

## VITAL TO TRANSFORM INTO RARE EARTH OXIDE DEVELOPER

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### Highlights

- Vital to acquire Cheetah Resources, an unlisted REE business currently run by ex Lynas management with substantial rare earth experience
- Cheetah's business plan is to supply a high purity mixed rare earth feedstock to established third-party rare-earth oxide (REO) separation facilities and refiners, rather than end users. The plan has been designed to result in lower Capex and shortened lead times to production to capture the expected increase in demand for REOs
- Cheetah has agreements in place to acquire two significant REO projects
- Thor Lake Rare Earth Project (Canada) (acquire 100%, surface to 150m above sea level rights)
  - Mining leases, environmental and water approvals granted
  - Environmental permit and water licence in progress
  - NI 43-101 defined Indicated and Inferred Resource
  - The Nechalacho Property, of which the Thor Lake Project is a part has been the subject of over \$100M investment by Avalon Advanced Materials
  - Exploration potential to increase resource however initial focus will be on its high grade core
- Wigu Hill Project in (Tanzania) (purchase of rare earths Intellectual Property with project development and option agreement to acquire up to 74% by funding to a mining stage)
  - NI 43-101 defined resource with significant upside potential from identified mineralised zones
  - Mining and Prospecting Licence application submitted with local company
- Transaction fully funded by Vital (cash on hand of \$14.6 million as at March 31 2019)
- Highly experienced board and management with Geoff Atkins (former Corporate Planning Manager, Lynas Corporation) and Evan Cranston (Chairman of New Century Resources), are joining the board
- Cheetah also retains the services of a number of ex Lynas management responsible for the development of its Mt Weld project and the successful operation of the LAMP in Malaysia
- Global demand for rare earths is growing on the back of demand for EV and clean power generation
- Acquisition subject to due diligence, shareholder and regulatory approvals

Vital Metals Limited (ASX: **VML**) ("**Vital**" or the "**Company**") is pleased to advise it 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.

Cheetah was the brainchild of Geoff Atkins (former Corporate Planning Manager at Lynas Corporation) who after 5 years of reviewing and assessing 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 pipe line 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.

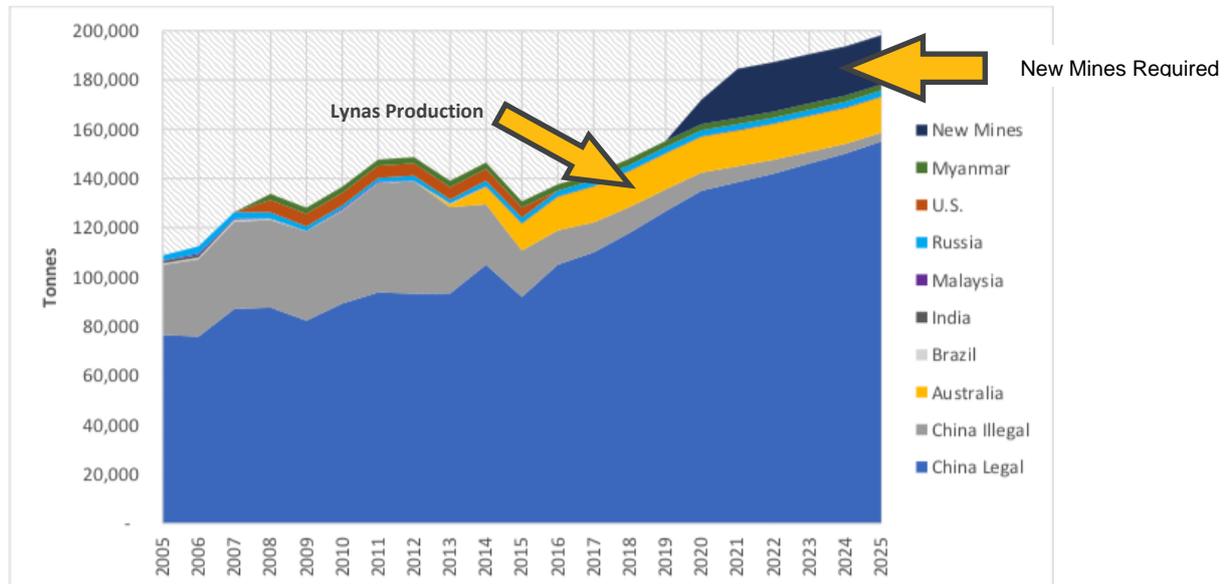


Figure 1: Forecast Rare Earth Production. Source: Adamas Intelligence (December 2016)

According to Adamas, 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.

### Commenting on the acquisition, Vital Metals Executive Director Zane Lewis said:

*"This acquisition is a game-changer for Vital and forms a major part of our goal of delivering significant value to shareholders."*

*"Our development strategy is not to compete with existing rare earth refiners but rather keep capital and operating costs as low as possible by feeding their facilities, thereby helping them expand with the growing market for rare earths."*

*"Our team will be significantly enhanced by the Cheetah team's wealth of experience in the locating and bringing into production of rare earth projects. In addition to Geoff Atkins, Cheetah's team includes ex-managers from rare earth miner Lynas Corporation who have an in-depth knowledge of rare earth ore bodies, markets and project development requirements. In essence, our vision is to become the next Lynas."*

*"This is an exciting opportunity for Vital to be exposed to rare earths at a time when demand is outstripping supply on the back of the electric vehicle market and the need for clean power generation. I look forward to updating shareholders as our acquisition of Cheetah Resources progresses."*

## 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.

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.

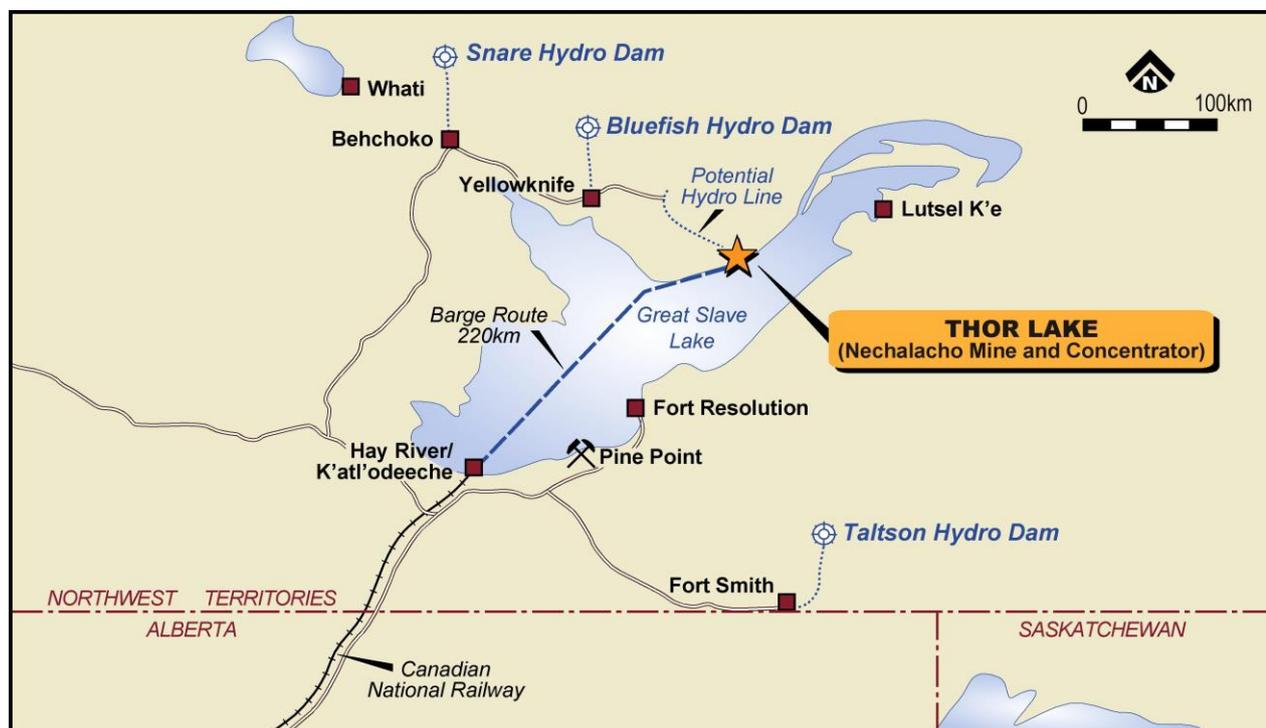


Figure 2: Location of the Thor Lake Project

<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)

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.

**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.*

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

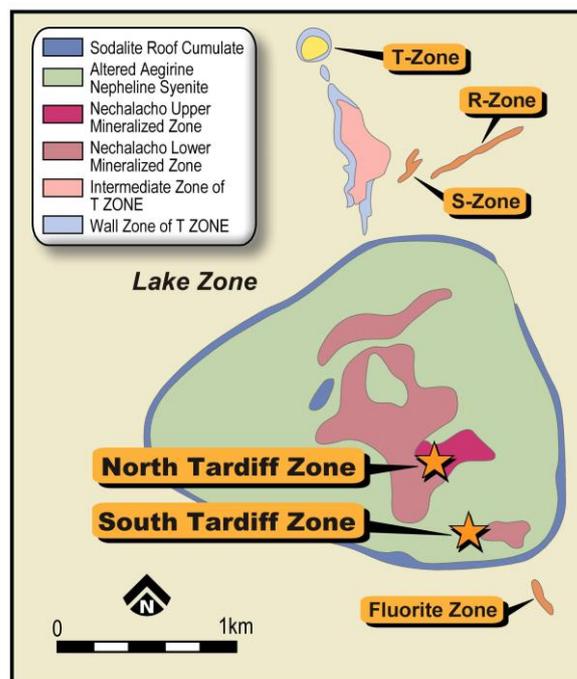


Figure 3: Zones within Thor Lake

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	REE		Tonnes	Ce2O3 %	Nd2O3 %	Y2O3 %	NB2O5 %	BeO %	
		Zone	Mineralogy							
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.

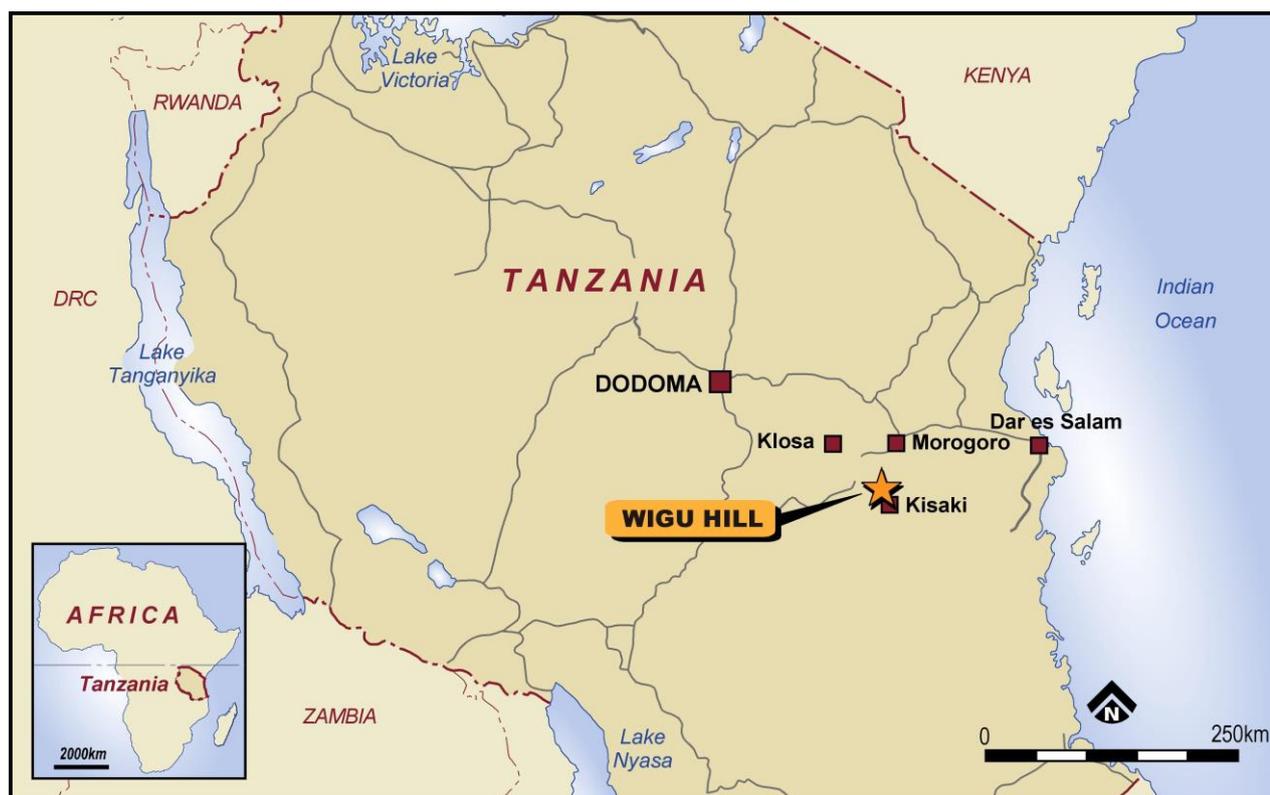


Figure 4: Red Rare Earth Crystals within the North T Deposit

## 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.

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 lodes 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 (%)	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> (%)	Sm <sub>2</sub> O <sub>3</sub> (%)
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

**ENDS**

**Contact:**

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Executive Director

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Email: [vital@vitalmetals.com.au](mailto:vital@vitalmetals.com.au)

**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

## **Listing Rule 5.12 Foreign Resource Estimate information**

### Qualified/Competent Persons Statement

#### Thor Lake Rare Earth Project

Information relating to the Mineral Resource Estimate for the Thor Lake Rare Earth Project is based on, and fairly represents, information and supporting documentation prepared by Avalon Advanced Material and the "Qualified Person" under NI 43-101 is Dr. William Mercer. Dr Mercer has reviewed and approved the technical content of this announcement and confirms that the information is an accurate representation of the available data and studies, including the Mineral Resource Estimate for the Thor Lake Rare Earth Project. Dr. Mercer is the Vice President-Exploration for Avalon, with a PhD in Geology from McMaster University, Canada and an Honours Geology degree from the University of Edinburgh, Scotland. He is a registered member (ID L2095) of the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG) of the NWT, Canada. He has 44 years of experience in the mineral exploration throughout the world. He is past president of the Prospectors and Developers Association of Canada and of the Canadian Federation of Earth Sciences. Dr. Mercer is a "Qualified Person" as defined in National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators (NI 43-101) and for the purposes of the JORC Code, and has reviewed and approved this announcement. Dr. Mercer has also reviewed and approved the technical and scientific information contained in this announcement relevant to the NI 43-101 Thor Lake/Nechalacho mineral resource estimates.

#### Wigu Hill Rare Earth Project

Information and statements relating to the Mineral Resource Estimate are reported in a NI43-101 Technical Report on the Wigu Hill Project which is based on, and fairly represents, information and supporting documentation prepared by Ted Eggleston, PGeo, SME Registered Member and Mr. Edmund Sides, EurGeol, PGeo of AMEC Earth and Environmental UK Ltd. The data in this press release has been reviewed by Mr. Mike Evans, M.Sc. Pr.Sci.Nat., who is a qualified person for the purpose of Canadian National Instrument NI43-101 and JORC codes and has extensive experience in rare earth metals and is Montero's "Qualified Person". Mr. Evans confirms that the information is an accurate representation of the available data and studies including the Technical Report and Resource estimation obtained from a NI43-101 Compliant Technical Report by AMEC Earth and Environmental UK Ltd (reported on 25 August, 2011)

## **Listing Rule 5.12 Foreign Resource Estimate information**

#### Thor Lake Rare Earth Project

The information in this announcement relating to the Mineral Resource Estimate for Thor Lake Rare Earth Project and Nechalacho Rare Earth Project is reported in accordance with the requirements applying to foreign estimates in the ASX Listing Rules (the "Foreign Estimates") and, as such are not reported in accordance with the 2012 edition of the Joint Ore Reserves Committee's Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code"). As such, the following information is provided in accordance with ASX Listing Rules 5.10 & 5.12:

#### *1. The source and date of the historical estimates (LR 5.12.1)*

The source of the foreign estimate is taken from public documents released by Avalon Advanced Materials in January 22, 2007 and August 15, 2013 ([http://www.avalonadvancedmaterials.com/\\_resources/news/2013/NR\\_13\\_07.pdf](http://www.avalonadvancedmaterials.com/_resources/news/2013/NR_13_07.pdf)). Further information on these releases may be found on SEDAR website ([www.sedar.com](http://www.sedar.com)).

#### *2. Whether the historical estimates use categories of mineralisation other than those defined in JORC Code 2012 and if so, an explanation of the differences (LR 5.12.2)*

Categories described are the same as those defined in JORC Code 2012, whereby resources were classified as Inferred, Indicated or Measured

#### *3. The relevance and materiality of the foreign estimates to the entity (LR 5.12.3)*

VML considers the foreign estimates to be both material and relevant to the Company's Thor Lake Project as it provides and indication of the size and scale of the project.

#### *4. The reliability of the foreign estimates, including reference to any criteria in Table 1 of JORC Code 2012 which are relevant to understanding of the reliability of the foreign estimates (LR 5.12.4)*

It is the opinion of VML that these estimates are reliable and represent the results of work done to very high standards, using high quality sampling, testing and geological and geostatistical modelling. The foreign estimates represent best practice work at the time.

*5. To the extent known, a summary of the work programs on which the foreign estimates are based and a summary of the key assumptions, mining and processing parameters and methods used to prepare foreign estimates (LR 5.12.5)*

The Technical Report includes key assumptions for commodity prices, mining and processing costs, and there has been no material changes in assumptions. The Technical Report in its current form is considered to be a comprehensive compilation of all available data applicable to the estimation of mineral resources. A summary of key assumptions and methods used to prepare the Foreign Estimate include:

- The resource is reported according to CIM Definition Standards (2010)
- The resource estimate is based on an IDW<sup>2</sup> interpolation method for the 15 REOs plus six other metal oxides. A two pass, anisotropic search was used, with a horizontal search ellipse for block grade interpolation. Block density was interpolated in a single pass anisotropic search, with a horizontal search ellipse. In the Upper Zone, for grade interpolation, the first pass used an ellipse with radii of 60 m major, 60 m intermediary, and 30 m minor, requiring a minimum of two drill holes for interpolation. The second pass had a similar search ellipse, but the minimum number of drill holes required was set to one.
- Avalon validated the database, interpreted the geology, populated the block model with rare earth and rare metals oxides, and classified the resource blocks within the Nechalacho deposit of the Thor Lake project. Roscoe Postle Associates Inc reviewed the techniques and methodology used to create and populate the block model and were satisfied that the database is valid and the interpolation and search strategies are appropriate, reasonable, and meet current industry standards.
- Rare earths were valued at an average net price of US\$62.91/kg, ZrO<sub>2</sub> at US\$3.77/kg, Nb<sub>2</sub>O<sub>5</sub> at US\$56/kg, and Ta<sub>2</sub>O<sub>5</sub> at US\$256/kg. Average REO price is net of metallurgical recovery and payable assumptions for contained rare earths, and will vary according to the proportions of individual rare earth elements present. In this case, the proportions of REO as final products were used to calculate the average price.
- The Foreign Estimate and current Technical Report is based on a total of 490 drill holes (104,918.7m). The database included 51 historic drill holes (5,588m) and 439 recent drill holes (99,330.6m). The estimate was based on 33,236 samples assays for rare metals, rare earths, and other elements, from 450 drill holes, 48 historical and 402 recent. Samples from 41 historical drill holes have incomplete or no REE assays results.

*6. Any more recent estimates or data relevant to the reported mineralisation available to the entity (LR 5.12.6)*

No further resource estimates or data relevant to the resource estimation are available.

*7. The evaluation and/or exploration work that needs to be completed to verify the foreign estimates as mineral resources or reserves in accordance with JORC Code 2012 (LR 5.12.7)*

A revision of the historical drilling information will be completed, to further ensure the integrity of the data, followed by another estimation of the resource, with updated classification based on the level of information available. In addition VML intends to conduct further drilling, bulk sampling, geotechnical and hydrological testing.

*8. The proposed timing of any evaluation and/or exploration work that the entity intends to undertake and a comment on how the entity intends to fund that work (LR 5.12.8)*

VML intends to conduct drilling, bulk sampling, geotechnical and hydrological testing and will embark on this work as access permits are granted and intend to complete this work within several months. The work will be funded from existing working capital.

Wigu Hill Rare Earth Project

The information in this announcement relating to the Mineral Resource Estimate for Wigu Hill Rare Earth Project is reported in accordance with the requirements applying to foreign estimates in the ASX Listing Rules (the "Foreign Estimates") and, as such are not reported in accordance with the 2012 edition of the Joint Ore Reserves Committee's Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code"). As such, the following information is provided in accordance with ASX Listing Rules 5.10 & 5.12:

*1. The source and date of the foreign estimates (LR 5.12.1)*

The source of the foreign estimate is taken from public documents released by Montero Mining on 24 October, 2011 (<https://monteromining.com/wp-content/uploads/2019/03/NewRelease24October2011-1.pdf>)

2. *Whether the foreign estimates use categories of mineralisation other than those defined in JORC Code 2012 and if so, an explanation of the differences (LR 5.12.2)*

Categories described are the same as those defined in JORC Code 2012, whereby resources were classified as Inferred, Indicated or Measured.

3. *The relevance and materiality of the foreign estimates to the entity (LR 5.12.3)*

VML considers the historical estimates to be both material and relevant to the Company's Wigu Hill Project as it provides an indication of the size and scale of the project.

4. *The reliability of the foreign estimates, including reference to any criteria in Table 1 of JORC Code 2012 which are relevant to understanding of the reliability of the foreign estimates (LR 5.12.4)*

It is the opinion of VML that these estimates are reliable and represent the results of work done to very high standards, using high quality sampling, testing and geological and geostatistical modelling. The foreign estimates represent best practice work at the time.

5. *To the extent known, a summary of the work programs on which the foreign estimates are based and a summary of the key assumptions, mining and processing parameters and methods used to prepare historical estimates (LR 5.12.5)*

The Technical Report includes key assumptions for commodity prices, mining and processing costs, and there has been no material changes in assumptions. The Technical Report in its current form is considered to be a comprehensive compilation of all available data applicable to the estimation of mineral resources. A summary of key assumptions and methods used to prepare the Foreign Estimate include:

- The resource is reported according to CIM Definition Standards (2010)
- A selective mining unit (SMU) size of 3m by 3m by 3m was assumed when creating the bloc model.
- 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
- 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>).
- 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
- The resource estimate is based on an intrusive vein model.
- Using the results of the trenching and drilling campaigns completed by Montero during 2010-2011, an initial resource estimate was prepared for the Twiga and Tembo deposits. The approach used included the following steps:
  - Digital database analysis
  - Exploratory data analysis
  - Geological interpretation and wireframe modelling
  - Compositing of drill hole and trench results
  - Block model generation
  - Estimation of block grades using an indicator approach, with separate estimation of grades for mineralised dykes and weakly to un-mineralised wallrocks
  - Validation of resource model
  - Classification and reporting of Mineral Resources
- The Foreign Estimate and current Technical Report is based on a total of 21 core holes (2,223.75m) at Wigu Hill between late 2010 and May 2011 and a further 209 grab samples and 86 surface trenches

6. *Any more recent estimates or data relevant to the reported mineralisation available to the entity (LR 5.12.6)*

No further resource estimates or data relevant to the resource estimation are available.

7. *The evaluation and/or exploration work that needs to be completed to verify the foreign estimates as mineral resources or reserves in accordance with JORC Code 2012 (LR 5.12.7)*

A revision of the historical drilling information will be completed, to further ensure the integrity of the data, followed by another estimation of the resource, with updated classification based on the level of information available. In addition VML intends to conduct further drilling, bulk sampling, geotechnical and hydrological testing.

8. *The proposed timing of any evaluation and/or exploration work that the entity intends to undertake and a comment on how the entity intends to fund that work (LR 5.12.8)*

VML intends to conduct drilling, bulk sampling, geotechnical and hydrological testing and will embark on this work as access permits are granted and intend to complete this work over several months. The work will be funded from existing working capital.

Cautionary Note for Australian Investors

The information in this announcement relating to Mineral Resource Estimates for the Thor Lake Rare Earth Project and 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 work that this foreign estimate will be able to be reported as a mineral resource in accordance with the JORC Code.

## Appendix 1: Acquisition of Cheetah Resources

The key terms of the Acquisition of Cheetah include:

1. Vital has agreed to acquire 100% of the issued capital of Cheetah for the following consideration:
  - (a) Issue of 400,000,000 Ordinary Shares on completion;
  - (b) Issue of 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
  - (c) Issue of 400,000,000 Tranche 2 Performance Shares which will convert into ordinary shares in the Company on commencement of commercial mining operations at the Thor Lake Project or Wigu Hill Project.
2. Completion of the Acquisition is conditional on:
  - (a) Vital completing its due diligence investigations on Cheetah, the Thor Lake Project and the Wigu Hill Project to their satisfaction within 30 days;
  - (b) Cheetah completing its due diligence on Vital within 30 days;
  - (c) Cheetah maintaining its rights under the agreements with Avalon and Montero;
  - (d) Vital obtaining shareholder approval for the issue of the consideration shares and performance shares; and
  - (e) All regulatory and relevant third party consents being obtained.
3. 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, the loan is due and payable on the date that is 12 months after the shareholder meeting.

## Appendix 2: Key Terms of the Avalon Agreement

The key terms relating to the Avalon Agreement are:

1. Cheetah (or its nominee) has agreed to acquire the mineral rights between surface and a depth of 150m above sea level of the Thor Lake Project from Avalon for consideration of C\$5,000,000 (A\$5.4million) in total.
2. A deposit of C\$200,000 has been paid, leaving C\$4,800,000 outstanding.
3. Cheetah is presently negotiating a full form agreement for the acquisition with Avalon, which is expected to include staged consideration payments to Avalon per the schedule below:
  - (a) C\$1,500,000 within 7 days of executing a formal sale agreement;
  - (b) C\$500,000 on completion of the formal sale agreement;
  - (c) C\$1,000,000 within 30 days of completion of the formal sale agreement;
  - (d) C\$1,000,000 within 60 days of completion of the formal sale agreement; and
  - (e) C\$800,000 within 90 days of completion of the formal sale agreement.
4. Completion of the Avalon Agreement is conditional on Cheetah completing its due diligence investigations to its sole satisfaction by the date that is 30 days after execution of the formal sale agreement.
5. As part of the acquisition, there are 2 existing royalties in place:
  - (a) The Avalon Royalty which is an existing 3% net smelter return royalty held by a subsidiary of Avalon.  
As part of the Avalon Agreement:
    - (i) the royalty holder has agreed to waive their right to the royalty for the first five (5) years following commencement of commercial production by Cheetah at the Thor Lake Project; and
    - (ii) The royalty holder has also agreed to grant Cheetah an option to pay C\$2,000,000 at any time during the eight (8) year period after the Completion Date to cancel the royalty.
  - (b) The Murphy Royalty which is an existing 2.5% net smelter return royalty held by a third party to Avalon.

As part of the Avalon Agreement, Avalon has also agreed to grant Cheetah an option to purchase the Murphy Royalty for an inflation adjusted fixed amount estimated to currently be C\$1.5 million.

### Appendix 3: Key Terms of the Montero Agreement

The key terms relating to the Montero Agreement are:

1. Cheetah has entered into a project development and option agreement to acquire 100% of the issued capital of Wigu Hill (BVI) Limited, for the following consideration:
  - (a) C\$100,000 to be paid within 14 days of receipt of a granted mining licence in respect of the Wigu Hill Project (“**Deposit**”);
  - (b) Commitment to a work program where Cheetah will spend C\$500,000 progressing scoping study and metallurgical testwork programs within 6 months of the granting of a mining licence;
  - (c) An Option to purchase Wigu Hill (BVI) Limited for C\$1,100,000; and
  - (d) Grant Montero a 1% Net Smelter Royalty on any production from the Licences.
  - (e) Cheetah will retain to buy-out provision for the Net Smelter Royalty of \$10m
2. Cheetah has also agreed to pay US\$7,000 per month towards working capital expenses in Tanzania until completion of the agreement.
3. Completion of the Montero Agreement is conditional on Cheetah:
  - (a) completing its due diligence investigations to its sole satisfaction; and
  - (b) undertaking a feasibility study work program with minimum expenditure of C\$500,000 within six months of payment of the Deposit.