

Rare earths expert Alastair Neill on Vital Metals

written by | August 5, 2022

“Overall Vital appears well on the way to producing commercial quantities of rare earth concentrate, a first in Canada.” – Alastair Neill, President, Critical Minerals Institute

[Vital Metals Limited](#) (ASX: VML | OTCQB: VTMXF) is an Australian listed company whose subsidiary, [Cheetah Resources](#), is developing the Nechalacho project in the Northwest Territories of Canada. The deposit was previously owned by [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF), and they sold the rights in 2019 to Cheetah for the material 150 meters above sea level. Avalon retained the rights to the basal zone deposit which is underground. The deposit is reported to have 94.7 million tonnes at 1.46% REO (0.1% Nd/Pr cutoff). The mineral hosting the rare earths is bastnaesite, which is good as this mineral has been processing successfully for many years.

Vital raised A\$45 million recently through a targeted share placement at A\$0.04 per share. According to their [press release](#) the funds will be used for:

- Finalisation of construction activities and undertake commissioning, ramp-up and operations at its Rare Earth Extraction Facility in Saskatoon, which will produce a rare earth carbonate product
- Accelerated development of Tardiff deposit at Nechalacho, Canada, including mining studies

A strong balance sheet for ongoing working capital requirements

This project is the most advanced rare earth project currently in Canada. The initial focus is the North T zone which has a

resource of 101,000 metric tonnes at 9.01% contained Total Rare Earth Oxides (TREO). Based on tests run at their Saskatoon rare earth extraction plant they can get a 75% recovery to produce a 43.7% concentrate. Based on this, the deposit would produce 6,825 metric tonnes of TREO which would contain 1,600 tonnes of Neodymium (Nd) and Praseodymium (Pr). Tests have been done using X-ray Transmission (XRT) to sort the ore as the ore is hosted in quartz, which is white, and the rare earth mineral which is red. This is a simple way to upgrade the TREO content at site.

There is an offtake agreement with REEtec, a Norwegian company that is developing a new rare earth separation process. The agreement is for Vital to deliver 1,000 tonnes per year (TPY) of TREO (excluding Cerium (Ce)). Based on that Ce will be eliminated before shipping the concentrate to Norway. This is a step that has been done before by Molycorp in the 1980s. It reduces the material handling by 50% and obviously the size of downstream processing equipment. The North T zone will provide 3,400 of the 5,000 tonnes which means Cheetah will have to open the Basal zone to meet the balance of the supply contract.

Looking at today's prices on Shanghai Metal Market (SMM) the separated value of this contract is over US\$286 million. Assuming Vital gets 1/3 of the value for the concentrate this would produce revenues of over US\$95 million of which US\$92 million would come from Nd/Pr. Details of the agreement are not revealed so REEtec may be a toll arrangement which could produce more revenue for Vital though I expect the initial target would be to sell La, Nd and Pr in Europe as there are customers in Europe.

Interestingly the extraction plant is located beside the Saskatchewan Research Council (SRC) which has announced that they will be building a rare earth separation facility to

process monazite by 2024. SRC has two rare earth experts from China on staff. SRC is also putting in an Nd/Pr metal facility which takes the oxide to the next level in the supply chain.

In addition to the Nechalacho project, Vital has a project in Tanzania called Wigu Hill. Vital has signed a project development and option agreement with Montero Mining & Exploration Ltd. (TSXV: MON), to acquire and develop the Wigu Hill project. The Wigu Hill project is a light rare earth element deposit and consists of a large carbonite complex with bastnaesite mineralization with a NI 43-101 Inferred resource estimate of 3.3Mt at 2.6% light REOs. This is also a bastnaesite mineral.

Overall Vital appears well on the way to producing commercial quantities of rare earth concentrate, a first in Canada. Questions that do need to be answered are what are the costs of operating an open pit mine in Northern Canada and the costs to transport material to Saskatoon.

Geoff Atkins talks about Vital Metals' transitional year from developer to producer in 2022

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In this InvestorIntel interview with host Tracy Weslosky, [Vital Metals Limited](#)'s (ASX: VML | OTCQB: VTMXF) Managing Director Geoff Atkins talks about the company moving from rare earths miner to producer in the coming months.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel ([click here](#)), Geoff talks about production from Vital's Nechalacho rare earths project in the Northwest Territories going to its Saskatoon extraction plant, with production of high purity rare earth carbonate forecast to commence in June 2022, and its rare earths product to be sold to Vital's take off partner in Norway later this year. Geoff goes in to explain, for Vital "this year is that transformational process from developer through to operator."

Being an Australian company with both its cornerstone project and processing facility in North America, Geoff also discusses increasing the company's presence in the North American markets in the coming months as it moves to producer.

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About Vital Metals Limited

Vital Metals Limited (ASX: VML) is Canada's first rare earths producer following commencement of production at its Nechalacho rare earths project in Canada in June 2021. It holds a portfolio of rare earths, technology metals and gold projects located in Canada, Africa and Germany.

To know more about Vital Metals Limited, [click here](#)

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Jack Lifton, Byron King and Vital Metals' Geoff Atkins on the global rare earths market

written by InvestorNews | August 5, 2022

In this episode of the Critical Minerals Corner, Critical Materials' industry expert and InvestorIntel Editor-in-Chief Jack Lifton is joined by Critical Minerals Corner Co-Host & InvestorIntel Columnist Byron King, and Geoff Atkins, Managing Director of [Vital Metals Limited](#) (ASX: VML) to discuss how Vital Metals plans to guarantee feedstock to the non-Chinese rare earths supply chain and about how a rare earths project is different from any other mining project.

In this InvestorIntel interview, which may also be viewed on YouTube ([click here to subscribe to the InvestorIntel Channel](#)), the panel discussed the high grades of neodymium and praseodymium found at Vital Metals' Nechalacho Rare Earths Project in Canada. With a growing push from the governments globally to establish rare earths supply chains outside of China, Geoff provided an update on Vital's off-take agreements signed with new separation facilities entering Europe and North America.

To watch the full interview, [click here](#).

About Vital Metals Limited

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Nechalacho Rare Earth Project – Canada

The Nechalacho project is a high grade, light rare earth (bastnaesite) project located at Nechalacho in the Northwest Territories of Canada and has potential for a start-up operation exploiting high-grade, easily accessible near surface mineralisation. The Nechalacho Rare Earth Project hosts within the Upper Zone, a JORC Resource of **94.7MT at 1.46% TREO** comprised of a Measured Resource of 2.9MT at 1.47% TREO, an Indicated Resource of 14.7MT at 1.5% TREO, and an Inferred Resource of 77.1MT at 1.46% TREO.

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In the Rare Earths Race-to-Production Race, Vital Metals is #2 in North America

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It's not often you get to be the first at something when it comes to mining in Canada. We are a country blessed with an abundance of natural resources and a lot of smart, diligent people have found a lot of those resources and put them into production. Although it hurts my pride a little bit, I have to give credit to an Australian miner, [Vital Metals Limited](https://www.vitalmetals.com.au) (ASX: VML) for becoming the first Canadian rare earths producer and only the second rare earths producer in North America (or third if Energy Fuels (NYSE: UUUU | TSX: EFR) beats them to the

punch).

Now I'm jumping the gun a little as they have only [begun mining operations](#) at their Nechalacho rare earths project in Northwest Territories but barring any unforeseen circumstances, commencement of rare earth oxide (REO) production should occur sometime in Q2. The North T Zone of the Nechalacho project will be mined as a small open pit, with material transported to Vital Metal's ore sorter on-site at Nechalacho for sorting. This will create a product suitable for further processing off-site at Vital Metal's rare earth extraction plant, to be constructed in Saskatoon, which will produce a mixed rare earth carbonate product for sale to separation facilities.

To that end, in February the company [announced an offtake agreement](#) with REEtec AS of Norway for an annual volume of 1,000 tonnes REO (ex-Cerium) over 5 years. Both parties have an option to increase this offtake volume by up to 5,000 tonnes REO per annum over 10 years. This is all part of the global strategy to diversify critical mineral supply chain which has been identified as a matter of significant importance to private companies and governments over the last 12 months and was highlighted by Jack Lifton of InvestorIntel in [this article](#).

However, this is only the start for the Nechalacho project as Vital Metal's strategy is to develop it in two stages. Stage 1 of the operations focuses on the North T Zone resource (105,000 tonnes grading 8.9% TREO), and Stage 2 envisages the development of several high grade zones identified within the much larger Tardiff (Upper Zone) deposit. The Company previously announced this deposit's total resource of 95 million @ 1.46% total rare earth oxides (TREO). The Tardiff deposits are targeted to provide the resource for the long-term operation and expansion of the project, hence the option to increase the REEtec agreement.

But the real beauty of the Nechalacho project is that North T Zone is one of the highest grade rare earth deposits in the world. This gives Vital Metals the luxury of being able to put this zone into production with a minimal amount of capital, further allowing the company to build out Stage 2 from existing cash flow.



Source: [Vital Metals Corporate Presentation](#)

It is estimated maximum total construction cost for a beneficiation and rare earth extraction plant for Stage 1 is A\$20 million. The company recently [raised A\\$43 million](#) via a share issue which should finance the company through commencement of mining operations at the Nechalacho Project; construction of the offsite extraction plant in Saskatoon; processing of mined material; and a drilling program at the Nechalacho Project to define a preliminary mine plan for its stage 2 production. All the pieces appear to be in place for Vital Metals to not only become the first Canadian rare earths producer but to build upon that success and achieve positive cash flow to continue building the company into a serious competitor in the global rare earth space.

Vital Metals' Geoff Atkins on the countdown to rare earths

production May 2021

written by InvestorNews | August 5, 2022

In a recent InvestorIntel interview, Tracy Weslosky spoke with Geoff Atkins, Managing Director of [Vital Metals Limited](#) (ASX: VML) about beginning production at its Nechalacho rare earths project in 2021.

In this InvestorIntel interview, which may also be viewed on YouTube ([click here to subscribe to the InvestorIntel Channel](#)), Mr. Atkins said the company's philosophy is to enter production in the shortest amount of time using the least amount of capital. Vital Metals initially wants to focus on gaining customer acceptance and proving its ability to ramp up production. "Then we move to a larger operation, which is more typical of what you see people looking at developing in rare earths," said Mr. Atkins.

He also commented on the competitive advantages of Nechalacho, most notably its long-life potential, its mineralogy, and most importantly, the minimal expenditure required for infrastructure. Further discussion on an offtake agreement with REEtec also provides Vital Metals with a cornerstone customer with expertise in separation technology of rare earths. Mr. Atkins believes REEtec's experience will contribute to the company's success.

To watch the full interview, [click here](#)

About Vital Metals Limited

Vital Metals Limited is an explorer and developer focussing on rare earths, technology metals, and gold projects. Their projects are located across a range of jurisdictions in Canada, Africa and Germany.

Nechalacho Rare Earth Project – Canada

The Nechalacho project is a high-grade, light rare earth (bastnaesite) project located at Nechalacho in the Northwest Territories of Canada and has potential for a start-up operation exploiting high-grade, easily accessible near-surface mineralization. The Nechalacho Rare Earth Project hosts within the Upper Zone, a measured, indicated, and inferred JORC Resource of 94MT at 1.46% TREO.

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Jack Lifton with Geoff Atkins on Vital Metals' expected 2021 rare earths production start at Nechalacho

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The Technology Metals Show host Jack Lifton talks with Geoff Atkins, Managing Director of [Vital Metals Limited](#) (ASX: VML), about Vital Metals' planned production at its Nechalacho rare earths project in Canada. "In terms of the time frame, we are currently working on a schedule to commence production next year," Geoff said.

In the interview Geoff provided an update on Vital Metal's

offtake agreements and business model. Vital Metals has a management team with experience in building and operating rare earth plants. He also explained what the company is doing to ensure reduced capital cost and time to market.

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Geoff Atkins on Vital Metals' 2021 rare earths production and new extraction facility

written by InvestorNews | August 5, 2022

InvestorIntel's Tracy Weslosky speaks with Geoff Atkins, Managing Director of [Vital Metals Limited](#) (ASX: VML), about Vital Metals' Nechalacho rare earths project in Canada.

"Nechalacho is on track to be in production next year," Geoff said. "We are constructing an extraction facility with SRC [Saskatchewan Research Council] and that will take our product from Nechalacho and produce a mixed rare earth carbonate product."

Geoff went on to provide an update on Vital Metals' management team. "Our entire team has been involved in Lynas and some of them have also been involved in Northern Minerals' Browns Range Project," he said. "We have 10-15 years' experience in building and operating rare earth plants."

Commenting on the competitive advantages of Vital Metals Geoff said, "The bottom line is about being low cost. From a capital cost perspective, we are looking at under AU\$20 million to build this plant. The second is near term operation. We are going to be operation within 12 months."

To watch the complete interview, [click here](#)

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Don Bubar on Avalon's 20 years in rare earths and their diversified asset base of critical materials

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"We have been in rare earths business for over 20 years now," Don Bubar, President, CEO and Director of [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF), tells InvestorIntel's Tracy Weslosky [in an interview](#). "And we are very well known among investors in the US for our lead role in the rare earths bubble 10 years ago. Whenever there is new development and news

headline related to the risk on security of supply, then you will see speculative trading activity in Avalon.”

“Our strategy has been to have a diversified asset base,” Bubar continued. “That gives us exposure to broad range of these new emerging critical materials. We are basically positioned to react to when there is a new demand in the marketplace.”

Bubar went on to say that Avalon is working with a partner on its Nechalacho rare earth elements property and has maintained its main resource for any future upside. “We continue to look at other possibilities to create new rare earths supplies, by looking at how we can use new technology to recover rare earths from non-traditional sources such as historic mine wastes,” he said.

Bubar also commented on Avalon’s Separation Rapids Lithium Project: “Our focus now is on taking advantage of the opportunity in lithium markets. We are permitted now to recover a bulk sample to finalize our process flowsheet, do a pilot plant run and produce some product samples for customers who have expressed interest in the product in the glass industry as well as start to revisit serving the battery materials market going forward.”

To access the complete interview, [click here](#).

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