



31 October 2018

## SEPTEMBER 2018 QUARTERLY REPORT

Hastings Technology Metals Limited

ABN 43 122 911 399

ASX Code: Shares - HAS

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### Board

Charles Lew (Executive Chairman)

Jean Claude Steinmetz (Non-Exec  
Director)

Guy Robertson  
(Finance Director  
and Joint Company Secretary)

Neil Hackett (Joint Company  
Secretary)

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- Probable Ore Reserves increased to 7.74 million tonnes at 1.13%TREO including 0.43%Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>, and further successful infill and extension drilling
- These additional Ore Reserves confirm the eight-year mine life as described in the Company's Definitive Feasibility Study (DFS) of November 2017
- Major aeromagnetic target identified at Yangibana
- Exclusive mandate executed with German KfW IPEX-Bank for project finance loan advisory services
- KfW IPEX-Bank has provided indicative terms for senior debt of up to A\$250 million for the project (conditional upon UFK Cover being obtained)
- Environmental Protection Authority (EPA) releases Yangibana rare earths project public environmental review report for consultation
- Execution of agreement for supply of Rotary Kiln and technical assistance with FLSmidth

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## Yangibana Project

### PROBABLE ORE RESERVES

During the quarter a significant increase was achieved in the Probable Ore Reserves at the Yangibana Project in the Gascoyne region of Western Australia. Total Probable Ore Reserves increased to **7.74 million tonnes at 1.13%TREO including 0.43%Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>**, a 50% increase on the figures established in November 2017 as part of the Company's Definitive Feasibility Study (DFS).

Pit optimisation studies have defined the total Probable Ore Reserves for the Yangibana Project as shown in Table 1 including additional deposits from Yangibana West, Yangibana, Auer and Auer North, where further Metallurgical PFS testwork has established that ore from each is compatible with this processing route.

Deposit	Tonnes	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>
Bald Hill	4,385,000	1.03	0.41
Fraser's	780,000	1.58	0.67
Yangibana West	1,397,000	1.23	0.34
Yangibana	838,000	0.99	0.47
Auer	150,000	1.13	0.41
Auer North	192,000	1.22	0.45
<b>TOTAL</b>	<b>7,742,000</b>	<b>1.13</b>	<b>0.43</b>

Table 1 – Yangibana Project - Probable Ore Reserves July 2018

All Probable Ore Reserves are within tenements held 100% by Hastings, with all but those at Auer and Auer North being held under granted Mining Leases. The increased Ore Reserves support an eight-year mining and processing operation at 1.0 million tonnes per annum as described in the November 2017 DFS<sup>1</sup>.

### SUCCESSFUL INFILL AND EXTENSION DRILLING AT AUER AND AUER NORTH

The Company completed its 2018 drilling programme at the Yangibana rare earths project with successful infill and extension drilling at Auer and Auer North.

This drilling campaign extended Auer to the south by a further 300m and confirmed a high quality extension of Auer to the northeast. Auer is now established over 2.35km of strike, open in both directions and open at depth along the majority of this strike length. Assay results indicate strong potential for additional resources.

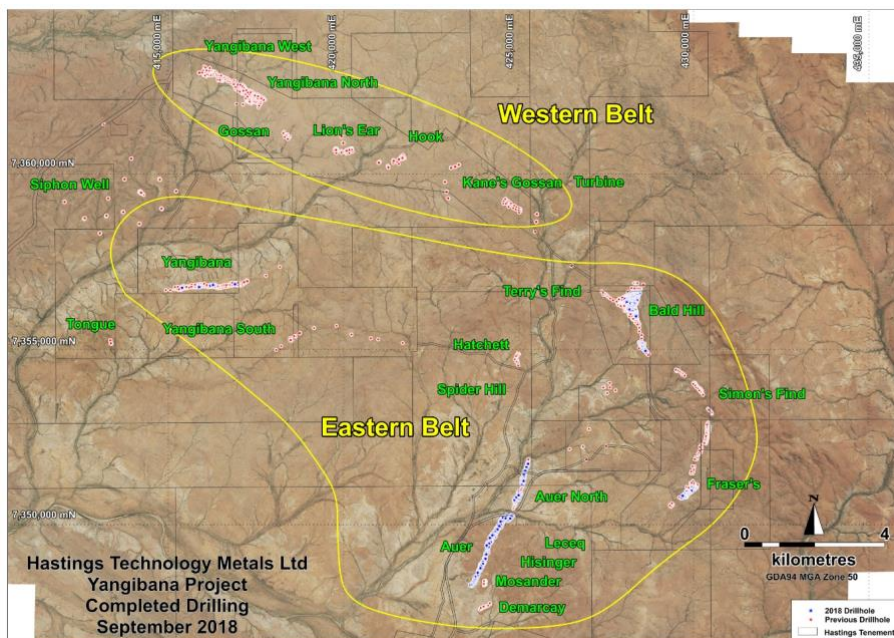


Figure 1 – Yangibana Project – Project Plan showing drilling completed in 2018 in blue

<sup>1</sup> See ASX announcement dated 8 November 2017

The important  $\text{Nd}_2\text{O}_3+\text{Pr}_6\text{O}_{11}:\text{TREO}$  ratio range for this drilling was mostly from 30-38%, in line with the November 2017 JORC Resource average of 35%. This ratio effects the proportion of the Company's target oxides of neodymium and praseodymium to TREO in the planned mixed rare earths carbonate product.

### MAJOR AEROMAGNETIC TARGET IDENTIFIED AT YANGIBANA

A detailed interpretation completed by independent consultants Southern Geoscience Consultants (SGC) on specific targets indicated in its earlier assessment of the Company's 2016 aeromagnetic and radiometric survey data has identified a major aeromagnetic anomaly that warrants drill testing.

The target dimensions are 1km by 800m by 400m. The major anomaly occurs predominantly in the southern corner of E09/2018.

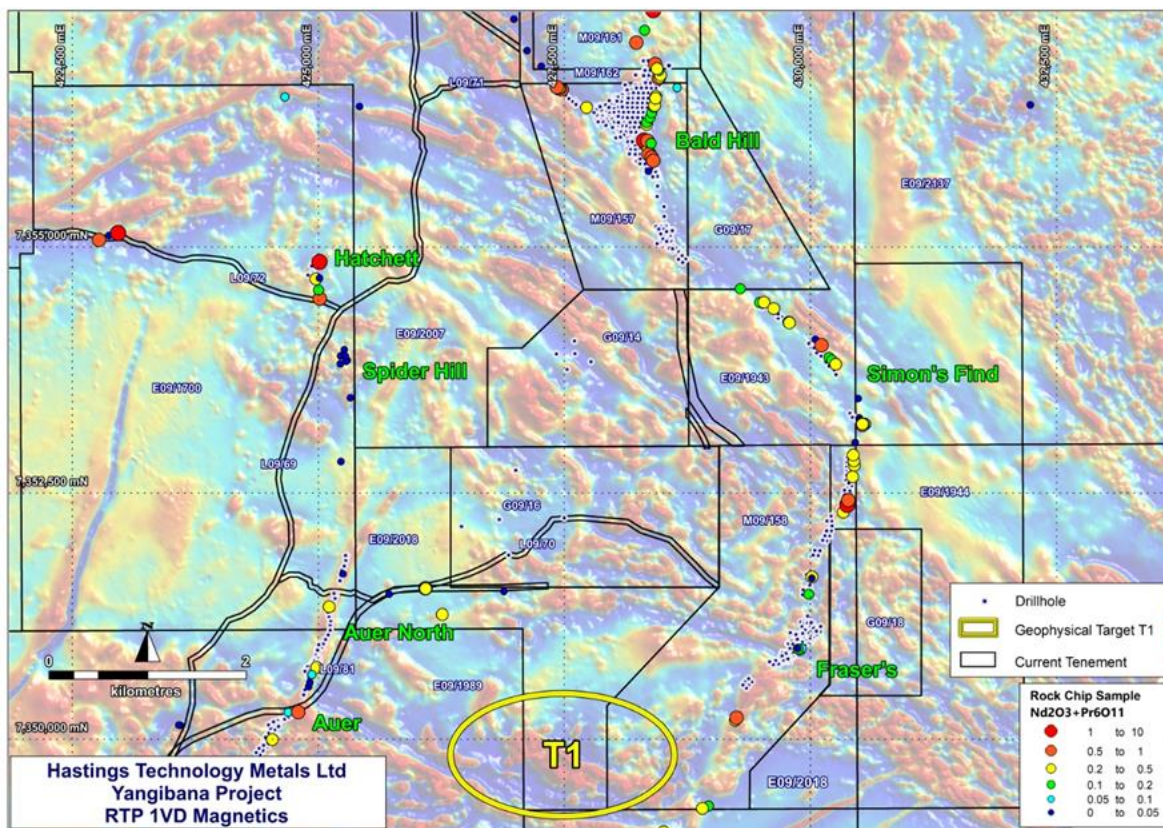


Figure 2 – Aeromagnetic data (RTP 1VD) showing target in southwest corner of E09/2018

The strength of the anomaly in the Yangibana environment suggests the presence of a large magnetite-rich body, potentially similar to the magnetite-rich units that host portions of the known rare-earths deposits nearby. A conceptual hole has been planned to provide a first test of the anomaly.



## **EXCLUSIVE MANDATE WITH GERMAN KfW IPEX-BANK FOR PROJECT FINANCING**

During the quarter Hastings executed an exclusive mandate with the German bank, KfW IPEX-Bank GmbH (“KfW IPEX-Bank”) to provide project finance loan advisory services in relation to securing approval from Euler Hermes Aktiengesellschaft (“Euler Hermes”) as mandated by the German Federal Government as administrators of the Untied Loan Guarantee scheme (“UFK Cover”). Upon approval from Euler Hermes and the authorised committees of KfW IPEX-Bank, KfW IPEX-Bank has indicated that it will provide senior debt facilities of up to A\$250m for the project.

Hastings has previously announced offtake MOU with German and Chinese companies to supply its high grade Neodymium and Praseodymium (NdPr) to its customers. It is able to feed its mixed rare earth carbonate into the German supply chain, in particular for the automotive industry, and to established Chinese rare earth producers particularly interested in the high NdPr content of its mixed rare earth carbonate (MREC) produced in situ.

The UFK Cover scheme is a German government backed insurance cover to lenders and is administered by Euler Hermes. The portion of total project debt that qualifies for UFK Cover is generally provided on attractive terms including concessionary interest rates.

KfW IPEX-Bank, a wholly owned subsidiary of the stated owned KfW Group is a leading German export and project finance specialist with significant experience in the debt financing of mining projects worldwide. KfW IPEX-Bank’s engagement is to assist Hastings in obtaining approval from Euler Hermes for UFK Cover.

The UFK Cover and subsequent senior debt project financing is subject to a detailed due diligence process by KfW and its independent technical experts. This process has recently commenced.

## **ENVIRONMENTAL PROTECTION AUTHORITY (EPA) RELEASES YANGIBANA RARE EARTHS’ PROJECT PUBLIC ENVIRONMENTAL REVIEW REPORT**

Hastings completed the scope of works in the Environmental Protection Authority (EPA) approved Environmental Scoping Document during the quarter to the satisfaction of the EPA and decision making authorities (key stakeholders). The EPA approved the release of the Environmental Review Document for the four week public review period (1 – 28 October 2018). See <http://www.epa.wa.gov.au/proposals/yangibana-rare-earths-project>.

## **AGREEMENT EXECUTED FOR DESIGN AND SUPPLY OF ACID-BAKE ROTARY KILN AND TECHNICAL ASSISTANCE WITH FLSMIDTH PTY LIMITED**

Subsequent to quarter end the Group signed a purchase agreement (including technical assistance) with FLSmidth Pty Limited (FLSmidth) for the Design and Supply of an Acid-Bake Rotary, an essential rare earths processing component required to progress development of the Yangibana Rare Earths Project.

Key conditions of the Design, Supply and Technical Assistance contract for the Acid-Bake Rotary Kiln include:

1. Fixed price contracting consideration of AUD13.2million.
2. Mechanical guarantee for Acid-Bake Rotary Kiln performance from FLSmidth
3. Delivery anticipated in Q1 2020

The Acid-Bake Rotary Kiln incorporates integral and associated acid concentrate mixing and feeding equipment, directs waste gas to a separate scrubbing facility, roasts product discharge and provides a natural gas fired heating system essential for the processing of rare earths. Following receipt of tender submissions, Hastings awarded the Acid-Bake Rotary Kiln contract to FLSmidth, a global engineering company based in Copenhagen, Denmark. FLSmidth has approximately 11,700 employees worldwide and provides global mineral industries plant and equipment, factories, machinery, services and know-how. FLSmidth is listed on NASDAQ OMX Nordic Copenhagen (former Copenhagen Stock Exchange) in the C20 index and has offices in more than 50 countries worldwide.

## **BROCKMAN PROJECT**

The Company is in the process of preparing documentation to support the application of a Mining Lease on the Brockman Project.

## **CORPORATE**

The Company completed a capital raising in August 2018, raising \$13,978,231, before costs.

The Company has issued 66,563,708 new ordinary shares under LR7.1 at a price of 21 cents per share.

The funds will be used for further development of the Yangibana rare earths project, and in particular to enable the order of the long lead time equipment for the processing plant, being the rotary kiln and the initial infrastructure work on site.

## **TERMINOLOGY USED IN THIS REPORT**

**Total Rare Earths Oxides, TREO**, is the sum of the oxides of the light rare earth elements lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), and samarium (Sm) and the heavy rare earth elements europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and yttrium (Y).

## **Compliance Statements**

### ***Forward looking statements and important notice:***

*This report contains forecasts, projections and forward-looking information. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions it can give no assurance that these will be achieved. Expectations, estimates and projections and information provided by the Company are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are out of Hastings' control. Actual results and developments will almost certainly differ materially from those expressed or implied. Hastings has not audited or investigated the accuracy or completeness of the information, statements and opinions contained in this presentation. To the maximum extent permitted by applicable laws, Hastings makes no representation and can give no assurance, guarantee or warranty, express or implied, as to, and takes no responsibility and assumes no liability for (1) the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omission from, any information, statement or opinion contained in this report and (2) without prejudice to the generality of the foregoing, the achievement or accuracy of any forecasts, projections or other forward looking information contained or referred to in this report.*

*Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.*

## **Competent Person Statements**

*The information in this report and DFS that relates to Resources is based on information compiled by Lynn Widenbar. Mr Widenbar is a consultant to the Company and a member of the Australasian Institute of Mining and Metallurgy. The information in this report and DFS that relates to Exploration Results is based on information compiled by Andy Border, an employee of the Company and a member of the Australasian Institute of Mining and Metallurgy.*

*The information in this announcement that relates to Geophysical Exploration Results is based on information compiled by Mr Russell Mortimer, who is employed as a Consultant to the Company through geophysical consultancy Southern Geoscience Consultants Pty Ltd. Mr Mortimer is a member of the Australian Institute of Geoscientists and a member of the Australian Society of Exploration Geophysicists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Mortimer consents to the inclusion in the report of matters based on information in the form and context in which it appears.*

*Each has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this announcement and DFS and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code"). Each consent to the inclusion in this report and DFS of the matters based on his information in the form and context in which it appears.*



## **About Hastings Technology Metals**

### *Yangibana Project*

Hastings Technology Metals (ASX:HAS, the Company) is advancing the Yangibana Rare Earths Project towards production following the completion of a positive Definitive Feasibility Study. The Yangibana Project hosts rare earths deposits rich in neodymium and praseodymium, elements vital in the production of permanent magnets that provide many critical components of wide ranging high-tech products, including electric vehicles, renewable energy wind turbines, robotics, medical applications and others. The Company aims to be the next significant producer of neodymium and praseodymium outside of China.

The established Yangibana ore reserves and mineral resources are predominantly within tenements held 100% by Hastings, with the majority in granted Mining Leases. Lesser mineral resources are held in a joint venture in which Hastings holds a 70% interest and has management control.

Current Yangibana Probable Ore Reserves are 7.74 million tonnes at 1.13% TREO including 0.43% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>, sufficient to support the full eight-year period considered in the Company's November 2017 DFS. This Ore Reserve was the basis of the initial operation at a planned production rate of up to 15,000 tonnes per annum (tpa.) MREC including 3,400 tpa. of Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>.

Including the above Ore Reserves, the Project hosts JORC Measured, Indicated and Inferred Mineral Resources of 21.00 million tonnes at 1.17% TREO including 0.40% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>.

Many more of the Company's deposits have the potential for additional mineral resources, and exploration programmes are in place to evaluate these areas in the future, plus the numerous other targets identified to date.

### *Brockman Project*

The Company is progressing a Mining Lease Application over the Brockman Rare Earths and Rare Metals Project.

The Brockman deposit, near Halls Creek in Western Australia, contains JORC Indicated and Inferred Mineral Resources totalling 41.4 million tonnes (comprising 32.3 million tonnes Indicated Mineral Resources and 9.1 million tonnes Inferred Mineral Resources) at 0.21% TREO, including 0.18% HREO, plus 0.36% Nb<sub>2</sub>O<sub>5</sub> and 0.90% ZrO<sub>2</sub>.

The Company aims to capitalise on the strong demand for critical rare earths created by the expanding demand for new technology products.

### **For further information please contact:**

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Andy Border, General Manager Exploration, +61 487 888 787



## **TENEMENT SCHEDULE**

**as at 30 September 2018 (All tenements are in Western Australia)**

### ***YANGIBANA PROJECT***

#### **Gascoyne Metals Pty Limited (100% subsidiary)**

Es09/1989, 2007, 2084, 2086, 2095, 2129, 2137, - 100%

Es09/1043, 1703, 1704, 1705, 1706, 2296, 2297 2298 - 70%

Ms09/159, 161, 163 - 70%

Ms09/157, 160, 164, 165 - 100%

Ps09/482, 489 - 100%

G09/10, 14 - 100%

G09/11, 13 - 70%

L09/66-72, 74, 75, 80-83 - 100%

#### **Yangibana Pty Limited (100% subsidiary)**

Es09/1700, 1943, 1944, 2018 - 100%

Ms09/158, 162 -100%

Gs09/16-18 – 100%

### ***BROCKMAN PROJECT***

#### **Brockman Project Holdings Pty Limited (100% subsidiary)**

M80/636

E80/5248 - 100%

#### **Hastings Project Holdings Pty Limited (100% subsidiary)**

P80/1626 to 1635 - 100%