

## **VITAL COMPLETES ENGINEERING STUDY - ON TRACK TO COMMENCE OPERATIONS IN 2021**

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### **HIGHLIGHTS**

- **Independent engineering study completed on the construction and operation of Vital's high grade rare earth beneficiation facilities at Nechalacho**
- **Capital Cost of Ore Sorting Plant calculated at \$3.7m (including 10% contingency)**
- **Ore sorter base and sub-structure scheduled to be installed on site in the Northern Summer**
- **North T Pit Design completed (8,000t of contained REO) enabling the finalisation of the mining contract**
- **Site preparation works to commence August 2020**
- **Vital has commenced discussions to construct a Rare Earth Extraction Facility under a BOT contract (Build, Operate, Transfer)**
- **Off-take negotiations are also progressing well in light of Canada-US critical minerals strategy**
- **Vital's 100% owned subsidiary, Cheetah Resources Ltd, has been selected for the Government of Canada's Accelerated Growth Services Program (AGS), assisting access to potential financing assistance packages**

Vital Metals Limited (ASX: **VML**) ("**Vital**" or the "**Company**") is pleased to provide the following update on the progress of its 100% owned Nechalacho rare earth project in Yellowknife, NWT, Canada.

Following receipt of the amended Land Use Permit and Water License (as per 5<sup>th</sup> May 2020 announcement), Vital's 100% owned subsidiary Cheetah Resources Ltd has worked to progress the project for a targeted commencement of operations from the North T deposit at Nechalacho in 2021. The following provides an update on progress relating to mining, sorting and cracking and leaching activities showing activities are proceeding in accordance with schedule (refer Investor Presentation 6<sup>th</sup> May 2020).

#### **Vital's Managing Director Geoff Atkins said:**

*"We have adopted a completely different strategy to traditional rare earth developers with a focus on low cost near term cashflow. The completion of detailed engineering for the ore sorting plant, with defined capital and operating costs confirms that Vital remains on track with this strategy, with production due to commence in 2021."*

*We look forward to commencing production next year, making Vital the world's next rare earth producer."*

## **Project Development Schedule**

As previously announced (refer 6<sup>th</sup> May 2020 Investor Presentation) the following outlines the key milestones to achieving the commencement of production from Nechalacho in 2021:

- Site establishment and preparation works: September, October 2020 and January, February and March 2021
- Finalisation of a mining contract: September 2020 to January 2021
- Mobilisation of mining fleet to site: February 2021
- Mining operation: April 2021 – October 2021
- Sorting operations commencing: May/June 2021 to October 2021
- Rare earth extraction facility construction commencing: February 2021
- Rare earth extraction facility operations commencing: August 2021

## **Ore Sorting Operations**

Following the successful completion of ore sorting testwork on ore from the North T deposit (refer 5<sup>th</sup> December 2019 announcement), Vital engaged Halyard Inc to undertake detailed engineering and fabrication for the Ore Sorting Plant at Nechalacho.

The Ore Sorting Plant at Nechalacho centres around the previously ordered Tomra COM Tertiary XRT 1200/B Sensor Based Sorter (refer 23<sup>rd</sup> January 2020 Announcement) which is mounted inside a 40 foot shipping container and located on a sub-structure.

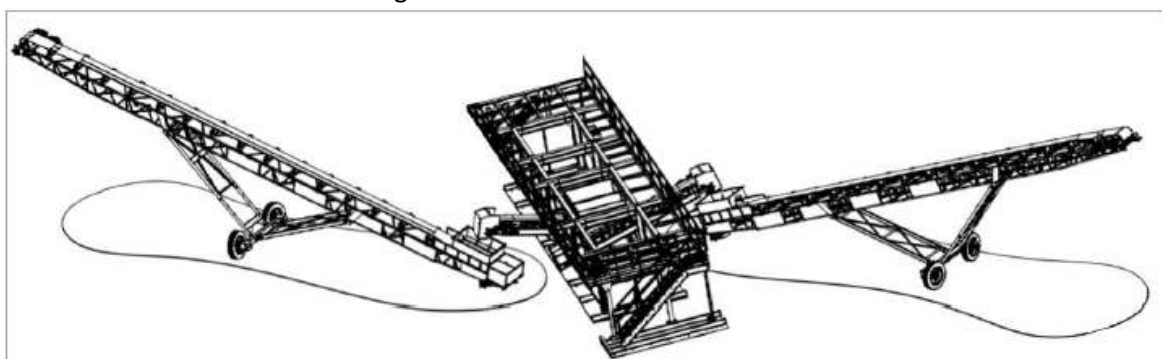
In addition to the ore sorter the Ore Sorting Plant includes the equipment outlined below:

- A feed system comprising of an ore feed hopper, ore feeder and ore feed conveyor;
- Two sets of discharge stacker conveyors – one set for ore sorter eject and one set for ore sorter non-eject; and
- Air compressor and Diesel power generator.

The detailed engineering and fabrication of this equipment, together with the finalisation of installed capital and operating costs were included in the Halyard scope of works.

The Company is pleased to advise that the following project milestones for the Ore Sorting Plant have been completed on schedule:

- Manufacture of the ore sorter is complete with transportation to Yellowknife, Canada underway;
- Detailed engineering is complete for the feed system, stackers, conveyors and ore sorter base and sub-structure;
- Capital and operating costs finalised; and
- Fabrication commenced for ore sorter base and sub-structure with delivery to site scheduled to occur during the Northern summer.



**Figure 1: Sorter Platform and Stackers**

Sensor Based Ore Sorting allows beneficiation to be undertaken without process water or reagents and therefore impacts the environment less than comparative beneficiation processes. Feed preparation is carried out by screening and crushing alone as the particle size required is 8-60mm. Grinding is not required, thus a coarse reject mineral is produced rather than 'conventional' fine tailings that are produced in other projects.

The Ore Sorting Plant and associated infrastructure has been designed based on the following parameters:

- Annual Operating Period: June, July, August, September and October
- Operating days per year: 153 days
- Operating hours per day: 10 hours
- Ore Screening:
  - -60 +20 mm: 42.5%
  - -20 +8mm: 42.5%
  - -8mm: 15%
- Ore Feed: 6.3% REO
- Recovery to Ore Sorter Product: 75%
- Recovery to Precipitated Product: 80%
- Ore sorter product: 40% REO

The plant capital cost has been calculated at \$3.7 Million including 10% contingency.

**Table 1: Ore Sorting Capital Cost**

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 (10%)	338
	<b>Total</b>	<b>3,723</b>

*Note: Equipment costs are based on either signed contracts or fixed price lump sum proposals received.*

Operating costs shall be incurred on a seasonal basis i.e. 1,530 operating hours per year, with sorter throughput to be maximised during the available timeframe to reduce per tonne costs.

### **Mining Contract**

Following the receipt of the Amended Land Use Permit (LUP) and Water License (WL) (refer 5<sup>th</sup> May 2020 Announcement) Vital appointed Orelogy Consulting Pty Ltd (Orelogy) to define a pit design which met the conditions of these approvals whilst maximising the contained rare earths. Specifically, the LUP and WL provided approval for 600,000t of material to be extracted from the pit based on the design assumptions as highlighted in Table 2. These assumptions were based on geotechnical guidelines considering:

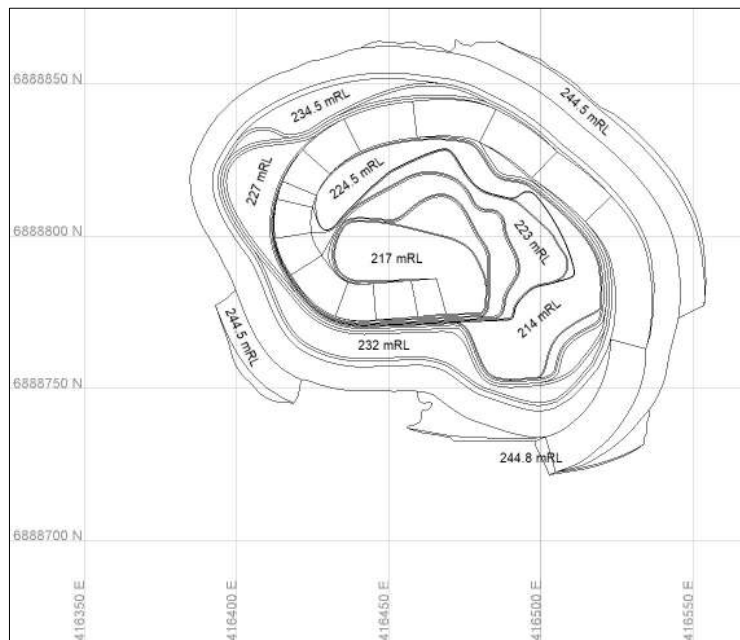
- Geological domains
- Geological logging of core including structure and RQD values

- Structural mapping of the decline
- The shallow nature of the open pit (i.e. 35m deep) and
- The lack of groundwater in recent drill holes.

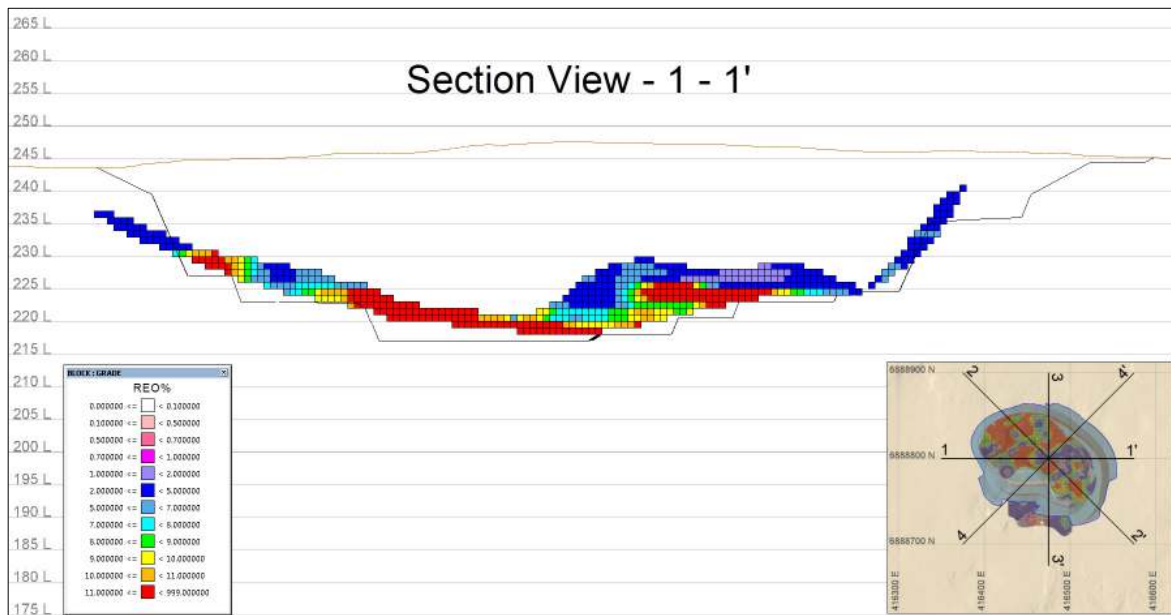
This design as highlighted in Figures 2 and 3 allows further development of the mining contract, to be finalised in accordance with the defined project development milestones.

**Table 2 – Pit Design assumptions**

Description		Units	Value
Ramp	Width	m	12
	Gradient	%	12%
Batter slope	Above 239.5 mRL	Deg °	30
	Below 239.5 mRL	Deg °	70
Berm width	Width	m	10
	Level	mRL	239.5



**Figure 2: Pit Design**



**Figure 3: Pit Cross Section**

Table 3 summarises the resources of 74,124 t @ 10.8% REO (56,531t @ 10.7% REO Measured, 16,397t @ 11.7% REO Indicated, 1,196t @ 5.4% Inferred) within the pit design reported at a cut-off grade of 0.5% REO.

**Table3: Resource Inventories**

Item	Unit	Resource Inventory
Ore	T	74,124
	REO %	10.8
Waste Overburden	t	84,946
Waste Pegmatite	t	420,300
Waste Total	t	505,245
All Materials	t	579,370
Stripping Ratio	waste/ore	6.8
REO	t	8,028

*Note: The Resource Inventory estimate in Table 3 above is a subset of the Total Mineral Resource Estimates included in the Company's announcement dated 15 April 2020.*

The pit design detail is sufficient to enable the completion of operational and management plans, environmental plans and Run of Mine (ROM) design and further development of the mining and crushing services contract, to be finalised in accordance with the defined project development milestones. This contract will extract all materials and crush all ore materials within a single campaign (May 2021 – October 2021) and therefore is classified as near-term production, with all production not extending past the current year and forthcoming year.

### **Site Establishment Works**

Site establishment works are on schedule with the mobilisation of mining equipment and the ore sorter scheduled to occur in February/March 2021. In preparation of this activity, our site team will undertake site preparation works this northern summer. Key work programs will include:

- Site clearing for the proposed pit design, ROM and reject stockpiles;
- Site preparation for the ore sorter and materials handling equipment; and

- Delivery and placement of the ore sorter base and sub-structure.

### **Off-Take**

Negotiations are continuing with a number of prospective off-take customers, specifically relating to:

- Product specification;
- Start-up feedstock requirements;
- Ramp-up profile; and
- Long term feedstock requirements.

Whilst the onset of COVID-19 has delayed the finalisation of an agreement as companies have reassessed their feedstock demand, with discussions well advanced Vital has targeted its first off-take agreement to be finalised in 3<sup>rd</sup> Quarter 2020.

### **Rare Earth Extraction Facility**

Negotiations are well advanced for a rare earth Extraction Facility Build Own Operate Transfer contract within North America. Plant design, including start-up production volumes and ramp-up profile will be finalised pending the outcome of off-take negotiations.

This agreement is targeted for completion in 3<sup>rd</sup> Quarter 2020 and will be announced to the market as soon as possible.

### **Joint Canada – U.S. Critical Minerals Strategy**

With a near term production rare earth project in Canada, Vital has the opportunity to play a significant role in the establishment of a rare earth supply chain in North America. We continue to liaise closely with the Canadian Government. We are encouraged by recent statements made by the US-Canada Critical Minerals Working Group, whereby on the 17<sup>th</sup> June 2020, when the U.S. Department of State made the following statement regarding the United States and Canada forging ahead on Critical Mineral co-operation.

*“Deputy Assistant Secretary of State for Western Hemisphere Affairs Cynthia Kierscht and Associate Deputy Minister of Natural Resources Canada Shawn Tupper participated in the second U.S.-Canada Critical Minerals Working Group virtual meeting on June 17, hosted by Canada.*

*In spite of the unique challenges posed by COVID-19, Deputy Assistant Secretary Kierscht and Associate Deputy Minister Tupper reaffirmed their commitment to further strengthen the U.S.-Canada supply chain for critical minerals that are essential to our mutual security and future prosperity. The United States and Canada reviewed progress of the five Sub-Working Groups implementing the countries’ Joint Action Plan for Cooperation on Critical Minerals and set priorities for the next phase of bilateral collaboration. Officials across both governments explored opportunities for joint action in priority areas such as **rare earth elements**, materials for next generation batteries, and minerals essential to semi-conductor development and production. They also discussed each country’s efforts to address the effects of the global pandemic on the mining and natural resources sectors and to stimulate economic recovery. The inaugural meeting of the U.S.-Canada Critical Minerals Working Group was held on October 3, 2019, in Washington, D.C.”*

In addition Cheetah Resources Ltd has been selected for the Government of Canada’s Accelerated Growth Services Program (AGS). AGS helps growth-oriented Canadian businesses expand by

assisting them to access the critical government services they need to grow, such as financing, exporting, innovation, and business advice.

Cheetah's Accelerated Growth Service partnership is lead by a dedicated advisor from Innovation Canada that helps bring the right partners to the table, provides connections to government programs and services that support business growth, and a tailored and coordinated client services growth plan. The other members of Cheetah's AGS team are the Business Development Bank of Canada, Global Affairs Canada (Trade Commissioner Services), Export Development Canada, National Research Council (Industrial Research Assistance Program), Canadian Northern Economic Development Initiative and Western Economic Development Initiative.

Each of these organizations provides grant and soft loan programs of interest to Cheetah. While Cheetah must apply individually to each of these organizations, AGS has opened the doors to maximise potential opportunities associated with the Joint Canada-U.S. Critical Minerals Strategy.

**- ENDS-**

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

**ABOUT VITAL METALS**

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 JORC Compliant Resource of 94.7Mt at 1.46% REO (25% NdPr). 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 the original market announcements continue to apply and have not materially changed

**Wigu Hill Project - Tanzania**

The Company has signed a project development and option agreement with Montero Mining & Exploration Ltd, to acquire and develop the Wigu Hill Project located near Kisaki in Tanzania.

The Wigu Hill project is a light rare earth element deposit and consists of a large carbonite complex with bastnaesite mineralisation with a NI 43-101 Inferred resource estimate of 3.3Mt at 2.6% LREO5 including 510,000t @ 4.4% LREO5 on 2 of 10 possible drill targets.

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.

### **Nahouri Gold Project – Burkina Faso**

The Nahouri Gold Project (100% Vital) is located in southern Burkina Faso. The Project is made up of three contiguous permits; the Nahouri, Kampala and Zeko exploration permits. The Project is located in highly prospective Birimian Greenstone terrain with 400 sq km of contiguous tenements lying on the trend of the Markoye Fault Corridor.

### **Aue Project – Germany**

The Aue Project (100% Vital) is located in the western Erzgebirge area of the German state of Saxony. The permit, comprising an area of 78 sq km is located in the heart of one of Europe's most famous mining regions surrounded by several world class mineral fields. Historical mining and intensive exploration work carried out between from the 1940s and 1980s showed high prospectivity of the Aue permit area for cobalt, tungsten, tin, uranium and silver mineralisation.

### **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 outputs.

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.