

18 Dec 2019

## JUPITER MINES LTD (JMS)

### Q3 production, manganese prices bounce from lows

Jupiter Mines Ltd (JMS) reported Q3 production (JMS has a February year-end). Production was 0.76mt (we expected 0.68mt) and remains in-line with guidance. EBITDA was A\$51.9m (excludes royalties). We expected A\$39m.

JMS attributable cash (including its share of Tshipi cash) was A\$92.7m at the end of November, calculated as the net consolidated cash on JMS balance sheet plus 49.9% of Tshipi's cash balance.

### Hartleys now assumes 1.5cps final DPS

We estimate a final DPS of 1.5cps. We estimate that on spot manganese prices, JMS can sustain a 1.75-2cps annual dividend. For FY21, we assume 1.75cps DPS on spot prices (3.75cps on base case assumptions).

### Retain Buy recommendation

The Company is undertaking a study into a mine expansion, and plans to complete the study by the end of the financial year. We continue to model production around 3mtpa.

The Tshipi mine is a low cost operation, and South Africa is a low cost manganese jurisdiction with a large ability for swing production. We assume a continued improvement in manganese prices (which it has done many times before). Our base valuation is 40cps. Our spot valuation is 28cps.

We have a 40cps twelve month target + 3.0cps DPS (1.5cps + 1.5cps).

Fig. 1: Earnings Changes

Tshipi (49.9%)	Unit	28 Feb 19 actual	Old	New	% chg
<b>Production (100%)</b>	<b>Mtpa</b>	<b>3.4</b>	<b>3.1</b>	<b>3.2</b>	<b>2.6%</b>
<b>Received Price</b>	<b>US\$/dmtu</b>	<b>5.7</b>	<b>4.3</b>	<b>4.4</b>	<b>2.2%</b>
<b>AUD</b>	<b>US\$/A\$</b>	<b>0.72</b>	<b>0.68</b>	<b>0.68</b>	<b>0.0%</b>
<b>ZAR</b>	<b>Rand/US\$</b>	<b>14.2</b>	<b>14.6</b>	<b>14.6</b>	<b>0.0%</b>
<b>Tshipi Revenue (49.9%)</b>	<b>A\$m</b>	<b>497.9</b>	<b>356.4</b>	<b>373.6</b>	<b>4.8%</b>
	<b>ZARm</b>	<b>5079.4</b>	<b>3564.0</b>	<b>3736.4</b>	<b>4.8%</b>
<b>Tshipi Cash Costs (49.9%)</b>	<b>A\$m</b>	<b>-236.4</b>	<b>-206.3</b>	<b>-207.9</b>	<b>0.8%</b>
	<b>ZARm</b>	<b>-2411.8</b>	<b>-2063.5</b>	<b>-2079.5</b>	<b>0.8%</b>
	<b>ZAR/t</b>	<b>-1412.0</b>	<b>-1318.4</b>	<b>-1294.8</b>	<b>-1.8%</b>
<b>Tshipi EBITDA (49.9%)</b>	<b>A\$m</b>	<b>261.5</b>	<b>150.0</b>	<b>165.7</b>	<b>10.4%</b>
- margin		52.5%	42%	44%	5.3%
<b>Tshipi, 100%, EBITDA</b>	<b>A\$m</b>	<b>522.9</b>	<b>300.7</b>	<b>332.0</b>	<b>10.4%</b>
<b>Tshipi, 100%, Cash dist</b>	<b>A\$m</b>	<b>316.1</b>	<b>214.4</b>	<b>236.3</b>	<b>10.2%</b>
% of EBITDA		60%	71%	71%	-0.2%
<b>Tshipi, 100%, Cash dist</b>	<b>ZARm</b>	<b>3,224</b>	<b>2,144</b>	<b>2,363</b>	<b>10.2%</b>
<b>Tshipi, 100%, EBITDA</b>	<b>ZARm</b>	<b>5345.9</b>	<b>3007.0</b>	<b>3320.3</b>	<b>10.4%</b>
<b>Tshipi, 100%, EBITDA</b>	<b>US\$</b>	<b>376.9</b>	<b>205.8</b>	<b>227.2</b>	<b>10.4%</b>
<b>Tshipi NPAT (49.9%)</b>	<b>A\$m</b>	<b>189.5</b>	<b>103.0</b>	<b>114.3</b>	<b>10.9%</b>
payout		83%	104%	103%	-0.6%
<b>DPS</b>		<b>0.075</b>	<b>0.05</b>	<b>0.055</b>	<b>10.0%</b>

Source: Hartleys Estimates

Share Price	\$0.270
Valuation	\$0.40
12mth price target	\$0.40

#### 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. Risks are Sth Africa sovereign risk & manganese price volatility.

#### Chairman & MD

Brian Gilbertson (Chairman)

Priyank Thapliyal (CEO)

#### Top Shareholders

AMCI	17.2%
Stichting Pensioenfonds	12.9%
Posco	6.9%

#### Company Address

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

**Issued Capital** 1959.0m  
- fully diluted 1959.0m

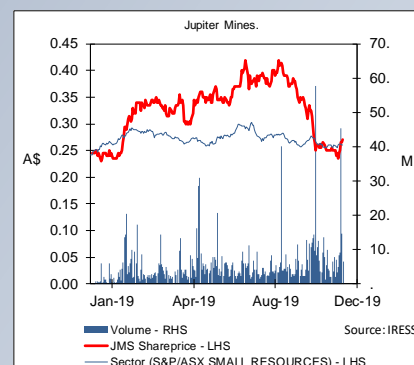
**Market Cap** A\$528.9m  
- fully diluted A\$528.9m

**Cash (30 Nov 19p)** A\$92.7m

**Debt (30 Nov 19p)** A\$0.0m

**EV** A\$436.2m

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



#### Authors

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Jupiter Mines Ltd JMS						18 December 2019					
<b>Key Market Information</b>						<b>Directors</b>					
Share price		A\$0.27				<b>Company Information</b>					
Issued Capital		1959.0m				Level 10, 16 St Georges Terrace					
Options, performance rights and partly paid shares ITM		0.0m				Perth WA, 6000, Australia					
Options, performance rights and partly paid shares		0.0m				Tel: +61 8 9346 5500					
Issued Capital (fully diluted inc. all options)		1959.0m				Fax: +61 8 9481 5933					
Issued Capital (fully diluted inc. all options and new capital)		1959.0m				Web: www.jupitermines.com					
Net Cash		\$92.7m				Nielsa North - CFO					
Twelve month price target		A\$0.40				<b>Top Shareholders</b>					
Valuation		A\$0.40				AMCI 17.2%					
<b>Tshipi (49.9%)</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>	Stichting Pensioenfond 12.9%					
<b>Tshipi Revenue (49.9%)</b>	<b>A\$m, CFR</b>	<b>371.4</b>	<b>497.9</b>	<b>373.6</b>	<b>347.9</b>	Posco 6.9%					
	ZARm	3659.7	5079.4	3736.4	3555.6						
<b>Tshipi Cash Costs (49.9%)</b>	<b>A\$m CFR</b>	<b>-214.2</b>	<b>-236.4</b>	<b>-207.9</b>	<b>-209.6</b>						
	ZARm	-2110.8	-2411.8	-2079.5	-2142.2						
Tshipi EBITDA (49.9%)	A\$m	157.2	261.5	165.7	138.3						
- margin		42%	53%	44%	40%						
<b>Tshipi, 100% EBITDA</b>	<b>A\$m</b>	<b>524.0</b>	<b>332.0</b>	<b>277.1</b>							
<b>Tshipi, 100% Cash dist</b>	<b>A\$m</b>	<b>161.0</b>	<b>316.1</b>	<b>236.3</b>	<b>163.7</b>						
<b>% of EBITDA</b>			<b>60%</b>	<b>71%</b>	<b>59%</b>						
<b>Tshipi, 100% EBITDA</b>	<b>ZARm</b>		<b>5345.9</b>	<b>3320.3</b>	<b>2832.4</b>						
<b>Tshipi, 100% EBITDA</b>	<b>US\$</b>		<b>376.9</b>	<b>227.2</b>	<b>194.0</b>						
<b>Tshipi, 100% EBITDA - reported</b>	<b>A\$m</b>		<b>585.3</b>	<b>376.9</b>	<b>321.0</b>						
<b>Tshipi NPAT (49.9%)</b>	<b>A\$m</b>	<b>96.3</b>	<b>189.5</b>	<b>114.3</b>	<b>94.5</b>						
<b>payout</b>		<b>84%</b>	<b>83%</b>	<b>103%</b>	<b>87%</b>						
<b>JMS</b>						<b>Reserves &amp; Resources</b>					
<b>JMS Reported Revenue</b>	<b>A\$m</b>	<b>-0.4</b>	<b>0.0</b>			<b>Mt</b>	<b>% Mn</b>	<b>Attributable to JMS</b>			
<b>JMS Reported COGS</b>	<b>A\$m</b>	<b>0.3</b>	<b>0.0</b>			Measured	103	34.1	JMS Atrib: 51Mt		
<b>JMS Reported GP</b>	<b>A\$m</b>	<b>-0.1</b>	<b>0.0</b>			Indicated	119	33.5	JMS Atrib: 60Mt		
<b>JMS Reported Profit</b>	<b>A\$m</b>	<b>92.2</b>	<b>142.2</b>			Inferred	237	32.5	JMS Atrib: 119Mt		
<b>JMS Balance Sheet</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>	<b>TOTAL Resources</b>	<b>460</b>	<b>33.1</b>	<b>JMS Atrib: 229Mt</b>		
<b>Cash</b>	<b>A\$m</b>	<b>76.5</b>	<b>72.8</b>	<b>54.9</b>	<b>69.8</b>	<b>Reserve</b>					
Other Current Assets	A\$m	45.9	85.2	85.2	85.2	<b>86</b>					
<b>Total Current Assets</b>	<b>A\$m</b>	<b>122.5</b>	<b>158.0</b>	<b>140.0</b>	<b>155.0</b>	<b>Production Summary</b>					
Property, Plant & Equip.	A\$m	0.0	0.0	0.0	0.0	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>	
Exploration	A\$m	8.7	10.8	10.8	10.8	Mill Throughput	Mt	3.8	3.8	3.5	
Investments/other	A\$m	386.6	424.8	424.8	424.8	Saleable Product	Mt	3.4	3.4	3.2	
<b>Tot Non-Curr. Assets</b>	<b>A\$m</b>	<b>395.3</b>	<b>435.6</b>	<b>435.6</b>	<b>435.6</b>	- grade Mn	Mt	36.5%	36.5%	36.5%	
<b>Total Assets</b>	<b>A\$m</b>	<b>517.8</b>	<b>593.6</b>	<b>575.6</b>	<b>590.5</b>	Saleable Product (attrib to JMS)	Mt	1.7	1.7	1.6	
Short Term Borrowings	A\$m	-	-	-	-	Mass recovery		91.0%	90.3%	91.0%	
Other	A\$m	49.1	132.9	132.9	132.9	Mine Life	%	49.25	49.25	47.25	
<b>Total Curr. Liabilities</b>	<b>A\$m</b>	<b>49.1</b>	<b>132.9</b>	<b>132.9</b>	<b>132.9</b>	Assumed Mine Inventory (end)	Mt	135.3	135.3	127.8	
Long Term Borrowings	A\$m	-	-	-	-	<b>Costs</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>
Other	A\$m	2.6	51.2	51.2	51.2	Cost per milled tonne	AS/t	108.9	108.1	105.1	
<b>Total Non-Curr. Liabil.</b>	<b>A\$m</b>	<b>2.6</b>	<b>51.2</b>	<b>51.2</b>	<b>51.2</b>	EBITDA / tonne milled ore	AS/t	83.6	138.0	93.7	
<b>Total Liabilities</b>	<b>A\$m</b>	<b>51.6</b>	<b>184.1</b>	<b>184.1</b>	<b>184.1</b>		US\$/t	64.8	99.3	64.1	
<b>Net Assets</b>	<b>A\$m</b>	<b>466.2</b>	<b>409.5</b>	<b>391.5</b>	<b>406.5</b>	Total cost / tonne product cfr	AS/t	125	138	129	
Net Debt (net cash)	A\$m	-76.5	-72.8	-54.9	-69.8		ZAR/t	1,236	1,412	1,295	
<b>JMS Cashflow</b>							ZARS/dmtu	34	39	35	
Operating Cashflow	A\$m	90.6	158.4	115.1	78.4		US\$/t	97	100	89	
Income Tax Paid	A\$m	0.0	-12.4	-5.7	-4.7		US\$/dmtu	2.7	2.7	2.4	
Interest & Other	A\$m	0.3	0.3	0.0	0.0	<b>Price Assumptions</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>
<b>Operating Activities</b>	<b>A\$m</b>	<b>90.9</b>	<b>146.4</b>	<b>109.4</b>	<b>73.7</b>	AUDUSD	AS/US\$	0.78	0.72	0.68	
Property, Plant & Equip.	A\$m	0.0	0.0	0.0	0.0	USDZAR		12.71	14.18	14.61	
- off JMS b/s (ie Tshipi)	A\$m	0.0	-6.6	-6.5	-6.5	AUDZAR		9.85	10.20	10.00	
Exploration and Devel.	A\$m	-0.9	-0.9	0.0	0.0	Manganese: 44% benchmark cfr	US\$/dmtu	6.32	7.31	5.08	
Other	A\$m	3.1	0.0	0.0	0.0	Manganese: 44% benchmark cfr	US\$/t	278	322	223	
<b>Investment Activities</b>	<b>A\$m</b>	<b>2.2</b>	<b>-0.9</b>	<b>0.0</b>	<b>0.0</b>	Iron Ore 62% benchmark cfr	US\$/t	66.0	73.6	94.7	
Borrowings	A\$m	0.0	0.0	0.0	0.0	Tshipi received price cfr	US\$/t	168.6	209.7	159.2	
Equity or "tbc capital"	A\$m	-102.4	-51.1	0.0	0.0		US\$/dmtu	4.6	5.7	4.4	
Dividends Paid	A\$m	0.0	-97.9	-127.3	-58.8		ZARS/dmtu	58.7	81.5	63.7	
<b>Financing Activities</b>	<b>A\$m</b>	<b>-102.4</b>	<b>-149.1</b>	<b>-127.3</b>	<b>-58.8</b>		AS/dmtu	6.0	8.0	6.4	
<b>Net Cashflow</b>	<b>A\$m</b>	<b>-9.3</b>	<b>-3.6</b>	<b>-18.0</b>	<b>14.9</b>	<b>Valuation multiples @ 0.27</b>		<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20a</b>	<b>28 Feb 21a</b>
<b>Shares</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>	EV/EBITDA	x	2.8	1.7	2.6	
Ordinary Shares - End	m	2064.5	1959.0	1959.0	1959.0	Div Yield	%	0.0%	27.8%	20.4%	
Ordinary Shares - Weighted	m	2173.2	1967.8	1959.0	1959.0	<b>Hedging</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19f</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>
Diluted Shares - Weighted	m	2173.2	1967.8	1959.0	1959.0	none					
<b>Ratio Analysis</b>	<b>Unit</b>	<b>28 Feb 18a</b>	<b>28 Feb 19a</b>	<b>29 Feb 20f</b>	<b>28 Feb 21f</b>	<b>Sensitivity Analysis</b>					
Cashflow Per Share	AS cps	4.2	7.4	5.6	3.8	<b>Base Case</b>	<b>Valuation</b>	<b>0.42</b>	<b>FY21 pro-forma EBITDA</b>		
Earnings Per Share	AS cps	nm	nm	nm	nm	Spot Prices		0.30 (-30.3%)	72.6 (-47.5%)		
Dividends Per Share	AUD	-	0.075	0.055	0.0375	Spot USD/AUD 0.68, USD/ZAR 14.4, 44% Mn CFR \$4.1/dmtu, 37% Mn fob Sth Africa \$3.1/dmtu					
Franking		0%	0%	0%	0%	AUDUSD +/-10%	0.34 / 0.52 (-19.2% / 23.4%) 111.8 / 170.6 (-19.1% / 23.4%)				
Net Debt / Net Debt + Equity	%	na	na	na	na	Manganese +/-10%	0.53 / 0.32 (24.7% / -24.7%) 171.8 / 104.7 (24.3% / -24.3%)				
Interest Cover	X	na	na	na	na	Production +/-10%	0.51 / 0.34 (20.8% / -20.8%) 167.1 / 109.4 (20.9% / -20.9%)				
<b>Unpaid Capital</b>						<b>Valuation</b>					
<b>Year Expires</b>						<b>49.9% Tshipi (pre-tax NAV at disc. rate of 10%)</b>					
28-Feb-19						\$m					
29-Feb-20						Avg price					
28-Feb-21						% ord					
28-Feb-22						0.0					
28-Feb-23						0.0					
<b>TOTAL</b>						<b>0.0</b>					
<b>Valuation</b>						<b>AS/shr</b>					
49.9% Tshipi (pre-tax NAV at disc. rate of 10%)						0.52					
Tshipi Tax (NPV future liability)						-0.15					
Marketing						0.02					
Other Assets/Exploration						0.00					
Forwards						0.00					
Corporate Overheads						-0.02					
Net Cash (Debt)						0.06					
Withholding Tax						-0.02					
Options & Other Equity						0.00					
<b>Total</b>						<b>0.40</b>					
Analyst: Trent Barnett											
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"tbc capital" could be equity or debt. Our valuation is risk-adjusted for how this may be obtained.											
Sources: IRESS, Company Information, Hartleys Research											

Fig. 2: Earnings Changes

Tshipi (49.9%)	Unit	28 Feb 19 actual	29 Feb 20			28 Feb 21			28 Feb 22		
			Old	New	% chg	Old	New	% chg	Old	New	% chg
Production (100%)	Mtpa	3.4	3.1	3.2	2.6%	3.0	3.0	0.0%	3.0	3.0	0.0%
Received Price	US\$/dmu	5.7	4.3	4.4	2.2%	4.5	4.5	0.0%	4.1	4.1	0.0%
AUD	US\$/A\$	0.72	0.68	0.68	0.0%	0.70	0.70	0.0%	0.70	0.70	0.0%
ZAR	Rand/US\$	14.2	14.6	14.6	0.0%	14.6	14.6	0.0%	14.6	14.6	0.0%
<b>Tshipi Revenue (49.9%)</b>	<b>A\$m</b>	<b>497.9</b>	<b>356.4</b>	<b>373.6</b>	<b>4.8%</b>	<b>347.9</b>	<b>347.9</b>	<b>0.0%</b>	<b>323.6</b>	<b>323.6</b>	<b>0.0%</b>
	ZARm	5079.4	3564.0	3736.4	4.8%	3555.6	3555.6	0.0%	3307.7	3307.7	0.0%
<b>Tshipi Cash Costs (49.9%)</b>	<b>A\$m</b>	<b>-236.4</b>	<b>-206.3</b>	<b>-207.9</b>	<b>0.8%</b>	<b>-209.6</b>	<b>-209.6</b>	<b>0.0%</b>	<b>-206.5</b>	<b>-206.5</b>	<b>0.0%</b>
	ZARm	-2411.8	-2063.5	-2079.5	0.8%	-2142.2	-2142.2	0.0%	-2110.5	-2110.5	0.0%
	ZAR/t	-1412.0	-1318.4	-1294.8	-1.8%	-1429.6	-1429.6	0.0%	-1408.4	-1408.4	0.0%
Tshipi EBITDA (49.9%)	A\$m	261.5	150.0	165.7	10.4%	138.3	138.3	0.0%	117.1	117.1	0.0%
- margin		52.5%	42%	44%	5.3%	40%	40%	0.0%	36%	36%	0.0%
Tshipi, 100%, EBITDA	A\$m	522.9	300.7	332.0	10.4%	277.1	277.1	0.0%	234.7	234.7	0.0%
Tshipi, 100%, Cash dist	A\$m	316.1	214.4	236.3	10.2%	163.7	163.7	0.0%	137.4	137.4	0.0%
% of EBITDA		60%	71%	71%	-0.2%	59%	59%	0.0%	59%	59%	0.0%
<b>Tshipi, 100%, Cash dist</b>	<b>ZARm</b>	<b>3,224</b>	<b>2,144</b>	<b>2,363</b>	<b>10.2%</b>	<b>1,673</b>	<b>1,673</b>	<b>0.0%</b>	<b>1,405</b>	<b>1,405</b>	<b>0.0%</b>
Tshipi, 100%, EBITDA	ZARm	5345.9	3007.0	3320.3	10.4%	2832.4	2832.4	0.0%	2399.1	2399.1	0.0%
Tshipi, 100%, EBITDA	US\$	376.9	205.8	227.2	10.4%	194.0	194.0	0.0%	164.3	164.3	0.0%
<b>Tshipi NPAT (49.9%)</b>	<b>A\$m</b>	<b>189.5</b>	<b>103.0</b>	<b>114.3</b>	<b>10.9%</b>	<b>94.5</b>	<b>94.5</b>	<b>0.0%</b>	<b>79.3</b>	<b>79.3</b>	<b>0.0%</b>
payout		83%	104%	103%	-0.6%	87%	87%	0.0%	87%	87%	0.0%
<b>DPS</b>		<b>0.075</b>	<b>0.05</b>	<b>0.055</b>	<b>10.0%</b>	<b>0.0375</b>	<b>0.0375</b>	<b>0.0%</b>	<b>0.030</b>	<b>0.030</b>	<b>0.0%</b>

Source: Hartleys Estimates

Fig. 3: Quarterly Tshipi earnings

	UNIT	Q3 FY2020	Q2 FY2020	Q1 FY2020	YTD FY2020	Q3 FY2019	
	Mined volume	bcm	3,360,482	2,973,867	2,715,849	9,050,198	2,872,951
	Production	Tonnes	764,226	890,995	880,724	2,535,945	859,550
	Sales	Tonnes	867,502	892,019	837,531	2,597,052	789,922
Includes shipping to China	Average CIF price achieved (high grade lumpy)	CIF, USD/dmtu	4.49	5.52	6.01	5.09	6.43
Excludes shipping to China, and includes royalties	Average cost of production	FOB, ZAR/dmtu	31.69	32.30	30.47	31.51	28.81
	Average exchange rate	USD/ZAR <sup>1</sup>	14.84	14.58	14.30	14.57	14.44
	Average exchange rate	AUD/ZAR <sup>1</sup>	10.11	10.06	10.07	10.08	10.37
Excludes shipping to China	Sales revenue	AUD million <sup>2</sup>	142.5	185.0	199.8	527.1	181.8
Excludes royalties	Earnings before interest, tax and depreciation ("EBITDA")	AUD million <sup>2</sup>	51.9	101.5	132.1	285.3	112.3
	Net profit after tax	AUD million <sup>2</sup>	33.8	62.5	87.0	183.3	76.1
	Net cash from operating activities	AUD million <sup>2</sup>	39.3	86.3	92.3	217.8	82.3
Excludes cash on JMS balance sheet	Cash at bank	AUD million <sup>2</sup>	98.7	114.0	143.0	98.7	155.9

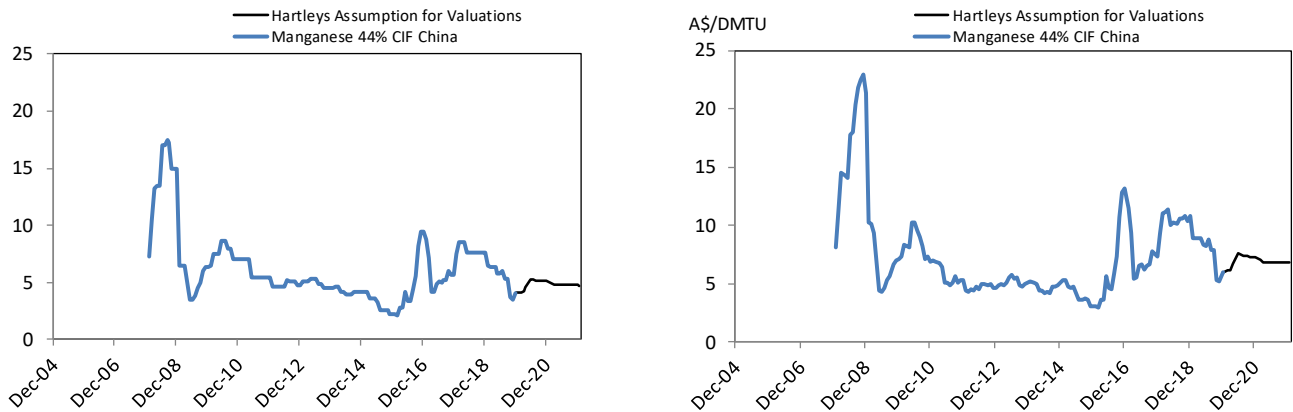
Source: JMS, Hartleys Research

**Fig. 4: 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 appreciates modestly in near term, and then depreciates again.
Selling prices rise from current prices	Moderate	Most significant	We assume manganese selling prices rebound but remain well below recent peak.
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>	

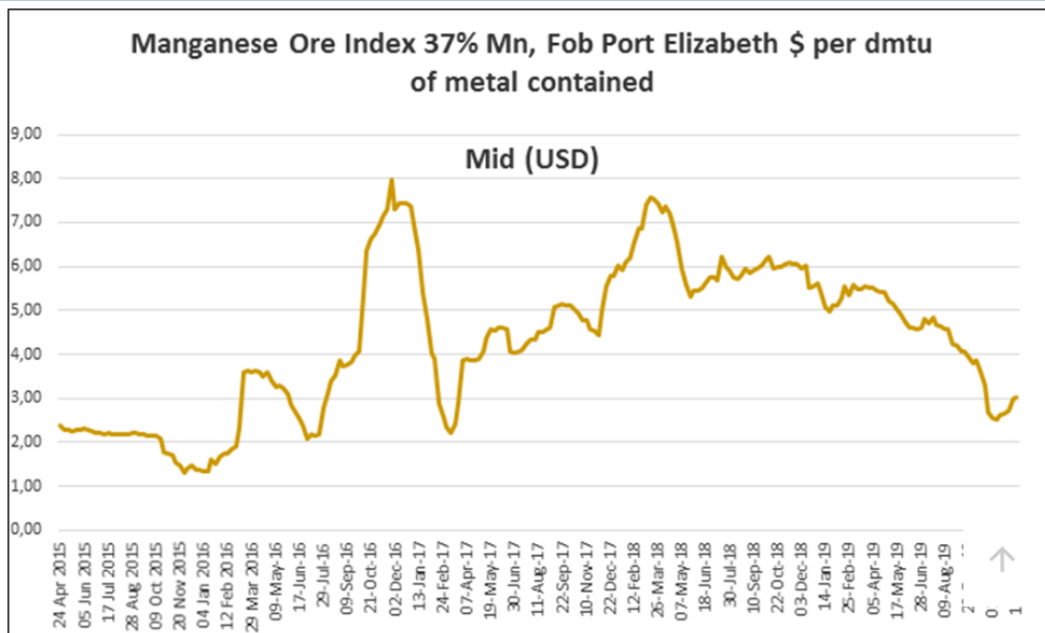
Source: Hartleys

**Fig. 5: Manganese Price Assumptions**



Source: Asian Metal, Hartleys estimates

**Fig. 6: Manganese Price (37% DMTU, fob)**



Source: JMS

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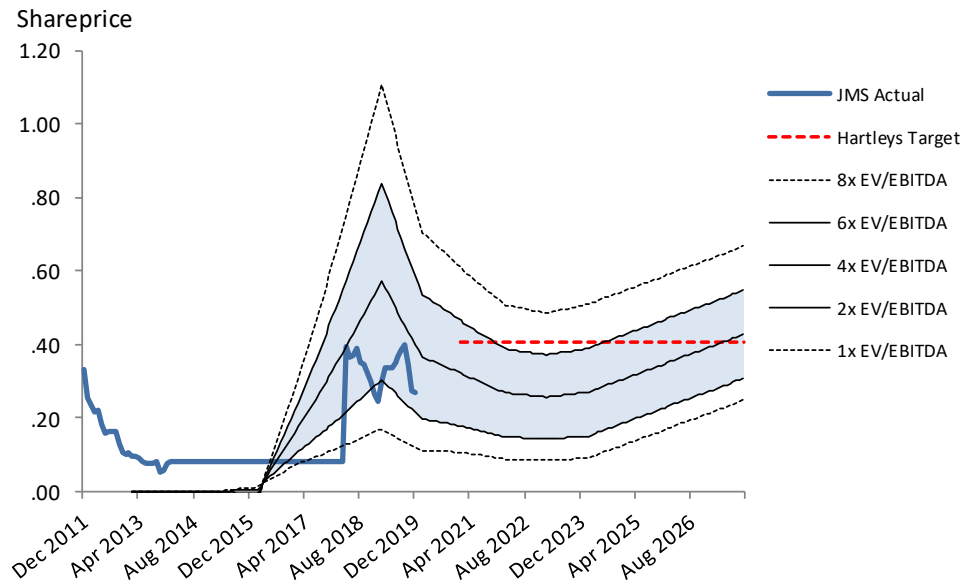
## PRICE TARGET

We have a twelve month price target of 40cps (unchanged from previous).

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case valuation	70%	\$0.40	\$0.38
NPV spot valuation	8%	\$0.28	\$0.26
4x EV/EBITDA	5%	\$0.33	\$0.28
10x EV/EBITDA	5%	\$0.77	\$0.65
Dividend yield 6.0% base case	10%	\$0.50	\$0.63
Dividend yield 6.0% spot prices	2%	\$0.29	\$0.29
<b>Risk weighted composite</b>		<b>\$0.41</b>	
<b>12 Months Price Target</b>		<b>\$0.40</b>	
Shareprice - Last		\$0.2700	
<b>12 mth total return</b>			<b>61%</b>

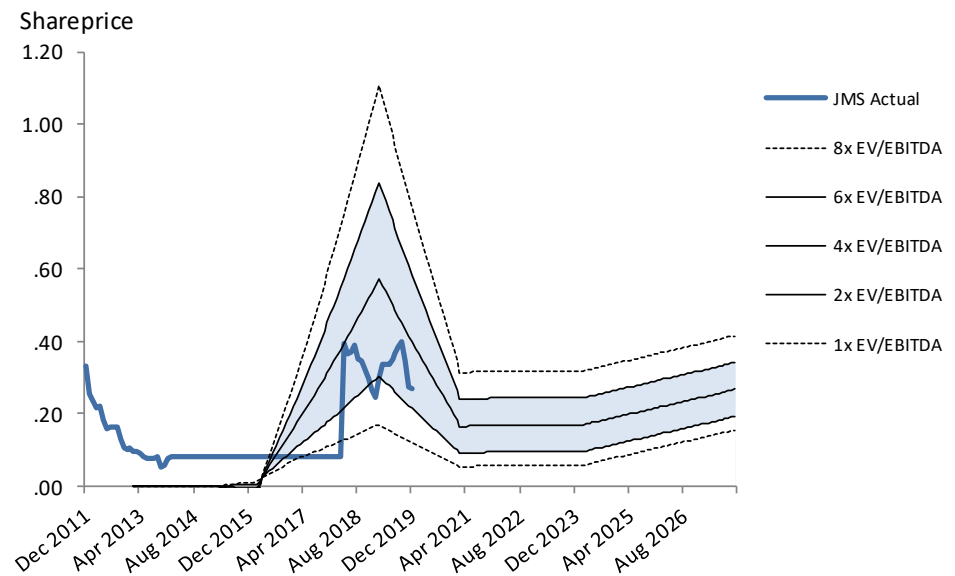
Source: Hartleys Research Estimates

**Fig. 7: Using Hartleys base case commodity forecasts**



Source: Hartleys Estimates, IRESS

**Fig. 8: Using spot commodity prices**



Source: Hartleys Estimates, IRESS

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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	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.
Buy	

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