (pa), which represents an 106% increase in total annual operating cost from the 2017 BFS and an 81% increase in unit operating cost when accounting for the increase in production capacity. Operating costs have been estimated to ACE Class III accuracy (+15% / -10% with a probability of 90% achievement).

Sustaining costs and other operational capital expenditure are shown in Table 17. It has been assumed a leasing arrangement will be adopted for the mine fleet. Peak has had preliminary discussions with several major global suppliers of mine equipment around leasing structures.

Table 16. Ngualla Project operating cost breakdown

Item	Operating Cost			% of total
	US$m pa	US$ / kg TREO	US$ / t mill feed	
Power plant (BOO charge)	21.9	1.4	27.6	23.5%
Reagents	17.6	1.1	22.1	18.9%
Shipping to customers[a]	14.2	0.9	17.9	15.2%
Trucking to Dar es Salaam Port	10.1	0.6	12.7	10.8%
Mining	8.5	0.5	10.7	9.1%
Plant labour (excluding mining)	7.3	0.5	9.2	7.8%
Fees and expenses	4.5	0.3	5.7	4.8%
Maintenance	2.2	0.1	2.8	2.4%
Other	7.0	0.4	8.8	7.5%
Total operating cost	**93.3**	**5.8**	**117.4**	**100.0%**

[a] Assumed to be delivered to China (CIF)

Table 17. Ngualla Project operating capital expenditure breakdown

Cost	LOM sustaining capital cost (US$m)
Sustaining Capital	
TSF periodic lifts	52.2
Plant sustaining capital	8.2
Mine fleet sustaining capital[a]	5.1
Other capital expenditure	
Mine fleet lease[a]	14.4
Closure cost	12.7

[a] Financial assumptions are based on preliminary discussions with a global suppler of mine equipment. Indicative terms include a lease term of 48 months, an all in cost of 8% and an upfront lease deposit amount of 25% of the total lease value.

14. FINANCIAL ANALYSIS

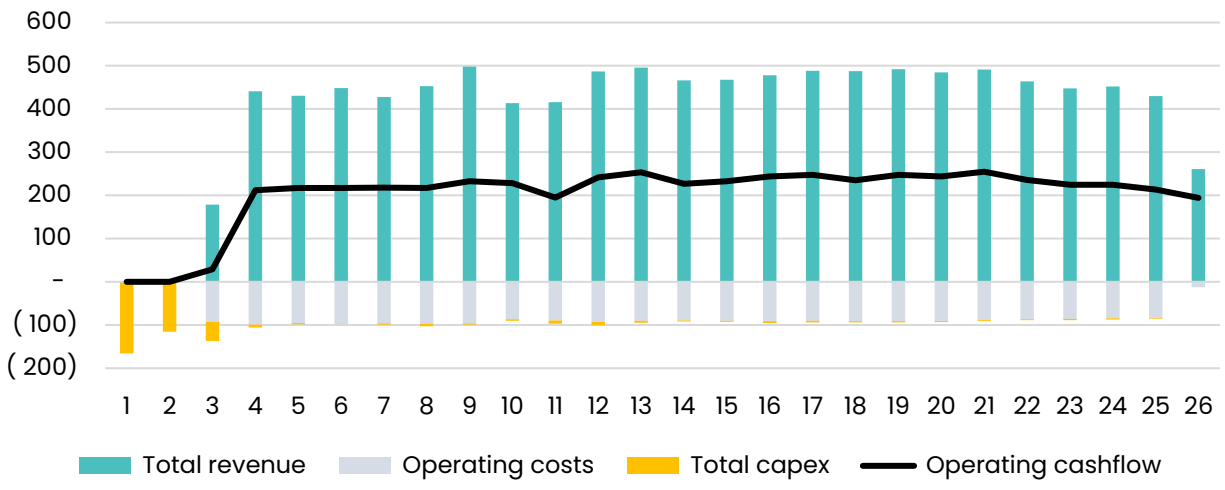
14.1. Financial analysis and summary

A summary of the financial outputs for the Ngualla Project adopting the Adamas Base Case Scenario Pricing is shown in Table 18 and Figure 31. Financial outputs shown are net of distributions to the GOT which include corporate taxes, royalties and other fees, and dividends attributable the GOT's 16% free-carried interest (FCI). The NPV attributable to Peak for the Ngualla Project under the Base Case pricing scenario is US$1,483m.

Table 18. Ngualla Project financial analysis summary (Base Case)

Financial metrics	Unit	Value
Average annual revenue	US$m pa	538
Net operating cash flow (post tax) - LOM	US$m	6,597
Average annual operating cash flow (post tax)	US$m pa	276
Average annual EBITDA	US$m pa	448
Peak $NPV_{8\%, real}$ (post tax, royalties and FCI)	US$m	1,483
Peak $NPV_{10\%, real}$ (post tax, royalties and FCI)	US$m	1,156
IRR (post tax, royalties and FCI)	%	37.3%
Equity payback period	years	4.0
Commodity price assumptions	**Unit**	**Value**
NdPr Oxide (LOM average)	US$/kg	231.88
Net payability	%	60.9%
Fiscal assumptions	**Unit**	**Value**
Royalties (% on total gross revenue)	%	6.0
Clearing fee and local levy (% on total gross revenue)	%	1.3
Withholding tax rate	%	10.0
Corporate tax rate	%	30.0
Government free-carried interest (FCI)	%	16.0

Figure 31. Ngualla Project cashflow (Base Case)



14.2.Financial analysis and summary

Sensitivity analysis of Peak's financial returns from the Ngualla Project with respect to changes in the NdPr oxide price, upfront capital expenditure and operating costs is shown in Figure 32 and Figure 33. Of these three value drivers, Peak's returns are most sensitive to changes in the NdPr oxide price. An increase of 10 US$/kg in NdPr oxide price translates to an increase in Peak's consolidated NPV of US$111m and an increase in consolidated IRR of 1.7% on average.

Figure 32. Sensitivity analysis - NPV (Base Case)

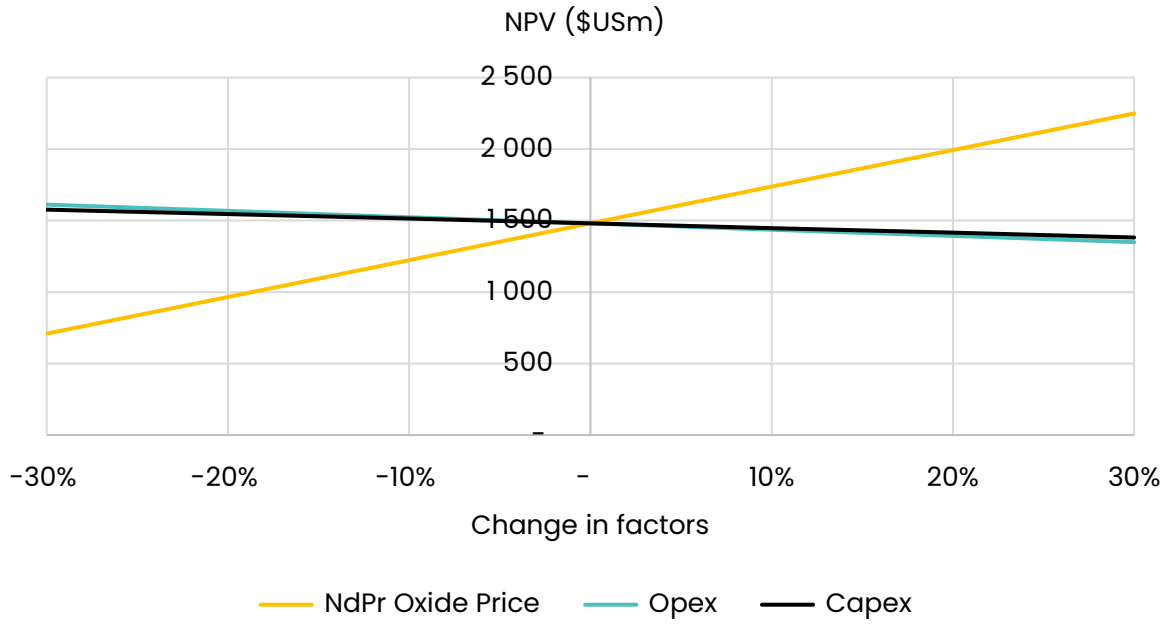
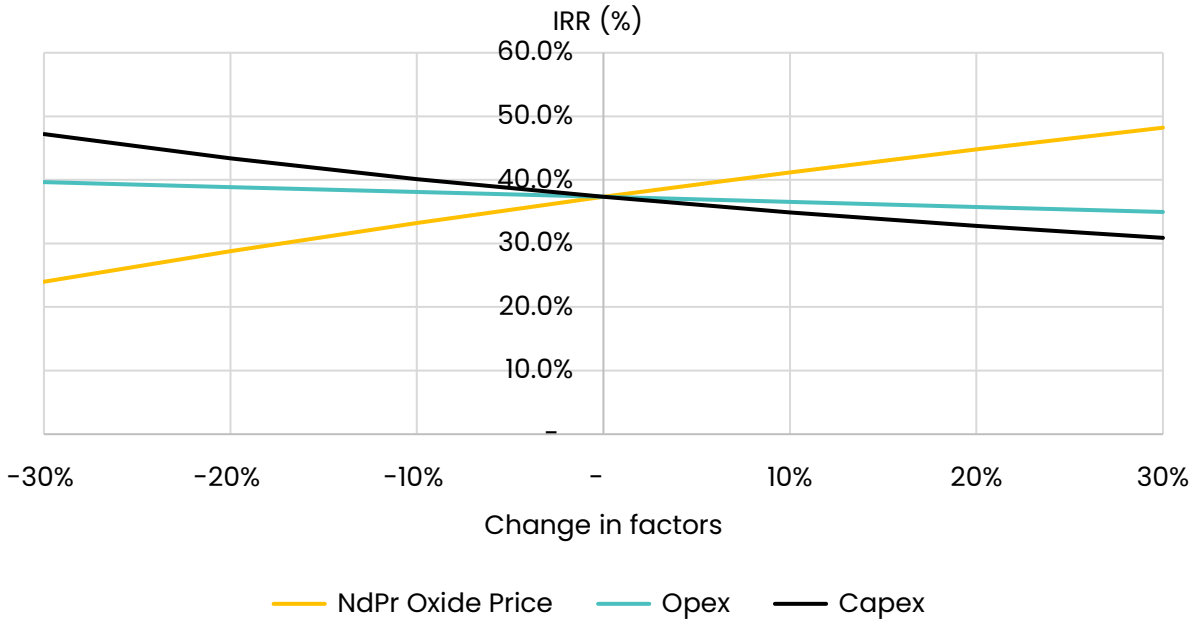


Figure 33. Sensitivity analysis - IRR (Base Case)



14.3.Pricing scenario analysis

In addition to Peak's Base Case, which assumes the Adamas "Base" scenario forecast for rare earth prices, financial analysis has also been performed on the Adamas "Downside" and Adamas "Upside" scenarios. Adamas's price forecasts are derived from supply-demand analysis for NdPr oxide with each of the three scenarios assuming a different rate of uptake of EVs in the coming years. A further "market" scenario has also been evaluated, which assumes a flat NdPr Oxide price equivalent to the 2022 YTD average price (as at 1 September 2022) of US$138.80/kg NdPr Oxide (inclusive of VAT).

Summary financial outputs from these different pricing scenarios are shown in Table 19. The Ngualla Project generates attractive returns across all four scenarios, with a post-tax NPV of US$541m and IRR of 22.5% under the most conservative scenario, which assumes no real growth in future NdPr oxide price. As demonstrated by these scenarios, the Ngualla Project is well positioned to benefit from accelerated and rising demand for NdPr oxide in the coming years.

Table 19. Price scenario analysis

Metric	Unit	Adamas price scenario			Average YTD[a]
		Base	Upside	Downside	
NdPr price (2026–30)	US$/kg	195.70	237.48	153.92	138.80
NdPr price (LOM)	US$/kg	231.88	265.03	198.73	138.80
Average net payability[b]	%	60.9%	61.8%	59.5%	56.1%
Average annual revenue	US$m pa	538	623	453	301
Average annual EBITDA	US$m pa	448	553	363	212
Peak $NPV_{8\%, real}$ (post tax, royalties and FCI)	US$m	1,483	1,875	1,089	541
IRR (post tax and royalties)	%	37.3%	43.3%	30.4%	22.5%

[a] Source: Asian Metal

[b] The net price received for Ngualla concentrate is calculated by deducting the various refining and offtake charges as outlined in Section 12.3 from the theoretical basket value of the Ngualla concentrate, which will change depending on the prevailing price for rare earth oxides within the Ngualla concentrate. 'Net payability' is calculated as the price received for Ngualla concentrate divided by the basket value of Ngualla concentrate.

15. PROJECT FINANCING

15.1. Funding strategy

Pre-production funding will need to cover pre-production capital of US$321m as well as a combination of capitalised interest, working capital, debt service reserves and working capital.

WaterBorne Capital, an experienced sub-Saharan debt adviser, was engaged by Peak in February 2021 to assist in the development and execution of a project funding strategy.

Key elements of WaterBorne Capital's mandate included the preparation of a preliminary debt information memorandum, the development of a Ngualla Project financial model that includes debt sculpting and ratio analysis, assisting Peak in populating and coordinating a virtual data room, and coordinating engagement with a broad suite of export credit agencies as well as development and commercial banks.

Based on the BFS Update, WaterBorne Capital estimates that debt gearing of between 60–70% could be achievable. It is expected that debt will be predominantly in the form of senior project and export financing facilities with the potential of a smaller secondary mezzanine tranche.

Residual equity funding requirements are expected to be met by a sell-down of a minority project interest or a Peak equity raising or a combination of both.

The final project funding solution will depend upon a range of factors including the state of debt and equity market conditions, strategic interest in a minority project interest as well as specific counterparty appetite, pricing, and terms.

Although Peak has a reasonable basis to believe that funding will be available as required, there is no assurance that the requisite funding for the Ngualla Project will be secured.

15.2.Reasonable basis for funding assumption

Peak, with the assistance of WaterBorne Capital, has modelled and assessed various funding alternatives and engaged with a broad suite of prospective financiers.

Peak is of the view that there is a reasonable basis for believing the requisite funding for the Ngualla Project can be secured, namely:

- Based on the results of the BFS Update, the Ngualla Project will generate attractive returns and economics as well as robust debt metrics that should be supportive of both debt and equity raisings.
- Tanzania is an established mining jurisdiction and there is significant international development bank appetite for Tanzanian exposure.
- Discussions to-date have identified strong Export Credit Agency interest in the Ngualla Project associated with project development expenditure and long-term offtake supply agreements.

- The Ngualla Project's close nexus with decarbonisation and the EV and renewable energy sectors increases its appeal to both debt financiers and equity investors.
- Peak expects to execute an attractive long-term rare earth concentrate offtake agreement prior to FID.
- Peak has received inbound interest from parties around a minority interest in the Ngualla Project.
- Over the past 24 months, there have been a series of significant equity raisings by listed rare earth companies, including:
    - Hastings Technology Metals – A$110m (September 2022)
    - Vital Metals – A$45m (August 2022)
    - Neo Performance Materials – C$68m (August 2022)
    - Arafura Resources – A$42m (August 2022)
    - Peak – A$32m (October 2021)
    - Arafura Resources – A$46m (August 2021)
    - Australian Strategic Materials – A$92m (April 2021)
- Peak's largest shareholder, Shenghe Resources (with a 19.9% interest), is an integrated producer and distributor of rare earths products and has a market capitalisation of approximately US$4 billion. It is well positioned to bring considerable financial, technical and market support to Peak and the Ngualla Project.
- The Government of Tanzania's entitlement to a 16% free-carried Interest in the Ngualla Project creates a strong alignment of interest and reduces perceptions of political risk.
- Members of Peak's Board and Management team have extensive experience in undertaking large project and export financings as well as debt and equity raisings within the international mining sector.

Notwithstanding the points outlined above, there is no certainty that the requisite funding can be sourced when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Peak's shares.

16. PROJECT EXECUTION

16.1. Development schedule

The execution schedule for the Ngualla Project is outlined in Table 20. First concentrate is scheduled for May 2025, 24 months after FID.

Table 20. Project execution schedule

Tasks	Date
BFS Update completed	Oct 2022
Early works commencement	Nov 2022
Commencement of competitive EPCM tender	Nov 2022
FEED commencement	Feb 2023
EPCM tendering complete	Mar 2023
Commencement of enabling works and bulk earthworks	Mar 2023
FEED completion	May 2023
Financial Investment Decision (FID)	**31 May 2023**
EPCM award and transition to full scope of work	Jun 2023
Construction commences	Jun 2023
Commissioning commences	Dec 2024
Ramp-up commences	Apr 2025
First concentrate	May 2025
Schedule contingency added	Oct 2025

16.2.Delivery strategy

An EPCM execution strategy has been chosen for the Ngualla Project. The planned contracts are a mixture of lump sums for equipment supply and horizontal contracts and cost-reimbursable contracts with performance incentives for construction, where required. This execution strategy provides Peak with greater control over the outcomes, especially concerning HSSEC (health, safety, security, environment, and community) issues, more flexibility with respect to timing of the activities, and input into design.

The EPCM provider's scope of work covers most of the execution phase activities and will include the services required to design, construct, pre-commission, and commission the project. The scope of services will include:

- Engineering services and management of specialist consultants, including FEED, detailed designs, models, layout and detail drawings, equipment lists, instrument lists, technical specifications and data sheets, process flow diagrams (PFDs), piping and instrumentation diagrams, and all detailed supporting calculations.
- Supply chain management activities for equipment and material purchases, contracts for construction work on the plant site as well as service orders and contracts.
- Construction management, comprising management and supervision of site construction activities relating to the project.
- Pre-commissioning and commissioning, including preparation of commissioning procedures and plans and commissioning of equipment and facilities.
- Technical assistance to Peak throughout the ramp-up phase.
- Project management services including, management and coordination of project activities; cost control services; preparation of project schedules; preparation of monthly reports for the project, submission of required engineering, procurement, control and other information for overall project management and control purposes; and deliverables including technical and commercial documentation for the tendering and award of construction contracts, equipment supply contracts, and purchase orders.

16.3.Responsible development

Development of the Ngualla Project will impact the towns, farms and local communities in adjacent areas resulting from the influx of labour and the increased wealth generated by the project. The project will also increase local traffic movements requiring additional road safety awareness by local residents and the construction workforce. As such, the impact on the local residents will be monitored and managed by Peak through consultation, education, and mitigation of any impacts.

17. KEY RISKS AND OPPORTUNITIES

17.1. Key risks

Project risk workshops have been conducted by the Peak management separately and as part of the BFS Update process with input from Wood. There are specific risks which relate directly to the Ngualla Project and Peak's principal activities and there are general risks, many of which are interdependent and largely beyond the control of Peak.

Execution of Framework Agreement

Peak has been engaged in ongoing discussions with the Government of Tanzania towards agreement and execution of a Framework Agreement (FWA) under which a joint venture is established to hold the SML and develop the Ngualla Project. Without the FWA and the SML, activities required to deliver an FID to development the Ngualla Project cannot be concluded. Amendments to the Regulations to the Tanzanian Mining Act have recently been published, which include a pro forma FWA and associated documents. Negotiations continue in the expectation that an FWA will be executed by the end of the 2022 calendar year.

Special Mining Licence

Peak has applied for an SML covering the main Ngualla Project resource in accordance with the relevant legislative requirements. Although the Cabinet of the Tanzanian Government has approved the application, the grant of the SML is contingent on execution of an FWA.

Sovereign risk

Notwithstanding Tanzania is an established mining jurisdiction, it is subject to changes in the terms of mining legislation, changes to royalty arrangements, changes to taxation rates and concessions and changes in the ability to enforce legal rights. It is anticipated that an FWA will help mitigate this risk.

BFS Update outcomes

Assumptions used in the BFS Update, including cost inputs and rare earth price forecasts, are estimates at a specific point in time and may fluctuate.

Funding

Until commissioning and the generation of cashflows, the Ngualla Project will be dependent upon the company's ability to secure future equity or debt funding to support its pre-development and development activities.

Offtake arrangements

Notwithstanding there are offtake discussions currently underway, there are no binding offtake agreements in place for the concentrate produced from the Ngualla Project at this time.

Construction and commissioning

Construction of the Ngualla Project may not be completed on schedule or at the budgeted construction cost, while issues in commissioning the mine or metallurgical processes of the plant may arise.

Operations

When in operation, the Ngualla Project may be impacted by a variety of risks and hazards, which might include:

- **Loss of key executives with rare earth industry experience.** Rare earth projects are technically and commercially challenging and specialised and the loss of key executives and management could have an impact on Peak's activities and ability to develop and operate the Ngualla Project.
- **Accessing talent/human resourcing.** There is a limited pool of experienced project development and technical personnel with experience in operating within remote mine sites in Africa.
- **Community training and development.** The Ngualla Project will require significant training and development of the local community.
- **Processing.** Lower than forecast metal recoveries or throughputs in processing will lead to lower than anticipated production of concentrate.
- **Health, safety and environment.** Operating a project in a remote location provides a range of HSE risks that will need to be managed.
- **Health pandemic.** The recent Covid pandemic viral infections has impacted business and general populations throughout the world since 2019.

All risks, controls and mitigating procedures have been recorded in a detailed risk register for implementation, review and reporting.

17.2. Key opportunities

17.2.1. Near-term value optimisation opportunities

Peak has identified a number of value optimisation opportunities through the BFS Update which it will further evaluate through the FEED process. The key opportunities that have been identified are set out in Table 21.

Table 21. Key value optimisation opportunities identified

Opportunity	Capex	Opex
1. Combining barite and rare earth tailings into single cell	✓	
2. Use of column flotation within beneficiation plant	✓	✓
3. Improved RE concentrate filter layout	✓	✓
4. Defer/optimise regrind mill	✓	✓
5. Defer/optimise slurry heating of RE float feed	✓	✓
6. Optimisation of reagent dosage		✓
7. Logistic chain optimisation (and potential use of rail in future)		✓
8. Use of an owner-operated team for bulk earthworks	✓	
9. Combine scope of works for road and airstrip	✓	
10. Combine scope of works for Ngualla quarry operation	✓	
11. Use of satellite diesel-power generator for camp and airstrip	✓	
12. Combine supply tender for power plant and fuel supply	✓	✓

17.2.2.Primary rare earth related opportunities

The Ngualla deposit contains significant monazite mineralisation within the SREZ which could support a direct concentrate export operation. Apatite mineralisation rich in heavy rare earths has also been identified within the Northern Zone.

17.2.3.Downstream rare earth related opportunities

Following the finalisation of an FWA, Peak intents to commission, in partnership with the Government of Tanzania, an independent study into the feasibility of a Tanzanian refinery and further downstream processing. This study would assess the technical, economic, and environmental feasibility of a Tanzanian refinery as well as the potential to produce intermediate products such a MREC.

Depending on the outcome of the feasibility study, Peak could seek to develop a refinery and/or further downstream processing in Tanzania or alternatively revert to its previous strategy of developing a refinery at Teesside (Teesside Refinery) in the United Kingdom.

A significant amount of engineering, flow sheet analysis and pilot plant test work has already been undertaken on a rare earth refinery as part of historical studies, which include:

- Bankable Feasibility Study (completed in 2017) – which covered an integrated Ngualla-Teesside Project
- BFS Update – which initially covered an integrated Ngualla-Teesside Project prior to a decision to defer a decision on a refinery until the finalisation of a feasibility study on a Tanzanian refinery

The proposed Teesside Refinery site is located on a 19-hectare parcel of land within the Wilton International Site near the town of Middlesborough in the Tees Valley, United Kingdom. Peak holds a 250-year lease over the site and implemented a Planning Permission for the project in 2021.

APPENDIX 1: COMPETENT PERSON'S STATEMENTS AND JORC TABLE 1 SECTIONS 1-4

Competent Person's Statement

The information in this announcement that related to Ore Reserves is based on information compiled by Ryan Locke, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Ryan Locke is a Principal Consultant and is employed by Orelogy Mine Consulting Pty Ltd, an independent consultant to Peak Resources. Ryan Locke has sufficient experience that is 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'. Ryan Locke consents to the inclusion in this announcement of the maters based on his information in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resource Estimates is based on work conducted by Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimate. Rod Brown is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as Competent Person in terms of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). Rod Brown consents to the inclusion of such information in this announcement in the form and context in which it appears.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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.*	The database compiled by Peak for the Ngualla Project contains 860 drill holes, totalling over 43 km of drilling, and comprises diamond coring (DD), reverse circulation (RC), and aircore (AC) drilling. The drill hole dataset considered for mineral resource estimation comprised a total of 32 DD holes (3,105.8 m), 320 RC holes (30,139 m), and 297 AC holes (5,541 m). Geochemical data for 20,403 samples were used in the resource estimation study. Holes outside of the resource study area were not retained in the resource estimation dataset. Diamond core samples were collected over a nominal interval length of 2 m within lithological units and core run blocks. Quarter core samples were submitted for geochemical testing. The RC and AC samples were collected over 1 m intervals. A 3-tier riffle splitter was used to split and combine adjacent samples to form 2 m composite, with a 2 kg split submitted for laboratory testing. The total lengths of all drill holes were sampled and submitted for assaying. Sample preparation and assaying procedures are described below.
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.).*	The diamond core samples were collected using PQ3 coring equipment in the weathered material and HQ3 equipment in fresh material. A rod length of 3 m was used. Because of the weathered nature of the host rock and the disseminated nature of the mineralisation, it was not considered possible or necessary to orient the core.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		The RC samples were collected using track mounted rigs equipped with 5.5" face sampling button bits and 3 m rods. The aircore samples were collected using a 5" aircore blade bit and 3 m rods.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	Diamond core samples were collected using triple-tube coring equipment. The drilling was performed in short runs and at slow rates to maximise core recovery. The runs were marked and checked against the drillers' core blocks to ensure any core loss was recorded. The average core recovery was approximately 97% for fresh material and 87% for colluvium and weathered material. For the RC programs, a face sampling bit was used to improve recovery and reduce contamination. Each sample was weighed, with the weight compared to the theoretical weight estimated from the hole diameter and expected density. The drill rods were air flushed after each sample to minimise contamination. The moisture content of the RC sample was qualitatively logged and recorded. A number of studies were conducted to assess whether there was any relationship between recovery and grade, with no significant correlation identified. Material from the drill return and cyclone overflow were periodically collected and assayed, and good correlation with the primary sample grades was observed. A number of DD and RC twinned holes were drilled. Close lithological and grade correlation was observed between the twinned datasets, with no evidence of significant differences that may indicate issues with one or both of the sampling methods.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	All DD and RC intervals were geologically logged, with information pertaining to lithology, mineralogy, weathering, and magnetic susceptibility collected and recorded. RC sample weights were recorded. DD recovery relative to drill length was recorded. Rock quality designation (RQD) was measured and recorded for DD intervals. Because the DD cores were not oriented, structural orientation data were not recorded. The logging datasets comprised a mix of qualitative (lithology, weathering, mineralogy) and quantitative (RQD, magnetic susceptibility, recovery) information. The remaining three-quarter core pieces were returned to the core trays and stored for reference or subsequent testing. A small amount of material from each 1 m RC sample was collected and stored in chip trays. All core samples and chip trays were photographed. Logging was performed on the full length of each hole, with the level of detail considered appropriate to support mineral resource estimation studies.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.*	RC chip samples were collected from each 1 m interval using a standalone 3-tier riffle splitter configured to give a 1/8 split. A scoop was used to collect an equal-sized portion from adjacent samples, which were combined to produce 2 m composites. Replicate samples were collected to confirm that scooping did not introduce significant bias or precision issues. Core samples were terminated at lithological contacts and at the end of each core run (which were marked by core blocks) or at 2 m intervals within lithological units. The cores were longitudinally split using a core saw for fresh material and a knife for weathered material, with quarter-core samples submitted for assaying. Peak has established a set of quality assurance (QA) protocols, which include the collection and insertion of field duplicates and certified reference samples into the sample stream prior to submission to the laboratory. Coarse crushed

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	blanks are inserted by the laboratory prior to sample preparation. The QA samples are inserted at random, but at a frequency that averages 1:30 for each type. Twinned DD and RC datasets were examined to confirm that the sample collection procedures had not resulted in significant bias or precision issues. The QA data do not indicate that there are any significant issues with the weight/ particle size combinations used for sample preparation.
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.* • *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.* • *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.*	A 150 g pulp from each sample was submitted to SGS, Perth, for assaying using fused bead XRF and pressed powder XRF (Ta only) for the major metal suite, and a 4-acid digest and ICP-MS for the trace metal suite. All three methods are widely used in the industry, and considered appropriate for these constituents. The element suite for each method comprised: Fused Bead XRF: Al, Ba, Ca, Ce, Cr, Cu, Fe, K, La, Mg, Mn, Na, Nb, Nd, Ni, P, Pb, S, Si, Ti, Zn and Zr. Pressed Powder XRF: Ta. ICP-MS: Dy, Er, Eu, Gd, Ho, Lu, Pr, Sc, Sm, Tb, Tm, U, Th, Y and Yb. No geophysical tools have been used to determine element grades for mineralisation at Ngualla. Laboratory performance was monitored using the results from the QA samples inserted by Peak (see above). The Standards consist of certified reference materials (CRMs) for Ngualla mineralisation prepared by Geostats Pty Ltd (Perth). Inter-laboratory checking of analytical outcomes was routinely undertaken to ensure continued accuracy and precision by the primary laboratory.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		SGS conducted regular checks on the sizing of the pulps provided by ALS to ensure that they had been pulverised to the required specifications. Batches that did not meet specification were re-pulverised. All QA data are stored in the Ngualla database and regular studies were undertaken to ensure laboratory performance was within acceptable levels of accuracy. The QA studies confirm that accuracy and precision are within industry-accepted limits.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Significant intersections were verified by alternative Peak personnel, and SRK undertook some spot-checking of intervals during the site visit. An RC twinned hole exists for each DD hole, and comparisons between the two datasets indicate the pairs generally show very good lithological and grade correlation. Primary data were handwritten onto pro-forma logging sheets in the field and then entered into Excel spreadsheets at the Ngualla site office. The spreadsheets include in-built validation settings and look-up codes. Scans of original field data sheets are digitally stored and secured. The data entered into the spreadsheets are reviewed and validated by the field geologist before being imported into a secure central database, managed by Geobase Australia. Data collection and entry procedures are documented, and all staff involved in these activities are trained in the relevant procedures. With the exception of setting grades recorded as below detection to half the detection limit in the extracts used for mineral resource estimation, no adjustments to any the assay data have been made.
Location of data points	• *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.*	The spatial data for Ngualla are reported using the ARC 1960 UTM, Zone 36S coordinate system. Drill collars were surveyed using a RTK GPS, Base Receiver and Rover Receiver by professional contract surveyors.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	• *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Downhole surveys were completed during drilling using an electronic single-shot downhole camera, with readings taken at a nominal interval of every 40 m down all DD holes and RC holes. The elevation for each drill hole collar was adjusted to the elevation of a laterally coincident point on the topographic surface derived from a LiDAR survey flown for Peak by Digital Mapping Australia Pty Ltd in 2012. The LiDAR data have a reported accuracy of 10 cm in elevation and 15 cm north and south.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	The nominal drill hole spacing is 40 x 50 m in the Bastnaesite Zone (see definition below). Trial Grade Control drilling on a 10 x 10 m grid has been performed in two areas. The drilling spacing is considered sufficient to demonstrate a level of confidence in lithological and grade continuity that is commensurate with the classifications applied to the mineral resource estimates. Variographic studies indicate grade continuity ranges of several hundred metres for the majority of the domains. 1 m RC drill samples were combined in the field to form 2 m composite samples for final assay submission; 2 m composites are considered adequate for resource estimation and for the definition needed for the likely mining techniques for this style of mineralisation.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	The local karstic and magmatic structures display a variety of orientations and most of the drilling has been conducted on east-west traverses with holes angled 60° to the west. This orientation is considered suitable for the dominant mineralisation orientations. The aircore holes, which target the SWA colluvium, are all vertical. No orientation-based sampling biases have been identified, or are expected for this style of mineralisation.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sample security	• *The measures taken to ensure sample security.*	The chain of custody of samples is managed by Peak. The samples are kept in sealed bags at an onsite storage facility prior to being trucked to the ALS laboratory in Mwanza by Peak personnel. The Mwanza laboratory checks the received samples against the sample despatch forms and issues a reconciliation report. Following sample preparation, the pulp samples are transported to SGS, Perth, by DHL air freight.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	Hellman & Schofield (H&S) and SRK have each audited Peak's sampling, QAQC, and data entry protocols and considered the procedures to be consistent with industry best practice, and the data of sufficient quality for resource estimation.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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 obtaining a licence to operate in the area.*	The mineralisation lies wholly within the Tanzanian Prospecting Licence PL6079/2009. The licence is 100% owned by PR NG Minerals Ltd. Peak is developing the Ngualla Rare Earth Project with co-investors Appian Natural Resources Fund and IFC, a member of the World Bank Group whereby Appian and IFC have an effective combined 25% interest in PR NG Minerals on an 80:20 split. Peak holds the remaining 75% interest in PR NG Minerals. Appian and IFC have together been granted a total combined 2% Gross Sales Royalty. There is no habitation or farming on the mineralised area and there are no wilderness, historical sites, national parks or environmental settings. The licence is current and in good standing and there are no known impediments to obtaining a licence to operate in the area.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	No systematic exploration for rare earths or barite had been undertaken at Ngualla prior to Peak Resources acquiring the project in 2009. Limited reconnaissance exploration and surface sampling for phosphate had been undertaken by a joint Tanzanian-Canadian university based non-government organisation in the early 1980s.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Rare earth and barite mineralisation at Ngualla is magmatic in origin and hosted within the core of the Ngualla Carbonatite. Mineralisation has been residually enriched in the oxide zone at surface through weathering and the removal of carbonate minerals to variable depths of up to 140 m vertically. High-grade rare earth mineralisation is hosted within the iron oxide and barite-rich weathered zone and above an irregular karstic surface, referred to as the Weathered Bastnaesite Zone.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes*:
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole 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.*
		The drill hole plan in Figure 2 illustrates the distribution of drilling over the Mineral Resource block model coloured by total rare earth oxide (REO) grade to illustrate trends of mineralisation.
		No new exploration results are reported in this release. Previous results are included and reported in earlier reports.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	REO grade is reported as 'total rare earth oxide' (REO), which is calculated as the sum of the individual 14 rare earth oxides plus yttrium, as shown in Tables 3 and 4 of this document. Table 7 shows the average distribution of individual rare earth oxides within the +1% REO Weathered Bastnaesite Zone. These ratios are consistent throughout the mineralisation. Barite concentrations were derived from the modelled BaO grades, which were estimated using the Ba grades included in the laboratory datasets. The massive and consistent nature of the rare earth mineralisation at Ngualla and the resulting uniform grade distribution does not require the statement of any higher grade intervals when using a 1% REO lower cut-off grade. No metal equivalents are reported in the intersection table.
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 drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Ngualla's rare earth mineralisation occurs as a thick horizontal blanket developed over an irregular karstic surface that has both vertical and horizontal form, and is developed on a vertical primary magmatic fabric and therefore there are both horizontal and vertical controls. Drilling reported is all at 60° to the west to best intersect both the vertical and horizontal components. All reported intersections are downhole lengths.
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 drill hole collar locations and appropriate sectional views.*	No new discovery is being reported. ASX Announcement "Higher grade Ngualla Mineral Resource estimate contains nearly 1 million tonnes rare earth oxide" of 22 February 2016 contains plans and sections of the Mineral Resource. The drill hole plan in Figure 2 illustrates the distribution of previous and 2015 drilling over the Mineral Resource block model.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of*	The accompanying document is considered to represent a balanced report.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The Mineral Resource estimate includes all available data and gives a balanced view of the grade and tonnage of the Mineral Resource estimate for the reported cut-off(s) and material types. Reporting of grades is done in a consistent manner. All previous significant intersections have been fully reported in previous releases. No new exploration results are reported in this release.
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.*	Density measurements were collected for the full range of lithologies and weathering overprints at Ngualla and were found to range from 1.70 g/cm^3 to 2.96 g/cm^3. Multi-element assaying is carried out on all samples, including for potentially contaminating elements to the hydrometallurgical leach recovery process, such as calcium, magnesium and phosphate, and radioactive elements such as uranium and thorium. The Bastnaesite Zone, comprising high-grade weathered mineralisation that is efficiently treatable by a beneficiation and acid leach recovery process developed and developed by Peak, is well defined and identified by mineralogical testwork, geological logging and geochemistry. No significant levels of contaminating or deleterious elements have been detected within this zone. The average uranium and thorium levels in the +1% REO Weathered Bastnaesite Zone are very low, at 15 ppm and 54 ppm respectively. Other exploration data are not considered material to this document at this stage.
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*	No further drilling or sampling is planned. The mineralisation is consistently defined at a 40 x 50 m drill spacing over the extent of the Weathered Bastnaesite Zone (Figure 2).

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	A Bankable Feasibility Study (BFS) on the Ngualla Rare Earth Project is released concurrently with this report. Future work will involve the sales and marketing of future products and the financing of the Project. Grade control drilling will be required for local estimation during mining.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in Section 1 and where relevant in Section 2, also apply to this section.)

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	The drill hole data for the Ngualla Project is stored in a secure central database managed by Geobase Australia. All assay and survey data loading was via electronic transfer from checked primary data sources. Geological logging and sample data are handwritten and entered into spreadsheet. Field data are entered into project-specific password-protected spreadsheets with in-built auto-validation settings. The spreadsheet data are imported into the central database after a validation process. The import scripts contain sets of rules and validation routines to ensure the data are of the correct format and within logical ranges. The Ngualla data were provided to SRK as extracts in Access and Excel tables as direct exports from the central database. The datasets were checked by SRK for internal consistency and logical data ranges prior to using the data for mineral resource estimation.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	In August 2015, the Competent Person visited the Ngualla Project site to inspect the local geology, and discuss aspects of data acquisition and deposit geology with site personnel. The visit provided the opportunity to observe RC and DD core drilling operations, sample handling and preparation practices, and bulk density testing procedures. The sample preparation laboratory in Mwanza was also inspected, and no significant issues were identified.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on*	The main controls on mineralisation were interpreted by Peak in plan and section and linked to form a 3D geological model. The geological interpretation is considered consistent with drilling and mapping data, and with site observations. The interpreted setting is also consistent with the generally

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	Mineral Resource estimation. • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	accepted understanding within the mining community for this style of mineralisation. Lithology definition was primarily based on a combination of geological logging and geochemical data, with boundaries typically corresponding to distinct changes in physical and geochemical characteristics. Because the main mineralisation is contained within a karstic host, domain geometry is complex in places, and the irregular weathering profile has a significant impact on grade and lithological continuity. High-grade rare earth mineralisation is hosted within the iron oxide and barite-rich weathered zone and above an irregular karstic surface, referred to as the Weathered Bastnaesite Zone. For modelling purposes, upper grade thresholds of 0.69% P_2O_5 and 13.99% CaO have been used to assist with the definition of Weathered Bastnaesite Zone Mineral Resource subset reported, which has been found through test work to be most amenable to the current metallurgical extraction process. For validation purposes, SRK prepared an independent model using a lithological indicator approach. Acceptable correlation with Peak's sectional interpretation was observed.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	As described in Section 1, the mineralisation is hosted within and upon a carbonatite pipe, with elevated REO concentrations occurring both within the carbonatite, and in the colluvial cover material. For resource modelling, a total of six separate estimation domains were defined in the SREZ and three domains in the SWA. The SREZ covers an area of approximately 1.5 km^2, with the following lithologies variably distributed over these areas: • Colluvium covers approximately 40% of the area, and has an average thickness of 8 m, but in places exceeds 60 m.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		• Low calcium weathered carbonatite occurs in approximately 25% of the area, and has an average thickness of 36 m, and a maximum thickness of 150 m. • High calcium weathered carbonatite occurs in approximately 25% of the area, and has an average thickness of 29 m, and a maximum thickness of 105 m. • Fresh carbonatite has been intersected in approximately 85% of the area, with an average modelled thickness of 88 m, and a maximum modelled thickness of 215 m. • Weathered ultramafic occurs in approximately 5% of the area, and has an average thickness of 35 m, with a maximum vertical interpreted thickness of 105 m. • Fresh ultramafic occurs in approximately 5% of the area, and has an average modelled thickness of 70 m, with a maximum modelled vertical thickness of 165 m. The SWA cover areas of approximately 2.3 km^2, with the following lithologies variably distributed over these areas: • Colluvium covers approximately 50% of the area, and has an average thickness of 12 m, and a maximum thickness of 70 m. • Weathered carbonatite was intersected in approximately 30% of the area, with an average intersected thickness or 9 m and a maximum of 65 m. • Fresh carbonatite was interpreted under the full extent of the SWA, but not included in the reported resources.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of*	The mineral resource estimates were prepared using conventional block modelling and geostatistical estimation techniques. A single model was prepared to represent the defined extents of the mineralisation in both the SWA and SREZ. The resource modelling and estimation study was performed using Datamine Studio 3, Supervisor, and X10.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	computer software and parameters used. • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	Kriging neighbourhood analyses (KNA) studies were used to assess a range of parent cell dimensions, and a size of 20 x 20 x 5 m (XYZ) was considered appropriate given the drill spacing, grade continuity characteristics, and the expected mining method. Sub-celling was applied to enable the wireframe volumes to be accurately modelled. Barite is a major mineral in the SREZ, and metallurgical studies have indicated that relatively pure barite reports to one of the ore processing waste streams. Peak considers that it is potentially economically viable to recover this material, and barite is included as a by-product in the resource statement. The lithology wireframes were used as hard boundary estimation constraints. The drill data showed evidence of CaO and MgO grade trending near the oxide/ fresh boundary within the SREZ, and a sub-domain was interpreted to limit grade smearing across this contact. Probability plots were used to assess for outlier values, and grade cutting was not considered necessary. The weathered SREZ dataset contains a small number of randomly distributed high CaO intercepts, which are thought to represent small slivers or boulders of unweathered carbonatite. Given this material will likely be excluded from the plant feed during mining, these samples were excluded from the estimation dataset and the local tonnages were factored accordingly to account for material loss. The parent cell grades were estimated using ordinary block kriging. Search orientations and weighting factors were derived from variographic studies. Dynamic anisotropic searching was used for the colluvium and SWA oxide domains. A multiple-pass estimation strategy was invoked, with KNA used to assist with the selection of search distances and sample number constraints. Extrapolation was limited to approximately half the nominal drill spacing. Local estimates were generated for 29 elements expressed in oxide form. These included the rare earth elements, the major gangue elements, and a suite of minor elements that may have processing or marketing implications.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		A complete list of constituents in included in the accompanying resource estimation summary. Model validation included: • Visual comparisons between the input sample and estimated model grades • Global and local statistical comparisons between the sample and model data • An assessment of correlation matrices comparing multi-element grade relationships in the input dataset and estimated model • An assessment of estimation performance measures including kriging efficiency, slope of regression, and percentage of cells estimated in each search pass • A check estimate using nearest neighbour interpolation. A previous estimation study was completed by H&S in 2013. The 2016 study covers the same parts of the deposit as the previous study, and broadly similar modelling approaches were used for both. The main differences between the two studies include minor changes to the geological model, and a small increase in the amount of drill data available for the current model. In addition, the variography, estimation parameters, estimation control, treatment of high CaO outliers, treatment of voids, density estimates, and classification were all independently determined for each study. A comparison of the 2013 and 2016 estimates is presented in the accompanying modelling summary. The relatively minor differences in grade and tonnage are primarily due to the use of revised density data, tighter estimation constraints, and the treatment of high CaO outliers in the 2016 model.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The resource estimates are expressed on a dry tonnage basis, and in situ moisture content has not been estimated. A description of density data is presented below.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	A total REO cut-off grade of 1% has been used for resource reporting. The Mineral Resource cut-off grades selected facilitate the comparison of the 2013 and 2016 estimates. Cut-off grades are based on assumptions made by Peak that are considered to be realistic in terms of considerations of long-term historical and predicted rare earth prices, processing and mining costs and the demand for the rare earth products. In the previous Mineral Resource statement, the estimates for the Weathered Bastnaesite Zone were stated at a 3% REO cut-off. Based on the results from recent mine optimisation studies, the cut-off grade has been set to 1% REO for all REO mineralisation. High-grade rare earth mineralisation is hosted within the iron oxide and barite-rich weathered zone and above an irregular karstic surface, referred to as the Weathered Bastnaesite Zone. For modelling purposes, upper grade thresholds of 0.69% P_2O_5 and 13.99% CaO have been used to assist with the definition of Weathered Bastnaesite Zone Mineral Resource subset reported, which has been found through test work to be most amenable to the current metallurgical extraction process. Barite is included as a by-product in the Mineral Resource statement. Metallurgical studies conducted by Peak have indicated that barite could be recovered as a by-product from one of the ore processing waste streams. Given that barite is expected to be only recovered from material that is processed as REO ore, the REO cut-off criteria have been used to define the barite resource quantities, and separate cut-off criteria for barite have not been applied.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining*	Mine planning studies conducted as part of the March 2014 PFS indicate the mineralisation will likely be exploited using conventional selective open pit mining methods, utilising small-scale hydraulic excavator mining and dump truck haulage. It is likely that limited blasting will be needed, and the blanket-

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	style morphology of the main mineralised zones indicates that stripping ratios and ore loss and dilution are expected to be low. The expected selective mining unit size is 5 x 5 x 5 m. Mining dilution assumptions have not been factored into the resource estimates, but some allowance has been made for material loss due to voids and boulders and slivers of fresh mineralisation within the oxide zone.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	A metallurgical process consisting of three stages has been developed and demonstrated by Peak for the weathered Bastnaesite mineralisation. The process involves the initial concentration of rare earth minerals by flotation techniques, followed by a second stage of selective leaching and subsequent purification of the mineral concentrate, and then a final solvent extraction separation stage. Extensive and comprehensive testwork, including operation of pilot plants, has indicated the effective concentration, extraction, purification and separation of rare earths to produce a high purity product is technologically and economically feasible. A Bankable Feasibility Study has now been completed (simultaneous with the release of this report) on the process. The materials in other parts of the deposit consist of mineralisation styles that are similar to other known deposits for which effective metallurgical treatment processes have been developed. Peak has completed less rigorous metallurgical testwork to date on these other styles of mineralisation; however, early stage baseline metallurgical testwork on these material types support the potential for their effective treatment. The metallurgical testwork has indicated that relatively pure barite reports to one of the waste streams, and it is considered that this may be recovered as a by-product on completion of further technical work.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable*	The deposit is contained within the approved lease boundary. Waste landforms are to be developed adjacent to existing landforms features to minimise environmental impact.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	An in-waste tailings landform is being designed for process residues to be stored within mine waste material in order to limit the footprint of the overall waste landform and reduce the requirement for additional mining. There is no evidence of acid rock drainage (ARD) due to the oxidised nature of the mineralisation, the carbonate rock host, and the absence of sulphide minerals. Approvals for process residue storage and waste dumps have not yet been sought. A Tanzanian regulatory Environmental Impact Assessment (EIA) has been completed for Ngualla and an Environmental Certificate for the Project issued in March 2017.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	The Ngualla density dataset contains 1,157 test results derived from samples acquired from 29 DD core holes, and representing 12 lithologies within the SREZ. Dry in situ bulk densities were determined using the calliper method, which entails oven-drying and weighing core pieces and estimating the volume from the measured diameter and length. Each sample was lithologically logged and the average density value for each lithology was assigned to intervals with the corresponding lithology code in the drill hole datafile. Ordinary kriging was then used to interpolate a density to each model cell in the resource model. The estimates are considered to represent the dry in situ bulk density of the material in each block. The density test procedure accounts for porosity and vugs within individual core pieces. Larger voids, which are common in karstic terrains, were accounted for by assigning an indicator value to drill hole intervals in which voids were encountered. The indicator values were then used to estimate the proportion (or probability) of the void space present in each parent cell, and the estimated block tonnages were factored accordingly.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	The classifications have been applied to the resource estimates based on a consideration of the confidence in the geological interpretation, the quality and

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
	• *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	quantity of the input data, the confidence in the estimation technique, and the likely economic viability of the material. The colluvial blankets are generally quite uniform in thickness, with good continuity evident between drill holes. The underlying carbonatite lithologies are characterised by the presence of numerous pinnacles and sinkholes which, although following a general regional trend, can be quite variable in terms of depth, width and persistence. Locally, this can result in significant uncertainty in the position of lithological contacts. However, on a regional basis, SRK considered that the drilling is sufficiently close-spaced that alternative interpretations would not result in significant tonnage differences. The variography studies indicate that grade continuity is quite well defined for most oxides, with low nugget values and ranges in the major continuity directions of up to several hundred metres. SRK considers that the available QA data demonstrate that the datasets used for mineral resource estimation are sufficiently reliable for the assigned classifications. The model validation checks show a good match between the input data and estimated grades, indicating that the estimation procedures have performed as intended, and the confidence in the estimates is consistent with the classifications that have been applied. Based on the findings summarised above, it was concluded that the main source of resource uncertainty is in the geological model. The confidence in the geological model is primary based on drill spacing, and therefore sample coverage is considered the controlling factor for resource classification. A boundary was interpreted approximately half the drill spacing beyond the extents of relatively uniform drill coverage and used to define the lateral extents of the resource. A classification of Measured Resource was assigned to the central regions where the drill coverage was close-spaced and uniform. A classification of Indicated Resource was applied to the peripheral areas where the sample coverage was regular but wider-spaced, and a classification of

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		Inferred Resource was applied where the coverage became wide-spaced and fragmented.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	In 2016, Amec Foster Wheeler (AFW) completed an independent review of the Mineral Resource estimates, and advised that they were satisfied that the estimates are consistent with the JORC Code requirements, the classifications are reasonable, and the Mineral Resource provides a reasonable basis for Ore Reserves estimation. The model reviewed by AFW contained estimates for BaO but, at the time of the review, barite was not specified as a by-product.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The mineral resource estimates have been prepared and classified in accordance with the guidelines that accompany the JORC Code, and no attempts have been made to further quantify the uncertainty in the estimates. The largest source of uncertainty is considered to be related to the local accuracy of the geological interpretation. SRK independently checked the geology model using a significantly different interpretation approach, and observed relatively similar volumes. The comparison indicated that the manual interpretation is possibly slightly conservative. The mineral resource quantities should be considered as global and regional estimates only. The accompanying models are considered suitable to support mine planning studies, but are not considered suitable for production planning, or studies that place significant reliance upon the local estimates.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*	Refer to Table 1: Section 3. Ordinary Kriging estimated block model.
	• *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Mineral Resources are reported inclusive of the Ore Reserves declared.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	A site visit to Ngualla was completed by Ryan Locke in October 2013.
	• *If no site visits have been undertaken indicate why this is the case.*	Site visits were completed
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	The mining study has been completed to a Bankable Feasibility level.
	• *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	An achievable and realistic mine plan has been generated based on robust pit designs utilising the outcomes of a comprehensive open pit optimisation process. The schedule has been financially modelled and generates significant value. The optimisation process included a full sensitivity analysis of input parameters to ensure the economic viability and robustness of the outcome.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	A minimum cut-off grade of 1% REO was applied as part of the optimisation; however the Ore Reserve is based on a block-by-block multi-element value calculation within the model to determine the ore. The Reserve is based on the Measured and Indicated category material within the Weathered Bastnaesite Zone portion of the Ngualla Mineral Resource. Metallurgical testwork has shown high rare earth recoveries can be expected from this style of mineralisation using the metallurgical process demonstrated. A predictive mineralogical model has been developed using drill assays and lithological logging supported by

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
		mineralogical studies (XRD and QEMSCAN) and flotation testwork. As a result, cut-off grades and blending strategies have been defined around gangue elements of silicon, calcium, iron, phosphorus and aluminium to ensure predictable and optimal flotation performance as measured by the grade and recovery of rare earths to the concentrate.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	Completion of a Whittle 4x optimisation including sensitivities analysis for: • +/-15%, Price • +/-15% Processing recoveries • +/-15% Mining costs • +/-15%, Processing costs • +/- 10° Slopes Completion of a detailed staged mine design and mine schedule.
	• *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*	A conventional open pit mine method was chosen as the basis of the BFS due to the low strip ratio and the outcropping of ore at surface. A small scale mining fleet consisting of a single 90t excavator matched to 41t articulated dump trucks was selected to ensure mining selectivity and dilution expectations could be achieved. However the fleet is also fit-for-purpose, is suitable for the steep terrain at Ngualla and is capable of meeting production requirements.
	• *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.*	Geotechnical assessment has been completed by Golder and Associates, who provided recommended slope configurations. The slope parameters provided by Golder and Associates were applied within the mine design.

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	• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*	Optimisation included only Measured and Indicated material types. The February 2016 Resource model has been used for the pit optimisation process
	• *The mining dilution factors used.*	Internal block dilution applied during reblocking phase to create SMU block size of 4mE by 4mN by 5mRL. No further dilution was applied as an "ore loss only" approach was used, with an ore loss applied to all edge blacks
	• *The mining recovery factors used.*	An ore loss factor of 25% was applied on a block by block basis to all ore blocks that were horizontally adjacent to at least one surrounding waste block. This resulted in a global 6% reduction to the mineralised resource. 100% mining recovery was applied within the optimisation software as the above ore loss "skin" was applied at the block model level to minimise dilution effects. Small scale mining fleet and low production rates help ensure mining selectivity and therefore ore loss targets can be achieved.
	• *Any minimum mining widths used.*	Designs and cutbacks designed to suit Caterpillar mining fleet consisting of a single 395 excavator and 745 articulated dump trucks. A minimum mining width of 40m was applied Two way ramp systems widths 23m Ramp gradient 10%
	• *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*	No Inferred Mineral Resource has been included within the Ore Reserves. As Inferred Mineral Resource accounts for only 2% of the global resource indicates the project was not sensitive to the inclusion of Inferred Mineral Resources.
	• *The infrastructure requirements of the selected mining methods.*	The following infrastructure will be required and is included in the Capital estimate within the BFS: • 80km site access road

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		• Administration buildings • HFO Power generation • Waste water treatment facilities • Water Catchment weirs and bore field • Accommodation village • Stores and maintenance facilities • Mineral Processing facilities
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*	The metallurgical process consists of beneficiation, consisting of milling, pre-float to separate barite before floatation of the rare earth concentrate product. Extensive test work has confirmed the process is effective in achieving acceptable/economic rare earth recoveries from the weathered bastnaesite mineralisation.
	• *Whether the metallurgical process is well-tested technology or novel in nature.*	The process stages are typical of those used within the rare earth industry; however they have been optimised to suit the unique Ore mineralogy at Ngualla. There are no novel processes used within the flowsheet.
	• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*	The entire process has been extensively tested and verified by multiple laboratories Development test work was initially undertaken on composite intervals (100m total core length) from diamond core NDD007 within the Weathered Bastnaesite Zone. Verification testwork was subsequently undertaken on three drill holes and two trench samples from within the Weathered Bastnaesite Zone. The flow sheet was later confirmed by an additional laboratory on three trench samples from within the Weathered Bastnaesite Zone. Finally, a 60 tonne trench sample from multiple trenches within the weathered bastnaesite zone, representing the first five years of mill feed, was processed through a pilot plant to obtain recovery factors.

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		A diamond drill program was conducted to provide two composites representing 0-5 years and 6-10 years of mill feed respectively. Testwork was undertaken on these composites to demonstrate the robustness of the flowsheet.
	• *Any assumptions or allowances made for deleterious elements.*	Uranium and thorium levels within the ore body average 14ppm and 55ppm respectively and are well below the level regarded by the International Atomic Energy Agency (IAEA) for the ore to be classified as radioactive Waste material and product from the processing facilities will also be well below the levels regarded by the IAEA to be classified as radioactive. Uranium and thorium are monitored through the mining and processing processes. No other deleterious elements have been identified in the ore body
	• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*	A 60 tonne bulk sample from eight trenches within the weathered bastnaesite zone representing the first five years of mill feed was processed through a beneficiation pilot plant in 2015 to produce two tonnes of concentrate.
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	Not applicable, product is a flotation concentrate.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Deposit is located in the Songwe Region of south west Tanzania and is contained within the approved Prospecting Lease boundary. All Waste mined from the Open pit will be utilised in the construction of the TFS facilities. There is no evidence of Acid Rock Drainage due to the weathered nature of the deposit, the absence of sulphide minerals and the carbonate host rock. An Environmental Certificate was granted for the Ngualla Project in March 2017. Specific approvals for tailings storage and waste dumps have not yet been sought.

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Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Currently no site processing infrastructure has been constructed. All mine processing infrastructure is to be located within the approved Tanzanian prospecting lease PL6079/2009 boundary, located immediately to the east of the deposit. Power infrastructure will be constructed during plant development. Designs completed for TSF location and size requirements. No suitable accommodation camp is currently available. Accommodation camp to be constructed. Detailed planning of site access roads completed by Peak. Current access tracks are unsuitable to support the operation, and require upgrade to all weather roads.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.*	Processing fixed Plant Capital estimates based on preliminary design data, process flow diagrams, piping and instrumentation diagrams and mass and energy balance. The majority of plant equipment, infrastructure and installation costs are based on direct quotes and remaining costs factored from equivalent projects. Mining capital based on quoted estimate from in-country supplier. Mining operating costs determined using first principal methods with equipment costs provided by OEM's Processing operating costs determined by detailed flow analysis and provided by lead engineering team.
	• *Allowances made for the content of deleterious elements.*	Uranium and thorium levels within the ore body are low, averaging 14ppm and 55ppm respectively and are well below the level regarded by the International Atomic Energy Agency (IAEA) for the ore to be classified as radioactive Waste material and product from the processing facilities will also be well below the levels regarded by the IAEA to be classified as radioactive.

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		Uranium and thorium are monitored through the mining and processing processes. No other deleterious elements have been identified in the ore body
	• *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.*	The below Commodity prices were assigned to each Rare Earth Oxide (US$/kg) as provided by Peak. The below prices incorporate a payability factor applied to the final oxide price, which is consistent with how a rare earth concentrate product is typically priced. • La_2O_3 - $0.73 • CeO_2 – $0.75 • Pr_6O_{11} – $46.81 • Nd_2O_3 – $49.63 • Sm_2O_3 - $1.13 • Eu_2O_3 - $15.93 • Gd_2O_3 - $19.95 • Tb_4O_7 - $666.35 • Dy_2O_3 - $205.19 • Ho_2O_3 - $68.99 • Er_2O_3 - $18.10 • Tm_2O_3 - $0.00 • Yb_2O_3 - $8.11 • Lu_2O_3 - $403.82 • Y_2O_3 - $3.21 Conservative pricing assumptions have been adopted for the purposes of the Ore Reserve calculation to ensure robustness across various market scenarios and pricing environments. The price assumptions above are considerably below YTD average prices for rare earths as well as forward forecasts for rare earth prices from leading independent market intelligence providers such as Adamas., both which have been adopted within the financial analysis pertaining to the BFS Update.

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	• *The source of exchange rates used in the study*	All cost estimates are in USD.
	• *Derivation of transportation charges.*	Based on road haulage cost estimate, includes road transport quotations from haulage companies from Ngualla site to Dar es Salaam port and product export handling costs.
	• *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*	Mineral processing operating costs based on Bankable Feasibility Study estimation of fixed and variable costs. No penalties for failure to meet product specification have been included.
	• *The allowances made for royalties payable, both Government and private.*	Allowance of an effective 6.3% Royalty applied to the price which incorporates a 6% royalty payable to the Government of Tanzania as well as a 0.3% local levy.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*	Head grade based on regularised block model and included allowance for ore loss. Commodity prices defined above. Exchange rate – all prices based on USD. Processing costs include treatment to concentrate product. Transportation charges (including shipping to customers) included as selling cost within Whittle optimisation – e.g. .CIF contractual terms are assumed for the purposes of the financial modelling
	• *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Commodity price assumptions as defined above.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*	Two key elements of the deposit are Neodymium and Praseodymium, which have been identified as Critical elements with supply shortages expected into the future. Output production levels have the potential to be increased to meet market demand.
	• *A customer and competitor analysis along with the identification of likely market windows for the product.*	High demand for the key elements contained within the deposit within the permanent magnet, electric vehicle, green energy generation and digital technologies markets.

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		It is estimated that China controls ~85% of the global supply of rare earths.	
	• *Price and volume forecasts and the basis for these forecasts.*	~35Kt of Rare Earth concentrate is intended to be produced on an annual basis. In coming up with this initial production, Peak has considered upfront capex requirement and ability to successfully fund the project, as well as what volume Peak thinks it will be able to comfortably sell into the 3rd party concentrate market	
	• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	Ngualla's product is a rare earth mineral concentrate	
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*	Revenue assumed is based on commodity prices specified above, and include 6.3% local government royalty. Costs estimated to a +-10% level of accuracy. No inflation has been applied. All inputs completed in US dollars. 10% discount rate applied within the BFS. A detailed financial model and associated cost estimate was developed internally by Peak and the project financials detailed in this document are sourced from this model. Short payback period of 5 years after start-up.	
	• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	NPV Sensitivity Ranges to input assumptions Mining Cost -15% Mining Cost +15% Processing Recovery -15% Processing Recovery +15% Processing Cost -15% Processing Cost +15% Price -15% Price 15% Slopes -10°	 NPV 1% NPV 0% NPV -20% NPV 16% NPV 6% NPV 5% NPV -24% NPV 24% NPV -5% NPV 3%

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		Slopes +10°
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	There are no local housing, farming or villages located within the proposed mining area. The Environment and Social Impact Assessment included stakeholder consultation and has been completed with strong support registered from all stakeholders, providing the social license to operate.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves.*	
	• *Any identified material naturally occurring risks.*	As the Ngualla site is located relatively close to the equator, extreme rainfall events may be a risk to the operation during the wet season, December – April. The relatively low mining production rates allow for sufficient time during these months. Multiple mining faces will be open at any one time giving several options, thereby reducing risk of the impact of high rainfall events. Extreme weather conditions may impact the logistical side of the operation with the land haulage of products to and from the Dar es Salaam port facilities. Roads have been designed to allow for year round access to site including during extreme rainfall events.
	• *The status of material legal agreements and marketing arrangements.*	Peak continues to progress commercial discussions with a number of prospective customers around offtake of Ngualla concentrate. On 19 October 2022 Peak announced on ASX that it has entered into a non-binding Offtake & Strategic Co-operation Memorandum of Undertaking with Shenghe Resources (Singapore) Pte Ltd. Included in the matters for negotiation and inclusion in a binding agreement is the purchasing by Shenghe of 75% to 100% of Ngualla Project production. There are no other

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		non-binding or binding offtake agreements for Ngualla Project concentrate at this time.
	• *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	Reserve contained within the Tanzanian prospecting licence PL6079/2009. The Prospecting License is in good standing with the relevant government authority There are no known impediments to obtain a license to operate in the area. An Environmental and Social Impact Assessment has been completed and approved by Tanzanian authorities, with an Environmental Certificate (EC) granted for the mine, processing plant and access road project on 7 March 2017. The 2016 ESIA was expanded on in a subsequent ESIA report by Align Environment and Risk in 2018 to ensure the requirements of the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability (IFC, 2012) are also addressed. As a result of the proposed increase in throughput, an update to the ESIA, also referred to as an updated Environmental and Social Management Plan (ESMP) was submitted to NEMC in May 2022. The update included a description of additional baseline data collected and proposed changes to the activities in the Special Mining Licence (SML) area of the Project. Approval of the updated ESMP was received on 16 June 2022. A Special Mining Licence (SML) is required for the project. The grant of the SML will follow execution of a Framework Agreement with the Government of Tanzania (GoT). The Cabinet of the GoT approved the application of Peak for

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		the grant of SML in July 2021 and negotiations with the GoT have subsequently progressed towards finalising a Framework Agreement.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Directly from the Mineral Resource classification. The result appropriately reflects the Competent Person's point of view of the deposit. No Probable Reserves are derived from Measured Mineral Resource.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	No audits have been completed on the 2022 Ore Reserve.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*	Orelogy are confident that the accuracy of the parameters are within BFS limits. The ore reserve is robust at a range of parameters where there is little change in the pit shape & size changes. However, the value of the project is sensitive to gross changes in the overall price of the product elements.
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*	Model and estimates are global. Grade control drilling and estimation is required for local estimates at pre-production stage.
	• *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.*	Future metals pricing uncertainty will have the greatest effect on the Ore Reserve, as shown within the optimisation. The pit shape is not sensitive to price, however cashflow is significantly impacted.

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	• *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	There has been no production data to date.