



29 April 2020

Hastings Technology Metals Limited

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#### Board

Charles Lew (Executive Chairman)

Guy Robertson (Finance Director)

Jean Claude Steinmetz (Non-Exec  
Director)

Neil Hackett (Non-Exec Director and  
Company Secretary)

Mal Randall (Non-Exec Director)

www.hastingstechmetals.com

## MARCH 2020 QUARTERLY REPORT

- Commonwealth Environmental Approvals received to construct and operate an open pit rare earths mine, processing facility and associated support infrastructure at Yangibana.
- Drilling along the Auer and Yangibana mineralised trends confirms that mineralisation remains open along strike and at depth beyond the current resource.
- Significant new results from Auer including;
  - 16 metres @ 1.94% TREO including 0.68% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> and
  - 15 metres @ 1.35% TREO including 0.53% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>
- Significant new results from Yangibana including;
  - 3 metres @ 1.28% TREO including 0.64% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> and
  - 7 metres @ 0.8% TREO including 0.37% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>
- Cash balance of A\$13 million as at 31 March 2020
- Cost reduction and conservation measures implemented effective 1 April as a result of COVID-19.
- Ongoing review of the Yangibana Project Capital and Operating expenditure with the objective of achieving improved mine economics and robustness in the financial metrics
- Schaeffler offtake contact negotiations ongoing despite disruption due to Covid-19 pandemic
- Debt financing discussions also ongoing along with additional commercial offtake negotiations

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### Health and Safety

In the March quarter, zero lost time injuries were recorded with the company-wide lost time injury (LTI) free status being 635 days.

The development of the safety management system continued, including review of the DRA EPCM Health and safety documentation including organisational structures, accountabilities, policies and procedures.

Radiation monitoring continued including gamma surveys at specific locations as required preceding ground disturbance for site earthworks. This included Radon monitoring in the camp area which returned minimal exposure levels as well as static monitoring across the lease area to measure ambient radiation levels continues.

## Environment

On 14<sup>th</sup> April 2020, the Company announced that the Commonwealth Minister for Environment granted an environmental permit for the Yangibana Rare Earths Project under the *Environment Protection and Biodiversity Act 2000*. The Yangibana Project now has all material permits required as a prerequisite to ground disturbance activities commencing upon completion of project financing.

Conditions within the WA Environmental permit were progressed, a Compliance Assessment Plan was finalised and submitted in consultation with Department of Water and Environmental Regulation (DWER) to satisfy condition 4-1 and 4-2 of Ministerial Statement number 1110 (MS 1110). More significantly, targeted flora and vegetation surveys were conducted to satisfy condition 6-2 of MS 1110 of the permit, which can only happen after sufficient rainfall. Additionally, an air quality assessment, and drilling within and outside of environmental impact areas in preparation for subterranean fauna sampling occurred over future resource areas (Auer and Yangibana) to meet future permit application requirements.

Assessments of the Mining Proposal and Works Approval are being finalised with the Western Australian government's Department of Mines, Industry Regulation and Safety (DMIRS), and DWER, respectively, with conclusion expected during the next quarter.

A Miscellaneous Licence application was submitted for the gas pipeline corridor and an application for a Pipeline Licence is currently being prepared.

## 2019 Drilling Program

A drilling program completed in November 2019 was designed to facilitate environmental surveys of subterranean invertebrate fauna. Several of the holes inside and outside of defined resource areas intersected mineralised ironstone intervals which were sampled and assayed for Rare Earths as per announcement "Drilling Extends Known Mineralisation at Yangibana" on 21 April 2020.

A program of 80 vertical reverse-circulation (RC) drill holes total was completed at Auer-Auer North (37 holes), and Yangibana (43 holes) Prospects.

**Table 1. Significant Intersections from November 2019 drilling program.**

Hole-ID	Interval (0.1% Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub> Lower Cut-off)		Width (m)	NdPr Oxide%		NdPr%:TREO %
	From	To		TREO %	NdPr Oxide%	
AURC224	25	26	1	0.52%	0.14%	28%
AURC224	28	32	4	0.78%	0.22%	28%
AURC228	4	5	1	0.29%	0.10%	34%
AURC228	7	9	2	0.47%	0.13%	28%
AURC229	25	32	7	1.13%	0.41%	37%
AURC234	21	28	7	0.79%	0.23%	29%
AURC235	44	59	15	1.35%	0.53%	39%



AURC238	12	19	7	0.60%	0.22%	36%
AURC242	26	40	14	1.06%	0.39%	37%
AURC249	1	7	6	0.89%	0.14%	16%
AURC251	15	31	16	1.94%	0.68%	35%
YARC124	9	12	3	1.28%	0.64%	50%
YARC125	25	29	4	0.62%	0.30%	48%
YARC128	19	26	7	0.67%	0.33%	50%
YARC138	68	70	2	0.88%	0.43%	48%
YARC157	22	23	1	0.92%	0.42%	46%
YARC158	24	26	2	0.74%	0.30%	40%
YARC160	25	32	7	0.80%	0.37%	47%
YARC161	16	18	2	0.78%	0.37%	47%
YARC161	33	37	4	0.46%	0.21%	45%
YARC162	11	12	1	0.31%	0.13%	43%
YARC162	19	20	1	0.63%	0.27%	42%
YARC163	35	38	3	0.36%	0.16%	46%
YARC165	31	33	2	0.52%	0.24%	47%

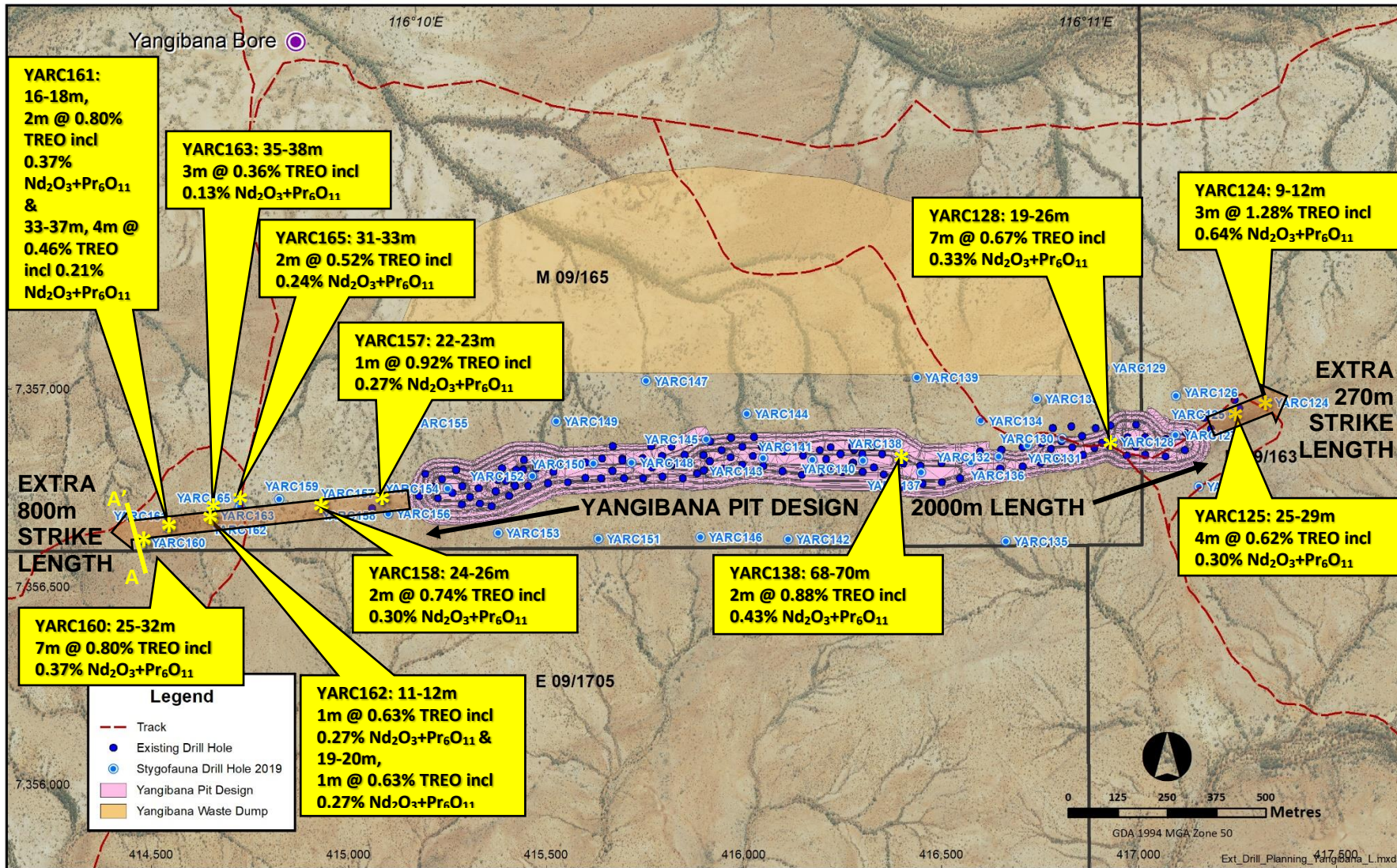


Figure 1: Yangibana Deposit Drilling Plan with recent drilling intersections. The current Yangibana Pit Design encompasses a pit shell approximately 2000-metres long. Drill holes from the recent drilling program intersected mineralised ironstones over an additional 1,070 metres of strike (800m west, and 270m east of defined Open Pit). Outcropping mineralised ironstones continue beyond the limits of the recent drilling program.

## **2020 Exploration Program**

Hastings is planning to further increase its Mineral Resource endowment through an Exploration programme during 2020. The results from the 2019 Drilling Program supports the opportunity for additional drilling to add Mineral Resources and Mine Life, where near-surface extensions to known mineralisation have been traced and identified. Surface mapping undertaken previously also confirms known positions of mineralised extensions.

This new phase of drilling is aimed at significantly extending mineralisation strike length at Simon's Find, Bald Hill, Frasers and Yangibana and testing down-dip extensions recorded to date. This new phase of drilling is subject to availability of sufficient working capital.

Simon's Find, Bald Hill and Yangibana offer the most advanced and immediate opportunities to grow the resource inventory and extend the mine life of the Yangibana Project. An increase in mine life will further strengthen the financial metrics for the project's debt financing.

The Company's geological interpretation suggests that there is substantial opportunity to add additional Mineral Resource tonnes in the area called Simon's Find. Simon's Find is located between the Bald Hill and Frasers Open Pits and is proximal to the Processing Plant Layout.

Planning for this drill program has commenced and it is anticipated that drilling will be substantially completed by October 2020.

## **Metallurgy**

A testwork program has been initiated to develop an alternative Flotation Collector to look for any opportunities to reduce operating costs. The initial screening and bench scale testwork has investigated more than 10 new collectors and two of them stand out with good performance. One of these collectors achieved better grades and recoveries with significantly fewer foaming issues. Dosage rates were 60% lower when compared to the baseline Collector at the same temperature.

The other collector achieved better kinetics with equivalent grades and recoveries to the baseline sample but at lower temperature and with no addition of caustic soda. This presents a potential opportunity to eliminate the heating requirement for flotation and potentially reduce some operating and capital funding requirements.

Further investigation of these two new collectors is required. Fine tuning of the process conditions for the new collectors is required before a variability test program is finalised.

## **Ore Sorting**

As previously announced to ASX on 25 November 2019 (Bulk Ore Sorting Trial Shows Outstanding Results), the company has completed ore sorting testwork at both small and pilot scale. Test results indicated that the ore sorter is very effective at removing external dilution on the samples used.

In the base case sorted ore sample, crushed and screened to +10.5mm and diluted with 35% waste material, a total of 37.1% of the sample mass was rejected at a grade of 0.09% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>, representing a loss of Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> of just 4.9% or an overall recovery of 95.1% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> in the Ore.

With waste material rejected, the TREO% (head grade) in the ore is substantially upgraded which leads to a proportional decrease in reagents consumption and operating costs. Significantly, this may allow for further project refinement, several options are currently being evaluated as how to best integrate ore sorting into the process flow sheet.

As part of the 2020 Exploration Program, additional samples will be collected to initiate a variability test program for those deposits not assessed.

### **COVID-19 Impact**

Due to the impact of COVID-19, the Company has implemented significant controls and requirements at all locations to protect the health and safety of its workforce, their families, contractors and neighbouring communities.

The Company has a cash balance of \$13m at the end of the March quarter. It has implemented prudent financial measures designed to preserve the value of its business long term and in the short-term conserve cash through a number of cash flow management measures.

This included an agreement with its workforce on a reduction in working hours for the period April through September, the effect of which reduces the monthly wage bill by 20%. A similar fee reduction has also been accepted by the board of directors.

The Company unfortunately had to make redundant a few people and reduced non-essential staff where appropriate, in line with reduced work programmes and financial commitments that have been delayed as a result of the Covid-19 lockdown. A number of contractual commitments are coming to a natural conclusion, others have been re-negotiated with more flexible payment schedules and some have been placed in temporary suspension.

Notwithstanding these necessary measures to conserve cash during this Covid-19 pandemic, Hastings continue to pursue its long-standing strategy of upgrading the quality of its Yangibana project, with the overriding imperatives of value adding and building robustness into the project. In this respect, the Company will continue to invest and spend on selective opportunities that adds long term value and strengthen its mine economics such as the exploration programme, geological and metallurgical work mentioned above.

A priority focus has been placed around the expanded drilling programme for 2020, further developing and solidifying the potential Ore Sorting economics and finalising the design of the Off-Gas Acid Scrubber.

However, given the current operating restrictions and constraints, the Company expects a delay in the execution of the programme to bring the Yangibana product to market on its previously expected production start date of 3Q 2022. With the current market uncertainty, it is not possible at present to determine a revised timeline.

### **Project Development Update**

During the quarter, Hastings continued to progress engineering packages with DRA Global and associated vendors and consultants, in particular on advanced general engineering on packages including the Sag Mill, Thickeners and REE Concentrate dryers. Further work was also made with associated engineering works around the Rotary Kiln and the Kiln off Gas Scrubber.

FLSmith has advanced on the Kiln package with the engineering component now at 75% complete. This included work to progress changes from:

- the upgrade of the size of the kiln burner (10MW to 13MW system).
- engineering for the incorporation in the Burner Management System of a Safety Project Logic Control (PLC). The Safety PLC was a change required as an outcome of the recent Hazard and Operability Study, as a result of recommendations of the WA State Gas Inspector.

TAPC (Kiln Off Gas Scrubber) engineering works are now at 90% completion. Work concentrated on the incorporation of final changes made during 4Q 2019 to accommodate alterations to the Off-Gas Scrubber flowsheet. Changes were required as a result of increased gas flow stemming from the upgrade in the kiln burner size.

Automation opportunities continue to be pursued for the Yangibana plant with a long-term view to increase reliability and operability and reducing required personnel onsite. Discussions with several plant automation specialists continue with a view to incorporating the recommendations from a review into the final plant design either at the point of construction or an allowance to incorporate retrospectively.

### **Commercial**

Contractual negotiations for the 10 years offtake with Schaeffler re-started in earnest in January with focus on Schaeffler's quality assurance commitment, long term product supply framework, logistics arrangement and project undertaking. Meaningful progress was made but unfortunately by early March, with the onset of Covid-19 virus sweeping through Germany these negotiations slowed considerably. The German automotive industry is severely impacted by the disruption in its supply chain since the lockdown in Wuhan, China in late January and this deteriorated when German automotive plants were forced to close in March and April. The implication of these disruptions means that ongoing commercial negotiations, which are complex and detailed, will be completed as soon as practical given the other intervening company priorities for Schaeffler. It is envisaged that once Schaeffler plants, now closed, resume operations fully in May, that Hastings will progress to contract finalisation.

Notwithstanding, Schaeffler has continued to express their intention to enter into a contract with Hastings on terms that are mutually acceptable over the 10 years duration of the contract. Stimulated by Government and EU regulations, German automobile makers remain committed to introduce Electric Vehicles in the foreseeable future albeit this is invariably delayed for a considerable period of time given the collapse in new petrol and diesel vehicle sales.

In addition to Schaeffler, the Company continues discussions with other major users of permanent magnets in both Germany and Japan for long term offtake contracts to supplement its current offtake contract, signed with Skyrock Baotou in China. Discussions for an offtake contract with Thyssenkrupp (TK) will be on the basis of a marketing arrangement rather than a fixed term and volume committed offtake. TK has recently strengthened its raw materials trading business in Asia and Hastings seek to partner with TK as its marketing agent in the foreseeable future.

### **Project Finance**

The Company has announced in the past that debt finance through the German Government sponsored Untied Loan Guarantee Scheme (“UFK”) for up to US\$140m (~A\$215m) is conditional upon the signing of the Schaeffler offtake contract. This requirement is similar to that imposed by North Australia Infrastructure Fund (NAIF), the Australian government funded agency, that is interested to fund a large part of the project’s infrastructure cost of approximately A\$200m.

The German State Bank, KfW-Ipex Bank, is advising Hastings on its UFK loan application and has continued to provide guidance and advise on these negotiations in line with its loan conditions. With much of the technical due diligence completed, the remaining debt financing work has to be synchronised with the commercial terms of the offtake contract with Schaeffler which accounts for one third of the production. As these commercial discussions have slowed, the loan negotiations with KfW and NAIF is concurrently delayed. The Company is also advised by KPMG Australia for the NAIF loan.

### **Brockman Project**

The Company continues the process of preparing documentation to support the application of a Mining Lease on the Brockman Project. Due to Covid-19, work in this area has been temporary suspended. At the same time the Company is looking at options on how to enhance value from this resource.

**This report has been approved by the Board.**

### **Competent Person Statements**

The information in this report that relates to Exploration Results in relation to the Yangibana Project is based on information compiled by Mr. Benjamin Nicolson BSc (Hons), a Competent Person, who is a Member of the Australian Institute of Geoscientists. Mr. Nicolson is a full-time employee of the company and has sufficient experience that is relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. The Qualified Person has verified the data disclosed in this release, including sampling, analytical and test data underlying the information contained in this release. Mr. Nicolson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears





## **About Hastings Technology Metals Limited**

### *Yangibana Project*

Hastings Technology Metals Limited (ASX:HAS, Hastings or the Company) is advancing its Yangibana Rare Earths Project in the Upper Gascoyne Region of Western Australia towards production. The proposed beneficiation and hydro metallurgy processing plant will treat rare earths deposits, predominantly monazite, hosting high neodymium and praseodymium contents to produce a mixed rare earths carbonate that will be further refined into individual rare earth oxides at processing plants overseas.

Neodymium and praseodymium are vital components in the manufacture of permanent magnets which is used in a wide and expanding range of advanced and high-tech products including electric vehicles, wind turbines, robotics, medical applications and others. Hastings aims to become the next significant producer of neodymium and praseodymium outside of China.

Hastings holds 100% interest in the most significant deposits within the overall project, and 70% interest in additional deposits that will be developed at a later date, all held under Mining Leases. Numerous prospects have been identified warranting detailed exploration to further extend the life of the project.

### *Brockman Project*

The Brockman deposit, near Halls Creek in Western Australia, contains JORC Indicated and Inferred Mineral Resources, estimated using the guidelines of JORC Code (2012 Edition).

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

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

For further information on the Company and its projects visit [www.hastingstechmetals.com](http://www.hastingstechmetals.com)

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

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Andrew Reid, Chief Operations Officer, +61 432 740 975

**TENEMENT SCHEDULE**

**as at 31 March 2020 (All tenements are in Western Australia)**

***YANGIBANA PROJECT***

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

Es09/1989, 2007, 2084, 2086, 2095, 2129, 2137, 2334 - 100%

Es09/1703, 1704, 1705, 1706, 2296, 2298, 2333 - 70%

Es09/2364 – 100% (application)

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

Ms09/159, 161, 163 - 70%

Ps09/482, 489 - 100%

G09/10, 14 - 100%

G09/11, 13 - 70%

G09/21 (application)

L09/66-72, 74, 75, 80-83, 85, 86-87, 89 - 100%

L09/91 – 100%

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

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

Ms09/158, 162 -100%

Gs09/17-18, 20 – 100%

***BROCKMAN PROJECT***

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

M80/636 (application)

E80/5248 (application)

P80/1626 to 1635 - 100%