

**31 October 2016** 

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#### **Board**

Charles Lew (Chairman)
Anthony Ho (Non-Exec Director)
Malcolm Mason (Non-Exec Director)

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# **SEPTEMBER 2016 QUARTERLY ACTIVITIES REPORT**

#### **HIGHLIGHTS**

- Definitive Feasibility Study update
- Corporate appointments
- Infill drilling at Fraser's completed with excellent results
- Airborne magnetic and radiometric survey interpretation identifies significant new targets
- Resource Expansion drilling commences at Fraser's Southwest with three targets tested
- New deposit discovered at Auer to the southwest of Fraser's deposit

### **DEFINITIVE FEASIBILITY STUDY UPDATE**

Following on from a successful capital raising of \$9.8 million, the Company has made substantial progress on the Definitive Feasibility Study during the quarter.

Key to this progress was the appointment early in the quarter of Wave International Pty Limited as project managers and Tetra Tech Proteus as the engineering consultants responsible for specifying non process infrastructure, and the process infrastructure for comminution, beneficiation and hydrometallurgy.

Positive developments during the quarter include identification of reagents in the flotation test work that will substantially further reduce operating costs and the identification of a leaching and cracking process within the hydrometallurgical plant that will provide an opportunity to increase product yield and lower portioning cost.

Preparation work for the upcoming pilot testing included significant test work undertaken in both beneficiation and hydrometallurgy. It is anticipated that the beneficiation pilot test plant, to be undertaken by Australian Laboratory Services (ALS) in Perth, will commence in late November 2016 and be followed by the hydrometallurgy pilot test plant to



be undertaken by Australian Nuclear Science and Technology Organisation (ANSTO) in January 2017.

The Company is also making good progress in the permitting and approvals process with near completion of its Mining Proposal Application to the Department of Mines and Petroleum (DMP). Stakeholder (including community) engagement meetings and the implementation of an Environmental Management System have also commenced.

#### **CORPORATE APPOINTMENTS**

To strengthen the board and management, during the quarter the Company appointed Mr Jean Claude Steinmetz as a director and Mr Robin Zhang as Process Engineering Manager.

Mr Steinmetz was previously Chief Operating Officer for Lynas Corporation where he had operational responsibility for the mining operations and concentration plant at Mount Weld in Western Australia and the Lynas Advanced Materials Plant (LAMP) in Malaysia. He also had oversight of the sales and marketing activities at Lynas.

Mr Zhang spent 8 years with Lynas Corporation serving as Senior Technical Services Manager and Senior Project Development Manager and had worked in all phases of the development of Lynas Advanced Materials Plant in Malaysia. Prior to this, he spent 11 years with Gansu Rare Earth Group - one of the largest rare earth companies in China where he served as the Deputy Director of its Technical Centre.

### FRASER'S DEPOSIT INFILL DRILLING

During the quarter the Company completed infill drilling at the Fraser's deposit (Figure 1). Results from the north-eastern extension of the main deposit are significantly higher grade than those from previous drilling in this area and are expected to increase the average resource grade of this significant deposit.



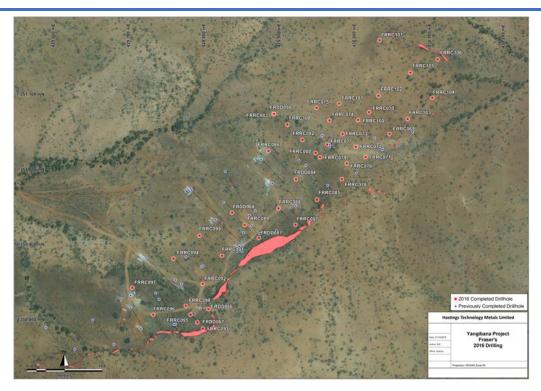


Figure 1 - Yangibana Project – Fraser's Deposit, 2016 Drilling – Red Dots

Best intersections achieved in the drilling are shown in Table 1.

Hole No FRRC	From (m)	To (m)	Interval (m)	%TREO	%(Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub> )	%(Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub> )/TREO
69	15	20	5	1.99	0.88	44
70	40	46	6	3.04	1.34	44
71	15	21	6	1.74	0.69	39
72	24	34	10	1.10	0.44	40
73	37	44	7	2.93	1.24	42
74	45	51	6	2.75	0.64	23
76	11	22	11	1.82	0.79	43
80	39	45	6	1.37	0.59	43
82	50	55	5	2.54	1.11	44
85	11	15	4	1.22	0.56	46
86	65	68	3	3.51	1.47	42
87	6	10	4	1.22	0.56	44
89	40	42	2	1.77	0.79	45
92	20	25	5	1.03	0.46	44
93	0	4	4	1.20	0.53	44
94	78	83	5	3.04	1.35	44
96	35	42	7	2.49	0.96	39
97	94	96	2	1.75	0.71	41
98	42	44	2	1.83	0.86	47
99	85	93	8	4.67	2.05	44

Table 1 – Yangibana Project – Fraser's Deposit, 2016 Infill Drilling Programme, Best intersections



The high ratio of  $(Nd_2O_3+Pr_2O_3)$  to TREO is in line with previous figures for this deposit and confirms Fraser's potential as a significant source of the Company's target permanent magnet rare earths neodymium and praseodymium. Figure 2 provides a cross section of the mineralisation in the northeastern portion of the deposit.

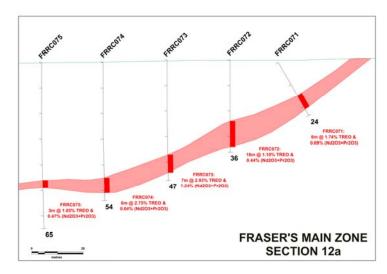


Figure 2 - Yangibana Project – Fraser's Deposit, cross section showing recent drill intersections

Figures 3 provides a cross-section of the steeper mineralisation in the vicinity of the main outcropping portion of the deposit. This sections show the mineralisation to be strongly open at depth.

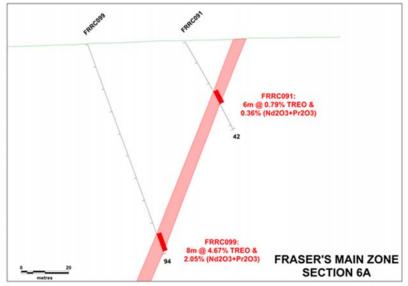


Figure 3 - Yangibana Project - Fraser's Deposit, Cross Section showing recent drill intersections

The very high grade of the intersection in FRRC099 as shown in Figure 3 is supported by similar results in adjacent holes.



#### **AEROMAGNETIC/RADIOMETRIC SURVEY**

Southern Geoscience Consultants Pty Limited (SGC) completed an initial phase of targeting and interpretation over the Yangibana aeromagnetic-radiometric survey area during the quarter.

SGC's detailed aeromagnetic data interpretation map indicates a geologically- and structurally-complex area (Figure 4), identifying numerous structural sites that can potentially host mineralisation associated with the multi-phase intrusive events that have occurred in the area. The known rare earths prospects are located along major structural boundaries, folded and faulted contact zones, or in other structurally favourable areas. SGC has identified 22 significant areas of exploration interest (Figure 4), eleven of which are relatively untested.

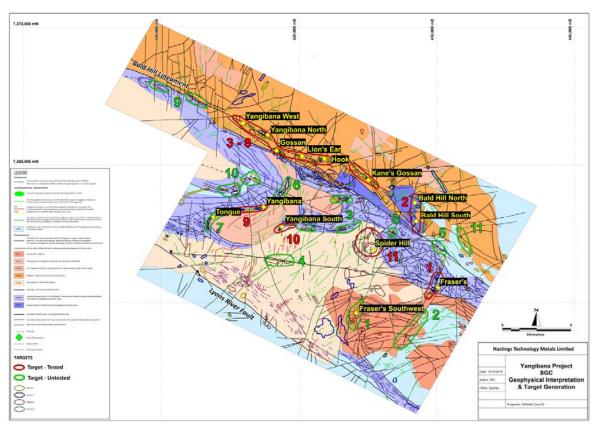


Figure 4 – Yangibana project, interpreted geology and targets identified

Each of the targets identified warrants follow-up detailed magnetic modelling to improve definition prior to drill testing. This magnetic modelling provides information such as the dip and thickness of the target, and the likely depth of cover in areas with no outcrop. Such modelling was carried out by SGC to define the target at the northern end of the Auer prospect in the Fraser's Southwest area. This Auer North prospect has been successfully drill tested over some 2km under cover, intersecting significant widths of mineralisation. Assays are awaited.



## **RESOURCE EXTENSION DRILLING**

On completion of the infill programme, drilling moved to the Fraser's Southwest area and tested the Auer, Mosander and Demarcay prospects. Figure 5 shows the location of these prospects in relation to Hastings' other deposits and prospects in the Yangibana Project.

Drilling intersected the target ironstone- and phoscorite-hosted rare earths mineralisation, both in the outcropping area as identified in rock chip sampling earlier this year and in the northern extension of Auer (Auer North) prospect where the target occurs under cover and is only defined by the aeromagnetic data.

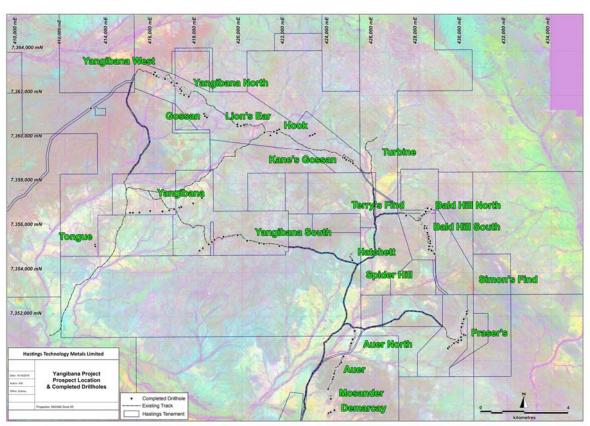


Figure 5 – Yangibana Project, Fraser's Southwest prospects



Table 1 provides best intersections from the Auer prospect.

Hole No.	From	То	Interval	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub>	%(Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub> )/TREO
AURC	(m)	(m)	(m)			
1	14	18	4	1.27	0.47	37
6	29	34	5	1.54	0.51	34
15	21	26	5	2.00	0.78	39
17	15	19	4	2.10	0.81	38
18	8	16	8	1.68	0.67	40
25	8	14	6	1.41	0.52	36
26	8	11	3	1.92	0.72	36
29	72	76	4	1.82	0.68	37
32	46	51	5	1.13	0.41	37
33	91	97	6	1.54	0.55	36
41	12	18	6	2.08	0.70	34

Table 2 – Yangibana Project – Auer Prospect drill best intersections

Figure 6 shows the locations of the holes drilled at Auer against the radiometric (Th) data derived from the recent aerial survey. This figure shows the excellent correlation between the geophysical data and the drillhole intersections.

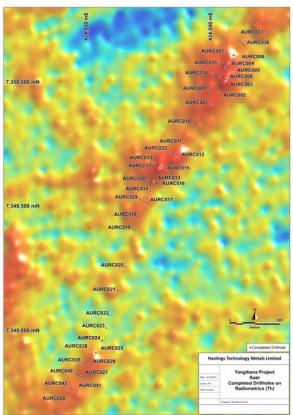


Figure 6 – Yangibana Project – Auer drillholes on radiometric (Th) base



Results from Mosander and Demarcay returned variable results with the best intersections as shown in Table 3.

Hole	From (m)	To (m)	Interval (m)	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub>	%(Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>2</sub> O <sub>3</sub> )/TREO
MSRC6	33	34	1	1.37	0.34	25
MSRC9	24	28	4	0.90	0.36	40
DMRC3	6	7	1	1.49	0.79	53
DMRC5	12	14	2	1.37	0.61	44
DMRC6	16	19	3	1.23	0.44	35

Table 3 – Yangibana Project – Mosander and Demarcay Prospects, best intersections from assays to date

New resource estimates are to be carried out in the coming quarter based on the recent drill results for Bald Hill and Fraser's, and prospects at Fraser's Southwest will be assessed once all assay results are available.

#### **BROCKMAN PROJECT**

No exploration work was carried out on the Brockman Project during the quarter. Application for a single sub-block Exploration Licence was withdrawn.

#### **TERMINOLOGY USED IN THIS REPORT**

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



### **About Hastings Technology Metals**

- Hastings Technology Metals is a leading Australian rare earths company, with two rare earths projects hosting JORC-compliant resources in Western Australia.
- The Yangibana Project hosts JORC Indicated and Inferred Resources totalling 12.36 million tonnes at 1.10% TREO, including 0.44% Nd<sub>2</sub>O<sub>3</sub>-Eq (comprising 8.13 million tonnes at 1.11% TREO Indicated Resources and 4.24 million tonnes at 1.09% TREO in Inferred Resources).
- The Brockman deposit contains JORC Indicated and Inferred Resources totalling 41.4 million tonnes (comprising 32.3mt Indicated Resources and 9.1mt Inferred 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>.
- Rare earths are critical to a wide variety of current and new technologies, including smart phones, hybrid cars, wind turbines and energy efficient light bulbs.
- The Company aims to capitalise on the strong demand for critical rare earths created by expanding new technologies. In November 2015 Snowden completed an updated Scoping Study of the Yangibana Project that confirmed the economic viability of the Project and following a Pre-Feasibility Study completed in April 2016, the Company is well advanced with its Definitive Feasibility Study.

# For further information please contact:

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### **Competent Persons' Statement**

The information in this report that relates to Resources is based on information compiled by Simon Coxhell. Simon Coxhell is a consultant to the Company and a member of the Australasian Institute of Mining and Metallurgy. The information in this report 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.

Each 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"). Each consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.



#### **TENEMENT SCHEDULE**

as at 30 September 2016 (All tenements are in Western Australia)

#### YANGIBANA PROJECT

### Hastings Technology Metals Ltd

E09/2084 100%

E09/2086 100%

E09/2095 100%

P09/482 100%

M09/157 100%

E09/2129 100%

## Gascoyne Metals Pty Limited (100% subsidiary)

E09/1989 100%

E09/2007 100%

E09/2137 100%

E09/1043 70%

E09/1049 70%

E09/1703-1706 70%

M09/159 70%

M09/160 100%

M09/161, 163 70%

M09/164, 165 100%

G09/10 100%

G09/11 70%

L09/66-75 100%

## Yangibana Pty Limited (100% subsidiary)

E09/1700 100%

E09/1943-1944 100%

E09/2018 100%

P09/467 100%

M09/158 100%

M09/162 100%

#### **BROCKMAN PROJECT**

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

P80/1626-1635 100%

E80/4555 100%

EA80/4970 100%