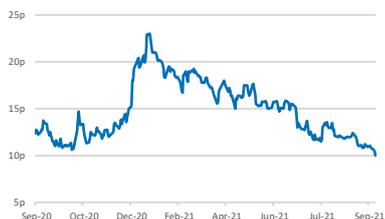


30 September 2021

BMN LN Mining & Metals


Source: Bloomberg

Market data

Price (p)	10
Valuation (p)	20
12m High (p)	24
12m Low (p)	10
Shares (m)	1,192
Mkt Cap (£m)	118

Company summary

Bushveld Minerals is an AIM-quoted vanadium development and production company. The group's key assets are the Vametco and Vanchem primary vanadium producing operations in South Africa. Bushveld also participates in the development of the downstream, and fast-growing, vanadium-redox flow battery market through its majority-owned Bushveld Energy subsidiary.

Key forecasts*

	2020	2021e	2022e
Sales (\$m)	90.0	118.8	189.8
EBITDA (\$m)	(14.9)	(5.0)	38.2
EPS (\$/sh)	(0.03)	(0.02)	0.00
FCF (\$m)	(30.5)	(40.0)	9.1
EV/EBITDA (x)	na	na	5.7
FCF yield (%)	na	na	5.6
Net debt (\$m)	33.7	62.3	57.6

Analyst contact

Nick Chalmers
 Email: nchalmers@altrescap.com
 Tel: +44 (0) 7559 910 874

Broking contacts

Alex Wood
 Email: awood@altrescap.com
 Tel: +44 (0) 7559 910 872

Keith Dowsing
 Email: kdowsing@altrescap.com
 Tel: +44 (0) 7559 910 873

Bushveld Minerals*

Interim results: a tale of two quarters

Bushveld's recent interim results reflect a challenging Q1 during which margins were eroded owing to previously reported operational interruptions at Vametco. However, following a 35-day maintenance programme much improved production rates were achieved in late Q2, a positive trend that has continued into the second half of the year. Assuming no further significant unforeseen disruption, we therefore think Bushveld is on course to meet its reaffirmed full-year production and cost guidance. If vanadium prices hold around recent levels, we estimate this will see a return to operational profitability in H2. Given the relatively high fixed component of costs at both Vametco and Vanchem, successful execution of production growth plans is key to driving more substantial margin growth thereafter. In this respect we welcome the relaxation of restrictions on use of the US\$30m Orion PFA facility. This enables Bushveld to draw upon the PFA to help fund the remainder of the US\$18m current phase of refurbishment at Vanchem, the driver of a targeted increase in group-level production to a steady-state run rate of 5,000-5,400t pa by the end of 2022. The group retains ambitions of growing consolidated production to around 8,400t pa over the longer term through further refurbishment of Vanchem and expansion at Vametco.

- ▶ **Interim results reflect challenging Q1:** Revenue for the six months to 30 June 2021 was US\$47m, up 9% relative to H1 2020 as stronger vanadium pricing offset lower volumes due to production interruptions at Vametco across the first four months of the year. However, the lower production rates at Vametco, higher maintenance and consumables costs, and adverse FX movements resulted in a 44% increase in unit C1 cash costs, to US\$36/kg. The group-level EBITDA loss widened from US\$1m to US\$11m accordingly. Total sustaining unit costs increased by 59%, to US\$40/kg, reflecting a US\$6m increase in sustaining capex (from negligible spending in H1 2020) which contributed to the improved operational stability now being seen. Bushveld ended H1 with US\$32m of cash and net debt of US\$54m, including the Orion production financing agreement (PFA).
- ▶ **H2 outlook brighter:** The maintenance work to improve plant reliability at Vametco began to bear fruit in Q2, with markedly higher production rates achieved towards the end of the period. The improved performance has been maintained in H2 to date, putting Bushveld on course to meet its reaffirmed full-year group production guidance of 3,400-3,600t. The higher rates should see unit costs come down in H2, and Bushveld is maintaining its full-year guidance of cUS\$24/kg at Vametco and cUS\$30-31/kg at Vanchem (C1 basis). Encouragingly, the Upper Seam project at Vametco is now online. Together with new sources of third-party ore also secured, this ensures sufficient ore feed for Vanchem's targeted production growth schedule over the next 18 months.
- ▶ **FY estimates:** Production and operating costs are now tracking our full-year estimates, but realised vanadium prices in H1 were lower than we had anticipated and expenses associated with the Vametco plant downtime were higher. We have accordingly adjusted down our 2021 full-year financial forecasts somewhat. We still expect the group to return to profitability at the EBITDA level in H2 (assuming a vanadium price around recent market levels), but we now forecast a small loss for the full year given the H1 results.
- ▶ **Growth plans key:** With improved operational stability now coming through, growing production rates will be key to more material margin expansion given the high fixed component of costs at Vametco and Vanchem. Post period-end Bushveld negotiated a lifting of the capital ringfence on the Orion PFA, freeing up the US\$30m facility for utilisation on the current US\$18m phase of refurbishment at Vanchem (which we believe offers a rapid scale-up opportunity). Scheduled for completion in H1 2022, this project involves bringing one of the currently mothballed kilns back on-line and is expected to increase group production to a sustainable 5,000-5,400t pa by the end of 2022 (and to reduce Vanchem's unit costs to Vametco-like levels). We think this will drive robust EBITDA growth next year. Technical studies of the potential for further optimising Vametco and Vanchem to lift group production to 6,400-6,800t pa in the medium term are due by the end of this year, and Bushveld has a goal of growing output to around 8,400t pa over the longer term. If achieved, we think the latter target could see EBITDA grow to >US\$100m pa over the longer term, assuming a US\$40/kg realised V price.

Updated ARC near-term forecasts

Figures 1-5 below and overleaf summarise our operating and financial forecasts for this year and next, which we have updated to incorporate the 2021 first half results. Though we still expect Bushveld to be profitable in H2, our forecast net loss for the 2021 full year has widened, as the interim results revealed a lower realised vanadium price than we had been anticipating for H1 and higher costs associated with the production interruptions. Assuming the group meets its re-affirmed production and cost guidance, and that an average vanadium price of around US\$36/kg is realised for H2, we expect a return to positive EBITDA in the current half (which should partially offset the H1 EBITDA loss). Our H2 vanadium price assumption is below the H2-to-date market average FeV price but is slightly above current pricing levels.

Funding for the Kiln 3 refurbishment project at Vanchem is now fully covered following the successful renegotiation of the US\$30m Orion PFA, which has seen the facility uplifted for use at Vanchem. The US\$18m of capital expenditure on the project is being spent across this year and H1 2022. Assuming ramp-up of the Kiln through H2 2022 thereafter (and a resultant reduction in unit costs at Vanchem), we forecast a transformation in EBITDA generation for next year, assuming the realised vanadium price recovers back towards our US\$40/kg (FeV basis) long-term deck. Profitability should be further enhanced by plans to cut group-level costs by US\$2.5-4m pa from 2022.

Kiln 3 at Vanchem is of a similar scale and capacity to the primary kiln at Vametco, and once fully ramped-up will see Vanchem produce at a steady-state production level of 2,600t pa, with similar unit costs to Vametco. Assuming Vametco continues to operate at around its current annualised rate of approximately 2,800t, this should see Bushveld exit 2022 with a sustainable production level of 5,000-5,400t pa and, by our estimates, a sustainable C1 cash cost base of under US\$25/kg. This should in turn see EBITDA grow further still (to over US\$60m by our estimates) in 2023.

Figure 1: Summary operational forecasts and macro assumptions

		2019	2020	2021E	2022E
Vanadium production	t V	2,931	3,631	3,500	4,800
Sales volumes	t V	2,392	3,842	3,500	4,906
Average realised vanadium price (FeV basis)	US\$/kg V	48.9	23.4	34.0	38.7
C1 cash production costs	US\$/kg V	18.1	19.4	26.4	24.6
All-in sustaining cash costs*	US\$/kg V	37.0	29.0	37.5	33.2
South African Rand	ZAR:USD	14.40	16.46	14.50	14.50

*Including royalties, selling & distribution costs, G&A and sustaining capex, but excluding depreciation and financing costs Source: ARC estimates

Figure 2: Summary Bushveld Minerals consolidated income statement

Year-end 31 Dec		2019	2020	2021E	2022E
Revenue	US\$m	116.5	90.0	118.8	189.8
Cost of sales	US\$m	(56.2)	(91.3)	(112.7)	(139.7)
Other income	US\$m	0.9	2.3	2.5	2.4
Selling and distribution costs	US\$m	(7.6)	(4.8)	(7.3)	(10.3)
Administrative and other costs	US\$m	(31.4)	(29.0)	(24.7)	(22.3)
Operating profit/(loss)	US\$m	22.3	(32.8)	(23.3)	20.0
Net finance costs	US\$m	1.9	(4.7)	(5.6)	(7.8)
Exceptional non-cash items	US\$m	59.1	(0.2)	0.0	0.0
Profit/(loss) before tax	US\$m	83.3	(37.7)	(28.9)	12.2
Tax	US\$m	(14.0)	0.5	2.1	(8.7)
Net profit/(loss)	US\$m	69.2	(37.2)	(26.8)	3.5

Source: ARC estimates

Figure 3: Summary Bushveld Minerals consolidated cash flow statement

		2019	2020	2021E	2022E
Operational CF before WC changes	US\$m	23.9	(18.4)	(5.0)	29.6
Working capital changes	US\$m	4.6	1.3	(4.2)	(0.1)
Cash flow from operations	US\$m	28.5	(17.1)	(9.1)	29.4
Capex and investments	US\$m	(17.7)	(11.2)	(46.1)	(20.1)
Other	US\$m	(32.0)	(2.2)	15.2	(0.3)
Cash flow from investing activities	US\$m	(49.7)	(13.3)	(30.9)	(20.3)
Net borrowings	US\$m	18.6	49.4	(7.7)	(7.9)
Finance costs and other	US\$m	(5.3)	(2.0)	5.7	(4.4)
Cash flow from financing activities	US\$m	13.3	47.4	(2.0)	(12.3)
Increase/(decrease) in cash	US\$m	(8.0)	17.0	(42.0)	(3.2)

Source: ARC estimates

Figure 4: Summary Bushveld Minerals consolidated balance sheet

		2019	2020	2021E	2022E
Cash	US\$m	34.0	50.5	8.5	5.3
P,P&E	US\$m	185.3	167.6	175.7	176.6
Intangible assets	US\$m	59.4	59.0	59.0	59.0
Other assets	US\$m	56.1	78.8	88.5	92.2
Total assets	US\$m	334.8	355.9	331.7	333.1
Payables	US\$m	15.7	22.1	21.8	24.4
Debt	US\$m	41.8	85.8	70.8	62.9
Other liabilities	US\$m	36.2	34.0	29.4	29.0
Total liabilities	US\$m	93.7	141.9	122.0	116.3
Total equity	US\$m	241.1	214.0	209.7	216.8
Total liabilities & equity	US\$m	334.8	355.9	331.7	333.1

Source: ARC estimates

Figure 5: Key financial measurements and ratios

		2019	2020	2021E	2022E
Shares in issue	m	1,153.0	1,192.2	1,240.0*	1,240.0*
EBITDA	US\$m	32.6	(14.9)	(5.0)	38.2
EBITDA margin	%	28%	na	na	20%
EPS	US\$/sh	0.05	(0.03)	(0.02)	0.00
Net profit margin	%	53%	na	na	na
Free cash flow	US\$m	(21.3)	(30.5)	(40.0)	9.1
Net debt/(cash)	US\$m	7.7	33.7	62.3	57.6
EV/EBITDA	x	6.6	na	na	5.7
FCF yield	%	na	na	na	5.6%

*Assumes US\$6.5m of Duferco notes are converted in H2 2021 at 10p per share.

Source: ARC estimates

Valuation

Our sum-of-the parts valuation incorporates NPV estimates for Vametco and Vanchem based on more speculative longer-term forecasts beyond 2022/23. These incorporate our own assumptions on the production growth profile (and corresponding capex schedule) of expansion initiatives that remain subject to ongoing technical and economic evaluation by Bushveld. With the caveat that our assumptions remain to be verified by the results of these studies, our modelling suggests that increasing production to Bushveld’s long-term target rate of 8,400t pa could see annualised EBITDA grow to over US\$100m over the next five years (using our US\$40/kg long-term realised vanadium price assumption).

The ultimate capital cost of these longer-term expansion initiatives, along with prevailing vanadium prices in the interim, will be key to determining Bushveld’s ability to fund such further expansion (beyond the current phase of refurbishment underway at Vanchem, which is fully funded through the Orion PFA) without further recourse to external financing.

In arriving at our 20p per share base-case valuation, we continue to apply risk ‘haircuts’ to our NPV estimates on account of the aforementioned uncertainties.

Figure 6: Risk-adjusted sum-of-the-parts valuation*

		Unrisked		Risk	Riskd
		US\$m	GBP/sh	multiple	GBP/sh
Vametco (incl PFA)	NPV _{10%}	271	16	0.75x	12
Vanchem (incl PFA)	NPV _{10%}	302	18	0.50x	9
Brits property	nominal	10	1		1
Bushveld Energy	nominal	25	1		1
Corporate-level costs	NPV _{10%}	(38)	(2)		(2)
EV		570	34		21
Cash	at mid-2021	32	2		2
Bank debt	at mid-2021	(10)	(1)		(1)
Convertible debt**	at mid-2021	(41)	(2)		(2)
NAV		552	33		20

*Assumes long-term (from 2023) US\$40/kg realised FeV price and R14.50:US\$1 FX rate

**Assumes \$6.5m of Duferco notes converted at 10p, resulting in increased shares on issue of 1,240m

Source: ARC estimates

Figure 7: Un-risked NAV_{10%} (GBP) sensitivity to vanadium price and FX rate

		Average realised vanadium price (US\$/kg V, FeV basis)						
		25	30	35	40*	45	50	55
USD/ZAR rate	13.50	(5)	7	18	29	39	50	61
	14.00	(3)	9	20	31	41	52	63
	14.50*	(0)	11	22	33	43	54	65
	15.00	2	13	24	35	45	56	67
	15.50	4	15	26	36	47	58	69

*Valuation base-case assumptions

Source: ARC estimates

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Shard Capital Partners LLP
23rd Floor,
20 Fenchurch St,
London, EC3M 3BY

T +44 (0)207 186 9900
F +44 (0)207 186 9979
E info@shardcapital.com
W shardcapital.com