

**M**  **AGNETITE**

M I N E S



# Global Iron Ore & Steel Forecast Conference

March 2022

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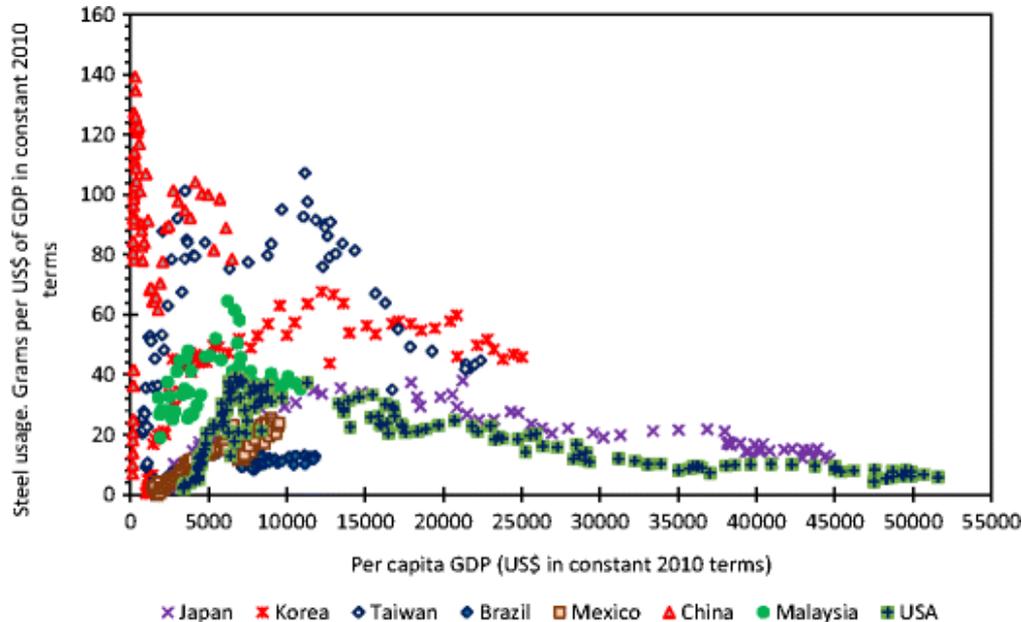
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## ACKNOWLEDGEMENT OF COUNTRY

Magnetite Mines, our shareholders and our stakeholders acknowledge the Ngadjuri People as the Traditional Owners of the lands on which the Razorback Iron Ore Project is located. We respect their continuing custodianship of this Country, and their spiritual and cultural beliefs and practices.

# Steel intensity of use models widely used, but many issues

**Steel usage versus per capita GDP**



- Conventional analysis suggests steel intensity in a country increases as countries develop, peaking then plateauing ('peak steel')
- But many other factors at play, such as trade, stocks, technology, GDP composition, 'de-intensification', recycling, environmental factors etc
- China's pathway has not proved amenable to traditional intensity or econometric tools

Crowson, P. Intensity of use reexamined. *Miner Econ* 31, 61–70 (2018);  
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# Forecasting Accuracy – 2015 perspective

## Peak steel in 2015?

“China’s steel production has already hit a peak, or to put it another way, it has hit a turning point.”

**CISA, Feb 2015**

“Concerns raised as China steel enters ‘peak zone’”

**FT, Feb 2015**

“the increasing market consensus is that China is at or close to reaching the maximum level of steel output and demand”

**Reuters, Feb 2015**

## Iron ore oversupply?

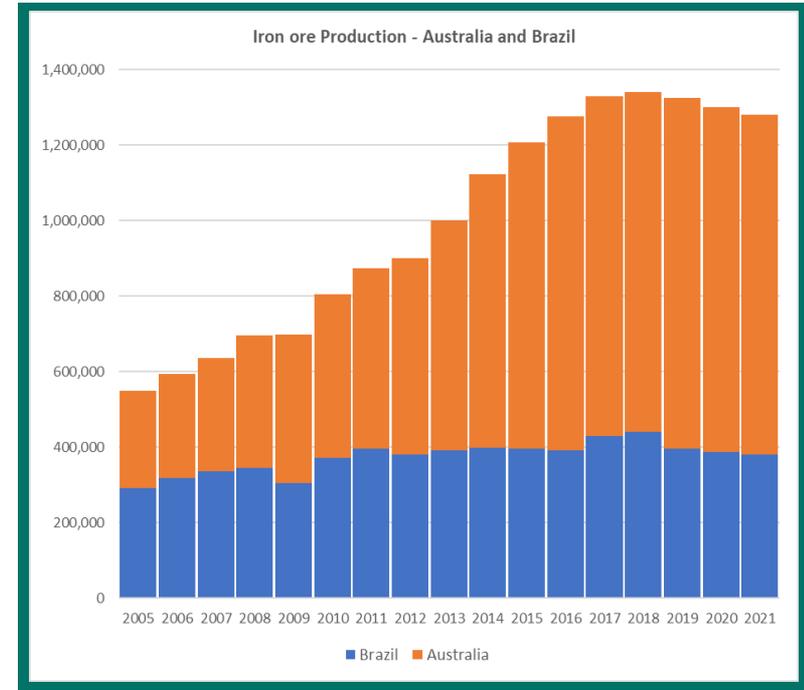
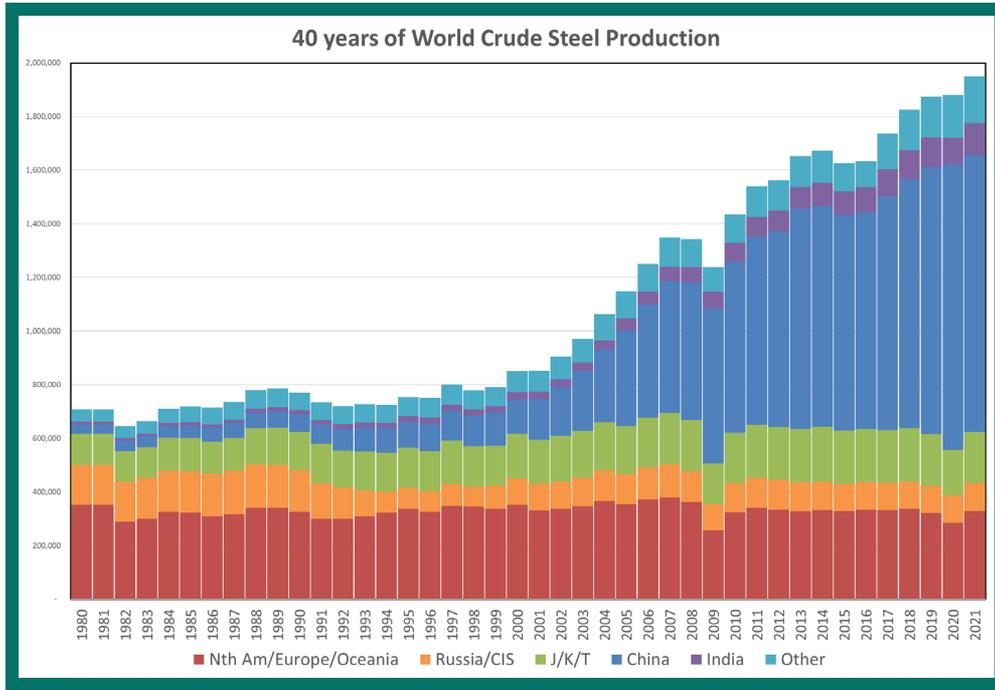
“BHP Billiton is expecting at least another ten years of iron ore oversupply before the market balances out.”

**mining.com, Jun 2016**

“There are many iron ore mining projects in the investment pipeline, and considerable capacity is likely to be added over the next two to three years. We estimate that at least 145 million mt and perhaps as much as 370 million mt of new capacity will come on stream in the period up to and including 2017.

**Anton Löf and Magnus Ericsson, E&MJ, Nov 2015**

# Actual outcomes



- Traditional steel production stable; growth shifting from China to newly industrialising economies
  - Asia (excluding China) and Africa has over 60% of global population but only 17% of crude steel production
- Without large scale, long lead investment, production exposed to operational issues and supply depletion

## The Iron Ore Market

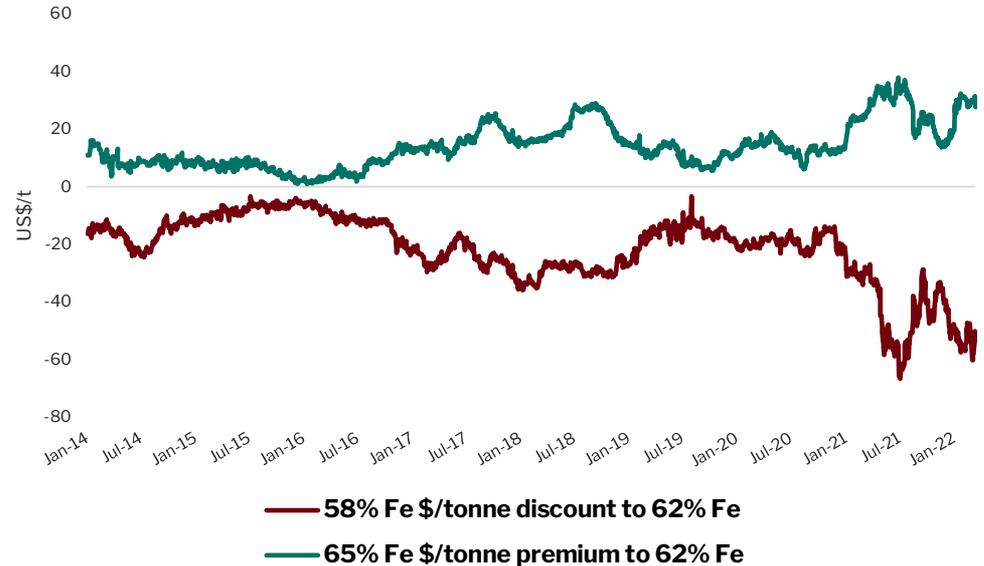
# Lower-emissions steel from high-grade ore

*“To succeed in decarbonizing the global steelmaking industry there needs to be a greater recognition of how much the iron ore supply base needs to change. Vast volumes of existing production will need to be replaced by higher-grade supply, first to meaningfully reduce CO2 emissions from the prevailing BF/BOF technology, and later to meet the demands of a DRI sector at least an order of magnitude larger than it is today”*

**PETER HANNAH**  
FASTMARKETS/METAL BULLETIN

<https://www.fastmarkets.com/article/3974510/iron-ores-critical-role-in-decarbonizing-steelmaking>

### Fastmarkets iron ore index grade spreads (US\$/tonne)



### CRU

*“Steelmakers need to adopt best practices that prioritise decarbonisation with existing assets. Some of these best practices include installation of energy efficient technology, optimisation of the blast furnace (BF) burden (e.g. with high-grade ore)”*

<https://www.crugroup.com/knowledge-and-insights/insights/2021/decarbonisation%0B-challenges-in-the-steelmaking-industry>

# Large Resource, Long Life

## The Braemar and Razorback

### LARGE, ACCESSIBLE MINERAL RESOURCES

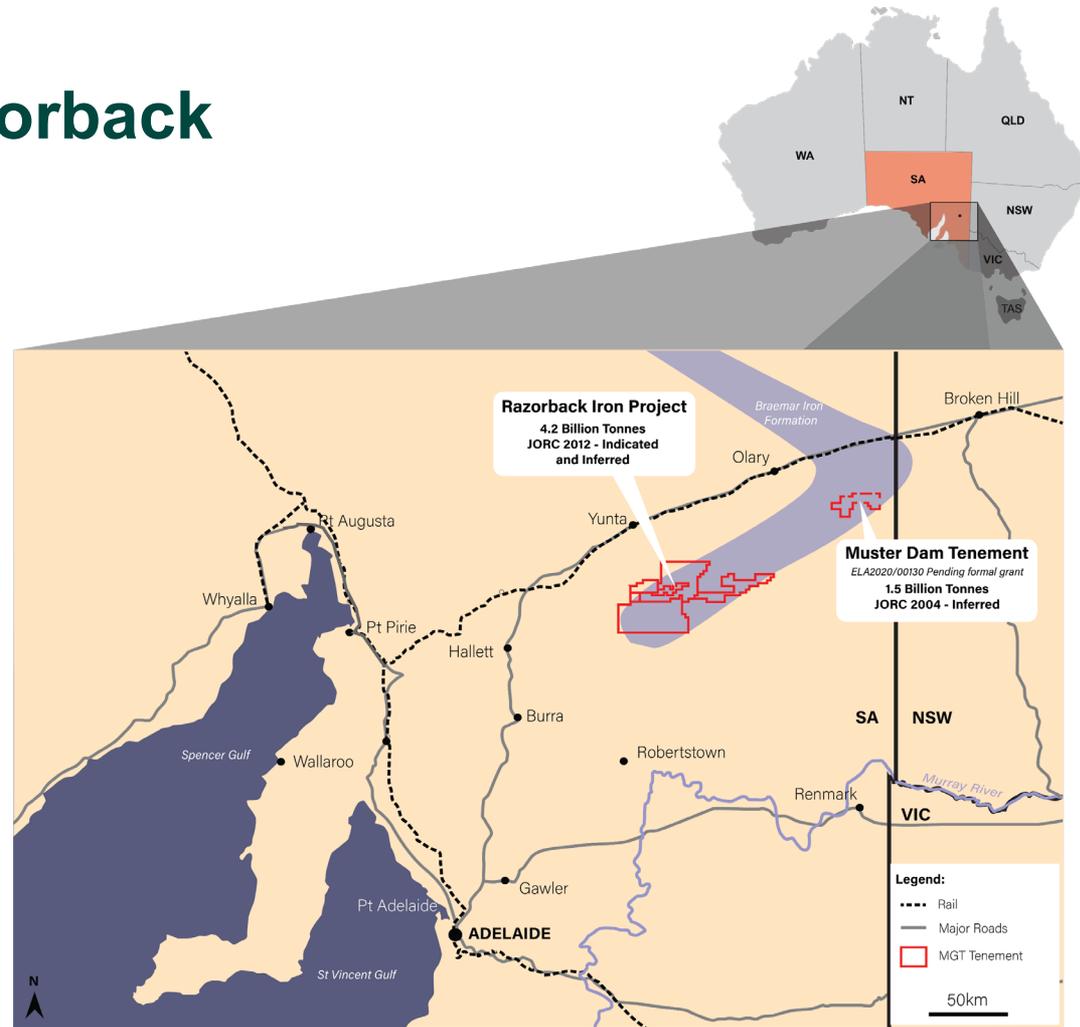
- Company Mineral Resources of 5.7Bt including Muster Dam<sup>1,2,3,4</sup>
- 240km to Adelaide from Razorback.

### ESTABLISHED INFRASTRUCTURE NEARBY

- Heavy freight open access rail.
- High voltage powerlines connected to main Australian grid.
- Operational iron ore port with capacity.

### FAVOURABLE REGION

- Supportive and stable government in a tier 1 jurisdiction.
- Low intensity pastoral country.

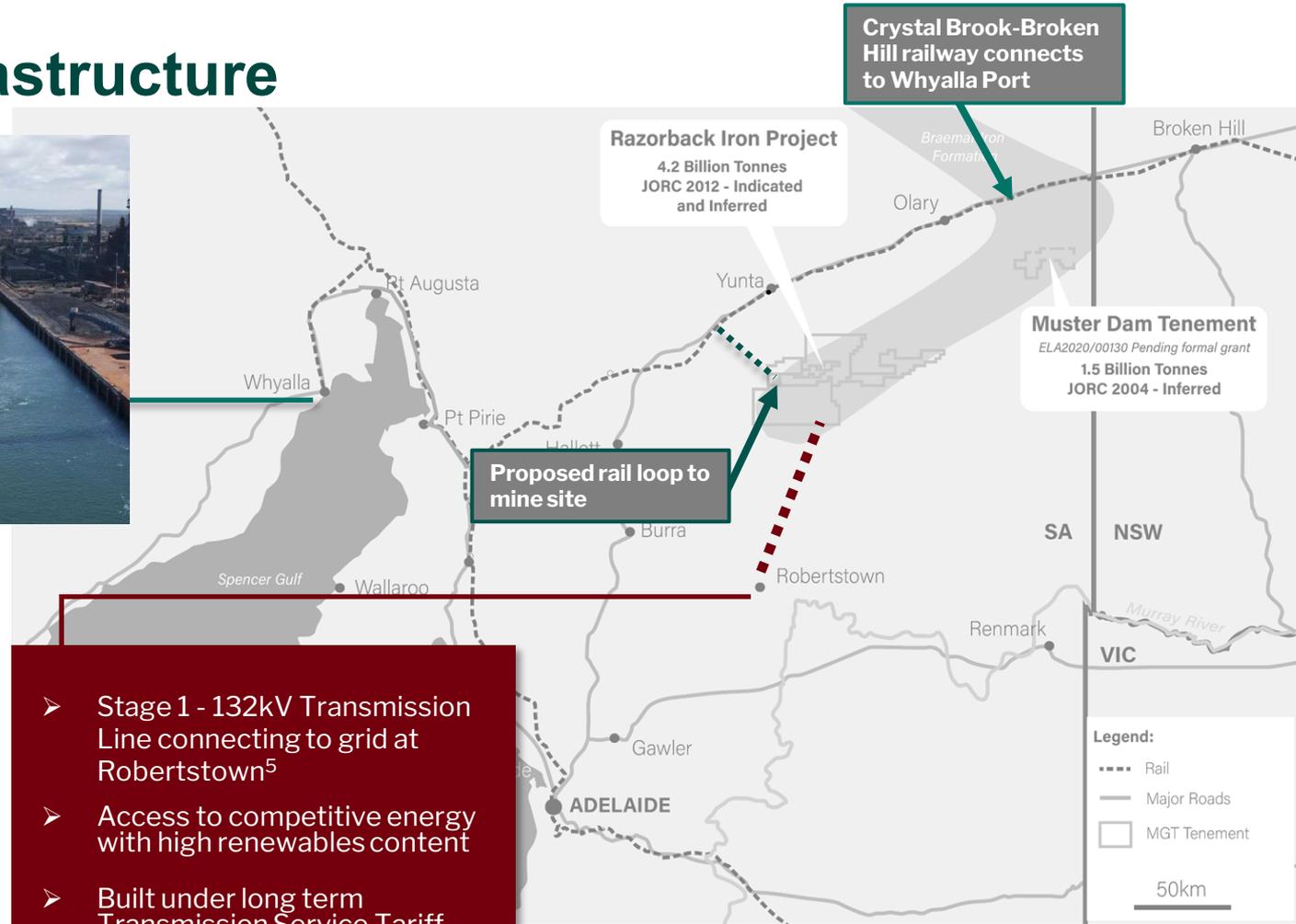


# Minimal Capital Existing Infrastructure



- Whyalla expected to have capacity for increased throughput
- Strong investment case for constructing a rail loop once in production
- At >4Mtpa production, the rail loop is estimated to be paid back in five years

- Stage 1 - 132kV Transmission Line connecting to grid at Robertstown<sup>5</sup>
- Access to competitive energy with high renewables content
- Built under long term Transmission Service Tariff – no upfront capex



# Staged Development of a new iron ore province - the Braemar

South Australia

▶ **Favourable business setting**

- with growing iron ore demand,
- premiums for high grade products and limited new supply.

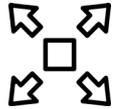
▶ **Large Razorback resource with world-class infrastructure and favourable mining jurisdiction.**

▶ **Low-capital, long-life** development is readily fundable with high returns<sup>5</sup>.

▶ **Experienced team** systematically assembling the building blocks for a sustainable and attractive business.



# Delivering Premium Iron Ore to High Demand Markets



**LONG LIFE**  
with **OPTIONALITY**

**Large 5.7bn tonne resource with expansion potential**<sup>1,2,3,4</sup>

- ▶ **Expansion Study**<sup>6</sup> - results confirmed significant upside potential of scaling up Razorback and the advantages of an intergenerational resource.



**LOW INITIAL PROJECT CAPITAL**

**Staged Razorback development with ESG advantages**

- ▶ **Mining/Strip** - minimal stripping.
- ▶ **Power** - East coast grid power.
- ▶ **Infrastructure** - existing rail and port access.
- ▶ **Low emissions** - renewable power and low emissions product.



**HIGH-GRADE PRODUCT**

**68% Fe product**<sup>5</sup>

- ▶ **Higher** than any of the routinely quoted iron ore indices.



**DELIVERING**

**First ore on ship planned for late 2024/early 2025**

- ▶ **Tier 1 Jurisdiction** - supportive government.
- ▶ **High-quality Team** - extensive iron ore and project experience.

## Unlocking the Braemar

# Attractive, Staged Development Pathway

### STAGE 1

15.5Mtpa plant capacity  
= 3Mtpa capacity

### STAGE 2

31.0Mtpa plant capacity  
= 5Mtpa capacity

### STAGE 3

46.5Mtpa plant capacity  
= 7Mtpa capacity



**A STAGED DEVELOPMENT APPROACH** offering outstanding returns with future expansion options

- DFS based on 3Mtpa of capacity and minimum upfront capital
- Substantial resources support further optionality and long mine life



**ATTRACTIVE ECONOMIES OF SCALE**, additional cash flow and enhanced shareholder value

- Competitive \$US40/t all-in 62% Fe iron ore breakeven price.
- Two-year payback on incremental expansion



**PREMIUM PRODUCT** for the transitioning steel industry

- 68% high-grade product is attractive to steelmakers
- A growing population, continued urbanisation, and developing economies drive demand.

# Expansion Study Overview

## ✓ **COMPLEMENTARY to the current DFS**

- DFS based on 3Mtpa of capacity and minimum upfront capital
- Expansion Study assessed benefits of increasing production following this initial Stage 1 development

## ✓ **HIGH-QUALITY & ROBUST engineering**

- Disciplined, technically-led approach to resource development
- Data and analysis based on 2021 PFS studies from best-in-class consultants (Hatch, GHD)

## ✓ **LARGE RESOURCE supports higher production**

- 87% of production in first ten years of expansion cases from Probable Ore Reserves
- Expansion cases based on run-of-mine ore of 1.4bn tonnes equivalent to just 32% of Razorback's 2012 JORC

## ✓ **ATTRACTIVE PATHWAY**

- Scale leads to capital and operating economies
- NPV8 of \$2.5B with overall returns of 27% post tax (incremental expansion IRR 33%)

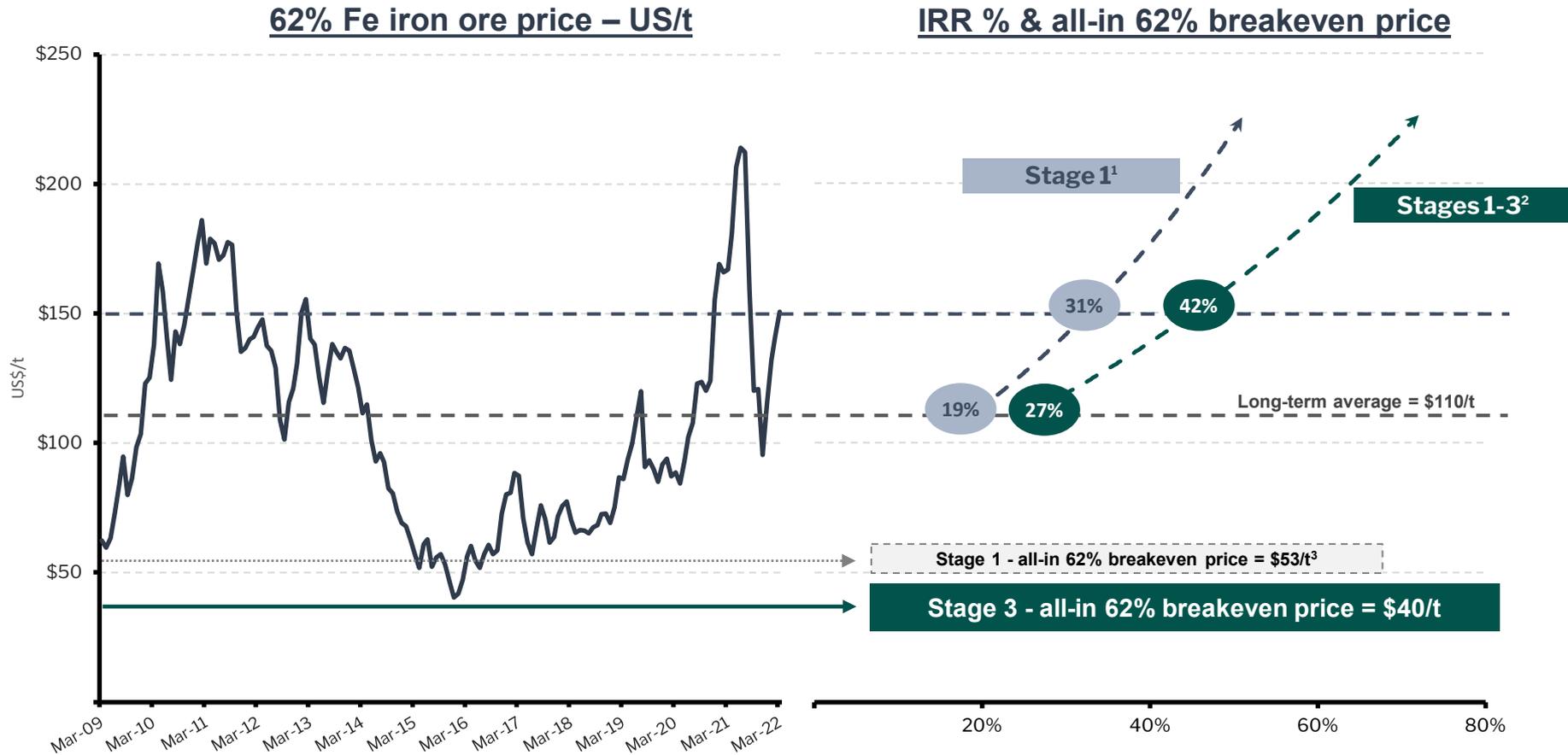
## Key operational and financial metrics

	Unit	Staged Expansion	Single-Step Expansion	PFS Plant Optimised <sup>1</sup>
Iron ore price (62% Fe)	US\$/t	110	110	110
AUD:USD exchange rate <sup>2</sup>	:	0.71	0.71	0.71
Model duration	Years	33	32	30
LOM ore	Mt	1,365	1,365	461
LOM concentrate	Mt	193	193	68
LOM strip ratio	t : t	0.13	0.13	0.10
LOM yield	%	14.4	14.4	14.7
Nominal plant feed at scale	Mtpa	46.5	46.5	15.5
Average annual product at scale	Mtpa	6.7	6.8	2.2
Development capital	A\$m	1,985	1,985	665
Average net cashflow	A\$m	459	491	127
Post-tax NPV	A\$m	2,239	2,455	660
Post-tax IRR	%	25%	27%	19%
All-in breakeven <sup>3</sup>	US\$/t	41	40	53

1. As the Plant Optimised case provided the basis of design for Stage 1 of the Expansion Study case, it is the most logical reference case
2. The average AUD:USD exchange rate in the three months to February 2022 was 0.7165
3. The 62% Fe iron ore price at which the NPV-8 of post-construction net cash flows equals zero, calculated at the commencement of the last stage of production

# Significant Upside Potential

## Robust Economics



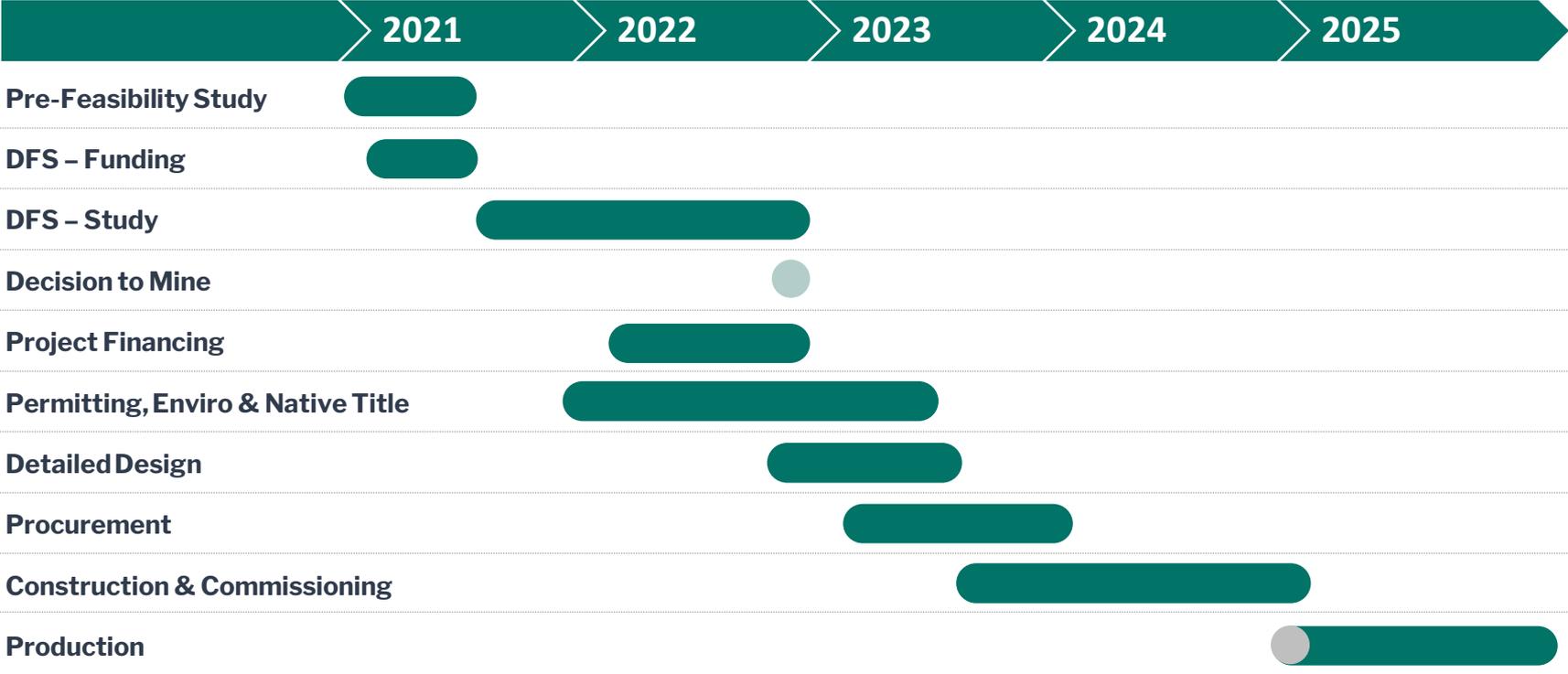
1. Stage 1 equivalent to PFS Plant Optimised case  
 2. Single-Step Expansion case  
 3. The same metric at an AUD:USD exchange rate of 0.75 is US\$58/t

# Environment, Social and Governance (ESG)

- **POWER** is anticipated to be sourced from the South Australian grid, forecast to be 97% renewables-powered by 2025<sup>7</sup>, delivering an expected **low scope 2 emissions profile**.
- **PREMIUM HIGH-GRADE PRODUCT** supports the steelmaking subsector targeting **low scope 3 emissions profiles**.
- The preferred water supply for the expansion project is a **WASTEWATER** source with no current productive use
- Increased opportunities for **GREATER LOCAL PARTICIPATION** including procurement and workforce development.
- Enduring relationships with **FIRST NATIONS** communities built on transparency, accountability and respect



# Indicative Development Schedule\*



\*Schedule subject to review as part of DFS currently underway

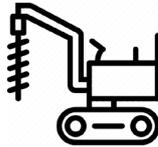
## Next Steps

# Delivering Premium Iron Ore to High Demand Markets



### DELIVERING THE DFS - work programs underway

- **Planning and engagement of key engineers**
- **Baseline permitting and mining lease studies**
- **Heritage and cultural studies, early stakeholder engagement**
- **Hydrogeological studies**



### ADVANCE RAZORBACK DRILLING programs

- **Hydrology – confirming water resource**
- **Metallurgical – sample recovery and test work programs**
- **Mineral Resource - infill and expansion.**



### FINANCE

- **Meeting key lender requirements**
- **Debt finance, modelling and metrics**
- **Developing relationships with potential financiers**
- **Assessing possible strategic partnerships**



### EXPANSION OPTIONALITY demonstrated

- **Future infrastructure requirements for expansion factored into Project design**
- **Further study work for expansion to commence once DFS is complete**
- **Focus on realising initial ~\$2bn Project value**

## CONTACT DETAILS

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## References

1. ASX Announcement – 24/05/21 – Razorback Iron Project Mineral Resource Upgrade
2. ASX Announcement – 20/11/18 – Ironback Hill Deposit – JORC 2012 Resource Update
3. ASX Announcement – 01/03/21 – Muster Dam Iron Project Tenements awarded to Magnetite Mines
4. ASX Announcement – 30/06/21 - Maiden Ore Reserve for the Razorback Iron Project
5. ASX Announcement – 05//07/21 – Positive PFS Results for Razorback Iron Project
6. ASX Announcement – 21/03/22 – Magnetite Mines Confirms Benefits of Expansion at Razorback
7. Australia's emissions projections 2021, Australian Government Department of Industry, Science, Energy and Resources - Oct 2021



# Appendix

# Corporate Overview



## CAPITAL STRUCTURE

<b>Shares</b>	3,159 M
<b>Unlisted Options</b>	153.1M (various – avg. \$0.03)
<b>Share Price*</b>	A\$0.034
<b>Market Cap*</b>	A\$107M



NON-PROCESS  
INFRASTRUCTURE



ENVIRONMENTAL  
CONSULTANT

**HATCH** PROCESSING



\*As at 25 Mar 2022

# Board Members & Management



**Peter Schubert**  
EXECUTIVE CHAIRMAN & CEO

Peter was appointed Executive Chairman of Magnetite Mines on 3 Sep 2018. Peter has a track record of identifying, growing and developing businesses with a focus on the resources sector, with over 30 years of direct experience in international and domestic markets.



**Mark Eames**  
BA Metallurgy (Hons) MBA MAUSIMM  
TECHNICAL DIRECTOR

Mark has a successful track record in the global minerals industry in exploration, evaluation, development, acquisitions, operations, marketing and senior corporate management. He is a qualified metallurgist with extensive experience in Australia and overseas and has held senior roles working with the iron ore businesses of Glencore, Rio Tinto and BHP.



**Malcolm Randall**  
Dip Applied Chem, FAICD  
NON-EXECUTIVE DIRECTOR

Malcolm has more than 46 years' of extensive experience in corporate, management and marketing in the resources sector, including more than 25 years with the Rio Tinto group of companies. His experience has covered a diverse range of commodities including iron ore, potash brine, uranium, mineral sands and coal ark.



**Jim McKerlie**  
BA Economics (Hons), Dip Fin Mgt  
NON-EXECUTIVE DIRECTOR

Jim has an extensive career as an international chief executive and as a public company director including Chairman of Drillsearch for 8 years and of Beach Energy. He has chaired four IPOs and has depth of experience in technology and energy sectors. He is a Fellow of both the Australian Institute of Company Directors and the Institute of Chartered Accountants.

# Board Members & Management



## Paul White

Master of Business Administration  
NON-EXECUTIVE DIRECTOR

Paul has a track record of driving organisational performance and delivering superior outcomes in both corporate and board positions. He was the CEO of ASX-listed Brisbane Broncos until March 2021, a position he held for a decade. Prior to this, Paul gained substantial executive experience with global mining companies including Anglo American and Xstrata



## Stephen Weir

B.Eng Hons (Mech), Grad Dip. Appl. Fin. SIA  
CHIEF DEVELOPMENT OFFICER

Most recently Stephen was Managing Director at RFC Ambrian where he provided corporate finance advice over a twenty year period to clients in the mining and energy sectors. Prior to that his career spans construction management of high-speed bulk material handling equipment, minerals and coal processing (John Holland), project management of technology introduction, Equipment and Industrial Services (Brambles) and Project Finance (Bankers Trust).



## Trevor Thomas

MEarthSci (Hons) MAIG, MAUSIMM  
GENERAL MANAGER (GEOLOGY)

Trevor is a long-term employee of Magnetite Mines with over 14 years experience as an exploration and resource development geologist. Over 12 years, he has been responsible for the project management of technical studies for the PFS and prior Scoping Studies and was responsible for the delivery of the Project's maiden Ore Reserve, Mineral Resource estimates and acquisition of the Muster Dam Iron Ore Project.



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