

Non-Independent Research

A MiFID II compliant note

\*SP Angel acts as Nomad & Broker to Bushveld Minerals.

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#### Stock Data

Ticker	BMN LN
Share Price:	15.5
Market Cap:	£185m

#### Price Chart



#### Research

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## Q1 report highlights continued optimisation of expansion plans for Vanchem and Vametco

Bushveld is an integrated vanadium mining, processing and technology businesses. The South African group owns 74% of Vametco and 100% of the Vanchem. Bushveld Energy (84%) is developing vanadium redox batteries for grid use in SA.

- Bushveld Minerals report ongoing work on the optimisation of plans to further expand vanadium output at the Vametco and Vanchem plants in South Africa
- **Covid-19:** there are currently no active Covid-19 cases among employees.
- The team, along with a new operations director at Vametco, have a number of work streams underway to improve operational stability
- This has led to a negative impact through the first quarter from the planned 35-day maintenance program.
- Production through the quarter was also hit by unprotected industrial action in April which stopped production for five days
- The stoppage and the time to ramp up production lost some 65t of vanadium to the quarter.
- **Group production:**
- Q1 2021 Group production fell 22% yoy to 688mtV vs 880mtV a year ago due to the 35-day planned maintenance shutdown at Vametco.
- Q1 2021 Group sales fell 27% yoy to 788mtV<sup>1</sup> vs 1,080mtV yoy
- **Guidance** for the group is now expected towards the lower end of the 4,100-4,350mtV range
- **Vametco:** Production of Nitrovan, Vametco's key product fell 40% yoy to 395mtV
- C1 cash costs rose 37% to \$26.51/KgV
- Guidance is for Vametco production to come in towards the lower end of guidance of 2,700- 2,850mtV and between US\$20.0-US\$21.30/kgV cash costs
- **Vametco Phase III expansion PFS is underway** – some results of this work may start immediately such as improving silica levels into the plant.
- **Vanchem** production rose 34% yoy to 293mtV vs 219mtV yoy
- **C1 Cash costs** rose 20% to \$30.7/mtV partly due to the stronger South African rand
- Production is now expected towards the lower end of guidance of between 1,400- 1,500mtV due to heightened risks associated with the ramp-up of the first phase refurbishment.
- Costs are estimated at \$26.20-26.70/kgV
- Phase one of the Vanchem refurbishment programme continues and is on track with the kiln-3 refurbishment project due to complete in Q4 2021.

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**Bushveld Continued...****Optimisation:**

- The 35-day maintenance shutdown is expected to improve operational stability and reliability and reduce performance issues which have hampered production in the past.
- **Bushveld Electrolyte Company: development of a 200MWh electrolyte manufacturing plant progressing to plan.**
- Installation of major equipment is planned for during Q3 2021 with plant commissioning expected in H2 2022.
- Capex revised to ~\$13.6m including the \$2.1 m already spent vs the original estimate of \$10m. The remaining funding will be funded using equity and debt instruments
- Bushveld's capex commitment has been amended to ~\$5.1m through to 2024 with the remaining \$8.5m to be funded through equity and debt instruments
- **Vanadium prices** continue rise with Asian Metals reporting \$36-37/mtv for 80% ferro-vanadium in China on strong demand and tight inventories.
- Prices rose through Q1 on supply chain demand disruption but still appear to lag the very substantial increase in steel production in China.
- We expect vanadium prices to rise significantly this year as the vanadium market when we expect vanadium supply/demand to hit a tipping point whereby consumers will have to fight harder to secure available supplies.
- We are seeing US and European steel mills ramping up capacity again to meet new demand for structural steel for construction led by stimulus projects and housing.
- The mills will increasingly compete to attract ferro-vanadium, much of which is currently headed for China
- Vanadium prices tend to lag steel production indicating to us that vanadium prices should spring higher at some point this year.
- High vanadium imports into China indicate that local vanadium production is low – as expected from the increase in use of low vanadium content Australian iron ore.
- There is no way that China's vanadium production is able to keep up with internal demand indicating that the market will likely move to deficit sometime soon as it does not appear to be able to produce sufficient material for consumption.
- **VRFB vanadium demand:** we also expect to see continued growth in demand from the energy sector
- There appears to be a new global recognition for Flow batteries for grid energy storage from utilities with a new momentum in this market
- The recent partnership forged between Invinity and Siemens appears to be evidence for this.
- **Mokopane mine plan – work for DFS underway and engaging with the local communities for access**
- **Ore supply:** Vametco resource is an option for supply of ore / concentrates to Vanchem.
- Mineralogy is consistent at Mokopane and Vametco and work ongoing to optimise supply of material
- **SA rand rate through Q1 has been strong mainly due to higher commodity prices across the board**

- Expansion at Vametco is not a single step expansion – leach section is a capacity constraint / running an option analysis to use belt filters or leach vats
- Bushveld is also increasing the technical data available to show greater control and transparency of the mining and production process

**Conclusion:** Bushveld continued to ramp up production at Vamchem and planned major refurbishment work at Vametco for the first quarter.

We expect production levels to ramp up to meet strengthening vanadium prices through the rest of the year

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Buy - Expected return >15%

Hold - Expected return range -15% to +15%

Sell - Expected return < 15%