

JUPITER MINES LTD (JMS)

Manganese producer generating strong cash margins

Jupiter Mines Ltd (JMS.asx) main investment is 49.9% of the Tshipi producing manganese mine in South Africa. The other Tshipi shareholder is Main Street, which is a Company owned by BEE group Ntsimbintle Mining (effective ~37% of Tshipi) and OMH.asx (~13% effective).

FY19 Tshipi EBITDA expectations

Tshipi reported ~A\$313m EBITDA (100%) for year ended 28 Feb 2018, implying ~A\$220m EBITDA in the second half. Tshipi distributed A\$160m to shareholders in FY18 (A\$80m to JMS which is ~4cps on current share base).

Guidance is to maintain current production, and the Company update in May said it was on track for FY19 production of 3.3Mt. At current Mn prices, we estimate FY19 EBITDA of ~A\$484m (100% basis, JMS owns 49.9%). On our base FY19 price assumptions, it implies A\$420m (100% basis) EBITDA.

Highly profitable even at US\$4.5/DMTU 44% CFR

At our long run price assumption, Tshipi generates ~US\$45/t EBITDA, versus current margin of ~US\$100/t. Given current manganese shortages it is possible that current margins persist for longer, especially if there is peer underinvestment, but even at lower prices it should remain highly profitable.

Focus is on continuous cost improvement, rather than growth

The Tshipi operation has crushing capacity of 3.6Mtpa, but a rail allocation of 2.1Mtpa. Efficient trucking scale is ~0.8-0.9Mtpa, and hence the operation minimises average costs at ~3Mtpa of high grade (36.5% Mn). Railed ore is cheaper and every 100ktpa switched to rail could generate ~A\$2m extra EBITDA. The Company is focussed on efficiency at rail and port to help increase allocations.

There is potential to increase production, but the global Mn market is only ~50Mtpa (17M Mn uits) and the Tshipi operation is a large mine in that context (~7% mkt supply). Hence, Tshipi production can have price impact. Instead, Tshipi sells low grade stockpiles when prices are high.

Need to consider two sets of financial accounts

JMS equity accounts for the investment in Tshipi. Consequently, the JMS accounts do not reflect the operational performance of Tshipi, nor the pro-forma balance sheet. Instead, the JMS accounts reflect revaluation estimates of the investment and the cash distributions and are difficult to use for valuation.

Initiate coverage with Buy

JMS has a strong history of capital management, which we believe will persist. A large potential part of the MD's remuneration is capital management. JMS has returned ~US\$122m of cash to shareholders in the last year via 3 buybacks (buyback prices were A\$0.5264, \$0.3821 and \$0.44 respectively). We expect dividends rather than buybacks in our modelling. We estimate a 1H19 DPS (paid in October, but Company to consider in June/July) of 4.5cps, and 2H of 2.5cps (paid in April 2019). We assume FY20 DPS of 4cps. These assumptions are based on declining Mn prices. At spot prices, we estimate that DPS could be 8cps for FY19 and FY20. We initiate with a Buy recommendation and a \$0.55 twelve month target + 7cps DPS.

22 May 2018

Share Price	\$0.365
Valuation	\$0.47
12mth price target	\$0.55

Brief Business Description:
Manganese producer in Sth Africa (via 49.9% interest in Tshipi mine)

Hartleys Brief Investment Conclusion
Long mine life, low cost and highly incentivised management for shareholder friendly capital management. Risk is Sth Africa sovereign risk & manganese price volatility.

Chairman & MD

Brian Gilbertson (Chairman)
Priyank Thapliyal (CEO)

Top Shareholders

Stichting Pensioenfonds	14.8%
Investec	13.4%
Pallinghurst	7.5%
Posco	6.9%
HJM Jupiter LP	5.0%

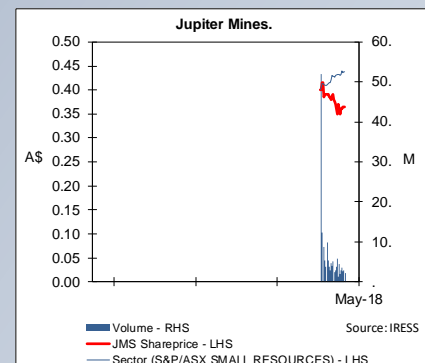
Company Address
Level 10, 16 St Georges Terrace
Perth WA, 6000, Australia

Issued Capital 1948.3m
- fully diluted 1948.3m

Market Cap A\$711.1m
- fully diluted A\$711.1m

Cash (31 May 18p) A\$93.0m
Debt (31 May 18p) A\$0.0m
EV A\$618.1m

	Mt	Mn grade
Resources (Mt)	459.5	33%
Reserves (Mt)	86.41	36.32



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Hartleys has assisted Jupiter Mines Limited ("Jupiter") in the completion of its Initial Public Offering, for which it has earned fees.

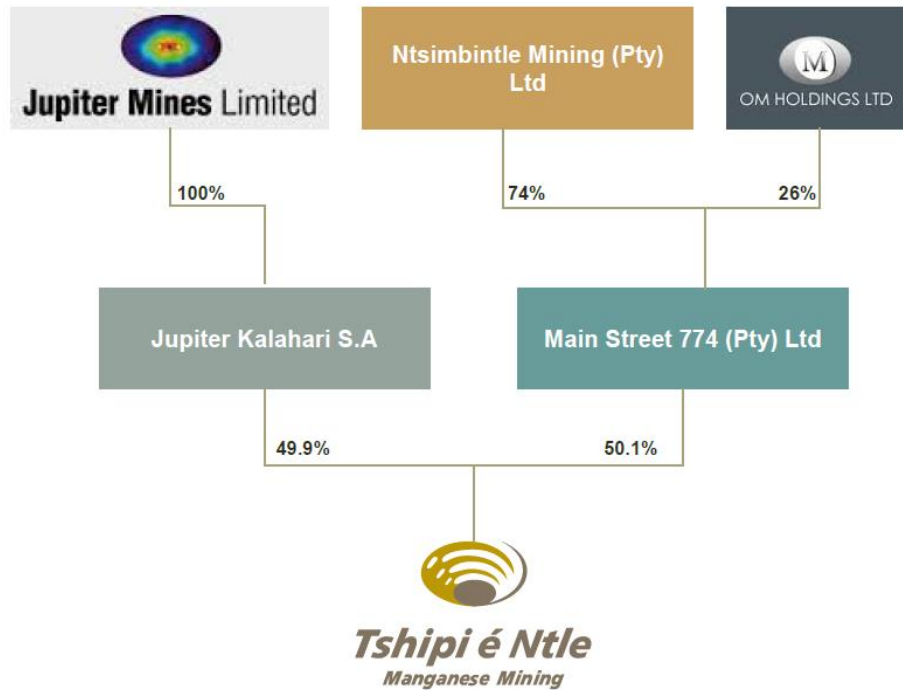
Jupiter Mines Ltd JMS						22 May 2018					
Key Market Information						Directors					
Share price						Brian Gilbertson (Chairman)	Company Information				
Issued Capital						Priyank Thapliyal (CEO)	Level 10, 16 St Georges Terrace				
Options, performance rights and partly paid shares ITM						Paul Murray (Non-exec)	Perth WA, 6000, Australia				
Options, performance rights and partly paid shares						Andrew Bell (Non-exec)	Tel: +61 8 9346 5500				
Issued Capital (fully diluted inc. all options)						Sungwon Yoon (Non-exec, Posco Nominee)	Fax: +61 8 9481 5933				
Issued Capital (fully diluted inc. all options and new capital)						Melissa North - CFO	Web: www.jupitermines.com				
Net Cash						Top Shareholders					
Twelve month price target							m shares				
Valuation						Stichting Pensioenfonds	289	14.8%			
						Investec	261	13.4%			
						Pallinghurst	146	7.5%			
						Posco	135	6.9%			
						HJM Jupiter LP	98	5.0%			
						Reserves & Resources					
							Mt	% Mn	Attributable to JMS		
						Measured	103	34.1	JMS Atrib: 51Mt		
						Indicated	119	33.5	JMS Atrib: 60Mt		
						Inferred	237	32.5	JMS Atrib: 119Mt		
						TOTAL Resources	460	33.1	JMS Atrib: 229Mt		
						Reserve					
							86	36.3	JMS Atrib: 43Mt		
						Production Summary					
							Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
						Mill Throughput	Mt	2.6	3.8	3.6	3.6
						Saleable Product	Mt	2.3	3.4	3.3	3.3
						- grade Mn	Mt	36.5%	36.5%	36.5%	36.5%
						Saleable Product (attrib to JMS)	Mt	1.2	1.7	1.6	1.6
						Mass recovery		91.0%	91.0%	91.0%	91.0%
						Mine Life	%	50.25	49.25	48.25	47.25
						Assumed Mine Inventory (end)	Mt	142.5	139.0	135.4	131.8
						Costs					
							Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
						Cost per milled tonne	AS/t	109.0	109.9	119.1	112.5
						EBITDA / tonne milled ore	AS/t	50.7	83.1	116.9	70.7
							US\$/t	37.9	64.9	90.0	53.9
						Total cost / tonne product cfr	AS/t	100	125	133	126
							ZAR/t	1,039	1,236	1,253	1,307
							ZARS/dmtu	28	34	34	36
							US\$/t	75	97	102	96
							US\$/dmtu	2.0	2.7	2.8	2.6
						Price Assumptions					
							Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
						AUDUSD	AS/US\$	0.75	0.78	0.77	0.76
						USDZAR		13.90	12.69	12.25	13.65
						AUDZAR		10.41	9.91	9.43	10.40
						Manganese: 44% benchmark cfr	US\$/dmtu	5.64	6.32	6.19	4.81
						Manganese: 44% benchmark cfr	US\$/t	248	278	272	212
						Iron Ore 62% benchmark cfr	US\$/t	68.1	69.3	65.0	65.0
						Tshipi received price cfr	US\$/t	116.5	168.8	201.4	155.1
							US\$/dmtu	3.2	4.6	5.5	4.2
							ZARS/dmtu	44.4	58.7	67.6	58.0
							AS/dmtu	4.3	5.9	7.2	5.6
						Valuation multiples					
								28 Feb 17a	28 Feb 18a	28 Feb 19a	29 Feb 20a
						EV/EBITDA	x	9.5	4.0	2.9	4.9
						Div Yield	%	0.0%	0.0%	19.2%	11.0%
						Hedging					
							Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
						none					
						Sensitivity Analysis					
							Valuation	FY19 pro-forma EBITDA			
						Base Case	0.467	210.4			
						Spot Prices	0.85 (82.2%)	241.6 (14.8%)			
						Spot USD/AUD 0.76, 44% Mn CFR \$6.6/dmtu, 37% Mn fob Sth Africa \$5.3/dmtu					
						AUDUSD +/-10%	0.38 / 0.58 (-19.0% / 23.2%)	175.3 / 253.3 (-16.7% / 20.4%)			
						Manganese +/-10%	0.58 / 0.35 (24.1% / -24.1%)	253.7 / 167.1 (20.6% / -20.6%)			
						Production +/-10%	0.51 / 0.42 (9.8% / -9.8%)	231.8 / 189.0 (10.2% / -10.2%)			
						Unpaid Capital					
						Year Expires	\$m	Avg price	% ord		
						28-Feb-19	0.0	0.00	0%		
						29-Feb-20	0.0	0.00	0%		
						28-Feb-21	0.0	0.00	0%		
						28-Feb-22	0.0	0.00	0%		
						28-Feb-23	0.0	0.00	0%		
						TOTAL	0.0	nm	0%		
						Valuation					
									AS/shr		
						49.9% Tshipi (pre-tax NAV at disc. rate of 10%)			0.60		
						Tshipi Tax (NPV future liability)			-0.16		
						Marketing			0.02		
						Other Assets/Exploration			0.00		
						Forwards			0.00		
						Corporate Overheads			-0.01		
						Net Cash (Debt)			0.05		
						With Holding Tax			-0.02		
						Options & Other Equity			0.00		
						Total			0.47		
Analyst: Trent Barnett											
+61 8 9268 3052											
"tbc capital" could be equity or debt. Our valuation is risk-adjusted for how this may be obtained.											
Sources: IRESS, Company Information, Hartleys Research											

HIGHLIGHTS

Jupiter Mines main investment is 49.9% of the Tshipi producing manganese mine in South Africa.

The Company has a strong history of capital management, and the balance sheet of both JMS.asx and the Tshipi investment remain strongly net cash. At current manganese prices, the mine is highly profitable.

Fig. 1: Tshipi mine ownership (49.9% JMS)



Source: Jupiter

Fig. 2: Tshipi mine



Source: Hartleys Research Analyst Site Visit – January 2018

TSHIPI (49.9%)

Tshipi Borwa is the main asset / investment for JMS.asx. It is a producing manganese mine in South Africa, with a long mine life. The project life-of-mine plan is based on ~3mtpa production of ~36.5% Mn ore, but during periods of strong demand (like FY18) production it can be stretched to 3.6Mtpa.

Construction began in 2011 and first ore was produced in the second half of 2012. The mine has a life of mine in excess of 60 years. Capex for the development was 1.85b Rand (~A\$185m).

Tshipi's strategy is to mine and process the lower 15m of the mineralised zone, commonly known as the bottom cut, as it bears a higher grade ore. A portion of the upper 15m mineralized zone, referred to as the top cut, is stockpiled and sold when the manganese market requires it. The stockpile is expensed.

The plant and infrastructure has been developed for an annual production capacity of 3.6Mtpa (excluding low grade product), but the optimal transport infrastructure capacity (to minimise average costs) is closer to 3Mtpa. When margins are high production is pushed above 3Mtpa.

The life-of-mine strip ratio is ~10x, but that assumes the barrier pillar to Mamatwan (owned by S32.asx) is mined. Excluding the barrier pillar, the LOM strip ratio will rise. Negotiations with S32 regarding mining the barrier pillar are progressing.

The operation has two main products, High Grade Lumpy (36.5%) and High Grade Fines (35.5%). A the third product is Low Grade Lumpy (33%), but only sold if the market requires it. The operation is overwhelmingly high grade lumpy.

Fig. 3: Tshipi resource

	2017 Reserves			2017 Resources	
	Tonnes (Mt)	Grade (% Mn)		Tonnes (Mt)	Grade (% Mn)
Proved	48	36.3	Measured	103	34.1
Probable	39	36.4	Indicated	120	33.5
			Inferred	237	32.5
Total	86	36.3	Total	460	33.1

Source: Jupiter

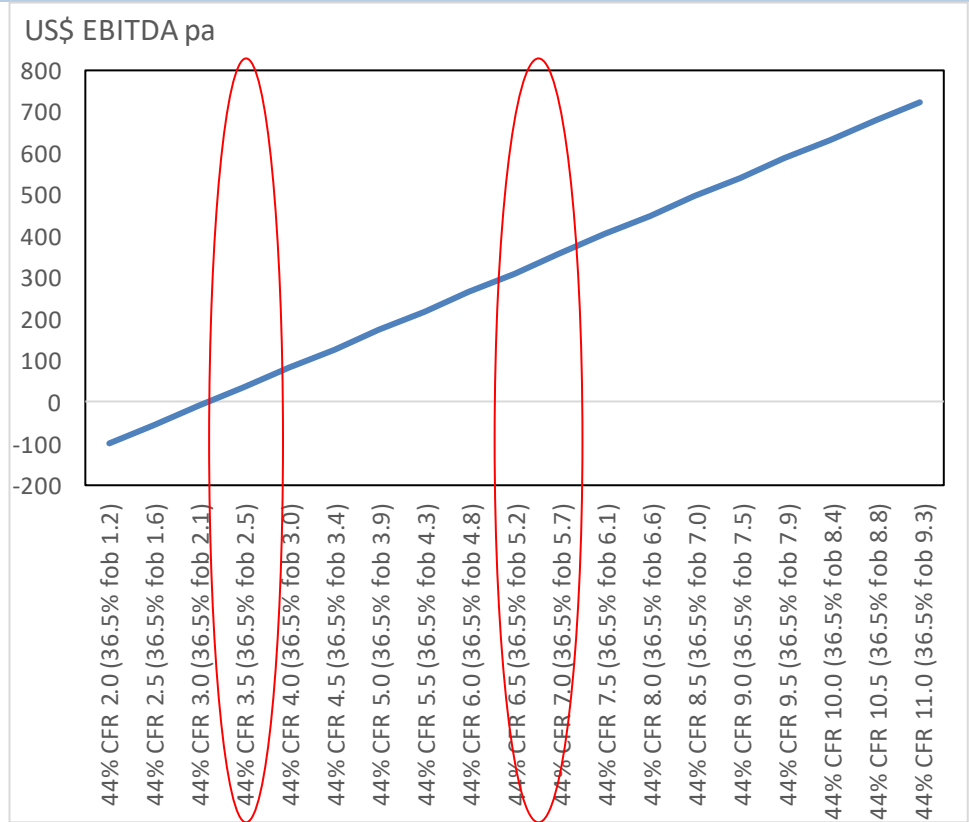
Fig. 4: Low cost operation

Tshipi 100% basis ¹ (note JMS 49.9%)		FY17	FY18
Manganese ore sales	Million tonnes	2.27	3.34
Revenue	ZAR m	3,777	7,334
EBITDA	ZAR m	1,354	3,104
Net Profit (After Tax)	ZAR m	891	1,901
Average benchmark 37% Mn price (FOB PE)	US\$/dmu	4.31	4.74
Cash costs (FOB) ²	US\$/dmu	2.20	2.09
Australian Dollar Equivalent (at AUD:ZAR 1:9.39 as at 17 April 2018)			
EBITDA	AUD m	144	331
Net Profit (After Tax)	AUD m	95	202

Source: Jupiter. 1. Costs include mining, processing, logistics, environmental and indirect

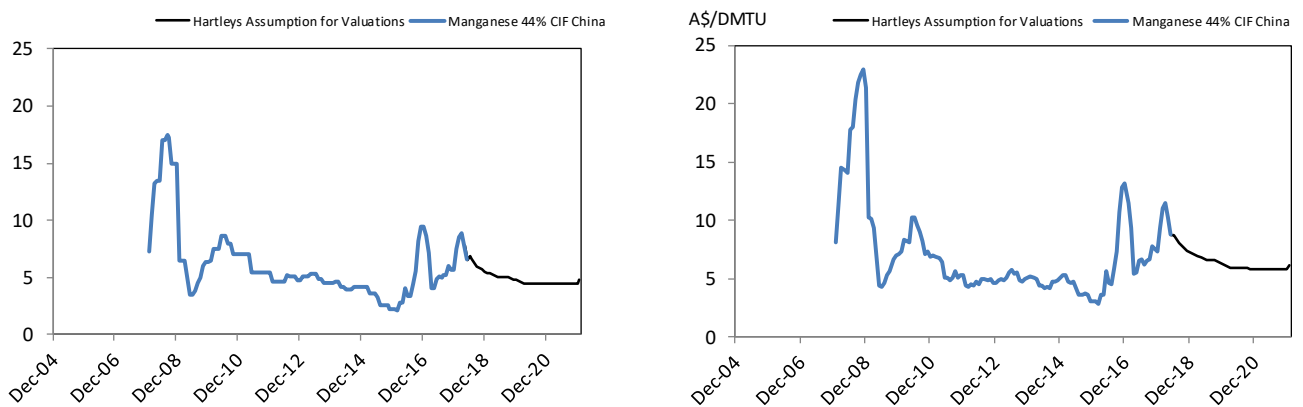
At current manganese prices Tshipi is highly profitable. We estimate that the breakeven (cash basis) is US\$3.25DMTU cfr 44% (or ~US\$2.5 DMTU fob Sth Africa 37%). On a per tonne product basis, we estimate cash costs around US\$80/t fob.

Fig. 5: Tshipi (100%) earnings sensitivity



Source: Hartleys Research

Fig. 6: Manganese Price



Source: Hartleys Research, Asian Metals

Fig. 7: *Process infrastructure*



Source: Hartleys Research Analyst Site Visit – January 2018

Fig. 8: *Barrier Pillar with Mamatwan (background)*



Source: Hartleys Research Analyst Site Visit – January 2018.

Fig. 9: Stockpiles and train load out



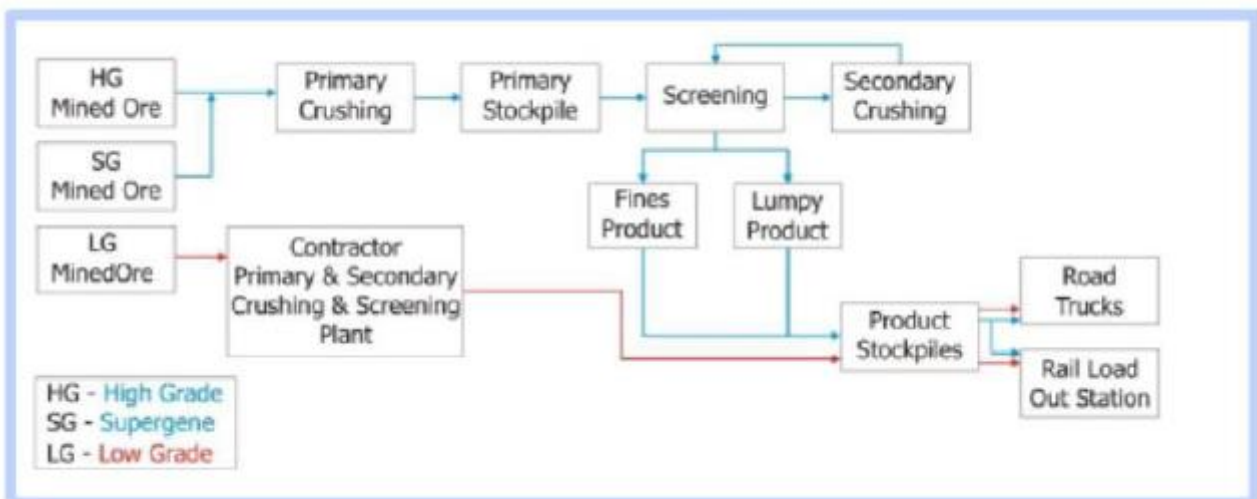
Source: Hartleys Research Analyst Site Visit – January 2018

Fig. 10: Mid-sized rail infrastructure (~60t / rolling stock)



Source: Hartleys Research Analyst Site Visit – January 2018

Fig. 11: Process flow sheet



Source: Jupiter

Fig. 12: Tshipi Board & Management (not JMS.asx)

<p>Saki Macozoma, Chairman</p> <p>Saki Macozoma is the Chairman of the Tshipi and Ntsimbintle board of directors. He is a significant shareholder and non-executive chairman of Safika Holdings which owns a major stake in Ntsimbintle. Mr Macozoma is one of the best-known business people in South Africa. He has served as chairman of financial institutions LibertyHoldings and Stanlib. He has also served as deputy chairman of the Standard Bank Group and deputy chairman of Volkswagen SA. Mr Macozoma is the president of Business Leadership South Africa and has also served as chairman of the South African Presidents Big Business Working Group and as co-chairman of the BusinessTrust. In addition to his business interests, Mr Macozoma is recognised for his work in civil society. He has served as chairman of the University Council of the University of the Witwatersrand and the Council for Higher Education and is currently a member of the Board of Governors of Rhodes University. He is the Chairman of the Kwazulu–Natal Philharmonic Orchestra. He studied political science, economics and journalism at the University of South Africa and Boston University in the USA. He embarked on a political career in the mid-1970s. In April 1996, Mr Macozoma resigned from parliament to become the first black managing director of Transnet SOC Ltd, the parastatal company that runs South Africa's ports and railways. Transnet's assets were then worth R40-billion.</p>
<p>Brian Gilbertson, Non-executive director</p> <p>Brian Gilbertson is the chairman of and a major shareholder in Pallinghurst Advisors LLP and Pallinghurst Resources, and a co-investor in Tshipi, through Jupiter Mines Limited. He has played a pivotal role in the financing of the Tshipi Borwa Mine project and the establishment of a viable international business model for it. Mr Gilbertson has extensive experience in the global natural resources industry. He was managing director of Rustenburg Platinum Mines Limited, the world's foremost producer of platinum in the 1980s. Later, as executive chairman of Gencor Limited ("Gencor"), Mr Gilbertson led the restructuring of the South African mining industry into the post-apartheid era. He is credited with transforming Gencor into a focused mineral and mining group. In 1997, Gencor restructured its non-precious metals interests as Billiton plc and, with Mr Gilbertson as executive chairman, Billiton plc raised USD1.5-billion in an initial public offering on the London Stock Exchange, taking the company into the FTSE 100. In 2001, Billiton plc merged with BHP Limited to create what is widely regarded as one of the world's premier resources companies, BHP Billiton plc. In 2004, Mr Gilbertson joined Sibirsko-Uralskaya Aluminium Company, the smaller aluminium producer in Russia and led the company into the USD30 billion merger with RUSAL and the alumina assets of Glencore International A.G., creating the largest aluminium company in the world. Mr Gilbertson established Pallinghurst Advisors LLP and the Investment Manager during 2006 and 2007, respectively, and is the Chairman of and a partner in both entities.</p>
<p>Low Ngee Tong, Non-executive director</p> <p>Low Ngee Tong is executive chairman of OMH, and a shareholder in Ntsimbintle. Mr Low graduated from the National University of Singapore with a degree in mechanical engineering. He has over 25 years' experience in the steel, ferro alloy and building materials industries in Asia. That experience was gained with Chiyoda Limited, a global Japanese civil engineering group; Intraco Limited; Intraco Resources Pty Limited; and Cltoh Limited, a significant Japanese metals trading house. Mr Low has been the Chief Executive Officer of OMH since its incorporation and subsequent listing in 1998. In October 2008, he was appointed executive chairman of OMH. His business relationships and reputation with several large multinational corporations in Asia have enabled OMH to successfully establish profitable operations based in Singapore, and extending to China and Australia.</p>
<p>Priyank Thapliyal, Non-executive director</p> <p>Priyank Thapliyal acted as deputy to Anil Agarwal, the Indian businessman who founded the diversified mining company, Vedanta Resources plc. In that position Mr Thapliyal was responsible for spearheading major strategic developments that resulted in the listing of Vedanta Resources plc on the London Stock Exchange in December 2003. The listing transformed Vedanta Resources from a USD100 million Indian copper smelting company, to its current market capitalisation of USD9billion. A significant contributor to Vedanta's success was the USD50 million acquisition of a controlling stake in Konkola Copper Mines in Zambia, a transaction that was initiated and led by Mr Thapliyal. Mr Thapliyal holds a degree in metallurgical engineering and a Master of Business Administration from the University of Western Ontario in Canada.</p>
<p>Johannes Gumede, Non-executive director</p> <p>Joe Gumede is a founder of the Bosasa Group, a leading South African black economic empowerment company. The Bosasa Group is a shareholder in Nkonjane Economic Prospecting and Investments Proprietary Limited which holds an interest in Ntsimbintle. The Bosasa Group has its roots in the catering industry, but has diversified into a wide range of industries – from cleaning to security – to become a world leader in facilities management. Mr Gumede has been intricately involved in turning the Tshipi dream into a reality. Together with his colleagues in Nkonjane–Sabelo Macingwane and the late Vo Ntsibilika – he identified and mentored the BEE groups from the Northern Cape who eventually became shareholders in Ntsimbintle. A founder and leader of several successful black economic empowerment companies, Mr Gumede is excited and inspired to have played a role in establishing a black-owned resources company that is achieving its goal of providing long-term, permanent employment to the people of South Africa.</p>

<p>Omphemetse Cynthia Mogodi, Non-executive director</p> <p>Omphemetse Cynthia Mogodi is the chairperson of the John Taolo Gaetsewe Developmental Trust which holds a shareholding in Ntsimbintle. Ms Mogodi is a passionate proponent of community development and socio-economic upliftment. She became a trustee of the Kgalagadi Rural Charitable Trust (now the John Taolo Gaetsewe Developmental Trust) in 2002 and has been its chairperson since inception. A revered figure in the Northern Cape, Ms Mogodi has served the people of her community for the past 35 years, originally as a professional nurse, and later as executive mayor of Kgalagadi Cross-boundary District Municipality. She is a member of the John Taolo Gaetsewe Municipal Council and serves as chairperson of the Finance & Human Resources Committee. Ms Mogodi holds a Bachelor of Nursing degree; diploma in general nursing, midwifery and clinical nursing science; and a certificate in Primary Healthcare Service Management. She is a member of the South African Women in Mining Association (SAWIMA).</p>
<p>Brendan Robinson, Non-executive director</p> <p>Mr Robinson holds honours degrees in both accounting and financial planning and also holds a masters' degree in financial management. Mr Robinson started his career at Deloitte and Touche as a member of the Financial Institution Services Team, where he specialised in private equity advisory services and where he discovered his passion for setting up new businesses. Upon admission as a CA (SA), he founded an audit and financial advisory practice called Du Toit, Minnaar and Robinson Inc., which specialised in transaction support, valuations, taxation and financial planning. In 2008, Mr Robinson joined Questco, South Africa's largest independent resource corporate finance focused advisory boutique. The following year, he was promoted to an equity partner and director. Mr Robinson qualified as a JSE Approved Executive in 2009 and acted as Designated Advisor to a number of AltX listed companies through which he became a specialist in the field of corporate governance. He was involved in the equity raising that funded the Tshipi Borwa Mine project and officially filled the position of Tshipi's inaugural Chief Financial Officer in November 2011 and subsequently became Tshipi's Chief Executive Officer in February 2014 until December 2015. Mr Robinson is passionate about business, talent and leadership development.</p>
<p>Management</p>
<p>Ezekiel Lotlhare, Chief Executive Officer</p> <p>Ezekiel Lotlhare holds a Bachelor of Technology degree in Chemical Engineering. He excelled as a student of engineering, winning a silver medal from the South African Institution of Chemical Engineers (SAICHE) and an award from the Chemical Engineering Department at Wits Technikon for his performance as the best diploma student in chemical engineering in 1996. In 2009, Mr Lotlhare completed a Master of Business Leadership through the University of South Africa. Ezekiel began his career in 1999, working as process metallurgist for Hotazel Manganese Mines. Since then he has filled a variety of positions – being production manager of Lonmin Platinum (the world's third largest producer of platinum), plant manager at Hotazel Manganese Mines, Operations Manager for Tau Mining Consultants, Operations Manager for Tshipi Borwa Mine to his most recent position of General Manager at Tshipi Borwa Mine.</p>
<p>Carel Malan, Chief Financial Officer</p> <p>Carel Malan read for the BCom and BCom Honours degrees at the University of Pretoria before joining Ernst & Young in 2008. He is an Admitted Chartered Accountant and holds the distinction of finishing among the top 10 for the 2009 class who took the final year of the Chartered Accountant's Board examination in 2009. At Ernst & Young he received his first exposure to the mining industry. After three years with the firm in Gauteng he requested a transfer to Bermuda where he spent one year before joining Tshipi é Ntle Manganese Mining, in January 2012. Carel was appointed as CFO of Tshipi in December 2014. In October 2015 Carel resigned from Tshipi é Ntle to pursue other interests. However, his interest in mining and an in-depth knowledge and experience of Tshipi é Ntle's business model brought him back to the company, in October 2016, when he was reappointed as CFO.</p>

Source: Tshipi website (<http://www.tshipi.co.za/management.html>)

JUPITER MARKETING (100 %)

Jupiter has an offtake agreement with Tshipi for its share (49.9%) of production, which it then sells. The JMS accounts present the marketing division as a separate segment. The marketing division earns 3% fee on sales of JMS's share of production.

CENTRAL YILGARN PROJECTS (100 %)

Jupiter has two iron ore development assets in the Yilgarn, WA, north of Kalgoorlie. Mount Mason is a small DSO development and Mount Ida is a long-life magnetite project. The Company is not currently undertaking material study work on the projects given they have appeared uneconomic. However, recent announcements by Cliffs suggest better infrastructure availability at the Esperance Port and hence it is possible study work is recommenced, particularly given the premium for high grade ore (ie magnetite).

Fig. 13: Yilgarn iron ore development projects

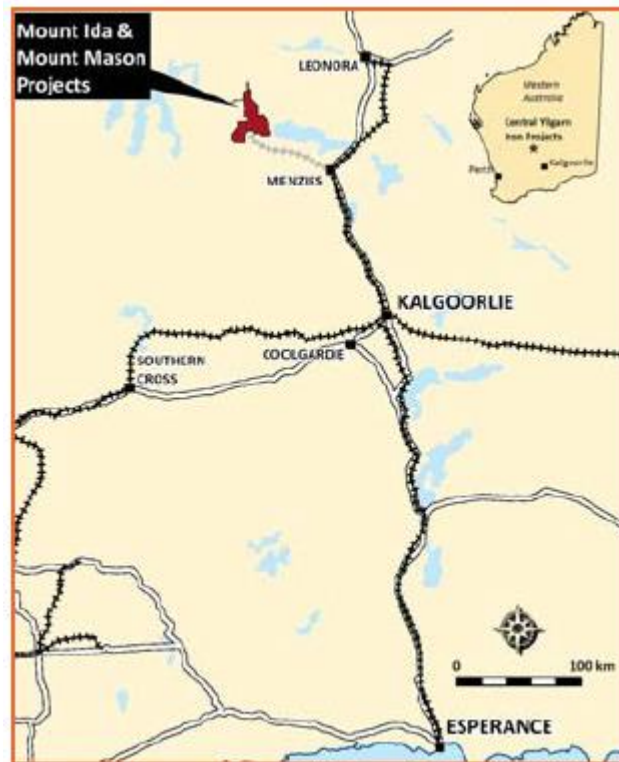


Figure 5. CYIP Project Location Map

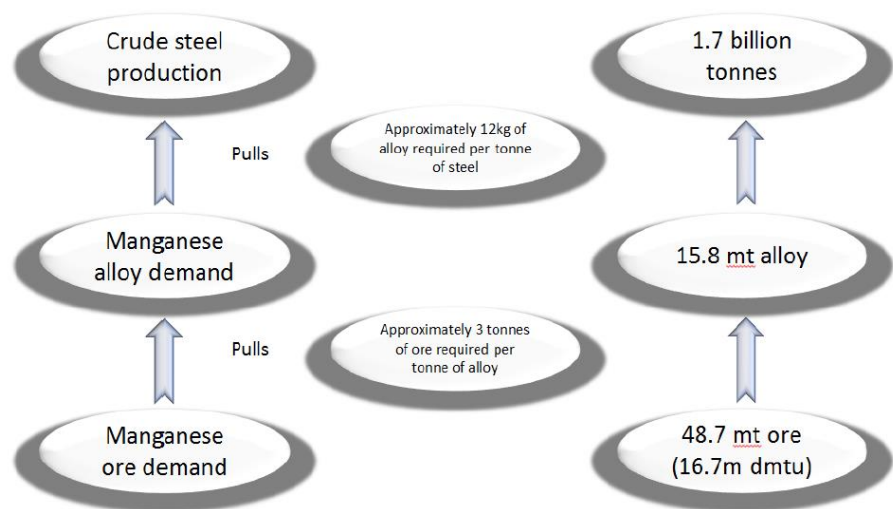
Source: Jupiter

INDUSTRY EXPOSURE

Jupiter Mines is exposed to the manganese industry. Consequently, the Company is exposed to the global steel industry. Manganese increases tensile strength of steel (Hadfield steel).

Separately, manganese is used in the cathode of NCM lithium batteries. Volumes are currently immaterial but have potential to be meaningful depending on technology type and vehicle growth. We have seen some technology that is looking to replace the nickel in NCM with more manganese, which means it could have an even more material effect. However, the steel market dynamics are likely to be more important for forecast given the small implied impact on current volumes and the technology risks from EV's.

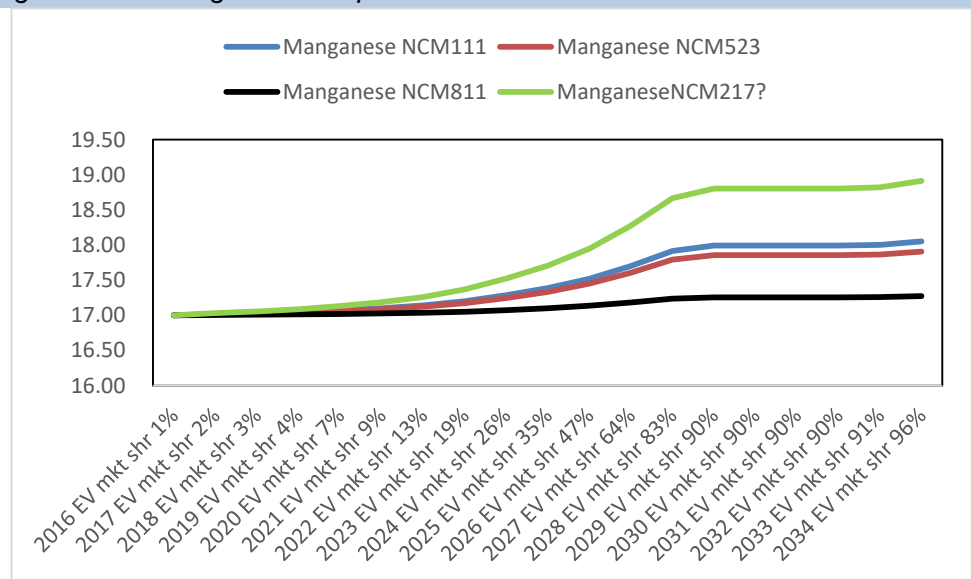
Fig. 14: ~50Mt of ore required for global steel market



Source: International Manganese Institute

Source: Jupiter

Fig. 15: Manganese exposure to NCM batteries

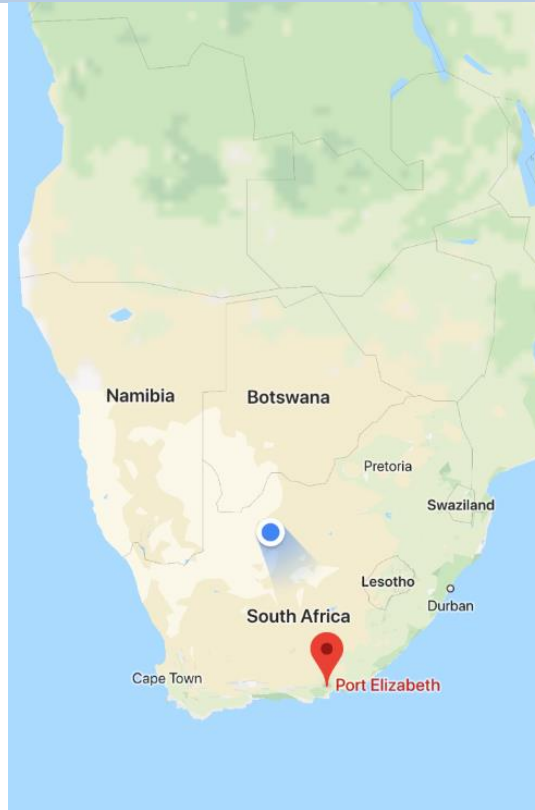


Source: Hartleys

GEOGRAPHIC EXPOSURE

The Tshipi mine is located in the Kalahari Manganese Field in South Africa between Johannesburg and the Botswana border. The site is easy to access via regular commercial flights from Johannesburg, which means the site is easy to access from anywhere in the world with direct flights to Johannesburg.

Fig. 16: *Project located west of Johannesburg near Botswana*

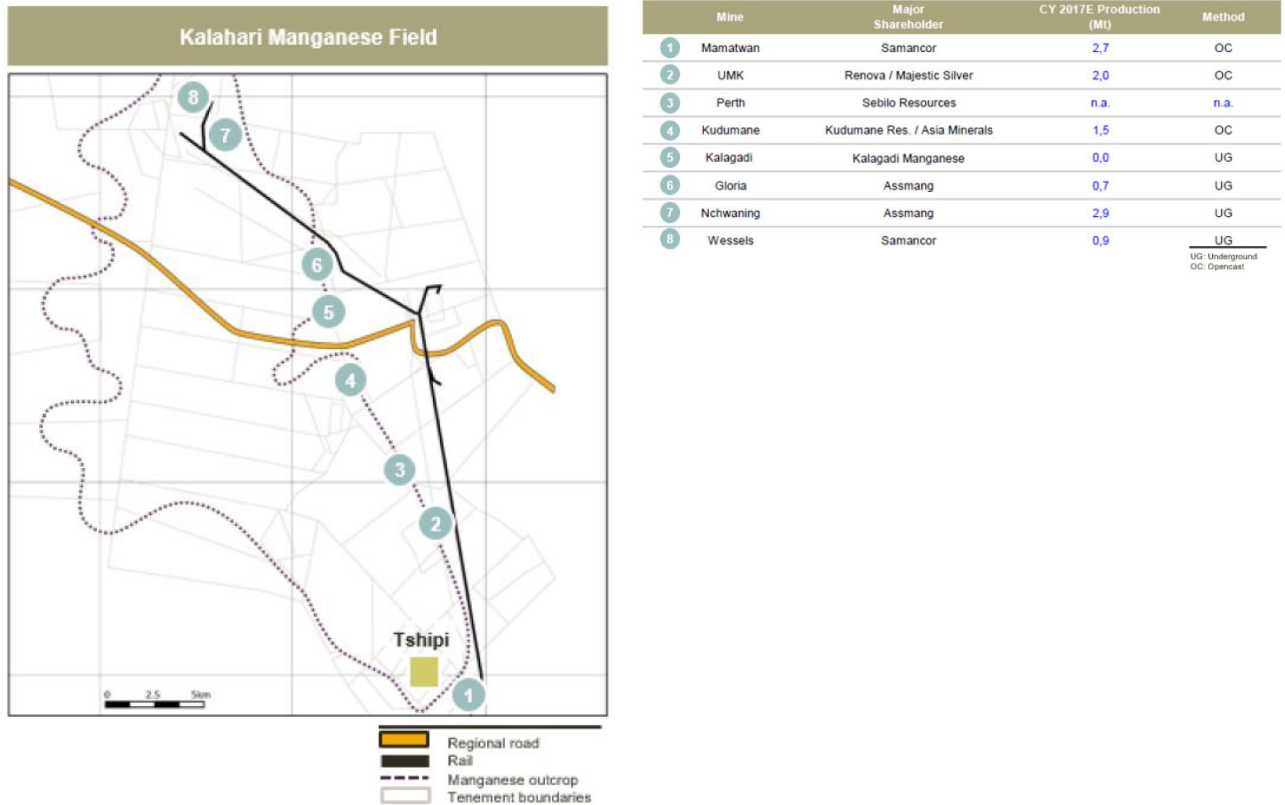


Source: Google, analyst site visit

PEERS AND COMPETITORS

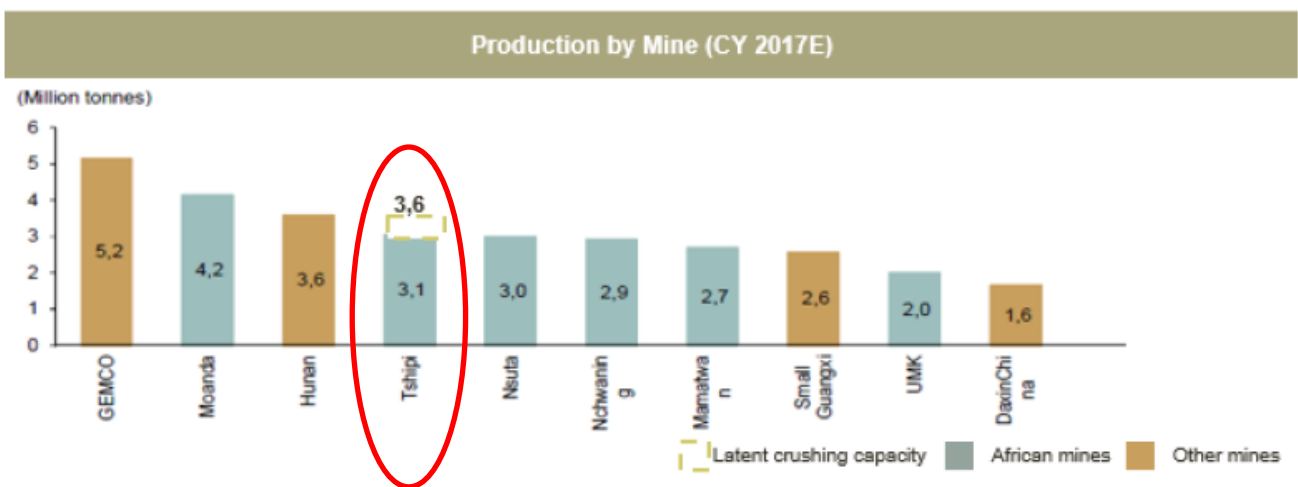
The Tshipi mine is in the Northern Cape Province of South Africa. There are 8 other operations including the Mamatwan Mine owned by S32.asx (which has a pit that shares a wall with Tshipi). Other operations in the region include UMK (2Mtpa), Kudumane (1.5Mtpa) and Nchwaning (2.9Mtpa).

Fig. 17:Kalahari Manganese Field has several other peer manganese mines



Source: JMS

Fig. 18:Tshipi is globally significant manganese project

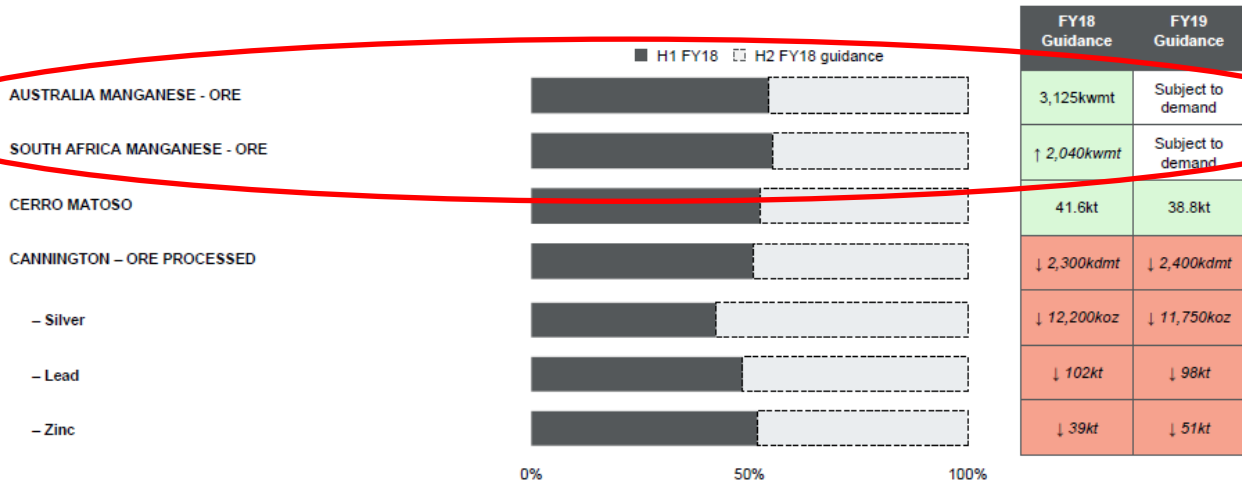


Source: JMS

On the ASX, OMH (market cap ~A\$1.0b, net debt ~\$475m) is the nearest peer, although it is focussed on smelting as well as ore production.

Fig. 19: S32 earnings sensitivity to manganese prices

FY18 PRODUCTION GUIDANCE



EARNINGS SENSITIVITIES



Estimated impact on FY18 Underlying EBIT of a 10% change in commodity or currency^(a)

EBIT impact +/- 10%
US\$M

Alumina	186
Aluminium ^(b)	185
Manganese ore ^(c)	107
Energy coal	95
Metallurgical coal	64
Nickel	42
Manganese alloy ^(c)	33
Lead	27
Silver	21
Zinc	16
Australian Dollar	160
South African Rand	92
Colombian Peso	21
Brazilian Real	11

Notes:

- a. The sensitivities reflect the estimated impact on FY18 earnings using volume and a 10% movement in H1 FY18 actual realised prices and H1 FY18 actual average exchange rates.
- b. Aluminium sensitivity shown without any associated increase in alumina pricing.
- c. The sensitivity impact for manganese ore and manganese alloy are on a pre-tax basis. The Group's Manganese operations are reported as equity accounted investments. As a result, the Profit after taxation for Manganese is included in the Underlying EBIT of South32.

Source: S32 1H18 earnings presentation

Fig. 20: OMH.asx also has smelting operations

COMPANY OVERVIEW

World-class expandable mining and alloy smelting assets

Exploration & Mining	Ferroalloy Smelting	Marketing & Trading
<p>Mining - South Africa*</p> <ul style="list-style-type: none"> Tshipi Borwa: Manganese ore production capacity of up to 3.0 million MT per annum <p>Mining - Malaysia</p> <ul style="list-style-type: none"> Lasah/Lawin: Quartzite production capacity of 300k MT per annum <p>Mining - Australia</p> <ul style="list-style-type: none"> Bootu Creek: Manganese ore production capacity of up to 1.0 million MT per annum 	<p>Smelting - Malaysia</p> <ul style="list-style-type: none"> OM Sarawak : Ferrosilicon and manganese alloys for the carbon and stainless steel industry Production capacity of 170-200k MT of ferrosilicon alloy and 250-300k MT of manganese alloys Joint venture with Cahya Mata Sarawak Berhad, a leading Malaysian conglomerate <p>Smelting - China</p> <ul style="list-style-type: none"> OM Qinzhou: Production capacity of 80k MT manganese alloy and 300k MT sinter 	<p>Equity Sales, Marketing Agency, Third Party Trading (Singapore, China, Malaysia)</p> <ul style="list-style-type: none"> Manganese ore Ferrosilicon Manganese alloys Quartz Coal & Coke Fe units



* OMH has an effective 13.0% interest in the Tshipi Borwa mine

Source: OMH

Fig. 21: OMH.asx & S32.asx shareprices



Source: IRESS

Fig. 22: ASX listed resource producers

Bloomberg Consensus Estimates													P/E (dil. for new shs)			Dividend Yield		
NAME	TICKER	Last Price	M. CAP (A\$m)	EV (A\$m)	"FY0" Year	EV/EBITDA			EV/EBIT			P/E (curr mkt cap / NPAT)			FY0	FY1	FY2	
						FY0	FY1	FY2	FY0	FY1	FY2	FY0	FY1	FY2	FY0	FY1	FY2	
Jupiter Mines - Hartleys	JMS AU	0.37	711	618	02/2018	4.0	2.9	4.9	4.6	3.3	5.8	nm	nm	nm	0.0%	19.2%	11.0%	
ASX Resource Producers																		
Large Caps																		
ALUMINA LTD	AWC AU	2.68	7,716	7,732	12/2017	20.8	27.7	42.2	20.1	19.8	29.2	20.4	12.5	18.2	4.0%	6.5%	5.5%	
BHP BILLITON LIMITED	BHP AU	33.59	178,799	196,836	06/2017	9.5	8.2	8.6	15.5	12.6	14.0	24.7	20.1	21.9	2.6%	3.5%	2.9%	
FORTESCUE METALS GROUP LTD	FMG AU	4.68	14,546	14,633	06/2017	3.0	4.5	4.8	4.0	7.2	8.4	6.4	12.8	13.2	6.7%	4.4%	4.6%	
NEWCREST MINING LTD	NCM AU	20.98	16,038	16,875	06/2017	11.9	12.8	9.0	23.5	28.3	15.1	35.5	53.6	23.0	0.7%	0.8%	1.3%	
RIO TINTO LTD	RIO AU	84.31	147,918	147,937	12/2017	7.8	8.0	8.7	10.6	11.4	12.8	17.0	17.5	20.6	3.3%	3.7%	3.2%	
SOUTH32 LTD	S32 AU	3.86	20,090	18,634	06/2017	7.4	7.7	7.5	11.2	11.2	10.9	17.1	16.4	16.6	2.4%	3.6%	3.1%	
median			18,064			8.7	8.1	8.6	13.4	12.0	13.4	18.7	17.0	19.4	3.0%	3.6%	3.2%	
average			64,184			10.1	11.5	13.5	14.2	15.1	15.1	20.2	22.2	18.9	3.3%	3.7%	3.5%	
Mid-cap (~A\$1-5b)																		
GALAXY RESOURCES LTD	GXY AU	3.25	1,316	1,263	12/2017	22.9	10.9	9.8	30.1	17.4	15.4	45.4	23.4	20.5	0.0%	0.0%	0.0%	
INDEPENDENCE GROUP NL	IGO AU	4.89	2,869	2,996	06/2017	19.1	9.0	5.9	56.7	30.0	11.0	71.9	43.3	13.7	0.5%	0.8%	2.2%	
ILUKA RESOURCES LTD	ILU AU	11.88	4,971	5,162	12/2017	15.0	10.2	8.4	26.8	13.4	11.0	41.0	19.1	15.5	1.3%	1.7%	2.5%	
MINERAL RESOURCES LTD	MIN AU	19.13	3,574	3,464	06/2017	7.4	6.3	5.0	10.7	8.3	6.7	15.8	12.6	9.5	2.7%	3.5%	4.9%	
NORTHERN STAR RESOURCES LTD	NST AU	6.34	3,807	3,411	06/2017	8.0	8.0	6.5	12.0	12.4	9.0	18.9	19.1	14.1	1.5%	1.5%	1.6%	
OZ MINERALS LTD	OZL AU	10.37	3,096	2,384	12/2017	4.5	4.8	5.1	8.2	8.9	10.1	14.5	17.3	19.4	1.8%	1.8%	1.6%	
RESOLUTE MINING LTD	RSG AU	1.14	840	630	06/2017	3.1	7.4	3.1	4.1	11.0	4.0	6.2	19.9	7.8	1.1%	1.3%	1.7%	
EVOLUTION MINING LTD	EVN AU	3.13	5,259	5,634	06/2017	8.1	7.2	6.7	18.8	15.0	12.7	19.1	20.3	16.7	1.2%	2.3%	2.7%	
SARACEN MINERAL HOLDINGS LTD	SAR AU	2.05	1,658	1,619	06/2017	13.9	7.9	6.6	33.1	13.8	10.1	40.4	19.8	14.3	0.1%	0.1%	1.0%	
ST BARBARA LTD	SBM AU	4.53	2,250	2,090	06/2017	6.3	6.2	6.3	8.6	8.1	8.4	14.5	11.4	12.3	0.4%	1.9%	2.0%	
SANDFIRE RESOURCES NL	SFR AU	8.58	1,353	1,239	06/2017	5.4	4.0	3.5	10.9	7.1	5.4	16.9	11.0	8.3	1.7%	3.2%	3.9%	
WESTERN AREAS LTD	WSA AU	3.39	922	792	06/2017	12.5	9.1	6.1	33.1	11.5		382.4	50.9	19.1	0.0%	0.8%	1.4%	
median			2,560			8.0	7.6	6.2	12.0	12.9	10.1	19.0	19.5	14.2	1.2%	1.6%	1.8%	
average			2,660			10.5	7.6	6.1	20.0	14.9	9.6	57.2	22.3	14.3	1.0%	1.6%	2.1%	
Small Cap (<A\$1b)																		
ATLAS IRON LTD	AGO AU	0.03	301	307	06/2017	2.7	19.2	12.3	8.1			11.6			0.0%			
AURELIA METALS LTD	AMI AU	0.47	204	278	06/2017	7.8	3.0	1.7	22.6	4.0	2.1	40.7	3.1	1.8				
BEADELL RESOURCES LTD	BDR AU	0.07	84	92	12/2017	0.0		1.5			4.4		29.7	4.5	0.0%	0.0%	0.0%	
BASE RESOURCES LTD	BSE AU	0.28	217	349	06/2017	3.1	2.5	2.4	6.5	4.4	4.5	7.9	4.1	3.2				
METALS X LTD	MLX AU	0.95	577	565	06/2017	12.6	21.3	4.8	28.0		7.3	166.0		7.9	0.0%	1.1%	2.1%	
MILLENNIUM MINERALS LTD	MOY AU	0.18	138	108	12/2017	4.0	3.4	2.3	15.7	16.9	6.5	20.0	16.6	6.4				
PANTORO LTD	PNR AU	0.34	261	264	06/2017	13.5	6.5	3.3	20.5	12.4	4.5	30.0	14.8	6.0				
PERSEUS MINING LTD	PRU AU	0.43	442	430	06/2017	36.6	4.5	2.3		25.7	4.8			7.0	0.0%	0.0%	0.0%	
RAMELIUS RESOURCES LTD	RMS AU	0.60	313		06/2017							8.7	7.6	6.3				
RED RIVER RESOURCES LTD	RVR AU	0.29	135	123	06/2017		7.0	1.9		9.5	2.2		10.3	3.4				
median			239			5.9	5.5	2.3	18.1	11.0	4.5	20.0	10.3	6.0	0.0%	0.0%	0.0%	
average			267			8.1	8.4	3.6	16.9	12.2	4.6	40.7	12.3	5.2	0.0%	0.4%	0.7%	

Source: Bloomberg

Source: Bloomberg, Hartleys Research

PEERS KEY SUPPLIERS & CUSTOMERS

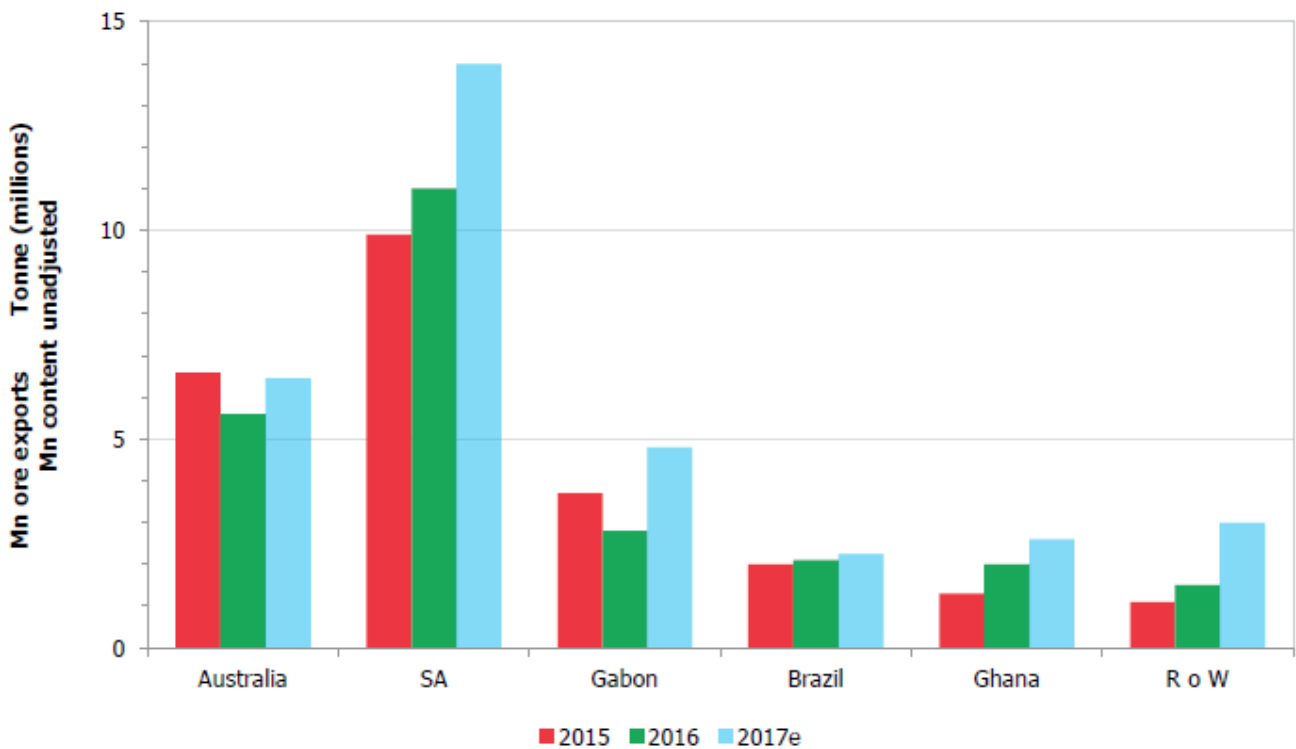
Tshipi Borwa is situated adjacent to the South African national railway network which is operated and managed by Transnet. The Company uses trucking contractors.

Most of the process infrastructure is owner operated, although some mobile crushing equipment is provided by AMC on a contract basis. The mining is contracted.

Jupiter Mines has an offtake agreement with Tshipi, and in turn sells the ore into the spot market. Historically customers are recurring, but Jupiter does not have any formal offtake agreements for its product.

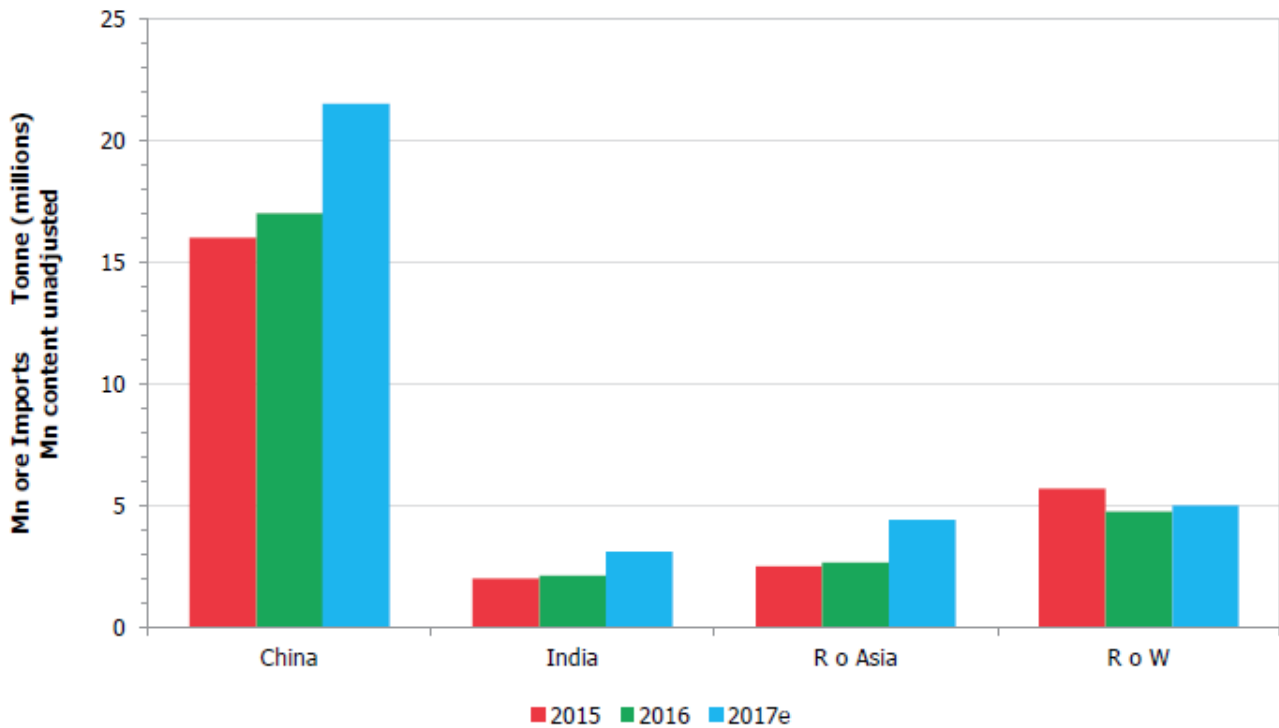
In terms of capacity allocation to Port Elizabeth, Tshipi has an allocation in Transnet's Manganese Export Capacity Allocation process (MECA). The Company also ships via Saldanha, Durban and Cape Town ports.

Fig. 23: South Africa main source of manganese



Source: Jupiter

Fig. 24: China largest market for manganese



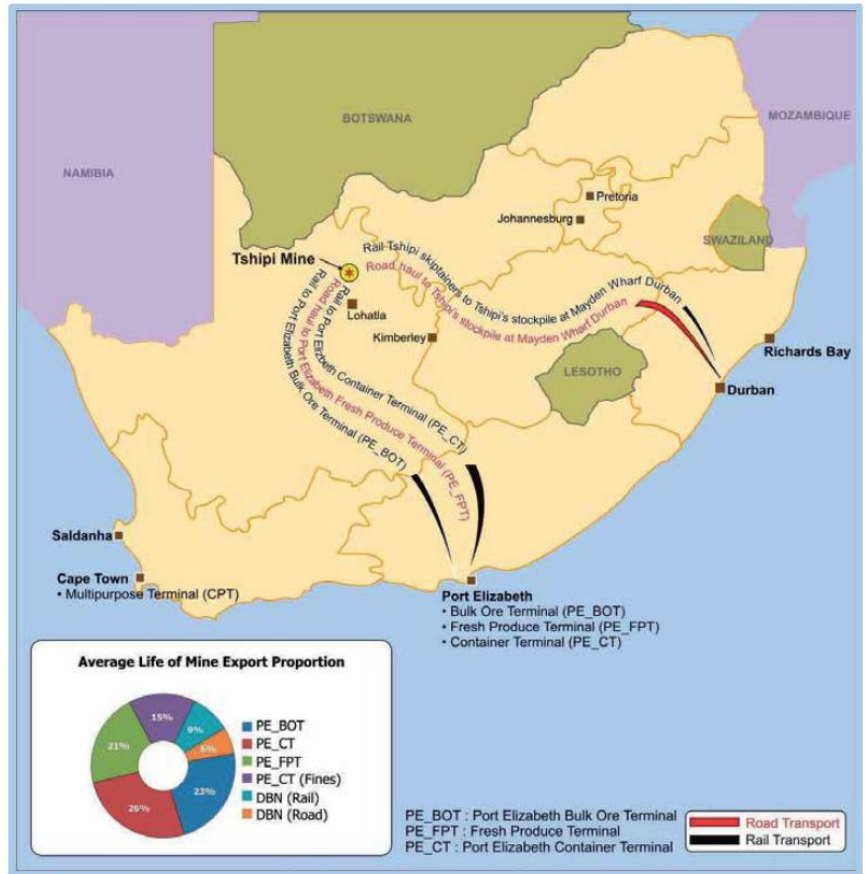
Source: Jupiter

Fig. 25: Tshipi HG product specs

HG Lumpy		Typical		Range	
Manganese	(Mn)	36.5	pct	36.0 – 38.0	pct
Iron	(Fe)	5	pct	4.0 – 7.0	pct
Silicon Oxide	(SiO ₂)	5.5	pct	2.0 – 7.0	pct
Phosphorous	(P)	0.02	pct	0.00 – 0.03	pct
Sulphur	(S)	0.02	pct	0.00 – 0.04	pct
Calcium Oxide	(CaO)	13	pct	12.0 – 17.0	pct
Aluminum Oxide	(Al ₂ O ₃)	0.3	pct	0.1 – 1.0	pct
Magnesium Oxide	(MgO)	3.4	pct	3.0 – 5.0	pct
Size: 6x75 mm (90 percent minimum)					

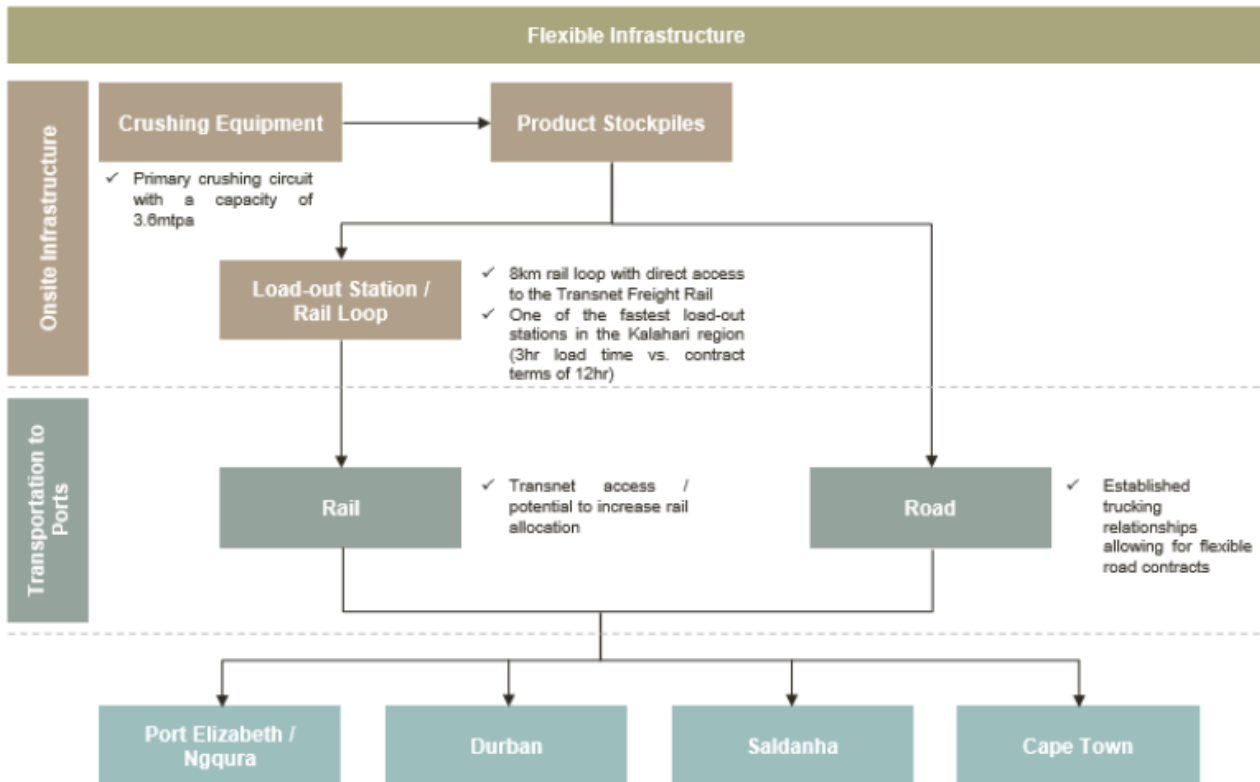
Source: Tshipi

Fig. 26: Transnet is rail and port operator



Source: Jupiter

Fig. 27: Tshipi logistics options



Source: Tshipi

MANAGEMENT, DIRECTORS AND MAJOR SHAREHOLDERS

Direct Exposure of Board and key management		Total Options	Shares	Total Economic Exposure	rank
Position			#	millions	
Directors					
Brian Gilbertson*	Non-exec Chairman	0	0	0	3
Priyank Thapliyal*	Executive Director	0	23,289,387	23,289,387	1
Paul Murray	Non-exec Director	0	1,129,715	1,129,715	2
Andrew Bell*	Non-exec Director	0	0	0	3
Sungwon Yoon*	Non-exec (Posco Nominee)	0	0	0	3

Source: JMS. * significant indirect exposure due to also being directors / shareholders of major shareholders (Section 13 prospectus).

Biographies from Company website

Brian Gilbertson, Non-Executive Chairman

Mr. Gilbertson has extensive experience in the global natural resources industry. As Executive Chairman of Gencor Limited, he led its transformation into a focused minerals and mining group. During this period he held ultimate responsibility for Samancor Limited, the world's largest producer of manganese and chrome ore and alloys. Important initiatives included the Hillside and Mozal aluminium projects and the purchase of the international mining assets (Billiton plc) of the Royal Dutch Shell Group. In 1997, Gencor Limited restructured its non-precious metals interests as Billiton plc and listed on the London Stock Exchange, entering the FTSE 100. In 2001, Billiton plc merged with BHP Limited to create BHP Billiton, and Mr. Gilbertson became its second Chief Executive on 1 July 2002. In late 2003, he led mining group Vedanta Resources plc to the first primary listing of an Indian company on the London Stock Exchange in the second largest IPO of the year. He was Chairman of Vedanta until July 2004. Mr. Gilbertson joined Sibirsko-Uralskaya Aluminium Company (SUAL), the smaller aluminium producer in Russia and led the company into the USD 30 billion merger with RUSAL and the alumina assets of Glencore International A.G., a transaction which created the largest aluminium company in the world. During 2006 Mr. Gilbertson established Pallinghurst Advisors LLP, of which he is a partner and Chairman.

Priyank Thapliyal, Executive Director and Chief Executive Officer

Priyank Thapliyal was appointed as a director of the Company on 4 June 2008. Priyank joined Sterlite Industries in 2000 and worked alongside Mr Anil Agarwal (owner) to implement the strategies that led to the creation of Vedanta Resources plc, a FTSE 100 company. Vedanta floated on the London Stock Exchange (LSE) in December 2003 and raised USD 870 million in its IPO, in what was the largest mining IPO on the LSE that year, and also the first primary listing of an Indian company on the LSE. The success of the Vedanta IPO was instrumental in other emerging market mining companies seeking LSE listings. Subsequent to the LSE listing, he led Vedanta's first major overseas acquisition via the USD 50 million controlling investment in Konkola Copper Mines (KCM) in Zambia in 2004. At the time of his departure in October 2005 to co-found Pallinghurst Advisors LLP ("Pallinghurst"), the KCM stake was valued at USD 1 billion and Vedanta has a market capitalisation of USD 7.5 billion. Priyank has been instrumental in delivering Pallinghurst's steel feed strategy via Jupiter Mines

Limited. That has led to the creation of the flagship Tshipi Manganese Mine, from what was a greenfield project, into one of the largest, long-life and low-cost assets of strategic importance. Prior to Vedanta Priyank was a mining and metals investment banker with CIBC World Markets in Toronto, Canada, is a qualified Metallurgical Engineer, MBA and former Falconbridge employee.

Paul Murray FFin, CPA, Independent Non-Executive Director,

Paul was appointed as a director on 20 August 2003. Paul has served on the board and consulted to a number of ASX listed resource exploration companies. With a business career spanning 50 years, he has also been responsible for the successful listing on the ASX of a number of public companies, including resource exploration floats such as the oil and gas producers Basin Oil NL and Reef Oil NL.

Andrew Bell, Independent Non-Executive Director

Andrew Bell was appointed as a Director of the Company on 19 May 2008. Andrew is Chairman of Red Rock Resources plc, a company listed on the Aim market of the London Stock exchange Ltd, and a substantial shareholder of Jupiter mines Ltd. He was a natural resources analyst in London in the 1970s, then specialised in investment and investment banking covering the Asian region. He has been involved in the resource and mining sectors in Asia since the 1990s, and has served on the Boards of a number of listed resource companies. He is a Fellow of the Geological Society. He is presently also Chairman of Resource Star Limited (ASX:RSL) and Chairman of Regency mines plc (AIM:RGM), both affiliates of Red Rock Resources plc, and of Greatland Gold plc (AIM:GGP).

Sungwon Yoon, Non-executive Director

Sungwon Yoon was appointed as a Director of the Company on 31 March 2016. After joining POSCO in 1992, Mr Yoon has focused on the steel making raw materials during his career. He has over 20 years' experience in various roles and responsibilities across POSCO's raw materials procurement, investment, strategy and transportation. Before assuming the Managing Director role of POSCO Australia in March 2016, Mr Yoon was the General Manager of the POSCO coal procurement group.

MAJOR SHAREHOLDERS

JMS has five substantial shareholders.

Fig. 28: Shareholders

Top Shareholders	m shares	%
Stichting Pensioenfonds	289	14.8%
Investec	261	13.4%
Pallinghurst	146	7.5%
Posco	135	6.9%
HJM Jupiter LP	98	5.0%

Source: JMS

VOLUNTARY ESCROW

There are 597.6m shares subject to voluntary escrow by significant shareholders prior to the IPO. The terms of the escrow are:

- a) for 50% of the Escrowed Shares, until the date that the Company releases to ASX its audited financial statements for the financial year ending 28 February 2019; and
- b) for the remaining 50% of the Escrowed Shares:
 - I. if the following occurs (Escrow Release Condition):
 - (A) the Company releases to ASX its reviewed financial statements for the half financial year ending 31 August 2018; and
 - (B) the VWAP of Shares traded on ASX for any 20 consecutive trading days is 20% or more above the Offer Price following release to ASX of the Company's reviewed financial statements for the half financial year ending 31 August 2018, until the date that the Escrow Release Condition is satisfied; and
 - II. if the Escrow Release Condition is not satisfied, until the date that the Company announces to ASX its reviewed statements for the half financial year ending 31 August 2019.

However, these restrictions do not apply to the sale, transfer, disposal or cancellation (as applicable) of the relevant Escrowed Shares in the following circumstances:

- a) where an Escrowed Shareholder accepts an offer under a takeover bid (as defined in the Corporations Act) in relation to their Shares, provided holders of not less than 50% of the Shares not subject to restrictions then on issue have accepted the takeover bid;
- b) where the Shares of an Escrowed Shareholder are to be transferred or cancelled as part of a merger by way of a scheme of arrangement under Part 5.1 of the Corporations Act; or
- c) where an Escrowed Shareholder elects to dispose of any Escrowed Shares pursuant to a buy-back of Shares or a reduction of capital conducted by the Company.

OPTIONS, CONVERTIBLES AND UNPAID CAPITAL

There are no options or unpaid capital.

FINANCIALS

PRODUCTION / PROFIT & LOSS

Company guidance

The Company has processing capacity for 3.6Mtpa and optimises lowest average operating costs at ~3Mtpa. The Company, although it expects to maintain current production (circa 3.3Mtpa) for FY19 should prices and demand remain at current levels.

Hartleys Forecasts

We assume FY19 production of 3.3Mt. Given Jupiter only holds 49.9% of Tshipi, the operation is not consolidated in the accounts. The Company has a February financial year end, consistent with South African financial year.

Fig. 29: Production and Profit and Loss

Production Summary	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Mill Throughput	Mt	2.6	3.8	3.6	3.6
Saleable Product	Mt	2.3	3.4	3.3	3.3
- grade Mn	Mt	36.5%	36.5%	36.5%	36.5%
Saleable Product (attrib to JMS)	Mt	1.2	1.7	1.6	1.6
Tshipi (49.9%)	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Tshipi Revenue (49.9%)	A\$m	181.1	369.3	427.6	332.7
	ZARm	1884.8	3659.7	4033.1	3460.6
Tshipi Cash Costs (49.9%)	A\$m	-116.2	-213.0	-217.2	-205.5
	ZARm	-1209.2	-2110.8	-2048.4	-2137.2
Tshipi EBITDA (49.9%)	A\$m	64.9	156.3	210.4	127.2
- margin		36%	42%	49%	38%
Tshipi, 100%, EBITDA	A\$m	130.1	313.3	421.6	255.0
Tshipi, 100%, Cash dist	A\$m	95.0	160.1	311.7	195.5
% of EBITDA		73%	51%	74%	77%
Tshipi, 100%, EBITDA	ZARm	1354.0	3104.0	3977.2	2652.1
Tshipi, 100%, EBITDA	US\$	97.4	244.6	324.7	194.3
Pro forma D&A	A\$m	-7.5	-11.7	-11.7	-11.7
Tshipi EBIT	A\$m	50.0	133.0	189.5	106.7
Tshipi Net Interest	A\$m	0.8	1.1	0.0	0.0
Pro Forma PBT	A\$m	50.7	134.1	189.5	106.7
Tshipi Tax Expense	A\$m	-8.0	-38.3	-53.1	-29.9
Tshipi NPAT (49.9%)	A\$m	42.7	95.7	136.4	76.8
<i>payout</i>		111%	84%	114%	127%

Source: Hartleys Research Estimates

BALANCE SHEET

Note that the buyback completed in March 2018.

Fig. 30: Balance Sheet

JMS Balance Sheet	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Cash	A\$m	84.7	76.5	83.6	86.8
Other Current Assets	A\$m	39.4	45.9	45.9	45.9
Total Current Assets	A\$m	124.1	122.5	129.5	132.7
Property, Plant & Equip.	A\$m	0.3	0.0	0.0	0.0
Exploration	A\$m	11.6	8.7	8.7	8.7
Investments/other	A\$m	346.4	386.6	386.6	386.6
Tot Non-Curr. Assets	A\$m	358.4	395.3	395.3	395.3
Total Assets	A\$m	482.5	517.8	524.8	528.1
Short Term Borrowings	A\$m	-	-	-	-
Other	A\$m	3.5	49.1	49.1	49.1
Total Curr. Liabilities	A\$m	3.5	49.1	49.1	49.1
Long Term Borrowings	A\$m	-	-	-	-
Other	A\$m	3.5	2.6	2.6	2.6
Total Non-Curr. Liabil.	A\$m	3.5	2.6	2.6	2.6
Total Liabilities	A\$m	7.1	51.6	51.6	51.6
Net Assets	A\$m	475.4	466.2	473.2	476.4
Net Debt (net cash)	A\$m	-84.7	-76.5	-83.6	-86.8

Source: Hartleys Research Estimates

Gearing ratios

Fig. 31: Gearing Ratios

Shares	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Ordinary Shares - End	m	2281.8	2064.5	1948.3	1948.3
Ordinary Shares - Weighted	m	2281.8	2173.2	1958.0	1948.3
Diluted Shares - Weighted	m	2281.8	2173.2	1958.0	1948.3
Ratio Analysis	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Cashflow Per Share	A\$ cps	2.1	4.2	7.5	4.7
Earnings Per Share	A\$ cps	8.8	nm	nm	nm
Dividends Per Share	AUD	-	-	0.070	0.040
Franking		0%	0%	0%	0%
Net Debt / Net Debt + Equity	%	na	na	na	na
Interest Cover	X	na	na	na	na

Source: Hartleys Research Estimates

Fixed Assets

JMS has immaterial fixed assets. The fixed assets are held by Tshipi.

Debt

Neither JMS nor Tshipi have debt.

Hedging

The Company does not hedge manganese, but sales are typically agreed prices two months in advance.

CASH FLOW

Fig. 32: Cash Flow Statement

JMS Cashflow	Unit	28 Feb 17a	28 Feb 18a	28 Feb 19f	29 Feb 20f
Operating Cashflow	A\$m	47.6	90.6	153.1	94.7
Income Tax Paid	A\$m	0.0	0.0	-6.8	-3.8
Interest & Other	A\$m	0.7	0.3	0.0	0.0
Operating Activities	A\$m	48.3	90.9	146.3	90.9
Property, Plant & Equip.	A\$m	-0.9	0.0	0.0	0.0
- off JMS b/s (ie Tshipi)		0.0	-8.0	-6.5	-6.5
Exploration and Devel.	A\$m	0.0	-0.9	0.0	0.0
Other	A\$m	0.0	3.1	0.0	0.0
Investment Activities	A\$m	-0.8	2.2	0.0	0.0
Borrowings	A\$m	0.0	0.0	0.0	0.0
Equity or "tbc capital"	A\$m	0.0	-102.4	-51.1	0.0
Dividends Paid	A\$m	0.0	0.0	-88.1	-87.7
Financing Activities	A\$m	0.0	-102.4	-139.2	-87.7
Net Cashflow	A\$m	47.4	-9.3	7.0	3.2

Source: Hartleys Research Estimates

Capex requirements

We expect very modest maintenance capex and no growth capex.

Free cash flow

Based on our selling price assumptions, we expect meaningful free cash flow.

Dividends

The Company has a track record of returning capital to shareholders and is targeting a payout ratio of 70% of income received by JMS. Remember that income may not reflect reported NPAT given JMS's NPAT could include meaningful non-cash re-valuation from time to time.

Management is remunerated on capital management, with the CEO entitled to receive a cash bonus equal to 1% on the value of amounts paid by way of (i) a dividend; (ii) a distribution, payment or return of capital; or (iii) the acceptance of equal access buy-back offers made to all Shareholders, paid or made by the Company to its Shareholders at any time after the Listing Date until the date of termination of the Executive's employment.

The Company does not have a franking balance, and we do not expect it to generate any franking credits. We assume that Tshipi distributes >100% of NPAT given the low sustaining capital requirements.

We assume 7cps DPS for FY19 and 4cps for FY20. Given the potential for volatile manganese prices, and hence volatile distributions, we would expect that DPS has potential to also be very volatile.

Fig. 33: Dividend Sensitivity

	37% fob	44% CFR	USDZAR	AUDUSD	FY20 DPS
	1.18	2.00	12.67	0.76	none
	1.63	2.50	12.67	0.76	none
	2.08	3.00	12.67	0.76	0
	2.53	3.50	12.67	0.76	1
	2.98	4.00	12.67	0.76	2
	3.43	4.50	12.67	0.76	3
	3.88	5.00	12.67	0.76	4
	4.33	5.50	12.67	0.76	5
	4.78	6.00	12.67	0.76	6
	5.23	6.50	12.67	0.76	7
	5.68	7.00	12.67	0.76	9
	6.13	7.50	12.67	0.76	10
	6.58	8.00	12.67	0.76	11
	7.03	8.50	12.67	0.76	12
	7.48	9.00	12.67	0.76	13
Base Case					4

Source: Hartleys Research Estimates

EQUITY ISSUANCE

We assume the Company does not raise new equity.

The Company has completed three buybacks in the last 15 months.

27 January 2017: US\$54m (approx. AU\$71 million) via an equal offer to buy-back 6% of shares, at a set price of US\$0.40 (approx. AU\$0.53).
<http://www.jupitermines.com/images/jupiter---oojiigoica.pdf>

11 September 2017: US\$24 million (approx. AU\$32 million) via an equal offer to buy-back 4% of shares, at a set price of US\$0.29 (approx. AU\$0.38).
<http://www.jupitermines.com/images/jupiter---shuaxaezei.pdf>

22 January 2018: US\$41 million (approx. A\$51 million) via an equal offer to buy-back 5.81% of shares priced at US\$0.35 (approx. A\$0.44).
<http://www.jupitermines.com/images/jupiter---aijahpaizo.pdf>

SENSITIVITIES

FX exposure

Jupiter Mines reports in AUD. However, selling prices are USD and costs are primarily ZAR and USD.

Interest Rate exposure

We assume minimal interest rate exposure given the strong net cash position of both Jupiter Mines and the Tshipi JV.

Commodity price exposure

Jupiter is very exposed to manganese prices. Given the grade of the product is low, the leverage is very high. Manganese prices historically have been very volatile.

VALUATION CONSIDERATIONS AND PRICE TARGET METHODOLOGY

VALUATION

We assume production of 3.3Mtpa of saleable product. We assume a 10% discount to benchmark (44%) DMTU price. We assume a 50 year mine life and a 10% real discount rate. Our long run 44% Mn cfr price assumption is US\$4.5/dmtu which expect weaker real ZAR in the medium term. We assume a 7% royalty (royalty calculation is a function of EBIT margins with a floor of 0.5% and a maximum of 7%).

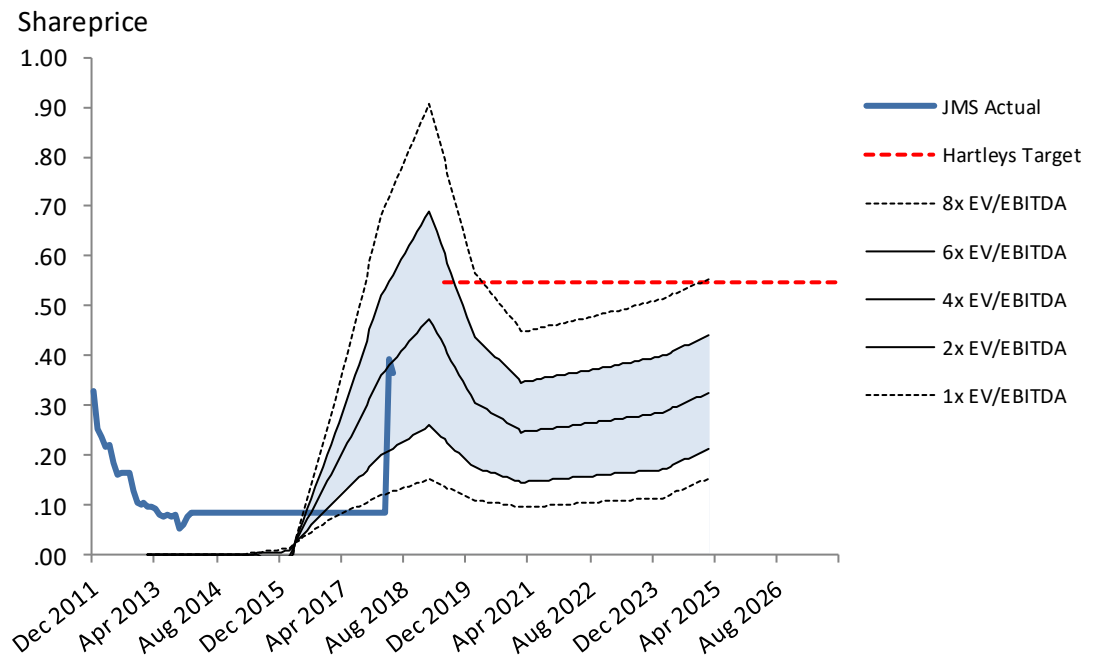
PRICE TARGET

We have a twelve month price target of \$0.55.

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case valuation	20%	\$0.47	\$0.43
NPV spot valuation	20%	\$0.85	\$0.86
4x EV/EBITDA	20%	\$0.44	\$0.29
10x EV/EBITDA	15%	\$1.03	\$0.66
Dividend yield 8.9% base case	20%	\$0.71	\$0.43
Dividend yield 8.9% spot prices	5%	\$0.90	\$0.90
Risk weighted composite		\$0.69	
12 Months Price Target		\$0.55	
Shareprice - Last		\$0.3650	
12 mth total return		50%	

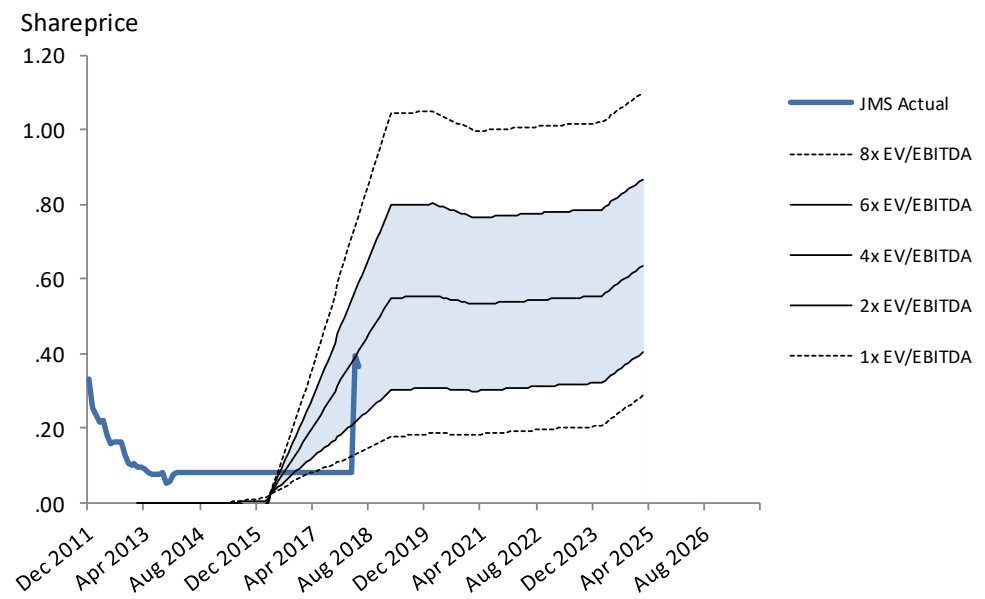
Source: Hartleys Research Estimates

Fig. 2: Using Hartleys base case commodity forecasts



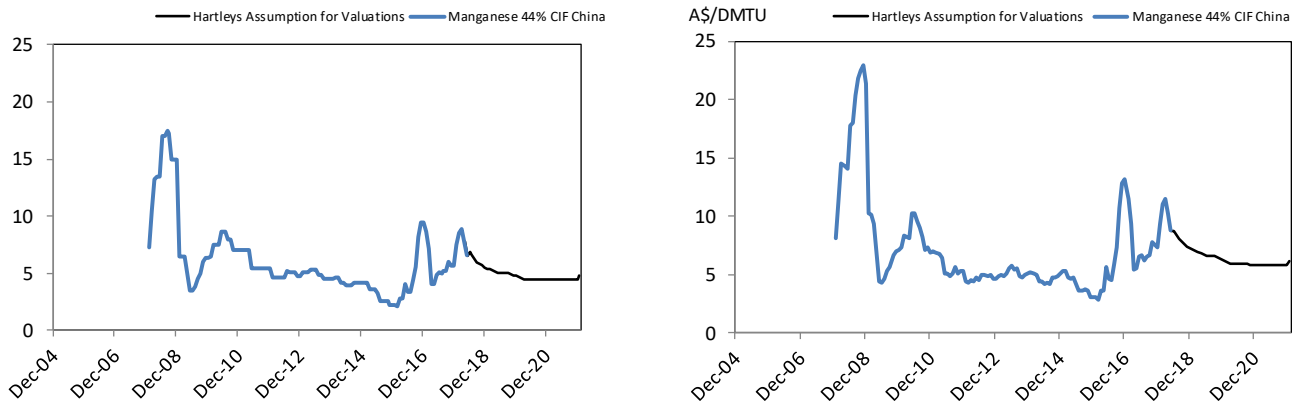
Source: Hartleys Estimates, IRESS

Fig. 2: Using spot commodity prices



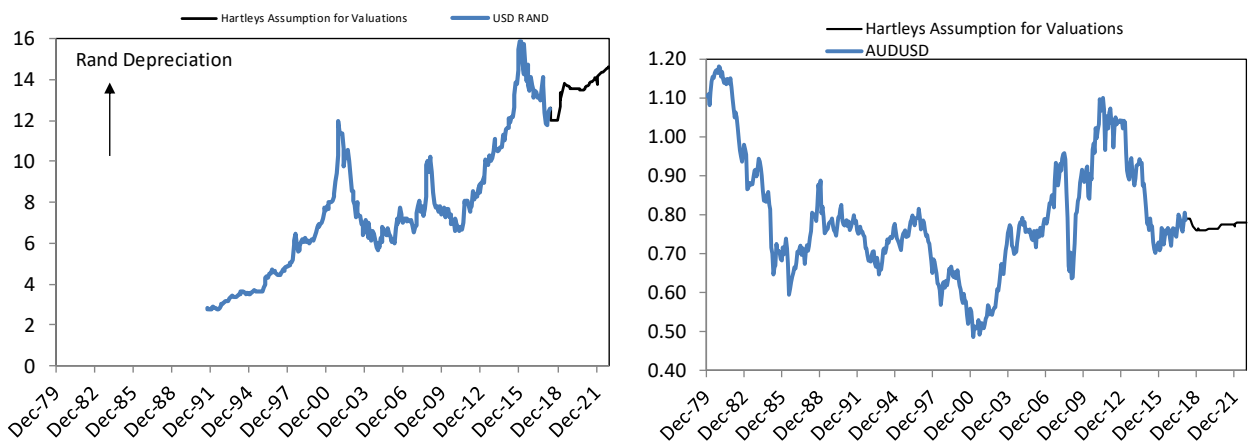
Source: Hartleys Estimates, IRESS

Fig. 3: Manganese Price Assumptions



Source: Asian Metal, Hartleys estimates

Fig. 4: FX Assumptions



Source: Iress, Hartleys estimates

RECOMMENDATION & RISKS

INVESTMENT THESIS

JMS offers significant exposure to manganese prices. It is a high quality and large manganese mine that is in production and has demonstrated it is a low cost operation. The key risk is the volatility in manganese prices and hence the volatility in profit. At current manganese prices JMS is highly profitable, and at our long run price assumption it remains profitable. The longer manganese prices stay at current levels, the more attractive the JMS valuation.

RISKS

- The level of dividends and distributions from Tshipi é Ntle to the Company and from the Company to Shareholders may fluctuate
- Risk of currency exchange rate fluctuations on Tshipi é Ntle dividends received by the Company in Rand
- Risk of loss of key personnel
- Significant retained holding by certain Existing Shareholders and Escrowed Shareholders
- The market price of Shares may be subject to fluctuations, including possible decreases
- Insurance risks
- Tshipi é Ntle's only product is manganese ore. Should the price of manganese ore significantly decrease, Tshipi é Ntle's business, financial condition, results of operations and/or prospects may be adversely affected.
- Tshipi é Ntle conducts the majority of its mining and processing operations, including transportation of manganese ore to dispatch points, through third-party contractors. As a result, Tshipi é Ntle is exposed to fluctuations in contractor costs and risks relating to the quality and continuation of their services.
- Slowdown in the growth of demand for steel from Asia, and China in particular, could have a material adverse effect on the manganese ore market and prices.
- Tshipi é Ntle faces logistical constraints due to the location of resource deposits, the physical design of transportation networks and competition for access to transportation networks.
- Tshipi é Ntle's financial condition and results of operations could be adversely affected by currency exchange rate fluctuations and inflation.
- Tshipi é Ntle's mining operations are concentrated at one mine.
- Failure to convert resources into reserves or maintain or enhance existing reserves could have a material adverse effect on Tshipi é Ntle's business, financial condition, results of operations and prospects.
- The manganese ore mining industry is competitive and Tshipi é Ntle may not be able to compete successfully.
- Tshipi é Ntle's production and revenues may be affected by geological factors inherent in a pit development cycle.
- Tshipi é Ntle is dependent on its senior management team.
- Tshipi é Ntle's manganese ore reserve and resource estimates are estimates only and are subject to uncertainties and may not be recoverable in full.
- Tshipi é Ntle's insurance coverage does not cover all potential losses, liabilities and damage related to Tshipi é Ntle's business and certain risks are uninsured or uninsurable.
- Tshipi é Ntle may be involved in various litigation matters and any final judgments against Tshipi é Ntle could have a material adverse effect on Tshipi é Ntle's business, financial condition and results of operations and/or prospects.
- Tshipi é Ntle's operations are subject to extensive environmental regulation which is currently subject to legislative reform and change, the non-compliance with which could involve substantial costs and could lead to the termination or suspension of its mineral rights.
- Tshipi é Ntle's operations are dependent on access to water use rights and subject to water use regulation, which could impose significant costs and burdens.
- A major health and safety incident could lead to work stoppage, reputational damage and increase potential liabilities.
- The operations of Tshipi é Ntle may be adversely affected by interruptions in its electricity supply.
- Tshipi é Ntle's business, financial condition and results of operations could be affected by operational disruptions at the Tshipi Mine.
- Economic, political or social instability in South Africa may have a material adverse effect on Tshipi é Ntle's operations and profits
- A further downgrade of South Africa's credit rating may have an adverse effect on Tshipi é Ntle's ability to secure financing.
- Recent changes to labour legislation in South Africa could result in increased labour and other costs.
- Amendments to taxes and royalties in the tax and regulatory environments in which Tshipi é Ntle operates may have a significant and adverse impact on Tshipi é Ntle's operations.
- Tshipi é Ntle's business, financial condition and results of operations could be adversely affected by labour disruptions.
- Tshipi é Ntle's business, financial condition and results of operations could be adversely affected by community unrest.
- Tshipi é Ntle's mineral rights are subject to legislation, which could impose significant costs and burdens and certain ownership requirements, the interpretation of which is the subject of dispute.
- Deliberate, malicious or criminal acts, including theft, fraud, bribery and corruption, may materially adversely affect Tshipi é Ntle's business and reputation despite any internal controls Tshipi é Ntle may have in place.
- Tshipi é Ntle's current and future mining operations are, and will be, subject to hazards inherent in the mining industry.
- General exploration, development and mining risks

Fig. 5: Key assumptions and risks for valuation

Assumption	Risk of not realising assumption	Downside risk to valuation if assumption is incorrect	Comment
Mine life	Low	High	We assume a long mine life. The mining right expires in 2040 but we assume it is extended.
Discount rate	Moderate	Upside	We assume a discount rate of 10%, real.
FX	Moderate	Meaningful	We assume that the Rand depreciates modestly.
Selling prices fall from current prices	Moderate	Most significant	We assume manganese selling prices retrace but remain above cash costs.
Project interest	Low	Modest	We assume JMS retains its 49.9% interest in Tshipi.
<i>Conclusion</i>	<i>We believe our assumptions around manganese selling prices are the most important for our valuation.</i>		

Source: Hartleys

SIMPLE S.W.O.T. TABLE

Strengths	<ul style="list-style-type: none"> Large production volumes Low cash costs In production Access to rail infrastructure Track record of capital management Innovative management Management has experience operating in low margin environment Strong balance sheet
Weaknesses	<ul style="list-style-type: none"> Large ownership by BEE partner Volatile selling prices Unhedged Historical commissioning problems
Opportunities	<ul style="list-style-type: none"> Large mining houses leaving Sth Africa Mining of barrier pillar with Mamatwan More access to rail infrastructure Diversification of commodity and mine
Threats	<ul style="list-style-type: none"> Infrastructure access Rising inflation Country risk premium

Source: Hartleys Research

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Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

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