THE MSA GROUP

Specialist Consultants to the Mining Industry

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30 March 2022

Bushveld Minerals Limited

("**Bushveld Minerals**" or the "**Company**")

Vametco Inferred & Indicated Mineral Resource and Ore Reserve Update for Annual Reporting purposes

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Mineral Resources and Ore Reserves

Mineral Resources are the estimated quantities of material that have reasonable prospects for eventual economic extraction from the Group's properties. Ore Reserves are a subset of Measured and/or Indicated Mineral Resources that can be demonstrated to be able to be economically and legally extracted.

Ore Reserves are declared for open pits inside the LoM pit design (the optimised pit shell in this instance), including diluting materials and allowances for losses, which may occur when the material is mined or extracted, and are defined by studies at Pre-Feasibility or Feasibility level, as appropriate, that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified (JORC, 2012). Ore Reserves are declared for in-situ tonnes in the pits and exclude any stockpiles. Economic assumptions used to estimate reserves change from period-to-period as additional technical and operational data is generated.

BUSHVELD VANADIUM RESOURCES AND RESERVES

The Resource and Reserve estimates are based on the Competent Person's statements prepared by an independent consultancy company, the MSA Group (Pty) Ltd as at 31 December 2021.

VAMETCO MINE

- Ore Reserves have been depleted after 12 months of mining by approximately 2 per cent from the previous Ore Reserve estimate as at 31st December 2020. The Ore Reserves are reported as at the 31st December 2021 at 262,000 tonnes V_2O_5 in magnetite at a grade of 2.02 per cent V_2O_5 (in magnetite),
- The combined Inferred and Indicated Mineral Resource comprises 3 Seams (The Lower, Intermediate and Upper Seams) and is reported as at the 31st December 2021 at 182.7 Mt at an average grade of 1.98 per cent V_2O_5 (in magnetite), with an average magnetite content of 35.0 per cent (in whole rock) for 703.9 thousand tonnes of contained vanadium. The previously reported combined Inferred and Indicated Mineral Resource, as a 31st December 2020, was 184.2 Mt at an average grade of

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1.98 per cent V_2O_5 (in magnetite), with an average magnetite content of 35.0 per cent (in whole rock) for 709.8 thousand tonnes of contained vanadium.

- Within this, the Ore Reserve in the Probable Category comprise 3 Seams (The Lower, Intermediate and Upper Seams) and is reported as 45.3 Mt at an average grade of 2.02 per cent V_2O_5 (in magnetite), with an average magnetite content of 28.6 per cent (in whole rock) for 146,900 tonnes of vanadium.
- The Lower Seam is the main ore seam and the thickest, ranging from 13.8 to 52.0 metres in thickness, comprising a Probable Reserve of 38.4 Mt at an average grade of 2.05 per cent V_2O_5 (in magnetite), with an average magnetite content of 29.2 per cent (in whole rock) for 128,900 tonnes of vanadium.
- The decrease in the total 2021 Mineral Resource, by 0.81 per cent less tonnes than the 31 December 2020 estimate, is attributed to mining of the seams over the last 12 months. No Mineral Resource exploration was carried out over the period.
- The decrease in the total 2021 Ore Reserves from 46.4 Mt to 45.3 Mt as at 31 December 2021 is due to the depletion of all of the seams over the 12 month period. An adjustment was made to the modifying factors to reflect more accurate Ore Reserve grades for the individual seams. The Ore Reserve modifying factors (mining loss and dilution) were adjusted based on pit to plant reconciliation production data supplied by Bushveld Vametco Alloys (Pty). Ltd. This resulted in a significant increase in the Upper Seam magnetite grade in line with actual performance from 26.8 per cent in 2020 to 49.4 per cent in 2021.

Table 1: Vametco Mineral Resource at a cut-off grade of 20% magnetite, as at 31 December 2021 – Gross Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Indicated	Upper	5.6	1.44	65.8	1.78	65.9	36.9
	Intermediate	27.6	0.67	32.9	1.91	173.3	97.1
	Lower	106.8	0.72	32.3	2.03	702.3	393.3
	Total	**140.1**	**0.74**	**33.8**	**2.00**	**941.5**	**527.2**
Inferred	Upper	10.2	1.46	63.6	1.75	113.7	63.7
	Intermediate	7.0	0.67	32.1	1.92	43.4	24.3
	Lower	25.3	0.74	31.3	2.00	158.4	88.7
	Total	**42.6**	**0.90**	**39.1**	**1.93**	**315.6**	**176.7**
Indicated and Inferred	Upper	15.8	1.45	64.4	1.76	179.6	100.6
	Intermediate	34.7	0.67	32.7	1.91	216.7	121.4
	Lower	132.2	0.72	32.1	2.03	860.6	482.0
	Total	**182.7**	**0.78**	**35.0**	**1.98**	**1,257.0**	**703.9**

Notes:

1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Mineral Resources which are not Ore Reserves have no demonstrated economic viability.*
3. *Mineral Resources are inclusive of Ore Reserves (not indicated in the table).*
4. *Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.*
5. *Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.*
6. *Depleted using 31 December 2021 pit survey.*
7. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Table 2: Vametco Mineral Resource at a cut-off grade of 20% magnetite, as at 31 December 2021 – Attributable Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
Indicated	Upper	4.2	1.44	65.8	1.78	48.8	27.3
	Intermediate	20.5	0.67	32.9	1.91	128.3	71.8
	Lower	79.0	0.72	32.3	2.03	519.7	291.0
	Total	**103.7**	**0.74**	**33.8**	**2.00**	**696.7**	**390.2**
Inferred	Upper	7.6	1.46	63.6	1.75	84.2	47.1
	Intermediate	5.2	0.67	32.1	1.92	32.1	18.0
	Lower	18.8	0.74	31.3	2.00	117.2	65.7
	Total	**31.5**	**0.90**	**39.2**	**1.93**	**233.5**	**130.8**
Indicated and Inferred	Upper	11.7	1.45	64.4	1.76	132.9	74.4
	Intermediate	25.7	0.67	32.7	1.91	160.4	89.8
	Lower	97.8	0.72	32.1	2.03	636.9	356.6
	Total	**135.2**	**0.78**	**35.0**	**1.98**	**930.2**	**520.9**

Notes:

1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Mineral Resources which are not Ore Reserves have no demonstrated economic viability.*
3. *Mineral Resources are inclusive of Ore Reserves (not indicated in the table).*
4. *Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.*
5. *Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.*
6. *Depleted using 31 December 2021 pit survey.*
7. *Reported on an Attributable Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Comparative Resource Tables

Table 1a: Vametco Mineral Resource at a cut-off grade of 20% magnetite, 31 December 2021 versus 31 December 2020 – Gross Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
		31 December 2021						31 December 2020					
Indicated	Upper	5.6	1.44	65.8	1.78	65.9	36.9	5.7	1.44	65.9	1.78	66.2	37.1
	Intermediate	27.6	0.67	32.9	1.91	173.3	97.1	27.9	0.67	32.8	1.91	174.8	97.9
	Lower	106.8	0.72	32.3	2.03	702.3	393.3	107.9	0.72	32.3	2.03	709.4	397.4
	Total	**140.1**	**0.74**	**33.8**	**2.00**	**941.5**	**527.2**	**141.5**	**0.74**	**33.8**	**2.00**	**950.5**	**532.4**
Inferred	Upper	10.2	1.46	63.6	1.75	113.7	63.7	10.3	1.46	63.6	1.75	114.8	64.3
	Intermediate	7.0	0.67	32.1	1.92	43.4	24.3	7.0	0.67	32.1	1.92	43.3	24.3
	Lower	25.3	0.74	31.3	2.00	158.4	88.7	25.4	0.74	31.3	2.00	158.4	88.7
	Total	**42.6**	**0.90**	**39.1**	**1.93**	**315.6**	**176.7**	**42.7**	**0.90**	**39.2**	**1.93**	**316.6**	**177.3**
Indicated and Inferred	Upper	15.8	1.45	64.4	1.76	179.6	100.6	16.0	1.45	64.4	1.76	181.0	101.4
	Intermediate	34.7	0.67	32.7	1.91	216.7	121.4	35.0	0.67	32.7	1.91	218.1	122.2
	Lower	132.2	0.72	32.1	2.03	860.6	482.0	133.3	0.72	32.1	2.03	867.9	486.1
	Total	**182.7**	**0.78**	**35.0**	**1.98**	**1,257.0**	**703.9**	**184.2**	**0.78**	**35.0**	**1.98**	**1,267.2**	**709.8**

Notes:
1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Mineral Resources which are not Ore Reserves have no demonstrated economic viability.*
3. *Mineral Resources are inclusive of Ore Reserves (not indicated in the table).*
4. *Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.*
5. *Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.*
6. *2020 depletion as at 31 December 2020.*
7. *2021 depletion as at 31 December 2021.*
8. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Table 2a: Vametco Mineral Resource at a cut-off grade of 20% magnetite, 31 December 2021 versus 31 December 2020 – Attributable Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
		31 December 2021						31 December 2020					
Indicated	Upper	4.2	1.44	65.8	1.78	48.8	27.3	4.2	1.44	65.9	1.78	49.0	27.4
	Intermediate	20.5	0.67	32.9	1.91	128.3	71.8	20.7	0.67	32.8	1.91	129.3	72.4
	Lower	79.0	0.72	32.3	2.03	519.7	291.0	79.9	0.72	32.3	2.03	525.0	294.0
	Total	**103.7**	**0.74**	**33.8**	**2.00**	**696.7**	**390.2**	**104.7**	**0.74**	**33.8**	**2.00**	**703.4**	**394.0**
Inferred	Upper	7.6	1.46	63.6	1.75	84.2	47.1	7.6	1.46	63.6	1.75	84.9	47.5
	Intermediate	5.2	0.67	32.1	1.92	32.1	18.0	5.2	0.67	32.1	1.92	32.1	17.9
	Lower	18.8	0.74	31.3	2.00	117.2	65.7	18.8	0.74	31.3	2.00	117.2	65.6
	Total	**31.5**	**0.90**	**39.2**	**1.93**	**233.5**	**130.8**	**31.6**	**0.90**	**39.2**	**1.93**	**234.3**	**131.2**
Indicated and Inferred	Upper	11.7	1.45	64.4	1.76	132.9	74.4	11.8	1.45	64.4	1.76	133.9	75.0
	Intermediate	25.7	0.67	32.7	1.91	160.4	89.8	25.9	0.67	32.7	1.91	161.4	90.4
	Lower	97.8	0.72	32.1	2.03	636.9	356.6	98.7	0.72	32.1	2.03	642.2	359.7
	Total	**135.2**	**0.78**	**35.0**	**1.98**	**930.2**	**520.9**	**136.3**	**0.78**	**35.0**	**1.98**	**937.7**	**525.2**

Notes:

1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Mineral Resources which are not Ore Reserves have no demonstrated economic viability.*
3. *Mineral Resources are inclusive of Ore Reserves (not indicated in the table).*
4. *Magnetite content (grade) is determined as the proportion of magnetite concentrate recovered using Davis Tube methodology.*
5. *Due to the magnetite grade being a recovered grade, differences will occur between whole rock V_2O_5 grades back-calculated from concentrate, versus those derived from whole rock assays.*
6. *2020 depletion as at 31 December 2020.*
7. *2021 depletion as at 31 December 2021.*
8. *Reported on an Attributable Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Table 3: Vametco Ore Reserves, 31 December 2021 – Gross Basis							
Class	**Seam Name**	**Tonnes** (Millions)	**V_2O_5 grade of whole rock** %	**Magnetite grade of whole rock** %	**V_2O_5 grade in magnetite** %	**Tonnes V_2O_5 in magnetite** (Thousands)	**Tonnes V in magnetite** (Thousands)
Probable	Upper	0.5	1.05	49.4	1.77	4.7	2.7
	Intermediate	6.3	0.51	23.4	1.88	27.5	15.4
	Lower	38.4	0.63	29.2	2.05	230.1	128.9
	Total	**45.3**	**0.62**	**28.6**	**2.02**	**262.4**	**146.9**

Notes:
1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Ore Reserve tonnes and grades reported on dry run of mine (ROM) (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.*
3. *Reporting was prepared on a Mineral Resource model developed by MSA.*
4. *Ore Reserves depleted as at 31 December 2021 using 31 December 2021 pit survey.*
5. *The Ore Reserve estimate was based on the original pit design completed in March 2019*
6. *Modifying factors adjusted by seam from previous previous 31 December 2020 Ore Reserve estimate based on analysis of pit to plant production information*
7. *Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.*
8. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Table 4: Vametco Ore Reserves, 31 December 2021 - Attributable Basis							
Class	**Seam Name**	**Tonnes** (Millions)	**V_2O_5 grade of whole rock** %	**Magnetite grade of whole rock** %	**V_2O_5 grade in magnetite** %	**Tonnes V_2O_5 in magnetite** (Thousands)	**Tonnes V in magnetite** (Thousands)
Probable	Upper	0.4	1.05	49.4	1.8	3.5	2.0
	Intermediate	4.6	0.51	23.4	1.9	20.4	11.4
	Lower	28.5	0.63	29.2	2.1	170.3	95.4
	Total	**33.5**	**0.62**	**28.6**	**2.02**	**194.2**	**108.7**

Notes:
1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Ore Reserve tonnes and grades reported on dry ROM (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.*
3. *Reporting was prepared on a Mineral Resource model developed by MSA.*
4. *Ore Reserves depleted as at 31 December 2021 using 31 December 2021 pit survey.*
5. *The Ore Reserve estimate was based on the original pit design completed in March 2019*
6. *Modifying factors adjusted by seam from previous previous 31 December 2020 Ore Reserve estimate based on analysis of pit to plant production information*
7. *Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.*
8. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

Comparative Reserve Tables

Table 3a: Vametco Ore Reserve at a cut-off grade of 20% magnetite, 31 December 2021 versus 31 December 2020 – Gross Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
		31 December 2020						31 December 2019					
Probable	Upper	0.5	1.05	49.4	1.77	4.7	2.7	0.9	0.57	26.8	1.77	4.1	2.3
	Intermediate	6.3	0.51	23.4	1.88	27.5	15.4	6.8	0.52	23.4	1.88	30.0	16.8
	Lower	38.4	0.63	29.2	2.05	230.1	128.9	38.8	0.63	29.3	2.05	233.1	130.5
	Total	**45.3**	**0.62**	**28.6**	**2.02**	**262.4**	**146.9**	**46.4**	**0.62**	**28.4**	**2.02**	**267.2**	**149.7**

Notes:
1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Ore Reserve tonnes and grades reported on dry ROM (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.*
3. *Reporting was prepared on a Mineral Resource model developed by MSA.*
4. *2020 depletion as at 31 December 2020.*
5. *2021 depletion as at 31 December 2021.*
6. *The Ore Reserve estimate was based on the original pit design completed in March 2019*
7. *The Ore Reserve modifying factors were adjusted by seam from previous 31 December 2020 Ore Reserve estimate based on analysis of historical pit to plant production information.*
8. *Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.*
9. *Ore Reserve estimate compared to previous depleted Ore Reserves estimate compiled in December 2020.*
10. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*

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Table 4a: Vametco Ore Reserve at a cut-off grade of 20% magnetite, 31 December 2021 versus 31 December 2020 – Attributable Basis

Class	Seam Name	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)	Tonnes (Millions)	V_2O_5 grade of whole rock %	Magnetite grade of whole rock %	V_2O_5 grade in magnetite %	Tonnes V_2O_5 in magnetite (Thousands)	Tonnes V in magnetite (Thousands)
		31 December 2021						31 December 2020					
Probable	Upper	0.6	0.57	26.8	1.77	3.0	1.7	0.7	0.58	27.3	1.78	3.4	1.9
	Intermediate	5.0	0.52	23.4	1.88	22.2	12.4	5.0	0.53	23.8	1.87	22.5	12.6
	Lower	28.7	0.63	29.3	2.05	172.5	96.6	29.3	0.63	29.3	2.06	176.9	99.1
	Total	**34.4**	**0.62**	**28.4**	**2.02**	**197.8**	**110.7**	**35.1**	**0.62**	**28.5**	**2.02**	**202.8**	**113.6**

Notes:
1. *All tabulated data have been rounded and as a result minor computational errors may occur.*
2. *Ore Reserve tonnes and grades reported on dry ROM (plant feed) basis after mining modifying factors have been applied but before beneficiation down-stream recoveries/losses have been applied.*
3. *Reporting was prepared on a Mineral Resource model developed by MSA.*
4. *2020 depletion as at 31 December 2020.*
5. *2021 depletion as at 31 December 2021.*
6. *The Ore Reserve estimate was based on the original pit design completed in March 2019*
7. *The Ore Reserve modifying factors were adjusted by seam from previous 31 December 2020 Ore Reserve estimate based on analysis of historical pit to plant production information.*
8. *Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2021.*
9. *Ore Reserve estimate compared to previous depleted Ore Reserves estimate compiled in December 2020.*
10. *Reported on a Gross Basis. Bushveld Minerals shareholding in Bushveld Vametco Alloys is 74%.*