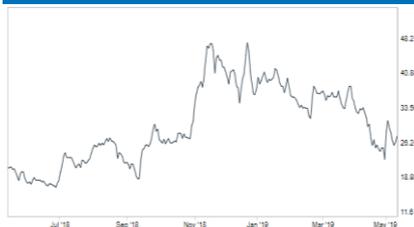


15 May 2019

BMN LN Mining & Metals



Source: LSE

Market data

Price (p)	28.5
12m High (p)	48.2
12m Low (p)	17.6
Shares (m)	1,119.1
Mkt Cap (£m)	318.9

Company summary

Bushveld Minerals is an AIM-quoted mineral resource development and production company. The group's key asset is a majority controlling interest in the Vametco vanadium operation in South Africa. Bushveld also has thermal coal interests via its wholly-owned Lemur Resources subsidiary and tin exposure via a 17.5% stake in AfriTin Mining Ltd.

Key forecasts*

	2017	2018e	2019e
Sales (£m)	2.2	144.4	129.6
EBITDA (£m)	0.7	81.1	65.8
EBITDA, adj** (£m)	0.7	59.2	48.1
EPS (GBp)	(0.1)	3.9	2.8
EV/EBITDA (x)	na	3.5	4.4
EV/EBITDA adj** (x)	na	4.9	6.0
P/E (x)	na	7.3	10.2
Net cash (£m)	1.4	30.9	75.5

* Do not include proposed Vanchem acquisition

**Equity-attributable adjusted EBITDA

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Bushveld Minerals*

Steady Q1 provides platform to grow through 2019

Q1 2019 vanadium production from Bushveld's Vametco operation in South Africa was broadly flat on Q-on-Q, but March output of 270t V was the highest monthly rate achieved in almost two years, evidence that productivity improvement initiatives are already bearing fruit. We have brought our production assumption for 2019 in line with the mid-point of Bushveld's guidance range, provided for the first time today. Assuming a year-average FeV price of US\$60/kg (below the Q1 average of US\$73/kg, but above the current spot price of cUS\$45/kg), we estimate Bushveld could maintain a cash operating margin of over 50% this year and generate consolidated EBITDA of US\$86m on Vametco alone. This would put it on an EV/EBITDA multiple of just 4.4x, a market valuation we consider undemanding given the prospect of Vametco's capacity expanding towards 5,000t pa over the next few years. Moreover, the proposed acquisition of the Vanchem operation (not yet incorporated in our forecasts) could add 960t pa of production and positive cash flow in the short-term (the deal is due to complete by 31 October). Vanchem may also see Bushveld's total output grow towards 10,000t pa over the longer term (the group has a capital-efficient plan to return Vanchem to full operational capacity from its current 20-25% rate, integrating it with its Mokopane resource).

- ▶ **Q1 2019 operational results:** At 649t V (in the form of Vametco's proprietary Nitrovan product), Q1 2019 vanadium production was broadly consistent with Q4 2018 (657t). Output was not impacted by Eskom's (South Africa's national power utility) rationing for industrial users in March. Underlying cash production costs were also largely unchanged, at US\$18.6/kg (US\$18.0/kg in Q4 2018).
- ▶ **Productivity rates improving:** Bushveld began implementing several productivity enhancement initiatives during Q1, and these saw mine scheduling, head grades, kiln feed and overall plant recovery rates all improve towards quarter end. Volumes for the month of March increased to 270t (3,240t pa annualised), the highest monthly rate achieved by Vametco in some 21 months.
- ▶ **2019 guidance:** Bushveld expects these initiatives to result in Vametco achieving higher year-on-year production in 2019, albeit with the improved rates weighted more towards the second half of the year owing to a planned 24-day maintenance programme across June and July. It has set full-year production guidance for Vametco at 2,800t to 2,900t accordingly, which would equate to a 9-13% increase relative to 2018. Cost guidance is set at US\$18.90-19.50/kg, which would be a 2-4% improvement on 2018, reflecting the economies of scale. Full implementation of all the planned improvement initiatives is expected to result in a sustainable production rate of 3,400t pa being achieved over 2020.
- ▶ **Valuation unchanged, but upside likely on Vanchem:** We have lowered our 2019 production assumption by 5%, bringing it in line with the mid-point of guidance. Our resulting 2019 EBITDA estimate of US\$86m (assuming a US\$60/kg year-average FeV price) puts Bushveld on an undemanding EV/EBITDA of just 4.4x and a FCF yield of 14%. Our NPV-based valuation remains 45p, assuming a long-term FeV price of US\$45/kg (in-line with current spot). We await guidance on likely opex structure and timing of the planned Vanchem-Mokopane development ahead of incorporating it in our forecasts and valuation. However, we believe the US\$68m acquisition will prove accretive to both, assuming cost structure is not dissimilar to Vametco. Our current 45p valuation includes just 25% of our Mokopane NPV estimate – we believe the NPV of an integrated Vanchem-Mokopane operation would likely exceed our current estimate of Mokopane standalone, while the acquisition would also lower development risk.

Valuation

We have updated our (pre-Vanchem acquisition) sum-of-parts valuation for the slight (5%) downwards revision in our 2019 production assumption and resulting increase in costs. The net result is negligible to our risked NAV estimate, which remains at 45p (assuming a long-term vanadium pricing assumption of US\$45/kg from 2021). This represents almost 60% upside to Bushveld’s current share price.

Figure 1: Base-case sum-of-the-parts valuation*

		Unrisked	Risk	Risked	
		US\$m	multiple	US\$m	GBp/s
Vametco (BMN attributable)	NPV _{10%}	525	1.00x	525	36.1
Mokopane (BMN attributable)	NPV _{10%}	307	0.25x	77	5.3
Brits	nominal	25		25	1.7
AfriTin Mining (17.5%)	market	4		4	0.3
Lemur Resources	nominal	10		10	0.7
Corporate G&A	NPV _{10%}	(28)		(28)	(1.9)
EV		843		613	42.1
Cash (end-2018)	estimate	41		41	2.8
NAV		884		654	45.0

*Assumes long-term (from 2021) US\$45/kg V price and R14.00:US\$1 FX rate Source: ARC estimates

Figures 2-3 illustrate the sensitivity of our risked NAV estimate to vanadium price and ZAR:USD exchange rate assumptions. Note that our NAV would remain comfortably positive at FeV prices considerably below current market levels.

Figure 2: Risked NAV (GBP) sensitivity to V price (flat from 2020*) and FX rate

		Ferrovanadium price (US\$/kg V)						
		25	35	45	55	65	75	85
USD/ZAR rate	12.00	11	26	41	56	71	86	102
	13.00	13	28	43	58	73	88	104
	14.00	15	30	45	60	75	90	106
	15.00	16	31	46	61	77	92	107
	16.00	18	32	48	63	78	93	108

*Our base-case NAV assumes a long-term FeV price of US\$45/kg from 2021 Source: ARC estimates

Figure 3: Risked NAV (GBP) sensitivity to V (flat from 2020*) and discount rate

		Ferrovanadium price (US\$/kg V)						
		25	35	45	55	65	75	85
Discount rate	15%	12	22	32	42	52	63	73
	12%	13	26	38	51	64	77	90
	10%	15	30	45	60	75	90	106
	8%	17	35	53	71	89	108	126
	5%	22	46	71	96	121	146	172

*Our base-case NAV assumes a long-term FeV price of US\$45/kg from 2021 Source: ARC estimates

We will update our valuation once more detail emerges on the likely operating cost structure of Vanchem and timing of the proposed integration with Mokopane. However, **our preliminary analysis suggests the NPV (inclusive of purchase cost) of an integrated Vanchem-Mokopane operation at 4,200t pa is likely to be higher than our current NPV estimate of Mokopane on the standalone 2016 PFS case.** Moreover, Vanchem’s status as an established producer would greatly reduce the delivery risks attached to our Mokopane valuation.

Summary operating and financial forecasts

Figures 4-8 summarise our base-case forecasts for the next three years, updated for Vametco's 2019 production and cost guidance. We will update our forecasts once guidance on the operating economics of Vanchem and the planned integration with Mokopane is provided. **Given Vanchem is already producing profitably at a rate of 960t pa, we would expect the deal to prove accretive to our earnings forecasts.**

Figure 4: Summary Vametco operational forecasts and macro assumptions

		2017*	2018E	2019E	2020E	2021E
Vametco vanadium production	t	2,649	2,560	2,850	3,400	4,200
V ₂ O ₅ equivalent	t	4,729	4,570	5,088	6,069	7,498
Vanadium sales	t	2,721	2,573	2,850	3,400	4,200
Ferrovandium market price assumption	US\$/kg V	32.60	81.20	60.00	52.50	45.00
Cash production costs (on-site costs & freight)	US\$/kg V	16.42	19.65	19.20	17.10	15.00
Total cash costs (incl royalties, marketing & G&A)	US\$/kg V	20.94	30.30	27.15	23.99	20.82
Operating cash margin	%	30%	60%	54%	54%	53%
All-in costs (incl depreciation)	US\$/kg V	21.49	31.64	28.76	25.95	22.39
All-in margin	%	29%	58%	51%	50%	49%
South African Rand	ZAR:USD	13.30	13.20	14.00	14.00	14.00
GB Sterling	USD:GBP	1.29	1.34	1.30	1.30	1.30

*Bushveld did not assume majority control of Vametco until end 2017

Source: ARC estimates

Figure 5: Summary Bushveld Minerals consolidated income statement

Year-end 31 Dec		2017*	2018E	2019E	2020E	2021E
Revenue	£m	2.2	144.4	129.6	135.2	143.2
Cost of sales	£m	(1.1)	(48.9)	(52.9)	(57.2)	(61.0)
Other income	£m	0.0	0.9	0.8	0.8	0.9
Selling & distribution costs	£m	(0.2)	(6.4)	(6.0)	(6.5)	(7.2)
G&A and other costs	£m	(3.9)	(11.5)	(9.1)	(9.1)	(9.1)
Operating profit/(loss)	£m	(3.0)	78.5	62.3	63.2	66.8
Net finance costs	£m	(0.8)	(0.7)	(0.4)	(0.4)	(0.2)
Share of profit/(loss) from associates*	£m	3.6	0.0	0.0	0.0	0.0
Tax	£m	(0.0)	(23.4)	(18.6)	(23.5)	(26.2)
Net profit/(loss)	£m	(0.7)	54.4	43.2	39.3	40.3
Minority interests	£m	(0.3)	(15.6)	(12.5)	(11.4)	(11.6)
Attributable net profit/(loss)	£m	(1.0)	38.8	30.8	27.9	28.7

*Bushveld did not assume majority control of Vametco until end 2017

Source: ARC estimates

Figure 6: Summary Bushveld Minerals consolidated cash flow statement

		2017*	2018E	2019E	2020E	2021E
Operational CF before WC changes	£m	(2.9)	56.1	47.1	44.9	45.6
Working capital changes	£m	(1.1)	(20.1)	7.4	(0.6)	(2.2)
Cash flow from operations	£m	(4.1)	36.0	54.5	44.3	43.4
Capex	£m	0.0	(8.5)	(7.5)	(11.5)	(4.8)
Other	£m	3.3	(16.9)	(2.0)	(1.6)	(19.7)
Cash flow from investing activities	£m	3.3	(25.3)	(9.5)	(13.2)	(24.5)
Equity issue and warrant exercises	£m	1.7	18.8	0.0	0.0	0.0
Net borrowings	£m	6.4	(5.1)	0.0	0.0	0.0
Dividends to minorities	£m	0.0	0.0	0.0	(16.5)	(22.9)
Other	£m	0.0	(0.7)	(0.4)	(0.4)	(0.2)
Cash flow from financing activities	£m	8.1	13.0	(0.4)	(17.0)	(23.1)
Increase/(decrease) in cash	£m	7.3	23.7	44.6	14.2	(4.2)

*Bushveld did not assume majority control of Vametco until end 2017

Source: ARC estimates

Figure 7: Summary Bushveld Minerals consolidated balance sheet

		2017*	2018E	2019E	2020E	2021E
Cash	£m	7.2	30.9	75.5	89.6	85.4
P,P&E	£m	32.9	38.8	42.8	49.2	49.0
Intangible assets	£m	45.1	45.9	46.2	46.2	46.2
Other assets	£m	33.8	49.9	40.1	41.4	43.3
Total assets	£m	119.1	165.5	204.6	226.5	224.0
Payables	£m	15.0	9.4	23.4	30.5	21.8
Debt	£m	5.8	0.0	0.0	0.0	0.0
Other liabilities	£m	18.8	23.4	25.0	26.3	7.0
Total liabilities	£m	39.6	32.7	48.4	56.8	28.8
Shareholders' equity	£m	52.5	90.1	101.1	119.7	156.5
Non-controlling interests	£m	27.0	42.6	55.0	49.9	38.6
Total equity	£m	79.5	132.7	156.2	169.7	195.2
Total liabilities & equity	£m	119.1	165.5	204.6	226.5	224.0

*Bushveld did not assume majority control of Vametco until end 2017

Source: ARC estimates

Figure 8: Key financial measurements and ratios

		2017E*	2018E	2019E	2020E	2021E
EBITDA	£m	0.7	81.1	65.8	68.3	71.8
EBITDA margin	%	30%	56%	51%	51%	50%
EBIT	£m	0.1	78.5	62.3	63.2	66.8
EBIT margin	%	3%	54%	48%	47%	47%
EPS	GBP	(0.1)	3.9	2.8	2.5	4.1
Net profit margin	%	na	27%	24%	21%	20%
Free cash flow	£m	(0.8)	10.7	45.0	31.1	18.9
Net cash/(debt)	£m	1.4	30.9	75.5	89.6	85.4
EV/EBITDA (fully consolidated)	x	na	3.5	4.4	4.2	4.0
EV/EBITDA (equity attributable)	x	na	4.9	6.0	5.8	5.5
P/E	x	na	7.3	10.2	11.2	6.9
FCF yield	%	na	3.3%	14.1%	9.8%	5.9%

*Bushveld did not assume majority control of Vametco until end 2017

Source: ARC estimates

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