



31 January 2019

DECEMBER 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)

Neil Hackett (Non-Exec Director and
Company Secretary)

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- **Probable Ore Reserves increased to 10.35 million tonnes at 1.22%TREO including 0.43%Nd₂O₃+Pr₆O₁₁**
- **Updated Ore Reserves confirm >10-year mine life**
- **Total JORC Resources increased to 21.67 million tonnes at 1.17%TREO including 0.39%Nd₂O₃+Pr₆O₁₁ of which 62% are in the Measured and Indicated categories**
- **Successful completion of the second beneficiation pilot plant operation test. Upgrading of the Nd₂O₃+Pr₆O₁₁ head grade by 20 times from 0.43% to 8.6% was achieved**
- **EPA approval documentation was advertised to the public with an overall positive response received**

Yangibana Project

PROBABLE ORE RESERVES AND JORC RESOURCES

Subsequent to the December quarter the Company reported (ASX release titled "Reserves Increase by 34% to 10.35MT Covering 10-Years Operation at Yangibana Project" dated 29 January 2019) a further significant increase in the Probable Ore Reserves at the Yangibana Project in the Gascoyne region of Western Australia. Total Probable Ore Reserves increased to **10.35 million tonnes at 1.22%TREO including 0.43%Nd₂O₃+Pr₆O₁₁**.

Pit optimisations were completed on behalf of the Company by Snowden Mining Industry Consultants using the Whittle optimisation software to determine the economic mining limits for each deposit. Only Measured and Indicated Resources as reported in the ASX release titled "Increase In Measured and Indicated Resources at Yangibana Project" dated 22nd November 2018 were considered for processing.

Pits were then designed in stages to enable the required ore tonnages and grades and waste volumes to be optimised based on plant requirements.

Pit optimisation studies and designs have defined the total Probable Ore Reserves for the Yangibana Project as shown in Table 1. (Note that rounding discrepancies may appear in the following tables.)

Deposit	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁	Nd ₂ O ₃ +Pr ₆ O ₁₁ as a % of TREO
Bald Hill	4,405,000	1.02	0.41	40
Fraser's	638,000	1.61	0.68	42
Auer	728,000	1.12	0.41	37
Auer North	148,000	1.24	0.47	38
Yangibana	986,000	0.93	0.44	47
Yangibana West	1,478,000	1.23	0.34	28
Yangibana North	1,964,000	1.72	0.44	26
TOTAL	10,345,000	1.22	0.43	35

Table 1 - Yangibana Project – Total Probable Ore Reserves December 2018

Probable Ore Reserves within tenements held 100% by Hastings are shown in Table 22 with those within tenements in which Hastings holds a 70% interest being shown in Table 33.

Deposit	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁	Nd ₂ O ₃ +Pr ₆ O ₁₁ as a % of TREO
Bald Hill	4,405,000	1.02	0.41	40
Fraser's	638,000	1.61	0.68	42
Auer	728,000	1.12	0.41	37
Auer North	148,000	1.24	0.47	38
Yangibana	876,000	0.97	0.46	47
Yangibana West	1,478,000	1.23	0.34	28
TOTAL	8,273,000	1.11	0.42	38

Table 2 - Yangibana Project - Probable Ore Reserves Within Tenements Held 100% by Hastings, December 2018

Deposit	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁	Nd ₂ O ₃ +Pr ₆ O ₁₁ as a percent of TREO
Yangibana	110,000	0.60	0.28	47
Yangibana North	1,964,000	1.72	0.44	26
TOTAL	2,074,000	1.66	0.43	26

Table 3 - Yangibana Project - Probable Ore Reserves Within Tenements Held 70% by Hastings, December 2018

These Ore Reserves were based on the Measured and Indicated Mineral Resources established by the Company during the quarter. These increased JORC Resources are shown in Table 4.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Measured	4,727,000	1.17	0.42
Indicated	8,652,000	1.24	0.41
Inferred	8,294,000	1.09	0.36
TOTAL	21,673,000	1.17	0.39

Table 4 – Yangibana Project – Total JORC Mineral Resources October 2018

These figures represent a modest increase in total tonnes compared to the previous estimate from 20,996,000 (+3.2%), but a significant increase in Measured plus Indicated Resources (+6.7%), particularly in the Measured category that has increased by 21.1%.

The distribution of the deposits with Mineral Resources is shown in Figure 1. This figure also shows drilling completed to date.

Resources from the deposits that are planned for early development – Bald Hill and Fraser’s – are shown in Tables 5 and 6. Both deposits are within granted Mining Leases held 100% by Hastings.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Measured	3,345,000	0.99	0.40
Indicated	1,419,000	1.05	0.41
Inferred	1,487,000	0.90	0.34
TOTAL	6,251,000	0.98	0.39

Table 5 – Yangibana Project – Bald Hill JORC Mineral Resources October 2018

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Measured	398,000	1.55	0.66
Indicated	407,000	1.53	0.65
Inferred	670,000	0.71	0.30
TOTAL	1,475,000	1.17	0.49

Table 6 – Yangibana Project – Fraser’s JORC Mineral Resources October 2018

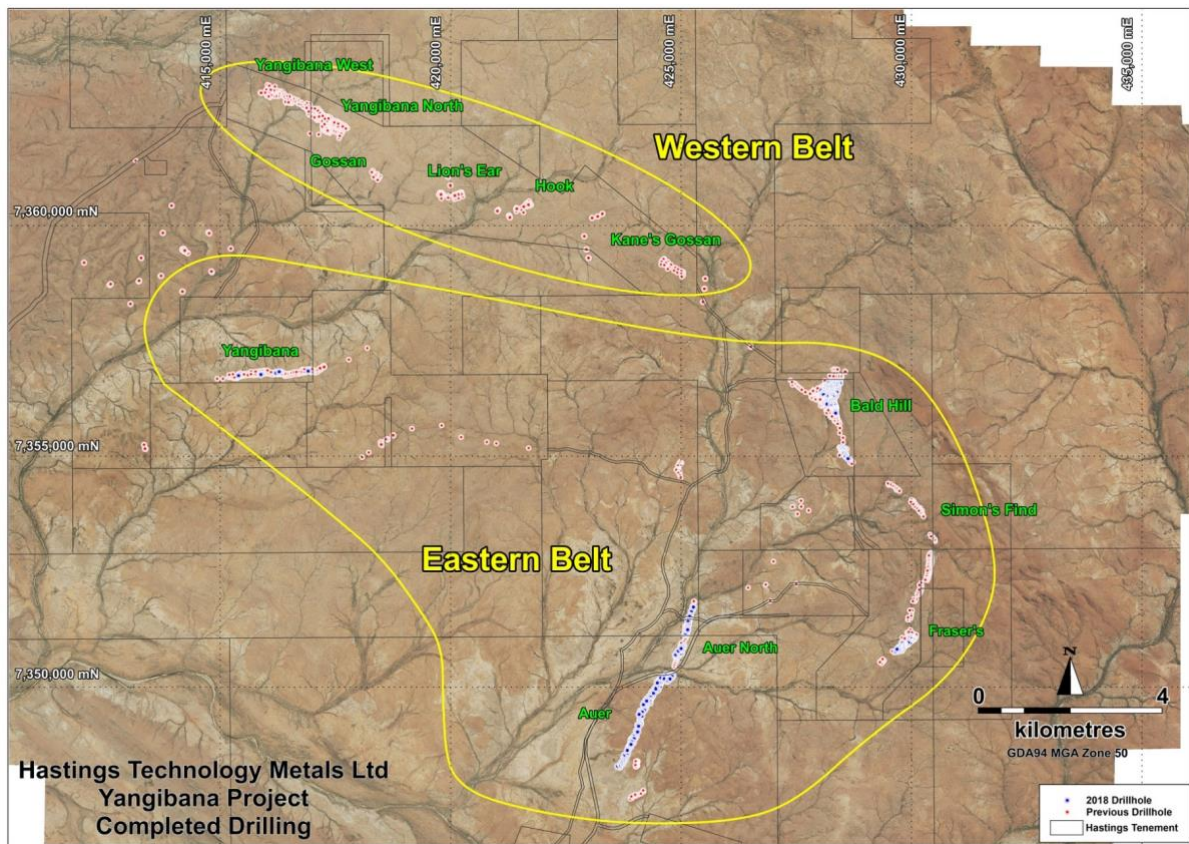


Figure 1 – Yangibana Project – Location of Deposits with JORC Resources and drilling to date

The main increases in total resources are at the Auer and Auer North deposits as shown in Tables 7 and 8. Both deposits are within Exploration Licences held 100% by Hastings and the Company will make application for a Mining Lease in the future.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Indicated	1,004,000	1.09	0.39
Inferred	1,000,000	1.09	0.37
TOTAL	2,004,000	1.09	0.38

Table 7 – Yangibana Project – Auer JORC Mineral Resources October 2018

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Indicated	462,000	1.09	0.37
Inferred	220,000	0.92	0.29
TOTAL	682,000	1.03	0.35

Table 8 – Yangibana Project – Auer North JORC Mineral Resources October 2018

JORC Mineral Resources for Yangibana, Yangibana West, and Yangibana North are shown in Tables 9, 10 and 11 respectively.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Indicated	1,318,000	0.86	0.41
Inferred	851,000	0.81	0.39
TOTAL	2,169,000	0.84	0.40

Table 9 – Yangibana Project – Yangibana JORC Mineral Resources October 2018

Of the total resources at Yangibana, 1,900,000 tonnes are within Mining Lease 09/165 held 100% by Hastings and 269,000 tonnes are within Mining Lease 09/163 in which Hastings holds a 70% interest.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Measured	114,000	1.58	0.45
Indicated	1,665,000	1.24	0.34
Inferred	758,000	1.34	0.35
TOTAL	2,536,000	1.29	0.35

Table 10 – Yangibana Project – Yangibana West JORC Mineral Resources October 2018

Yangibana West lies within Mining Lease 09/160 held 100% by Hastings. The mineralisation is part of a continuous deposits that extends into Mining Lease 09/159, in which Hastings holds a 70% interest, as Yangibana North.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Measured	871,000	1.64	0.43
Indicated	1,924,000	1.84	0.47
Inferred	632,000	1.85	0.47
TOTAL	3,427,000	1.79	0.46

Table 11 – Yangibana Project – Yangibana North JORC Mineral Resources October 2018

JORC Mineral Resources at Simon's Find are shown in Table 12. These resources are located within Mining Lease 09/158 and Exploration Licence 09/1943, both held 100% by Hastings.

Category	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Indicated	454,000	0.64	0.35
Inferred	855,000	0.67	0.35
TOTAL	1,309,000	0.66	0.35

Table 12 – Yangibana Project – Simon's Find JORC Mineral Resources October 2018

JORC Inferred Mineral Resources at Gossan, Lion's Ear, Hook and Kane's Gossan are shown in Table 13. These deposits are all within Mining Lease 09/159 in which Hastings holds a 70% interest.

Inferred	Tonnes	%TREO	%Nd ₂ O ₃ +Pr ₆ O ₁₁
Gossan	289,000	1.52	0.33
Lion's Ear	710,000	1.54	0.39
Hook	289,000	1.52	0.33
Kane's Gossan	574,000	1.04	0.29

Table 13 – Yangibana Project – Gossan, Lion's Ear, Hook and Kane's Gossan JORC Inferred Resources October 2018

YANGIBANA DEVELOPMENT UPDATE

Since the Definitive Feasibility Study, the net present value (NPV) of the Yangibana Project has been re-confirmed with increases in the Measured and Indicated portions of the Mineral Resources that led to a 34% increase in mining Probable Ore Reserves and an extension of the project life of mine from 7 years to more than 10 years, off-setting lower consensus commodity prices.

Additional testwork, including a continuous flotation pilot plant trial at ALS Perth, has improved confidence in a consistent and predictable upgrading during beneficiation from ore to concentrate. Based on early discussions, the Company is confident that the Yangibana concentrate will be a sought-after product in the international market.

DRA Global, a multi-disciplinary engineering group was engaged in July last year to conduct the Front End Engineering Design (FEED) and this has been completed and has transitioned into early detailed design, including defining pre-production capital contracts with experienced construction and equipment suppliers. It is expected that an updated project capital cost estimate will be released during Q2 2019.

Construction will progress in two phases. This approach also serves to smooth and lower on-site construction personnel thereby enabling a smaller camp. Phase one has commenced with construction of enabling infrastructure including the accommodation village, site access roads and process plant site bulk earthworks.

The second phase, subject to final Environmental Protection Authority permitting approval, is scheduled to commence in H2 2019. This phase includes construction of the processing plant and other above ground infrastructure, construction of the tailing's storage facility, airstrip upgrades, power station installation, and early mining pre-stripping works.

COMPLETION OF SECOND BENEFICIATION PILOT PLANT OPERATION

A second beneficiation pilot plant test was completed over a period of eight continuous days in November 2018. Over 700kg of Rare Earth Oxide (REO) concentrate was produced of which 400kg of this concentrate contained 8.6% Nd₂O₃+Pr₆O₁₁, 20 times upgrading from the 0.43% Nd₂O₃+Pr₆O₁₁ head grade. The product will be used to validate the selection of critical plant items, namely the concentrate dryer and acid concentrate mixer.

Flotation process design was re-confirmed, and the performance of the pilot plant test improved with pilot plant time progression. Data obtained during the pilot testing will be applied to further engineering design optimisation.

ENVIRONMENTAL APPROVALS

The Environmental Review Document (ERD) was advertised to the public over a 4-week period in October 2018. Only one submission was received from a member of the public, one submission from a non-government organisation, and eight from government departments, that were of a technical nature. This is considered to be a positive outcome. As a component in the approval process, Hastings provided a response to these submissions in December. Additional information on flora and vegetation surveys was requested and has been provided to the EPA Services. The EPA will next determine if the response is sufficient to proceed to the next step in the approval process, that is the development of the assessment report.

A Works Approval submission for prescribed premises (including Tailings Storage Facilities and the Process Plant) was submitted in December 2018 to the Department of Water and Environment Regulation (DWER) to process in parallel to the EPA Environmental Approval. This will ensure DWER approval to construct the process plant will occur shortly after the EPA approval is received.

COMMERCIAL

The overall global trend towards a growing Electric Vehicles market has been reinforced by the latest introductions of new EV models by many major automotive manufacturers in both Asia and in Europe. Permanent magnets are the main choice for the EV motors technology and therefore NdPr is the key component in the magnet composition with DyTb added in very small quantity as a performance enhancement for the permanent magnet. These are critical resources in the raw material supply chain. The permanent magnet market is estimated to grow at a Compound Annual Growth Rate of 9% for the next 5 years, driven largely by the growth in the EV sector. *(source BCC Consulting)*

Against this background, a number of European and Japanese companies in the EV space as well as Chinese rare earth producers have been in contact with the Company with a view to sourcing long term stable supply for NdPr. The company has signed Non-Disclosure Agreements with some of these companies with a view to entering into technical and commercial discussions.

On 29th November 2018, Hastings announced the signing of a 5-years off-take contract with Boutou Skyrock, a well-established Chinese rare earths producer. This contract provides for an annual purchase quantity of 2,500 tonnes at prices to be determined based on 90 days mid

EXW (Ex Works) China price of Rare Earths Oxide in RMB/kg (published by Asian Metal) contained in the MREC product prior to shipping via FOB Fremantle Port, Western Australia.

Remaining off-take MOUs that were signed in 2017 are in various stages of contract drafting and negotiations.

BROCKMAN PROJECT

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

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).

Competent Person Statements

The information in this announcement that relates to Mineral Resources is based on information compiled by Lynn Widenbar. Mr. Widenbar is an independent consultant to the Company and a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Widenbar has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this announcement 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"). Consents to include statements in this announcement have been provided in previous announcements entitled "Final 2017 JORC Resource Update Including Auer and Auer North Results" dated 22nd November 2017; "Yangibana Project Resources Now Exceed 20.5 Million Tonnes" dated 12th October 2017; "Another Major Increase In JORC Resources From Current Yangibana Drilling" dated 24th July 2017 and "Increase in Measured and Indicated Resources at Yangibana Project" dated 22nd November 2018.

The information in this announcement that relates to the Ore Reserves at Bald Hill, Fraser's, Auer, Auer North, Yangibana, Yangibana West and Yangibana North is based on information reviewed or work undertaken by Mr. Frank Blanchfield, Fellow of the Australasian Institute of Mining and Metallurgy, and an employee of Snowden Mining Industry Consultants. Mr. Blanchfield has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the preparation of mining studies to qualify as a Competent Person as defined by the JORC Code 2012. Mr. Blanchfield consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The scientific and technical information in this announcement and that relates to process metallurgy is based on information reviewed by Ms. Narelle Marriott (Principal Engineer – Beneficiation) and Mr. Zhaobing (Robin) Zhang (Process Engineering Manager) of Hastings Technology Metals Limited. Both Ms. Marriott and Mr. Zhang are members of the AusIMM. Each has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined by the JORC Code 2012. Ms. Marriott and Mr. Zhang consent to the inclusion in this announcement of the matters based on their 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 10.35 million tonnes at 1.22% TREO including 0.43% $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$, sufficient to support a >ten-year operation. This Ore Reserve was the basis on a planned production rate of up to 15,000 tonnes per annum (tpa.) MREC including 3,400 tpa of $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$.

Including the above Ore Reserves, the Project hosts JORC Measured, Indicated and Inferred Mineral Resources of 21.67 million tonnes at 1.17% TREO including 0.39% $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$.

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% Nb₂O₅ and 0.90% ZrO₂.

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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Andrew Reid, Chief Operations Officer: +61 8 6117 6118 / +61 432 740 975

TENEMENT SCHEDULE

as at 30 December 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, 2333 (application) - 70%

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

Ms09/159, 161, 163 - 70%

Ps09/482, 489 - 100%

G09/10, 14 - 100%

G09/11, 13 - 70%

L09/66-72, 74, 75, 80-83, 85-87 (applications) - 100%

L09/88 – 70%

Yangibana Pty Limited (100% subsidiary)

Es09/1700, 1943, 1944, 2018, 2334 (application) - 100%

Ms09/158, 162 -100%

Gs09/16-18 – 100%

BROCKMAN PROJECT

Brockman Project Holdings Pty Limited (100% subsidiary)

M80/636 (application)

E80/5248 (application)

Hastings Project Holdings Pty Limited (100% subsidiary)

P80/1626 to 1635 - 100%