

Lower price deck delivers similar BFS results for Ngualla

Peak Resources Limited (ASX: **PEK**) (“**Peak**” or the “**Company**”) is pleased to provide a project update for the Ngualla Rare Earth Project.

The results and assumptions in the Project Update report attached build on the Bankable Feasibility Study (BFS) completed in April this year by including the improvements gained from the Collector Screening Testwork (ASX Announcement dated 28th August 2017 and titled “Process optimisation study boosts Ngualla’s operating margin”). The update also includes the latest rare earth pricing trends (**Figure 1**), which have seen a 99% increase in NdPr prices in 10 months since November 2016.

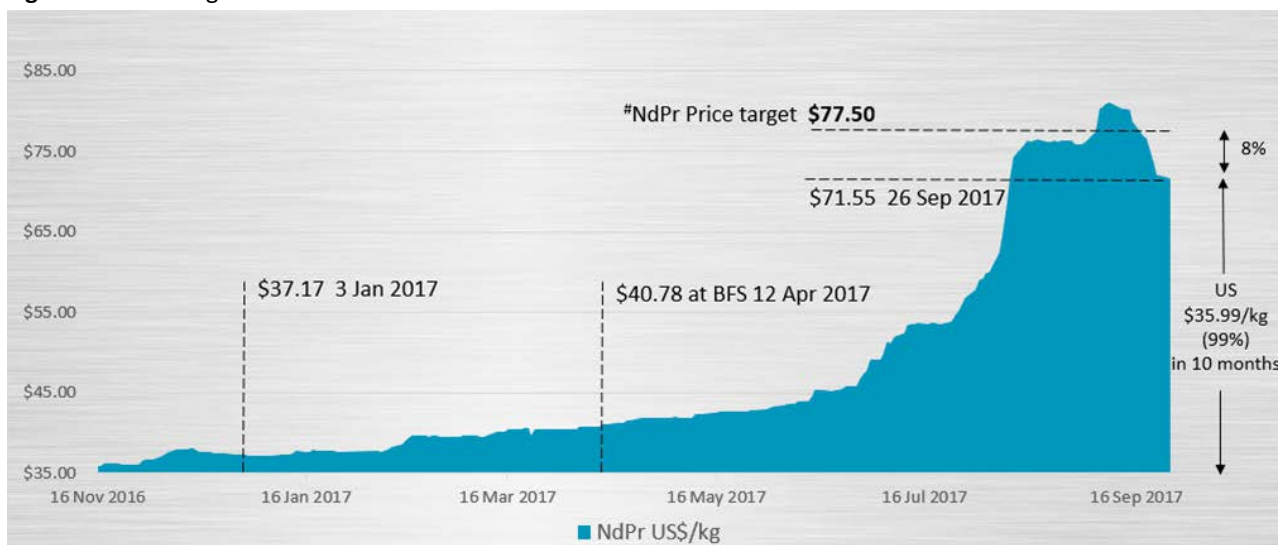
Highlights:

With the price deck of **NdPr US\$ 77.50/kg**, **Lanthanum oxide US\$ 3.70/kg** and **Cerium oxide US\$ 2.20**, which are being seen now in the market place, the exceptional status of the Ngualla Project is underpinned by following deliverables:

- **Post Tax NPV8 US\$ 612 million and IRR 22%*** at current rare earth prices.
- **Total Life of Project Opex intensity US\$32.24 / kg NdPr** is the breakeven point for a positive cash flow, well below current prices.
- **Total pre-production CAPEX of US\$ 365 million** for the Ngualla and Tees Valley refinery combined. This has the potential to be the lowest Capex among its peers for a fully integrated producer.

**see Project Update Report in the following for material assumptions that define these financial metrics*

Figure 1. Increasing NdPr Price trend in 2017:



Target price which is required to realise similar financial performance as communicated in the BFS incorporating the process improvements of the “Process optimization study boosts Ngualla’s operating margin” dated 28 August 2017

Source: Asian Metal Chinese Domestic NdPr oxide 2N price Prices incl. VAT –calculated using daily exchange rates

Chief Executive Officer, Rocky Smith said: *“This project update is further evidence that Ngualla is the best undeveloped rare earth deposit in the world and with the increase in demand for NdPr driving prices even higher we expect to see further improvements in the future.”*

NdPr prices and Ngualla

The improved pricing for Ngualla’s main NdPr product is timely as the Company progresses the project towards development.

The process optimisation work (ASX Announcement “Process optimisation study boosts Ngualla’s operating margin” of 28 August 2017) has delivered a significantly improved operating margin due to improved production rates (Table 1) for an estimated total additional capital outlay of US \$9 million.

Table 1: Comparison of BFS Production Assumptions to Project Update

Production Assumptions	BFS	Process Optimisation
Life of Operation	31 years	26 years
Average Annual Production (tonnes)		
Ore Mill Feed	624,000	711,000
Processed Mineral Concentrate	28,300	32,700
NdPr mixed oxide 2N	2,420	2,810
La oxide equivalent (final product: La carbonate)	3,650	4,230
Ce oxide equivalent (final product Ce carbonate)	1,660	1,920
SEG and Mixed Heavy oxide equivalent (final product mixed carbonate)	280	330

**post ramp up*

A financial analysis of the project using the process optimisation improvements combined with the new lower rare earth price delivers project economics at a similar level to the BFS.

Table 2 provides a comparison of key project financial assumptions and outcomes between the BFS rare earth price assumptions and the project update process optimisation with the lower price deck, showing the exceptional status and quality of the Ngualla Project.

Table 2: Financial Analysis of Project Update at current rare earth prices compared to the BFS price assumptions

Capital Costs	BFS	Process Optimisation
Total Capital cost*	US \$356m	US \$365m
Average Annual Consolidated Sustaining Capital	US \$5m	US \$5m
Operating Costs		
Average Annual Operating cost [#]	US \$83m	US \$91m
Unit operating cost ⁷ (/ kg NdPr)	US \$34.20	US \$32.24
Commodity Price Assumptions average LOM	BFS Price Assumptions	Current Prices
NdPr mixed oxide 2N Min 75% Nd ₂ O ₃	US \$85.00/kg	US \$77.50/kg
Lanthanum oxide equivalent	US \$4.41/kg	US \$3.70/kg
Cerium oxide equivalent	US \$2.25/kg	US \$2.20/kg
SEG mixed heavy oxide equivalent	US \$8.00/kg	US \$8.00/kg
Financial Metrics	BFS	Process Optimisation
Consolidated Average Annual Revenue	US \$228m	US \$241m
Average Annual Operating margin (EBITDA)	US \$145m	US \$150m
Average Annual Consolidated (Post Tax) Cashflow	US \$104m	US \$108
NPV ₈ Post Tax and Royalties	US \$633m	US \$612m
NPV ₁₀ Post Tax and Royalties	US \$445m	US \$444m
IRR Post Tax and Royalties	21%	22%
Operating Margin	64%	62%
Payback Period (from start of operations)	5 years	5 years

*Total pre production Capex, for Ngualla mine and Multi-stage Processing Facility and Tees Valley refinery combined.

[#]Material assumptions are as per BFS and Ore Reserve ASX Announcements of 12 April 2017 except where indicated in this report.

The average annual operating margin, NPV₁₀, IRR and payback period are all already close to the BFS analysis at current rare earth prices despite the BFS assuming 10% higher NdPr prices. The solid project economics provides support for the Company's focus to progress Ngualla towards production in time for the increased demand for NdPr from electric vehicles.

Compliance Information

The increased production rate is based on the Ngualla Ore Reserve in the Appendix (and ASX Announcement "Ngualla Rare Earth Project – Updated Ore Reserve" of 12 April 2017), which together with the BFS summarises the Material Assumptions underpinning this financial analysis, which continue to apply and have not materially changed except where indicated in this announcement. A revised mine plan was not generated for the Project Update. The increased production rate is based on a compressed BFS mine schedule, which would reduce the operational life to 26 years, from 31 years at BFS.

Peak will require new funding for its 75% share in the Ngualla Rare Earth Project in order to achieve the stated financial outcomes, which will result in some dilution of existing shares, the quantum of which will depend on the final debt to equity ratio of the financing package that is yet to be arranged.

For and on behalf of Peak Resources Limited.

Rocky Smith
Chief Executive Officer

Competent Person Statements

The information contained in this announcement relating to Ore Reserves was previously announced to ASX by the Company on 12 April 2017 in an announcement titled 'Ngualla Rare Earth Project – Updated Ore Reserve' (Previous Ore Reserve Announcement) with the written consent of Mr Ryan Locke, a Principal Consultant with Orelogy Consulting Pty Ltd who are an independent consultant to the Company (Competent Person). The Company is not aware of any new information or data that materially affects the information included in the Previous Ore Reserve Announcement. The Company confirms the material assumptions and technical parameters underpinning the Ore Reserve estimates in the Previous Ore Reserve Announcement continue to apply and have not materially changed. The Company also confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

The information in this report that relates to metallurgical test work results is based on information compiled and / or reviewed by Mr Roy Gordon who is a Member of The Australasian Institute of Mining and Metallurgy. Roy Gordon is the Metallurgist of the Company and has sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Roy Gordon consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to infrastructure, project execution and cost estimating is based on information compiled and / or reviewed by Lucas Stanfield who is a Member of the Australian Institute of Mining and Metallurgy. Lucas Stanfield is the General Manager - Development for Peak Resources Limited and is a Mining Engineer with sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Lucas Stanfield consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



**PEAK
RESOURCES**
LIMITED

Project Update Ngualla Rare Earth Project

October 2017

Neodymium

Neodymium

32.24

is the number
you need to remember

Praseodymium



Praseodymium

UNDERSTOOD - DE-RISKED - COMPETITIVE - MANAGEABLE - READY TO BE DELIVERED!

ENABLING LOW CARBON TECHNOLOGIES

CONTENTS

1.	INTRODUCTION	01
2.	STATEMENT FROM THE CEO	02
3.	HIGHLIGHTS	03
4.	COMPANY PROFILE	07
5.	TIER ONE CONSULTANTS	08
6.	MINERAL RESOURCES	09
7.	ORE RESERVE & MINING	13
8.	PILOT PLANTS	17
9.	OVERVIEW: NGUALLA OPERATIONS	19
10.	ENVIRONMENTAL & SOCIAL	22
11.	OVERVIEW: TEES VALLEY OPERATIONS	24
12.	MARKETING	28
13.	CAPITAL COST SUMMARY	39
14.	OPERATING COST SUMMARY	41
15.	PROJECT ECONOMICS	44
16.	OVERVIEW OF THE PEAK TEAM	49
17.	KEY OPPORTUNITIES	51
18.	STRATEGIC PARTNERS	54
19.	COMPETENT PERSONS' STATEMENTS	55
	APPENDIX	56
	COMPLIANCE STATEMENTS	57

1. INTRODUCTION

Peak Resources Limited ('Peak' or the 'Company') 75% ownership, together with its partners Appian Natural Resources Fund ('Appian') 20% and International Finance Corporation ('IFC') 5%, is developing the Ngualla Project to be a low cost next generation rare earth producer with a product suite that is strongly aligned to the high value and expanding magnet metal market. With this distinctly different development approach backed by the advantages of a large high quality deposit, a proven metallurgical process and real world, rare earth experience, the Company is well positioned for the surge in demand for magnet metals from the electrification of automobiles and the green technology sectors.

The Company completed a Bankable Feasibility Study ('BFS' or 'Study') in April 2017 in partnership with Tier One international consultants led by Amec Foster Wheeler backed by extensive pilot plant test work, detailed engineering design and cost studies and a high confidence Mineral Resource estimate. The Study components consist of a mine and a multi-stage processing plant on-site at Ngualla in Tanzania and a rare earth refinery in the Tees Valley, United Kingdom.

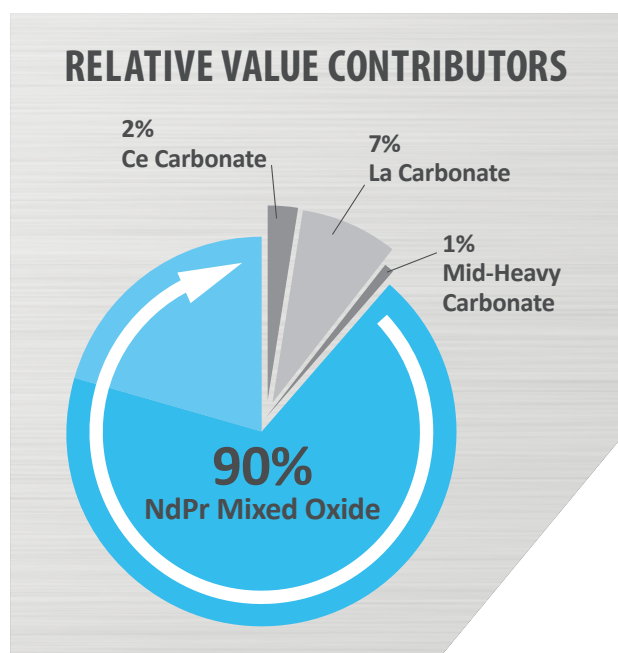
Subsequent to the BFS (ASX Announcement "BFS positions Ngualla one of world's lowest cost RE Projects" of 12 April 2017), Peak undertook an internal optimisation study on the project which increased the design capacity through the processing facilities by approximately 16% (ASX Announcement "Process optimisation study boosts Ngualla's operating margin" of 28th August 2017). The results and assumptions from this study and update to the BFS are included in this Project Update ('Update').

The focus of the BFS and subsequent optimisation study has been to evaluate the feasibility of the development of a long life open pit mine and associated multistage processing plant on site at Ngualla in Tanzania. A base case of a subsequent rare earth refinery located in Tees Valley in the United Kingdom is presented to produce approximately 2,810 tonnes per annum of >99% purity Neodymium-Praseodymium Oxide (NdPr), plus additional refined rare earth co-products. Alternative marketing strategies being investigated by the Company also include toll treating of the processed rare earth product from Ngualla at an existing refinery or direct sale of the product.

The increased production rate of the optimisation study is based on the Ore Reserve (ASX announcement dated 12th April 2017 "Ngualla Rare Earth Project - Updated Ore Reserve") and which, together with this report, summarises the Material Assumptions. A revised mine

plan was not generated for the optimisation study. The increased production rate is based on a compressed BFS mine schedule, which would reduce the operational life to 26 years, from 31 years at BFS. The Ore Reserve is based on the 2016 Weathered Bastnaesite Zone Mineral Resource estimate at +1% rare earth oxide cut-off grade (ASX announcement 'Higher grade Ngualla Mineral Resource contains nearly 1 million tonnes rare earth oxide' of 22nd February 2016) and the mining, processing and economic assumptions contained in the following sections of this report. 91% of the Mineral Resource estimate on which the Ore Reserve is based is classified in the Measured JORC category and 9% in the Indicated. No Inferred material is included in the Ore Reserve.

Figure 1.1: Relative value* contributors by product type and constituent REO's.



*Relative value of contained REO equivalent product mix based on prices assumed in Table 12.1 of this report for individual rare earth oxides.

2. STATEMENT FROM CEO

STATEMENT FROM THE CHIEF EXECUTIVE OFFICER ROCKY SMITH, B.SC (CHEM)

16th October 2017

It is with a great deal of pride that the Peak team delivers the results of the BFS and follow up internal process optimisation study for the Ngualla Project. Completing a BFS is a milestone reached only by a select few rare earth companies and is the culmination of many years of hard work. Investors can take comfort in the tier one approach Peak and its partners have used. It is our understanding that we are also the only company outside of China that has used experienced rare earth industry operational and marketing executives to feed their expertise into a BFS back stopped by extensive pilot planting on the whole production process.



When you combine the above with the design being led by engineering consultants of the calibre of Amec Foster Wheeler, all stakeholders should have comfort on the deliverability and operability of the planned mining, processing and refining solution that the Ngualla Project represents.

You will note as you read on in this document how the superior physical attributes of the Ngualla orebody combined with the unique advantages of the Tees Valley refinery location positions Peak to be one of the world's lowest operating and capital cost rare earth developers.

The Peak team has delivered on the one thing it can control – operating cost. We have reduced our annual operating cost from US\$118 million per annum, as stated in the Preliminary Feasibility Study ('PFS') of March 2014, to US\$91 million per annum in the latest optimisation study completed in August 2017. This 23% or US\$27 million per annum reduction alone is outstanding but making this achievement even more exceptional is the fact that this absolute operating cost reduction has occurred in conjunction with an increase in average annual NdPr production by 25% from 2,240 tonnes per annum at the PFS to 2,810 tonnes in the current design. This has been achieved with no increase in capital cost. Together these improvements make the Ngualla Project one of the world's lowest cost rare earth projects.

We believe that the information set out above makes Peak the go to investment for exposure to the exciting rare earth magnet market that is underpinned by high growth applications such as e-mobility and low carbon technologies.

The Asset • The Market • The Team

Peak Resources - more than the sum of its parts and the first choice for investment in the rare earth space.

3. HIGHLIGHTS

Permanent magnets made up ~70% of the rare earth market by value in 2015. Of this, the two key rare earths Neodymium and Praseodymium made up ~65%*.

Peak's Ngualla Project is one of the highest grade undeveloped Neodymium/Praseodymium (NdPr) deposits in the world. With its 26 year mine life and simple open cut, low strip ratio mining and bastnaesite mineralogy it is blessed with significant natural advantages. Peak has demonstrated through extensive pilot planting a flow sheet that is able to reject 70% of the loss making cerium oxide (which makes up 48% of the total rare earths to be refined) prior to the addition of any expensive chemical reagents into our process. As a result this means 90% of Peak's predicted future revenue is to be from NdPr, which is perfectly aligned to the highest value component of the rare earth market that is being driven by demand from e-mobility and low carbon technologies.

To put the results from the BFS into context it is important for us to show you how Ngualla compares with other projects. A benchmarking exercise has been completed using data from Adamas Intelligence. Initially we started with 58 global junior rare earth projects and this number was reduced to 29 projects due to availability of quality data to be able to perform a detailed, comprehensive and professional comparison.

The following methodology has been applied. The white indicator on the following dials show for the specific KPI the closest perceived competitor of Peak Resources. This competitor is a light rare earth project, has low or moderate radioactivity levels in its ore body, undertakes full separation to produce separated oxides and has either a project status of Preliminary-Feasibility ('PFS'), Definitive Feasibility Study ('DFS') or Bankable Feasibility Study ('BFS').

The ghosted white indicator shows all the projects which are not perceived as a direct competitor due to disqualifying elements such as:

- Projects only at PEA (Preliminary Economic Assessment or Scoping) stage or earlier have immature cost data and information which is not comparable with the quality of a PFS or BFS project status.
- Heavy rare earth projects which are by nature not comparable with light rare earth projects.
- Projects with high radioactivity levels in their mineralisation
- Low margin projects that aim to sell a low value intermediate or mixed rare earth product as opposed to a final purified product that is readily tradeable in the world's rare earth markets

**Adamas Intelligence*

3. HIGHLIGHTS

(continued)



RESULTING IN A TOTAL LIFE OF PROJECT OPEX INTENSITY (US\$/KG NdPr Oxide) OF US\$ 32.24[#]/kg NdPr^{*}

is the breakeven point for positive cash flow. Considering today's (26 September 2017) spot pricing FOB China of US\$72.00/kg and understanding the projections and the drivers for the market outlook of increased demand for NdPr, Peak aims to take advantage of the expected increase in pricing as new permanent magnet technology applications arrive on the factory floors.

[#] OCBRITDA = Operating cost before royalties, interest, tax, depreciation and amortisation
^{*} NdPr = Nd₂O₃/Pr₆O₁₁ Mixed Oxide 2N – min 75% Nd₂O₃



CAPEX INTENSITY OF US\$ 5.00/kg NdPr

The Ngualla Project has the potential to have the lowest Capex intensity per unit output of NdPr over Life of Mine compared to other fully integrated development projects.



AND A TOTAL PRE-PRODUCTION CAPEX OF US\$ 365 million

for Ngualla and Tees Valley refinery combined. This has the potential to be the lowest Capex among its peers for a fully integrated producer. We highlight the fact that the Project now includes a third solvent extraction circuit which will improve margins by separating cerium and lanthanum.



3. HIGHLIGHTS

(continued)

'PHYSICALS DRIVE ECONOMICS'

PEAK RESOURCES: NUMBER 1 AMONG ITS PEERS

Compared to other rare earth projects, Ngualla has lower capital investment requirements and, thanks to a unique combination of favourable physical attributes and the improved processing route selected, enviably low operating costs that will make it cost competitive with Chinese production.

Ngualla's favourable project economics are in part driven by the high NdPr grade and favourable mineralogy of the rare earth deposit itself, combined with the development of an extraction and purification process that targets the higher value rare earths. This combined with the location of the refinery in proximity to the source of inexpensive reagents and utilities helps drive low Opex.

With the alignment of products and value drivers to the high demand magnet metal market, the project is also in a favourable position in terms of marketing and future demand for its products.



WITH A MINE LIFE OF

26 Years

based on an Ore Reserve of 18.5Mt grading 4.80% REO, containing 887,000t REO, of which 92% is the highest Proved JORC category (8% being Probable), with a favourable mineralogy, easy to mine and able to be processed to a high grade concentrate. This combination makes Ngualla one of the best NdPr deposits worldwide.

We believe the three most important measures of the Ngualla Project are, in order:

- 1) Opex intensity per unit of NdPr output;
- 2) Capex intensity per unit of NdPr output; and
- 3) Total Capex (inclusive of producing fully separated rare earth oxides).

The Ngualla Project has the potential to be a world leading, fully integrated rare earth development project based on each of these measures.

We believe, as a result of the low Opex position, the Ngualla Project is financially more robust and will be able to handle periods of softness in rare earth prices. We see this as an important distinguishing feature of the Ngualla. Based on our assumptions of expected pricing, as set out in this Project Update, which are driven off anticipated strong demand for e-mobility and low carbon technologies, Ngualla is predicted to generate US\$ 108 million dollars per annum in free cash flow (post tax and royalties) with an IRR of 22% (post tax).

3. HIGHLIGHTS

(continued)

PRE TAX & ROYALTIES NPV₁₀

US\$ 686 million

POST TAX & ROYALTIES NPV₁₀

US\$ 444 million

PRE TAX & ROYALTIES NPV₈

US\$ 914 million

POST TAX & ROYALTIES NPV₈

US\$ 612 million

PRE TAX IRR

26%

POST TAX IRR

22%

AVERAGE ANNUAL REVENUE

US\$ 241 million

AVERAGE ANNUAL OPERATING COST

US\$ 91 million

AVERAGE ANNUAL CASH FLOW

US\$ 108 million pa

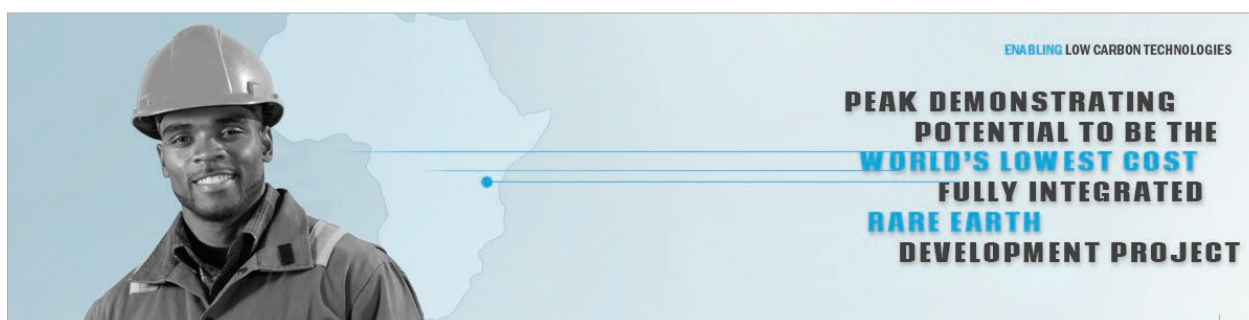
PRE-PRODUCTION CAPEX

US\$ 365 million

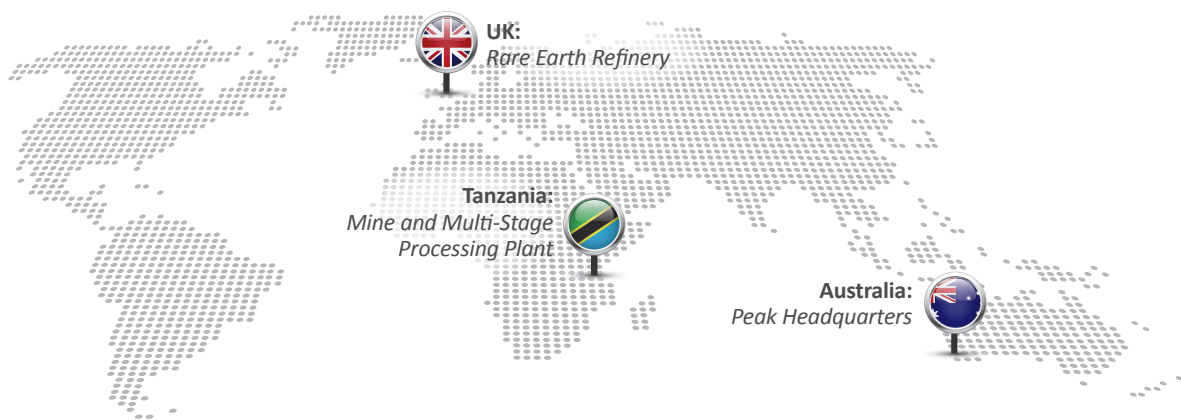
Notes: See Table 12.1 for price assumptions. Financial highlights are reported on a 100% owned basis. The production target and schedule on which the financial information is based is in turn based on the Ore Reserve and stated Material Assumptions in ASX Announcement "Ngualla Rare Earth Project – Updated Ore Reserve" dated 12 April 2017 and those summarised in this Project Update.

Rare earth price assumptions on which the financial evaluation is based are derived from forecasts by independent industry experts and are as stated in Section 12 of this Project Update.

Peak will require new funding for its 75% share in the Ngualla Project in order to achieve the stated financial outcomes, which will result in some dilution of existing shares, the quantum of which will depend on the final debt to equity ratio of the financing package that is yet to be arranged.



4. COMPANY PROFILE



Peak Resources is focused on delivering an integrated rare earth project

The Company's 75%-owned project combines mining and multi-stage processing at Ngualla in Tanzania, with downstream refining at a solvent extraction separation plant in the UK to produce a range of rare earth products. Approximately 90% of the value of the final product is associated with a high-purity neodymium and praseodymium oxide.

Ngualla is one of the world's largest NdPr deposits

The Ngualla deposit is located in Tanzania, 147 kilometres from the city of Mbeya. It is one of the world's largest NdPr deposits, with total mineral resource containing 4.6Mt of REO. The deposit is host to a thick blanket of weathered, high-grade mineralisation from surface. The Weathered Bastnaesite Zone Mineral Resource estimate at a cut-off of 1.0% REO is 21.3Mt grading 4.75% REO, containing 1,010,000t REO, of which 89% is in the Measured category.

Tanzanian operations to produce 32,700tpa of beneficiated REO mineral concentrate grading 45% REO

The Company plans to process 711,000tpa of dry ore through a multi-stage flotation-based beneficiation process to produce 32,700tpa of high-value, 45% REO concentrate containing 14,700tpa of REO.

UK-based rare earth refinery to produce final products

Having investigated a number of different flowsheets and following positive trials on actual mineralisation from

Ngualla, the Project will use an alkali roast processing route to produce a rare earth solution feed to a solvent extraction-based separation process. In this, the material is firstly roasted with alkali, then washed and filtered before being leached using a low-strength hydrochloric acid, a process that selectively targets Nd and Pr. The project benefits from the low rate of acid consumption, owing to the absence of acid consuming carbonate and phosphate in the mineralisation and the relatively low levels of iron in the concentrate. Final products from the project are planned to be:

- 2,810 tonnes of neodymium and praseodymium rare earth oxide (2N min 75% Nd₂O₃),
- 625 tonnes of mixed SEG and Mixed Heavy rare earth carbonate,
- 3,475 tonnes of cerium carbonate and 7,995 tonnes per annum lanthanum carbonate.

Neodymium and praseodymium exposed to high-growth permanent magnet demand

Neodymium and praseodymium are used in combination to create high-powered lightweight NdFeB permanent magnets. Prices of rare earths, including those for NdPr oxides, peaked in 2011 and have since fallen back.

Owing to the increased use of high-power magnets in electrical motors and generators, particularly in electric cars and bikes, the outlook for demand for NdPr is very positive.

5. TIER ONE CONSULTANTS

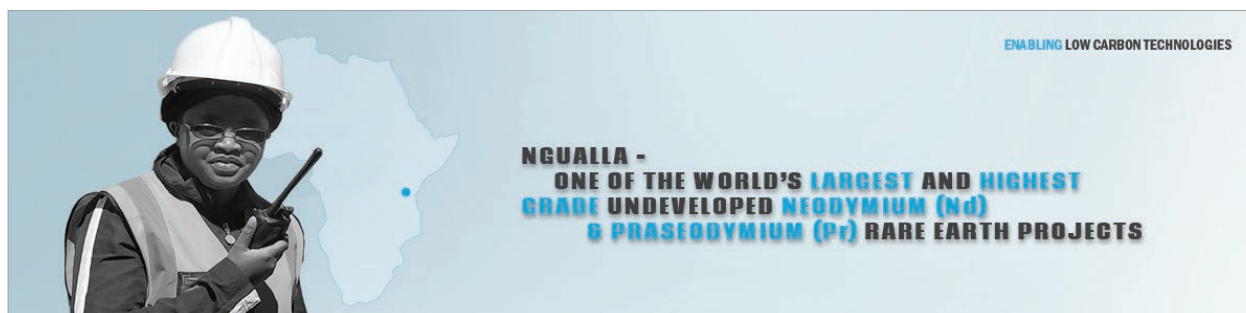
Peak completed the Study using Tier One international consulting firms in partnership with its own in house team of industry experts experienced in real world rare earth operations and marketing as well as specialised metallurgical, geological, financial modelling and engineering studies.

The team is pleased to deliver a comprehensive, high quality and accurate study that is also practically deliverable and operable.

Ngualla is de-risked and ready to be delivered.

Table 5.1 List of consultants and areas of expertise

CONSULTANT	AREA OF EXPERTISE
Amec Foster Wheeler	Study Lead Engineer, UK Refinery Engineering
MDM Engineering	Ngualla Site Infrastructure and Plant Engineering
Knight Piésold	Tailings, Geotechnical and Water Management
Golder Associates	Ngualla Open Pit Geotechnical and Hydrological Studies
SRK Consulting, Australia	Mineral Resource Estimation
SGS, Perth	Beneficiation Pilot Plant and Sample Analyses
Orelogy Consulting	Ngualla Ore Reserve and Mining Studies
COWI Tanzania	Ngualla Access Road Engineering
ANSTO Minerals	Leach Recovery and Separation Pilot Plants
ALS Metallurgy	Beneficiation Pilot Plants and Mineralogy
Nagrom	Metallurgical Process Development
Independent Metallurgical Operations (IMO)	Benefication Process Development
Jenike and Johanson	Materials Handling
Align Environment and Risk Management	Environmental and Social Studies, Tanzania
Paulsam Geo-Engineering	Environmental Certificate Studies, Tanzania
WYG	Environmental Studies and Permitting, UK
Dr Wally Witt	Geology and Mineralogy
Dr Roger Townend and Associates	Mineralogy
Deloitte	Accounting and Location Studies
Steinepreis Paganin	Corporate and Legal
Clyde and Co, Tanzania	Corporate and Legal, Tanzania



6. MINERAL RESOURCES

The rare earth Mineral Resource estimate for Ngualla was reported in accordance with the JORC 2012 Code and Guidelines by independent resource consultants SRK Consulting (Australasia) Pty Ltd (SRK) in February 2016. It was re-stated in March 2017, also by SRK, to report barite (barium sulphate, BaSO₄) with no change to the rare earth Mineral Resource estimate or estimation methodology. The BFS does not contemplate the production of barite.

6.1 WEATHERED BASTNAESITE ZONE MINERAL RESOURCE ESTIMATE

Included in the Total All Ngualla Mineral Resource estimate is an important high grade subset, the Weathered Bastnaesite Zone Mineral Resource, a particularly mineralogically favourable component of the greater deposit, which is targeted for initial development. The rare earth component of the Weathered Bastnaesite Zone Mineral Resource estimate is the basis of this Update.

At a 1% REO lower grade cut-off the Mineral Resource estimate for the Weathered Bastnaesite Zone is:

21.3 million tonnes at 4.75% REO and 37.7% barite, for 1,010,000 tonnes of contained REO and 8.03 million tonnes of contained barite

(see Table 6.1 and Table 1 in the Appendix for JORC category classification and individual rare earth distributions).

The +1% REO Mineral Resource estimate for the Weathered Bastnaesite Zone is high confidence, with 98% classified in the JORC Measured or Indicated categories, and the majority (89%) being Measured (see Table 6.1). The Ore Reserve and production schedule for the Study is based on the Measured and Indicated portions only of the +1% REO Weathered Bastnaesite Zone Mineral Resource estimate.

Table 6.1: Mineral Resource estimate summary – Weathered Bastnaesite Zone +1% REO*

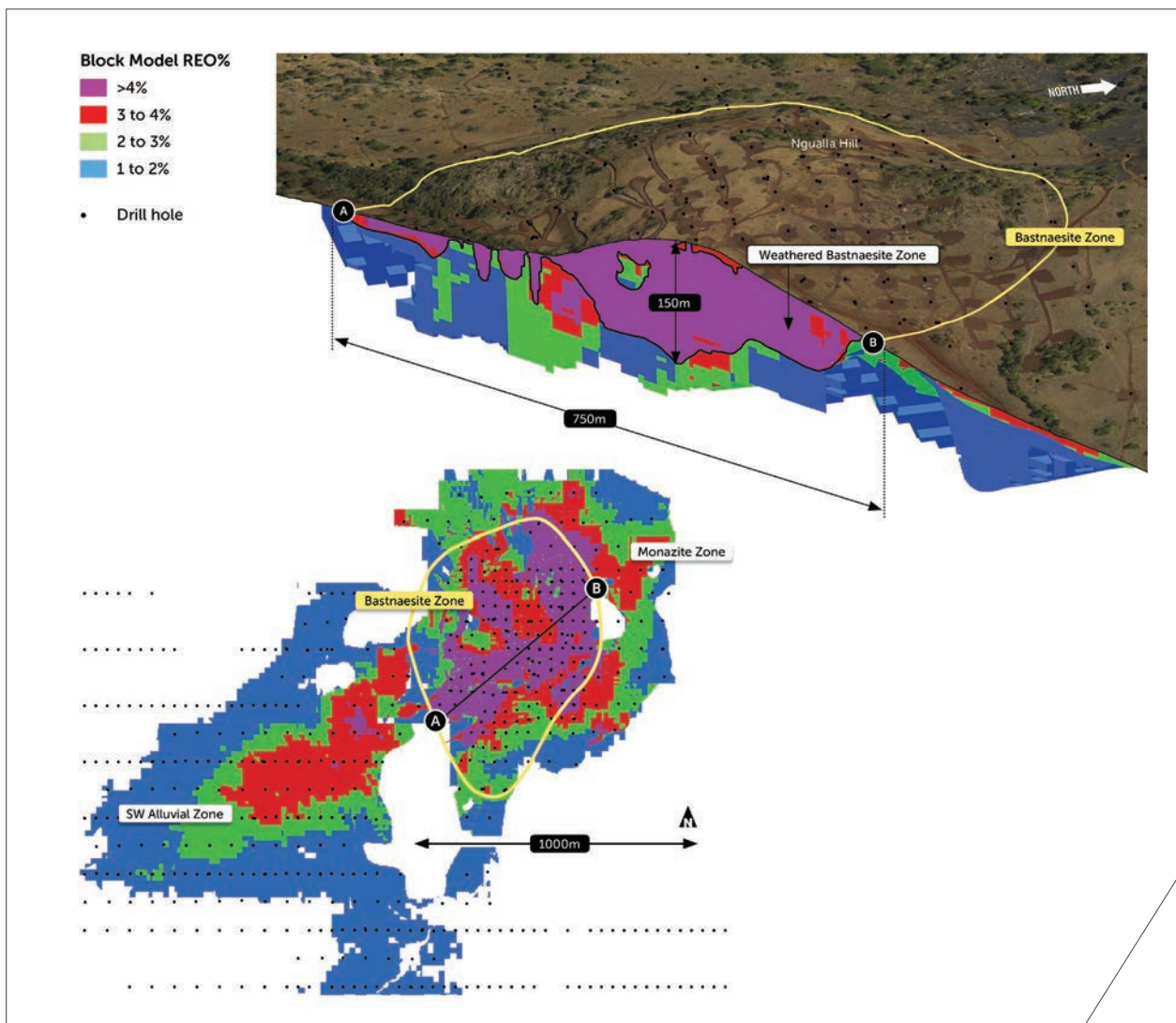
Lower cut-off grade	JORC Resource Category	Tonnage (Mt)	REO (%)	Contained REO tonnes ('000)	BaSO ₄ (%)
1% REO	Measured	18.9	4.75	900	37.8
	Indicated	1.9	4.85	90	38.3
	Inferred	0.5	4.43	20	31.5
	Total	21.3	4.75	1,010	37.7

* REO = total rare earth oxides including yttrium. The Weathered Bastnaesite Zone Mineral Resource >=1% REO is contained within and is a subset of the total All Resources Ngualla Mineral Resources +1% REO. See Table 1 in the Appendix for relative distributions of individual rare earths as a proportion of total REO. Figures may not sum due to rounding. Barite grade is derived from geochemical assays for barium and the assumption, supported by extensive mineralogical studies, that barium is present as barite.

6. MINERAL RESOURCES

(continued)

Figure 6.1: Plan and section of Ngualla Mineral Resource block model >1% REO across the Bastnaesite Zone showing a thick blanket of high grade mineralisation from surface.



The Mineral Resource estimation process and estimate for the Weathered Bastnaesite Zone subset and the Total All Ngualla Mineral Resource is reported in ASX announcement titled “Higher grade Ngualla Mineral Resource contains nearly 1 million tonnes rare earth oxide” of 22 February 2016. Barite was added in a revision reported in ASX announcement dated 2nd March 2017 and titled “Ngualla Mineral Resource

estimate re-stated to include barite”, with no change to the rare earth estimates or estimation methodology.

As at the date of this report there has been no change to the Mineral Resource estimates since these announcements.

6. MINERAL RESOURCES

(continued)

Barite is included in the Mineral Resource estimates as preliminary studies have suggested that there may be some future potential to produce barite as a by-product. A relatively pure barite stream reports to one of the rare earth waste streams during rare earth production. Further work is required to evaluate the economic potential of barite production and at present barite remains a potential future upside opportunity for the project.

Definition and Advantages of the Weathered Bastnaesite Zone Mineralisation

The Weathered Bastnaesite Zone Mineral Resource is defined as weathered or colluvial rare earth mineralisation containing less than 10% calcium and very low phosphorous of less than 0.3%. This higher grade mineralisation occurs from surface and extend as a thick blanket to depths of up to 140m above an undulating karstic surface.

Rare earths are contained within the fluorocarbonate mineral bastnaesite within a relatively soft barite and iron oxide-rich host rock with some quartz. Weathering processes have concentrated the rare earths and removed acid-consuming carbonate minerals. Phosphate minerals, which can also be disadvantageous in processing, are naturally absent. The mineralisation contains very low levels of uranium (15ppm) and thorium (54ppm) compared to other large rare earth deposits.

This combination of fundamental mineralogical characteristics distinguishes Ngualla from other projects and underpins the low capital and operating costs outlined in the following sections of this report.

6.2 TOTAL ALL NGUALLA MINERAL RESOURCE ESTIMATE

The Weathered Bastnaesite Zone Mineral Resource estimate reported above is included within and is a subset of the Total All Mineral Resource for the Ngualla Project, which at a 1% REO lower grade cut-off is:

214.4 million tonnes at 2.15% REO and 16.6% barite, for 4,620,000 tonnes of contained REO and 35.6 million tonnes of contained barite

(See Table 6.2 for JORC category classification and Table 2 in the Appendix for individual rare earth distributions).

The Mineral Resource estimation process is described in the ASX Announcements stated. As at the date of this report there has been no change to the Mineral Resource estimates since these announcements.

Metallurgical test work has shown that rare earth mineralisation outside the Weathered Bastnaesite Zone may be processed using other conventional beneficiation and leach recovery processes. The long mine life supported by the Weathered Bastnaesite Zone provides the Company with the opportunity and time to optimise these processes, which could be brought in at a later stage in the life of the operation.

Ngualla is not only an extremely large rare earth deposit but it is also of superior quality as a result of the high rare earth grades, outcropping mineralisation with a morphology that is beneficial to mining, a mineralogy that is favourable to processing, low levels of uranium and thorium and a high proportion of the more valuable rare earths neodymium and praseodymium.

6. MINERAL RESOURCES

(continued)

Table 6.2: Mineral Resource estimate summary - Total All Ngualla Mineral Resource estimate +1% REO*

Lower cut-off grade	JORC Resource Category	Tonnage (Mt)	REO (%)	Contained REO tonnes ('000)	BaSO ₄ (%)
1% REO	Measured	86.1	2.61	2,250	20.2
	Indicated	112.6	1.81	2,040	13.8
	Inferred	15.7	2.15	340	17.6
	Total	214.4	2.15	4,620	16.6

*REO = total rare earth oxides including yttrium. The weathered Bastnaesite Zone Mineral Resource +1% REO is contained within and is a subset of the total All Resources Ngualla Mineral Resources +1% REO. See Table 2 in the Appendix for relative distributions of individual rare earths as a proportion of total REO. Figures may not sum due to rounding. Barite grade is derived from geochemical assays for barium and the assumption, supported by extensive mineralogical studies, that barium is present as barite.



7. ORE RESERVES & MINING

OPEN PIT MINE LIFE OF 26 YEARS AT A LOW STRIP OF 1.78

ORE RESERVE OF 18.5 MILLION TONNES AT 4.80% REO

LOW AVERAGE TOTAL MINING RATE OF 1.9MT PER YEAR

Mining studies indicate the viability of a modest sized but long life open pit operation with a low Life of Mine (LOM) waste strip ratio of 1.78, which at the proposed production rate can provide sufficient feed for an initial project life of 26 years based solely on the Weathered Bastnaesite Zone portion of the greater Ngualla deposit.

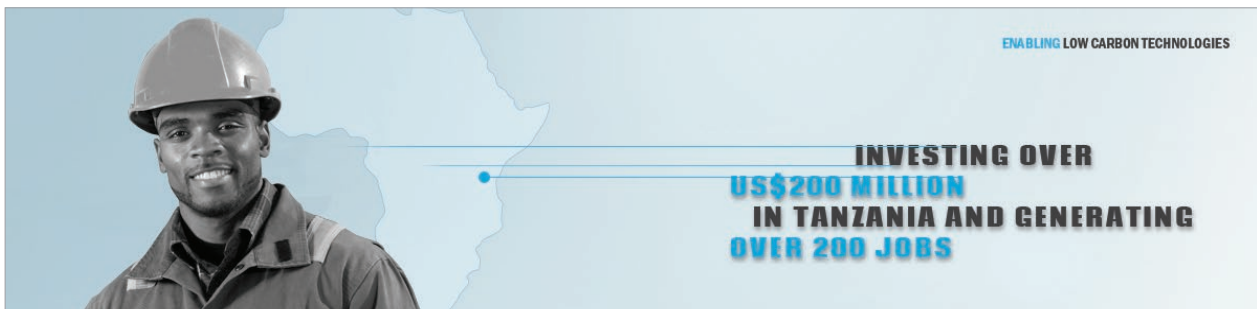
Orelogy Consulting Pty Ltd based in Perth, Western Australia, have undertaken the previous mining studies and Ore Reserve estimate on Ngualla and consequently Peak commissioned them to complete the mining component of the Study and Ore Reserve estimate.

As the mineralisation is weathered and at surface, mining will predominantly (70%) be free dig requiring minimal blasting and with low Ore to waste stripping ratios.

Through the optimisation and scheduling process the mine will also produce higher grade mill feed with a higher proportion of neodymium and praseodymium in the earlier years of production.

The scope of work that formed the basis of mining component of the BFS comprised the following:

- Open Pit Optimisation
- Mine design
- Mining cost estimation
- Mining equipment and personnel requirements



ENABLING LOW CARBON TECHNOLOGIES

**INVESTING OVER
US\$200 MILLION
IN TANZANIA AND GENERATING
OVER 200 JOBS**

7. ORE RESERVES & MINING

(continued)

7.1 MINING LOSSES

Mining losses and dilution are expected to be minimal due to the thick blanket morphology of the deposit and the use of small mining equipment operating at a relatively low mining rate averaging less than 1.9Mt total material movement per annum over the life of mine. Total mining losses comprise just 6% of the total Mineral Resource available (Measured + Indicated categories of the +1% REO Weathered Bastnaesite Zone).

7.2 OPEN PIT OPTIMISATION

The pit optimisation was undertaken using GEMCOM Whittle 4X software utilising the February 2016 Ngualla Mineral Resource model completed by SRK Consultants Pty Ltd. Table 7.1 provides a summary of the optimisation wall slope parameters used for the Study.

Table 7.1: Optimisation wall slope parameters

Location	Face Height	Batter Angle	Berm Width	Catch Berm Width	Catch Berm Increment	Overall Slope Angle
	(m)	(°)	(m)	(m)	(m vert)	(°)
Oxide	5.0	50	6.5	15	20	25
Oxide / Fresh	10.0	50	6.5	15	20	34
Fresh	10.0	75	8.0	15	40	43

The overall slope includes an allowance for a 15m wide catch berm every 20 vertical metres in oxide material and the oxide / fresh transition zone. This results in the very shallow 25° slope applied in the oxide and 34° in the oxide / fresh zone. A 23m wide ramp has been incorporated into the design suitable for a dual lane ramp based on the 65t dump truck selected.

ASX Announcement "Ngualla Rare Earth Project - Update Ore Reserve" of 12 April 2017 summarises the material assumptions used for the Ore Reserve estimation, which continue to apply.

Associated operating cost parameters for mining, processing, and selling can be found in Section 14. The individual rare earth oxide grades, recoveries and prices were used in preference to using an average REO grade, average total recovery and basket price. This level of detail maximises total returns by allowing the optimiser and subsequent mine schedule to focus early production on the highest grade areas of Ngualla's main value drivers of neodymium and praseodymium.

Only material from the Weathered Bastnaesite Zone Mineral Resource estimate with a REO grade above 1% was used in the optimisation. Of this material 89% is in the Measured JORC category and 9% is Indicated. The Inferred portion of the Mineral Resource was excluded from the optimisation process.

7.3 ORE RESERVE

An optimal shell was selected as the basis for the open pit mine design and subsequent LOM schedule, which is to be mined by 4 initial stages followed by the ultimate pit design. In line with previous studies, it is assumed mining is via two successive 2.5 metres mining flitches. The geotechnical parameters as defined in Table 7.1 above have been utilised in the design.

The location of the ultimate pit and the interim pit designs are shown in Figure 7.1.

7. ORE RESERVES & MINING

(continued)

The ultimate design contains the following Ore Reserve:

- Plant Feed of 18.5 million tonnes at 4.80% REO comprising 17.0 million tonnes at 4.78% REO Proved Reserve and 1.5 million tonnes at 5.10% REO Probable Reserve category (see Table 7.2).
- The average LOM strip ratio is 1.77.
- Provides for 26 years of mill feed at a production rate output of approximately 2,810 tonnes per annum of NdPr oxide.

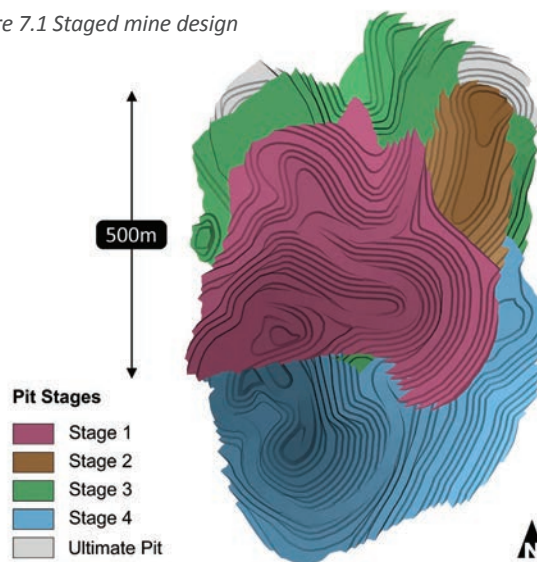
To further enhance the mining returns in the first years, and as project economics are not sensitive to total mining costs, the slightly lower value (lower grade) ore >1% REO is mined selectively to stockpile for later processing to allow access to higher value material earlier in the processing schedule.

Table 7.2: Ngualla Project Ore Reserve estimate

Classification	Ore Tonnes (Mt)	REO %	Contained REO tonnes
Proved	17.0	4.78	813,000
Probable	1.5	5.10	74,000
Total	18.5	4.80	887,000

See Table 7.4 for indicative REO breakdown

Figure 7.1 Staged mine design



PEAK RESOURCES:
**AN ETHICAL, SUSTAINABLE
 AND INTEGRATED RARE EARTH
 SUPPLY CHAIN SOLUTION**

ENABLING LOW CARBON TECHNOLOGIES

7. ORE RESERVES & MINING

(continued)

Figure 7.2: Perspective view of staged pit designs, Ngualla weathered Bastnaesite Zone

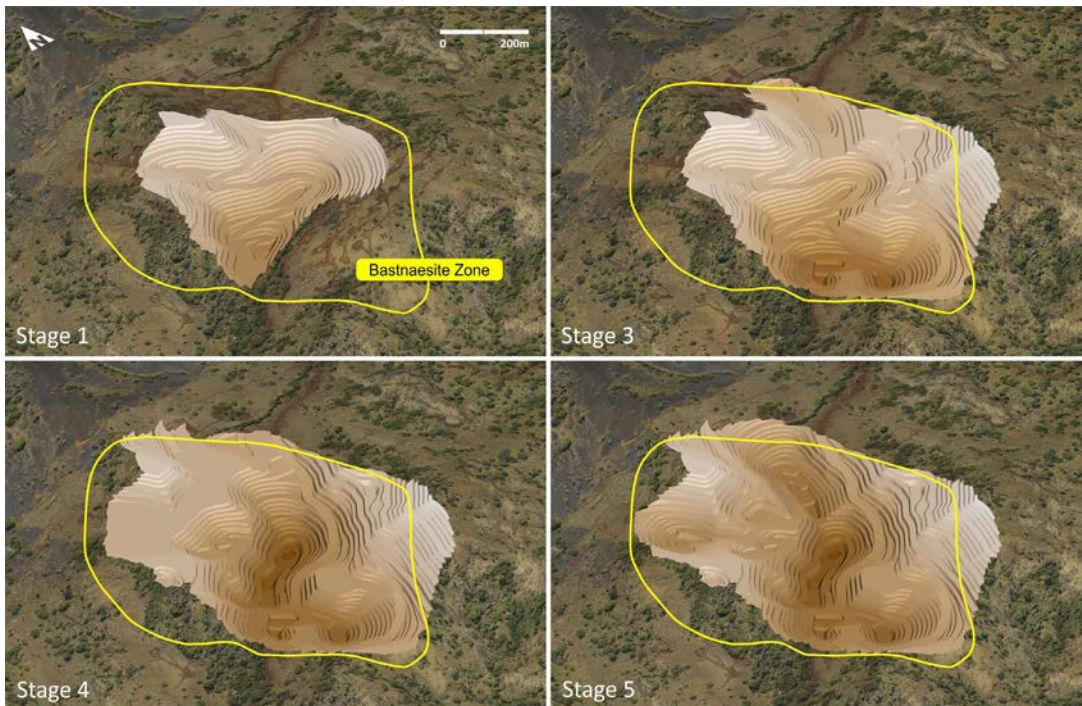


Table 7.4: Elements of combined REO grade

Rare earth oxides	REO Grade (%)			% of Total REO		
	Proved	Probable	All	Proved	Probable	All
MTonnes	17.0	1.5	18.5	-	-	-
Lanthanum	1.318	1.418	1.326	27.59	27.80	27.61
Cerium	2.305	2.456	2.317	48.25	48.15	48.24
Praseodymium	0.228	0.243	0.229	4.77	4.77	4.77
Neodymium	0.788	0.838	0.792	16.49	16.43	16.49
Samarium	0.077	0.082	0.077	1.61	1.61	1.61
Europium	0.014	0.015	0.014	0.30	0.28	0.30
Gadolinium	0.029	0.031	0.030	0.62	0.60	0.62
Terbium	0.002	0.002	0.002	0.05	0.05	0.05
Dysprosium	0.004	0.004	0.004	0.07	0.07	0.07
Holmium	0.000	0.000	0.000	0.01	0.01	0.01
Erbium	0.001	0.002	0.002	0.03	0.03	0.03
Thulium	0.000	0.000	0.000	0.00	0.00	0.00
Ytterbium	0.001	0.001	0.001	0.01	0.01	0.01
Lutetium	0.000	0.000	0.000	0.00	0.00	0.00
Yttrium	0.010	0.010	0.010	0.20	0.19	0.20
Total REO	4.78	5.10	4.80	100.00	100.00	100.00

Values may not sum up due to rounding.

8. PILOT PLANTS

Peak has developed and demonstrated through extensive pilot plant operation a robust process for Ngualla's unique ore to provide confidence in the deliverability and operability of the three main processing stages – beneficiation, leach and purification/separation (Figure 8.1). The pilot plants together cost approximately A\$ 5 million and comprehensively validate the operating and design parameters used in this Update.

Figure 8.1: Simplified summary of the three stage process developed by Peak for Ngualla's rare earth mineralisation.



8.1 BENEFICIATION PILOT PLANT

A beneficiation flowsheet piloting program was conducted at ALS in Perth using a total of 56 dry tonnes of typical weathered bastnaesite mineralisation from Ngualla. The mineralisation was initially coarse crushed and homogenised to form a single bulk sample grading 5.9% REO. The bulk sample was successfully piloted at a feed rate of 250 kg/hour using the new milling and two stage flotation flowsheet developed by Peak.

The Pilot Plant accomplished the following:

- Sustained operation in steady state demonstrating the beneficiation process is both robust and reproducible on mineralisation selected to be representative of the first five years of mill feed.
- Provision of vital operating and design parameters to Amec Foster Wheeler for incorporating into the BFS.
- The production of two tonnes of concentrate grading >40% REO in preparation for piloting of the next stage Leach and Purification process at ANSTO Minerals (ANSTO) in Sydney.

8.2 LEACH & PURIFICATION PILOT PLANT

The selective leach recovery process developed by Peak is a key factor in Ngualla's low operating and capital costs and allows the final products to be aligned to the high demand magnet metal rare earth market.

A pilot plant at ANSTO Minerals piloting facility near Sydney used the high grade mineral concentrate produced by the ALS Beneficiation Pilot Plant to demonstrate the new selective leach flowsheet.

- The simple but robust recovery process produces a high purity mixed product enriched in neodymium and praseodymium from the rare earth mineral concentrate.
- A dry roast process followed by selective leach and purification leads to low reagent consumption and a smaller downstream plant to produce a suitable feed to the final product separation stage.
- The process allows the use of lower cost modular designed polymer tanks.

8. PILOT PLANTS

(continued)

8.3 SEPARATION PILOT PLANT

The ability to produce high purity separated rare earth products adds significant value to Ngualla's products and allows access to wider end use markets. To this end, Peak commissioned ANSTO to prepare a feed stream for a separation Pilot Plant from a 1.3 tonne bulk sample of weathered Bastnaesite Zone mineralisation from Ngualla.

Figure 8.3: A portion of the Leach Recovery and Purification Pilot Plant at ANSTO Minerals test facility.



Figure 8.4: Solvent Extraction test facility at ANSTO Minerals.



By the completion of the Pilot Plant operation, four high purity separated rare earth oxide products were successfully produced from Ngualla's mineralisation. Peak Resources is one of only a very small number of rare earth development companies to have successfully demonstrated at pilot plant level the processing of rare earth mineralisation from its project through the entire stages to final high purity separated rare earth products.

Figure 8.2: Barite pre-flotation circuit at ALS test facility in Perth, Western Australia.



9. OVERVIEW: NGUALLA OPERATIONS

Peak has designed a Multi-Stage Processing Plant that will be located on site at Ngualla to produce 32,700 tonnes per annum of rare earth concentrate grading 45% REO.

The plant comprises the following:

- A ROM pad to receive mine production and blend plant feed to predefined specifications.
- A comminution circuit incorporating primary crushing, grinding and classification.
- Beneficiation of the ground feed utilising reverse gangue flotation, regrinding and rare earth flotation to produce a high grade/low mass concentrate.
- A segmented Tailings Storage Facility (TSF) for safe disposal of waste solids and water reclaim.

The multi-stage processing plant layout and flowsheet is shown in Figures 9.1 to 9.3.

The entire flowsheet has been modelled by Amec Foster Wheeler using SysCAD software to provide a detailed mass and energy balance model. Operating and capital costs have been determined on the basis of the model outputs.

9.1 COMMINUTION CIRCUIT

The run of mine (ROM) feed is delivered to stockpiles allowing for blending based on grade and mineralogy. A front end loader reclaims from the stockpile and feeds directly to a ROM bin which is fitted with a static grizzly to scalp out oversize rock. Feed is withdrawn at a controlled rate from the bin by an apron feeder, which in turn transfers onto a vibrating grizzly feeder to scalp out fines. Scalper oversize is fed to a tooth rolls mineral sizer, which breaks rocks down to a notional top size of 200mm and is combined with scalper undersize on the discharge conveyor. The feed is then conveyed directly to the grinding circuit.

The crushed material is initially milled in a high aspect open circuit SAG mill, with slurry passing through discharge grates and a trommel. The trommel undersize slurry flows into a common hopper shared with the closed circuit secondary ball mill. The hopper discharge is pumped to a pack of hydrocyclones with the underflow reporting back to the secondary mill.

9.2 BARITE PRE-FLOTATION CIRCUIT

The ground material is conditioned in two high intensity conditioning tanks with flotation reagents prior to being presented to barite flotation. The circuit consists of a rougher bank, with the rougher concentrate being further upgraded in two stages of cleaner flotation.

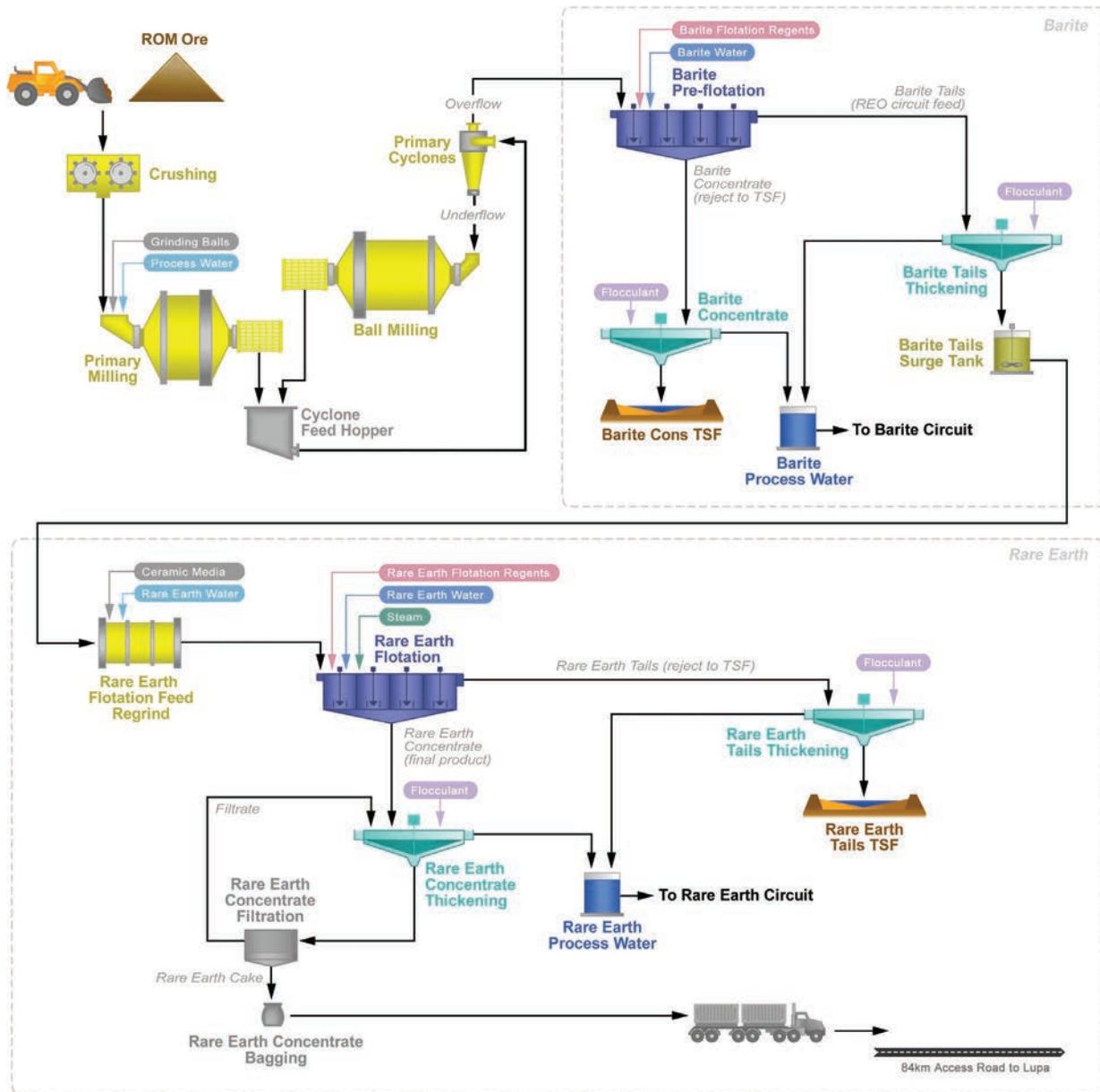
9.3 BARITE PRE-FLOTATION DEWATERING AND TAILINGS DISPOSAL

The flotation concentrate from the Barite Pre-flotation is almost pure barite. In the future, this stream may be treated further to make a potentially saleable barite by-product but this is not included in the current Update; is dewatered in a high rate thickener (for water recovery) and pumped to a dedicated cell within the TSF. The flotation underflow, which is depleted in barite, contains the majority of rare earth minerals along with gangue iron and silica minerals. This stream is first dewatered in a high rate thickener and then pumped to a surge tank to provide a buffer between flotation circuits.

9. OVERVIEW: NGUALLA OPERATIONS

(continued)

Figure 9.1: Ngualla Flowsheet



9. OVERVIEW: NGUALLA OPERATIONS

(continued)

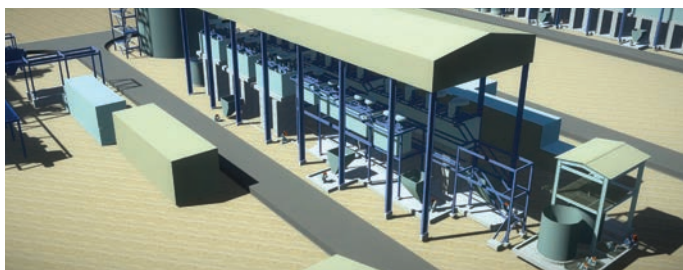


Figure 9.2: Ngualla plant 3D layout

9.4 REGRIND AND RARE EARTH FLOTATION CIRCUIT

Slurry is pumped from the surge tank through an open circuit regrind mill in order to grind coarse particles and mechanically reactivate mineral surfaces ahead of rare earth flotation. The milled slurry is diluted with process water and heated with steam injection in conditioning tanks where flotation reagents are added prior to flotation. The Rare Earth Flotation circuit is of higher complexity than the Barite Pre-Flotation Circuit due to the comparatively difficult separation of rare earth minerals from iron minerals which require stage wise depression with starch to achieve an adequate final concentrate grade. The circuit consists of a rougher train followed by four stages of counter-current closed circuit cleaner flotation. Steam is added stage wise through the cleaner circuit in order to improve selectivity against the iron minerals.

Figure 9.3: Ngualla plant 3D layout - flotation and thickening

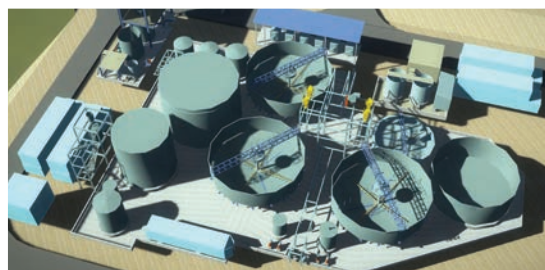


9.5 CONCENTRATE AND TAILINGS DEWATERING

The final concentrate is dewatered in a high rate thickener to recover water from the overflow with the thickened slurry reporting to a filter surge tank. Slurry is then pumped through a pressure filter which operates on a batch cycle, with the filter cake discharging into the bagging facility. The bagged concentrate is then containerised for land and sea transport to the refinery.

The tailings stream from this circuit, comprising mainly of iron minerals, is dewatered in a high rate thickener to recover water and then pumped to a dedicated cell within the TSF.

The flowsheet is shown in Figure 9.1 and the plant 3D layout in Figures 9.2 and 9.3



10. ENVIRONMENTAL & SOCIAL

Peak is developing Ngualla to be a long term, environmentally and socially sustainable supplier of choice to the global high technology rare earth market. The Company's own ethics and standards in this regard, together with those of its investor partners, match the modern needs of global industry to have a responsible source of materials throughout their product supply chain. The Company aims 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.

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

The project development area at Ngualla is free of any habitation, farming or grazing and there are no reserves of any kind over the area. The Company enjoys the support of the local community and government at the district, regional and national level in the development of the project.

The location of the mine and process facilities within the ring of hills that surround the carbonatite structure will enable the site to be self-contained with a low impact on surrounding areas. Water will be recycled for re-use in the plant and there will be no waste discharge from the operation.

Figure 10.1: First bucket of water accepted by villager at handover ceremony for Madodomia village water bore and pump, donated by Peak December 2015.



An assessment of the specific activity levels of the mineralisation to be mined indicates that the levels of uranium (15ppm) and thorium (54ppm) are very low and well below levels set by the International Atomic Energy Agency to be regarded as radioactive and as such there is no concern of any environmental or health and safety issues arising from safety issues.

10.1. SOCIAL

Peak has established and maintained an excellent relationship with the local people, village council, local government organisations and the central government ministries. Peak is an active member of the local community, which is in full support of the development of the mine and processing plant and has actively assisted the development by providing labour, local produce, access to land and security.

Through its Community and Social Responsibility (CSR) programmes, Peak has funded, assisted with and donated to many community projects in the local area and wider region (see Figure 10.1 to 10.4). Projects are identified by the Ngwala Village Council based on the needs and priorities of their constituents. These projects are brought to Peak's attention at village meetings and developed through further discussion and consultation that includes the broader levels of local administration to ensure they are aligned with the established programs of the District and Regional government. Individual projects completed to date include the building of two new classrooms and refurbishment of several more for the Ngwala Primary School, provision of text books, school equipment and desks to three schools in the Ngwala district and the construction of nine teachers' houses. Other projects have included completion of water bores

10. ENVIRONMENTAL & SOCIAL

(continued)



Figure 10.2: Local children gathering outside Ngwala Village School.

and pumps, provision of sporting equipment for local teams, construction of clinic waiting area and assistance with the establishment of an airstrip at Ngwala.

10.2. ENVIRONMENTAL PERMITTING

The environmental permitting of the Ngualla Rare Earth Project is complete with the Environmental Certificate (EC) received on 16 March 2017. The certificate of environmental approval was granted after the successful completion of a detailed Environmental and Social Impact Assessment Study overseen by regulators National Environment Management Council (NEMC). The study included wet and dry season baseline studies, socioeconomic reports, stakeholder consultation at local, District, Regional and National level together with a site visit and review meeting with NEMC.

Widespread support for the development of the project has been received from all stakeholders.

An application for an Environmental Permit for the Tees Valley refinery is in preparation at the time of writing and will be lodged with the UK Environment Agency shortly, with approvals expected in early 2018.

Peak's environmental and social consultants also assist the Company to ensure IFC's best practice standards of operation and reporting are met, standards which will also be required by international banks in areas of environmental and social responsibility and the Company's own sustainable business model.



Figure 10.3: Community Liaison Officer, Mariam Mwaiswelo, Director, Darren Townsend and Project Manager, Patrick Ochieng outside the Ngualla teachers houses built by Peak in 2014.



Figure 10.4: Ngwala Village Football Team prepare to commence a match- kits were donated by Peak in June 2013.

11. OVERVIEW: TEES VALLEY OPERATIONS

RARE EARTH REFINERY

11.1 CALCINING/LEACHING/PURIFICATION

Containers of concentrate coming from the port are stored in front of Tees Valley processing to help mitigate potential Ngualla processing and transportation issues. The Recovery Circuit takes advantage of the fact that the multi-stage beneficiation process has produced a high grade/low mass rare earth concentrate and therefore has low treatment rate of less than four dry tons per hour. This results in a very modest size circuit consisting mainly of low cost fibre-reinforced plastic tanks, pumps and filters.

The received mineral concentrate (45% REO) is mixed with a common alkali prior to being fed into an indirectly fired rotary kiln. After the material is calcined it is washed with water to remove soluble fluoride and then sent on to leach circuit. The conditions of the Calciner and the Leach form the real control for the cerium/iron sequestration and the rare earth recovery.

After the leach residue is filtered out, the leach liquor is sent to Purification process to remove the majority of the remaining impurities that cause issues with downstream processes and product quality. The solids from the leach, purification and fluoride removal process are collected and forwarded into the solid waste facility. Residual brine solutions are forwarded to water treatment and then passed into the Sembcorp effluent treatment system.

11.2 SOLVENT EXTRACTION

Solvent extraction technology will be used to separate rare earths. This process starts by separating the mid and heavy rare earths, followed by separating neodymium and praseodymium and lastly separating cerium from lanthanum.

The conditions for each of the three solvent extraction units are altered to favour the elements being extracted. In all three solvent extraction units, the separated elements are concentrated and purified for the subsequent precipitation and product finishing.

11.3 PRODUCT PRECIPITATION / PRODUCT FINISHING

There are four different products being generated in this plant normally; mid-heavy rare earth carbonate, NdPr oxide, lanthanum carbonate, and cerium carbonate.

System for the carbonate systems will be setup as continuous precipitations, meaning multiple stages, reliable pH control, consistent temperature control, possible seeding capabilities, and correct agitation and pumping from wash thickeners to centrifuges. Thickener overflow centrate will be routed to REO scavenging recovery circuit. The NdPr oxalate batch precipitation, will be followed by calcination to a two nines oxide product. Products will be bagged in one metric tonne bags, with a plastic inside liner.

11.4 ANCILLARY SERVICES

The Tees Valley was one of over a dozen international sites that were evaluated for the fit to rare earth refinery's requirements.

Logistics

Access to port facilities for rare earth concentrate delivery as well as availability of a bulk supply of hydrochloric acid, other reagents and heavy vehicle access has been taken into account in the site selection criteria for the refinery.

Power and Water Supply

The power and water infrastructure to meet the Refinery's requirements has been allowed for in the site selection criteria. This will save on the need for significant capital expenditure on Peak's part for these services.

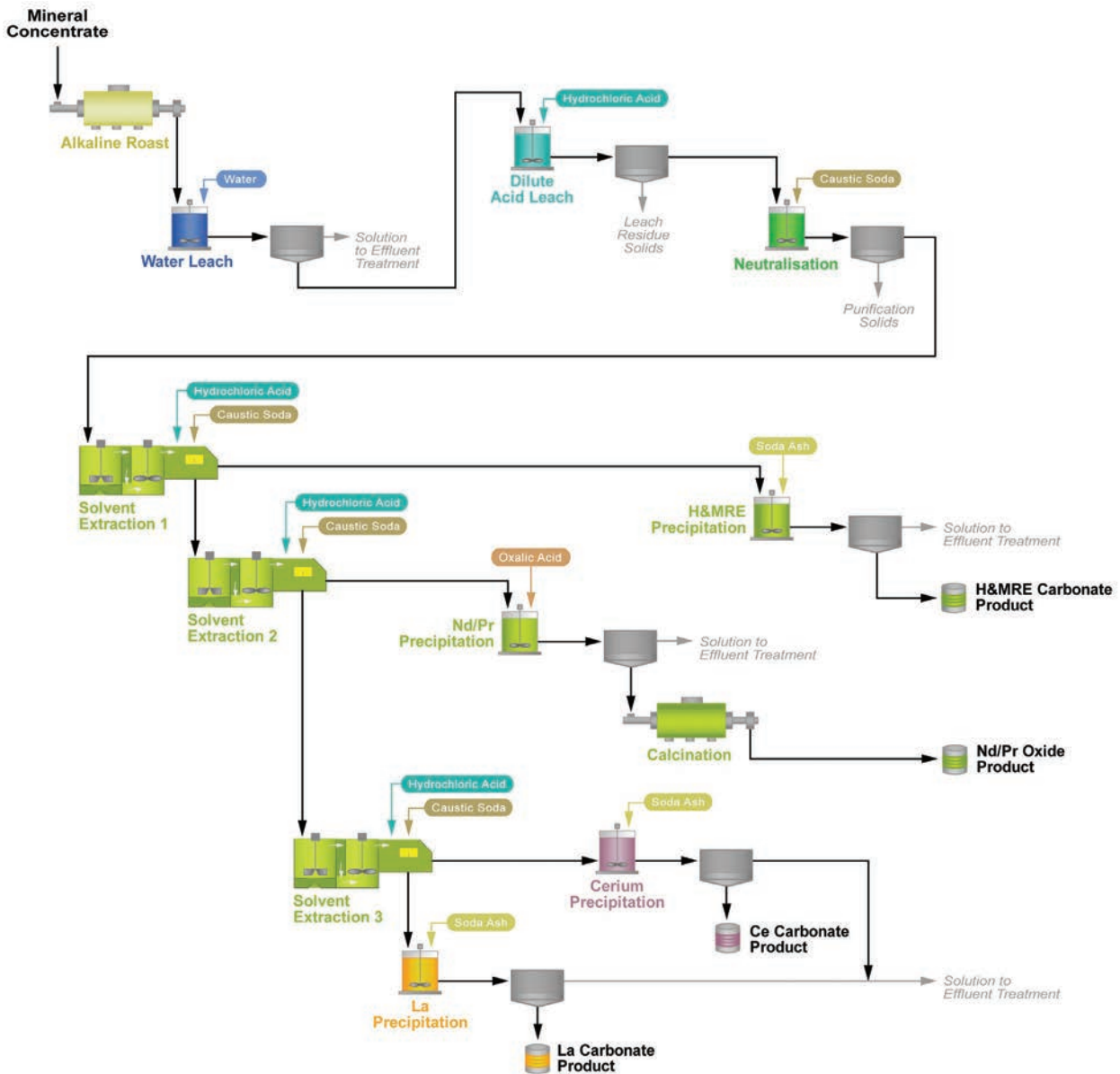
Effluent/Solid Waste Treatment

The solids from the leach, purification and fluoride removal process are collected and forwarded into a solid waste facility. Acidic streams generated within the Recovery and Separation circuits will be pumped to an effluent treatment plant for neutralisation; resulting in divalent precipitation and brine clarification using Best Available Techniques (BAT). Residual brine solutions are then into passed to Sembcorp water treatment.

11. OVERVIEW: TEES VALLEY OPERATIONS

(continued)

Figure 11.1: Tees Valley flowsheet



11. OVERVIEW: TEES VALLEY OPERATIONS

(continued)

Reagents

The main reagent of hydrochloric acid will be supplied from a third party storage facility within the vicinity of the Tees Valley site. Only modest on-site storage tanks will therefore be required.

Minor liquid reagents, such as solvents, will be transported and dispensed directly from typical 1m³ intermediate bulk containers.

Bulk solid reagents will be delivered by pressurised tankers and stored on site in small silos.

Minor solid reagents will be transported via 1 tonne bulk bags in shipping containers.

Approximately 110,000 tonnes of reagents will be required at the refinery per annum so the Tees Valley location within 1km of Tees port and location close to excess Chlor-Alkali capacity in Europe are key drivers for the safe and efficient operation of the refinery.

11.5 OPERATIONS READINESS

Starting a rare earth operation from the ground up requires solid planning and specific knowledge of the space. It is critical to find and hire a small number of key personnel for the overall project to effectively put together the framework of the operation. This small group of hires will be key to the successful startup and implementation of what will be a high performance organisation. These are the systems our customers will be the most interested to see fully developed and they are the backbone of the most highly effective operations.

This group will direct the actions to put in the framework for support systems including; Operations Excellence, Quality Management Systems, Training, and Reliability Based Maintenance, Environmental/Health/Safety, Purchasing, Human Resources and Information Technology. The goal is to bring all systems to a stage of development, so they can be used for startup and commissioning of both sites. Two vital areas of development are discussed overleaf;

Figure 11.2: 3D Layout of Tees Valley Refinery



11. OVERVIEW: TEES VALLEY OPERATIONS

(continued)

QA/QC

The QA/QC group must have a high level of capability for analyzing rare earth products and the impurities within those products. Often the difference in getting new business is related to the confidence customers have in the product certification of analysis (COA). This group will be the primary quality support for Marketing/Sales, Ngualla QA/QC, most in-process analytical efforts at Tees Valley and Product Development. The ability to build a highly effective QA/QC team and to act as the face of the corporation on the quality front are critical to Peak's success. They will also lead company-wide Quality Management Systems, ISO 9001:2015 certification and Reach certification.

Process Engineering

Process Engineering will be an active support for root cause analysis (RCA), as it relates to Safety, Quality and Mechanical failures. The group will also have a lead role for quality management and active participation in ISO certification related to quality, environmental and safety.

Additional responsibility includes; short interval control (SIC) or "decision trees", SOP development, development of Pi data historian collections and all the development of the reports which use the Pi data to give transparent vision of operational effectiveness, including process KPI's, OEE%, down time pareto.



Figure 11.3: Concentrate handling facility.



Figure 11.4: Leaching area adjacent to effluent treatment facility.

**INVESTING OVER
US\$150 MILLION
IN THE UK AND GENERATING
OVER 120 JOBS**

ENABLING LOW CARBON TECHNOLOGIES



12. MARKETING

12.1 MARKETING AND SALES STRATEGY

Overall, our governments and society are becoming more concerned about the global environmental challenges which we are facing. Compounding this is the context of the growth of emerging markets in Africa, Asia and Latin America. It is predicted that more than one billion people in Asia are in the transition of advancing from low socio-economic circumstances to a middle-income class. Subsequently the desire to increase their mobility will cause a change in their consumer behaviour. At the same time we see that these emerging markets, in particular China, but also the rest of the world, are becoming aware of the environmental toll that this growth requires and they have acknowledged alarming developments in the area of climate change, health and resources scarcity.

The majority of the predicted future growth of rare earths consumption and particular neodymium and praseodymium is already underpinned by recent and already agreed legislation and government policies and the will for decarbonisation of energy production, transport and industry.

As a result of this we see a positive sentiment in our society and a positive global shift in demand which will drive and increase the demand for rare earths and in consequence underpin the growth strategy of Peak and the identified value drivers for the Ngualla Project (90% of Peak's future revenue).

Neodymium magnets are ten times more powerful and three times lighter than traditional ferric magnet alternatives. These magnets provide much better performance under a wider range of operating conditions, so allowing effective miniaturisation and production of compact, lightweight and powerful motors which represents the overall trend in the industrial manufacturing industry.

Peak will produce and market the following four products:

- A high purity neodymium-praseodymium oxide (99%) product - 2,810 tonnes per annum (tpa)
- A combined mid-heavy rare earth carbonate product - 625 tpa equivalent to 330 tpa of contained REO
- A lanthanum rare earth carbonate product - 7,995 tpa equivalent to 4,230 tpa of contained REO
- A cerium rare earth carbonate product - 3,475 tpa equivalent to 1,920 tpa of contained REO

The Company is targeting a modest production level of total 9,290 tpa REO equivalent (less than 5% of world demand), which makes the marketing of production more achievable than many projects that need a high production profile in order to realise an adequate return on higher capital and operating costs.

Peak has held discussions with a large number of potential offtake customers and has received strong interest from several.

Potential customers include industrial conglomerates for the neodymium-praseodymium 'magnet metal' product, rare earth refiners for the mid + heavy product, and Fluid Catalytic Cracking (FCC) and auto catalyst manufacturers for the lanthanum and cerium products.

12. MARKETING

(continued)

OPINION

This opinion piece represents Peak Resource's view on the dynamics of the market (pages 31-37).

12.2 NGUALLA – LEADING DEPOSIT UNDERPINNED BY A STRONG MARKET DEMAND STORY

Over the past six years, it has been difficult for investors to get excited about the rare-earth sector. With commodity prices for rare earths enduring significant declines and hitting lows in late 2016, the sector has been viewed as a high-risk, low return investment proposition. The reality is that the demand for rare-earths, particularly neodymium and praseodymium is set to grow exponentially due to the introduction of new disruptive technologies in the e-mobility sector (electrified transport) which is benefiting from increased support by global legislators.

So far the big wave of incremental demand did not hit the supply chain yet, because the majority of the huge amount of new electric vehicle are still in the R&D phase the market could experience with the beginning of 2017 already a first taste of changed market dynamics. The Chinese government implemented continuous audits since the beginning of 2017 to enforce exist law, legislations and industry regulations to force the mining industry to comply with environmental and operational governmental standards. As a consequence output and capacity in the market got reduced and prices recovered.

Since the beginning of 2017 the Chinese government environmental crackdown hits metal prices. +84% NdPr YTD

The Evolution of Disruptive Technology

When a major new disruptive technology is introduced, there is often an associated scepticism among established players, who often loudly condemn the new technology as one that, for countless reasons, won't gain momentum. Their argument is often based on the

notion that if there was such a thing as 'game changing technology' and there was a market for it, they would have already developed it. Their excuse often sounds a lot like –"Been, there, done that – and it doesn't work."

A classic example of this in recent times was when 10 years ago, mobile phone powerhouses [Nokia](#) and [RIM](#) predicted that Apple would remain a niche supplier of mobile technology and that their iPhone would likely fail owing to the fact it had no keyboard and came with a fully embedded content ecosystem.

In addition the iPhone was, in their eyes also overpriced. Now, 10 years later, Apple dominates the smart phone industry having sold over 1 billion iPhone units and will in 2017, likely reach the incredible milestone of accumulating [US\\$ 1 trillion](#) revenues from their mobile platform IOS. Quite a ride isn't it? Where are those former industry leaders? Well, most of them have been taken over by new players looking to get their hands on their comprehensive IP portfolios.

As human history shows through multiple examples, real innovation is always led by new players with tremendous dedication, a vision and hunger to succeed and a willingness to challenge the status quo. This is what drives them and what most big corporations are lacking because their shareholders demand predictability and low-risk business models. Uncertainty and failures are their natural enemies but inevitable when it comes to true innovation.

"The electric light did not come from continued improvement of candles."

Oren Harari

12. MARKETING

(continued)

Now you might think we've gone off track here, right? Maybe, maybe not - who knows? While we may not have the magic crystal ball to see the future, we would like to help you, as Steve Jobs, CEO of Apple once said, 'connect the dots'

We believe the fundamentals are already in place and the question is not if it will happen, but when?

E-Mobility

We, along with many in the industry, believe that we are witnessing, right now, the type of disruption discussed above with e-mobility in one of the biggest global industry sectors - automotive industry. This disruption is being led by an important and well-known challenger and innovator, Tesla, a company that does not have to defend a legacy like the established car manufacturers and instead, realise they have more to gain than to lose.

It will be crucial for the success of E-mobility globally that Tesla ultimately succeeds given the potential for the massive disruption it will cause to secure and accelerate the transformation of the global automotive industry. Its success will ensure the availability of capital which otherwise would have never been accessible, opening the door for new players to enter the market, in turn forcing the established car manufacturers to join e-mobility. Some of them will need to fight for their survival even if they are not aware of it today.

Remember the Nokia's, Motorola's and RIM's? We think the same will occur with E-mobility, and that in 10-15 years' time the world will look very different. Here we follow the thoughts of [Mr Kevin Kelly](#) and like him believe that electric mobility in combination with [autonomous driving](#) implementation will represent a technical revolution similar to the industrial revolution in the 19th century. We believe that artificial intelligence (AI) of autonomous driving will kick off a new industrial

chapter where AI is combined with electric power and this will be a fundamental technology disruption significantly impacting the way we live our lives.

Importantly, and significantly for Peak, all of these new self-sustainable robotic solutions in not only mobility, but manufacturing, agriculture, logistics, and domestic services will need to be powered by engine technologies which will most likely rely on NdPr based technologies.

Connecting the Dots

So, let's connect the dots by focusing on the electric mobility market, a key demand centre for Peak's raw materials. We have selected this industry sector deliberately because of its visibility in the media, its relevance to everybody's daily lives and the fact that it is an end-consumer application which has a huge accelerated and unpredictable growth potential.

Tesla, as the leader in the e-mobility trend, is today facing the classical problem of a true innovator. Burning cash, making little or no profit and fighting against an established and highly profitable industry. The traditional automotive industry follows a predictable paradigm which demands companies only innovate as much as they need to be able to differentiate themselves from the competition while at the same time maximising shareholder value. As a result, they stick to their written off technologies and milk the cow as long as possible with moderate investments while selling the appearance of being innovative.

Between 2020-2025 battery cost and performance will reach competitive equilibrium with combustion engines which initiates the S-curve for electric vehicles.

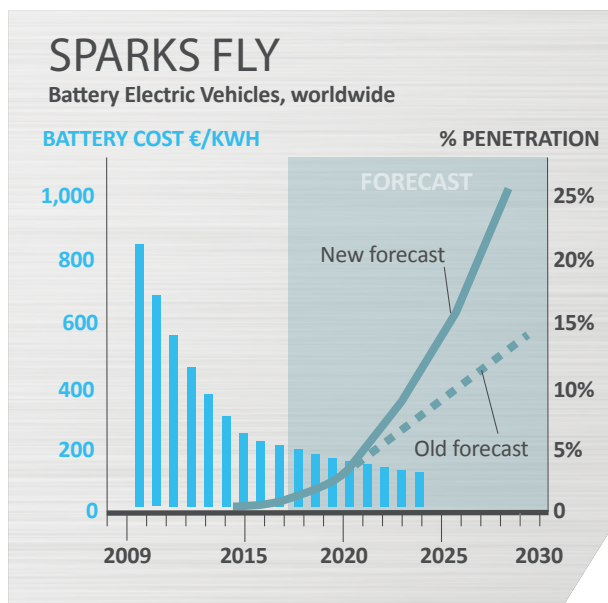
12. MARKETING

(continued)

When local or national governments, politicians and regulators push too hard to promote the types of true innovation we're talking about, the automotive industry use their network and lobby groups to spread the threat that if they are forced to invest too much they will no longer be able to stay competitive and this might lead directly to local job cuts.

So that is why it is so important that Tesla succeeds in accomplishing its goal to reduce the overall cost for this technology, in particular the battery cost, which currently represents up to a third of an electric vehicle cost.

Figure 12.1



SOURCES: Exane BNP Paribas; UBS

Massive Emobility Market Growth

Tesla's brave push into the market has been positive for the sector having initiated an avalanche of investments of more than USD 20 billion for new, incremental lithium battery capacity committed by companies like [VW](#), [Samsung](#), [LG Chem](#), [BYD](#), [Boston-Power](#), [Foxconn](#), [Tesla - Panasonic](#), [Daimler](#). With the mega factories being built and the technical challenges being addressed, consumers can look forward to a tremendous increase in the range of electronic vehicles available for sale within the next 3-5 years.

More than +200 new electrified models from [Hyundai-Kia](#), [GM](#), [BMW Group](#), [Honda](#), [VW Group](#), [Daimler](#), [Nissan](#), [BYD](#), [Ford](#), [Toyota](#) and others are expected to hit the dealerships by 2025. The model landscape will reach a level of diversification which will ultimately enable this technology to enter the mainstream market. This is especially the case when you see electric vehicles being designed with an emotional appeal and less with an industrial design such as the [Porsche Mission e](#), [BMW I](#), [BMW I NEXT](#) or the [Daimlers EQ series](#).

When these new vehicles hit the market in the price range of US\$ 30-35,000 (which represents the price range within the majority of vehicles are sold in the US today) and at the same time offer the performance of a super sports car accelerating from 0-100km per hour in less than 3 seconds, the consumer demand proposition is in our view, a "no brainer".

1 Megawatt from 200 kg NdPr Oxide

Each direct drive wind turbine uses a permanent magnet motor that generates between 2-6 MW of performance. Each megawatt requires approx. 200kg pure neodymium and praseodymium.

ENABLING LOW CARBON TECHNOLOGIES

12. MARKETING

(continued)

The prediction is the cost of ownership of an electric car will be BELOW that of a combustion engine car by 2022!

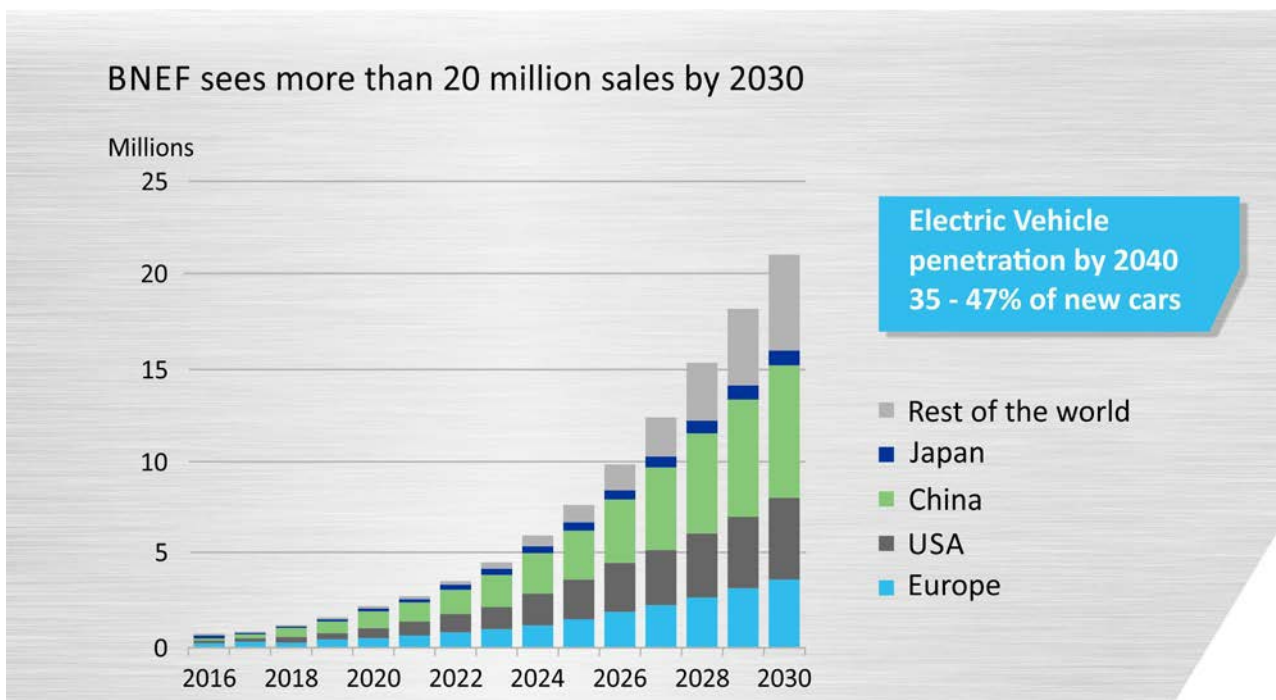
Carbon Economy or Bloomberg - Here's How Electric Cars Will Cause the Next Oil Crisis they all project annual sales volumes between 7 to 16 million vehicles in 2025. Representing a global market share of 7 to 22% at that time. Bloomberg projects even for 2040 a market share of 35% with potential annual sales of 40 million vehicles.

Further supporting this rapid transition to electric mobility, it is projected by Bloomberg/Renault that in the early 2020s the cost of ownership of an electric vehicle will be equal to and soon be cheaper than a combustion engine. This will signal the point of no return. Once this milestone is achieved we predict within 10 years' time combustion engines will become a nostalgic artefact.

Bloomberg New Energy Finance sees more than 20 million electric vehicle sales by 2030.

All lights are on green, there is hardly any analyst that does not show substantial growth for the e-mobility sector, just have a look at following reports: German Bank – Lithium 101 Report, Goldman Sachs - The Low

Figure 12.2: The rise of electric cars



SOURCE: Data compiled by Bloomberg New Energy Finance, Marklines

12. MARKETING

(continued)

What does this mean for Neodymium and Praseodymium?

With all of this in place, we remain puzzled that the investment community and analysts are so euphoric and engaged with commodities such as Graphite, Lithium and Cobalt (the raw materials used in lithium-ion batteries) while showing no excitement for rare earths and in particular for neodymium (Nd) and praseodymium (Pr). NdPr are the core ingredients of high-efficiency electric-motors and generators which will power not only the electric vehicles, but of a range of other clean, green and high-tech applications.

Nd and Pr are critical elements in the construction of compact, light-weight and high-efficiency permanent magnets, which are already dominant in today's electric vehicle industry.

Behind each battery is a motor and 9 times out of 10 it is an NdPr permanent magnet motor in a vehicle.

With this in mind, it is also important to understand that based on today's knowledge for each electric vehicle which is built in place of a traditional internal combustion engine (ICE) powered vehicle, there is an incremental increase in demand of 0.5 to 1kg pure NdPr oxide, depending on the model and applied power train technology. Multiply this by the projections just mentioned above, and you can clearly see the potential for rapid demand growth for NdPr. And we didn't even touch upon electric bicycles, scooters, commercial vehicles, busses, trains etc.

Each converted car from combustion engine to an electrified vehicle represents an additional demand of 0.5 to 1kg NdPr oxide.

e-mobility is only one of several applications which represents a huge increase of the future demand of NdPr. Visit our new website and you can learn more about the other applications like:

- Direct Wind Turbines
- HFC replacement technologies like magnetocaloric technologies
- Existing industrial robotic solutions
- Future autonomous robotic solution

E-mobility is just one of several applications which rely on NdPr as heart of their motors.

Other supportive key drivers

As much as we are excited about the application side of the business we understand that three additional important drivers are important for the anticipated change:

- Global environmental related legislation;
- Macroeconomic; and
- China - The leading global supplier of rare earths today

Global Environmental Legislation

We have followed the latest developments in these areas carefully and we see that implemented legislation world-wide and the overall positive sentiment in society is supportive and accelerating the transition to NdPr technologies - just look what is happening in [China](#), [Germany](#), [Norway](#), [France](#), [UK](#), [Netherlands](#), [California](#) and [India](#).

12. MARKETING

(continued)

*"Up to 50% of this increase of NdPr demand is underpinned by already approved government legislations."
Adamas Intelligence*

In the case of government policies; tougher controls on emissions and environmental standards, growing requirements to improve energy efficiency and the will for decarbonisation of energy production, transport - and industry will positively impact the global demand to apply NdPr technologies. We agree with the [new report by Adamas Intelligence](#), that up to 50% of this increase of demand is underpinned by legislation which is already being implemented such as the [Kigali-Agreement](#), [COP21 Paris summit](#) and [Energy 2020](#) (Europe).

Macroeconomics

The overall macroeconomic trend and the projected facts for 2035-2040 imply that the world needs to find new answers for old questions. It is projected that global GDP, world population, global vehicle fleet and global electricity consumption (without realisation of efficiency improvements) will double over the next 20 years. This trend will be further amplified by the trend of urbanisation and increasing numbers of mega cities – with all the associated problems that come with them.

According to BP and ExxonMobil energy outlook 2017, the global demand for mobility and electricity will double during the next 20 to 25 years. the incremental energy demand of the next 20 years is equivalent to what South and North America are consuming together today.

China

In October 2016 the Ministry of Industry & Information Technology of the Chinese Government released its "[Rare Earth Industry Development Plan \(2016-2020\)](#)" which represents the implementation plan for the [Rare Earth Industrial Standard Regulation](#), published on July 1, 2016. The plan covers the complete spectrum of the Chinese rare earth industry including industrial consolidation, the environmental sustainability agenda, protection of national resources, a road map for further integration into the value chain and moving away from low-tech to high-tech applications. In a nutshell, China is aiming for further downstream integration of the global rare earth industry while at the same time reducing illegal mining and international exports and improving the environmental compliance of the industry. Their agenda includes:

- A projected annual growth rate of 15% in regards of the overall domestic rare earth consumption.
- A fixed target of reducing solvent extraction REO processing capacity from 300,000 t (2015) to 200,000 t (2020) and implementing controls to limit REO production to 140,000 tpa.
- A reduction of rare earth exports from 57% of 2015 output to 30% of 2020 output.
- An improvement in the profitability of rare earth enterprises from 5.8% (2015) to 12% (2020).
- A target to make 90 % of Chinese rare earth companies compliant with energy and environmental legislation (from a base of 30% today).
- The Government to support overseas investment or collaboration in the rare earth space .
- The government indicates further industry consolidation and no new mining rights issued except to the 6 state-owned rare earth groups.

12. MARKETING

(continued)

As highlighted before China started to implement above Agenda especially in regards to the enforcement of environmental compliant operations since the beginning of 2017. The main reason why the Rare Earth Market and especially NdPr experienced a recovery in pricing. It will be interesting to see how the market will react when the first real incremental demand of the new applications will start to hit the supply chain and at the same time the vertical integration of the Industry will continue in China and with it the availability of material will be further reduced.

*"Let's make our skies blue again."
Chinese Premier Li Keqiang*

In addition to the Chinese government's rare earth agenda, China has understood that from an environmental standpoint, they cannot continue to exploit their natural resources in the way they have done over the last 20 years.

While the sole aim until now has been to elevate the national average income and the overall prosperity of their citizens, China is now facing the real issues of environmental degradation. Current methods of mining some rare-earths domestically in China are highly damaging to the environment and unsustainable into the future. Therefore, China is clearly aiming for moving away from a dig and delivery business model towards full integrated hi-tech model

Figure 12.3: A tugboat on the Thames in 1952 near Tower Bridge in heavy smog.



China will undergo the same phenomenon as other developed countries in combating air pollution, similarly to how London has overcome the high levels of pollution that caused the [Great Smog of 1952](#).

China is in the process of moving two thirds of their population into the middle class over the next 15 years and by doing that China has to face a reality. As soon as bellies are full and basic needs are met, Chinese citizens will no longer accept the [disastrous environmental situation](#) and the way it is impacting their daily life and health today.

Figure 12.4: Lady walks through smog in Beijing, 2016



Conclusion

All these elements will cause an imbalance in the NdPr supply-demand situation. It is predicted that today's 2016 annual consumption of NdPr of approx. 30 - 40,000t will double by 2025 (see market research data and publications from [Adamas Intelligence](#)).

It is our view and of the Chinese themselves that China will not have enough NdPr for its own needs. Therefore we believe the outlook for NdPr demand is outstanding. According to Mr. Ma Rongzhang, general secretary of the Association of China Rare Earth Industry at the Ninth China Baotou Rare Earth Industry Forum on 28 August 2017 it has already started.

*"The total amount of rare earth quota this year is only 105,000 tons, but the praseodymium neodymium sector needs at least 180,000 tons of rare earth production."
Mr. Ma Rongzhang*

12. MARKETING

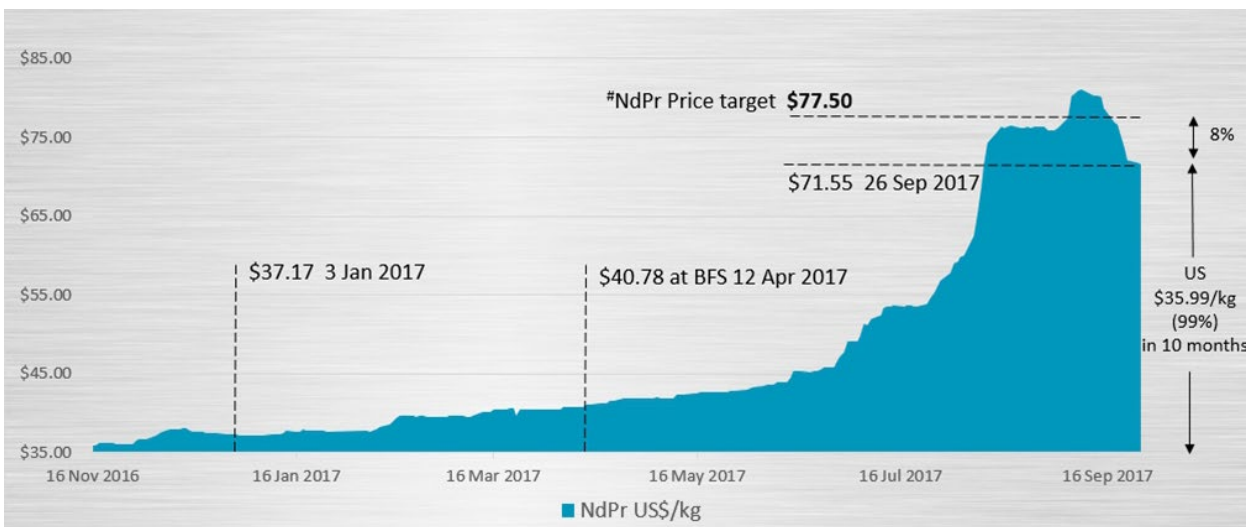
(continued)

12.3 RARE EARTH DEMAND AND PRICING OUTLOOK

Owing to the increased use of high-power magnets in electrical motors and generators, particularly in electric cars and bikes, the demand outlook for NdPr is very positive, suggesting that current price levels, where the majority of producers are losing money should represent a cyclical low. Furthermore, in February 2017, the largest Chinese producer of NdPr implemented a price increase of 6%. Until today the Northern Rare Earth Group (known as Baotou) has implemented its 8th consecutive price increase since February 2017.

To provide context on the pricing assumptions used in the Update the following charts are included using data from the Asian Metals Index (an independent source of actual historic pricing data). As neodymium and praseodymium are expected to generate approximately 90% of the projects revenue we have focused on these metals.

Figure 12.5: Increasing NdPr Price Trend in 2017



SOURCE: Asian Metal

Figure 12.6: Historic Rare Earth Price Trends



SOURCE: Asian Metal, Argus Metals

12. MARKETING

(continued)

12.4 PRICE DECK FOR THE PROJECT UPDATE

Table 12.1: Price deck for the Project Update

METRIC	UNITS	VALUE \$
Average LOM Product Price – NdPr Mixed Oxide 2N – min 75% Nd ₂ O ₃	US \$/kg	77.50
Average LOM Product Price – Lanthanum rare earth oxide 2N equivalent	US \$/kg	3.70
Average LOM Product Price – Cerium rare earth oxide 2N equivalent	US \$/kg	2.20
Average LOM Product Price – SEG and Mixed heavy rare earth oxide equivalent	US \$/kg	8.00

In determining the rare earth pricing for the Study, Peak reviewed a range of recent published rare earth price projections from several established independent experts and analysts including Adamas and Hallgarten. A pricing position was selected within the projected ranges of these experts.

12.5 ADDITIONAL RARE EARTH MARKET INSIGHTS

Rare Earth Markets

Rare earths have a variety of end uses and are not equal in terms of demand, production or price. They therefore cannot be considered as a single commodity. Table 12.2 summarises some of the main applications for individual rare earths.

Table 12.2: Overview Rare earth applications

USE	ELEMENTS USED
Magnets	Neodymium and praseodymium are key components in permanent magnets which have widespread and growing application in 'green' and renewable energy such as wind turbines, hybrid and electric vehicles and also personal audio and electronic equipment.
Phosphors	Europium, terbium and yttrium are important in new, low energy lighting (Flourescent and LED), TV's and computer displays.
Batteries	Lanthanum is a component of nickel metal hydride (NiMH) batteries used in electris and hybrid cars and cordless power tools.
Catalysts	Cerium and lanthanum are important in the manufacture of auto and petroleum industry catalysts for pollution control and refining of oil.
Polishing	Cerium-based polishing powders are preferred for high finish applications including flat panel displays, optics, electronics, smart phones and touch screen computers.
Alloys	Cerium-rich mischmetal, yttrium and neodymium strengthen steels and super-alloys for aerospace and military applications.
Glass	Cerium and other rare earths are used as additives to colour glass and screen UV light in optical and medical applications.

12. MARKETING

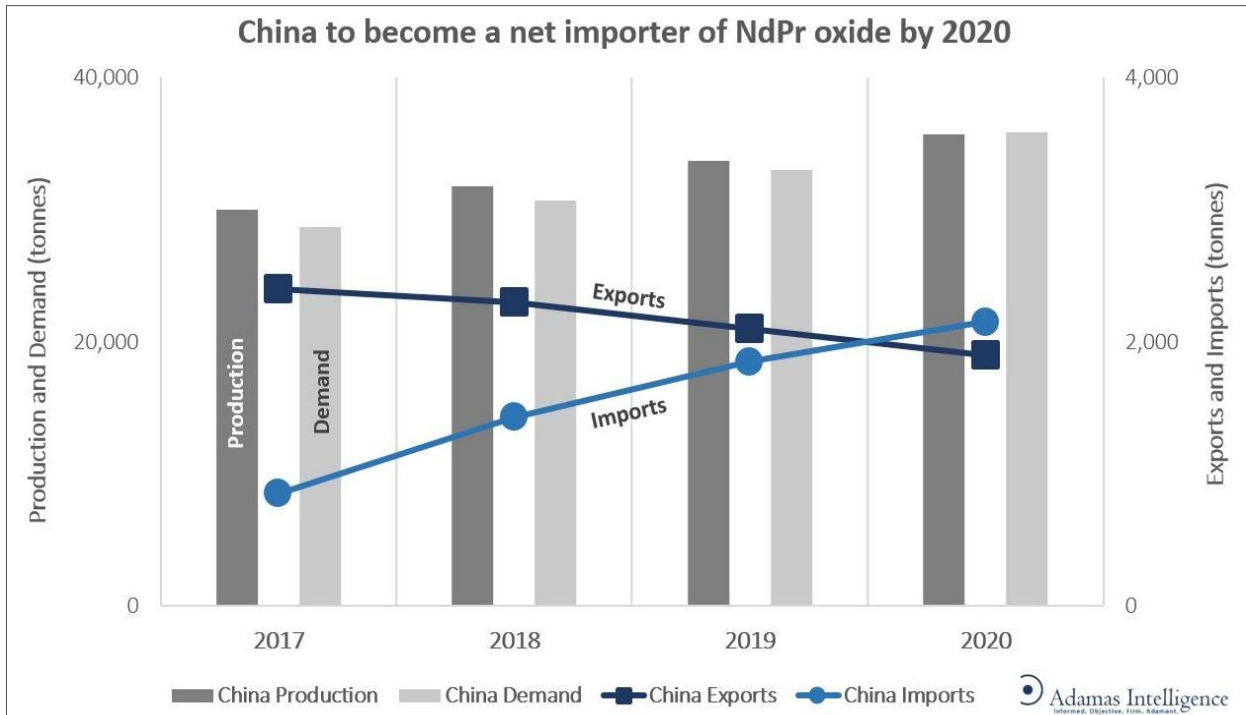
(continued)

12.6 RARE EARTH DEMAND/MARKET OUTLOOK

Since the early 2000's there has been a significant increase in demand for rare earths due to the many growth areas of application.

The estimated value of the global annual rare earth oxide consumption in 2016 was approximately US\$ 2 to 3 billion. The permanent magnets business represents approximately 65% of the total value of all rare earth applications and approximately 30% by volume.

Figure 12.7: China to become a net importer of NdPr



SOURCE: Adamas Intelligence

13. CAPITAL COST SUMMARY

KEY FEATURES:

- US\$ 365 million Capex including growth, contingency and owners costs.
- Includes rare earth refinery.

13.1 BASIS OF CAPITAL COSTS

The capital cost estimate is based on a mine and process facilities consuming 711,000 tonnes per annum of ore, producing 2,810 tonnes per annum of high purity neodymium and praseodymium rare earth oxide. Capital costs have been estimated to a 10% level of accuracy and are based on:

- **Mining:** Orelogy Group Ltd estimated the open pit mining equipment requirements based on the pit optimisation and mining schedule scenarios. We have assumed mining equipment will be leased.
- **Process Plants:** The entire end to end mineral process capital estimate is based on updated laboratory and pilot plant test work data incorporated by Amec Foster Wheeler into process and mass balance modelling using SysCAD software. Preliminary equipment lists were developed and sized consistent with the defined level of accuracy.
- **Recovery:** Recovery estimates were derived from the recently completed piloting program. These estimates have been interpreted by CDMet Consulting Pty Ltd and Amec Foster Wheeler and incorporated into the overall process mass balance. The separation plant is based on the test-work and solvent extraction pilot plant operation completed at ANSTO and Nagrom.
- **Infrastructure:** Amec Foster Wheeler has developed the infrastructure designs and provided the capital costs for the construction of all mine facilities, accommodation village and site project services at both sites. Knight Piésold has provided estimates for the tailings facilities at Ngualla. Ngualla power supply has been included as a heavy fuel oil power package while Tees Valley will purchase power from local providers. The required upgrade to the 80km access road has been reviewed by COWI and estimated by Amec Foster Wheeler.

13.2 CAPITAL COST ESTIMATE

The total estimated capital cost including direct, indirect and contingency cost is, as detailed in the following table, US\$365 million. This figure maintains Peak's position as the only potential rare earth miner and producer of separated rare earth products with a capital requirement of under US\$500 million.

Ngualla Mine/Processing Capex
US\$ 52 million

Ngualla Infrastructure Capex
US\$ 138 million

Total Ngualla Capex (including contingency)
US\$ 190 million

Total Tees Valley Capex (including contingency)
US\$ 157 million

Owners cost
US\$ 18 million

Total Ngualla and Tees Valley Capex (including owners costs)
US\$ 365 million

13.3 CAPITAL COST COMPONENTS CARRIED IN OPERATING COSTS

Build, own and operate (BOO) components are those areas of the operation where a third party will at their own expense supply and operate a particular part of the operation. In turn Peak will pay a usage fee for the service or goods that are supplied. The only components in the current estimate to have been costed as BOO are the Ngualla HFO and Solar Hybrid power supply.

The cost of the Capital for the Mining fleet and equipment has been carried as a lease cost and is included in the Mining operating cost.

13. CAPITAL COST SUMMARY

(continued)

13.4 GROWTH AND CONTINGENCY

Contingency is defined as the amount added to a cost estimate to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain and that experience shows will likely result, in aggregate, in additional cost.

For the Update the following engineering growth and contingency figures were used:

Ngualla: US\$ 28 million (15%)

Tees Valley: US\$ 23 million (15%)

The contingency provision makes allowance for such factors as:

- Planning and estimating omissions
- Minor price fluctuations
- Design developments and changes within the scope
- Variations in market conditions
- Material and labour rate accuracy

13.5 EXECUTION STRATEGY

Where practical, the processing plant will be modularised, prefabricated off site and skid mounted to allow for fast, efficient construction and installation on site.

This technique will reduce the amount of skilled labour required on-site during construction as well as improve the quality control of the equipment to ensure a smooth ramp-up period. Peak plans to undertake a

number of different contracting strategies for each section of the project to reduce project costs and better control project risks. In areas such as the access road, local Tanzanian contracting companies have been approached to undertake the construction on a design and build contracting basis directly for Peak. In areas requiring greater technical ability such as the separation and recovery plants, it is envisaged that an EPC or EPCM contracting strategy will be used.



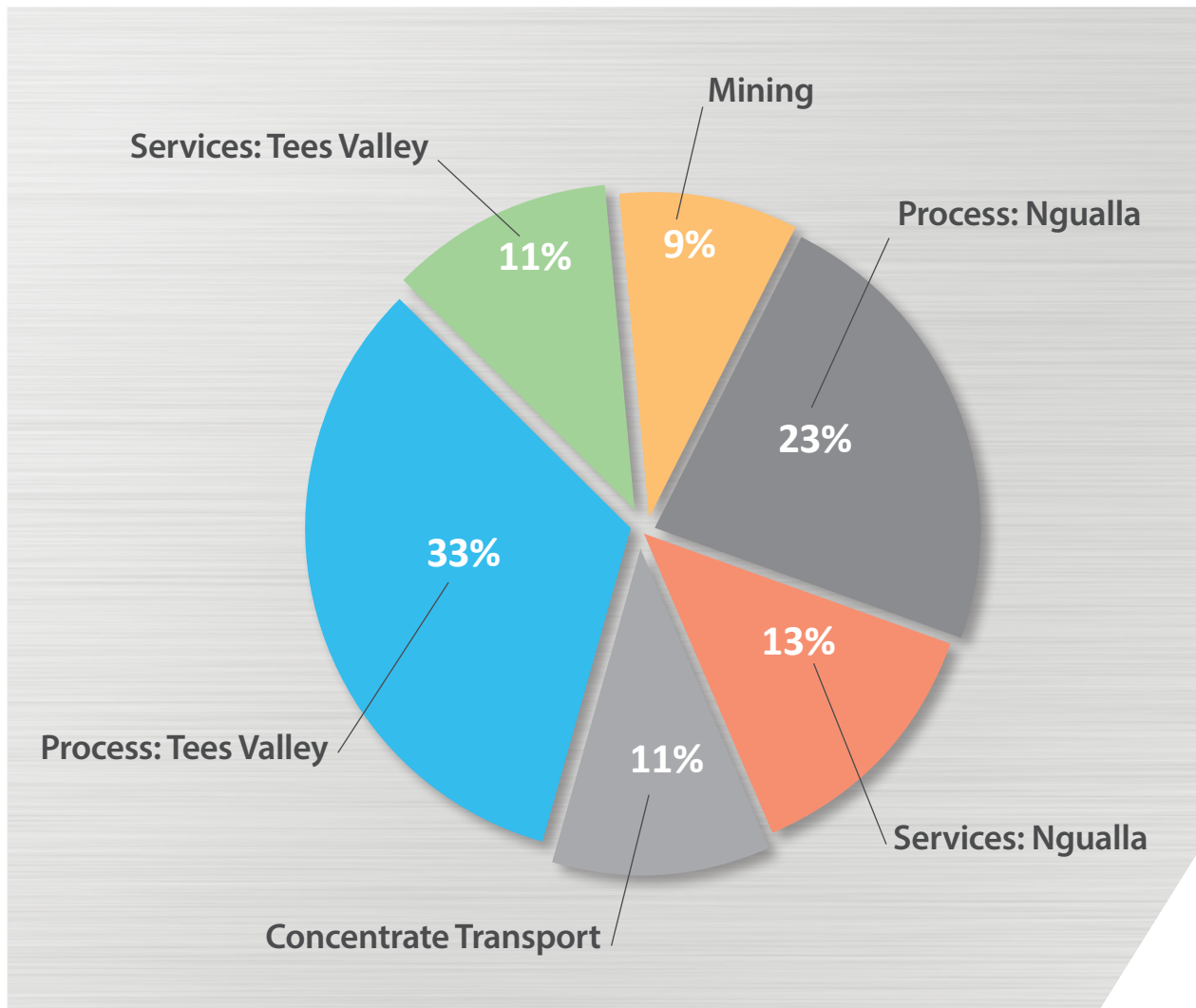
14. OPERATING COST SUMMARY

KEY FEATURES:

- Lowest separated oxide unit production cost of all comparable development projects.
- Operating cost of US\$ 32.24 kg NdPr 2N high purity separated oxide.
- Low cost reagents, energy and environmental costs, resulting in total annual Opex of US\$ 91 million.

Costs are LOM after start-up.

Figure 14.1: Average Operating cost summary for the life of mine after start-up by category.



14. OPERATING COST SUMMARY

(continued)

14.1 MINING COSTS

The operating costs for mining and haulage were developed by Orelogy Group Ltd. The mining costs include drilling, blasting, grade control, fuel, labour, load and haul.

14.2 PERSONNEL

Personnel requirements for management, operations and maintenance have been estimated by Orelogy, Amec Foster Wheeler and Peak. All personnel costs are fully loaded and inclusive, where applicable of all taxes and statutory charges, travel and site accommodation. A breakdown of employee numbers by area is shown in Table 14.1 below.

Table 14.1: Personnel numbers by area

AREA	NUMBER OF PERSONNEL (NGUALLA)	NUMBER OF PERSONNEL (TEES VALLEY)
Mining	50	-
Beneficiation	112	-
Recovery	-	45
Separation	-	46
Site Services	47	38
TOTAL EMPLOYEES	209	129

14.3 POWER

Electrical power consumption has been calculated across the process plants by Amec Foster Wheeler from the preliminary mechanical equipment lists including estimates for infrastructure power requirements. Power rates per kWh are based on a hybrid solar and heavy fuel oil power plant BOO package similar to other Tanzanian operations.

For Tees Valley, energy pricing is based on purchasing power and piped natural gas.

14.4 REAGENTS

Reagent consumption is based on pilot plant test-work results and the associated updated SysCAD mass balance model.

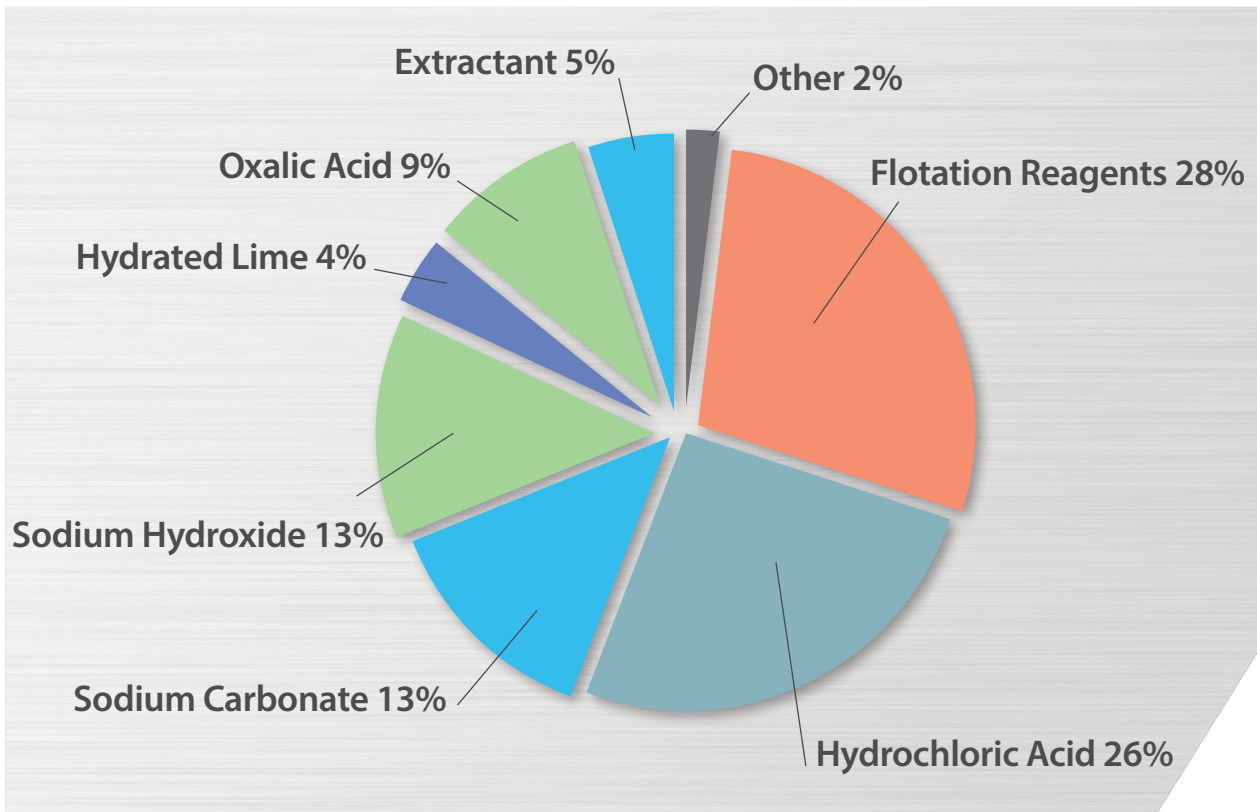
For Ngualla, reagents rates are based on quoted prices ex-China and South Africa, with some items including costs landed in Dar es Salaam. Shipping and transport costs by road of reagents to site are included in the total reagent cost.

For Tees Valley, reagent rates are based on quoted prices delivered to UK / Europe plus transport to site. The UK site has excellent access to ChlorAlkali and by-product Hydrochloric Acid (HCl). As shown in the Figure 14.2 HCl makes up the largest single portion of the total reagent costs.

14. OPERATING COST SUMMARY

(continued)

Figure 14.2: Annual reagent cost breakdown



14.5 CONSUMABLES

Estimated costs associated with concentrate and product packaging, replacement of mill liners, grinding media, filter cloths, demineralised water, cooling tower and boiler chemicals, natural gas (Tees Valley) and over the fence services (Tees Valley) have been provided by Amec Foster Wheeler. An allowance for site safety and other general consumables has been made by Amec Foster Wheeler, included as part of salary on costs.

14.6 MAINTENANCE

Maintenance costs for each part of the process are factored from the direct capital cost of the equipment. Factors range depending on the location of the equipment and area process conditions and averaging approximately 3% per annum.

14.7 GENERAL ADMINISTRATION

General administration costs have been detailed for each site.

14.8 CONCENTRATE TRANSPORT

Concentrate transport costs based on road haulage and shipping rates and have been obtained by Peak and Amec Foster Wheeler and include transport from Ngualla to Dar es Salaam port, port loading and port clearing fees, wharfage, sea freight to UK / Europe and destination port clearing fees plus road haulage to Tees Valley.

15. PROJECT ECONOMICS

The BFS has previously demonstrated a technically robust, de-risked project with strong financial metrics that is well aligned to market demand. The financial evaluation of project economics at the stated assumptions in the Project Update and Ore Reserve estimate are summarised in Table 15.1 and include:

- A long life and profitable project with an annual free cash flow (post tax and royalties) of US \$108 million over 26 years.
- Attractive NPV₁₀ of US \$686 million pre-tax and royalties.
- Project IRR of 26% pre-tax and royalties.

The forecast cumulative US \$3.01 billion cash flow generated (post tax and royalties) by the consolidated project over the 26 year life (Figure 15.1 below) demonstrates the strategic nature of the project to the supply of key rare earths and the potential for a long life, cash flow generating business.

Figure 15.1: Annual operational cash flow (EBITDA) over the 26 year life of the project.



Compliance Statements

Production, costs and financial analysis are reported on a 100% owned basis (Peak hold 75%).

The production target and schedule on which the financial information is based is in turn based on the Ore Reserve estimate and stated Material Assumptions in ASX Announcement “Ngualla Rare Earth Project – Updated Ore Reserve” of 12 April 2017 and those stated within this report.

Price deck assumptions on which the financial evaluation is based are derived from a review of a range of forecasts by respected independent industry analysts. A pricing position was selected for the Update within the projected ranges of these experts.

The 100% Project funding requirement is estimated at approximately US \$403 million, comprising Capex of US \$365 million and a maximum working capital requirement of US \$38 million.

Peak will require new funding for its 75% share in the Ngualla Project to achieve the stated financial outcomes, which will result in some dilution of existing shares, the quantum of which will depend on the final debt to equity ratio of the project finance package, which has yet to be arranged.

15. PROJECT ECONOMICS

(continued)

Table 15.1: Key Outcomes and Assumptions

PRODUCTION ASSUMPTIONS	
Life of Mine	26 Years
Average Life of Mine REO Grade	4.80%
Life of Mine Strip Ratio (Waste: Ore)	1.78
Average Mill Throughput	711,000 tpa
Average REO Mineral Concentrate Production	32,700 tpa
Average NdPr Mixed Oxide 2N Production	2,810 tpa
Average La Oxide Equivalent Production (final product: 7,995 tpa Carbonate)	4,230 tpa
Average Ce Oxide Equivalent Production (final product: 3,475 tpa Carbonate)	1,920 tpa
Average SEG and Mixed Heavy Oxide Equivalent Production (final product: 625 tpa Carbonate)	330 tpa
OPERATING COSTS	
Average Operating Cost - Ngualla plus concentrate transport	US\$ 51m p.a
Average Tees Valley Refinery Operating Cost to Final Product	US\$ 40m p.a
Total Consolidated Operating Cost to Final Product	US\$ 91m p.a
Total Consolidated Operating Cost/kg (NdPr Mixed Oxide 2N[#])	US\$ 32.24/kg
CAPITAL COSTS including growth and contingency	
Ngualla (Mine and Process)	US\$ 52 million
Ngualla (Infrastructure)	US\$ 138 million
Tees Valley Refinery	US\$ 157 million
Owners Costs	US\$ 18 million
Total Capital Pre-Production	US\$ 365 million
Average Annual Consolidated Sustaining Capital	US\$ 5 million
FINANCIAL METRICS	
Consolidated Total Revenue	US\$ 6.27 billion
Consolidated Average Annual Revenue	US\$ 241m p.a
Total Consolidated (Post Tax) Cash Generation	US\$ 3.01 billion
Annual Average Consolidated (Post Tax) Cashflow	US\$ 108 m p.a
Average Annual EBITDA	US\$ 150 m p.a
NPV ₈ - Pre Tax and Royalties	US\$ 914 million
NPV ₈ - Post Tax and Royalties	US\$ 612 million
NPV ₁₀ - Pre Tax and Royalties	US\$ 686 million
NPV ₁₀ - Post Tax and Royalties	US\$ 444 million
IRR - Pre Tax and Royalties	26%
IRR - Post Tax and Royalties	22%
Operating Margin	62%
Payback Period (from Start of Operations)	5 Years
COMMODITY PRICE ASSUMPTIONS average LOM	
NdPr Mixed Oxide 2N Min 75% Nd ₂ O ₃	US\$ 77.50/kg
Lanthanum Rare Earth Oxide Equivalent	US\$ 3.70/kg
Cerium Rare Earth Oxide Equivalent	US\$ 2.20/kg
SEG Mixed Heavy Oxide Equivalent	US\$ 8.00/kg

For further detail on project metrics and assumptions please see the sections of this report and the Ore Reserve ASX Announcement "Ngualla Rare Earth Project – Updated Ore Reserve" of 12 April 2017. Annual average statistics are at steady state, post ramp up. [#]2N=99% purity

15. PROJECT ECONOMICS

(continued)

Compared to other rare earth projects, Ngualla has lower capital investment requirements and, thanks to a unique combination of favourable physical attributes and the improved processing route selected, enviably low operating costs that will make it cost competitive with Chinese production.

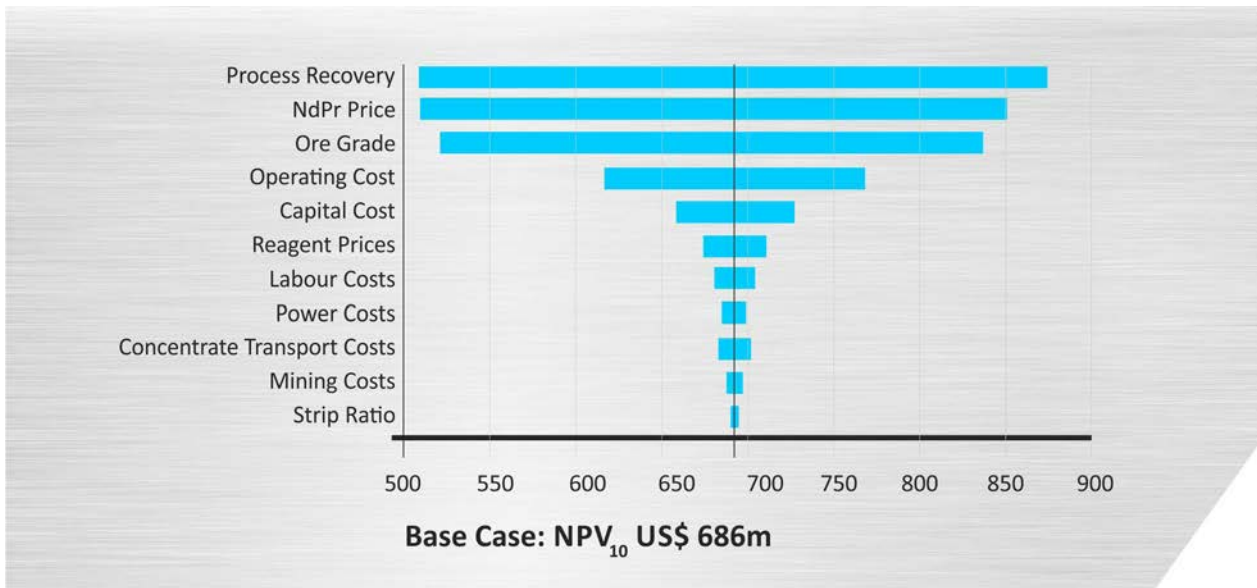
Ngualla's favourable project economics are in part driven by the high NdPr grade and advantageous mineralogy of the rare earth deposit itself, together with the development of an extraction and purification process that targets the higher value rare earths whilst rejecting the majority of the lower value cerium. The location of the refinery in proximity to sources of inexpensive bulk reagents and existing utilities is also a key driver of lower Opex.

With the alignment of products and value drivers to the high demand magnet metal market the project is in a favourable position in terms of marketing and future demand for its products which will represent less than 5% of total world demand.

Project Sensitivity Analysis

Based on the sensitivity analysis, the key drivers of the Projects economics are rare earth recovery, ore grade and price of the main revenue driver, NdPr.

Key project sensitivities to NPV (+/- 10%) are as follows:



15. PROJECT ECONOMICS

(continued)

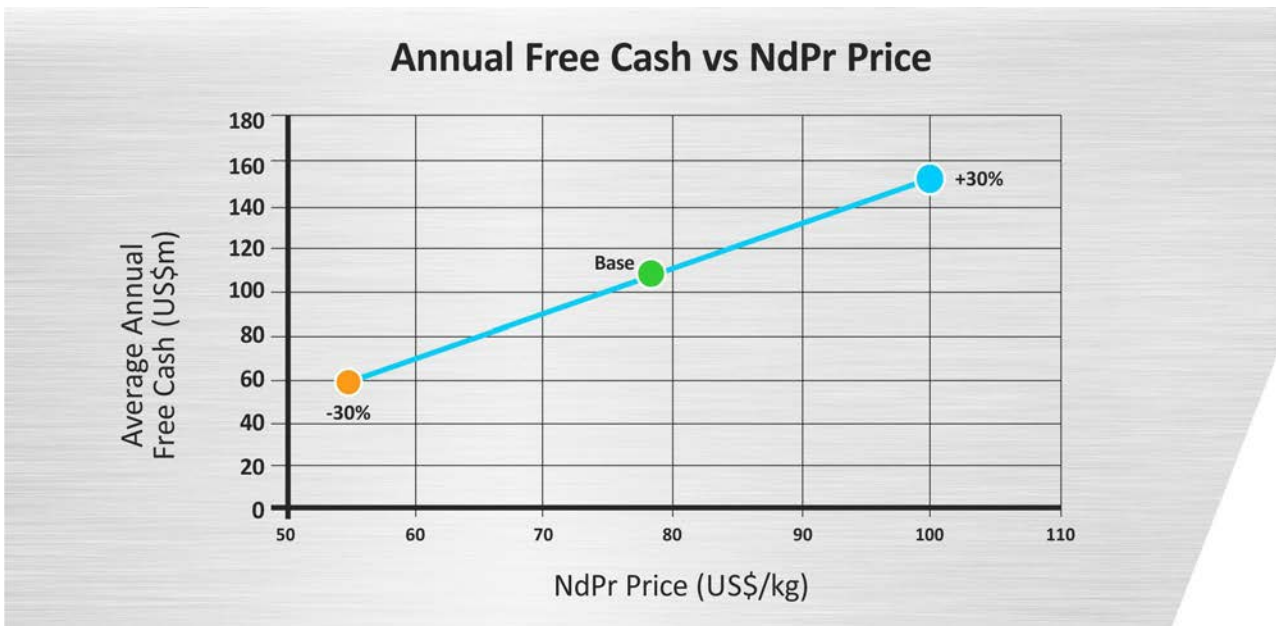
The comprehensive piloting of the beneficiation leach recovery and separation processes using bulk samples of mineralisation from Ngualla has mitigated process recovery risk. The Ore Reserve is based on a high confidence and well defined Mineral Resource estimate, 89% of which is in the highest Measured JORC 2012 category, which similarly minimises the potential for variance. The Project NPV is not particularly sensitive to capital costs due to the high cash flows expected to be generated. The remaining driver to project economics is NdPr pricing, which is underpinned by the predicted demand increase in the magnet metals as discussed in the Marketing section of this report.

Figures 15.2 to 15.4 following illustrate three key Project financial metrics:

- Average annual Free Cash Flow (post ramp up)
- NPV₁₀ and
- IRR

against changes in the NdPr price assumptions flexed by +/-30%. Recent actual prices for rare earths over the last six years since January 2011 from Asian Metal are shown in Figure 12.5 on page 37. The three sensitivity graphs following illustrate robust project economics in the face of 30% variances in the NdPr pricing assumptions.

Figure 15.2: Ngualla Project average life of mine post ramp-up free cash flow (post tax and royalties) vs NdPr price.



15. PROJECT ECONOMICS

(continued)

Figure 15.3: Pre Tax NPV₁₀ vs NdPr Price

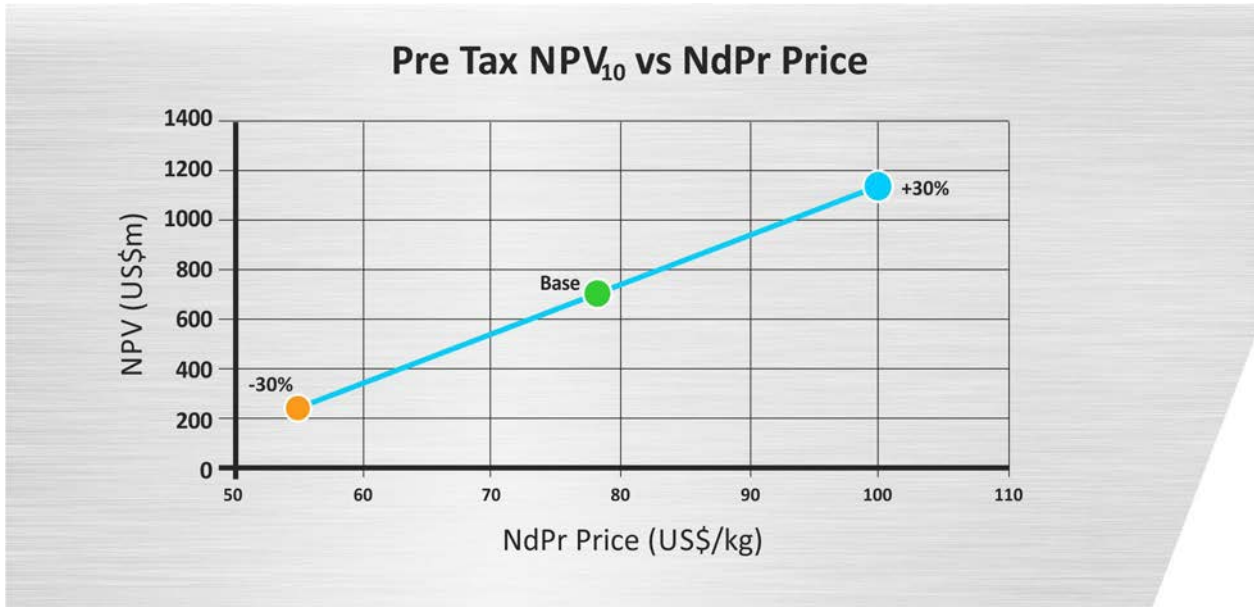


Figure 15.4: Ngualla Project Pre Tax IRR vs NdPr price



16. OVERVIEW OF THE PEAK TEAM

SENIOR MANAGEMENT

Peak is fortunate to have an extremely well credentialed management team supported by a quality Board of Directors and senior advisers rarely found at a company of Peak's size.

During the completion of the BFS, Peak was able to add two key appointments to the management team who possess significant operational and commercial rare earth experience, and have extensive industry networks. Peak was able to capitalise on this know-how during the engineering design and BFS process. The current team places Peak in an enviable position versus other aspiring rare earth development projects.

Further details of the members of the executive team.



ROCKY SMITH B.SC (CHEM)

Chief Executive Officer

- Previously Managing Director of Molycorp's Mountain Pass Rare Earth Complex from 2009 to 2015.
- Achievements include the delivery of successful expansions resulting in a 230% increase in production capacity over a three year period as well as managing of operation budget in excess of US\$150 million.
- Chemist with over 35 years' operations and senior management experience in the mineral processing and chemical engineering sectors.



MICHAEL PRASSAS

GM Sales, Marketing & Business Development

- Former Global Account Manager Automotive Catalysis /Sales Manager of Rare Earth Systems for Solvay, responsible for sales of Rare Earth Mixed Oxides in Europe and Africa.
- Over 15 years' experience in sales and business development.
- Management skills include budget responsibility, project management, building stakeholder relationships and competing priorities in deadline-driven environments.



LUCAS STANFIELD B.ENG (MINING), MAUSIMM

General Manager - Development

- Mining Engineer with over 15 years mining and project management experience in Australia, Africa and the United Kingdom.
- Major infrastructure, and technical projects experience in the United Kingdom while working for global tier one engineering and construction companies.
- Experienced in managing new projects, mine expansions and development studies.



GRAEME SCOTT FCCA (UK)

CFO & Company Secretary

- Has spent the last 12 years working in the resources sector in CFO and Company Secretarial roles for both ASX and TSX listed companies.
- Previous experience at senior management level with multi-national blue chip companies.
- More than 20 years' experience in professional and corporate roles in both Australia and the UK.

In addition the Project is also able to call upon the extensive experience and expertise within the teams of Peak's strategic partners in the Project; Appian and IFC (refer Section 18 Strategic Partners for further details).

16. OVERVIEW OF THE PEAK TEAM

(continued)

DIRECTORS



**PETER HAROLD B. APPSC
(CHEM), AFAICD**

**Non-Executive Chairman,
Peak Resources Limited**

- Currently Managing Director of Panoramic Resources. Previous senior roles with Spectrum Rare Earths, Shell Australia, Australian Consolidated Minerals Limited and Normandy Mining Limited.
- Chemist with almost 30 years' operational and corporate experience in the minerals industry specialising in financing, marketing and business development.



**JONATHAN MURRAY
B. LAWS AND COMMERCE**

**Non-Executive Director,
Peak Resources Limited**

- Partner at independent corporate law firm Steinepreis Paganin, Bachelor of Law and Commerce (majoring in accounting).
- Specialising in equity capital raisings, acquisitions and divestments, governance and corporate compliance.



**JOHN JETTER B. LAW,
B. ECON, INSEAD**

**Non-Executive Director,
Peak Resources Limited**

- Experience in negotiating and executing rare earth off-take agreements.
- Extensive international finance and M&A experience.
- Former Managing Director, CEO and head of investment banking of JP Morgan in Germany and Austria, and a member of the European Advisory Council of JP Morgan in London.



**KIBUTA ONGWAMUHANA
B. LAW, M. LAW, PHD**

**Non-Executive Director,
PR NG Minerals Limited**

- Leading Tanzanian legal practitioner who specialises in taxation and corporate law.
- Managing partner of the legal firm, Ako Law in Dar es Salaam and an Advocate of the High Court and Court of Appeal as well as legal consultant to a number of government, non-government and private business organisations.



**PAUL RUPA MPA, BOA
(POLITICS)**

**Special Advisor to
Peak Resources Limited**

- Has served in the Government of Tanzania at senior levels as Chief Secretary in the President's Office, Secretary to the Cabinet, Head of Civil Service, Principal Secretary in the Ministry of Foreign Affairs, Permanent Representative of Tanzania to the United Nations, Ambassador to Ethiopia and Deputy High Commissioner in the United Kingdom.
- Currently Chairman of DCB Commercial Bank Plc since 2002.



**DARREN TOWNSEND B. ENG
(MINING-HONS), EMBA**

**Non-Executive Director,
Peak Resources Limited**

- Former Managing Director of Peak Resources from 2014 to 2017.
- Mining Engineer with 25 years' mining and corporate experience.
- Extensive East African experience in managing and financing ASX and TSX listed companies.

17. KEY OPPORTUNITIES

17.1 RARE EARTH PROJECT EXPANSION

The large size of the Weathered Bastnaesite Zone Mineral Resource and the long life of the operation offer opportunities for the expansion of production once markets for Ngualla's products are established. With the Weathered Bastnaesite Zone comprising just 22% of the Total rare earth Mineral Resources at Ngualla, there may be the opportunity to extend the operation's life past the current 26 years indicated by the Update, or to increase production through the development of processes to treat some of the remaining mineralisation styles. Additional rare earth mineralisation has also been

identified by wide spaced drilling in the Northern Zone and very recently by reconnaissance trench sampling (see fluorite section below) in February 2017 within the hills surrounding the carbonatite, that has yet to be evaluated further (Figure 17.1).

17.2 THE BARITE OPPORTUNITY

Barite presents a future potential additional opportunity for incremental revenue streams from the Ngualla project. Depending on the successful outcome of a sustainable barite business case including a technical route to produce the required customer specifications the Company may consider entering the business of selling a chemical or a drilling grade barite.

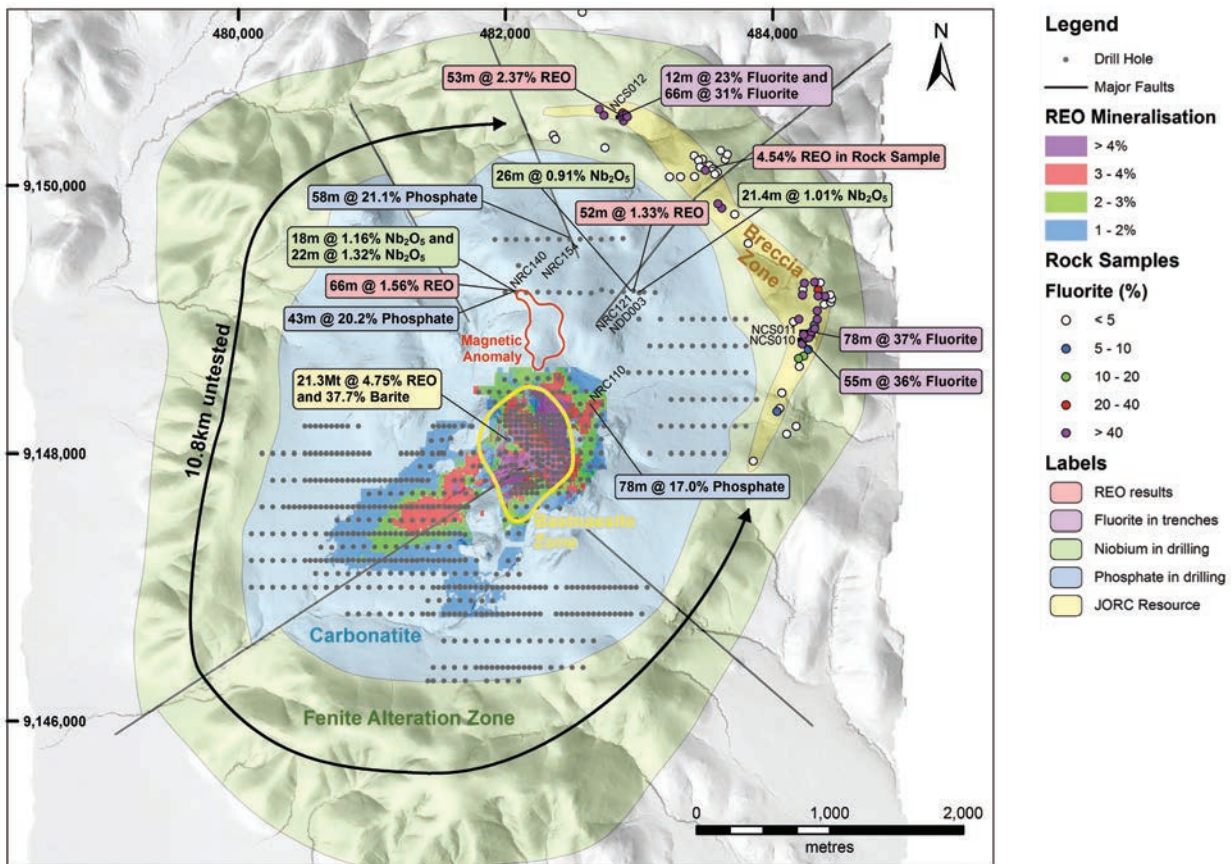


Figure 17.1: Significant grades and widths of niobium, fluorite and phosphate have been identified by drilling and trenching and is as yet only sparsely tested. Barite forms 38% of the host rock for the Weathered Bastnaesite Zone rare earth Mineral Resource and also may have potential as a by-product from rare earth processing.

17. KEY OPPORTUNITIES

(continued)

What is Barite?

Barite (barium sulphate, BaSO₄) is an industrial mineral with a high density used predominantly (an estimated 80%) as a weighting agent in fluids used in the drilling of oil and natural gas wells. Barite is preferred as it is non-abrasive, insoluble and non-toxic.

What are the applications?

Drilling Grade

Drilling fluid performs three primary functions: to pressurise the oil well; to cool the temperature of the drill bit; and to suspend the cuttings produced by the drill, which are then carried up to the surface. Barite also is used in the medical, construction, paints and plastics and automotive industries.

The American Petroleum Industry (API) sets the specifications for standard drilling grade barite in terms of specific gravity, barite purity, particle size and maximum allowable impurity levels. The US Environment Protection Agency also sets standards for drilling grade barite. Together these standards typically define required product specifications for drilling grade barite and include a minimum 90% barite content at 4.2mg/cm³ with a maximum allowable residue greater than 75µm of 3%, a maximum of 30% of particles being below 6µm. Levels of mercury and cadmium must be low at 1ppm and 3ppm respectively and there are limits on the allowable levels of water soluble metals such as calcium.

OTHER APPLICATIONS

Non petroleum industry applications include as a filler, extender, or weighting agent in products such as paints, plastics, and rubber. Some specific applications include use in automobile brake and clutch pads, automobile paint primer for metal protection and gloss, use as a weighting agent in rubber, and in the cement jacket around underwater petroleum pipelines. In the metal-casting industry, barite is part of the mould-release compounds. Because barite significantly blocks x-ray and gamma-ray emissions, it is used as aggregate in high-density concrete for radiation shielding around x-ray units in hospitals, nuclear power plants, and university nuclear

research facilities. Ultrapure barite consumed as liquid is used as a contrast medium in medical x-ray examinations.

What about the market and pricing history?

Industrial Minerals (IM) quotes barite pricing on their website and this pricing is sometimes used as a guide within the industry. However, the pricing is not transparent and the sources for this 'bid and offer' pricing are not disclosed. Typical prices for 4.2 grade API barite drilling powder were around US \$115 to US \$135 per tonne in 2016, depending on the FOB port. Other applications of higher purity barite with specific whiteness grades used in the paint industry have a higher value at US \$ 200 to US \$250 per tonne. Prices are currently at a five year low as a results of reduced demand from the oil industry, demand levels being closely related to oil and gas drill rig activity. A more positive outlook is forecast for the next few years with a predicted upsurge in drilling activity driving demand back up to previous levels. (Source: US Geological Survey, British Geological Survey and industry sources).

17.3 POTENTIAL FOR ADDITIONAL COMMODITIES FROM NGUALLA

In addition to rare earths, the Ngualla Carbonatite is host to several other additional mineral occurrences, which may have the potential to provide diversification to Ngualla's rare earth products with further work in the future. Carbonatite geological complexes are well known for their multi-commodity potential, the leading example being the large Palabora mine in South Africa, which produces or has produced a range of commodities including copper, sulphuric acid, magnetite, vermiculite, nickel sulphate, apatite, cobalt, zirconium as well as by-product gold, silver and platinum.

Barite (barium sulphate, BaSO₄) may have future potential as a by-product of rare earth production at Ngualla. There is 8 million tonnes of contained barite within the Weathered Bastnaesite Zone at Ngualla at an average grade of 38% barite, which is upgraded to a 90% barite stream during the rare earth processing (see Mineral Resource section of this report).

17. KEY OPPORTUNITIES

(continued)

Encouraging grades of near surface niobium, phosphate and rare earth mineralisation were intersected over an area of more than 1km x 1km by wide spaced reconnaissance drilling to the north of the Bastnaesite Zone in 2012 (Figure 17.1) with no further follow-up completed as yet (ASX Announcement “Final drill results – Ngualla Rare Earth Project” dated 15 February 2012). The better intersections for each commodity returned from this Northern Zone include:

DRILL HOLE	INTERSECTION
NRC140	18m at 1.16% Nb ₂ O ₅ from 18m and
	22m at 1.32% Nb ₂ O ₅ from 50m and
	66m at 1.56% REO from 10m
NRC154	58m at 21.1% P ₂ O ₅ from 4m

The recent discovery (ASX Announcement “Wide Zones of high grade fluorite identified at Ngualla” dated 20 February 2017) of wide high grade zones of fluorite mineralisation in the relatively unexplored hills surrounding the carbonatite is a high priority for further evaluation and may present the potential for production of fluorspar from Ngualla if additional work continues to be successful. The better fluorite and rare earth intervals from these trenches were:

	INTERVAL
NCS011	78m at 37% fluorite from 0m to end of trench
NCS012	53m at 2.37% REO from 61m to end of trench

17.4 INCREASED RECOVERY AND GRADE OF FLOTATION PROCESS

The flotation process in any rare earth process is a usual area for improvement and the Ngualla Project is no exception. Every deposit has its unique aspects and the best operators are diligent to unlock these aspects and

optimize the process to drive for best overall economics.

The opportunities include better understanding of the mix of mineralisation within the deposit and the ability to adapt the specific treatment opportunities, including pH, temperature and reagent dosage and types. A pilot sized unit will be installed to facilitate the testing of specific ore types and upcoming ore blends in front of the production unit. Close cooperation between geologists and metallurgists is critical to developing an understanding of the effects of the different mineralisation inherent in the Ngualla deposit.

Continuous on-line sampling and analysis of the flotation process will give continuous feedback on the performance of the process. This will be key to identifying short interval control options to optimise process performance. Other technology being reviewed includes bubble imaging, using high definition cameras to evaluate instantaneous flotation conditions in critical points in the flotation process.

Process optimisation starts on day one and the current list of opportunities includes; better flotation performance (Ore type, grade and recovery), optimised control on cerium recovery via calciner/leach operation (including lower energy and reagent consumption), improved waste management and water consumption.

Additionally, we continue to reach out to rare earth flotation experts around the globe in an effort to ensure we keep an open door to even further opportunities.

18. STRATEGIC PARTNERS

About Appian

Appian Natural Resources Fund is a private equity fund which has been established to invest specifically in the metals and mining sector. Appian has a uniquely collaborative investment approach that seeks to partner with local owners, managers and investors to leverage its world-class operational and corporate finance expertise.

Appian was established by ex-Anglo American, Rio Tinto, JPMorgan and Bain Capital individuals, collectively holding over 200 years of industry experience and a deep understanding of mine development and investment. This experienced team is complementary to Peak having built and managed 60+ operating mines (30 in Africa) and acted on ~US \$200 billion of mining corporate development transactions.

A collaborative cornerstone investor with a value-add approach and long-term investment horizon, Appian is focussed on achieving technical milestones and long term value creation for the investors and other stakeholders of both the Company and Appian.

For more information, visit: appiancapitaladvisory.com

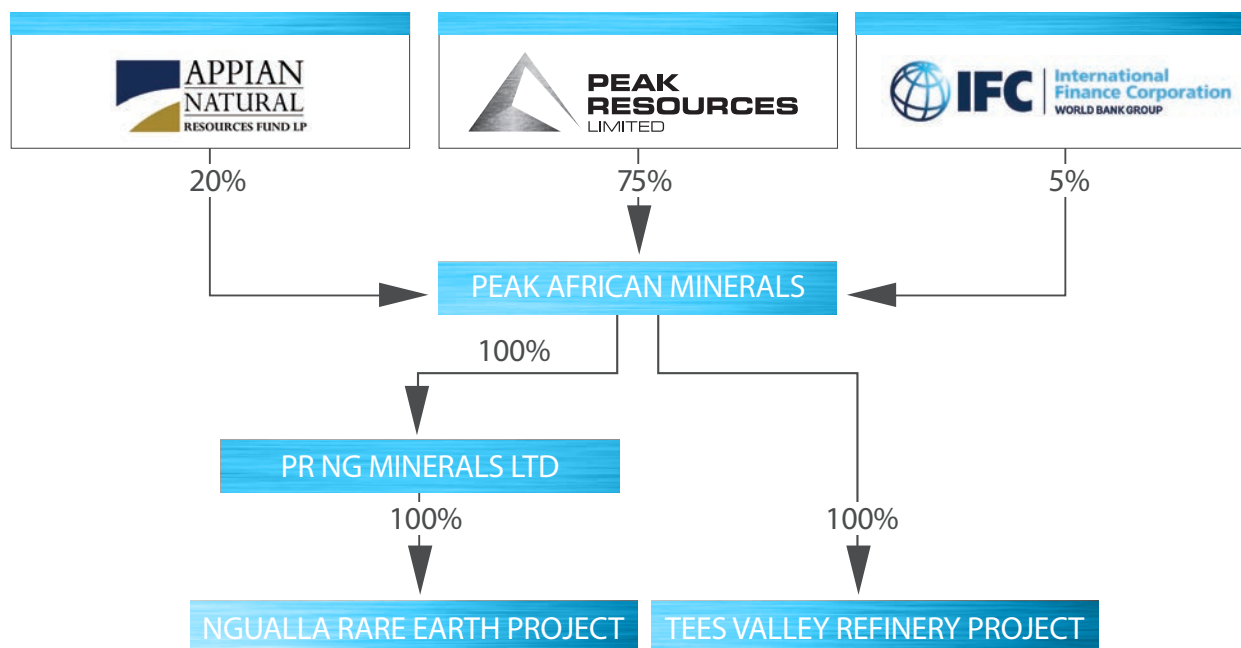
About IFC

IFC, a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector. Working with private enterprises in about 100 countries, IFC use their capital, expertise and influence to help eliminate extreme poverty and boost shared prosperity. In FY14, IFC provided more than US \$22 billion in financing to improve lives in developing countries and tackle the most urgent challenges of development.

IFC has wide experience over 50+ years in international mining finance and demands best practice social and environmental standards. To date IFC have invested over US \$400 million in Tanzania.

For more information, visit: ifc.org

Figure 18.1: Investment Structure.



Note: Percentages have been rounded

19. COMPETENT PERSONS' STATEMENTS

The information in this report that relates to exploration results is based on information compiled and / or reviewed by David Hammond, who is a Member of the Australasian Institute of Mining and Metallurgy. David Hammond is the Technical Director of the Company. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity which he is undertaking to qualify as a Competent Person in terms of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition). David Hammond consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report 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 report in the form and context in which it appears.

The information in this report that relates to Ore Reserve estimates was based on information compiled by Ryan Locke, a Principal Consultant with Orelogy Consulting Pty Ltd, Orelogy are an independent consultant to Peak Resources. Ryan Locke, who is a Member of the Australasian Institute of Mining and Metallurgy, has sufficient experience that is relevant to the style of mineralization 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 the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to metallurgical test work results is based on information compiled and / or reviewed by Roy Gordon who is a Member of The Australasian Institute of Mining and Metallurgy. Roy Gordon is the Metallurgist of the Company and has sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Roy Gordon consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The information in this report that relates to infrastructure, project execution and cost estimating is based on information compiled and / or reviewed by Lucas Stanfield who is a Member of the Australasian Institute of Mining and Metallurgy. Lucas Stanfield is the General Manager - Development for Peak Resources Limited and is a Mining Engineer with sufficient experience relevant to the activity which he is undertaking to be recognised as competent to compile and report such information. Lucas Stanfield consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



APPENDIX

Table 1: Weathered Bastnaesite Zone Resource +1% REO. Individual rare earth oxide grades and percentages of total REO.

Rare earth oxides		REO Grade (%)				% of Total REO			
		Measured	Indicated	Inferred	All	Measured	Indicated	Inferred	All
Lanthanum	La ₂ O ₃	1.309	1.345	1.200	1.310	27.57	27.72	27.09	27.58
Cerium	CeO ₂	2.292	2.339	2.128	2.293	48.28	48.18	48.04	48.27
Praseodymium	Pr ₆ O ₁₁	0.227	0.231	0.213	0.227	4.77	4.75	4.82	4.77
Neodymium	Nd ₂ O ₃	0.783	0.799	0.763	0.784	16.48	16.45	17.23	16.50
Samarium	Sm ₂ O ₃	0.076	0.078	0.071	0.076	1.60	1.61	1.60	1.60
Europium	Eu ₂ O ₃	0.014	0.014	0.013	0.014	0.30	0.29	0.29	0.29
Gadolinium	Gd ₂ O ₃	0.029	0.030	0.027	0.029	0.62	0.61	0.61	0.61
Terbium	Tb ₄ O ₇	0.002	0.002	0.002	0.002	0.05	0.05	0.05	0.05
Dysprosium	Dy ₂ O ₃	0.004	0.004	0.003	0.004	0.07	0.07	0.07	0.07
Holmium	Ho ₂ O ₃	0.000	0.000	0.000	0.000	0.01	0.01	0.01	0.01
Erbium	Er ₂ O ₃	0.002	0.002	0.002	0.002	0.03	0.04	0.04	0.03
Thulium	Tm ₂ O ₃	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
Ytterbium	Yb ₂ O ₃	0.001	0.001	0.000	0.001	0.01	0.01	0.01	0.01
Lutetium	Lu ₂ O ₃	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
Yttrium	Y ₂ O ₃	0.010	0.010	0.007	0.010	0.20	0.20	0.16	0.20
Total REO*	REO	4.75	4.85	4.43	4.75	100.00	100.00	100.00	100.00

Table 2: Ngualla 2016 total Mineral resource + 1% REO. Individual rare earth oxide grades and percentages of total REO.

Rare earth oxides		REO Grade (%)				% of Total REO			
		Measured	Indicated	Inferred	All	Measured	Indicated	Inferred	All
Lanthanum	La ₂ O ₃	0.704	0.501	0.560	0.587	26.99	27.73	26.08	27.25
Cerium	CeO ₂	1.262	0.871	1.022	1.039	48.38	48.17	47.61	48.23
Praseodymium	Pr ₆ O ₁₁	0.125	0.087	0.105	0.104	4.81	4.80	4.90	4.81
Neodymium	Nd ₂ O ₃	0.429	0.285	0.360	0.348	16.44	15.75	16.75	16.16
Samarium	Sm ₂ O ₃	0.043	0.030	0.040	0.036	1.66	1.64	1.88	1.66
Europium	Eu ₂ O ₃	0.009	0.006	0.009	0.007	0.33	0.34	0.43	0.34
Gadolinium	Gd ₂ O ₃	0.019	0.014	0.021	0.016	0.71	0.76	0.99	0.75
Terbium	Tb ₄ O ₇	0.002	0.001	0.002	0.001	0.06	0.07	0.09	0.07
Dysprosium	Dy ₂ O ₃	0.003	0.003	0.006	0.003	0.13	0.16	0.27	0.16
Holmium	Ho ₂ O ₃	0.000	0.000	0.001	0.000	0.02	0.02	0.03	0.02
Erbium	Er ₂ O ₃	0.001	0.001	0.002	0.001	0.05	0.06	0.09	0.06
Thulium	Tm ₂ O ₃	0.000	0.000	0.000	0.000	0.00	0.00	0.01	0.00
Ytterbium	Yb ₂ O ₃	0.001	0.000	0.001	0.001	0.02	0.02	0.04	0.04
Lutetium	Lu ₂ O ₃	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
Yttrium	Y ₂ O ₃	0.011	0.009	0.018	0.010	0.40	0.48	0.82	0.47
Total REO	REO	2.61	1.81	2.15	2.15	100.00	100.00	100.00	100.00

COMPLIANCE STATEMENTS

COMPLIANCE STATEMENTS

Information and documentation which forms the basis of the BFS in relation to Mineral Resources and Ore Reserves have previously been reported as detailed within this Project Update. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of the Company's February 2016 Ngualla Mineral Resources and the April 2017 Ngualla Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

CAUTIONARY STATEMENTS AND RISK FACTORS

The contents of this announcement reflect various technical and economic conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly over relatively short periods of time. Consequently, actual results may vary from those detailed in this announcement.

Some statements in this announcement regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "predict", "foresee", "proposed", "aim", "target", "opportunity", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Please also refer to the additional sensitivity factors described in the Project Economics section of the attached report.

Forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results, and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.

These statements are subject to significant risks and uncertainties that include but are not limited to those inherent in mine development and production, geological, mining, metallurgical and processing technical problems, the inability to obtain and maintain mine licenses, permits and other regulatory approvals required in connection with mining and processing operations, competition for among other things, capital, acquisitions of reserves, undeveloped lands and skilled

personnel, incorrect assessments of the value of projects and acquisitions, changes in commodity prices and exchange rate, currency and interest rate fluctuations and other adverse economic conditions, the potential inability to market and sell products, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, environmental, native title, heritage, taxation and other legal problems, the potential inability to secure adequate financing and management's potential inability to anticipate and manage the foregoing factors and risks. There can be no assurance that forward-looking statements will prove to be correct.

Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and on a reasonable basis. No representation or warranty, express or implied, is made by the Company that the matters stated in this announcement will in fact be achieved or prove to be correct.

Except for statutory liability which cannot be excluded, the Company, its officers, employees and advisers expressly disclaim any responsibility for the accuracy or completeness of the material contained in this announcement and exclude all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this announcement or any error or omission there from.

This announcement does not take into account the individual investment objectives, financial or tax situation or particular needs of any person. It does not contain financial advice. You should consider seeking independent legal, financial and taxation advice in relation to the contents of this announcement.

Except as required by applicable law, the Company does not undertake any obligation to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.