

# QUARTERLY REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2019

## Highlights:

- Completion of acquisition of Cheetah Resources Pty Ltd to transform Vital into near term REO producer
- Early works program on Nechalacho REO (Thor Lake, Canada) project commenced during the quarter
- Conversion of the world class NI 43-101 149.3Mt at 1.42% REO to JORC resource underway
- Maiden infill drill program completed on the North T Zone along with assaying of historically drilled diamond core underway
- Bulk sample taken for extensive metallurgical program confirms logistics chain
- Tomra Systems engaged for optimising initial concentration via ore sorting technology
- Hydrometallurgical process underway on high grade bastnaesite samples
- Cash Balance of \$8.68M

Vital Metals Limited (ASX: VML) (**Vital** or the **Company**) is pleased to report on its activities during the September 2019 Quarter.

## **Nechalacho Rare Earth Project**

#### **JORC Resource Conversion**

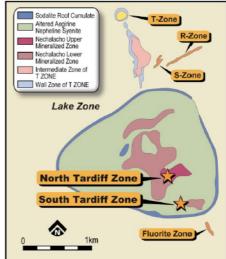
The Nechalacho REO Project boasts an impressive NI 43-101 resource of 149.3Mt at 1.42% REO contained within the upper zone over which Vital has rights to mine.

During the quarter and within the NI 43-101 foreign resource estimate Cheetah commenced the conversion of near surface, high grade resources found in the North T and Tardiff Zones to JORC 2012.

The Company believes that the Nechalacho Project has potential for a start-up operation exploiting high grade, easily accessible near surface mineralisation initially from the North T Zone before then shifting to the larger Tardiff Zones.

The Company expects to release a JORC 2012 Resource for the North T and Tardiff Zone in November 2019. In addition, the Company intends to ultimately convert the full 149.3Mt resource into JORC status in due course but given the size Vital has chosen to focus only on the bastnaesite zones at North T and Tardiff which will be the focus of its start-up operation.

Investors should note that the Mineral Resource estimate for the Nechalacho Project Upper Zone 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 this foreign estimate will be able to be reported as a mineral resource in accordance with the JORC Code.



## **Resampling and Infill Drilling Program**

In July 2019 a campaign was undertaken to resample North T core from historical work conducted by previous operators in the 1980's. The purpose of this campaign was to identify and assay core which had not previously been assayed for rare earths in addition to undertaking assays for the complete suite of rare

earths. Furthermore, gaps in the sampling of historic core were identified. These are currently being investigated and sampled wherever bastnaesite mineralisation was encountered. The resampling program will also generate new density data to be used for future resource upgrades.

Following the resampling program, an infill diamond drilling program of 19 holes and approximately 770m has also been undertaken. Assaying of the drill core is currently underway and will be released to the market this quarter.

Resampling assay results are currently being analysed and together with results from the infill drilling program will form the basis for a revised JORC resource for the North T Zone and initial focus of its start-up operation.



Figure 1: Infill Diamond Drilling North T Zone

#### **Process Testwork**

During the quarter, Cheetah commenced three process testwork programs on existing bulk sample material from the North T Zone. A total of more than 60 tons of ore was successfully loaded on barges and shipped to Yellowknife with samples then being sent to the various laboratories for testwork. The Company is very pleased with this achievement as it is essentially mirroring a potential logistics chain of the Company's start-up operations.



Figure 2: Ore being loaded onto Barge at Nechalacho Barge Landing prior to transport to Yellowknife for dispatch to the various laboratories for metallurgical testwork

Tomra Systems ASA have been engaged to undertake a program to produce a high grade rare earth concentrate utilising their XRT sorting technology. Vital intends to use ore sorting technology to initially concentrate its bastnaesite bearing North T and Tardiff zone into a high grade concentrate prior to shipping for hydrometallurgical treatment.



Figure 3: A sample of North T mineralised ore. Rare earths are contained within the red bastnaesite minerals and white material is quartz waste rock. Vital intends to initially separate the bastnaesite materials via conventional ore sorting technology.

The test work undertaken by Tomra will seek to determine optimum crushing sizes in addition to the amenability of XRT sorting technology to separate the red rare earth minerals from the white quartz (see fig 3 above)

In addition to sorting test work, Cheetah has also engaged Saskatchewan Research Council (SRC) and SGS Canada Inc (SGS) to undertake hydrometallurgical testing for the extraction of REE from beneficiated North-T samples. This test work will include acid bake and hydrochloric acid/caustic conversion testing to produce a mixed rare earth carbonate/oxalate product. Both processes are readily used to treat bastnaesite ores in other REO projects

The Company expects to announce initial process test work results in November 2019 with a proposed process flow sheet to be announced in December 2019. This is anticipated to be the only metallurgical test work required prior to the Company releasing its start-up study to becoming the next REO producer.

## Wigu Hill Project

Cheetah has signed a project development and option agreement with Montero Mining & Exploration Ltd ("Montero") a TSXV listed entity, to acquire all of the Intellectual Property ("IP") rights of Wigu Hill (BVI) Ltd, a subsidiary company that owns these rights to develop the Wigu Hill Project located near Kisaki in Tanzania. Cheetah will purchase the rare earths IP rights held by Montero for C\$100,000 and fund a C\$500,000 work program within 6 months following the issuance of a mining licence.

Cheetah will also have an option to acquire Montero's remaining interests in Wigu Hill (BVI) Limited for a total consideration of C\$1,100,000 ("Montero Agreement"). Application for a Mining and Prospecting Licence over the area of the previous Retention Licence has been made by a local Tanzanian company, owned by Tanzanians.

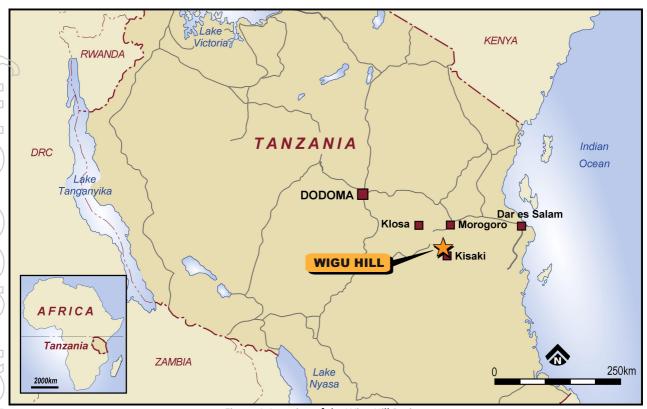


Figure 4: Location of the Wigu Hill Project

The Wigu Hill rare earth project covers an area of approximately 142km<sup>2</sup> and is located approximately 200 km south-west of Dar es Salam and 68 km of Morogoro, the nearest major regional centre (i.e. straight-line distances).

The project is a light rare earth element deposit and consists of a large carbonite complex with bastnaesite mineralisation.

Montero released an initial 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. For further information, investors should refer to the Company announcement dated 25 June 2019 titled "Vital to Transform into Rare Earth Oxide Developer".

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 this foreign estimate will be able to be reported as a mineral resource in accordance with the JORC Code.

Cheetah will undertake bulk sampling and metallurgical testwork programs progress feasibility study work to develop a start-up operation in addition to completing drill programs on identified drill targets to increase the Inferred Resource.



Figure 5: Large Hexagonal Bastnaesite Rare Earth Crystals in the Twiga Zone

## Nahouri Gold Project, Burkina Faso

Vital Metals has suspended all exploration activity in Burkina Faso. The Company notes ongoing security concerns in the country and the State of Emergency declared by the Burkina Faso government for several northern provinces, which is in place until January 2020.

Continued activities during the quarter included the Company taking steps to minimise expenditure in Burkina Faso, including the terminating rental on the exploration camp and associated infrastructure, consolidating exploration assets and samples back to the Company's admin office in Ouagadougou and reducing exploration staff headcount. These activities are ongoing.

The Company's Burkina Faso tenements remain in good standing. The Company continues to receive approaches from mining companies in relation to Burkina Faso tenements and intends to progress those approaches while the Company monitors the security environment in Burkina Faso.

Vital will provide shareholders with an update by way of ASX announcement should the situation in Burkina Faso improve and a decision to resume exploration be taken.

## Aue Cobalt Project, Germany

The Aue Project 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.

During the September quarter there was no exploration activities on the Aue project.

## **CORPORATE**

## **Completion of the Acquisition of Cheetah Resources and Management Changes**

As announced June 25, 2019 entered into a binding term sheet to acquire (the "Acquisition") Cheetah Resources Pty Ltd ("Cheetah"), a private Australian registered company focused on identifying, acquiring and bringing to production rare earths projects.

During the quarter, the Company successfully completed due diligence on Cheetah and on 21 October 2019 completion of the Acquisition occurred.

Upon completion of the Acquisition, Mr Geoff Atkins and Mr Evan Cranston were appointed to the Board of the Company as Managing Director and Non-Executive Director respectively.

In conjunction with the Board appointments and as planned, Executive Director Mr Phillip Coulson stepped into a Non-Executive Director role with the company. Peter Cordin also resigned as a Director of the Company during the quarter.

## **Increase of Loan Facility to Cheetah**

During the quarter and prior to the completion of the Acquisition, Vital and Cheetah agreed to increase the loan facility in place from \$A3,000,000 to \$4,500,000 on the same terms and conditions.

Approximately \$500,000 of the funds were utilised to accelerate development of the Thor Lake project including:

- conversion of the existing 43-101 resource to JORC 2012 standards
- additional exploration drilling on the North T Zone
- bench scale test work on ore sorting and leaching for the Thor Lake project;

and the balance was utilised to fund Cheetah's payment obligations to acquire the Thor Lake project arising under the Avalon Agreement and working capital.

#### Cash on hand

As at September 30, 2019 the Company held \$8.68 million in cash and cash equivalents.

**ENDS** 

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#### **ABOUT VITAL METALS**

Vital Metals Limited (ASX:VML) is an explorer and developer focusing 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**

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 NI 43-101 compliant Indicated Resource of 47.21Mt grading at 1.52% REO and Inferred Resource of 102Mt grading at 1.38% for a combined Mineral Resource estimate of 149.30Mt grading at 1.42% REO.

#### Wigu Hill Project

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.

#### 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.

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## **Vital Metals Limited**

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## **Board & Management**

Francis Harper Chairman

Zane Lewis
Executive Director

**Phillip Coulson** Non-Executive Director Geoff Atkins

Managing Director

**Evan Cranston** 

Non-Executive Director

**Sebastian Andre** Company Secretary

Appendix A - Schedule of Tenements as at 30 September 2019

Location	Tenement	Status	Interest at beginning of quarter	Interest acquired or disposed	Interest at end of quarter
Burkina Faso	Nahouri	100%	100%	0%	100%
	Kampala	100%	100%	0%	100%
	Zeko	100%	100%	0%	100%
Germany	Aue	100%	100%	0%	100%
Canada	Nechalacho	100%	-	100%	100%

## **ASX Listing Rule 5.13 Information**

The Company has previously disclosed the foreign estimates in compliance with ASX Listing Rule 5.12 in the announcement dated 25 June 2019 titled "Vital to Transform into Rare Earth Oxide Developer" ("Announcement"). The Company is not in possession of any new information or data relating the foreign estimates that materially impacts on the reliability of the estimates or the Company's ability to verify the foreign estimates in accordance with Appendix 5A (JORC Code). The Company confirms that the supporting information provided in the Announcement continues to apply and has not materially changed.