



## Yangibana Project – Begin the Future

# Important Notice – 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 announcement that relates to Mineral Resources is based on information compiled by David Princep and Lynn Widenbar. Both Mr Princep and Mr Widenbar are independent consultants to the Company and members of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Princep and Mr Widenbar have 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”). Consent by Mr Widenbar to include statements in this announcement have been provided in previous announcements entitled “Increase in Measured and Indicated Resources at Yangibana Project” dated 28 November 2018. 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 presentation that relates to the Fraser’s and Bald Hill Ore Reserve is based on information reviewed or work undertaken by Mr Steve O’Grady, AusIMM, a Director of Intermin Engineering Consultants. Mr O’Grady 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 O’Grady consents to the inclusion in this announcement and 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 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 and in the form and context in which it appears

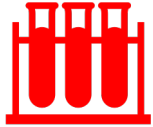
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# Australia's Next Rare Earth Producer



Up to 52% NdPr:TREO, highest amongst peers



World leading Beneficiation upgrading of up to 25x mine grade



Low Capex – A\$449M; Production 15,000tpa MREC; equivalent to 3,400tpa NdPr oxides after separation



Next RE producer (non-China) coming to production by 2023; construction targeted to start Q2 2021



13 years mine life (New resource estimation due in Q1 2021)



Perfectly timed to benefit from global NdPr demand growth: 6% CAGR 2020 - 2027

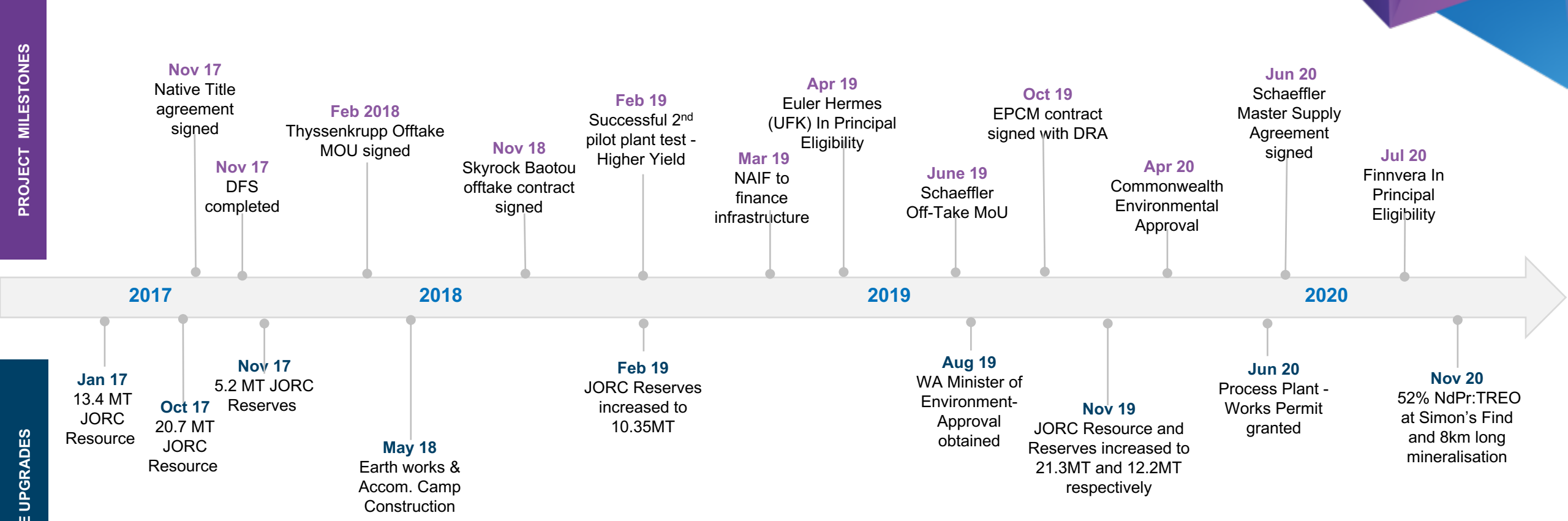


Strong Economics; NPV 2019: \$549M, IRR 21% ; Payback 3.4 yrs (revision due Q1 2021)

# Yangibana Project – Milestones Achieved

PROJECT MILESTONES

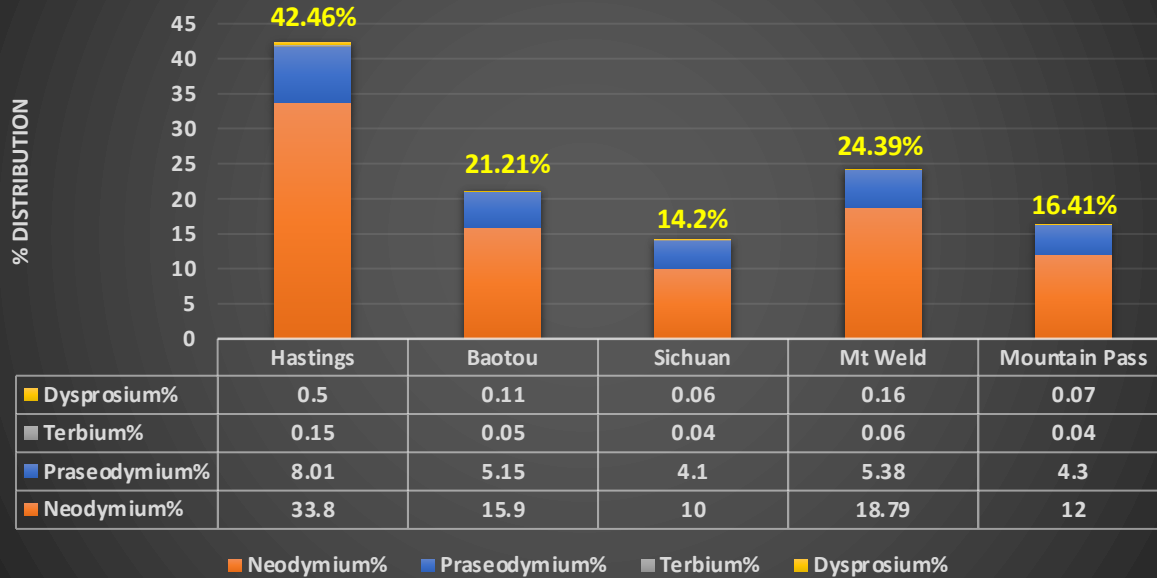
RESERVE & RESOURCE UPGRADES





# Yangibana Advantage – Highest NdPr :TREO ratio

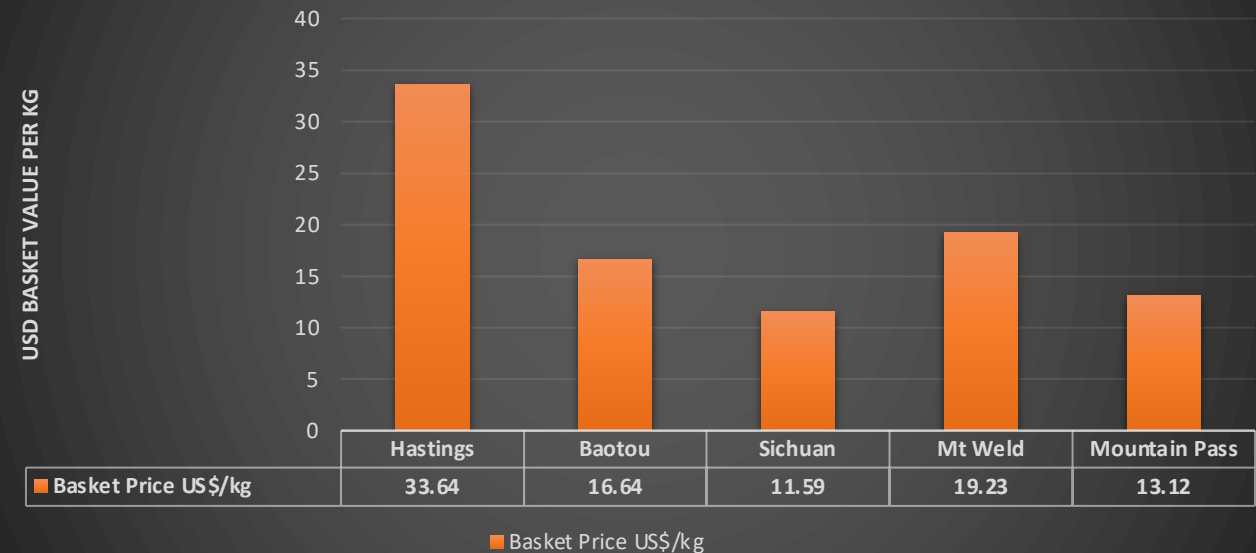
### REO Ore Distribution (Hastings vs Major Producers)



- Highest contents of key rare earth elements for any known rare earth project
- 92% of ore value contained in the 4 key elements required for electric vehicle market

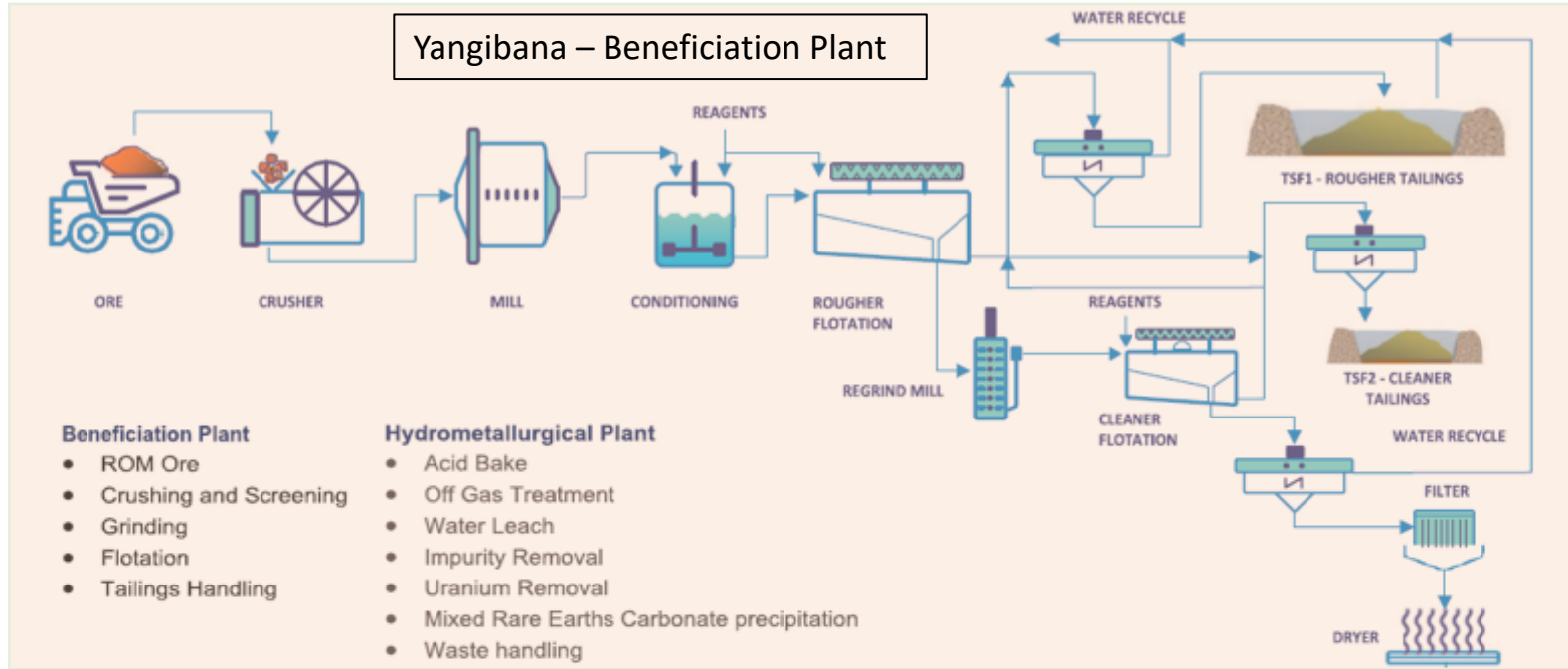
- Highest value Rare Earths Project for Ore value per kg
- 75 – 175% higher value ore products than any current producing rare earth project

### TREO Basket Value USD per KG



Source: Computation based on Asian Metal market price of RE oxides as at 27 Nov 2020

# Economics – Its not about the TREO grade



Grade from the Mine

Company	TREO % (Head Grade)	NdPr: TREO	NdPr %
1	16%	24%	3.84%
HAS	1.2%	41%	0.50%
3	2.77%	26%	0.73%



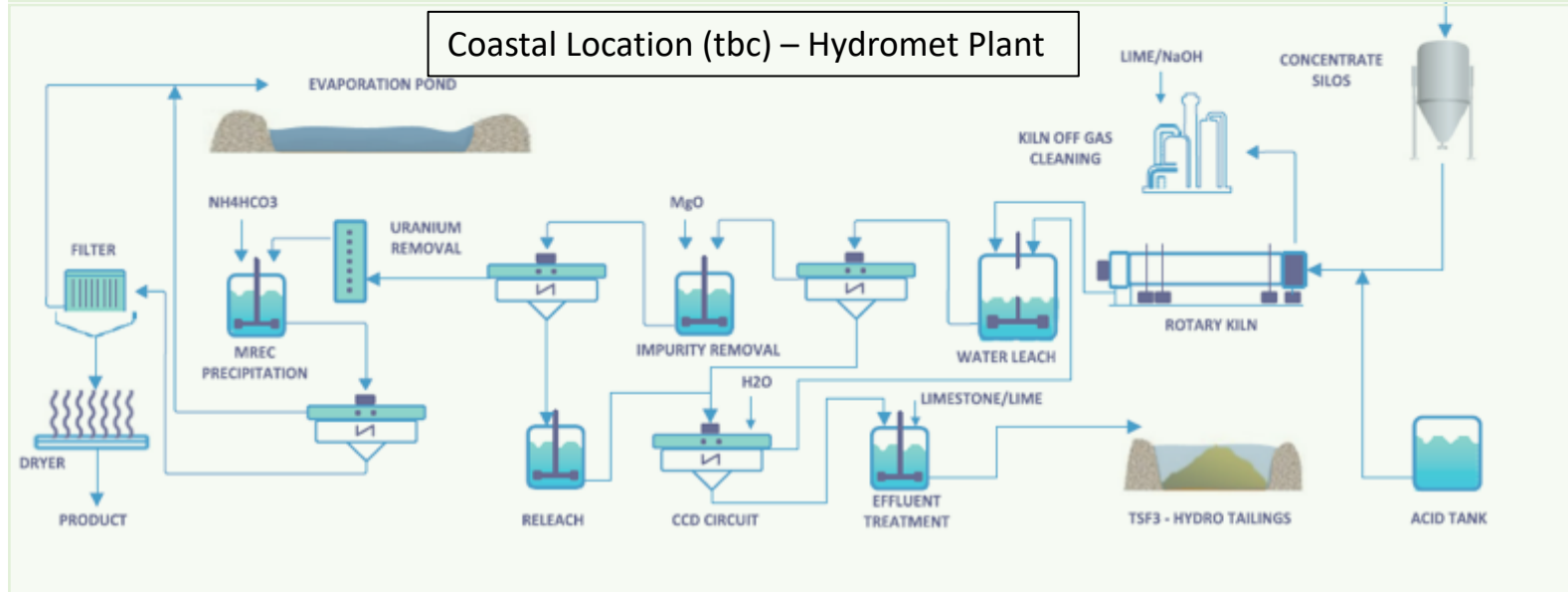
End of Flotation Stage

Company	TREO % (Head Grade)	TREO% Con Grade	% of NdPr in Con	Con Upgrade Factor
1	16%	35%	8.4%	2.2x
HAS	1.2%	27%	11.1%	22.0x
3	2.77%	7.0%	1.85%	2.5x



Final Product

TREO Con Grade in MREC	% of NdPr in MREC	Process Plant Upgrade factor
59%	22%	50x



## High NdPr content allows for lower separation cost vs China

	MREC (t)	TREO%	NdPr:TREO	% of NdPr per tonne	REO (t)	NdPr (t)
China	27,750	59%	20%	12%	16,373	3,275
Hastings	15,000	59%	37%	22%	8,850	3,275

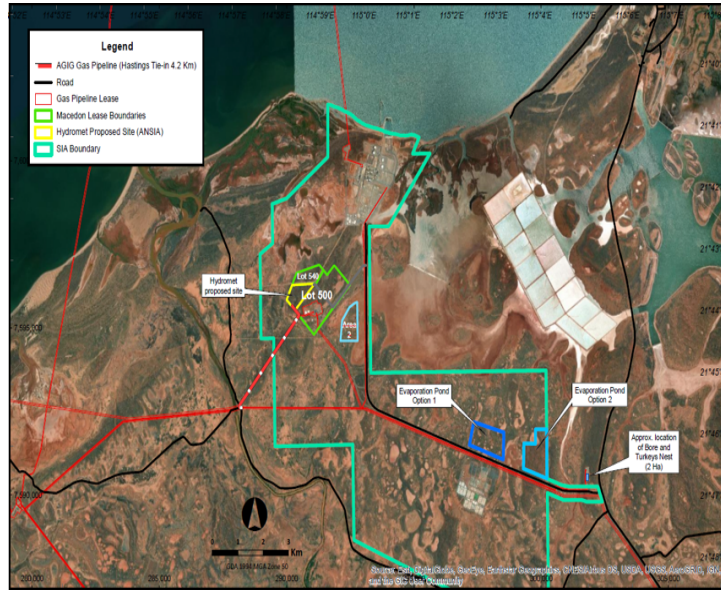


### Hastings' MREC

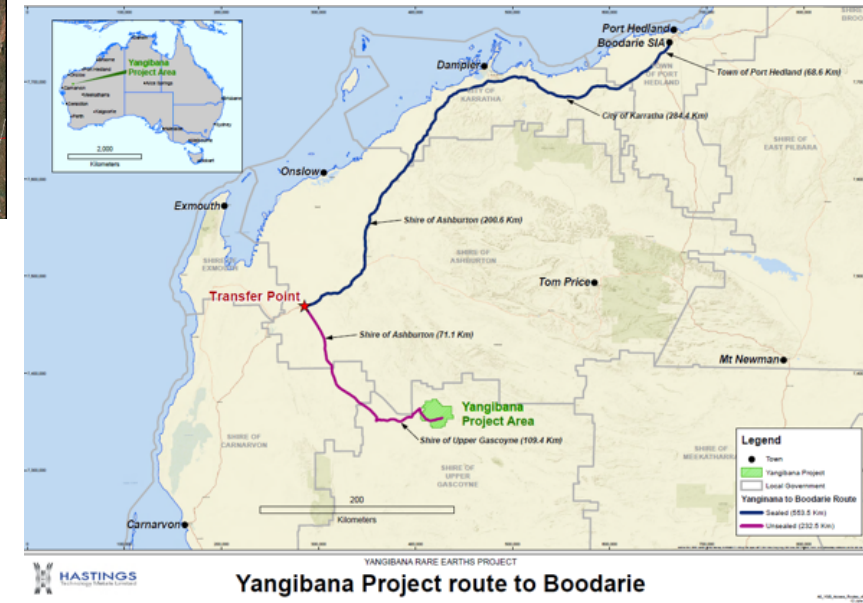
- almost 2x cheaper to separate than (20% NdPr:TREO) Chinese reference MREC; or
- almost 4x cheaper to separate than actual (10% NdPr:TREO) Chinese actual MREC
- Contains 59% TREO or 22% NdPr in every tonne of MREC
- > 40% NdPr:TREO first 8 years from Bald Hill and Frasers pits
- 37% NdPr:TREO average from 5 different open pits based on 13 years mine life.



## Onslow Strategic Industrial Area

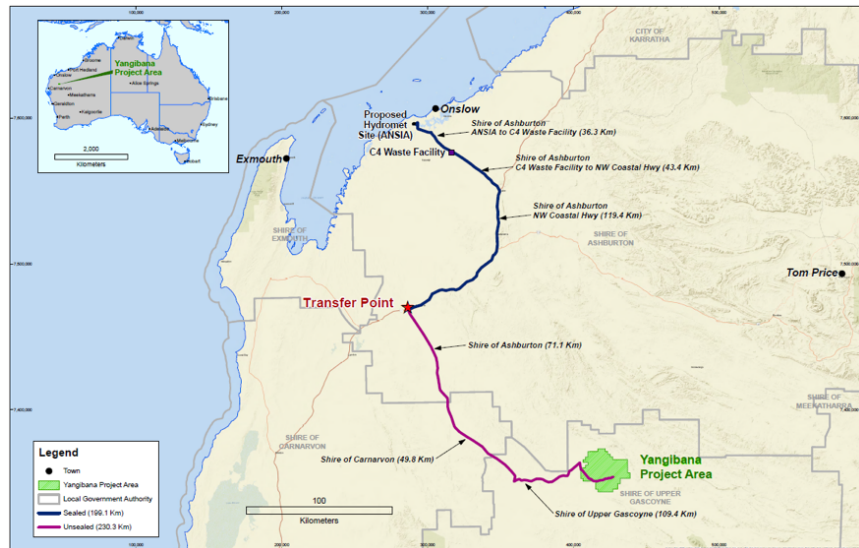


## Port Hedland Industrial Area



Services available at both sites

- Gas
- Mains Power
- Water
- Port Facilities
- Roads
- IT Comms





## 2020 Drilling Program

1. 23,000m of RC drilling – completed
2. 5,000m of close space drilling – completed
3. Metallurgical test samples – near completion zones.



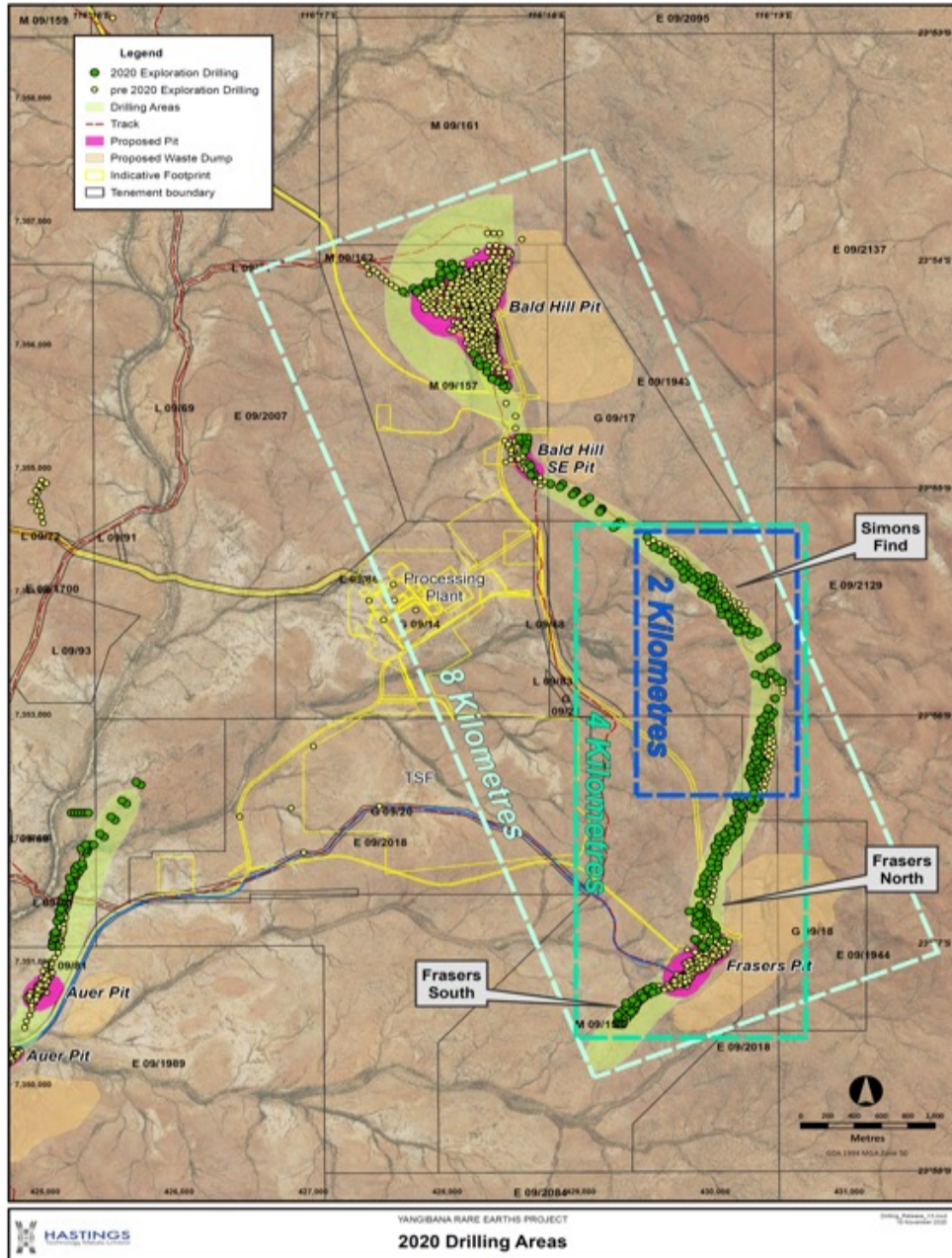
GC Drilling at Bald Hill

## RC Drilling at Bald Hill



Exploration Drilling at Bald Hill

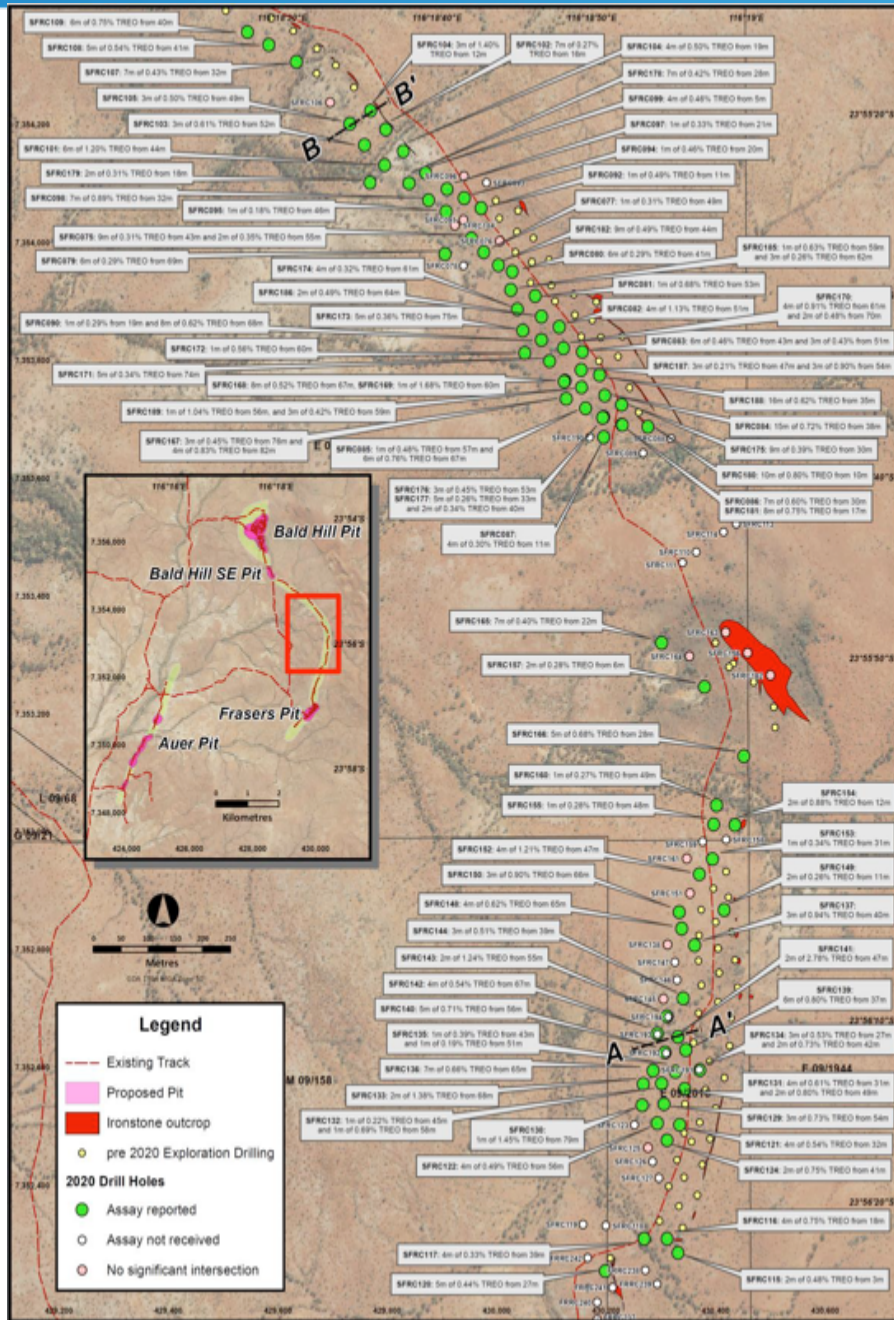
# Bald Hill - Simon's Find - Frasers (8kms long)



1. Drilling results confirm a major 2km long zone of economic mineralisation at Simon's Find
2. Simon's Find and the recently announced Fraser's North and South drill results form a continuous zone of economic mineralisation 4km long
3. The Fraser's - Simon's Find - Bald Hill trend now forms an 8km-long economic mineralised corridor



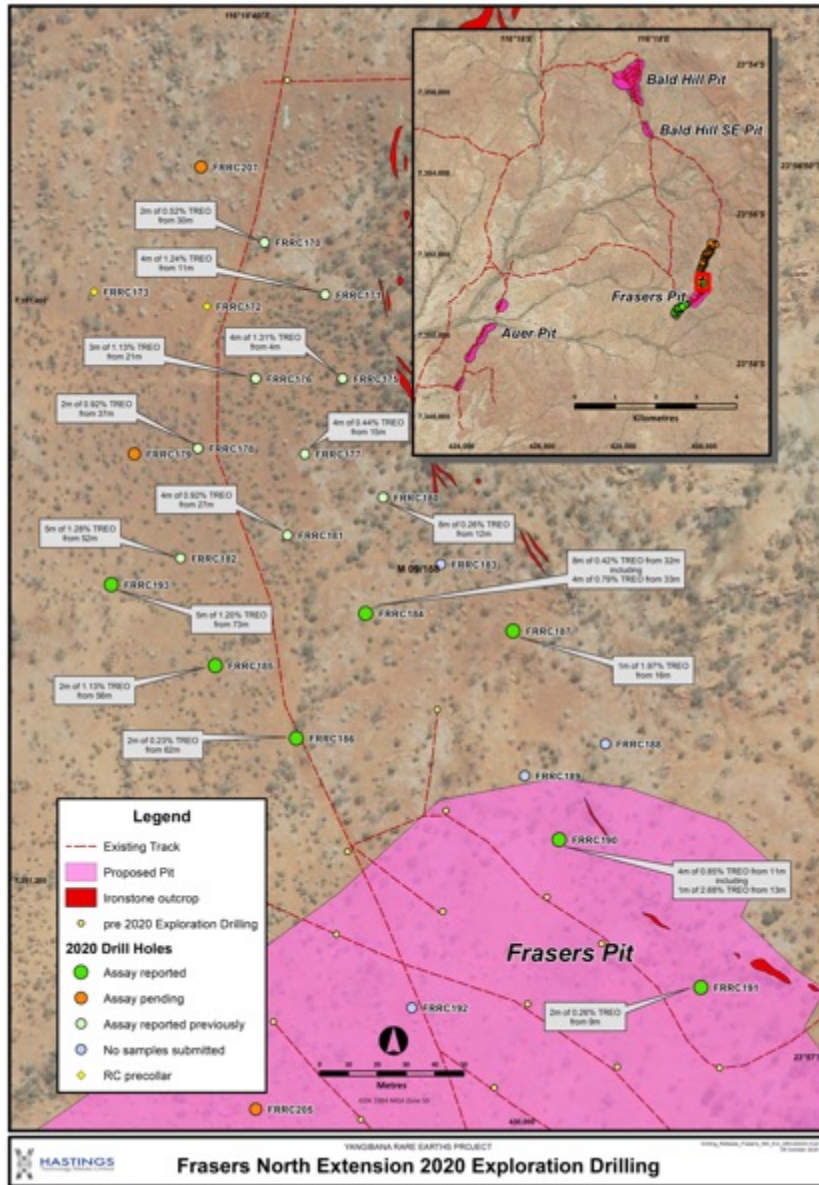
# Simon's Find Drilling Results



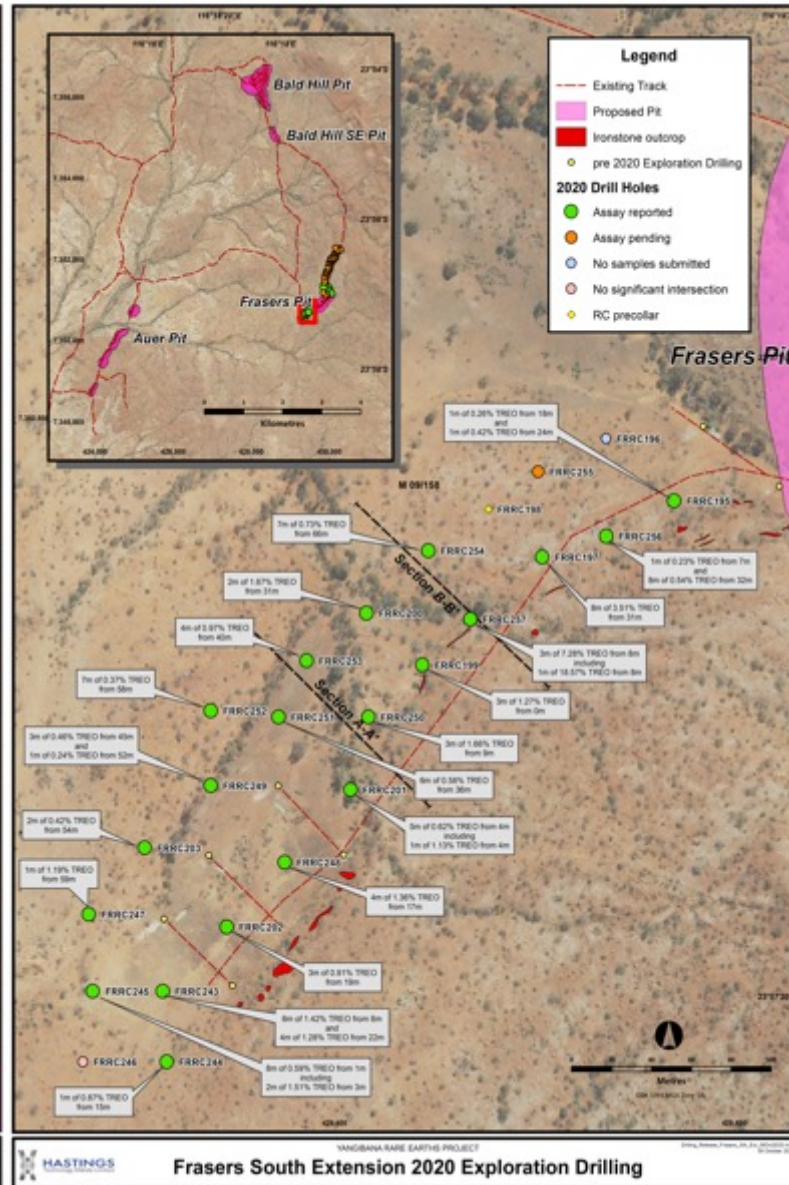
- **World leading grade of neodymium ( $\text{Nd}_2\text{O}_3$ ) + praseodymium ( $\text{Pr}_6\text{O}_{11}$ ) = 52% of the TREO (total rare earth oxides) values.**
- These results are **significantly higher** than the 40-41% values recorded from the nearby Bald Hill and Frasers deposits.
- High-grade and shallow intersections from Simon's Find include:
  - 2m @ 2.78% TREO from 46m
  - 6m @ 1.20% TREO from 43m
    - including 4m @ 1.61% TREO
  - 4m @ 1.21% TREO from 46m
  - 15m @ 0.72% TREO from 37m
    - including 6m @ 1.11% TREO
  - 2m @ 1.38% TREO from 67m
  - 7m @ 0.89% TREO from 31m
    - including 2m @ 1.76% TREO
  - 3m @ 1.40% TREO from 11m
  - 6m @ 0.75% TREO from 39m
    - including 2m @ 1.51% TREO



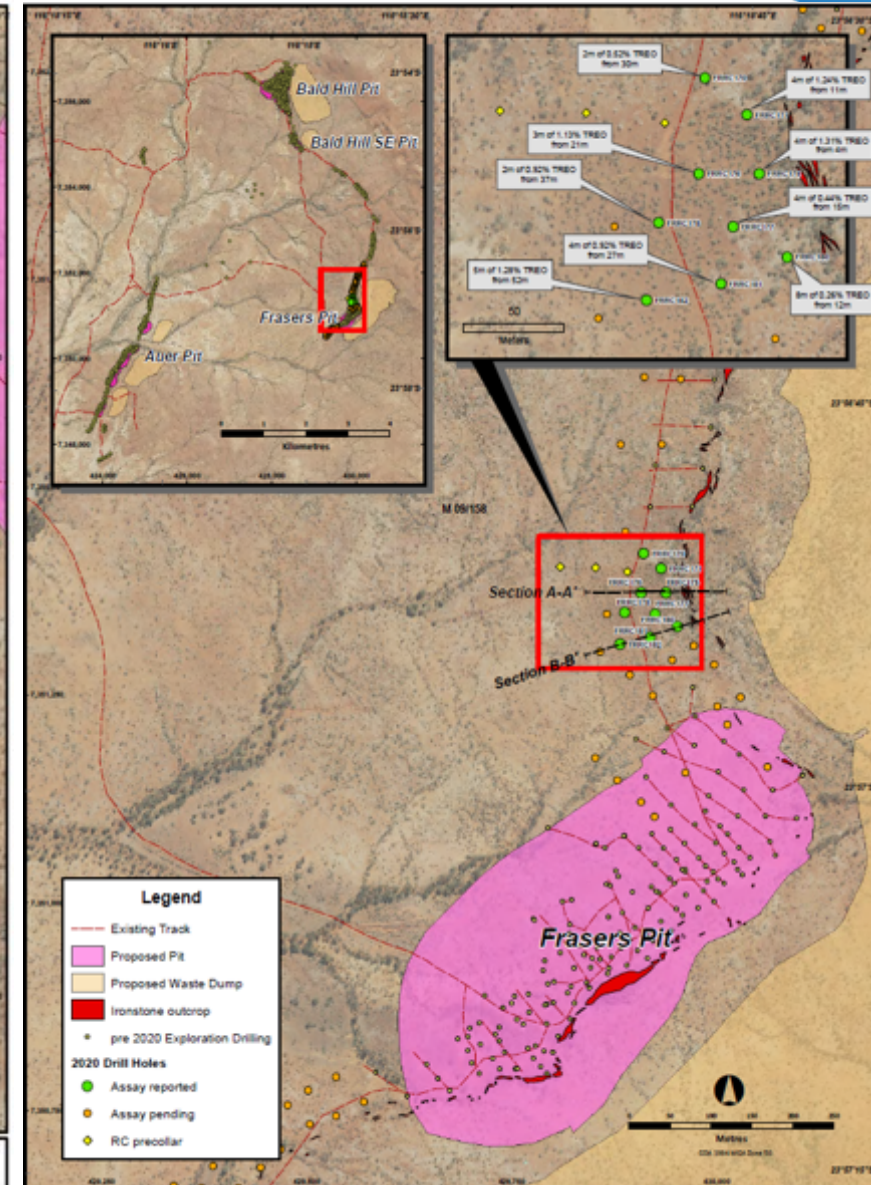
## Frasers North



## Frasers South

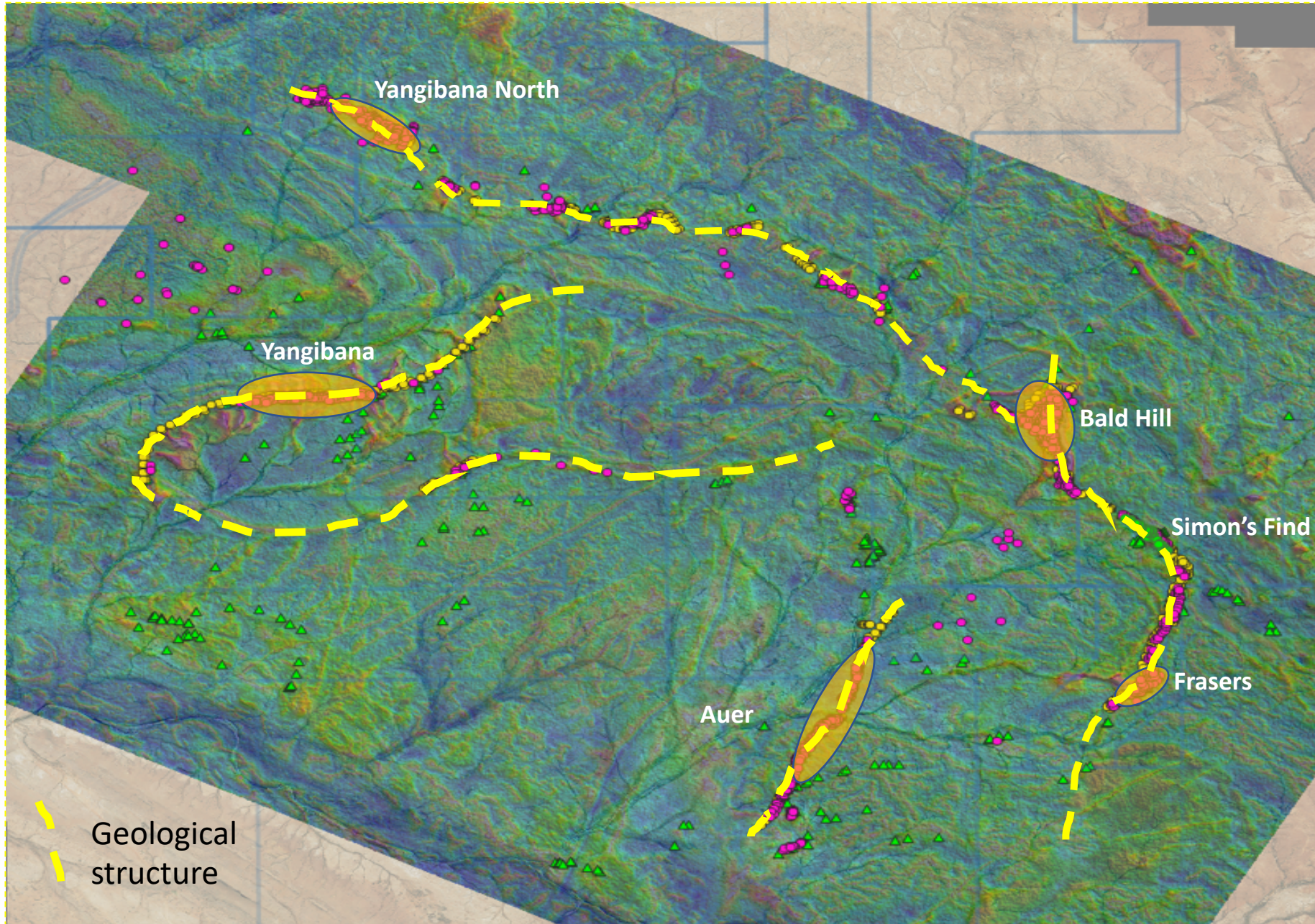


## Potential Pit Size





# Exploration Potential – What is the Upside ?



## Drilling

- Historic
- Planned
- Assays Pending

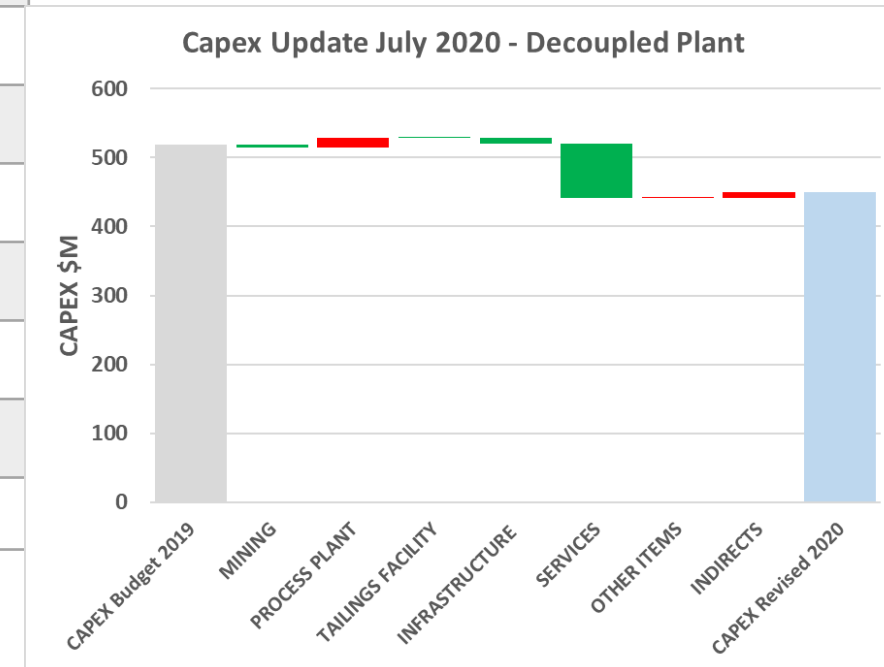
# Capex Scenario – excluding contingency

Decoupling of beneficiation and hydromet plant savings total \$68M

	<b>Capex Budget 2019 (\$m)</b>	<b>Capex Revised 2020 (\$m)</b>	<b>Variance (\$m)</b>
<b>Mining</b>	14	10	-3
<b>Process Plant</b>	167	181	14
<b>Tailings Facility</b>	19	18	-1
<b>Infrastructure</b>	77	69	-8
<b>Services</b>	130	50	-79
<b>Other Items</b>	9	9	0
<b>Indirects</b>	104	112	8
<b>Totals</b>	<b>517</b>	<b>449</b>	<b>-68</b>

## CAPEX savings

- Reduced by \$68m
  - Hydromet to Onslow (tbc)
  - Eliminated Gas pipeline

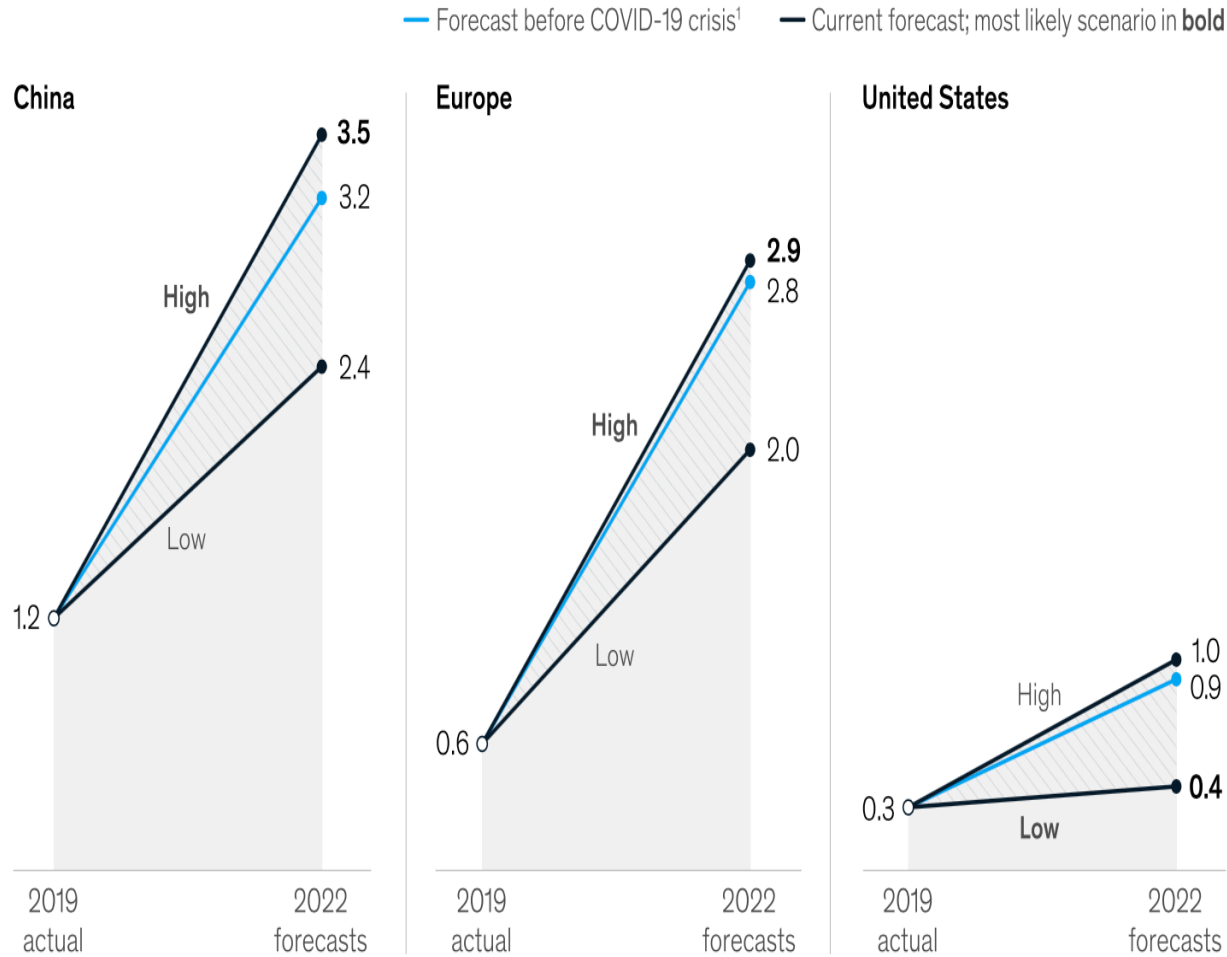




# EV: 2022 forecast market share – McKinsey Report

## China and Europe EV market forecasted to grow much faster than in US

Electric-vehicle sales, millions of units



- Government regulations and incentives will propel EV penetration. Forecast EV mkt share from 2019 to 2022 :
  - China: from 5% to 11-14% (~1.2m to 3.5m units)
  - Europe: from 3% to 14/15% by 2022 (~0.6m to 2.9m units)
  - US: from 2% to 3-6% by 2022 (~0.3 to 1.0m units)
- EU automakers are relying on EVs to achieve Europe's 2020/21 carbon-dioxide emissions limits of 95 gm of CO2 per km
- China government extended EV subsidies to end 2022 and spending RMB10bn (US\$1.4bn) in expanding the charging network.
- US – uncertain economics, regulatory outlook and low gasoline prices (due to low crude oil price) discourage purchase of EV. (Biden victory may accelerate pace of EV adoption)
- Germany: October - BEV and PHEV > 48K units registered = 18% of total vehicle sales for Oct, record month \*
- UK to ban petrol and diesel cars by 2030
- By 2030 : Estimated EV sales in China - 35 – 50%  
Europe is 35 – 45% of total vehicle sales

Source: McKinsey Report September 2020

\* Cleantechica - Nov 22nd 2020

- **Market for Magnet Rare Earth Oxides to Increase 5x by 2030 <sup>(1)</sup>**
  - Total NdFeB magnet demand forecasted to increase at 9.7% CAGR and prices projected to increase at CAGRs of 5.6% to 9.9% over same period
  - Global magnet rare earth oxides consumption will rise 5x by 2030, from US\$2.98B in 2020 to US\$ 15.65B by 2030
- **Annual NdFeB Shortages of 48KT Expected by 2030 <sup>(1)</sup>**
  - Constrained by an expected under-supply of NdPr and Dy oxide from 2022 onwards
  - Forecasts global shortages of NdFeB alloy and powder will amount to 48KT p.a. by 2030 equals to approx 25 to 30 million EV traction motors
- **Annual NdPr Oxide Shortages of 16KT Expected by 2030 <sup>(1)</sup>**
  - Constrained by lack of new primary and secondary supply sources from 2022 onwards
  - Global shortages of NdPr and Dy oxide will collectively rise to 16KT tonnes in 2030, an amount equal to approximately 3x Lynas annual output
- **Passenger EVs are forecast to grow at over 26%pa over the next decade <sup>(2)</sup>**
  - By 2022, EV demand for NdFeB magnets to be double wind turbines and dominate the industry towards the end of the decade, accounting for over 40% of demand
- **January to August 2020, China's rare earth exports fell 25.7% year over year to 24,377 tonnes due to <sup>(3)</sup>:**
  - Changes in international market demand and risks because of pandemic and trade tensions
  - Anticipation that Chinese government will launch a stockpiling program for light rare earth due to strong domestic demand

Source: (1) *Adamas Intelligence Sept 2020*  
(2) *Roskill Aug 2020*  
(3) *S&P Global Market Intelligence Sept 2020*



> 65% of production contracted for 10 yrs with strong offtake counterparties

<b>Offtake Counterparty</b>	<b>SCHAEFFLER</b>		
<b>Contract Status</b>	Master Supply Agreement Signed Jun-2020	MOU signed 2018, advanced contract drafting Target signing March	Offtake Agreement Signed Nov-2018.
<b>Quantity</b>	5,000t MREC p.a.	5 – 7,500t MREC p.a	2,500t MREC p.a.
<b>Tenor</b>	10 years	10 years	5 Years Fixed Term with 2 year flexible ramp-up of supply.

<b>Offtake Counterparty</b>	<i>Confidential</i>	<i>Confidential</i>
<b>Contract Status</b>	MOU signed Apr 2020 - in contract drafting for MSA	Advance negotiation and contract Drafting
<b>Quantity</b>	Approx. X,000t MREC p.a	X,000t MREC p.a.
<b>Tenor</b>	5 + 5 years	10 years

- Loans to be underpinned by long term offtake contracts with German Tier 1 companies, Schaeffler and Thyssenkrupp
- KfW IpeX Bank mandated to advise on German untield loan guarantee scheme UfK which attracts concessionary financing, subject to certain conditions benefiting Germany
- KPMG Corporate Finance Australia advising on multi lenders debt financing package
- NAIF and KfW conducted due diligence in 2019 pre-decoupling of beneficiation and hydromet plants.
- Lenders conducting additional due diligence now based on relocation of hydromet plant.
- **Concessionary Senior Debt ~A\$200M**
  - **North Australia Infrastructure Facility (NAIF):** Rare earth being categorised as critical minerals, is eligible for Australian government concessionary financing support
  - **UfK: Euler Hermes** provided eligibility for UfK loan scheme subject to certain conditions including jobs creation in Germany, tax revenue, etc
  - **Finnvera Export Credit Financing ~A\$100M** - Process plant equipment supplied by Outotec of Finland qualifies for ECA support
- **Commercial Lenders (A\$50 - 100M)**
  - Term Sheet received from European and Australian banks and specialist resource funds – due diligence and negotiations in progress



KfW IPEX-Bank



Euler Hermes



Australian Government | Northern Australia Infrastructure Facility



Finnvera



SOCIETE GENERALE

## Indicative Debt/Equity Structure

	A\$M	A\$M	%
Project Capex – Mine & Process Plant	449		
Contingency @ 15%	67		
<b>Total Project Capex*</b>		<b>516</b>	<b>80%</b>
Sunk cost up to DFS		33	5%
Working capital		27	4%
Financing costs/ IDC / ECA insurance premium, etc		66	11%
<b>Total funding for the Project</b>		<b>642</b>	<b>100%</b>
Equity/cash raised since 2014 - capitalised		133	21%
Project Finance (NAIF, UFK, FV and Commercial Banks)**		385	60%
Balance of equity to raise		124	19%
<b>Total sources of fund</b>		<b>642</b>	<b>100%</b>



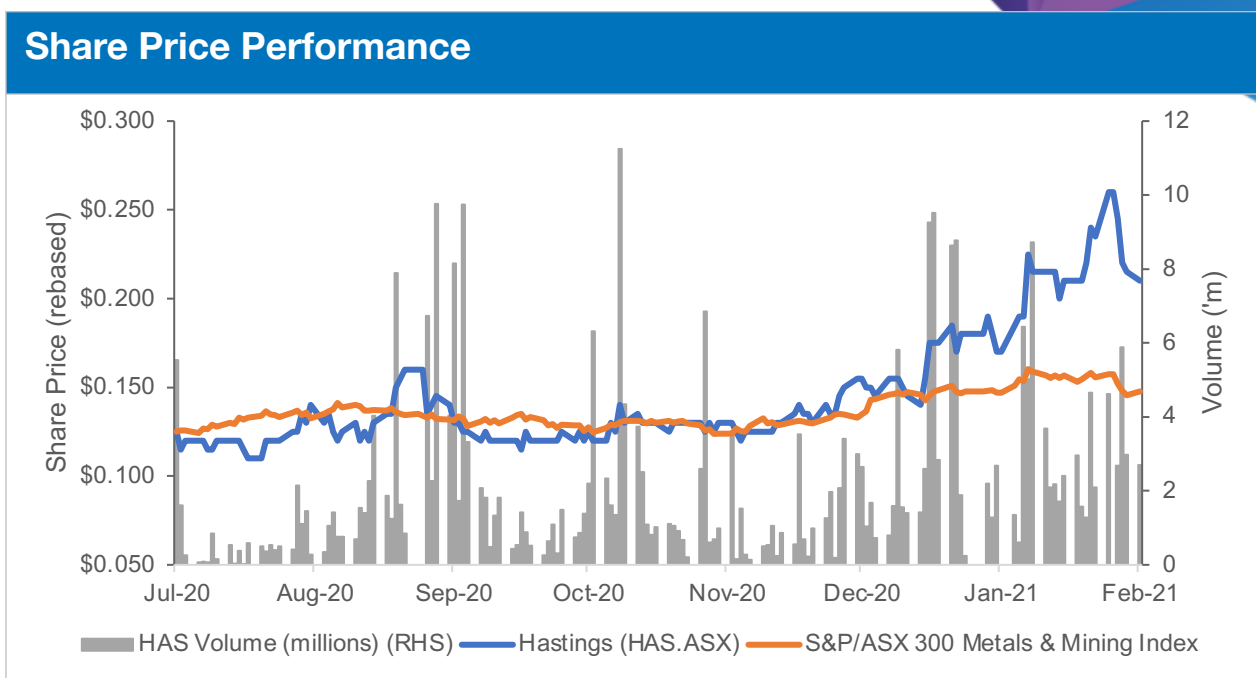
*\*New capex updated - 29 July 2020*

*\*\*Multi-source package being arranged with a range of government lenders and commercial debt financiers*

*# Exercise of options will add A\$32M to balance sheet*

# Capital Structure

Capital Structure	\$/Shares
Cash Balance (at 31 Dec 2020)	A\$20M
Shares in Issue	1,200M
Share Price (3rd Feb 2021)	A\$0.22
Market Capitalisation	A\$265M
Performance Rights (directors & staff)	19.5M
Options: ex-price @ 25c (expires Apr 2022)	126.7M



Major Shareholders	%
Foon Keong (Charles) Lew	10.1%
Mun Kee Chang	6.80%

Board Of Directors	
Charles Lew	Executive Chairman
Jean Claude Steinmetz	Non Executive Director
Mal Randall	Non Executive Director
Bruce McFadzean	Non Executive Director
Neil Hackett	Non Executive Director
Guy Robertson	Finance Director

Register Breakdown	
Shareholders	~2,000
% of Register Institutions/HNW Investors	~80%





**Jean Claude Steinmetz**  
Non Executive Director

- Joined the Board in July 2016
- Chief Operating Officer for Lynas Corporation 2013 - 2015
- 25+ years in the chemical industry with Rhodia and General Electric
- Chairman of the Auto Plastic and Innovative Materials Committee of Sino-EU Chemical Manufacturers Association



**Bruce McFadzean**  
Non Executive Director

- Joined the Board in Jan 2021
- Managing Director of Sheffield Resources since 2015
- 40+ years in the global resource industry including 15+ years with BHP Billiton & Rio Tinto
- Led successful financing and operation of mines around the world



**Charles Lew**  
Executive Chairman

- Appointed Chairman in Dec 2013
- 30+ years investment banking experience in London and Singapore.
- Entrepreneur with business experience in hedge fund, F&B and real estate
- MD of ABN Amro Investment Bank Singapore 1997 - 2000
- Independent Non Executive Director of RHB Banking Group 2004 - 2016



**Guy Robertson**  
Finance Director

- Served on the Board of Hastings since 2011
- 30+ years CFO experience
- CFO for various ASX listed junior mining companies
- Senior finance executive in Jardine Matheson Group in Hong Kong and Australia including Jardine Lloyd Thompson, Colliers Jardine, and Franklins Limited



**Mal Randall**  
Non Executive Director

- Joined the Board in Feb 2019
- 45+ years extensive experience in corporate, management and marketing in the resources sector including 25+ years with the Rio Tinto group of companies.



**Neil Hackett**  
Non Executive Director

- Joined the Board in Nov 2018
- 15+ years ASX Director, Company Secretary with mining and industrial experience
- Corporate Finance and Regulatory Experience ASIC 1990-1999
- Independent Corporate Governance Advisor and AICD Facilitator

# Experienced Senior Management Team



**Nick Holthouse**

**General Manager –  
Engineering & Operation  
Readiness**

- Joined Hastings in Feb 2019 with 30+ years experience in surface & underground mining operations, engineering & surveying in commodities – gold uranium, coal and base metals
- Managed, Commissioned / Operated mines & process plants in remote regions
- Merdeka Mining, Finders Resources, CSA Global



**Matthew Allen**

**Chief Financial Officer**

- Joined Hastings in 2021 with 20+ years experience in finance, operational & management of public companies in resource sector
- CFO and Managing Director of Otto Energy Ltd in the US, and spent 8 years as Finance Manager at Woodside Energy
- Chartered Accountant Australia & New Zealand (CAANZ), a Fellow of FinSIA and a Graduate Member of the Australian Institute of Company Directors (AICD).



**Andrew Reid**

**Chief Operating Officer**

- Appointed COO in Nov 2018
- 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



**Valerie Quay**

**Legal Counsel**

- Joined Hastings in Sept 2017
- Barrister at Law, Middle Temple UK and Herbert Smith LLP London
- Focused specialist in corporate commercial law ; 3P sector partnership
- Cross culture & multi jurisdiction experience in Management & Strategy Consulting



**Robin Zhang**

**Process Engineering Manager**

- Joined Hastings in May 2016 with more than 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





**Engineering, Procurement, Construction and Management (EPCM)**



**Commodity Market Analysis**



**Project Finance Legal Counsel to Borrower**



**Project Finance Debt Advisory**



**Independent Technical Experts to Lenders**



**Financial Adviser to Euler Hermes**



**Environmental and Social Gap Analysis Report**



**Cost Benefit Analysis Report**





## **Competent Persons and Qualifying Persons Statement**

The information in this announcement that relates to Exploration Results in relation to the Yangibana Project is based on information compiled by Mr. Andrew Reid BSc (Hons) MSc FAusIMM, a Competent Person, who is a Fellow of the Australian Institute of Mining and Metallurgy. Mr. Reid 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. Reid consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

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