

## VITAL'S RARE EARTH CARBONATE CUSTOMER SAMPLE PROGRAM UNDERWAY AND DELIVERING POSITIVE RESULTS

### HIGHLIGHTS

- Vital has produced rare earth carbonate sample which satisfies target impurity levels agreed with REEtec
- Process flowsheet signed off following results from carbonate production testwork
- Continuous bulk customer sample production program continues as part of the product qualification program for REEtec and other potential customers
- Nechalacho ore remained free flowing during kiln operations which is highly desired to reduce potential production bottlenecks which have struck other rare earth operations
- Production of Rare Earths on target for CY2021 at Nechalacho Project, Canada to make Vital the second only producer of REE in North America
- Drilling underway to define mine plan for Stage 2 operations at Nechalacho to build a larger scale, long-life rare earths project
- Neodymium prices continuing to increase with current oxide price reaching US\$97/kg

Vital Metals Limited (ASX: VML) (“Vital Metals” or “the Company”) is pleased to announce it has produced a rare earth carbonate sample within specification at its Nechalacho Project in the North West Territories (“NWT”) in Canada.



Figure 1: Mixed rare earth carbonate produced to target impurity levels

Managing Director Geoff Atkins said, “Production of a rare earth carbonate sample which meets specification is an important milestone as we move towards rare earth production at the project this year.

“It has allowed us to finalise the process flowsheet and commence our program to provide samples of our product to our off-take partner REEtec in Norway, as well as other potential customers. REEtec can use the sample as part of customer acceptance protocols as outlined in Vital’s agreement with the company.”

Production of the sample follows Vital’s execution of a definitive agreement with Norwegian rare earth separation company REEtec AS earlier this month and continues Vital’s progress towards rare earth production in CY2021. Under the agreement, Vital will provide REEtec an annual volume of 1,000 tonnes of rare earth oxide (ex-cerium or ~2,000t TREO) over five years, with the option to increase this offtake volume up to 5,000 tonnes REO (ex-cerium or ~10,000t TREO) per annum over 10 years (subject to a corresponding supply agreement).

In accordance with the off-take agreement, Vital has been working with REEtec to finalise the rare earth carbonate specification and associated process flowsheet which will minimise the combined Vital and REEtec operating costs for the production of separated rare earth oxides.

The finalised process across Vital’s Nechalacho and Saskatoon sites is summarised below:

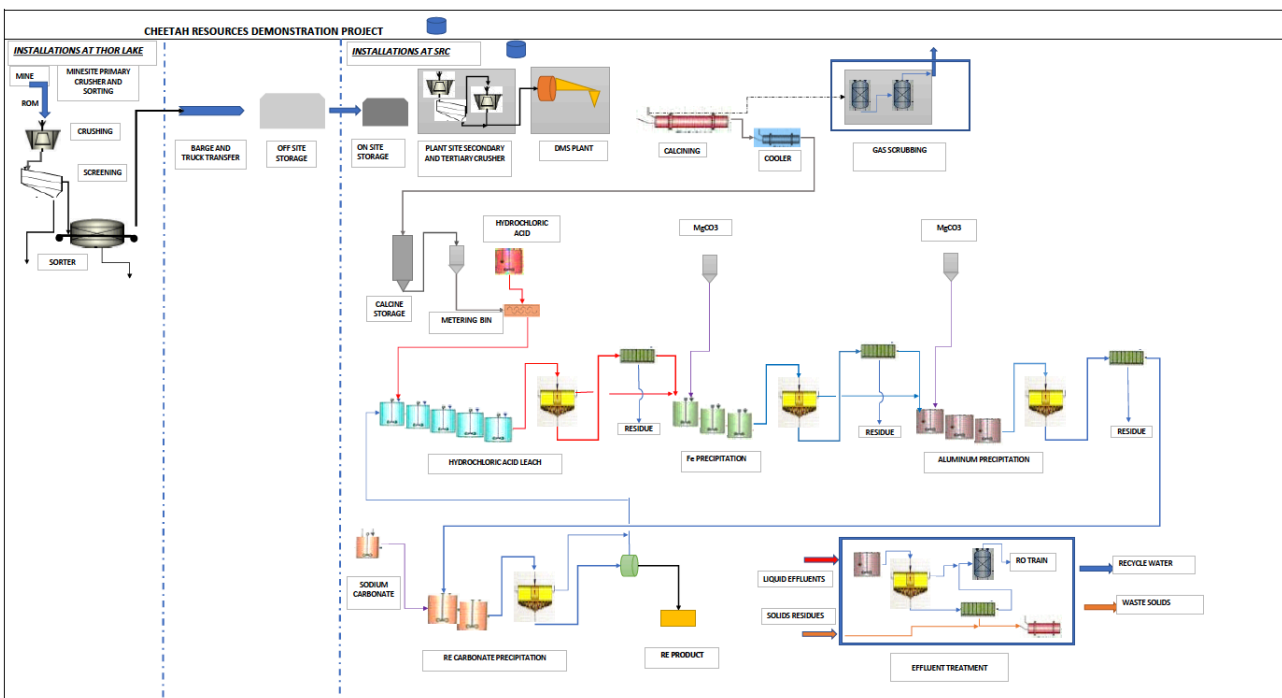


Figure 2: Process Flowsheet showing activities at Nechalacho and Saskatoon

Following the successful production of rare earth carbonate which satisfies REEtec’s impurity specifications, Vital has commenced a bulk customer sample production program to generate sufficient quantities of rare earth carbonate to provide to REEtec, and other prospective customers, as part of the customer qualification process. The program is summarised in more detail below.

### **Beneficiation**

Following the beneficiation test program previously undertaken (refer ASX Announcement dated 5 December 2019), the bulk customer sample program produced a high grade beneficiated product (>40% TREO) through a combination of sorting and gravity separation.



Figure 3: Typical Ore sample showing red bastnaesite crystals with quartz waste



Figure 4: Beneficiated product following ore sorting

Approximately 200kg of sorted Nechalacho ore was crushed and then processed via a combination of Dense Media Separation (coarse fractions) and Wilfley tables (fines fractions). This process replicates both the treatment of sorted product to ensure homogeneity of product being fed into the kiln, and also the beneficiation of undersize material which will not sorted.

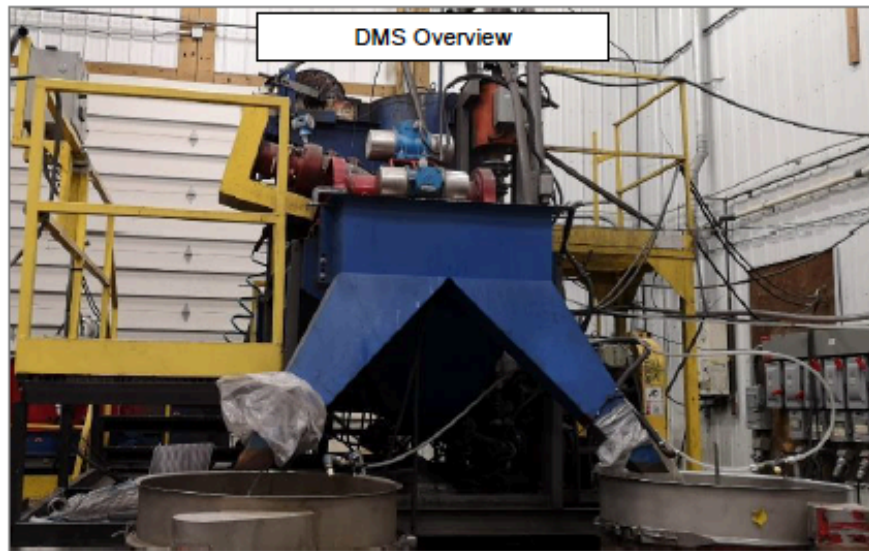


Figure 5: Sorted ore undergoing Dense Media Separation



Figure 6: DMS separated products featuring Sinks containing high grade bastnaesite product (red) and Floats containing non-mineralised material

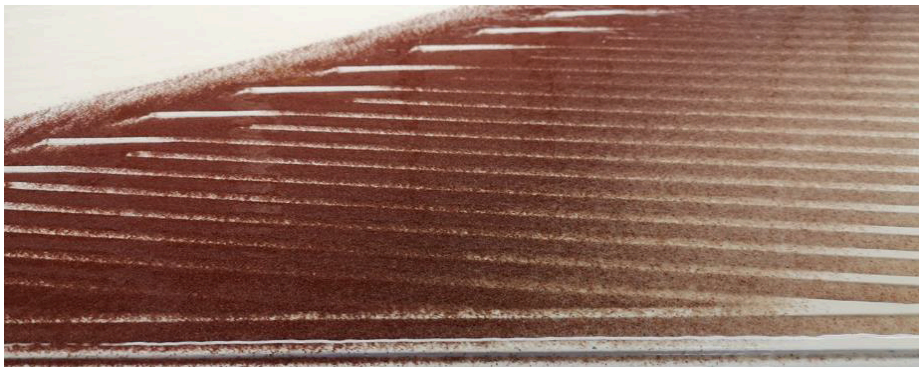


Figure 7: Undersize ore undergoing Wilfley Table operation to produce a beneficiated product



Figure 8: Wilfley Table beneficiated products after a single pass (-0.5+0.25mm size fraction). WT Concentrate and Middlings were combined to produce feed for the leaching program

The combinations of ore-sorting, DMS and Wilfley table operations produced a beneficiated product in accordance with expectations with rare earth grades in excess of 40% REO. This product was combined prior to being processed through a kiln in preparation for the final leaching and precipitation program. As anticipated the material within the kiln was free flowing which is highly desired to reduce potential production bottlenecks which have struck other rare earth operations.



Figure 9: Kiln operations showing free-flowing beneficiated product exiting the kiln in preparation for the commencement of the leaching program

Output from the successful calcination program is currently undergoing a bulk leaching and purification program to produce rare earth carbonate products for delivery to customers. Carbonate product from the bulk customer sample program is expected to be produced and available for transportation to REEtec and other prospective customers by the middle of March 2021.



Figure 10: Leaching and Precipitation equipment prior to the commencement of the bulk carbonate production program

Vital is on track to commence REO production at Nechalacho this year with Stage 1 production from the North T pit.

Vital has commenced a 30-hole drilling program at Nechalacho that aims to define a preliminary mine plane for its Stage 1 production from the Tardiff resource (94.7Mt @ 1.46% TREO with over 1.3Mt contained rare earths)<sup>1</sup>. Vital's drilling program will test three high-grade targets in the Tardiff deposit and evaluate potential expansion of the T Zone by targeting two additional zones, the South T and the S zones, which lie adjacent to the planned North T pit.

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<sup>1</sup> Refer ASX Announcement dated 13 December 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in that market announcement continue to apply and have not materially changed.

## Rare Earth Oxide Price Update

Element	Distribution (%) <sup>1</sup>	Market Price (as at Jan 27, 2021) US\$/kg <sup>2</sup>	Market Price (as at Feb 23 2021) US\$/kg <sup>3</sup>
La <sub>2</sub> O <sub>3</sub>	47.4%	\$1.50	\$1.31
Pr <sub>6</sub> O <sub>11</sub>	10.4%	\$63.40	\$69.75
Nd <sub>2</sub> O <sub>3</sub>	34.3%	\$88.61	\$97.26
Sm <sub>2</sub> O <sub>3</sub>	3.5%	\$1.77	\$1.78
Eu <sub>2</sub> O <sub>3</sub>	0.4%	\$32.48	\$30.23
Gd <sub>2</sub> O <sub>3</sub>	1.5%	\$30.54	\$31.62
Tb <sub>4</sub> O <sub>7</sub>	0.2%	\$1,356.99	\$1,398.88
Dy <sub>2</sub> O <sub>3</sub>	0.5%	\$340.21	\$387.50
Y <sub>2</sub> O <sub>3</sub>	1.4%	\$4.10	\$6.05
<b>Total</b>	<b>100%</b>	<b>\$42.50</b>	<b>\$46.71</b>

**Table 1: Separated Rare Earth Oxides at Current Prices**

<sup>1</sup>Rare earth distribution as determined under the Company's 2012 JORC Report (refer 15 April 2020) and as detailed in announcement 2nd February 2021. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in that market announcement continue to apply and have not materially changed.

<sup>2</sup>Rare earth prices sourced from Shanghai Metals Market ([www.metal.com](http://www.metal.com)) as at 27<sup>th</sup> January 2021

<sup>3</sup>Rare earth prices sourced from Shanghai Metals Market ([www.metal.com](http://www.metal.com)) as at 23<sup>rd</sup> February 2021

**- ENDS-**

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*This announcement has been authorised for release by the Board of Vital Metals.*

**ABOUT VITAL**

Vital Metals Limited (ASX:VML) is an explorer and developer focussing on rare earths, technology metals and gold projects. Our 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 mineralisation. The Nechalacho Rare Earth Project hosts within the Upper Zone, a measured, indicated and inferred JORC Resource of **94MT at 1.46% TREO<sup>2</sup>**.

### **Forward Looking Statements**

This release includes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production output.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company’s business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company’s control.

Although the company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

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<sup>2</sup> Refer ASX Announcements dated 13 December 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in that market announcement continue to apply and have not materially changed.