

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

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 (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

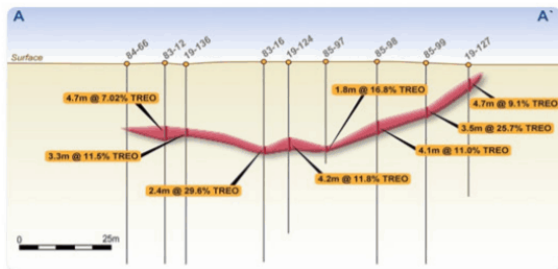
importance to private companies and governments over the last 12 months and was highlighted by Jack Lifton of InvestorIntel in this article.

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% TRE0), 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 (TRE0). 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.

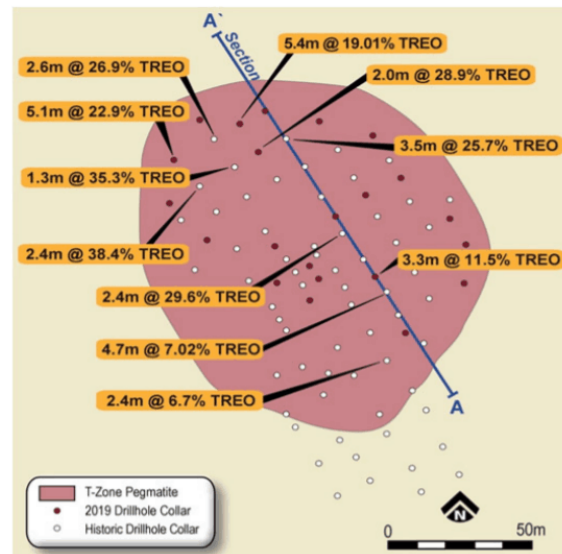
The North T Zone is one of the highest grade rare earth deposits in the world

### 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%
<b>Total</b>	<b>105</b>	<b>8.9%</b>	<b>0.5%</b>	<b>1.6%</b>

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



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

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.

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

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

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.

To access the complete interview subscribe to the **Technology Metals Show** and get exclusive access to member-only content through this exclusive site. Or [Log-In Here](#) for the latest conversations, debates, updates and interviews with the leaders, thought leaders and investors focused on issues relating to sustainability in the critical materials sector.

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

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**

“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](#).

Disclaimer: Avalon Advanced Materials Inc. is an advertorial member of InvestorIntel Corp.

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## **The Nechalacho Rare Earths Project moves a step closer to production**

On January 24 it was announced that the Cheetah Resources’ Nechalacho Rare Earths Project in the North West Territories (NWT) of Canada is moving toward small-scale production of rare earths including neodymium and praseodymium, and that a local firm will run operations. This is thought to be a first for the NWT in Canada. Mining is guided to begin this year at



the Project, subject to approval at the Mackenzie Valley Land and Water Board. Given that the Project will be locally run, this should help ensure its success.

Apart from Cheetah Resources, this is also good news for Avalon Advanced Materials Inc. (TSX: AVL | OTCQB: AVLNF), as they own a 3% NSR (royalty) on the Nechalacho Project, and retain 100% ownership of Basal Zone HREE Deposit. According to Avalon: "Ultimately, the parties (Avalon & Cheetah) contemplate forming a true joint venture if larger scale development was to proceed on the property."

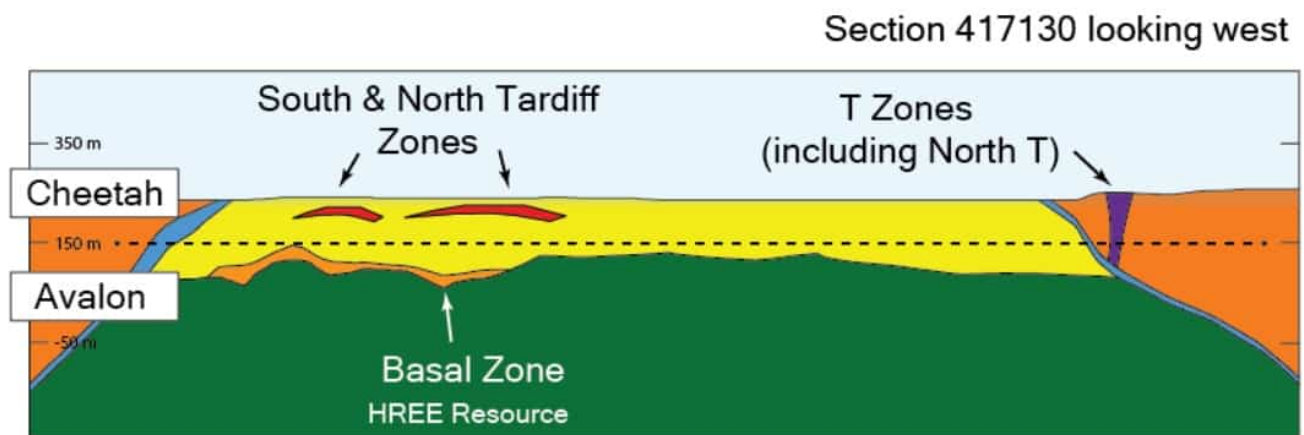
### **Avalon's projects**

- **Nechalacho Rare Earth Elements Property** (Thor Lake, Northwest Territories, Canada) (3% NSR on T-Zone and Tardiff Zone, and 100% own the HREE Basal Zone). A rich polymetallic rare metals resource, with potential for economic recovery of the heavy rare earth elements, neodymium, praseodymium, lithium, zirconium, beryllium, niobium and tantalum. A Feasibility Study was completed in 2013 on the Basal Zone resulting in a NPV10% of \$1.35 billion.

Note: that in June 2019, Cheetah Resources signed a purchase and sale agreement under which Cheetah acquires ownership of the near surface T-Zone and Tardiff Zone resources for C\$5 million cash. Once the rare earths material is mined and processed, it would likely be sold to companies like Australia-based Lynas Corporation or to Europe and Japan for further processing.

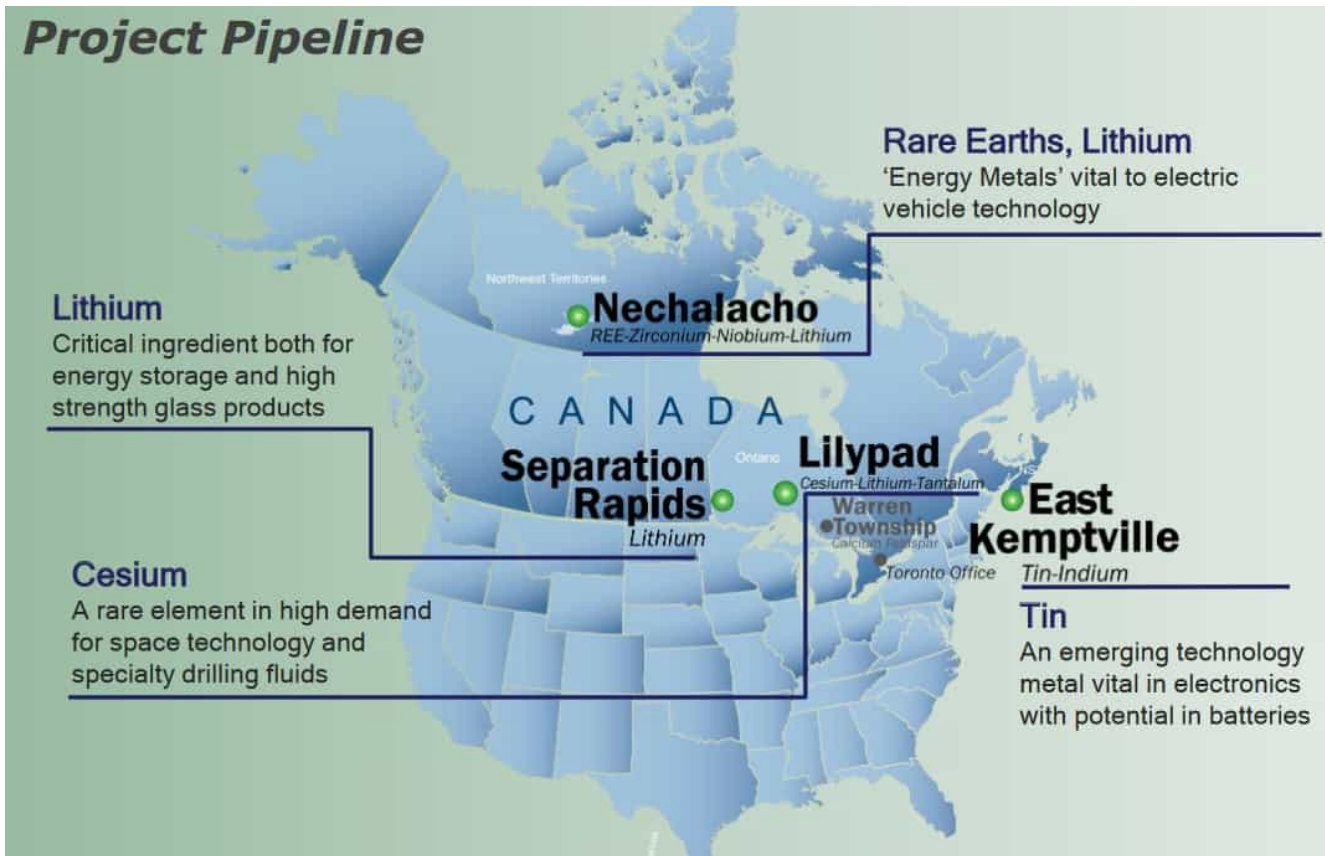
**Nechalacho – Cheetah owns the near surface T-Zone and Tardiff Zone, Avalon retains 100% of the HREE Basal Zone and a 3% NSR on T-Zone and Tardiff Zone**

## The Nechalacho Property hosts multiple polymetallic deposits



- **Separation Rapids Lithium Project** (70 km by road north of Kenora, Ontario). The Separation Rapids deposit is one of the largest “complex-type” lithium-cesium-tantalum pegmatite deposits in the world, unusual in its enrichment in the rare, high purity lithium mineral petalite. A PEA was completed in 2018 resulting in a pre-tax NPV8% of \$156m, post tax IRR of 22.7%, CapEx C\$77.7m with a 20 year mine life.
- **Lilypad Cesium Property** (150 km northeast of Pickle Lake, Ontario). Exploration stage with cesium-lithium-tantalum mineralization.
- **Warren Township Anorthosite Project** (100 km west of Timmins, Ontario). The tenement hosts a significant resource of high purity anorthosite, consisting of up to 98% high calcium plagioclase feldspar. The PFS was completed in 2003.
- **East Kemptville Tin-Indium Project** (45 km northeast of Yarmouth, Nova Scotia). PEA completed in 2018.

### Avalon Advanced Materials Projects summary



For investors wanting exposure to several advanced materials projects (rare earths, lithium, tantalum, and tin), all in the safe jurisdiction of Canada, then Avalon Advanced Materials is worth a look. Especially given they are cashed up and will hopefully soon be achieving a 3% royalty payment from the Nechalacho Rare Earths Project.