



# Macquarie WA Forum

30 November 2022



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# Overview

1

Introduction

Jupiter is the largest manganese focussed miner on the ASX, through its 49.9% ownership of Tshipi Borwa, one of the world's premier Mn mines

Pages 4 - 6

2

Manganese  
Market

The market outlook for manganese is constructive for growth

New demand (at a high growth rate) from EV batteries will add to continuing robust demand from steel manufacturing

Pages 7 - 10

3

Investment  
Highlights

Tshipi is low risk and responsible, reliable and efficient – with more than 100 years of mine life remaining

Jupiter has multiple growth options and a strong dividend payout

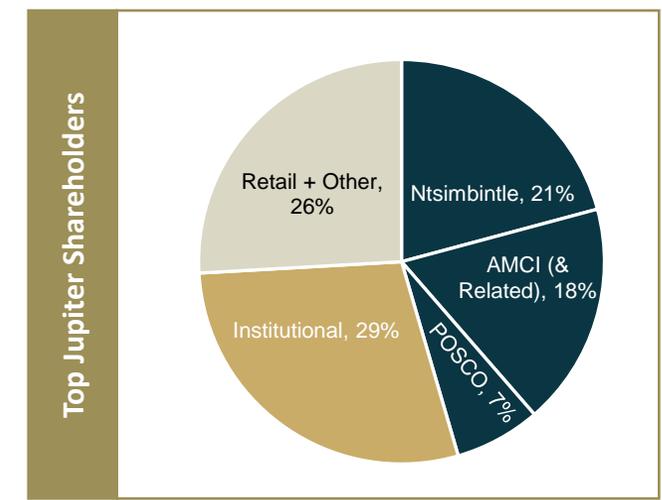
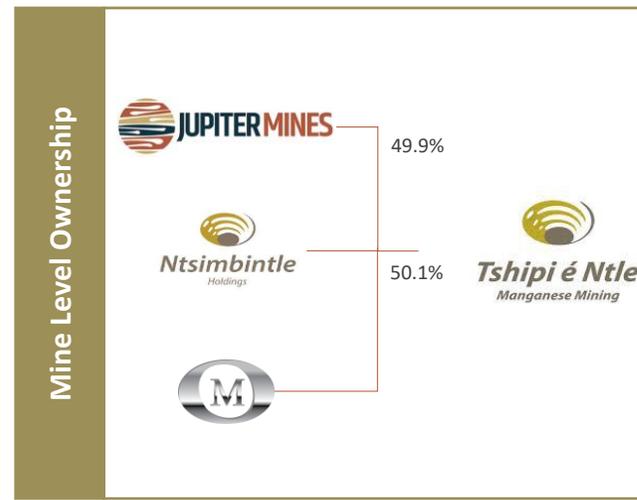
Pages 11 - 19

# Largest manganese miner on the ASX, with 49.9% ownership of the Tshipi Borwa mine

Share Price	Market Cap
<b>\$0.19</b>	<b>\$372m</b>
NPAT	Cash in Hand
<b>\$54m</b>	<b>\$75m</b>
Debt	Net Assets
<b>\$0m</b>	<b>\$435m</b>
Research Coverage:	Euroz Hartleys Fosters Macquarie

**Board of Directors**

	Ilan Murray, Chairman <i>ex Gold Road MD</i>		Peter North, NED <i>Safika Resources Co-founder</i>
	Brad Rogers, MD <i>ex Bis Industries MD</i>		Patrick Murphy, NED <i>MD, AMCI Group</i>
	Scott Winter, NED <i>ex Perenti Surface CEO</i>		Ben Kim, NED <i>MD, POSCO Australia</i>



Sources: Financials: Jupiter FY22 Annual Report (as at 28 February 2022), Share Price and Market Cap as at 25 Nov 2022

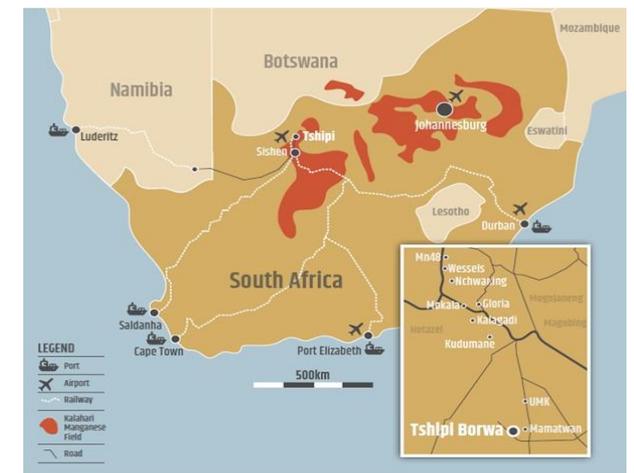


## Tshipi is one of the world's premier manganese mines...

- World Class Scale: 4<sup>th</sup> largest manganese mine in the world
- Sustainably Profitable: Low cost producer. Positive cash generation through the cycle
- Longevity: 100+ years of mine life at current production rates
- Stable, Well Established: first class infrastructure, including dedicated power. In 10 years since commencement, production has never stopped for power outage or civil unrest. Tshipi ore is a well established product used in steel manufacturing
- Growth Potential: rail load out with capacity of 5mtpa: 43% above current steady state production of 3.5mtpa

## ...in the world's premier manganese district.

- Tshipi Borwa ("Tshipi") is located in the Kalahari Manganese Field ("KMF"), where 32% of global production and 80% of resources are and 4 of the top 6 Mn mines are situated
- Multiple port options in South Africa and Namibia are used, accessible by rail and road



## Aerial Overview of Tshipi and Neighbouring Mines



## Manganese has multiple uses and is produced in 19 different countries globally. South Africa is the largest producer (with 32% of global supply).

Demand		Supply	
Metallurgical	<ul style="list-style-type: none"> <li>Manganese has long been classified as a critical element for its necessity in steel production. It provides important strength and flexibility qualities</li> <li>There is no available substitute for manganese in these applications</li> <li>Manganese cannot be effectively recycled from scrap as around 50% of the metal is lost in the recycling process</li> </ul>	Geography	<ul style="list-style-type: none"> <li>19 countries produced manganese ore in 2021</li> <li>South Africa was the largest producer, with 32% of global manganese ore production from 17 mines, with an average of 1.2 million tonnes of ore produced per mine</li> <li>China was the next largest, with 19% of global production, followed by Gabon (15%) and Australia (12%)</li> </ul>
Lithium-ion EV Batteries	<ul style="list-style-type: none"> <li>Manganese can be used as a cathode material in EV batteries, providing effective energy density</li> <li>Manganese is gaining popularity as an alternative to nickel and cobalt, as it is cheaper, generally able to be sourced from ESG favourable countries and has good chemical stability</li> </ul>	Quality	<ul style="list-style-type: none"> <li>The key quality of Mn Ore is the % of manganese contained</li> <li>Mn ore is referred to as low grade (&lt;35%), medium grade (between 35% and 40%) or high grade (&gt;40%)</li> <li>The highest grade mine in the world in 2021 produced 49% Mn ore, the lowest grade produced 11%</li> <li>Also important (depending on application) are the impurities present in the ore (like Fe, Mg, Si).</li> <li>Mn is priced according to both Mn grade and impurities</li> </ul>
Other	<ul style="list-style-type: none"> <li>Manganese has various other uses, including (and not limited to) in the manufacturing of standard (dry cell) batteries, agricultural soil conditioners, some paint, some glass and some vehicle fuel</li> </ul>	Geology	<ul style="list-style-type: none"> <li>Manganese occurs naturally in a semi carbonate, carbonate, oxide or sulphide form in various minerals including (for example) pyrolusite, manganite and rhodochrosite</li> <li>Rhodochrosite is the most common Mn host mineral in the Kalahari Manganese field</li> </ul>

# Manganese ores are processed into downstream industrial products, which are then used in various industrial manufacturing end market applications

	Mining	Mn Ore	Processing		End Markets	Benefits of Mn	Demand Share %		
							2021 (Act)	2040 (Est)	CAGR
Metallurgical	Typically 35%+ Mn ores	Mn Ore	Blast Furnace or EAF	FeMn	Steel	Strength, Anti-corrosion	94%	87%	1%
			Smelting	SiMn	Speciality Steels				
			Acid Leach, Purification Electrowinning	HPEMM	Non-ferrous alloys	Strength, Castability	2%	2%	1%
Lithium-ion Batteries	Certain 10%+ Mn ores (end use is very sensitive to impurities)	Mn Ore	Acid Leach, Purification Crystallisation, Drying	HPMSM	Cathode material for Lithium-ion batteries, particularly for electric vehicles	Good energy density, while more stable, cheaper and ESG friendlier than nickel and cobalt alternatives	2%	10%	9%
			Acid Leach, Purification Electrowinning	HPEMM					
Other	Certain 44%+ Mn ores	Mn Ore	Acidification, Electrolysis	MnO <sub>2</sub>	Dry Cell Batteries	De-polarizing agent	2%	2%	1%
	Various ores, depending on end use		Various, as required for end use	Various oxide, dioxide and sulphate forms	Agricultural soil additive, paint pigmentation, glass, ceramic, fuel additive	Various, depending on application			
Volume (mt)	21.8						22.4	26.8	
	2021 Global Mn Production						Global Mn Consumption		

Sources: Wood Mackenzie, McKinsey & Company, International Manganese Institute, CRU Group, Company Calculations

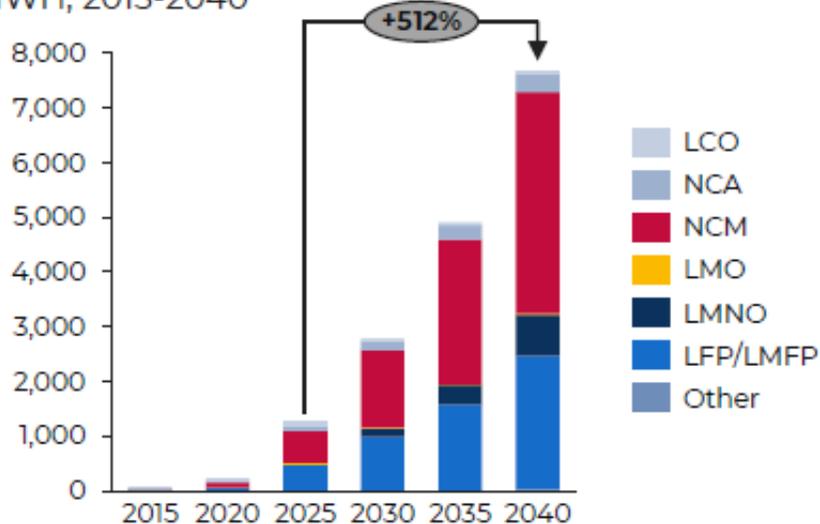
# Metallurgical use of manganese will see steady (population level) growth over the next 20 years. EV battery use will see explosive new demand growth...

	% of Mn Demand Today	20 Year Growth Outlook	Product & (Example) Pricing	Margin/Volume	Market Opportunity for JMS
<b>Metallurgical</b>	~ 96%	~ 1% CAGR  <i>Steady Growth</i>	US\$4.30 / dmtu (CIF)  Mn Ore	Strong margins for cost efficient mines, high volume	Current Market (Leading Incumbent) Position - Low Risk, Cash Generative  <b>Growth through market share expansion and margin efficiency</b>
<b>Lithium-ion Batteries</b>	~ 2%	~ 9% CAGR  <i>Very High Growth</i>	~US\$34 /dmtu  High Purity Mn Sulphate Monohydrate	High margins on smaller volumes	Future Market – expansive growth potential  <b>Growth through potential for margin expansion and new volume</b>

...driven by very high growth in EV battery production, combined with a coming market preference for EV batteries that contain manganese.

### Very High Growth Forecast in EV Battery Production

Li-ion cathode demand forecast, MWH, 2015-2040



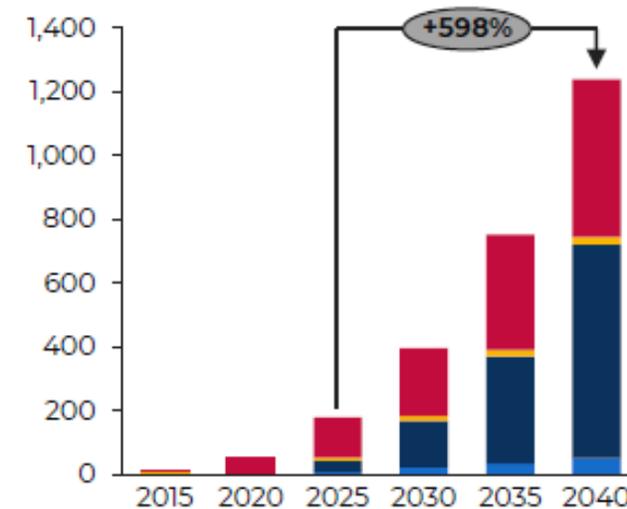
Lithium-ion battery production is forecast to see very high growth over the next 20 years, driven by the automotive sector

“The EV explosion is only just beginning, and demand set to take off” – Andrew Cole, Oz Minerals, 2022

Sources: Benchmark Mineral Intelligence

### With Manganese Battery Types Set to Dominate

HPMSM demand from cathodes, tonnes Mn contained



Manganese containing batteries (in some combination with nickel and cobalt) are set to dominate this market – due to the cost, stability and sourcing benefits of manganese

“It is relatively straightforward to do a cathode that’s two-third nickel and one-third manganese, which will allow us to make 50% more cell volume with the same amount of nickel” – Elon Musk, Tesla, 2020

# Tshipi is a low risk operation, leading in safety and responsibility



**1,025**  
EMPLOYEES

**0.95**  
TRIFR



**99%**  
LOCAL  
EMPLOYMENT

**24%**  
CARBON  
EMISSION  
REDUCTION  
(vs baseline)



**44%**  
WATER  
SAVING  
(vs  
allocation)

## Safe & Reliable

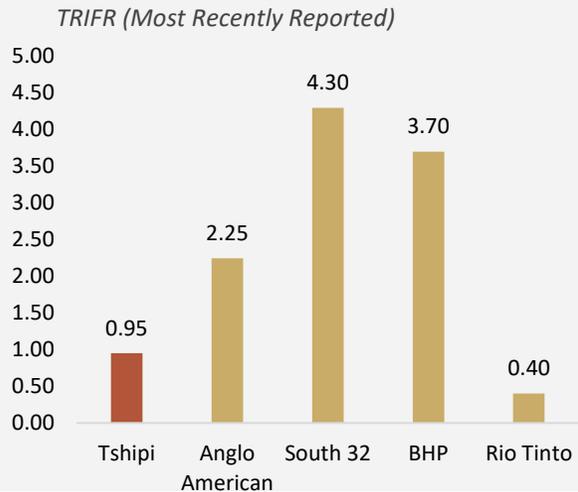
### 1 World Class Safety Performance

Zero fatalities since commencement (10 years)

Total recordable injury rate in line with mining's best

### 2 Well run, non stop

Zero mining disruptions from protest, civil unrest or power outage



## Socially Responsible



Fighting period poverty & supporting job creation with BCS

Picture: Tshipi's CEO opening a sanitary pad factory that Tshipi helped establish, to fight period poverty

### 3 Community Leadership

Tshipi is a major employer in the Northern Cape and is active in its community, supporting numerous initiatives with a focus on education, health and road infrastructure

99% of Tshipi employees come from local communities

## Environmental Focus

### 4 Best in Class Environmental Outcomes

Carbon Emissions: 24% lower than baseline

Water Use: 44% less than allowance

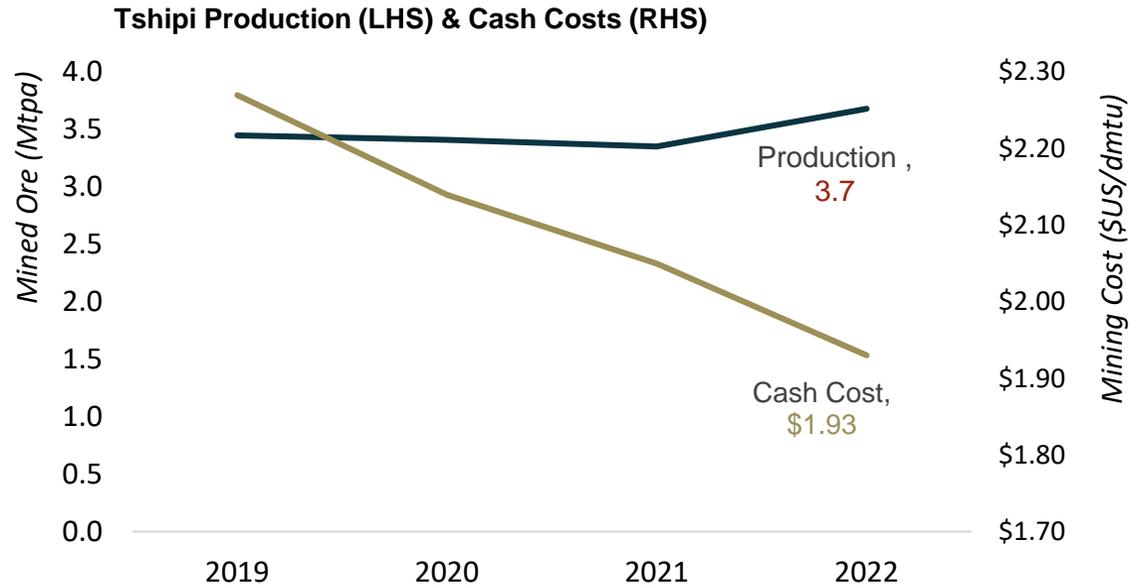
Land Use: 7,280 native trees planted in 10 years

Hazardous Waste: 95% reduction in hazardous waste generation since 2019



Picture: cultivation of native trees for planting

## Tshipi has an outstanding production and efficiency track record...

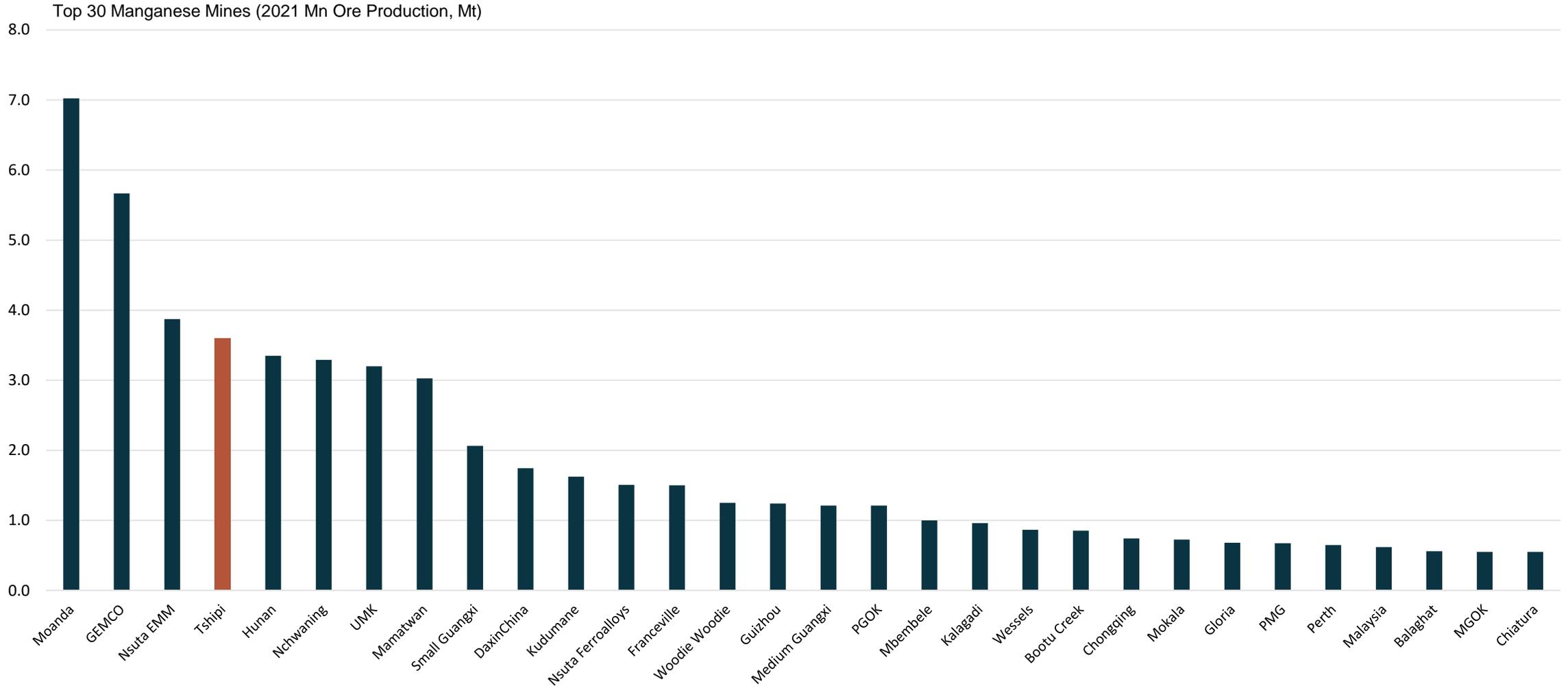


- Very reliable production** (average 3.5Mtpa)
- Low cash costs**, on a **reducing** trend

Tshipi, 100% Year End 28 Feb	2019	2020	2021	2022
Production (Mt)	3.4	3.4	3.4	3.7
Sales (Mt)	3.5	3.4	3.4	3.3
Mn Price (FOB, US\$/dmtu)	\$5.83	\$4.18	\$3.83	\$3.22
Cash Cost (FOB, US\$/dmtu)	\$2.27	\$2.14	\$2.05	\$1.93

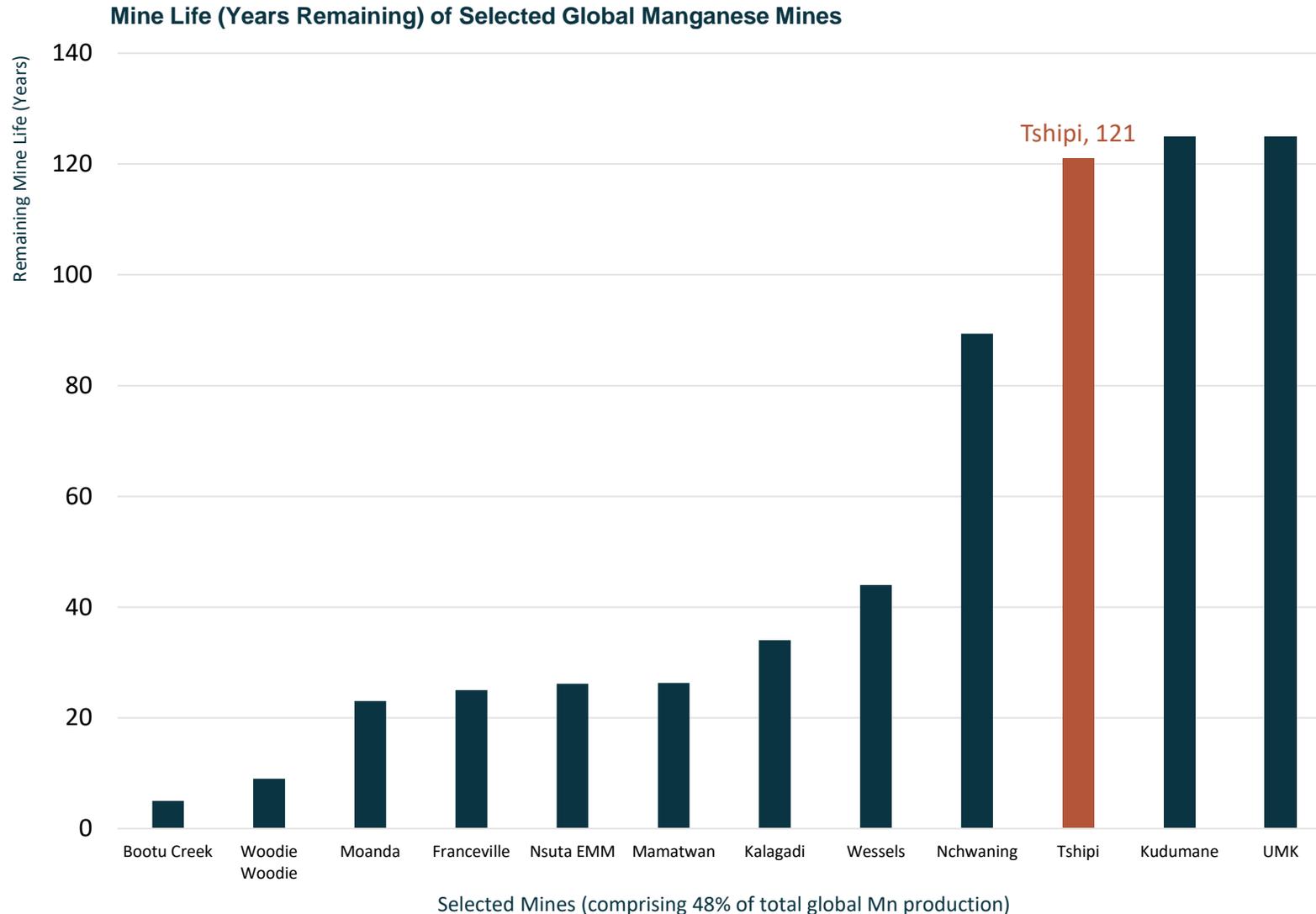
Sources: CRU Group | Notes: "dmtu" means Dry Metric Tonne Unit. For practical purposes, a "unit" can be taken as a 10kg per tonne of ore (eg \$4/dmtu equates to \$400 per tonne)

## ...placing it as one of the largest, lowest cost and...



Sources: CRU Group

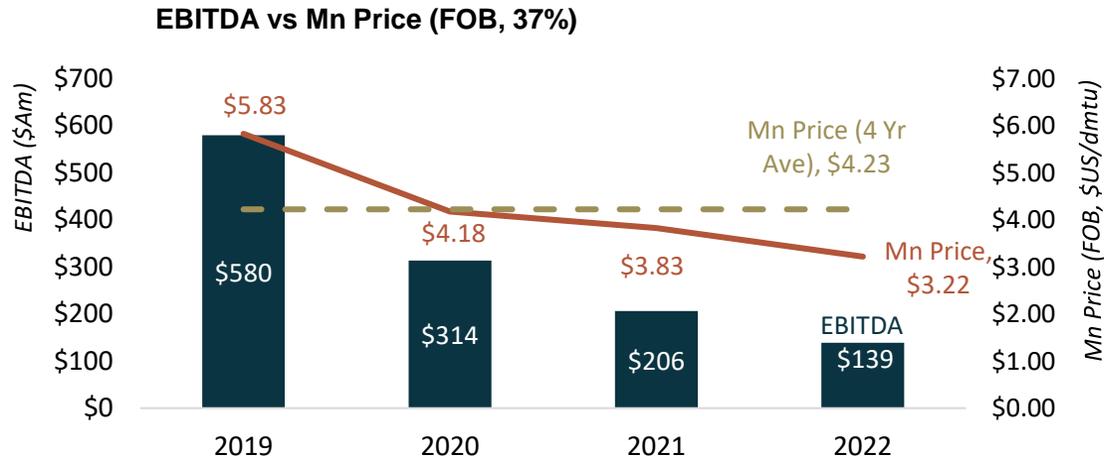
## ...longest life manganese mines in the world.



**Tshipi is one of the longest life manganese mines in the world**, with 100+ years of mine life remaining, at current production **levels** (which represents 6% of global Mn production)

Some historically significant manganese mines are approaching end of life

## Tshipi has generated significant positive cashflow through the cycle...



1. **Significant positive EBITDA generation, even when Mn pricing is low**  
(4 year Ave Mn Price: \$4.23/dmtu)

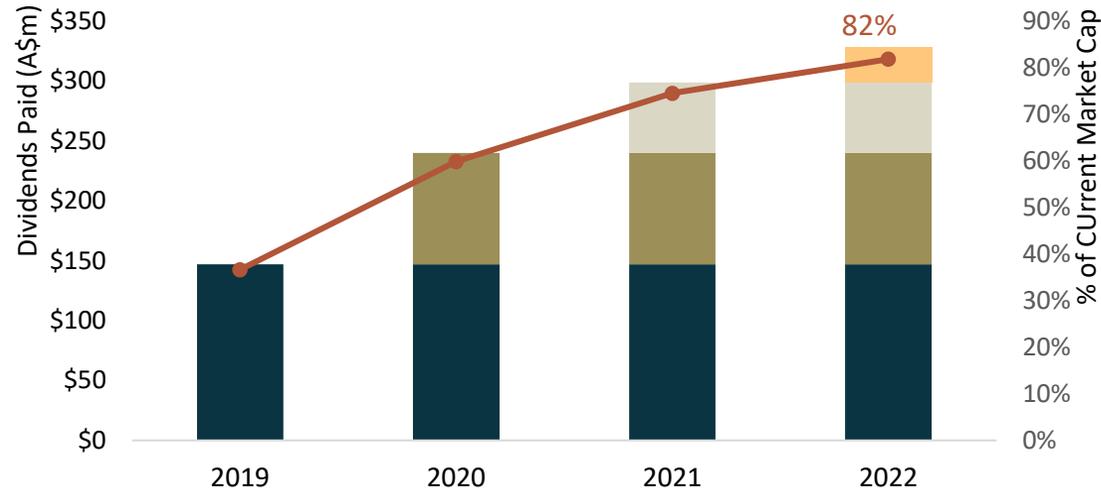
2. **Capex is very low, allowing for strong cash conversion.** No major capex is expected in the near term

3. **Strong EBITDA resilient to cost shocks:** Shipping costs in FY22 were elevated (by about A\$90m compared to normal), but are expected to moderate

Tshipi, 100% (A\$m) Year End 28 Feb	2019	2020	2021	2022
Revenue	\$1,023	\$799	\$647	\$672
EBITDA	\$580	\$314	\$206	\$139
Shipping Cost	\$113	\$120	\$106	\$204
EBITDA (pre shipping cost)	\$693	\$434	\$313	\$343
% of revenue	68%	54%	48%	51%
Capex	\$2	\$6	\$8	\$6
NPAT	\$378	\$197	\$126	\$86

...which has enabled Jupiter to pay a 14% dividend yield since IPO.

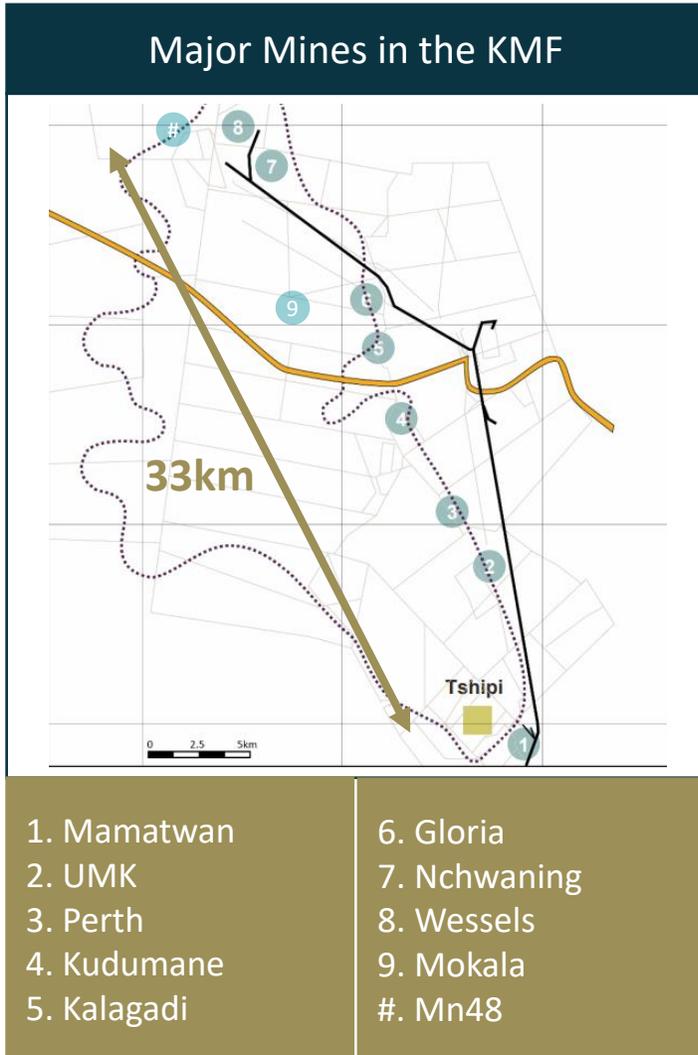
Jupiter Dividends vs % of current market cap



Jupiter (49.9%, A\$m) Year End 28 Feb	2019	2020	2021	2022
Share of Tshipi NPAT	\$189	\$98	\$63	\$43
NPAT	\$138	\$95	\$66	\$54
Dividends Paid	\$147	\$93	\$59	\$29
Dividends per Share	\$0.08	\$0.05	\$0.03	\$0.02
Average Share Price	\$0.33	\$0.33	\$0.27	\$0.26
Dividend Yield	23%	14%	11%	6%

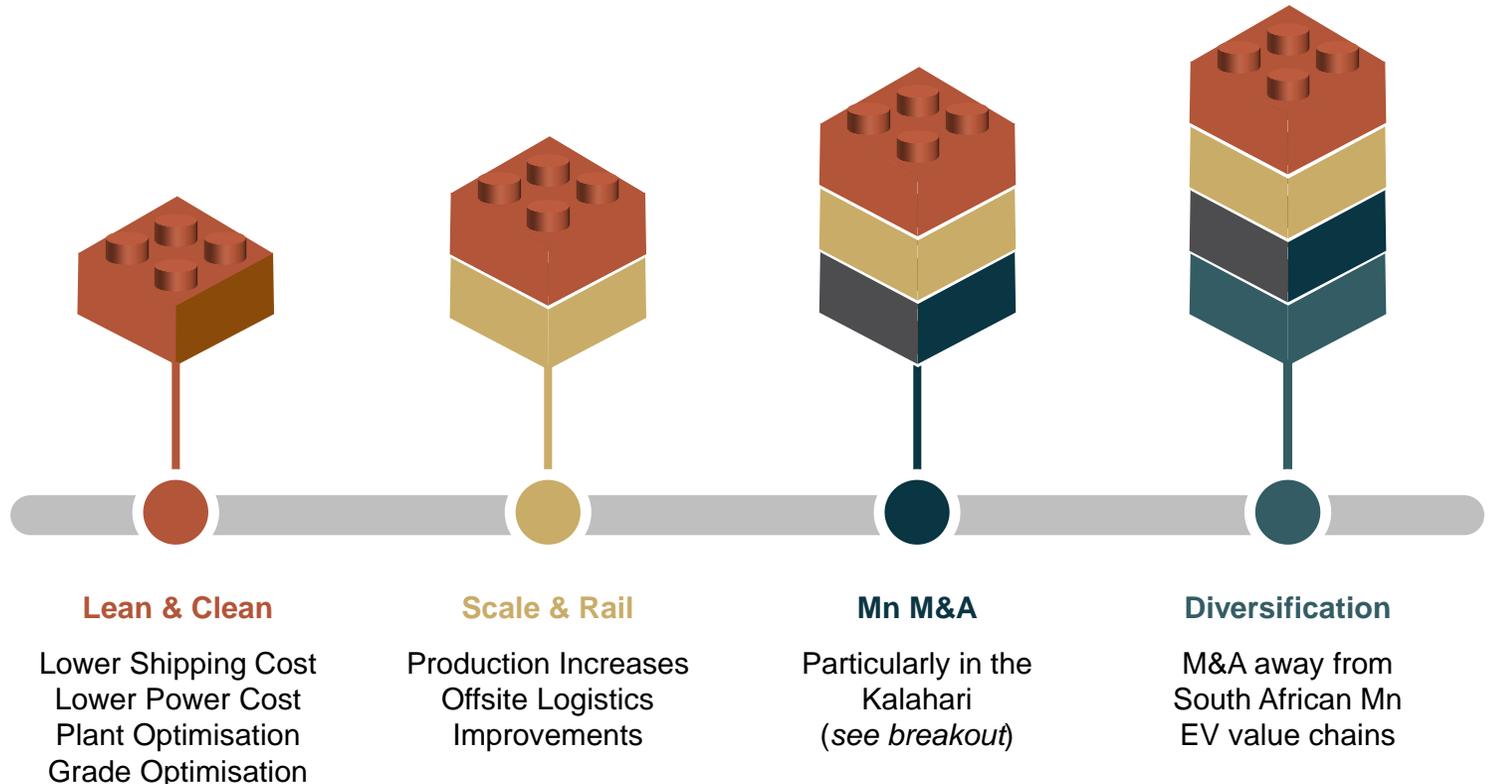
1. Average dividend yield of 14% since IPO (compared to ASX average of 4.4%)
2. 82% of current market cap paid in dividends over past 4 years (\$328m dividends paid since 2019)

# Jupiter has a range of growth options, based on a supportive demand outlook\*



Jupiter has a range of organic and inorganic opportunities to grow value.

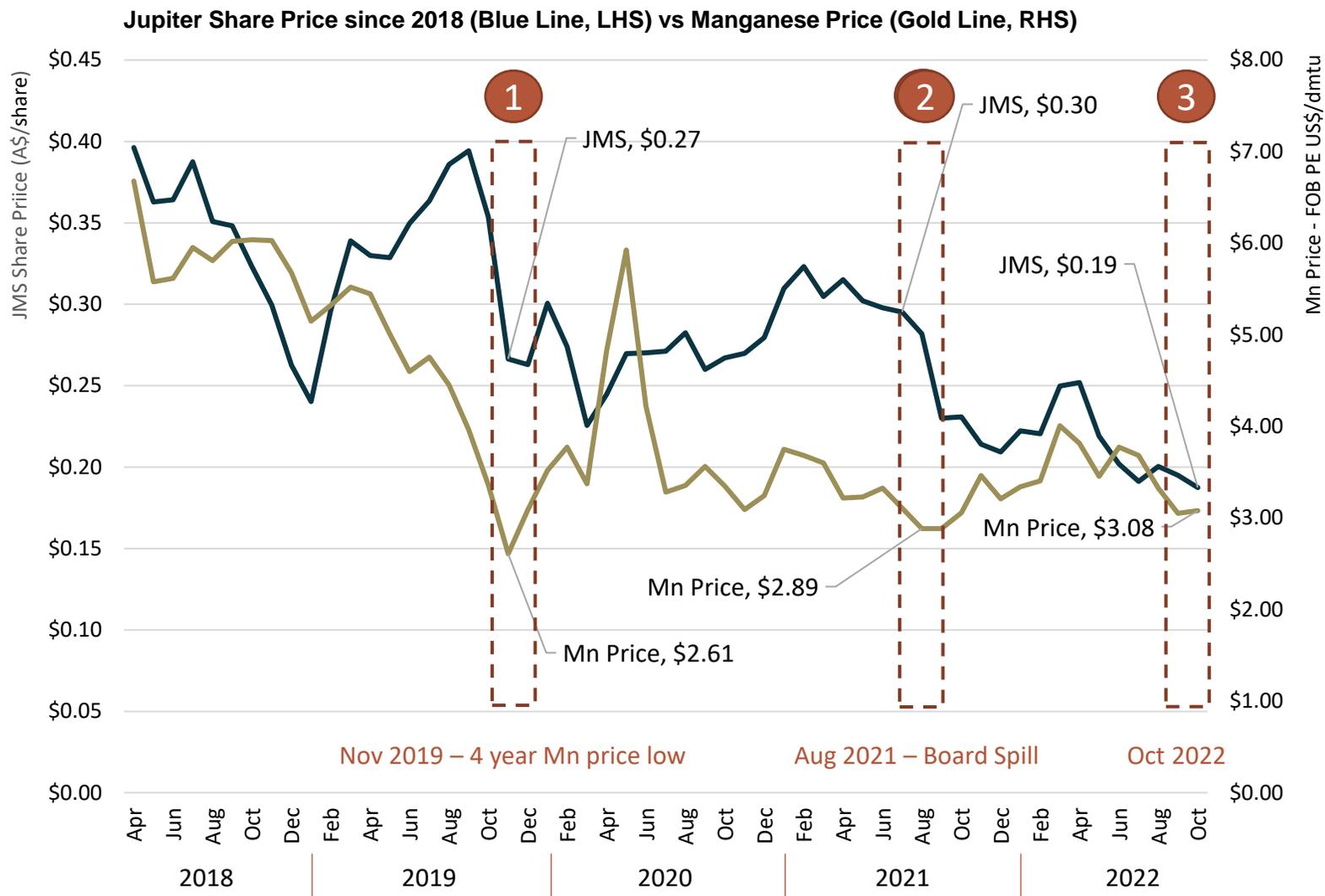
These options include M&A in the Kalahari Manganese Field (KMF), where 80% of the world's manganese reserves are located, **including 4 of the world's 8 largest manganese mines – all within 35km of Tshipi.**



Sources: CRU Group

\* Refer to Manganese market overview and outlook on pages 8 - 10

# Jupiter's share price is currently at 4 year lows, while the manganese price is 18% above 4 year low levels...



The Jupiter share price is strongly correlated with the manganese price.

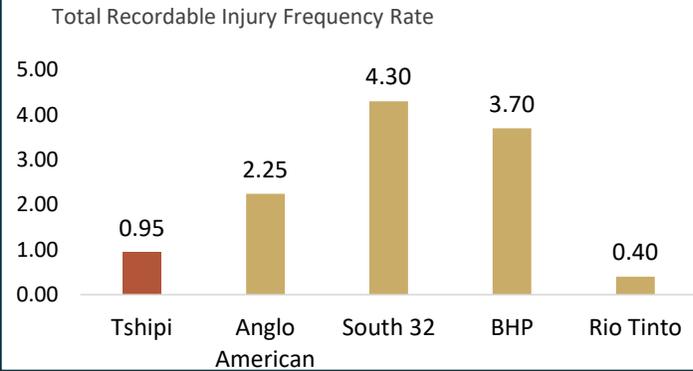
Of the three date points shown, the current JMS share price is the lowest (of the three) even though the manganese price is highest

JMS Share Price vs 37% FOB Mn Price	Nov-19	Aug-21	Oct-22
Graph Reference	1	2	3
Why Relevant?	4 Year Low Mn Price	JMS Board Spill	Today
Mn Price (\$US/dmtu)	\$2.61	\$2.89	\$3.08
JMS Share Price (A\$/share)	\$0.27	\$0.30	\$0.19

Sources: ASX, International Manganese Institute

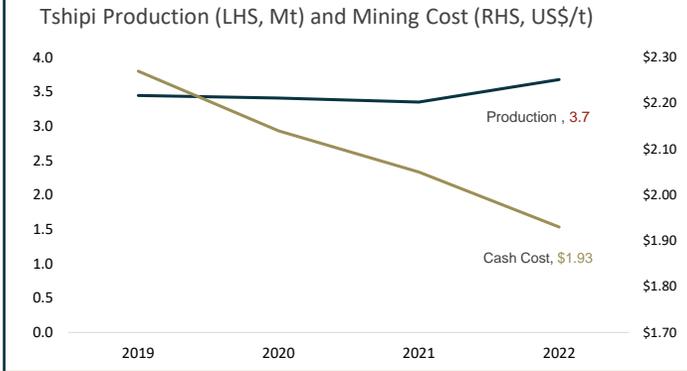
# Investment Highlights: Summary

## Tshipi is low risk & responsible...



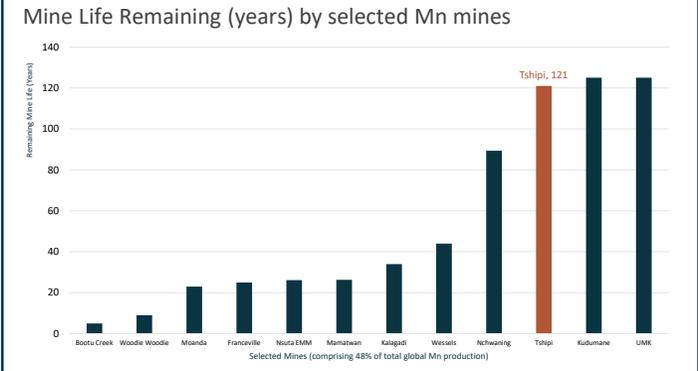
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## ...reliable and efficient...



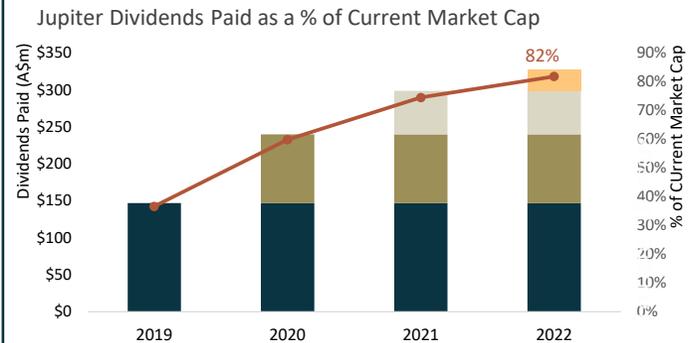
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## ...and has 100+ years of mine life remaining.



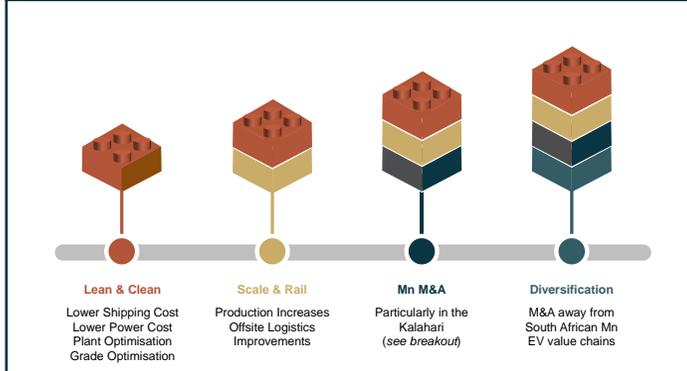
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## Jupiter has paid a dividend yield of 14% since IPO...



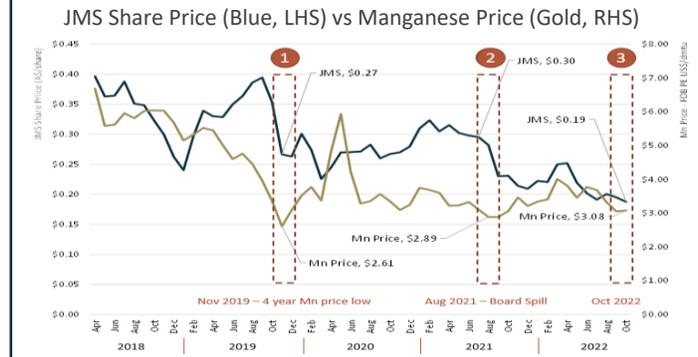
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## ...and has multiple growth options...



See Page 17

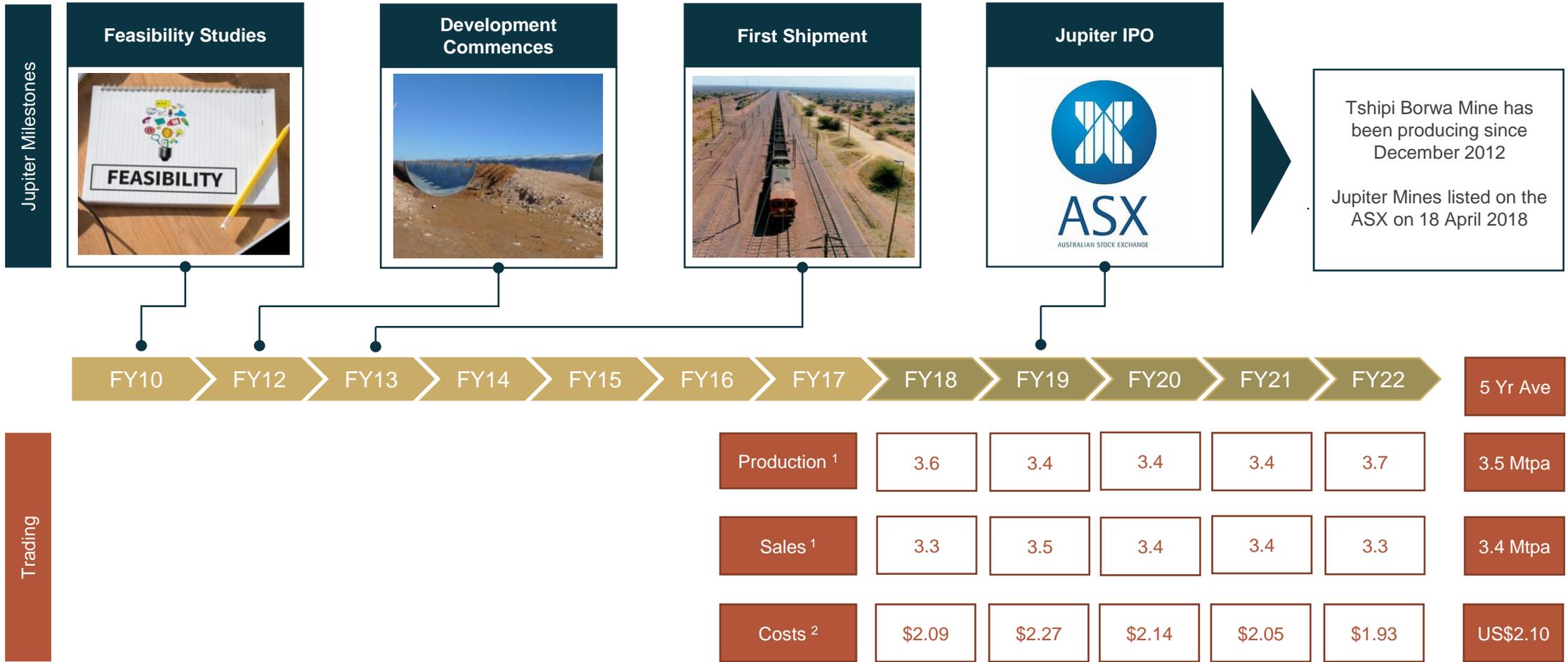
## ...with a strong value proposition compared to prevailing manganese prices.



See Page 18

# Appendices

# Tshipi has been producing since 2012 and Jupiter listed in 2018

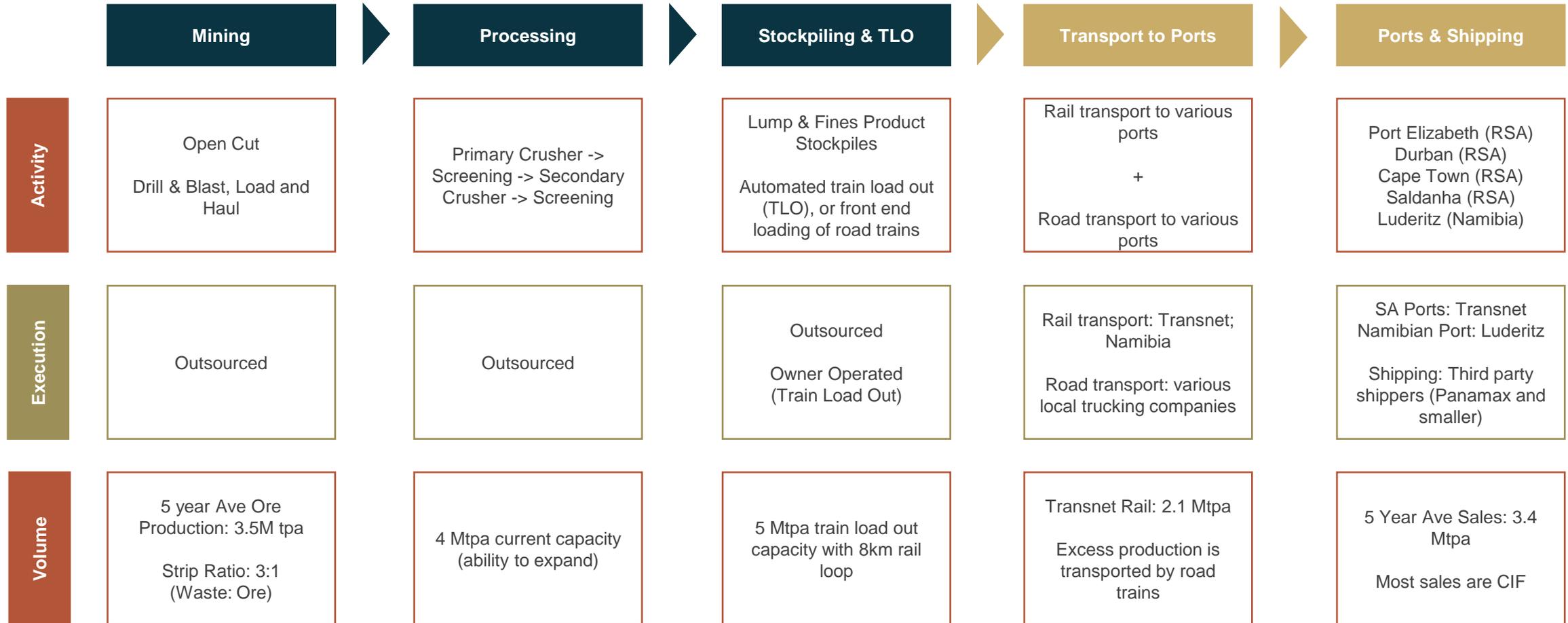


Trading

Production over the last 5 years has been very stable, averaging 3.5Mtpa  
 Costs have averaged US\$2.10/dmtu, on a reducing trend

Notes: 1 – Mtpa, 2 – US\$ per dmtu

# Tshipi has a simple mining and processing flowsheet, exporting via 5 different ports



### Key

- Production activities performed at the Tshipi Borwa mine
- Offsite production processes

## Tshipi has a track record of stable production, cost and capital efficiency...

Tshipi Financial Performance (100%, note JMS = 49.9%)						
Financial Year		UoM	2019	2020	2021	2022
Physicals	Mining Production	Mt	3.4	3.4	3.4	3.7 <sup>1</sup>
	Export Sales	Mt	3.5	3.4	3.4	3.3
P&L	Revenue	A\$m	\$1,023	\$799	\$647	\$672
	Gross Margin	A\$m	\$552	\$295	\$201	\$120
	EBITDA	A\$m	\$580	\$314	\$206	\$139
	EBIT	A\$m	\$570	\$303	\$197	\$128
	NPAT	A\$m	\$378	\$197	\$126	\$86
Cashflow	Operating Cashflow	A\$m	\$351	\$235	\$101	\$84
	Maintenance Capex	A\$m	\$2	\$6	\$8	\$6 <sup>2</sup>
Other	Average Mn Price (37%)	US\$/dmtu	\$5.83	\$4.18	\$3.83	\$3.22
	Cash Costs (FOB)	US\$/dmtu	\$2.27	\$2.14	\$2.05	\$1.93 <sup>3</sup>
	Exchange Rate	ZAR/AUD	9.92	10.04	11.60	11.00

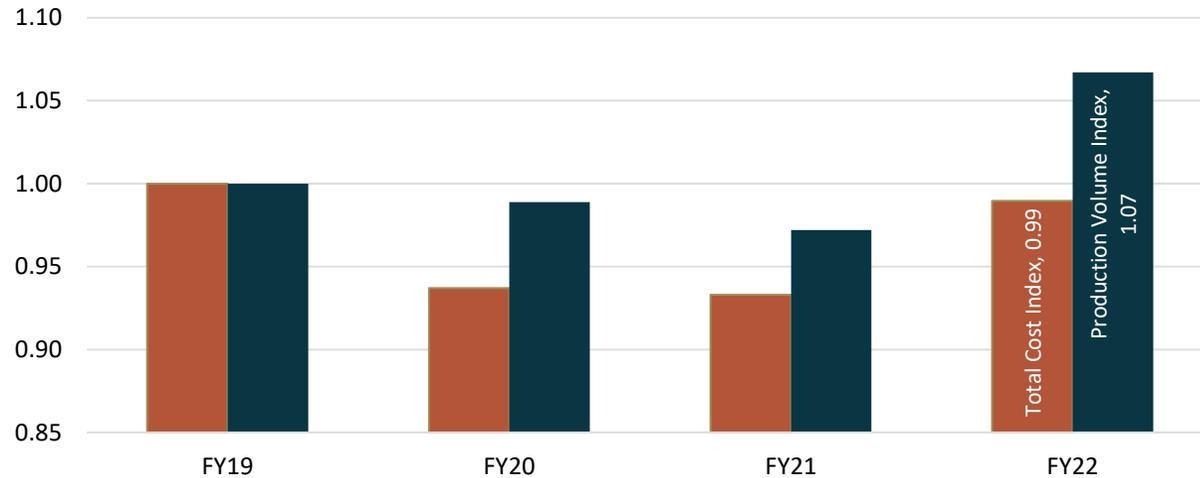
Impact of Shipping Cost - Tshipi (100%)						
Financial Year		UoM	2019	2020	2021	2022
EBITDA		A\$m	\$580	\$314	\$206	\$139
% of Revenue		%	57%	39%	32%	21%
Shipping Cost		A\$m	\$113	\$120	\$106	\$204 <sup>4</sup>
EBITDA (pre shipping cost)		A\$m	\$693	\$434	\$313	\$343
% of revenue		%	68%	54%	48%	51%

### Notes

- Very reliable production** (average 3.5Mtpa)
- Very low capex**, resulting in strong earnings conversion
- Low cash costs and** on a **reducing** trend
- Elevated shipping cost in FY22** – shipping costs were elevated by about A\$90m in FY22 compared to normal (due to temporary market factors. Adjusting for this factor, EBITDA has been relatively stable for the past 3 years. See *the next page for more detailed cost analysis*)

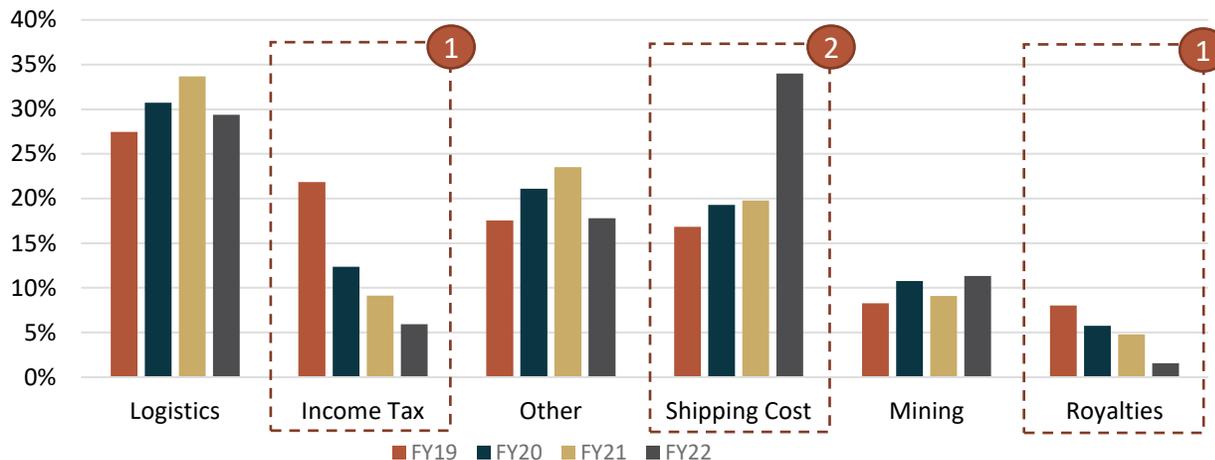
# ...with production costs reducing since IPO, notwithstanding currently elevated shipping costs.

Growth in Mining Production and Total Production Costs (since FY19)



- Overall, production costs have been well managed: costs of production have grown at a slower rate than production volumes – to the extent that in FY22 they remain slightly lower than FY19 levels

Production Costs as a % of Total Costs (FY19 - FY22)



- Within this overall pattern of efficiency, there are two major observations that can be made
- Income Tax and Royalties have both reduced (in line with reducing manganese prices over the period (and therefore revenue and profit
  - Shipping Prices materially increased in FY22 (by about A\$90m compared to previous years). This has occurred as a result of post pandemic freight volumes vs supply and should moderate.

## Jupiter has paid a strong dividend yield since IPO and has a conservative balance sheet.

Jupiter Financial Performance						
Financial Year		UoM	2019	2020	2021	2022
P&L	Share of Tshipi NPAT (49.9%)	A\$m	\$189	\$98	\$63	\$43
	Profit before Tax	A\$m	\$189	\$104	\$67	\$45
	Income Tax	A\$m	\$51	\$9	-\$1	\$3
	Profit from Discontinued Ops	A\$m	\$0	\$0	\$0	\$13
	NPAT	A\$m	\$138	\$95	\$66	\$54
Balance Sheet	Cash	A\$m	\$73	\$29	\$61	\$39
	Current Assets	A\$m	\$158	\$70	\$124	\$85
	Total Assets	A\$m	\$594	\$520	\$556	\$533
	Current Liabilities	A\$m	\$133	\$38	\$43	\$42
	Debt	A\$m	\$0	\$0	\$0	\$0
	Total Liabilities	A\$m	\$184	\$94	\$97	\$97
	Net Assets	A\$m	\$409	\$426	\$459	\$435

Jupiter: Dividends and Key Ratios						
Financial Year		UoM	2019	2020	2021	2022
Dividends		A\$m	\$147	\$93	\$59	\$29
Dividends per Share		A\$/share	\$0.08	\$0.05	\$0.03	\$0.02
Earnings per Share		A\$/share	\$0.07	\$0.05	\$0.03	\$0.03
Current Assets Ratio		%	119%	184%	288%	202%
Return on Invested Capital		%	34%	22%	14%	12%

### Notes

- Zero debt** since IPO
- Dividends paid through the commodity cycle**, averaging 14% since IPO
- Highly liquid balance sheet**, which has strengthened since IPO
- Strong ROIC**— averaging 21% since IPO



For more information contact:

[investorrelations@jupitermines.com](mailto:investorrelations@jupitermines.com)