

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.

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Vital Metals aims to become the lowest cost producer of mixed rare earths oxide outside of China

Demand for secure supply of rare earths grows with technology and electric vehicles

We have known about this "problem" for more than 20 years. You don't have to be sinophobic, but if you are a manufacturer who relies on the sourcing of Rare Earth Elements (REEs) for your manufacturing outputs, maybe you should be. China still counts for about 80% of the world's REE production. They have dominated the world of rare earths since the late 1990s, but growing reliance on technology requires more and more of the somewhat obscure but necessary REE minerals to create our electronic gadgets and increasingly, electric vehicle and accessory components.

Enter Vital Metals Limited, (VML: ASX) an Australian listed global explorer of rare earths. While their initial impact may be small in the future supply-chain for REEs, they are an important part of the global movement for the diversification of REE production from a concentrated source – think eliminating the OPEC dominance of oil production 50 years ago and how the world succeeded (mostly) with that.

OK – what is a rare earth element and why are they important? There are technically 15 REEs, although two others are generally included as they have similar characteristics. They are further broken down into "light" REEs that are produced globally (and are in abundance) and "heavy" REEs that are

produced mostly in China and are in limited supply. Heavy REEs are in demand for their usage in high technology and clean-energy applications. The US military is buying these from China to manufacture – among other things – their armored vehicles, precision-guided weapons, batteries and night vision goggles. China is not the enemy, but at the very least the global supplier is not considered a “friendly”.

REEs are mined. Mining of these elements is usually in remote and not-so-hospitable locations. Any region that has REE potential that is close to accessible infrastructure should be on the list of “mines to be developed”.

Vital Metals has two of these projects, one in Canada and one in Africa. Their Nechalachco rare earths project in the Canadian Northwest Territories (NWT) on the edge of Great Slave Lake is scheduled to commence the production of rare earth oxide in the first half of 2021. Everything is on track to meet this production schedule as a result of years of previous work on the project (and expenditures of more than \$100 million), and the design of the project parameters is aimed at early cash flow (and low capital costs) of a production stream that is highly desirable to end users.

On August 22, 2020, Vital Metals announced a binding term sheet for the construction and operation of a rare earth extraction plant to produce a mixed rare earth carbonate product. Significantly, the plant will be located adjacent to the Saskatchewan Research Council’s (SRC) planned separation plant which will be able to convert rare earth carbonate mixes to commercial grade rare earth oxides. Vital’s plant is expected to be operational in Q3-2021 with feedstock from their Nechalachco mining project.

Most people do not know that the SRC has almost a decade of expertise in REEs (associated with uranium mining in Saskatchewan) and recently announced the construction of a rare earth processing facility in Saskatchewan, the first of

its kind in Canada. The SRC facility is expected to be operational in late 2022. It is hard to overestimate the importance of Vital Metals' rare earth extraction plant being built in the neighborhood of the SRC facility.



Source: company presentation

The team at Vital are recognized for their expertise in the global rare earth element arena including all necessary elements of mining, processing, geology and marketing. The devil really is in the details, and Vital's team has a cost and time effective strategy to deliver early production and cash flow. Remote locations require extensive planning and timing is everything as mining and processing equipment can only be delivered and setup during certain weather windows.

The company's market capitalization is only about A\$26 million. They estimate that developing the first mine in northern Canada will require less than A\$20 million total capital cost for their first project (North-T, 100% interest), some of which can be funded by future generated cash flow. There is also significant potential upside in the area for exploration and production expansions, which would likely also be funded by internally generated cash flow. The company has a plan to develop the bigger Tardiff Project by 2024, aiming for a 20 year mine life and leveraging off existing infrastructure as the "next phase" in the area.

Vital Metals' second REE project is in Tanzania, with rail and power infrastructure within approximately 10 km of their 90% owned Wigu Hill Project. Previous owners spent approximately \$10 million and management is of the view that this is a high grade, potential world class resource. This asset has an older NI 43-101 evaluation report attributing to it 3.3 Mt at 2.6% REO.

The global movement away from China as the main source of rare

earth elements has been underway for a number of years. The world always knew that as technology developed REEs would become more and more important, but with the development of electric vehicles in particular it is now becoming increasingly apparent that there is a need for more secure and friendly sources of REEs. Vital Minerals' aim is to become a global player in the production of REEs. Their expertise, projects and potential appear to have put them squarely on this path.

See also video: Interview with Vital Metals' Managing Director Geoff Atkins on their rare earths production and new extraction facility.

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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Vital Metals new Rare Earths Extraction Plant planned adjacent to SRC's Separation Plant

Vital Metals on track to become a rare earths carbonate producer in 2021

In news out today rare earths carbonate developer Vital Metals Limited (ASX: VML) ('Vital'), through its 100% owned subsidiary Cheetah Resources, has signed a binding Term Sheet with the Saskatchewan Research Council ('SRC') to negotiate definitive agreements for the construction and operation of a Rare Earth Extraction Plant to produce a mixed rare earth carbonate product. The capital cost estimate of the Rare Earth

Extraction Plant is A\$5.25m.

The Rare Earth Extraction Plant is planned to be located adjacent to a recently announced Rare Earth Separation Plant in Saskatchewan, Canada, and could provide a rare earth carbonate feedstock to produce a commercial grade separated rare earth oxide. The proximity makes it natural for SRC's Separation Plant to be a potential customer of Vital/Cheetah's mixed rare earth carbonate product from their planned Extraction Plant.

Vital Metals' Managing Director Geoff Atkins comments

"The signing of this Term Sheet with SRC marks an important milestone for Vital and the development of the Nechalacho Project," said Vital Metals' Managing Director Geoff Atkins. "Whilst the Definitive Agreements continue to be finalised in line with the Term Sheet, the Company is excited about the prospect of the construction and operation of a rare earth demonstration extraction plant, as well as it being co-located with SRC's recently announced rare earth separation plant. Being the only rare earth project in Canada with near term production capability, co-located with Canada's only Separation Facility, provides Vital the opportunity to be a cornerstone of the North America Critical Minerals Strategy."

Vital Metals low CapEx strategy to become a rare earths carbonate producer in Canada

Traditionally rare earth miners would look to build a huge plant to make a rare earths end product, however Vital Metals has a different strategy to reach production quicker and with a much lower CapEx, as well as supporting a much needed **non-China rare earths supply chain**.

Vital is an explorer and developer with highly prospective mineral projects, focusing on their world-class rare earth Nechalacho Project in Canada. **Their strategy is to be the largest independent supplier of clean mixed rare earth**

feedstock outside of China, with a goal to produce a minimum 5,000 tonnes of contained rare earth oxide (REO) by 2025. A key component to the plan is a much smaller scale plant with an extremely low CapEx of just A\$20m to produce rare earth carbonate. Subject to the various hurdles such as funding, Vital Metals hopes to begin production at their Nechalacho Project in 2021. Once in production, Vital's strategy is to generate low cost near-term cash flow to fund the development of large-scale operations.

Vital Metals Nechalacho Project and Stage 1 strategy



Source

Vital owns two world class rare earth projects – Nechalacho in Canada with ~95mt at 1.46% TREO, and Wigu Hill in Tanzania with 3.3mt at 2.6% TREO.

The Nechalacho Project (Canada)

The Nechalacho Project is a rare earth project located in Northwest Territories, Canada. The current resource estimate

is 94.7mt at 1.46% REO (measured, indicated and inferred). The North T Zone at Nechalacho hosts a high-grade resource of 101,000 tonnes at 9.01% LREO (2.2% NdPr). Vital is targeting production of rare earth oxide in 2021 with early production from the North T starter pit.

More than \$120 million has been spent by previous owners on drilling, permitting and project development at Nechalacho, which includes a 40-person camp and airstrip. The Project is **fully permitted for a 600kt mining and ore sorting operation** and is 100km from Yellowknife. The local infrastructure is well established with access to the Canadian National Railway at Hay River. Access to the site is via barge in summer and ice road in winter.

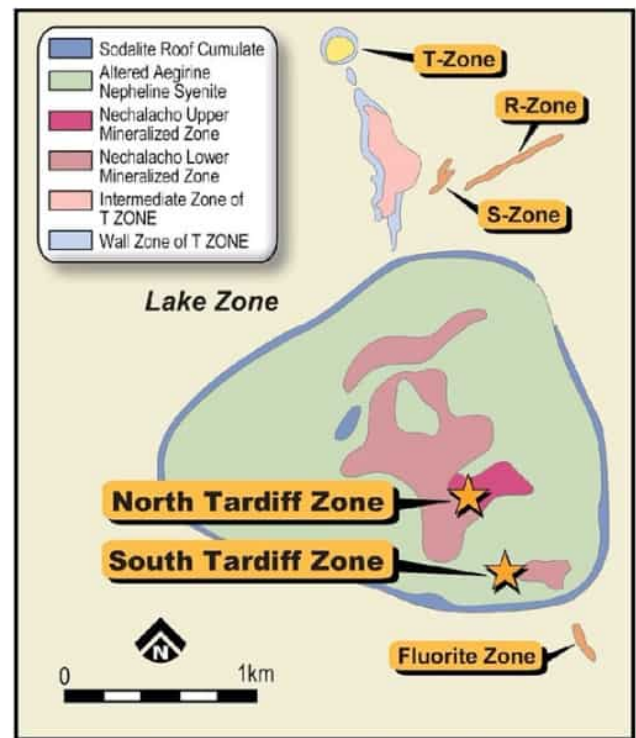
The metallurgy is a simple process involving a 35%+ initial beneficiation via ore sorting and 97% recovery into solution via hydrochloric acid using an industry standard process.

Vital has already completed detailed engineering for the ore sorting plant, defined capital and operating costs, and begun site preparation works. Off-take negotiations are reported to be progressing well with a number of non-China buyers.

Vital Metals next steps and map showing the Tardiff Zones

Next Steps

- Site preparation works to commence in Q3 2020 including site clearing, camp upgrade and installation of the ore sorter sub-structure
- Finalisation of a contract for the construction and operation of a Rare Earth Extraction Facility to produce Mixed Rare Earth Carbonate product for sale - Q3 2020
- Confirm Off-take agreements - Q3 2020
- Sampling program to undertaken in South T, R Zone and S Zone to evaluate potential of T-Zone expansion
- Undertake infill drilling at Tardiff Zone



Source: company presentation

Management is highly experienced. For example, Managing Director Geoff Atkins has 25 years of project and corporate development experience, including four years as Corporate Planning Manager at Lynas Corporation where he oversaw the strategic planning process and the development of the Mt Weld Concentration Plant and Lynas Advance Materials Plant in Malaysia.

Today's news from Vital suggests that, assuming progress continues successfully, the SRC will support Vital in its construction and operation of their Nechalacho Project. Subject to execution of definitive agreements, processing operations are planned to start in the third quarter of 2021.

The current market cap of Vital Metals is A\$52m.