



Yangibana Project - High Grade Neodymium & Praseodymium Mine for the Permanent Magnets Industry

ASX stock code: HAS

Disclaimer

All currency amounts are in A\$ unless stated otherwise.

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Exploration Targets

The terms “Target” or “Exploration Target” where used in this presentation should not be misunderstood or misconstrued as an estimate of a Mineral Resource as defined in this context. Exploration Targets are conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain further exploration will result in the determination of a Mineral Resource.

Competent Persons’ Statement

The information in this presentation 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 presentation 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 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 announcement and DFS of the matters based on his information in the form and context in which it appears.

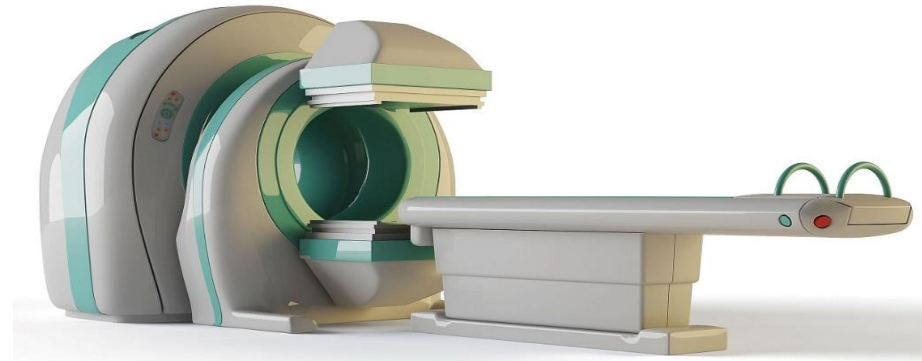
The information in this presentation that relates to the Fraser’s and Bald Hill Ore Reserve is based on information reviewed or work undertaken by Mr Frank Blanchfield, FAusIMM, and an employee of Snowden Mining Industry Consultants. Mr Blanchfield has sufficient experience relevant to the style of mineralisation 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 and DFS of the matters based on his information in the form and context in which it appears.

The scientific and technical information in this presentation that relates to process metallurgy is based on information reviewed by Mr Dale Harrison MAusIMM, who is a metallurgical consultant and employee of Wave International. Mr Harrison has sufficient experience that is 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. Mr Harrison consents to the inclusion in this announcement and DFS of the matters based on his information in the form and context in which it appears.

US disclosure

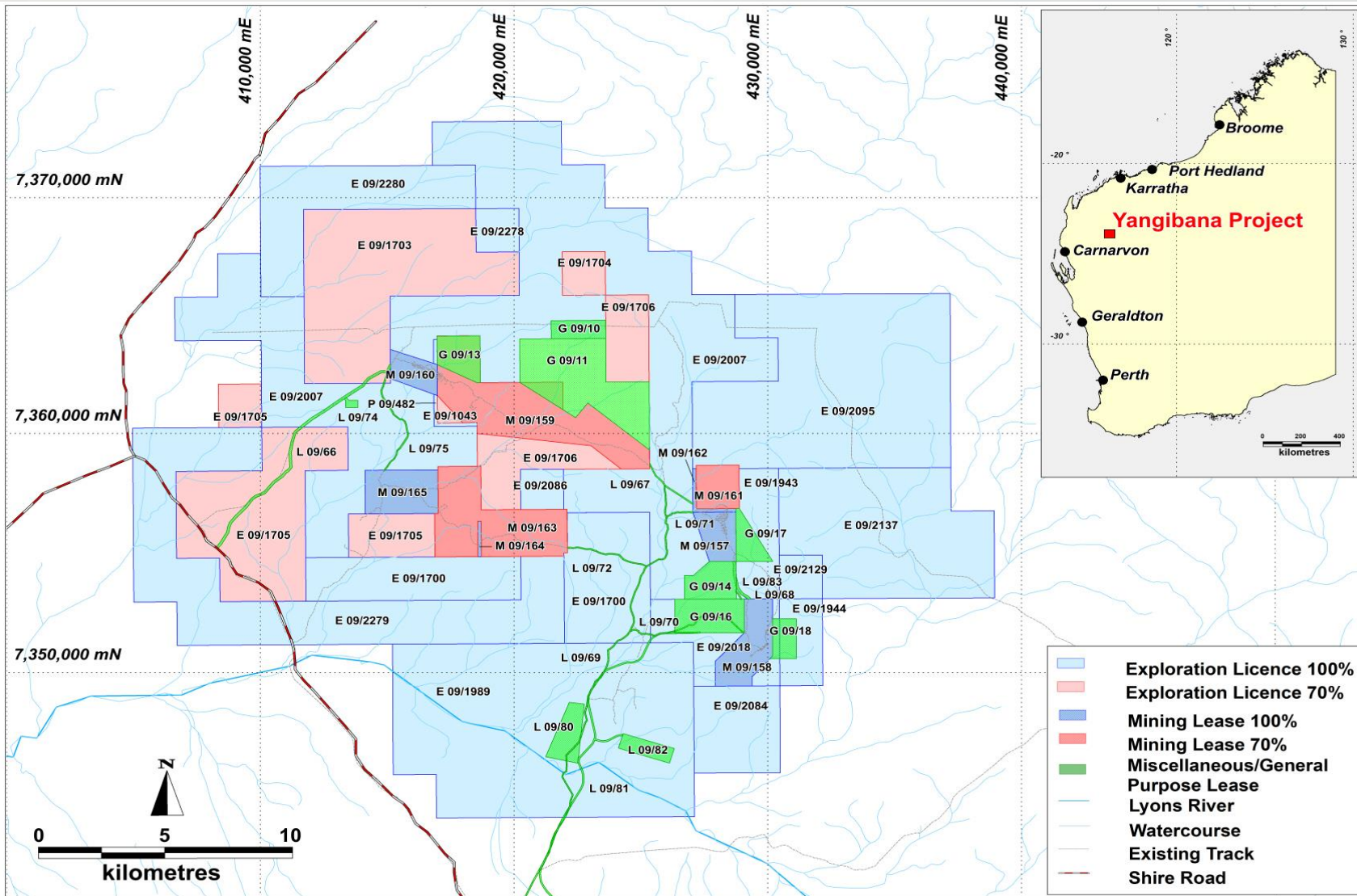
This document does not constitute any part of any offer to sell, or the solicitation of an offer to buy, any securities in the United States or to, or for the account or benefit of any “US person” as defined in Regulation S under the US Securities Act of 1993 (“Securities Act”). The Company’s shares have not been, and will not be, registered under the Securities Act or the securities laws of any state or other jurisdiction of the United States, and may not be offered or sold in the United States or to any US person without being so registered or pursuant to an exemption from registration including an exemption for qualified institutional buyers.

Everyday Use of Permanent Magnets



Yangibana – Western Australia

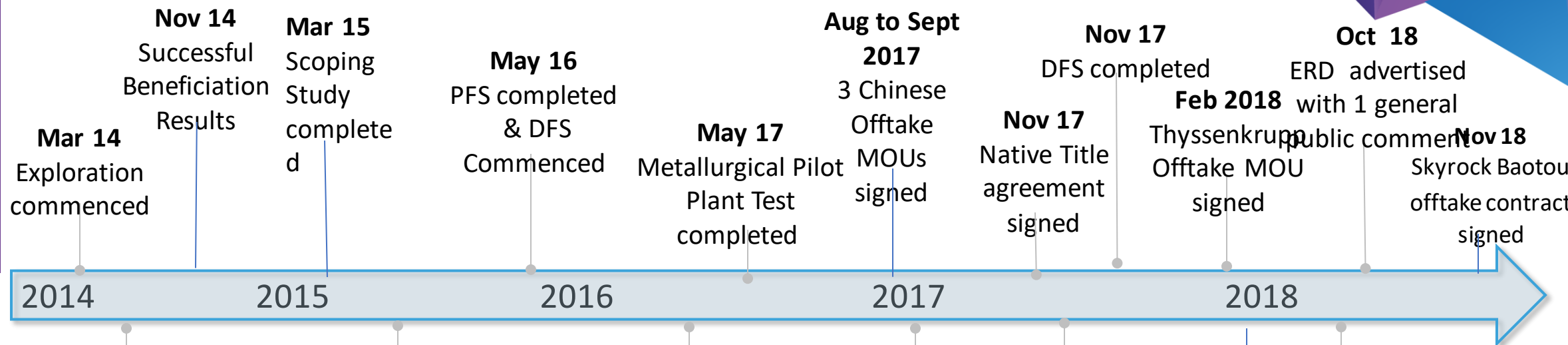
Established Mining Region, Flat Terrain, Open Pit Mining



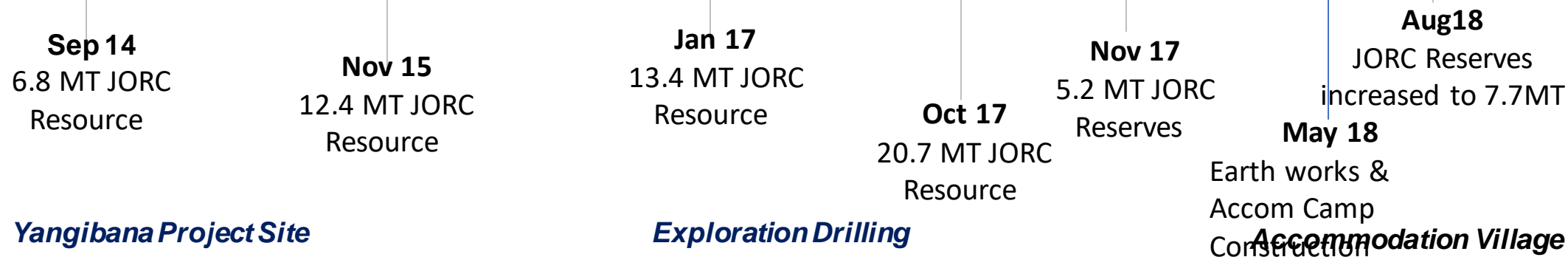
- Yangibana area ~ 650 km²
- 21 years Mining Leases granted since March 2016 covering only 50 sqkm
- JORC Resource – 21m tonnes from 50 sqkm
- Native Title Agreement signed Nov 2017 for 650sqkm
- ERD approval for public advertisement completed and progressing to final permitting
- Earthworks and AV under construction, production 4Q 2020

Yangibana Development History

PROJECT MILESTONES



RESERVE & RESOURCE UPGRADES



Yangibana Project Site



Exploration Drilling



Accommodation Village



Yangibana Advantage: Highest Nd-Pr ratio

Comparison of REO Distribution & Basket Value Between Hastings and Major Light RE Producers

RE Oxide/TREO	Unit	Hastings	China		Outside of China	
			Baotou	Sichuan	Mt Weld	Mountain Pass
Lanthanum	%	9.99	25.94	36.50	25.16	33.22
Cerium	%	39.59	50.69	47.90	46.36	49.10
Praseodymium	%	8.01	5.15	4.10	5.38	4.30
Neodymium	%	33.80	15.90	10.00	18.79	12.00
Samarium	%	3.88	1.21	0.70	2.27	0.80
Europium	%	0.84	0.22	0.08	0.47	0.12
Gadolinium	%	1.80	0.39	0.23	0.85	0.17
Terbium	%	0.15	0.05	0.04	0.06	0.04
Dysprosium	%	0.50	0.11	0.06	0.16	0.07
Yttrium	%	1.14	0.25	0.31	0.45	0.10
Other	%	0.29	0.10	0.08	0.05	0.09
Economic Value Factor		1.90	1.00	0.73	1.14	0.81

Basket Price USD/kg

25.00

13.25

9.65

15.05

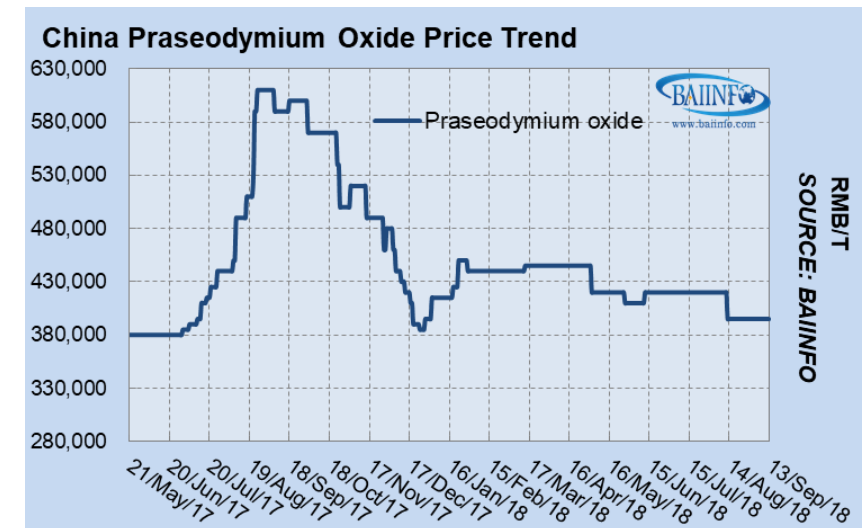
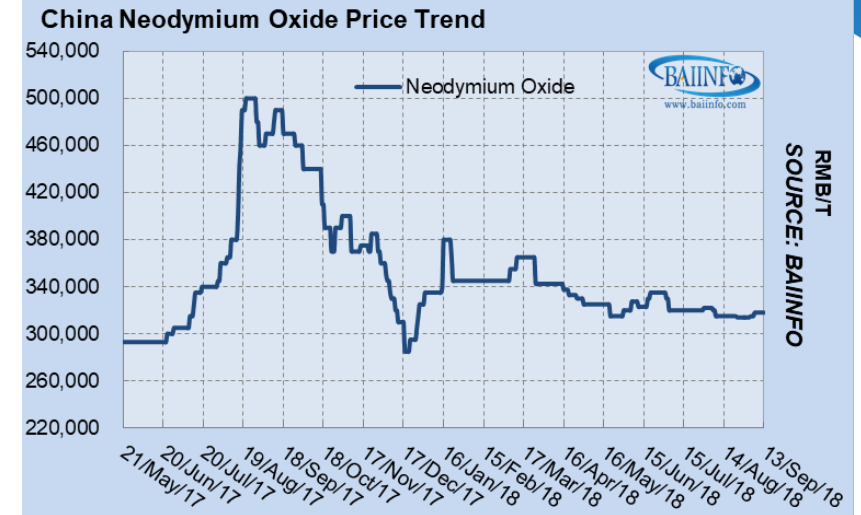
10.75

- Nd-Pr /TREO composition is validated by customers in the MREC
- Economic Value Factor calculated on individual % of REE in the ore body x REO prices
- Yangibana: high Nd-Pr content of 41%
- **Yangibana basket price @ USD30.50/kg (Oct 2017) used in DFS**
- 27 Sep 2018 basket price is \$25.00

Spot Prices of Rare Earth Oxides (Sep 2018)

China F.o.B. Export prices 07-Sep-2018 (USD/kg) & YTD change

Lanthanum oxide	La ₂ O ₃	\$ 2.20	- 7 %
Cerium oxide	CeO ₂	\$ 2.15	- 7 %
Praseodymium oxide	Pr₆O₁₁	\$ 62.65	- 1 %
Neodymium oxide	Nd₂O₃	\$ 48.60	+ 2 %
Dysprosium oxide	Dy₂O₃	\$ 172.80	- 2 %
Terbium oxide	Tb₄O₇	\$ 440.65	+ 4 %
Samarium oxide	Sm ₂ O ₃	\$ 2.10	- 8 %
Europium oxide	Eu ₂ O ₃	\$ 49.30	-25 %
Erbium oxide	Er ₂ O ₃	\$ 24.40	- 4 %
Holmium oxide	Ho ₂ O ₃	\$ 55.55	-11 %
Lutetium oxide	Lu ₂ O ₃	\$ 607.30	- 7 %
Yttrium oxide	Y ₂ O ₃	\$ 3.30	- 1 %



JORC Resources

High Neodymium and Praseodymium content

- **Total Measured, Indicated and Inferred Resources now at 21.7m tonnes***
- **Total Probable Ore Reserve at 7.74m tonnes** expected to be increased by late 2018
- In-ground ratio of Nd-Pr as % of TREO ranges from **34% (0.40%/1.18%) to as high as 57%** locally at Simon's Find deposit
- Most resources contained on Hastings 100% owned ground and smaller portion on 70% JV ground
- Mine life expected to exceed 10 years based on current resources and anticipated reserves

Total Yangibana JORC Resources (rounded)

Category	Tonnes	Nd ₂ O ₃ +Pr ₆ O ₁₁	TREO	Nd ₂ O ₃	Pr ₆ O ₁₁
		%	%	ppm	ppm
Measured	4,700,000	0.42	1.17	3,394	848
Indicated	8,700,000	0.41	1.24	3,278	843
Inferred	8,300,000	0.36	1.09	2,836	737
TOTAL	21,700,000	0.39	1.17	3,134	804

Hastings 100% owned ground

Category	Tonnes	Nd ₂ O ₃ +Pr ₆ O ₁₁	TREO	Nd ₂ O ₃	Pr ₆ O ₁₁
		%	%	ppm	ppm
Measured	3,900,000	0.42	1.06	3,425	814
Indicated	6,600,000	0.40	1.08	3,207	775
Inferred	5,600,000	0.35	0.93	2,842	677
TOTAL	16,100,000	0.39	1.02	3,132	750

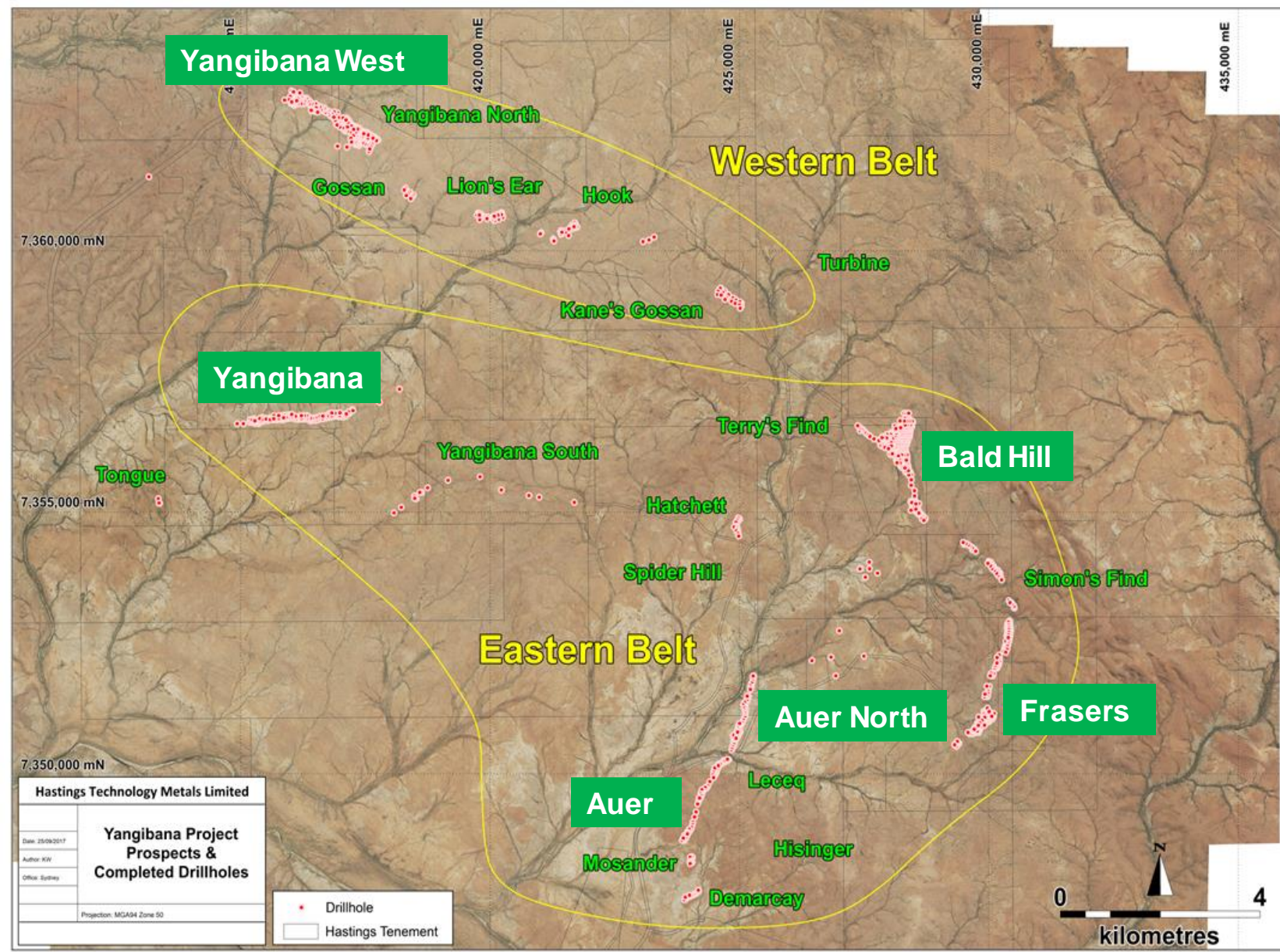
Hastings 70% owned JV ground

Category	Tonnes	Nd ₂ O ₃ +Pr ₆ O ₁₁	TREO	Nd ₂ O ₃	Pr ₆ O ₁₁
		%	%	ppm	ppm
Measured	900,000	0.43	1.64	3,258	997
Indicated	2,100,000	0.46	1.76	3,507	1,061
Inferred	2,700,000	0.37	1.43	2,823	863
TOTAL	5,600,000	0.41	1.58	3,131	956

* Hastings ASX release 22 Nov 2018

Exploration Targets

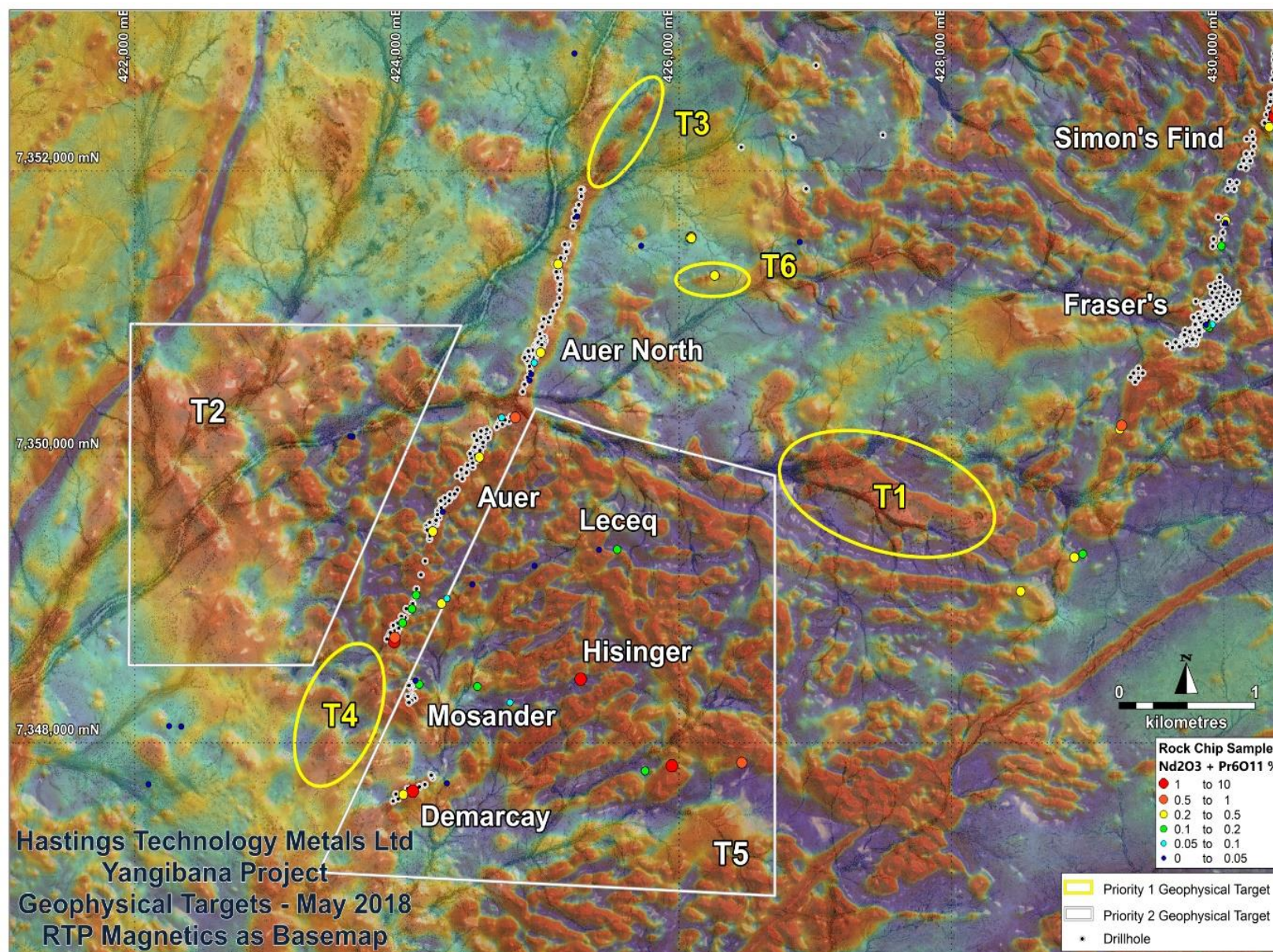
Multiple deposits – significant resource increase opportunity opportunities



- Eastern and Western Belts form >25km of strike length
- Further resource drilling in 2018 exploration program to increase JORC Resources and Reserves.
- Only 100% owned ground considered to date
- Only Bald Hill, Frasers, Auer, Auer North, Yangibana West and Yangibana included in current economic analysis
- JORC Reserves target for 2018 to hit 10Mt

Un-explored targets

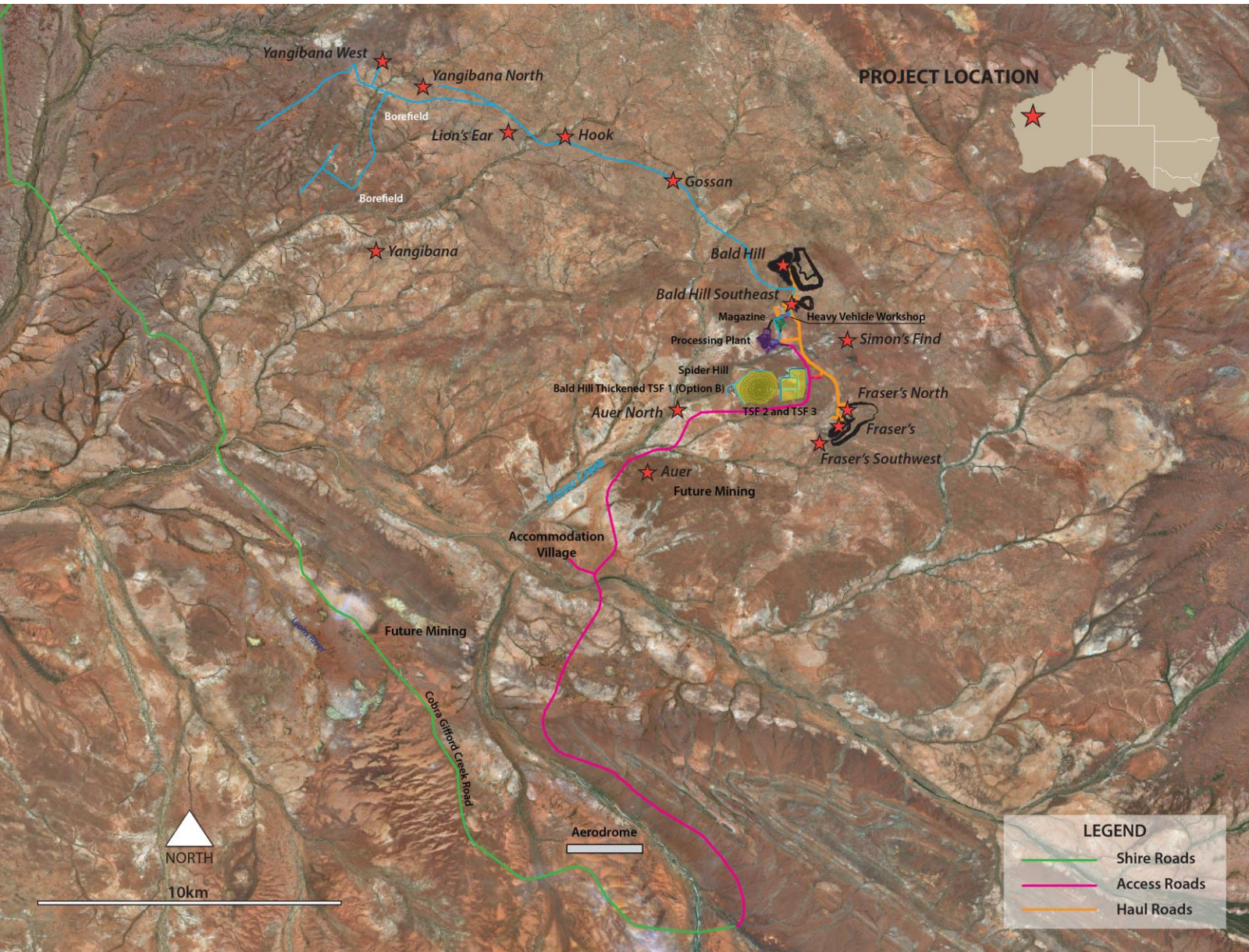
Multiple deposits – significant resource increase opportunities



- Tenement wide high resolution aeromagnetic survey undertaken in 2016
- 6 new targets identified by aeromagnetic survey
- >1,000m of exploratory drilling on targets included in 2018 programme between Auer and Frasers

Overall Mine Layout

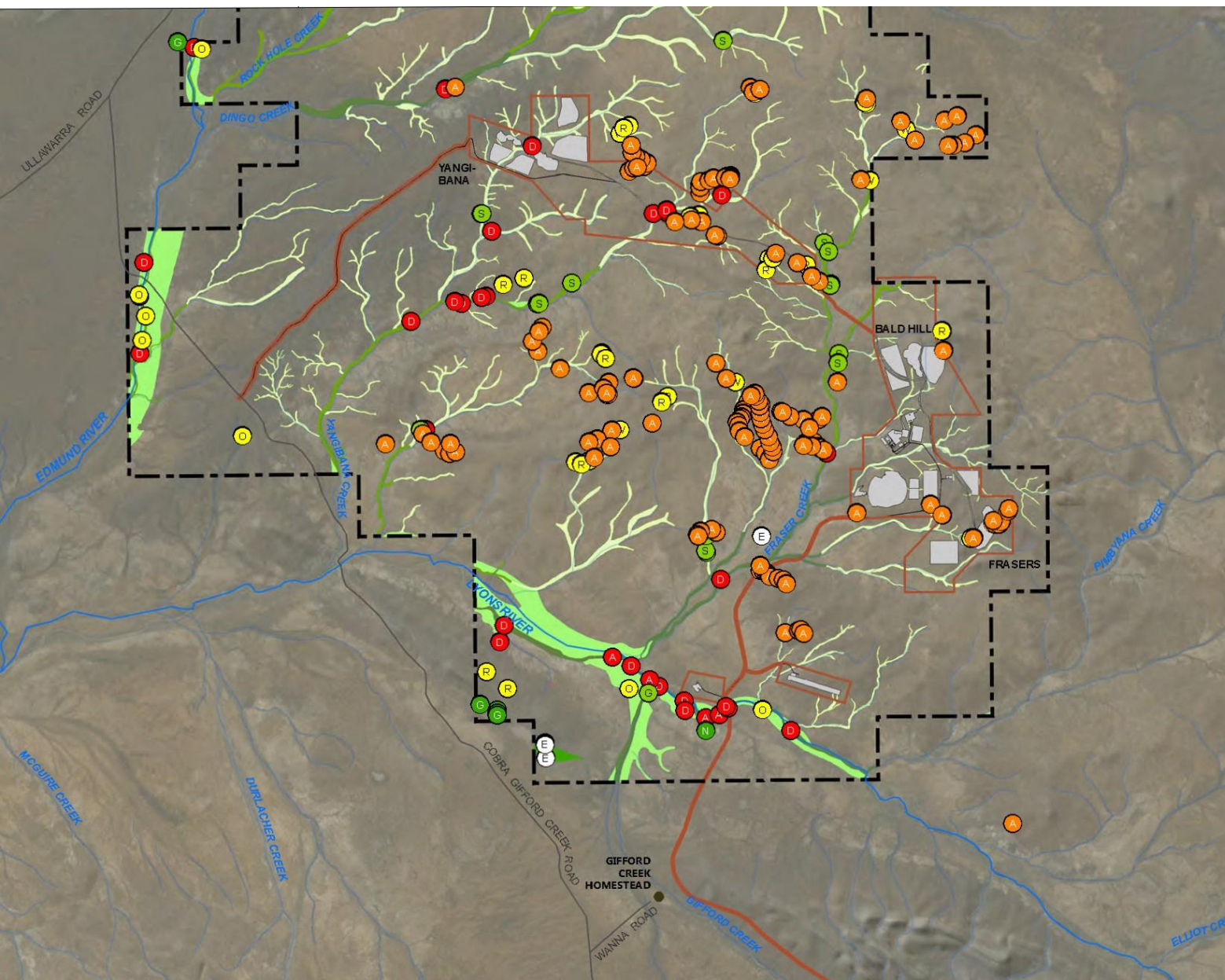
Optimising logistics between deposits



- Mining by conventional drill and blast
- Pit optimisations were completed to determine the economic mining limits for each deposit
- Waste dumps located to minimise haulage distances
- Mining schedule based on value creation and waste reduction
- Water supply – sourced from bore-field near to process plant

Environmental Impact Assessment

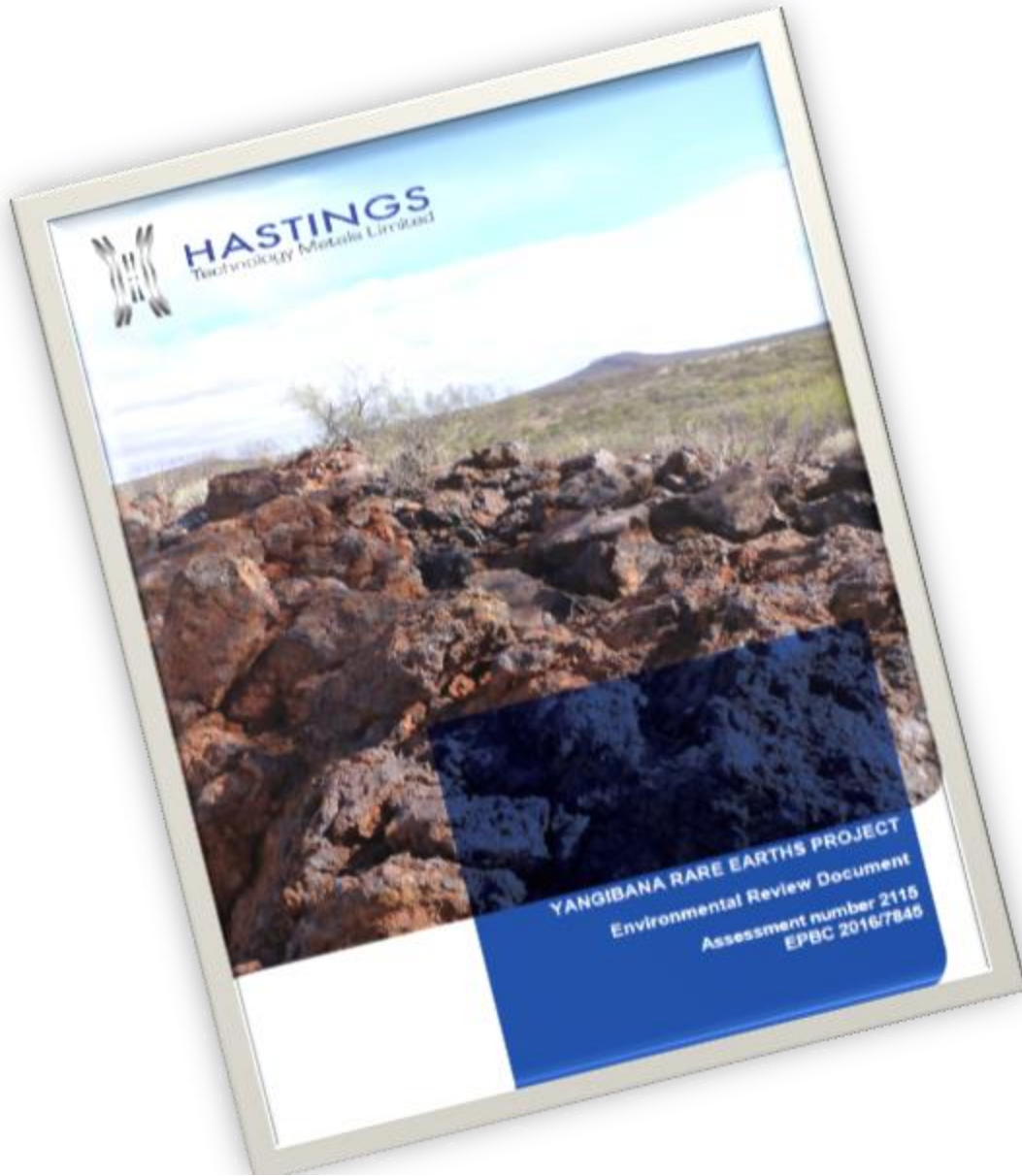
No significant environmental impacts



- Thorough understanding of the surrounding environment
 - surveys across all tenements
 - assessments
- Environmental Factors
 - Flora and Vegetation
 - Fauna and Subterranean Fauna
 - Terrestrial Environmental Quality
 - Water
 - Human Health
 - Social
- Direct and indirect impacts assessed
- Application of a mitigation hierarchy
 - Avoid impact
 - Minimise impact
 - Manage impact
 - Rehabilitation

Public and regulator feedback

Public advertisement period (4 weeks in October)



Only 1 submission from the general public and 1 submission from a non-government organisations – a positive indicator of confidence

Positive feedback from the

- Department of Biodiversity, Conservation & Attractions
- Department of Health
- Department of the Environment and Energy (DoEE)
- Department of Mines, Industry Regulation and Safety

Technical queries received from

- Radiological Council
- DoEE

Awaiting two government department submissions
DWER and DPHL

Very positive outcome

Environmental

- Environmental Review Document approved for public advertisement by the Environmental Protection Authority of WA
- Public advertisement period completed
- Final EPA recommendation to Minister and permitting 2Q 2019
- Commitment to manage the Project in a socially acceptable and environmentally responsible manner
- Environmental Management System (ISO 14001) and Safety Management System (AS 4801) under development

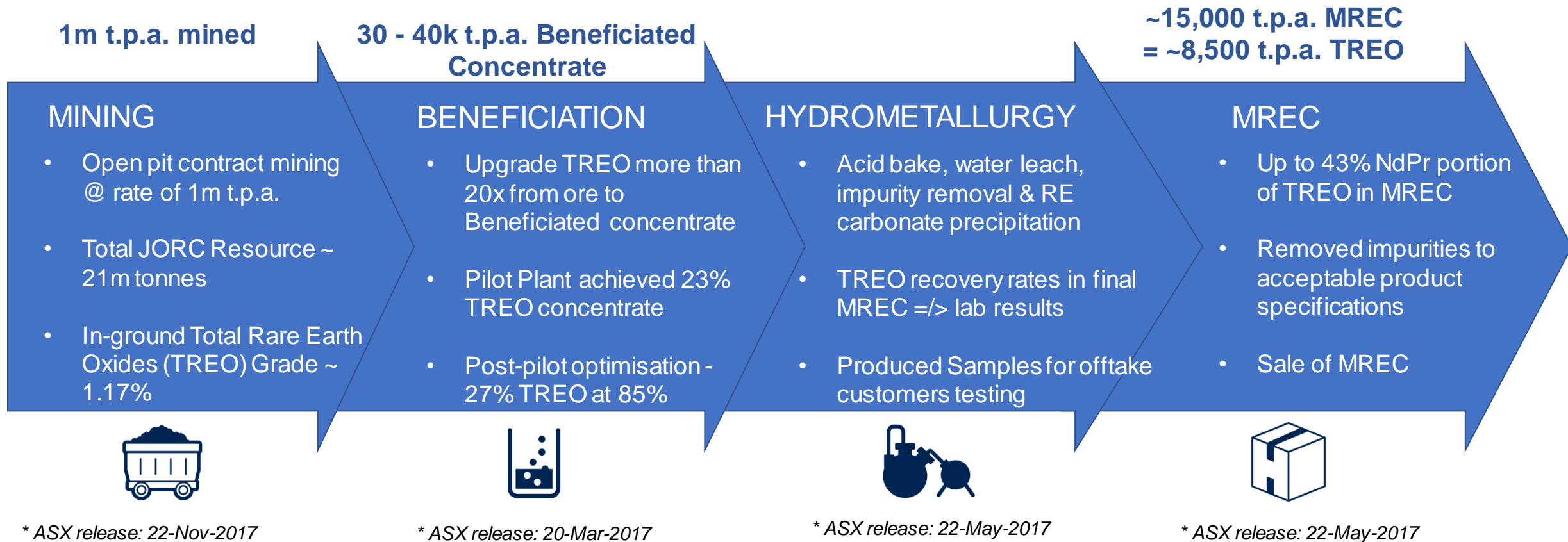
Social

- Native Title Agreement – signed Nov 2017. Hastings to provide jobs and training opportunities to native people in the Gascoyne (Yangibana project is located in the Shire of Upper Gascoyne)
- Provide contracting opportunities to local people in Gascoyne
- Ethical and Sustainable Mining - Provide confidence on compliance with ISO 26000 on social responsibility

The Yangibana Process and Product

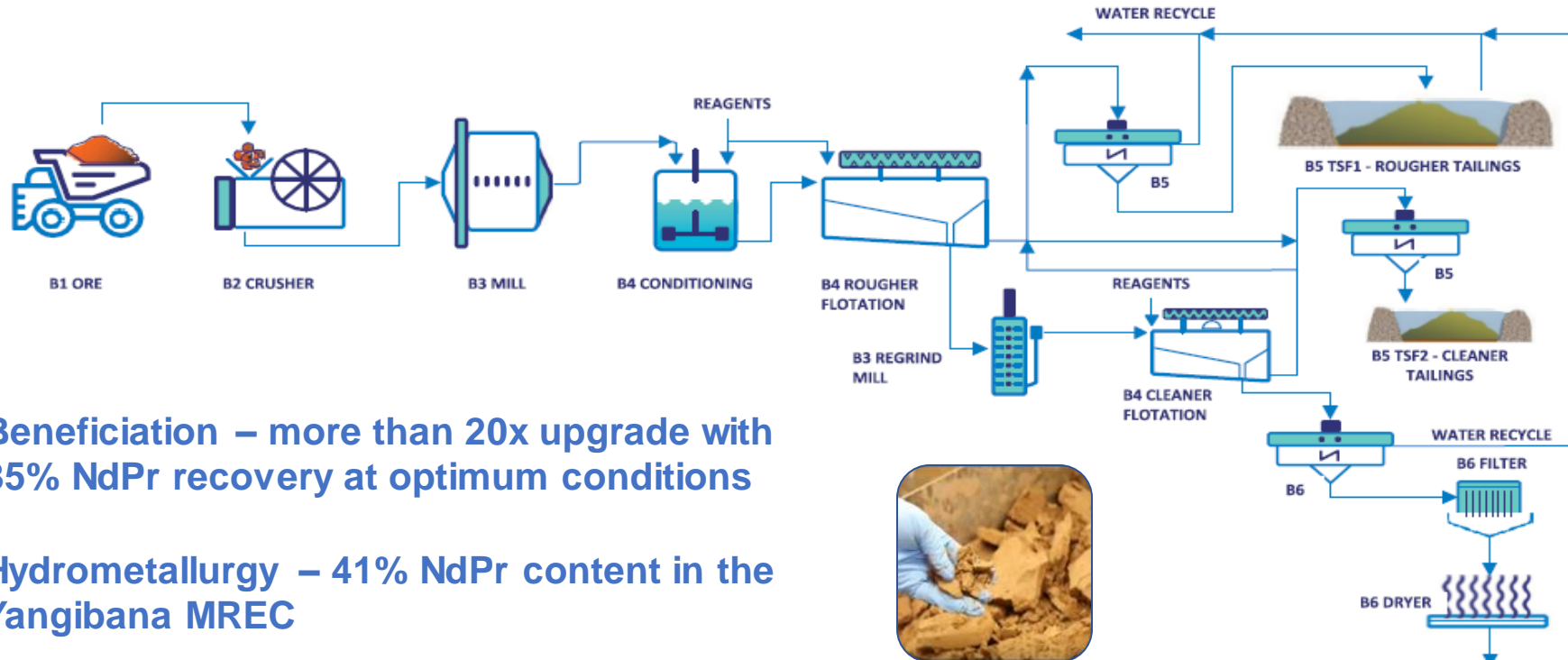
1MT of ore to produce 15KT of Mixed Rare Earth Carbonate (MREC)

Successful Beneficiation and Hydrometallurgy pilot plan test-work proves simple and effective production process flow sheet.



* See Company ASX releases for additional information on all processes.

Process Flowsheet – to produce 15KT of MREC

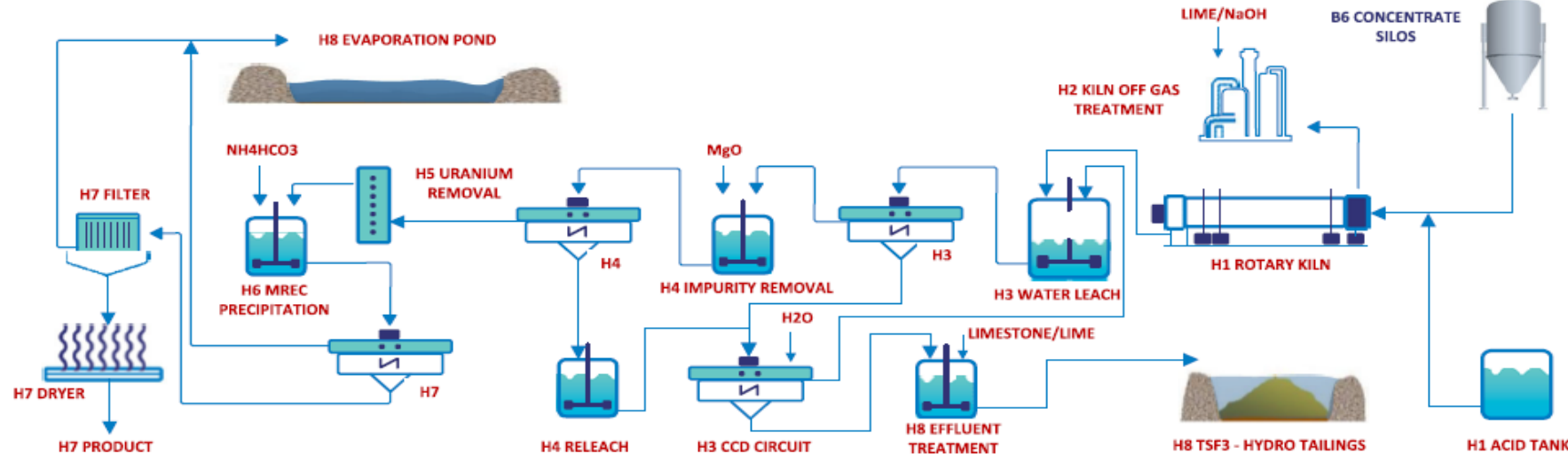


Flotation Pilot Plant
Operation at ALS, Perth



Neutralisation & Precipitation
Circuit – Hydromet - ANSTO

- Beneficiation – more than 20x upgrade with 85% NdPr recovery at optimum conditions
- Hydrometallurgy – 41% NdPr content in the Yangibana MREC



Off take MOUs/Contracts for ~70% MREC



- **5,000 tonnes per annum of Yangibana MREC for 10 years**
- For German and European automotive industry
- Signed 28 Feb 2018, contract drafting in progress



Baotou Sky Rock rare
earth new material
CO,LTD

- **2,500 tonnes per annum for 5 years** **CONTRACT SIGNED**
- Price based on 90 days mid market EXW REO price in RMB/kg reference Asian Metals; prior to shipment
- Irrevocable LC from international recognized bank, payment in USD
- **2,000 tonnes per annum for 5 years**
- Established for >30 yrs and involved in all parts of the rare earth product supply chain
- MOU signed on 13 Sept 2017 and contract drafting in progress



- **1,500 tonnes per annum** **unlikely to proceed to contract**
- Started business in 1987 and listed on HKEX in 1999
- MOU signed on 1 Sept 2017



➤ **Offtake Price will be set at average of 3 months market prices prior to shipment, FOB Fremantle**

Global Demand Growth for Permanent Magnets

CAGR 2017 – 2022: ~ 9%

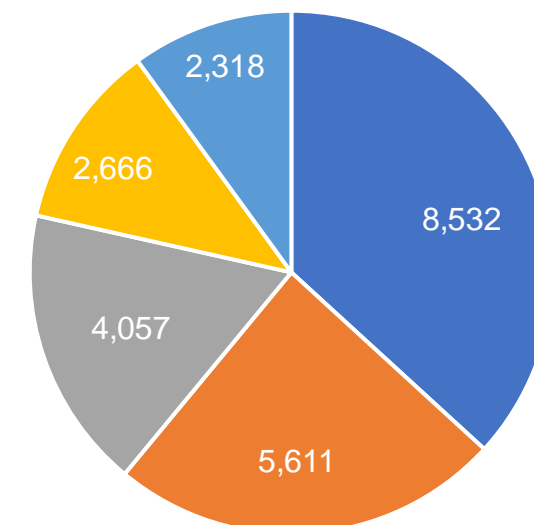
Application	2016 USDm	2017 USDm	2022 USDm	CAGR% 2017–2022
Consumer electronics	1,933.9	2,090.8	3,078.0	8.0
Electric motors	1,888.9	2,074.6	3,287.3	9.6
Sonic equipment, magnetic sensors, actuators and transducers	1,131.8	1,228.5	1,846.8	8.5
Medical devices	951.9	1,025.1	1,514.4	8.1
Generators	914.5	984.4	1,514.4	9.0
Others	674.7	732.2	1,071.0	7.9
TOTAL	7,495.7	8,135.6	12,311.9	8.7

NdFeB magnets offer the best power to cost ratio

Materials	Average Price (\$/lb.)	Average Max. Energy Product (MGOe)	\$/MGOe
Hard Ferrite	2.0	3.5	N/A
NdFeB	75.0	30.0	2.3
Samarium-Cobalt	162.0	22.0	7.4
AlNiCo	27.0	8.0	3.4

Global Market for Permanent Magnets - by Industry 2022 (USDm)

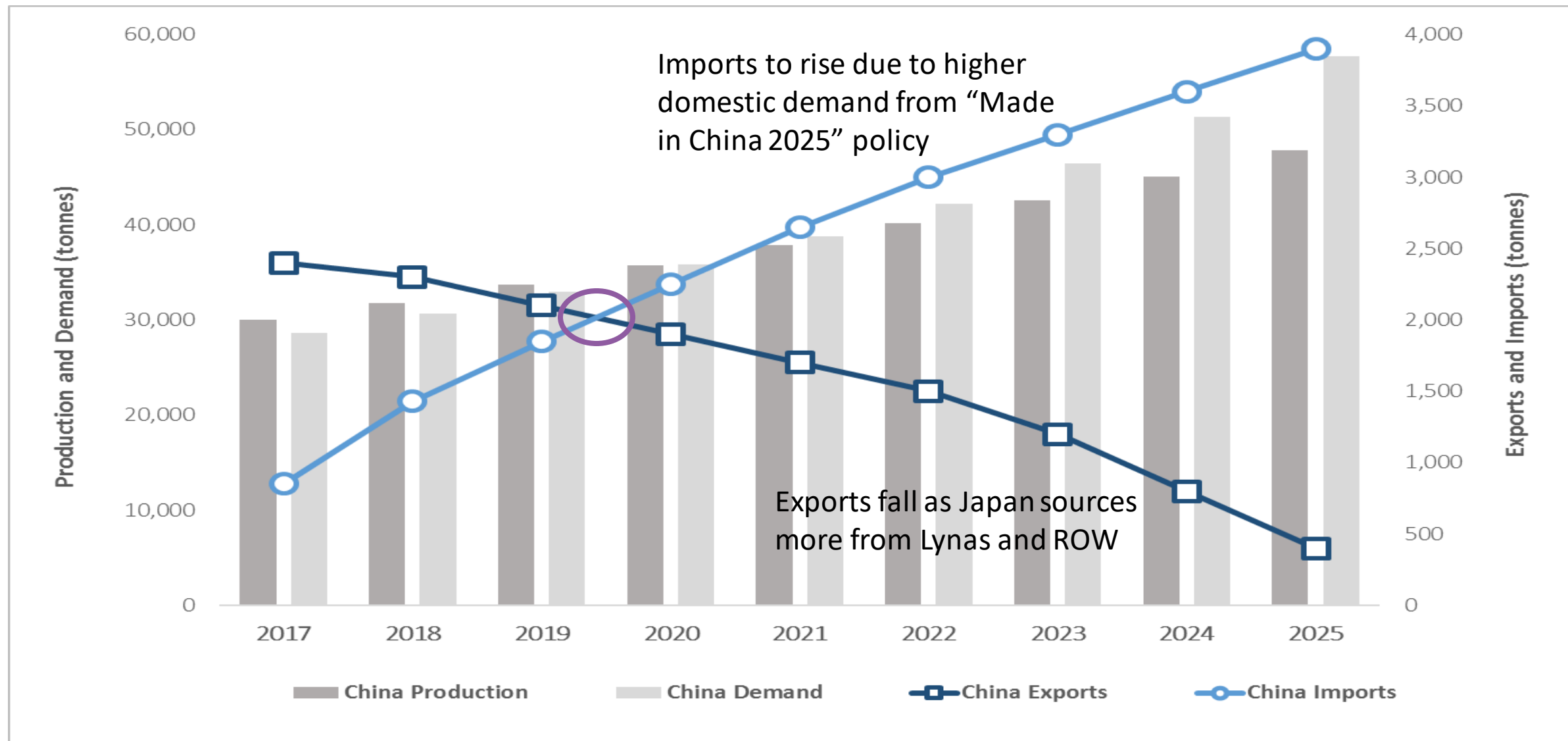
- Automotive
- Industrial
- Home appliances
- Medical
- Others



Source: BCC Research: Magnets and Magnet Materials: Global Markets Oct2017.

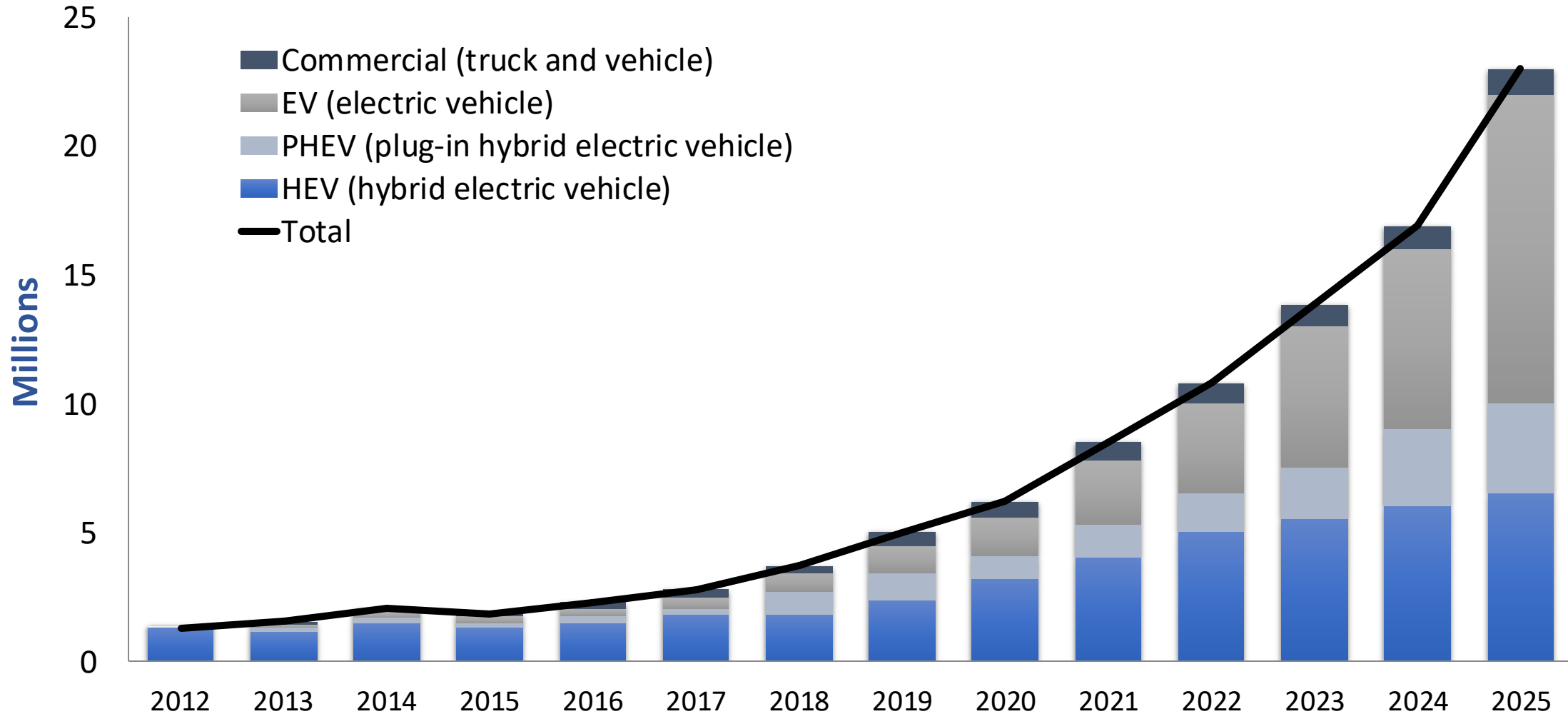
Global Nd-Pr Oxide Supply Demand 2017 - 2025

Possible shortage - crossover point in 2020



Source: Adamas Intelligence 14th International Rare Earth Conference, Nov 2017

Expected Growth of Electric Vehicle Sales Worldwide



Commitment to Electrification



VW invests US\$25bn in battery cell to make 50m electric cars ^[1]



Volvo will have an electric model in every car range by 2019 ^[2]



BMW to mass produce 12 different models of electric cars by 2020 ^[3]



Toyota commits to manufacturing 5.5m electric cars per year by 2030 ^[4]



Honda announces 'Electric Vision' to have >60% of European car sales in electric cars by 2025 ^[4]



Daimler invests US\$1bn to ramp up EV production in the US ^[5]



^[1] Tech Crunch: Volkswagen plans to make 50 million electric cars, says CEO (Nov 2018)

^[2] Volvo's Official Website

^[3] Reuters: BMW gears up to mass produce electric cars by 2020 (Sept 2017)

^[4] The UK Times: Toyota commits to manufacturing 5.5m electric cars a year (December 2017)

^[5] Mercedes-Benz pours US\$1bn into electric car product in the US (Sept 2017)

Timetable to Production



Milestones to production by Q4 2020

PROJECT IMPLEMENTATION SCHEDULE FOR YANGIBANA RARE EARTHS PROJECT

	####		2018												2019												2020											
Activities	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O		
Definitive Feasibility Study (DFS)																																						
Permitting & Approvals																																						
Design for Access Road & Bulk Earthwork for Accom Camp																																						
Construct Access Road & Accomodation Camp																																						
Basic Engineering Design (BED)																																						
Detailed Engineering (Adv FEED & EPCM)																																						
Procure Long Lead Equipment - Rotary Kiln																																						
Procure Long Lead Equipment - Gas Scrubber/SAG Mill																																						
Procurement (other equipment & bulk material)																																						
Off-site fabrication of major steelwork and equipment																																						
On-site production plant construction																																						
Commissioning																																						
Commercial Production Start																																						

Above shows only the main Tender Packages

Definitive Feasibility Study (DFS) – Yangibana

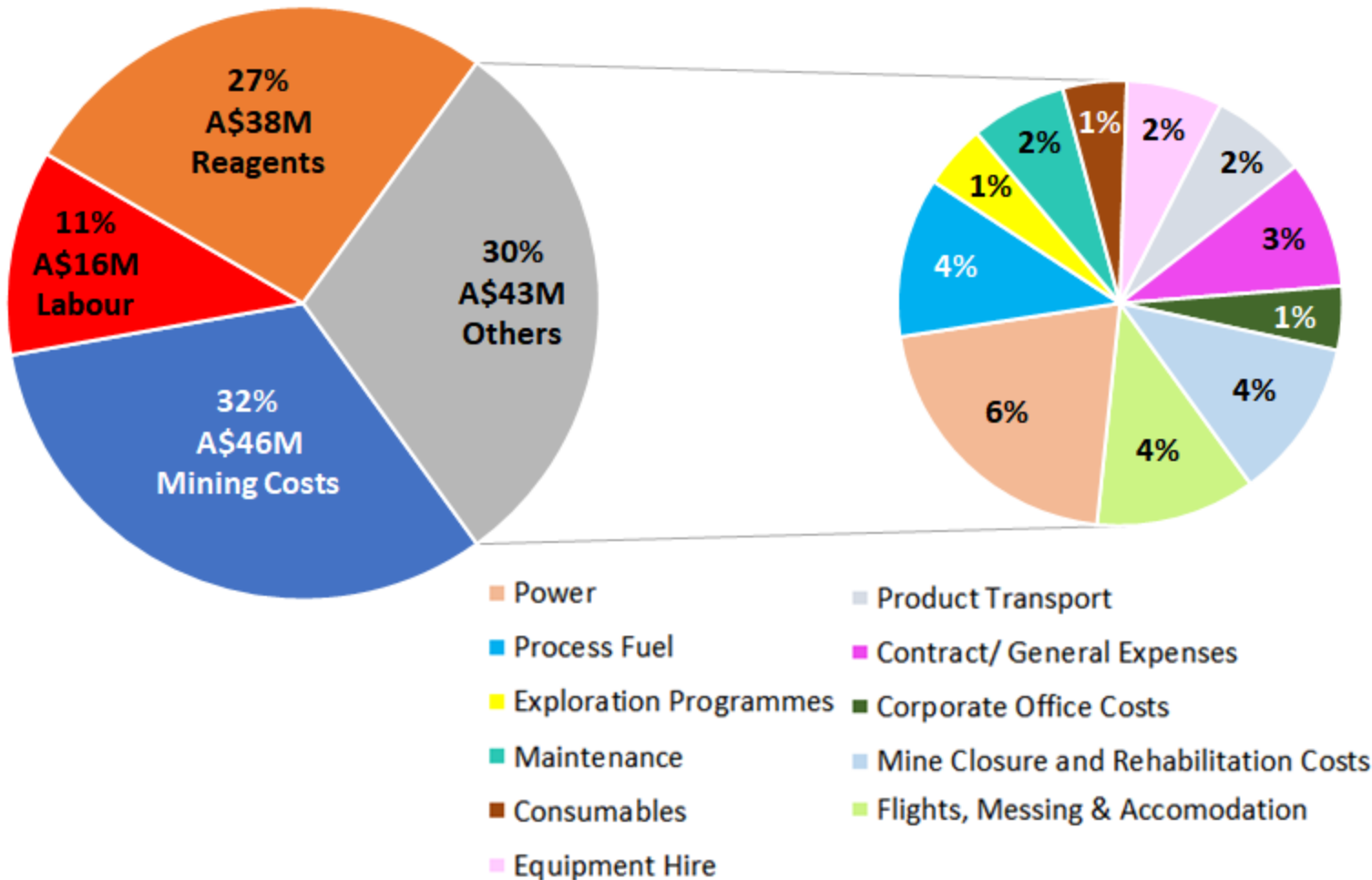
Independent Study by Wave International and Snowden

- **JORC Resource of 21MT** supports an initial 8 years mine life on 100% held ground
- Maiden JORC Probable Ore **Reserves of 5.15MT** on 100% owned ground
- Highest known Neodymium & Praseodymium (Nd-Pr) content at **41% of TREO**
- Mining 1m tonnes pa to produce up to **15,000 tpa** of Mixed Rare Earths Carbonate
- Nd-Pr metallurgical recovery **75.6%** achieved in pilot test plant
- Financial Highlights:
 - **NPV (after tax) = A\$466m at 8% discount rate**
 - **IRR = 78%**
 - **EBITDA payback of 2.3 years** from average equity drawdown period
 - Pre-production **CAPEX – A\$335m ; OPEX - A\$17.06/kg TREO (US\$12.8/kg)**
- Additional Production Target will **increase Reserves to 8MT** on 100% owned ground

DFS Operating Cost A\$17.06/kg (US\$13.00/kg) of TREO

Pretax Profit Margin ~ 25% at current REO prices

A\$142m / year split by cost category

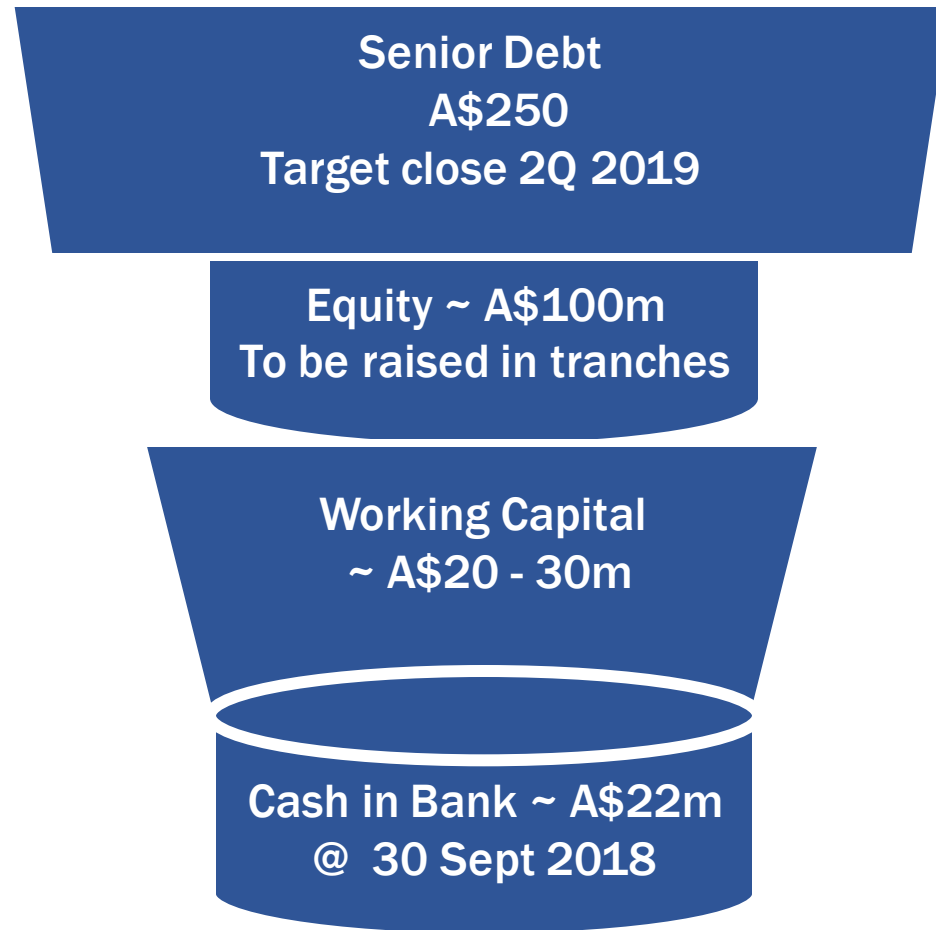


- Sept 2018 MREC Basket Price USD25.00/kg (A\$33.30) vs DFS of USD 30.50/kg (A\$40.65)¹
- Post-DFS Opex Costs estimate increase to USD14.00/kg (A\$18.67) vs DFS Opex of USD13.00/kg (A\$17.06)¹
- Expect increase in Opex due to recovery in resource sector
- Financing costs, etc. ~USD1.70/kg (A\$2.30)
- Separation costs: USD3.00/kg (A\$4.00)
- **Estimated profit margin USD7/kg (A\$9.70/kg) = 25% profit margin**

¹Other than small changes noted there have been no changes in underlying assumptions or production targets since the DFS was released on 28 November 2017. USD1.00=AUD0.75

Funding Programme

KfW commenced due diligence, expected to complete Jan 2019

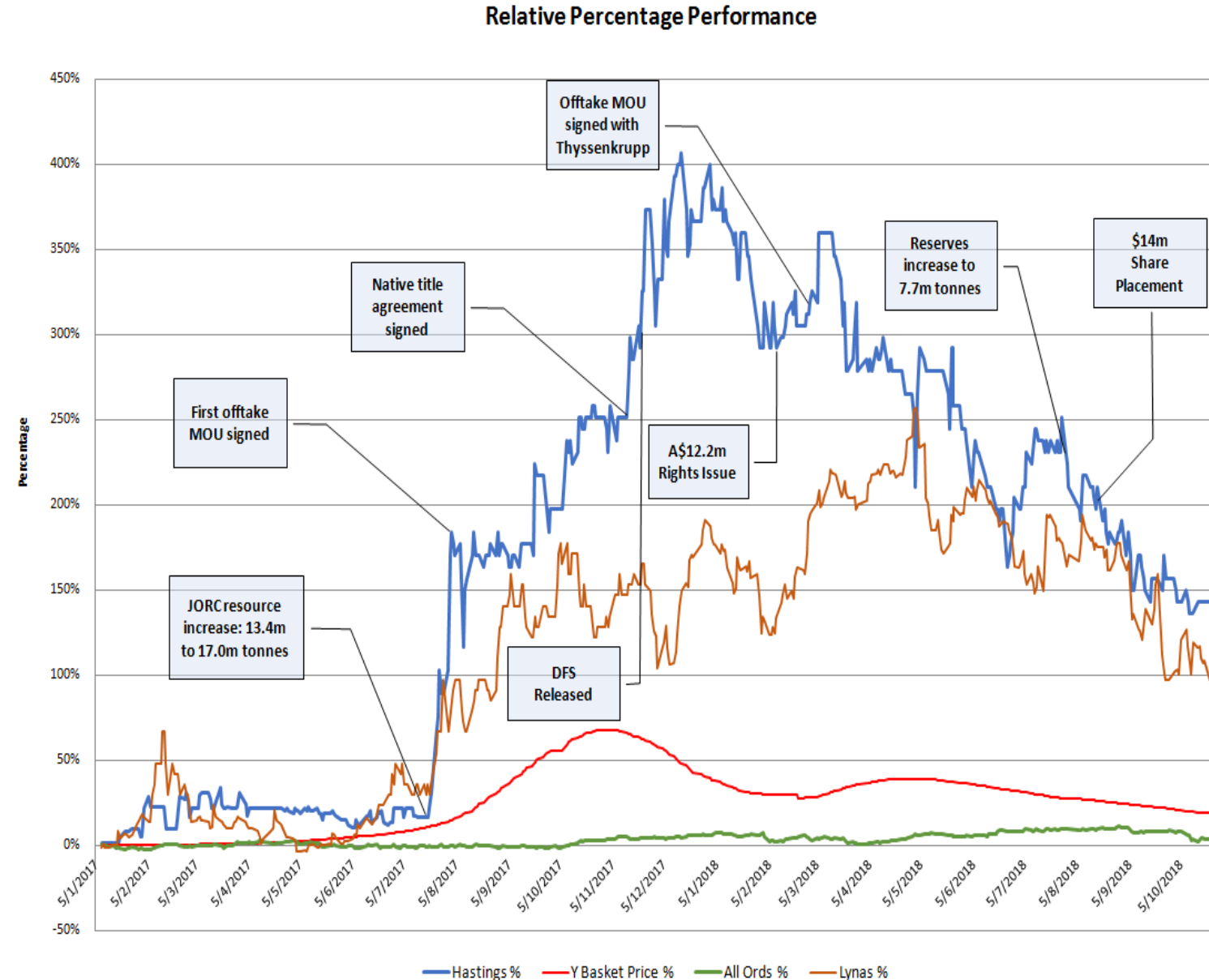


- DFS capex A\$335m, capex review underway by DRA Global
- Project Finance funding – 65% Debt : 35% Equity
- Proposed Structure:
 - ✓ Senior Debt (7 years) ~ \$250M
 - ✓ Equity ~ \$100 -120M
- KfW German state bank as lead project finance bank - involvement via Thyssen offtake
- Opportunity to access German government loan guarantee scheme (UfK) which offers concessionary interest rates
- Planned equity capital raising in 2 or 3 separate tranches prior to close of debt financing (expected 2Q 2019)

Hastings Equity Statistics (HAS:ASX)

Steady growth in market cap since Jan 2017

- Market Cap ~ **A\$ 150m**
- ~ 1250 Shareholders
+55% in 2017
- Top 10 shareholders
(Malaysians) owns
~ 70%
- **A\$75m** raised since 2014
- **Cash: A\$22m** as reported on
30th Sept 2018
- **No Debt**
- Included in the **ASX All Ordinaries Index**



Experienced Directors and Management Team



Neil Hackett

**Non Executive Director &
Company Secretary**

- Corporate Finance and Regulatory Experience ASIC 1990-1999
- 10 years investment and funds management experience
- 15+ years ASX Director, Company Secretary and Senior Executive mining and industrial experience
- Independent Corporate Governance Advisor and AICD Facilitator



Charles Lew

Executive Chairman

- Corporate Finance Director HG Asia Securities 1990 - 1997
- MD of ABN Amro Investment Bank Singapore 1997 - 2000
- Independent Director of RHB Banking Group 2004 - 2016
- 30+ years experience in investment banking in London (HSBC & Robert Fleming) and in Singapore
- Private investor and entrepreneur in F&B, real estate, financial services, etc



Jean Claude Steinmetz

**Non-Exec. Director / Commercial
Director**

- Previously Chief Operating Officer for Lynas Corporation
- 25+ years Involved in the chemical industry with Rhodia and General Electric
- Chairman of the Auto Plastic and Innovative Materials Committee of Sino-EU Chemical Manufacturers Association

Executive Management Team

In depth experience and specialised skills



Andy Border
General Manager
Exploration

- 40+ years experience as a geologist
- Rare earths, copper, gold and industrial minerals
- Recent roles include Exploration Manager, COO and MD of a number of ASX-listed companies with projects in Australia and elsewhere



Valerie Quay
Legal Counsel

- Barrister at Law, Middle Temple UK and Herbert Smith LLP London
- Focused experience in corporate commercial law
- Management & Strategy consulting at McKinsey & Co, London
- Deputy Director – Strategy and Corporate Governance, National Philanthropic Centre, Singapore



Andrew Reid
Chief Operating Officer

- 25 years of expertise in mine management, geology and mining engineering concentrating on open pit and narrow vein mining
- Developed and managed mining projects in West Africa and Finland
- Previously COO of Finders Resources, GM of Kevitsa Mine, First Quantum Minerals, etc



Pit Wah Chung
Chief Financial Officer

- 20 years experience in financial reporting and tax
- Regional Financial Controller of Lifestyle Investment Group
- CFO of Muddy Murphy Holdings and Breadtalk Group Ltd
- Chartered Accountant of Singapore & fellow member of The Association of Chartered Certified Accountants (ACCA)



Robin Zhang
Process Engineering
Manager

- 20+ years experience in R&D, project engineering, plant commissioning & operations
- 8 years Lynas - Senior Technical Services & Project Development Manager
- 11 years at Gansu Rare Earth Group China - Deputy Director Technical Centre

Summary – Key Facts

- ❖ Rapid growth in EV will drive NdPr Demand
- ❖ Public Environmental Review advertised and completed with favourable outcome
- ❖ Offtake - contract signed with Boatou SkyRock; MOU signed with Thyssenkrupp and GQD to be converted to contract
- ❖ KfW German state bank for project finance and advisory
- ❖ JORC Resource 22MT; Reserves of 8MT, targeted to increase to 10MT by end 2018
- ❖ Experienced management team with RE experience
- ❖ Mining Lease granted for 21 yrs since March 2016
- ❖ Highest NdPr content at 41%
- ❖ Production start Q4 2020



Thank you.

Q & A

