



**QUARTERLY REPORT  
FOR THE PERIOD ENDED 30 JUNE 2019**

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

**CORPORATE**

**Acquisition of Cheetah Resources**

As announced June 25, 2019 has 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.

The Company continues to progress with its due diligence process and has substantively completed the technical due diligence on the Thor Lake and Wigu Hill projects.

Due to the volume of material related to the “early works” licensing and permitting already in place for the Thor Lake Project, the Company has agreed with Cheetah to extend the period of due diligence to August 14, 2019.

**Overview of Cheetah**

Cheetah was the brainchild of Geoff Atkins (former Corporate Planning Manager at Lynas Corporation) who after 5 years of reviewing and assessing Rare Earth Oxide (REO) projects globally with his ex-colleagues at Lynas, developed a project criteria and strategy to develop rare earth projects. Cheetah has subsequently assembled a pipeline of projects with significant REO resources and potential.

**Rationale for Acquisition**

Global rare earth demand has become inextricably linked to global and regional agreements, policies, regulations and initiatives. Rare earths are a cornerstone of global government macro-initiatives including electric mobility, clean power generation and the reduction of greenhouse gas emissions.

In order to meet increased demand, new annual development of rare earth mines is required from 2020.

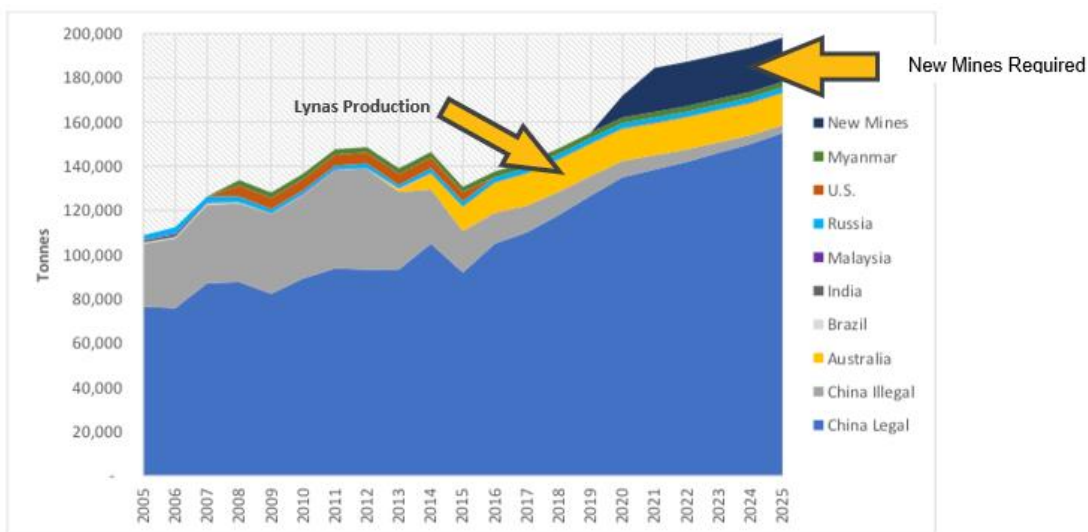


Figure 1: Forecast Rare Earth Production. Source: Adamas Intelligence (December 2016)

According to Adamas Intelligence, existing developers of rare earth projects appear unable to meet the future demands for rare earth materials. Restarting rare earth projects based on existing strategies will take a minimum of three to five years to reach development, therefore a new strategy is required.

Cheetah's philosophy is to simplify the development process by mining and producing a high purity mixed REO product, thereby avoiding the very high capex requirements associated with rare earth separation facilities, whilst shortening the time to production. Cheetah's plans are to target customers who will be existing, or prospective, rare earth companies in need of feedstock, without deleterious waste products.

### **Thor Lake Rare Earth Project**

Cheetah has entered into a binding terms sheet with Avalon Advance Materials Inc ("**Avalon**") a TSX listed entity, to acquire near surface resources of the Thor Lake Rare Earth Project at the Nechalacho property on Thor Lake, near Yellowknife, NWT, Canada for total consideration of C\$5,000,000 (~A\$5.4million) ("**Avalon Agreement**").

Under the Avalon Agreement, Cheetah acquires the mineral rights to all mineralisation between surface and a depth of 150m above sea level (the "Upper Zone"). This includes near surface, high grade resources in the T-Zones (including North T and South T) and Upper Lake Zones (includes North Tardiff and South Tardiff) as defined in Avalon's [2013 Feasibility Study](#)<sup>1</sup>.

The Thor Lake Rare Earth Project is located at Thor Lake in the Mackenzie Mining District of the Northwest Territories, approximately 100km southeast of the city of Yellowknife. The district is blessed with substantial infrastructure including roads and railways, direct barge access and anticipated, low cost hydro power in the near future.

The Thor Lake 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. 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 Thor Lake 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.

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<sup>1</sup> Refer to news release by Avalon dated April 17, 2013 [http://avalonadvancedmaterials.com/resources/news/2013/NR\\_13\\_03.pdf](http://avalonadvancedmaterials.com/resources/news/2013/NR_13_03.pdf)

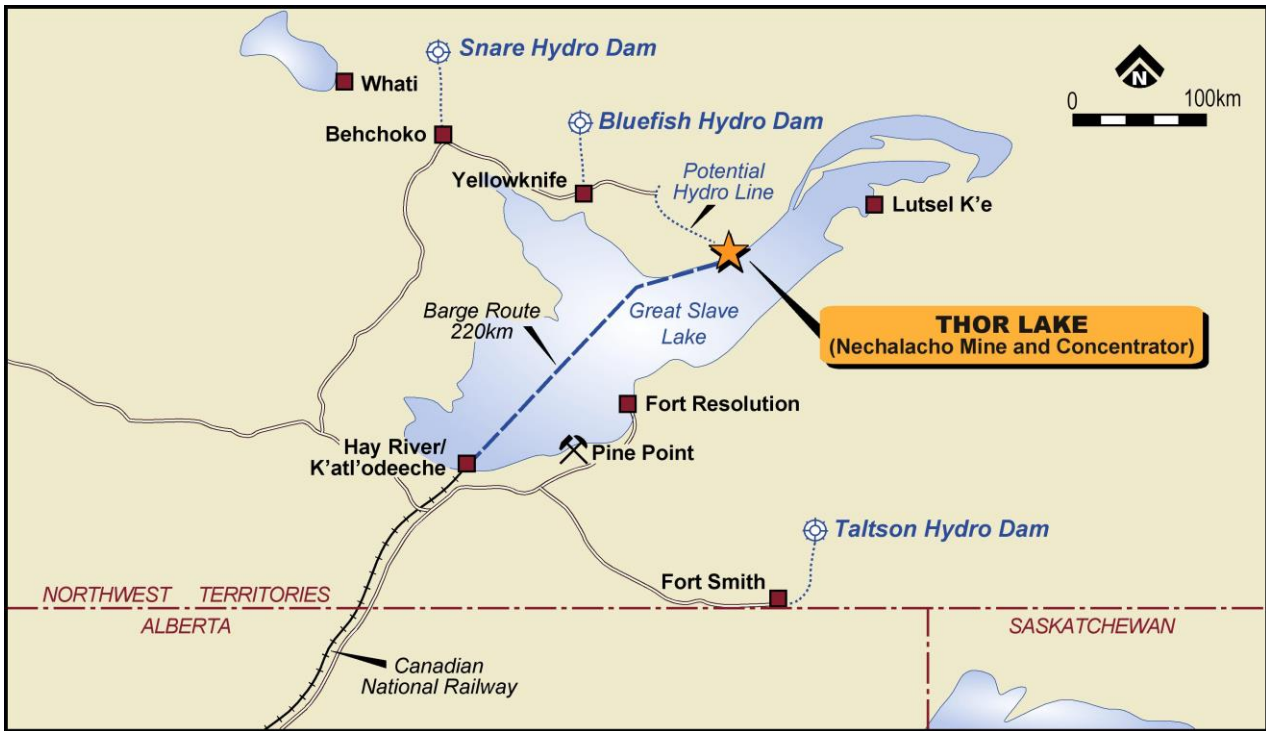


Figure 2: Location of the Thor Lake Project

Avalon will retain ownership of the resources in the Basal Zone that was the subject of its 2013 Feasibility Study in which Avalon spent over CAD\$100m defining and obtaining permitting.

Mineralisation in the North T Zone contains a number of different mineralised regions containing high grade rare earths, beryllium, niobium and lithium. Uniquely, amongst rare earth deposits, the North T Zone contains separate light and heavy rare earth regions. The Company's plans are to target this zone as the starting point of possible future operations.

The Upper Lake Zone also hosts underexplored, high-grade mineralisation at surface.

**Potential Near-term Production**

The Thor Lake Project has potential for a start-up operation exploiting high-grade, easily accessible near surface mineralisation initially from the North T-Zone rather than focusing on the larger Upper Lake Zone. The Company plans to move quickly and assess options to utilise a simple, mechanical sorting to produce a high-grade concentrate without the use of chemicals or water.

The focus on producing a concentrate for sale to existing refiners removes the massive capital costs and multi-year construction times typically associated with building a REO refinery and is in line with the Company's objectives to establish low-cost operations with a short development time.

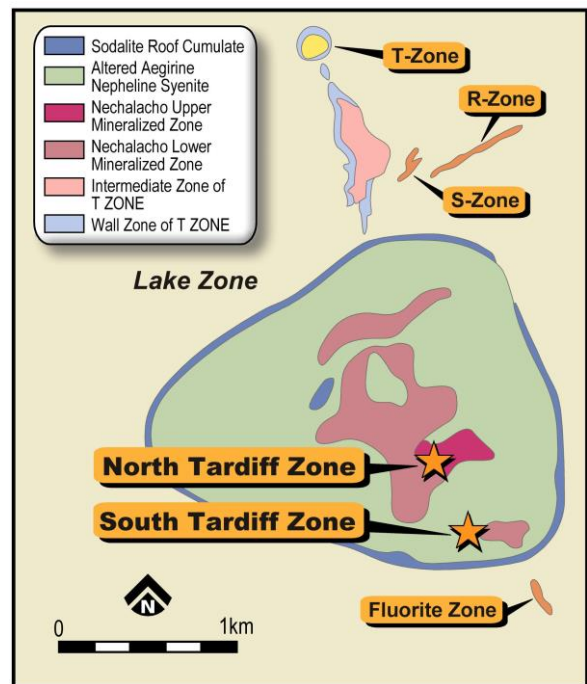


Figure 3: Zones within Thor Lake

## Thor Lake Resource

The following Mineral Resource Estimates for the Thor Lake Rare Earth Project in Table 1 and 2 below are considered foreign estimates and are not reported in accordance with the JORC Code. A competent person under JORC has not yet done the necessary work to classify these foreign estimates as mineral resource estimates in accordance with the JORC Code. For further information, investors should refer to the Company announcement dated 25 June 2019 titled "Vital to Transform into Rare Earth Oxide Developer".

Subject to the above paragraph, the following resources have been identified at the Thor Lake Project:

### Thor Lake Upper Zone

Category	Tonnes (millions)	TREO (%)	HREO (%)	HREO/ TREO	ZrO2 (%)	NB2O5 (%)	Ta2O5 (%)
Indicated	47.21	1.52	0.15	10.11	2.12	0.291	0.0195
Inferred	102.09	1.38	0.13	10.01	2.38	0.334	0.0204
Indicated and Inferred	149.3	1.42	0.14	10.07	2.3	0.321	0.02

*Table 1: Rare Earth Resources of the Upper Zone, Lake Zone Deposit, Nechalacho. Mineral Resource Estimation as per Avalon News Release issued and dated August 15, 2013, prepared in accordance with NI-43-101 with Dr. William Mercer, VP-Exploration, as the Qualified Person. The cutoff grade for this resource estimate was based on a net metal value of the contained rare earth elements at US\$345/tonne, reflecting rare earth pricing at the time and including metallurgical recovery estimates.*

The 2013 resource estimate for the Upper Zone was prepared under 2013 rare earth prices for the purposes of a feasibility study on the whole of the Nechalacho Property focused on development of the underlying Basal Zone of the Nechalacho deposit. In addition, the metallurgical recoveries utilized for the cutoff grade calculation were based on testwork completed only on Basal Zone rock, which has different metallurgical characteristics to the Upper Zone mineralization because of more complex mineralogy. A revised estimate of the resource between surface and 150m elevation is in preparation that will also include cutoff grades reflecting present rare earth prices and revised metallurgical recoveries.

### North T Zone

Cutoff Grade	Cutting Element	Zone	REE						
			Mineralogy	Tonnes	Ce2O3 %	Nd2O3 %	Y2O3 %	NB2O5 %	BeO %
Indicated									
0.2 %BeO		C	Xenotime	213,037	0.14	0.03	0.13	0.95	0.85
0.2 %BeO		D	Xenotime	159,754	0.18	0.02	0.22	0.29	0.86
0.04 %Y2O3		Y	Xenotime	593,815	0.09	0.01	0.15	0.59	0.08
0.2 %Ce2O3		F	Bastnaesite	43,877	3.14	1.55	0.06	0.01	0.16
Inferred									
0.2 %BeO		D	Xenotime	2,906	0.19	0	0.37	0.41	0.7
0.2 %Ce2O3		F	Bastnaesite	1,338	2.41	0.56	0.06	0.03	0.16
Total Indicated and Inferred									
0.2 %BeO		C	Xenotime	213,037	0.14	0.03	0.13	0.95	0.85
0.2 %BeO		D	Xenotime	162,660	0.18	0.02	0.22	0.29	0.86
0.04 %Y2O3		Y	Xenotime	593,815	0.09	0.01	0.15	0.59	0.08
0.2 %Ce2O3		F	Bastnaesite	45,512	3.12	1.52	0.06	0.01	0.16

*Table 2: Rare Earth, Yttrium and Beryllium Resources of the North T Zone, Thor Lake. Mineral Resource Estimation as per Preliminary Economic Assessment issued and dated May, 2007 as Canadian NI 43-101 Technical Report titled "PRELIMINARY ECONOMIC ASSESSMENT ON THE THOR LAKE RARE METALS PROJECT, NWT" authored by Wardrop Engineering Inc. (now Tetra Tech Consulting and Engineering). These resources are based on a review of historical work conducted by previous operators in the 1980's.*

Investors should note that the Mineral Resource estimate for the Thor Lake Project North T 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. For further information, investors should refer to the Company announcement dated 25 June 2019 titled "Vital to Transform into Rare Earth Oxide Developer".



*Figure 4: Red Rare Earth Crystals within the North T Deposit*

### **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.

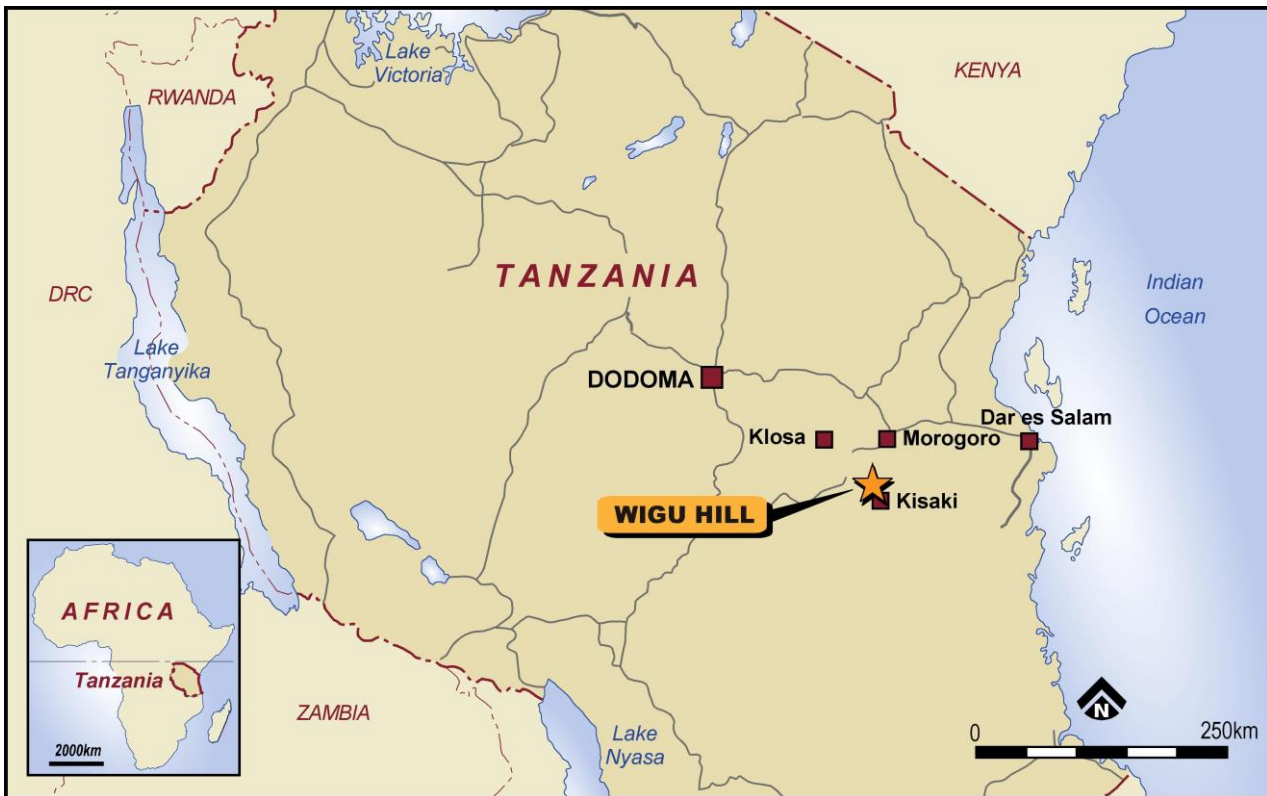


Figure 5: Location of the Wigu Hill Project

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, working with Montero, will undertake initial exploration work to increase the Inferred Resource and target further high-grade lodestones within the resource and feasibility study work to develop a start-up operation.

### Wigu Hill Resource

*The following Mineral Resource Estimates for the Wigu Hill Project in Table 3 below are considered foreign estimates and are not reported in accordance with the JORC Code. A competent person under JORC has not yet completed the necessary work to classify these foreign estimates as mineral resource estimates in accordance with the JORC Code.*

Zone	Tonnes (millions)	LREO5 (%)	La2O3 (%)	CeO2 (%)	Pr6O11 (%)	Nd2O3 (%)	Sm2O3 (%)
Twiga – NE	1.6	2.6	0.98	1.26	0.1	0.23	0.01
Twiga – SW	0.5	3.6	1.33	1.71	0.13	0.3	0.02
Tembo – NW	0.9	2.2	0.78	1.09	0.09	0.23	0.02
Tembo - SE	0.2	2.2	0.69	1.1	0.1	0.27	0.01
Total Inferred Resource	3.3	2.6	0.96	1.27	0.1	0.24	0.02

Table 3: Wigu Hill Inferred Mineral Resource Statement (Cut-off of 1% LREO5)

Notes:

1. The effective date for this Inferred Mineral Resource Statement is 25 August 2011 and reported on SEDAR (contained in a Canadian National Instrument NI 43-101 Technical Report by AMEC Earth and Environmental UK Ltd.).
2. A selective mining unit (SMU) size of 3m by 3m by 3m was assumed when creating the bloc model.
3. Reported grades are based on consideration of the grades of mineralised material and weakly to non-mineralised wallrock material estimated to fall within each SMU
4. The reported Mineral Resource is based on a grade cut-off of 1.0% LREO5 (sum of estimated grades of La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub> and Sm<sub>2</sub>O<sub>3</sub>).
5. The Mineral Resources for the Twiga and Tembo deposits have been constrained by an optimised pit shell defined by the following assumptions, slope angles of 50°; a mining dilution of 0% (already incorporated in the SMUs); a mining cost of USD2.85/t; process operating costs of USD12.0/t; G&A costs of USD3.0/t of resource, with a 90% recovery of REOs to a 45% LREO5 bastnaesite concentrate; and a concentrate price of USD10/kg



Figure 7: Large Hexagonal Bastnaesite Rare Earth Crystals in the Twiga Zone

### Proposed Board and Management Changes

Following the completion of the Acquisition, Vital intends to appoint to the board Mr Geoff Atkins as Managing Director and Mr Evan Cranston as a Non-Executive Director.

## **Geoff Atkins**

Mr Atkins is a Civil Engineer with over 20 years of project and corporate development experience across commercial, industrial, mining and infrastructure sectors with responsibility for driving projects from concept, through feasibility and development to operational assets.

Recent roles include Corporate Planning Manager at Lynas Corporation where he oversaw development and implementation of the corporate strategic planning process. This included the management and governance of the following capital works and business development programs:

- Mt Weld Rare Earth Mine and Concentration Plant
- Lynas Advanced Materials Plant (LAMP): Kuantan, Malaysia
- Kangankunde Rare Earth Project: Malawi
- Crown Polymetallic Deposit

He has also held the position of Group Executive – Operations at Rutila Resources. In this role, he managed corporate and project development activities including the following strategic and execution plans, business cases, feasibility assessments, project management and governance activities:

- \$4B Balla Balla Infrastructure Project: 100Mtpa open access, greenfield port and rail development
- \$1B Balla Balla Titano-Magnetite Project

## **Evan Cranston**

Evan Cranston is an experienced mining executive with a background in corporate and mining law. He is the principal of corporate advisory and administration firm Konkera Corporate and has extensive experience in the areas of equity capital markets, corporate finance, structuring, asset acquisition, corporate governance and external stakeholder relations. He holds both a Bachelor of Commerce and Bachelor of Laws from the University of Western Australia.

### **Key Terms of the Acquisition:**

#### Consideration:

Vital has agreed to acquire 100% of the issued capital of Cheetah for the consideration outlined below. The consideration is subject to shareholder approval and is comprised of the following:

- issue of 400,000,000 fully paid ordinary shares (“Ordinary Shares”) on completion;
- issue performance shares comprised of the following:
  - (i) 400,000,000 Tranche 1 Performance Shares which will convert into Ordinary Shares in the Company on entering into binding offtake for a minimum of 1,000 kgs of contained REO in respect of the Thor Lake Project or Wigu Hill Project within 2 years of the Acquisition completion date; and
  - (ii) 400,000,000 Tranche 2 Performance Shares which will convert into Ordinary Shares in the Company on commencement of mining operations at the Thor Lake Project or Wigu Hill Project.

(together, the “Performance Shares”)

Vital will separately seek confirmation from ASX with respect to the Performance Share terms.

#### Other Terms:

Pursuant to the agreement the Company will also do the following:

- appoint Mr Geoff Atkins as Managing Director;
- appoint Mr Evan Cranston as Non-Executive Director; and



- procure resignation of one current VML director.

Conditions Precedent:

Completion of the Acquisition is conditional on, among other things:

- Vital completing its due diligence investigations on Cheetah, the Thor Lake Project and the Wigu Hill Project to their satisfaction within 30 days;
- Cheetah completing its due diligence on Vital within 30 days;
- Cheetah maintaining its rights under the agreements with Avalon and Montero;
- Vital obtaining shareholder approval for the issue of the consideration shares and performance shares; and
- all regulatory and relevant third-party consents being obtained.

Loan Facility

Vital has also agreed to provide an unsecured loan facility to the Cheetah of up to A\$3,000,000 at an annual interest rate of 12%, for the purpose of funding Cheetah’s obligations arising under the Avalon Agreement, the Montero Agreement, and for other working capital purposes. In the event shareholder approval for the Acquisition is not obtained or due diligence is not satisfactorily completed, the loan is due and payable on the date that is 12 months after the shareholder meeting.

Vital will also enter into consultancy agreements with Mr Atkins and Mr Cranston as follows, subject to completion of the acquisition of Cheetah:

**Key Terms of Mr Atkins consultancy agreement**

- Term: Three years.
- Consultancy Fee: \$270,000 per annum
- Incentive Options: 30M options with exercise price of 2c, expiring 5 years from date of issue.  
30M options with exercise price of 2.5c, expiring 5 years from date of issue.  
30M options with exercise price of 3c, expiring 5 years from date of issue.
- Notice Period: 3 months by Vital or Mr Atkins

**Key Terms of Mr Cranston consultancy agreement**

- Term: Three years.
- Consultancy Fee: \$60,000 per annum
- Incentive Options: 60M options with exercise price of 2c, expiring 5 years from date of issue.  
60M options with exercise price of 2.5c, expiring 5 years from date of issue.  
60M options with exercise price of 3c, expiring 5 years from date of issue.
- Notice Period: 3 months by Vital or Mr Cranston

### **Unmarketable Parcel Share Sale Facility**

The sale of VML shares under the Company's share sale facility (**Facility**), as announced on 12 March 2019, was completed at a sale price of \$0.008 per share. A total of 1,304 shareholders collectively holding 35,285,288 fully paid ordinary VML shares participated in the Facility. As a result of the successful conclusion of the Facility, the Company's shareholder base has been reduced by 1,044 individual shareholders. This reduction will in turn reduce the Company's administrative costs, including printing and mailing costs and share registry expenses.

### **Cash on hand**

As at June 30, 2019 the Company held \$12,717,000 in cash and cash equivalents.

## **EXPLORATION**

### **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.

During the June quarter, the Company has taken 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.

The Company's Burkina Faso tenements remain in good standing. The Company has received 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 June quarter there was no exploration activities on the project.

## **ENDS**

### **Contact:**

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Vital Metals Ltd

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## ABOUT VITAL METALS

Vital Metals Limited (ASX:VML) is an explorer and developer holding a portfolio of gold, technology metals and base metals. Our projects are located across a range of jurisdictions in West Africa and Germany.

### 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.

### Vital Metals Limited

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### Board & Management

Francis Harper  
**Chairman**

Phillip Coulson  
**Executive Director**

Zane Lewis  
**Executive Director**

Peter Cordin  
**Non-Executive Director**

Sebastian Andre  
**Company Secretary**

### Capital Structure

1.7 billion shares

163 million unlisted options

## Appendix A - Schedule of Tenements as at 31 March 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%

### 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.