

An aerial photograph of a mining site. The site is located in a green, hilly area. There are several large, rectangular, light-colored structures, possibly storage containers or processing units, arranged in rows. A small blue building is visible in the center. A red vehicle is parked near the blue building. The ground is reddish-brown, indicating a mining operation. The site is surrounded by green vegetation.

# Rare Earth Production Commencing 2021

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## AGM Presentation

November 2020

# Disclaimer

This presentation provides an overview of prospective rare earth projects (“the Projects”) and development opportunities and contains “forward looking statements”. Forward-looking statements are all statements other than statements of historical fact included in this presentation including and without limitation those regarding the Projects’ strategy, financial positions, plans and identification of additional resources and reserves. Such forward looking statements are subject to risk factors associated with exploration, development and the acquisitions of mining tenements and involve known and unknown risks, uncertainties and other factors. These risk factors could have a material effect on the operating, financial performance and achievements of the Projects and may cause the actual results to be materially different from any future operating, financial performance and achievements expressed or implied in the forward-looking statements contained in this presentation. Although there are reasonable grounds for making the forward-looking statements, such forward looking statements may be materially affected by changes in the underlying assumptions and changes to the environment which the Projects will operate in the future and such assumptions may or may not prove to be correct. Some of the underlying assumptions in this presentation are based on information which has not been independently verified.

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This presentation contains information relating to Mineral Resource and Exploration Results extracted from ASX market announcements reported previously and published on the ASX platform on 13 December 2019, 19 February 2020 and 15 April 2020. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed. Investors should note that the Mineral Resource estimate for the Wigu Hill Rare Earth Project is a foreign estimate and is not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify this foreign estimate as a mineral resource in accordance with the JORC Code and it is uncertain that following further exploration or evaluation work that the foreign estimate will be able to be reported as a mineral resource in accordance with the JORC Code. The Company has previously disclosed the foreign estimate in compliance with ASX Listing Rule 5.12 in the announcement dated 25 June 2019 titled “Vital to Transform into Rare Earth Oxide Developer” (“Announcement”). The Company is not in possession of any new information or data relating the foreign estimate that materially impacts on the reliability of the estimate or the Company’s ability to verify the foreign estimate in accordance with Appendix 5A (JORC Code). The Company confirms that the supporting information provided in the Announcement continues to apply and has not materially changed.

This presentation includes aspirational statements which have been reported in accordance with ASIC’s guidance on ‘Forward-looking Statements’ and ASX Guidance Note 31. These statements are not predictive in nature and the Company does not yet have reasonable grounds to assert that these aspirational statements can be achieved.

## REFERENCES

1. ASX announcement dated 15 April 2020 titled “Substantial Increase in Resource Size and Grade at North-T Zone Nechalacho” (<https://www.asx.com.au/asxpdf/20200415/pdf/44qytlw5ckfbyr.pdf>); and  
ASX announcement dated 13 December 2019 titled “Vital Announces JORC 2012 Compliant Resources for the Nechalacho Rare Earth Deposit” (<https://www.asx.com.au/asxpdf/20191213/pdf/44ckgzdngkmzpi.pdf>)
2. ASX announcement dated 25 June 2019 titled “Vital to Transform Into Rare Earth Oxide Developer” (<https://www.asx.com.au/asxpdf/20190625/pdf/446361nxqnn9w8.pdf>)
3. ASX announcement dated 19 February 2020 titled “Vital Intersects Ultra-High Grade, Near-Surface REO at Nechalacho” (<https://www.asx.com.au/asxpdf/20200219/pdf/44f74511z68r0.pdf>)
4. ASX announcement dated 5 December 2019 titled “Vital Demonstrates Ability to Produce Rare Earth Concentrate with Grades Above 35% REO” (<https://www.asx.com.au/asxpdf/20191205/pdf/44c9nq180gpl7h.pdf>)



# VML is targeting to be the largest independent supplier of clean mixed rare earth feedstock outside of China

## Highlights

### Aspirational Targets

- Operations commencing 2021
- Maximum total construction cost to produce rare earth carbonate of A\$20M
- Aim for the production of a minimum of 5,000t contained REO by 2025

### World class REO Development Team – ex Lynas Corporation Ltd

- Managing Director: Geoff Atkins - ex Lynas Corporate Development
- Chief Operating Officer: Tony Hadley - ex Lynas and Northern Minerals Operation Manager

### 2 World Class Rare Earth projects

- Nechalacho (Canada): 95mt at 1.46% TREO
- Wigu Hill (Tanzania): 3.3mt at 2.6% TREO

### Simple Metallurgy

- 35%+ initial beneficiation via ore sorting
- 97% recovery into solution via hydrochloric acid with using industry standard process

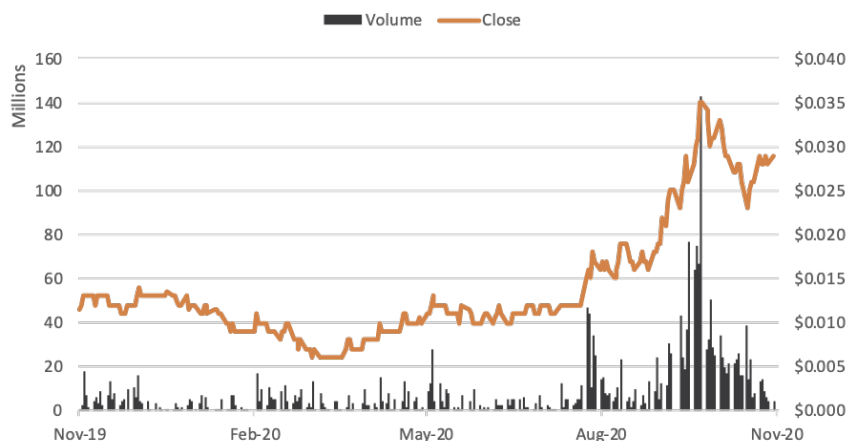
### Supporting a non-China supply chain

- Nechalacho located in Canada
- Accepted into Canadian Government AGS scheme to promote Canadian Government assistance



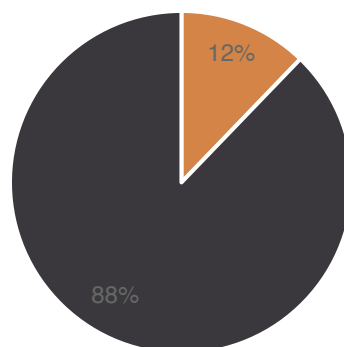
# Company Overview

## VML Share Price Performance



## Shareholder Breakdown

■ Directors and Management ■ Other



## Capital Structure

ASX Code	VML
Shares on Issue	2,629m
Performance Shares	800m
Performance Rights and Options on Issue	443m
Share Price (as 13 Nov 2020)	\$0.028
Market Capitalisation	\$73.6m
Cash (30 Sept 2020)	\$1.2m (\$8m raised October 2020)

## Board and Management

Geoff Atkins	Managing Director
Evan Cranston	Chairman
Phil Coulson	Non-executive Director
James Henderson	Non-executive Director
Tony Hadley	Chief Operating Officer
Mathew Edler	Executive Vice President – Corporate Development
Ray Anguelov	Canada Operations Manager



# Vital's senior management are world experts in developing rare earth projects

## Senior Management

### **GEOFF ATKINS** Managing Director

25 years of project and corporate development experience including four (4) years as Corporate Planning Manager at Lynas Corporation where he oversaw the development of and implementation of the strategic planning process and the development of the Mt Weld Concentration Plant and Lynas Advance Materials Plant in Malaysia.

### **TONY HADLEY** Chief Operating Officer

Over 25 years metallurgical process experience including General Manager, Mt Weld where he successfully designed and commissioned the world's first rare earth phosphate flotation concentrator and General Manager, Browns Range where he successfully designed and commissioned the world's first heavy rare earth process plant for xenotime feedstock.

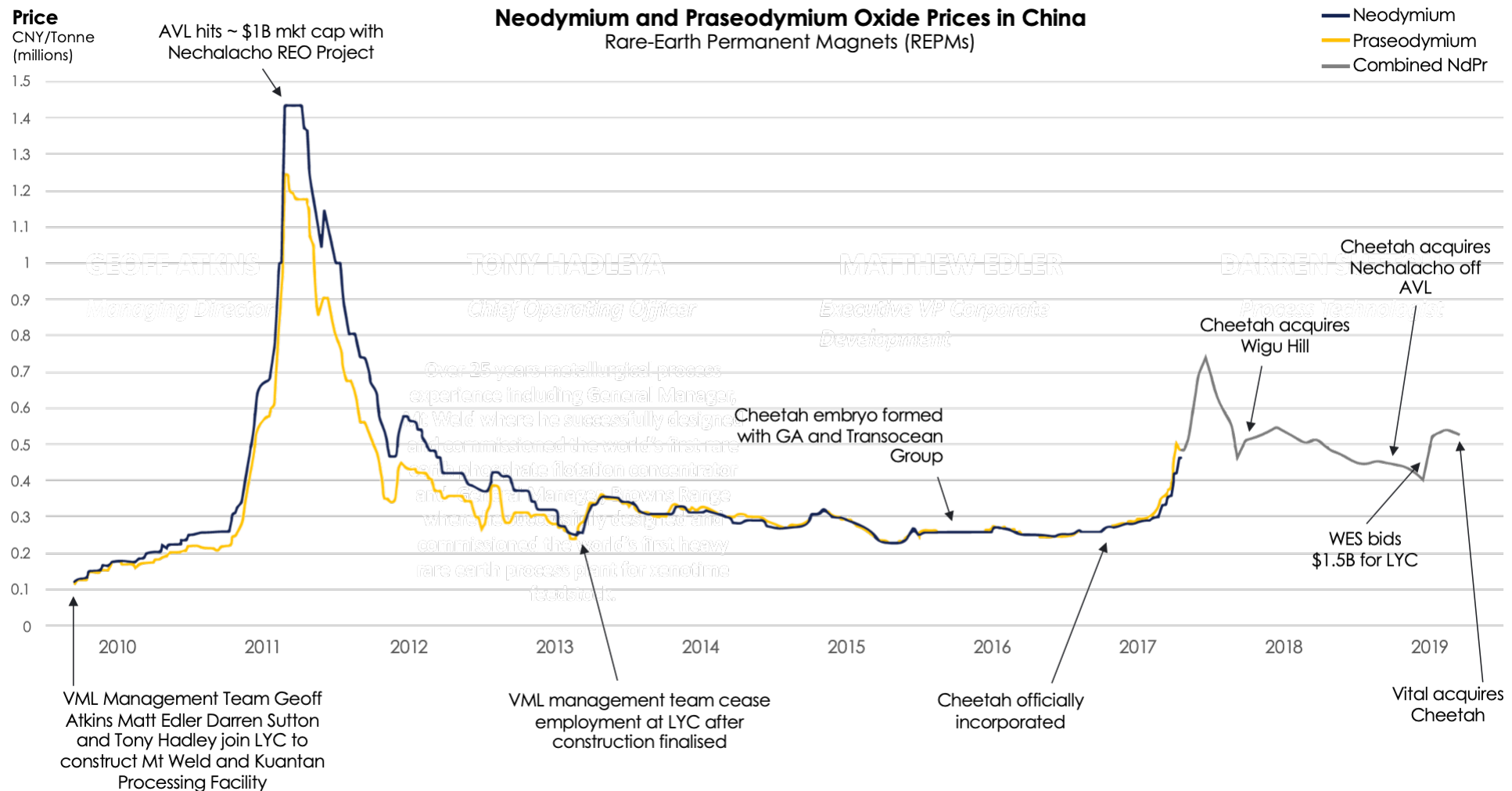
### **MATHEW EDLER** Executive VP Corporate Development

Former General Manager for Lynas Corporation and was responsible for all in-country activities for the Kangankunde rare earth project – Malawi.

### **RAY ANGUELOV** Canada Operations Manager

Over 25 years metallurgical process experience. Ray started as the senior metallurgist at North Minerals in 2018 and was later promoted to metallurgical superintendent. Ray was involved with all aspects of the day to day operations including plant commissioning and optimisation, and managing test work programs, metallurgical accounting, plant safety audits.

# Vital has evolved from a rare earth development concept in 2015 to today being on the cusp of production





# The traditional development model requires considerable time and capital

## Traditional Project Development Model

### Time Taken to Develop Projects

- Financing, contracting, construction and commissioning 4+ years
- Projects are complex and require 2-3 years to achieve design capacity

### CAPEX to Develop Project (ARU PEK ASM PM8)

- Average CAPEX of aspiring SX RE developer is \$823M
- Average ASX Market capitalisation is \$3339M

### Customer Acceptance of Product

- Due to very high specification levels, if replacing existing supply, customer will slowly ramp-up acceptance of product over 3-4 years

**Building large REO projects utilising the tradition development model is potentially extremely dilutive to shareholders who will not see a return for many years**

Graph Notes:

1. Market Capitalisation as at 26 November 2020

2. CAPEX Sources:

PEK: ASX Feasibility Announcement 28/8/2017

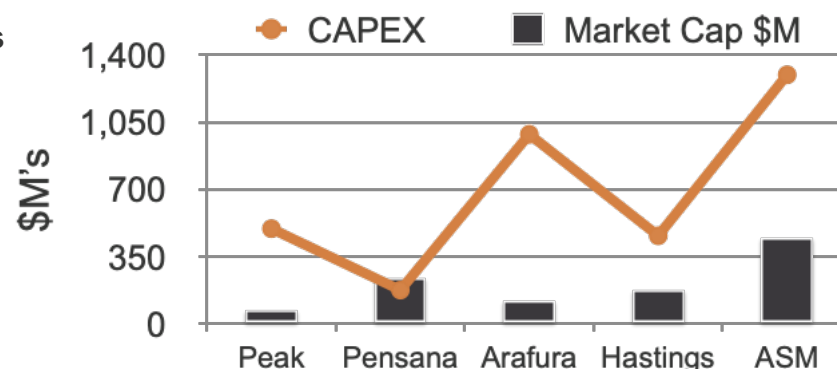
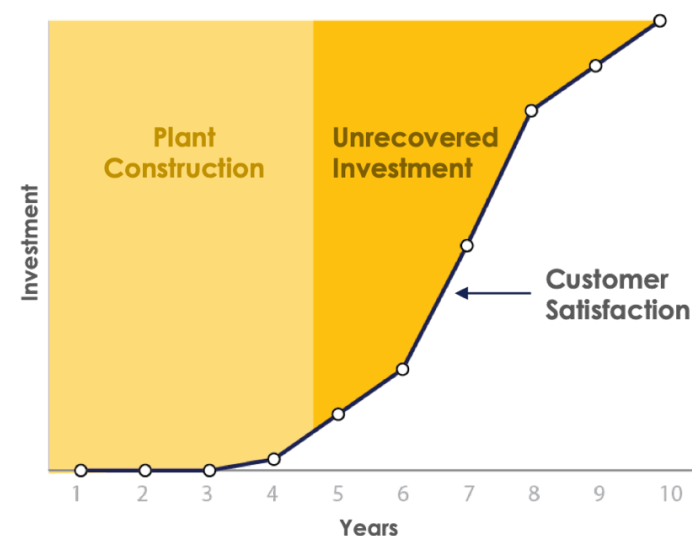
PM8: ASX Preliminary Feasibility Announcement 15/11/2019

ARU: ASX Feasibility Announcement 7/2/2019

HAS: ASX Feasibility Announcement 29/7/2020

ASM: ALK ASX Feasibility Announcement 4/6/2018

3. Foreign exchange rate USD/AUD : 1.3583 (RBA - 26 November 2020)



# Vital's strategy is to generate low cost near-term cashflow to fund the development of large scale operations

## Vital's 3 Stage Development Strategy and Aspirational Targets

### Stage 1: Nechalacho North T

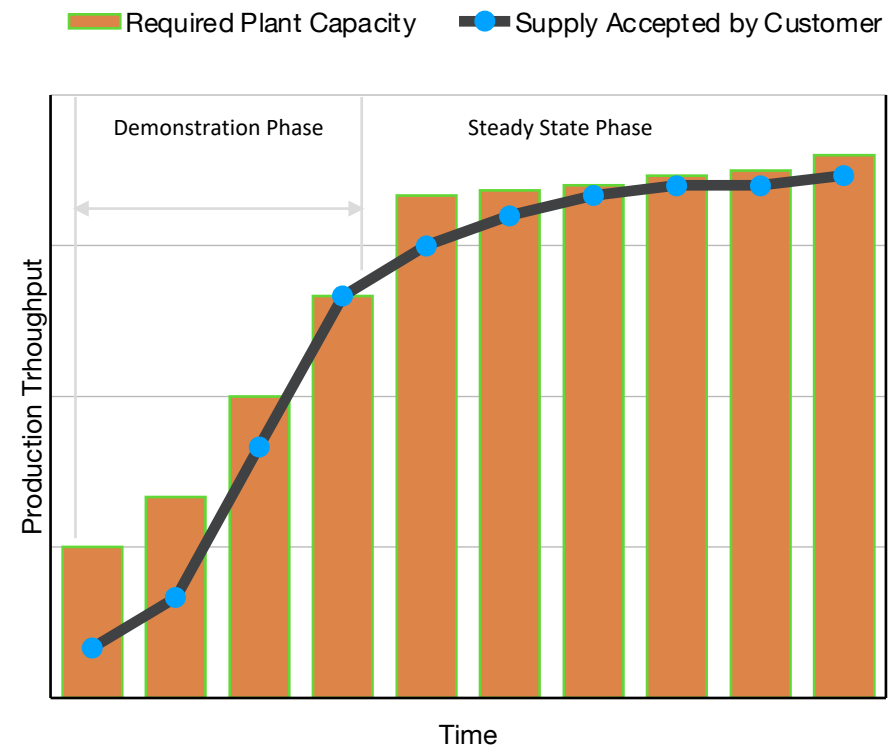
- Near term/low capex Demonstration Plant to finalise customer acceptance and ramp - up
- Commence production of Mixed RE Carbonate in 2021
- Total Construction cost for beneficiation and rare earth extraction plants to be a maximum of A\$20m

### Stage 2: Nechalacho Tardiff

- Long term/large scale commercial operation providing long term security to the rare earth supply chain
- Fund expansion and the development of Tardiff through the sale of Mixed RE Carbonate from North T
- Aim for the production of 5,000t contained Total REO per year by 2025, with the potential for further expansion

### Stage 3: Wigu Hill

- Expansion capability through additional project
- Multiple project enable flexibility to react quickly to changes in market and customer requirements







## Implementation Stage 1: Near Term/Low Capex Production

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- > Nechalacho North T Project
- > Total Target Capital Cost: Less than \$20M
- > Production scheduled to commence mid 2021
- > Fund expansion from the sale of Mixed RE Carbonate

# The Nechalacho project is a world class rare earth project located in Northwest Territories, Canada

## Large World Class REO Resource

- 94.7MT at 1.46% REO (measure, indicated and inferred)

## Tier 1 Mining Jurisdiction

### Excellent Infrastructure

- Located 100km from Yellowknife
- 40 person camp with air strip
- Barge access in summer, ice road in winter

### Previous Owners spent C\$100m+

- Targeting heavy rare earth basal zone
- Completed DFS 2013 - \$1.6B CAPEX
- Upper Zone acquired for C\$5M in 2018

## Fully permitted for commencement of operations

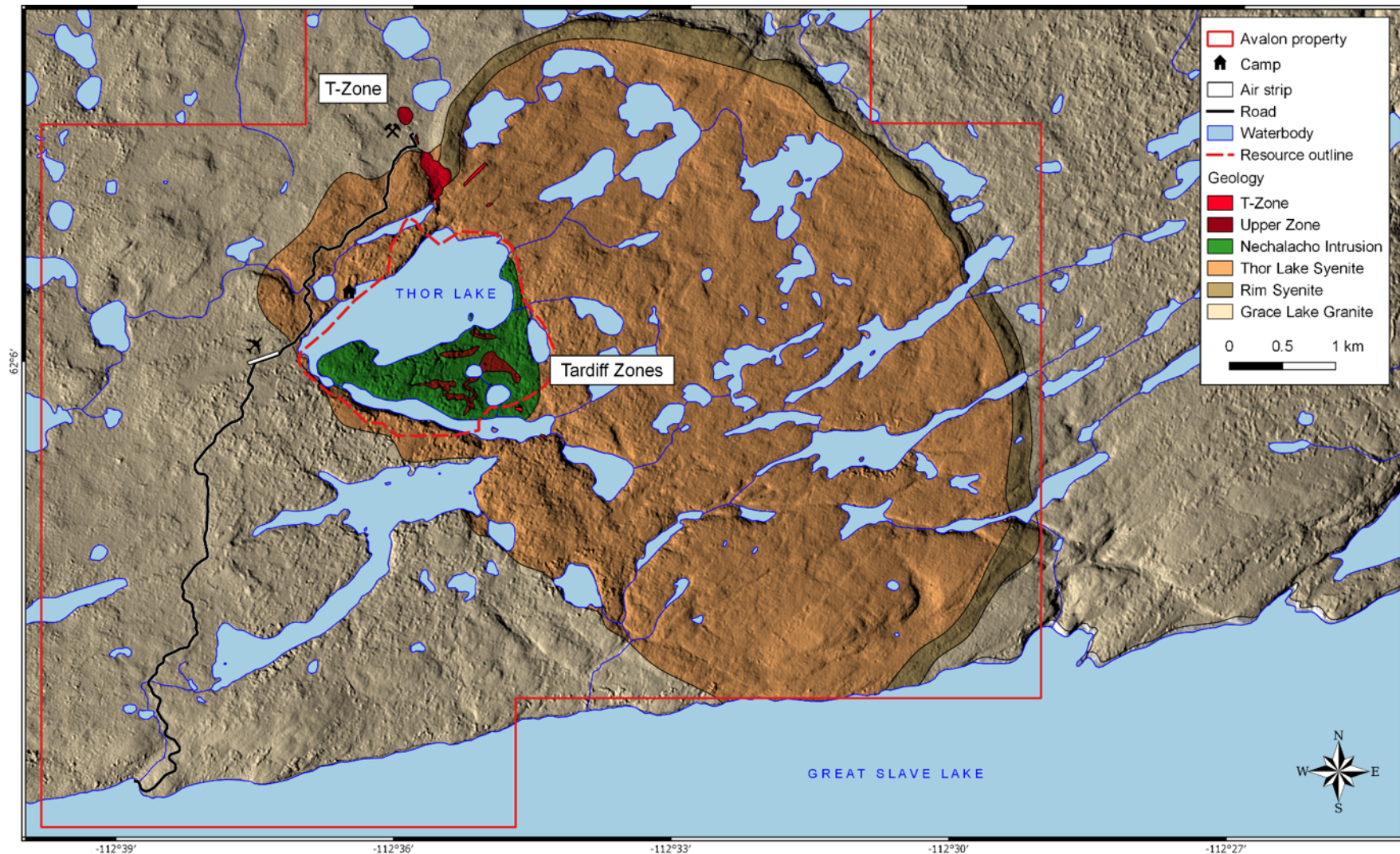
## Vital to target LREO Upper Zone

- Potential for lowest quartile CAPEX and OPEX





# The Nechalacho project consists of two distinct zones, the T Zone and Tardiff Zone





# The project has world-class existing infrastructure



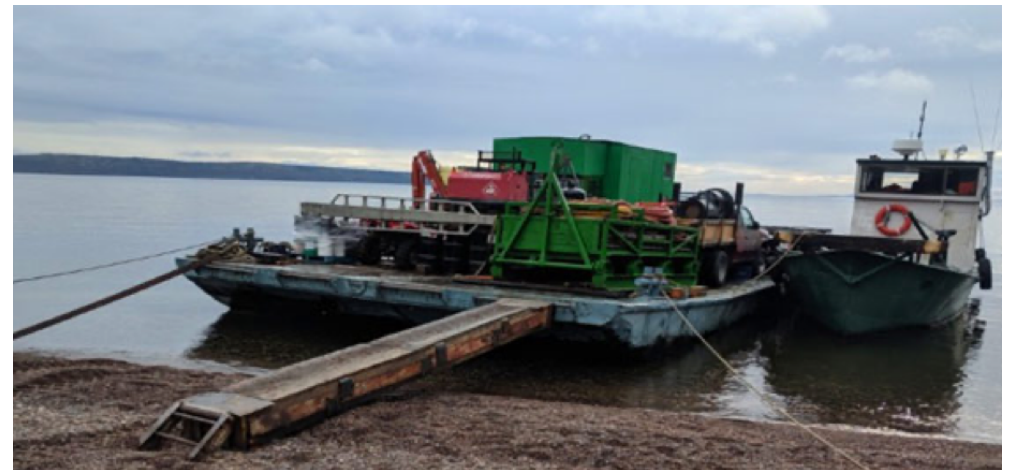
Access to Canadian National Railway at Hay River



Drill Rig being de-mobilised on the Nechalacho Ice Road



40 Person Camp on Thor Lake

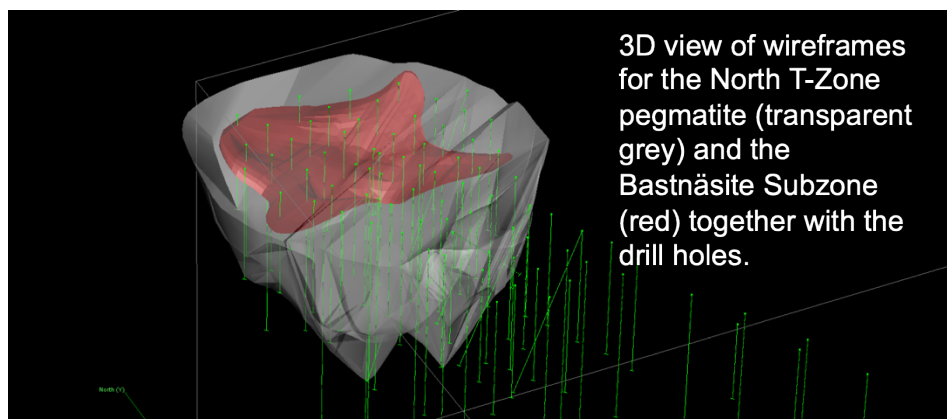


Drill rig being mobilised via barge



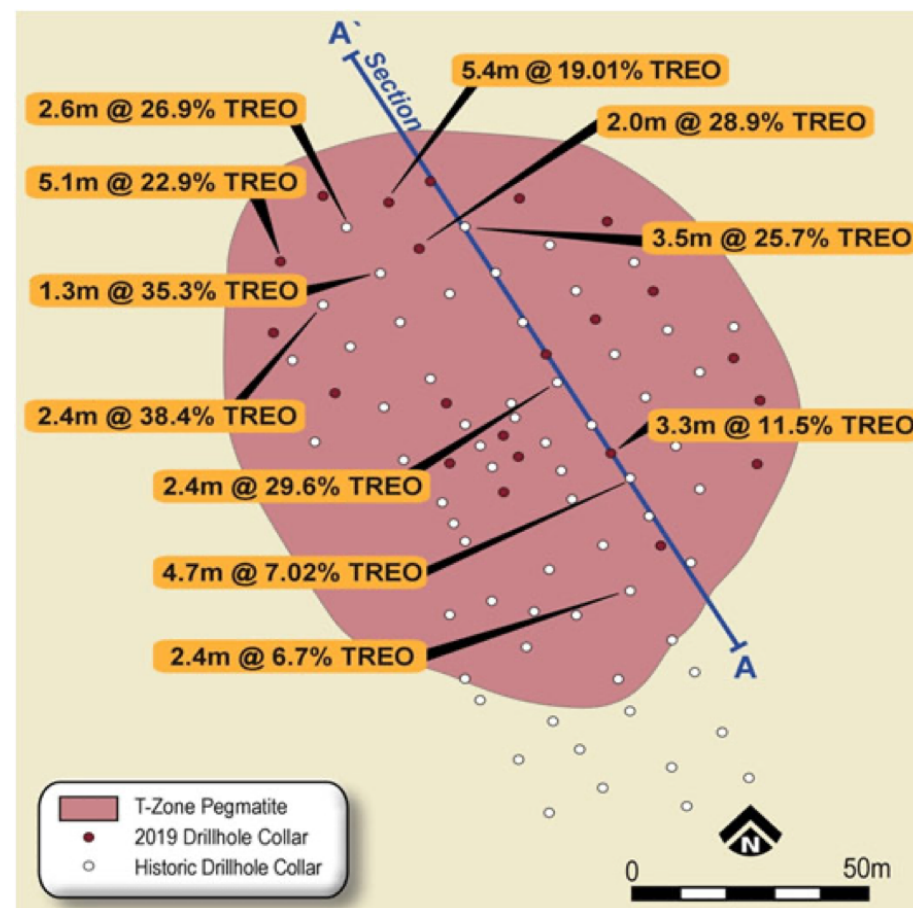
# The North T Zone is one of the highest grade rare earth deposits in the world

## North T Resource



Resource Type	Kt	LREO (%)	Pr <sub>6</sub> O <sub>11</sub> (%)	Nd <sub>2</sub> O <sub>3</sub> (%)
Measured	68	9.6%	0.5%	1.8%
Indicated	33	7.8%	0.4%	1.5%
Inferred	4	5.8%	0.3%	1.1%
Total	105	8.9%	0.5%	1.6%

Light Rare Earth Mineral Resources of the Nechalacho North T Bastnaesite Sub-zone. Mineral Resource Estimation prepared in accordance with JORC 2012 under the supervision of Brendan Shand, member of AusIMM as the Competent Person. The cut-off grade for the resource estimate is preliminary, at pre-scoping study level, as no detailed market, metallurgical or engineering studies have been performed



# Process test work produced both high concentrate grades and recoveries

## Process Testwork

### Ore Sorting via X-Ray transmission (single pass)

- 36% REO concentrate produced from 10.5% REO
- Grades up to 41% REO achieved
- REO recoveries up to 87% achieved

### Gravity Concentration on Fines

- Up to 40% REO concentrate via shaking tables at 80% recovery achieved

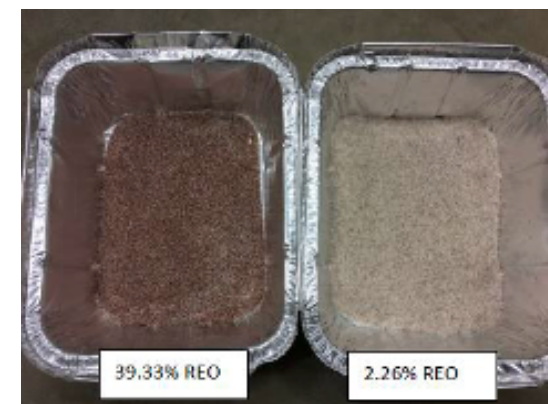
### Leaching of Concentrate

- 97% recoveries into solution via sulphuric acid
- 93% recoveries into solution via hydrochloric acid

Concentrate sample via sorting



Concentrate sample via gravity



# A detailed engineering report has estimated the installed capital cost of the ore sorter to be A\$3.7M

## Ore Sorting



- Detailed engineering for the ore sorting operation is complete
- Total installed capital cost AUD\$3.7M
- Substructure delivered to site
- Operations scheduled to commence Mid 20021

ITEM	DESCRIPTION	AUD\$ 000
1	Ore Sorter	1,395
2	Materials Handling Equipment	863
3	Generator and Air Compressor Package	590
4	Installation	215
5	Commissioning	107
6	Mobile Equipment	215
<b>Subtotal</b>		<b>3,385</b>
	Contingency	338
<b>Total</b>		<b>3,723</b>



# Vital and SRC have signed a binding Term Sheet to progress

## Rare Earth Extraction Plant

### RE Extraction Plant Construction and Operation Term Sheet

- Term Sheet signed between VML and Saskatchewan Research Council (SRC) to negotiate definitive agreements for the construction and operation of a Rare earth Extraction Plant
- SRC to Engineer, Procure, Construction Manage, Commission and Operate a RE Extraction in Saskatoon, Saskatchewan
- Capital Cost, as estimated by SRC is A\$5.3M
- SRC to obtain all necessary permits and authorisations to construct and operate the plant, including waste disposal
- Objective is to commence operations in Q3, 2021

### SRC Rare Earth Processing Facility

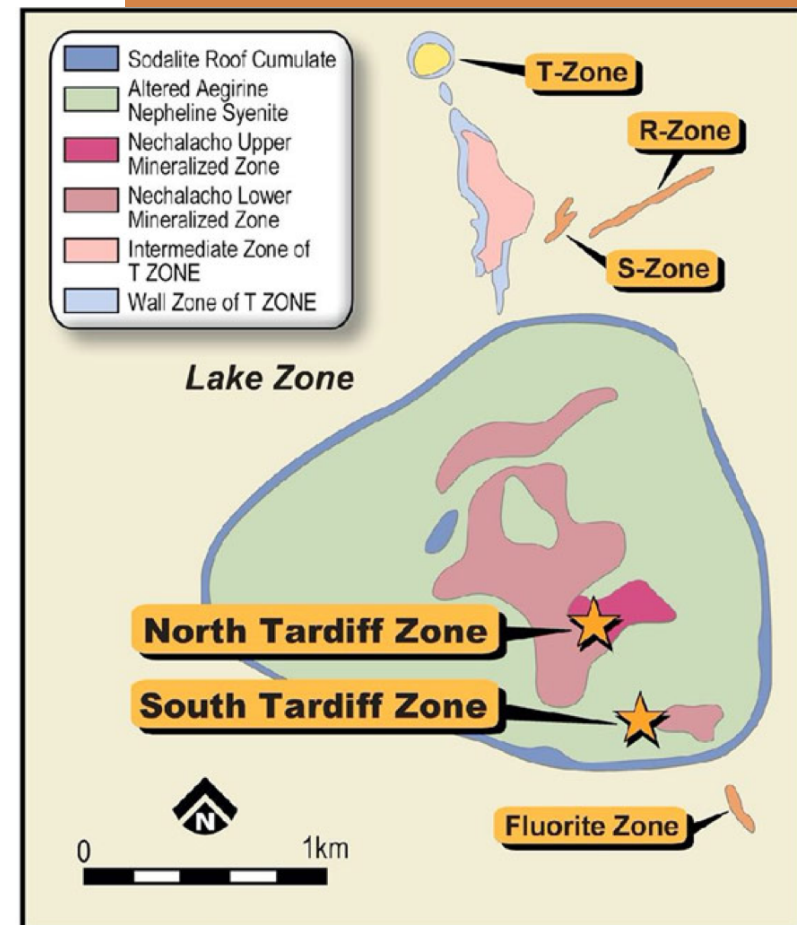
- The Government of Saskatchewan and SRC announced C\$31M in funding for the construction of a Rare earth Processing Facility in Saskatoon, Saskatchewan
- The facility will include the construction of a Rare Earth Separation Plant
- The Plant will convert rare earth carbonate feedstock, similar to that produced by VML's plant, into separated rare earth oxides
- Operations will commence in 2022

ITEM	DESCRIPTION	CAD\$ 000	AU\$ 000
<b>Equipment Costs</b>			
1	Crushing	365	379
2	Leaching	1,222	1,268
3	REO Precipitation and Finishing	610	633
4	Water and Waste Treatment	650	675
<b>Other</b>			
5	Miscellaneous Design, Fabrication	1,700	1,765
6	EPCM	516	536
<b>Total</b>		<b>5,063</b>	<b>5,255</b>
<b>CAD:AUD</b>	<b>1.038</b>		

# The development of the North T project is on schedule for operations to commence in 2021

## Next Steps

- Finalisation of definitive agreements for the construction and operation of a Rare Earth Extraction Facility to produce Mixed rare Earth Carbonate product for sale
- Commence site works for the construction of the Rare Earth Extraction Facility
- Commence procurement of long lead time items
- Finalise Off-take agreements
- Sampling and drilling program to be undertaken to in South T, R Zone and S Zone to evaluate the potential of T-Zone expansion
- Undertake infill drilling at Tardiff Zone





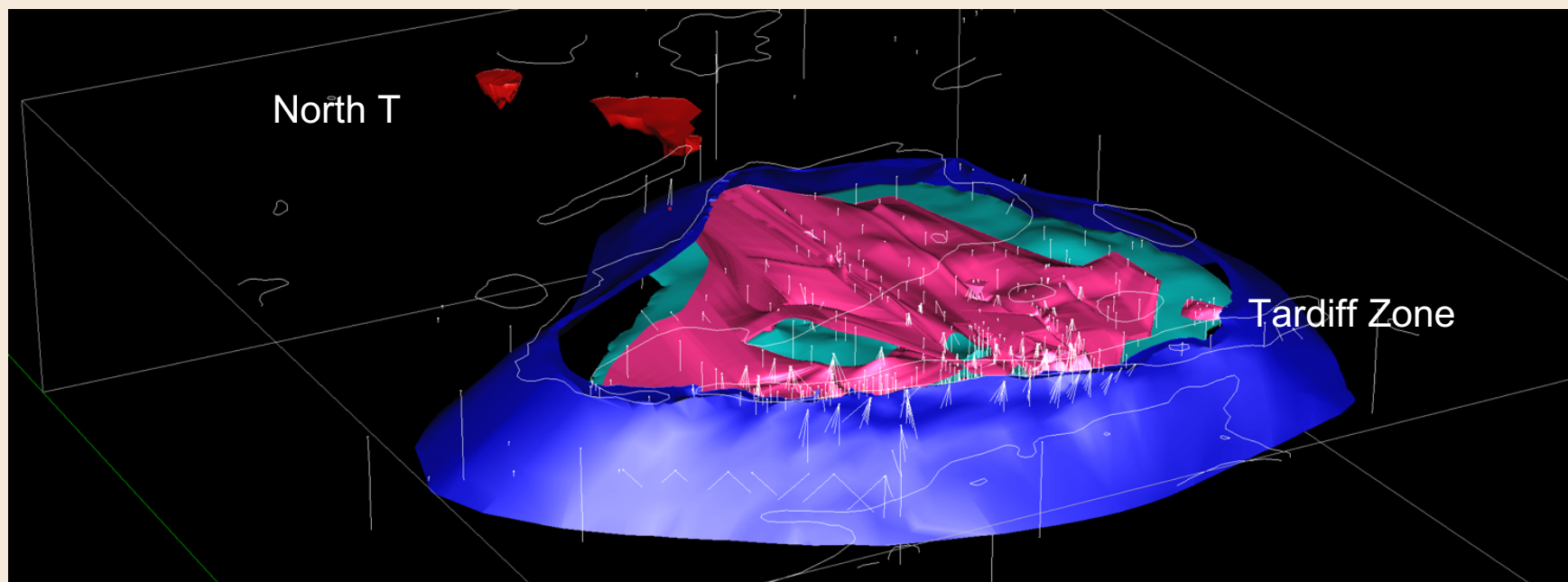
## Implementation Stage 2: Long Term/Large Scale Production

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- > Nechalacho Tardiff Project
- > Aim for Production of 5,000t REO/yr for 20 years
- > Operations targeted to commence in 2024



# Sales revenue from North T will be used to fund the development at Tardiff



- The Upper Zone resource will be the focus of a large scale, long-term operation (95Mt @ 1.46% TREO)
- This Zone contains over 1Mt of contained rare earths
- The initial target will be the high grade Tardiff Zone
- A target operation in 5,000t REO/yr from 2025

Resource Type	Mt	TREO (%)	HREO/TREO	%NdPr/TREO
Measured	0.287	2.729%	7.7%	24.1%
Indicated	1.611	2.429%	7.2%	24.1%
Inferred	1.297	2.237%	6.8%	24.2%
<b>Total</b>	<b>3.196</b>	<b>2.378%</b>	<b>7.1%</b>	<b>24.2%</b>

Rare Earth Resources of the Upper Zone, Lake Zone Deposit, Nechalacho. Mineral Resource Estimation prepared in accordance with JORC 2012 under the supervision of Dr. William Mercer, registered Professional Geoscientist (P. Geo.) in the Northwest Territories and Ontario, Canada, as the Competent Person. The preferred cutoff grade for this resource estimate is preliminary, at pre-scoping study level, as no detailed market, metallurgical or engineering studies have been performed. Only resource blocks located above 150 m elevation are reported.

Tardiff Zones high-grade near-surface subset of the Rare Earth Resources of the Upper Zone, Nechalacho deposit. Mineral Resource Estimation prepared in accordance with JORC 2012 under the supervision of Dr. William Mercer, registered Professional Geoscientist (P. Geo.) in the Northwest Territories and Ontario, Canada, as the Competent Person. The cutoff grade for this resource estimate is preliminary, at pre-scoping study level, as no detailed market, metallurgical or engineering studies have been performed.

# With mineralogy similar to the North T Zone, development will be fast tracked

## Tardiff Zone

### Development of the Tardiff Zone will be leveraged off the North T project

- The Tardiff Zone contains red basnaesite crystals similar to the North T Deposit (refer image)
- As with North T, ore sorting will be targeted for initial beneficiation
- With rare earth contained in the same minerals as the North T deposit, the Tardiff Zone will be a scaled up version of the North T project

### Development timelines to be fast tracked

- Utilising operational infrastructure will enable the fast tracking of process test work
- Construction of an expanded operation will be funded through North T sales





## Implementation Stage 3: Wigu Hill

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# Wigu Hill Project (90%) is targeted as VML's second rare earth project to enter production

## Excellent Infrastructure

- Rail and power within 10km of project

## Previous Owners spent US\$10m+

- Acquired for US\$1m in 2018

## Potential to be a large world class resource

- Current high grade NI43-101 resource of 3.3Mt at 2.6%

## Mineralisation widespread over entire hill with only 2 out of 10 known targets drilled

## Barrick and Tanzania Government recently resolved mining issues

## Vital to target Wigu Hill to be the second rare earth project to enter production



# The initial focus for the Wigu Hill Project will be the Twiga deposit

Wigu Hill contains a historical NI43-101 Resource of 3.3M @ 2.6%REO

ZONE	MT	TREO (%)	LA2O3 %	CeO2 %	Pr6O11 (%)	Nd2O3 (%)
Twiga NE	1.6	2.6%	0.98%	1.26%	0.1%	0.23%
Twiga SW	0.5	3.6%	1.33%	1.71%	0.13%	0.3%
Tembo NW	0.9	2.2%	0.78%	1.09%	0.09%	0.23%
Tembo SE	0.2	2.2%	0.69%	1.1%	0.1%	0.27%
Total Inferred Resource	3.3	2.6%	0.96%	1.27%	0.1%	0.24%

1. The effective date for this Inferred Mineral Resource Statement is 25 August 2011 and reported on SEDAR (contained in a Canadian National Instrument NI 43-101 Technical Report by AMEC Earth and Environmental UK Ltd.).
2. A selective mining unit (SMU) size of 3m by 3m by 3m was assumed when creating the block model.
3. Reported grades are based on consideration of the grades of mineralised material and weakly to non-mineralised wallrock material estimated to fall within each SMU
4. The reported Mineral Resource is based on a grade cut-off of 1.0% LREO5 (sum of estimated grades of La2O3, CeO2, Pr6O11, Nd2O3 and Sm2O3).
5. The Mineral Resources for the Twiga and Tembo deposits have been constrained by an optimised pit shell defined by the following assumptions, slope angles of 50o; a mining dilution of 0% (already incorporated in the SMUs); a mining cost of USD2.85/t; process operating costs of USD12.0/t; G&A costs of USD3.0/t of resource, with a 90% recovery of REOs to a 45% LREO5 bastnaesite concentrate; and a concentrate price of USD10/kg

Similar to Nechalacho's T Zone the Twiga deposit contains large, discrete bastnaesite crystals



#### **Excellent Infrastructure**

- Located close to Tazara railway, power and water

#### **Bastnaesite mineralisation**

- Amenable to beneficiation via ore sorting
- Ability to leverage off Nechalacho



# Vital is on track to be the world's next rare earth producer

## Conclusion

### **Work Class Rare earth Development Team - ex Lynas Corporation**

- Led by Vital Metals MD Geoff Atkins

### **2 World Class Projects**

- Nechalacho REO Project (Canada): 95Mt at 1.46% TREO
- Wigu Hill (Tanzania): 3.3Mt at 2.6% TREO

### **Near Term/Low Cost Production**

- Nechalacho's North T project is on track to commence production in 2021

### **Expansion Funded through Cashflow**

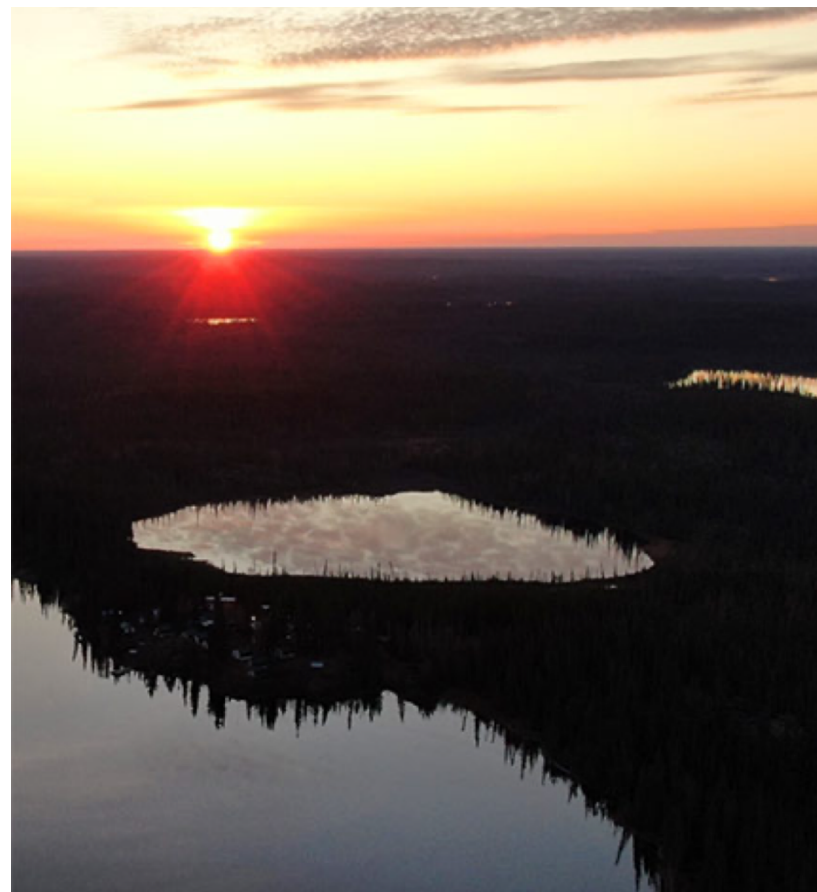
- Revenue from the North T project will be used to fund both the increase in production volumes from Nechalacho but also the development of new projects

### **Long Term/Large Scale Production**

- Nechalacho's Tardiff Zone targeted to enter production in 2024

### **Flexibility and Scaleability to Meet Market Demand**

- Wigu Hill project to provide additional ability to increase scale of production and the flexibility to react quickly to increased market demand



## Contact us

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