

03 February 2021

## **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 potential 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 Resources and Reserves estimates are based on the competent person’s statements prepared by an independent consultancy company, MSA Group as at 31 December 2019.

#### **VAMETCO MINE**

- Ore Reserves have been depleted after 12 months of mining by approximately 2% from previous Ore Reserve estimate as at 31<sup>st</sup> December 2019. Ore Reserves is reported as at the 31<sup>st</sup> December 2020 at 267,200 tonnes V<sub>2</sub>O<sub>5</sub> in magnetite at a grade of 2.02 per cent V<sub>2</sub>O<sub>5</sub> (in magnetite),
- Combined Inferred and Indicated Mineral Resource comprises 3 Seams (The Lower, Intermediate and Upper Seams) and is reported as at the 31<sup>st</sup> December 2020 at 184.2 Mt at an average grade of 1.98 per cent V<sub>2</sub>O<sub>5</sub> (in magnetite), with an average magnetite content of 35.0 per cent (in whole rock) for 709.8 thousand tonnes of contained vanadium. The combined Inferred and Indicated Mineral Resource was previously reported on the 19<sup>th</sup> January 2020 to be 185.5 Mt at an average grade of 1.98 per cent



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V<sub>2</sub>O<sub>5</sub> (in magnetite), with an average magnetite content of 35.0 per cent (in whole rock) for 714.7 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 46.4 Mt at an average grade of 2.02 per cent V<sub>2</sub>O<sub>5</sub> (in magnetite), with an average magnetite content of 28.4 per cent (in whole rock) for 149,700 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 38.8 Mt at an average grade of 2.05 per cent V<sub>2</sub>O<sub>5</sub> (in magnetite), with an average magnetite content of 29.3 per cent (in whole rock) for 130,500 tonnes of vanadium.
- The decrease in the 2020 Mineral Resource, by 0.68 per cent less tonnes than the 31<sup>th</sup> January 2019 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 ore tonnages for the previous Ore Reserve estimate in December 31<sup>st</sup> 2019 from 47.4 Mt to 46.4 Mt in December 31<sup>st</sup> 2020 is due to the depletion of lower and Intermediate seams over the 12 month period based on the pit to plant reconciled production data supplied by Vametco.



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

| Class                     | Seam Name    | Tonnes<br>(Millions) | V <sub>2</sub> O <sub>5</sub> grade of<br>whole rock<br>% | Magnetite<br>grade of<br>whole rock<br>% | V <sub>2</sub> O <sub>5</sub> grade in<br>magnetite<br>% | Tonnes V <sub>2</sub> O <sub>5</sub> in<br>magnetite<br>(Thousands) | Tonnes V in<br>magnetite<br>(Thousands) |
|---------------------------|--------------|----------------------|---|--|--|---|---|
| Indicated                 | Upper        | 5.7                  | 1.44  | 65.9                                     | 1.78   | 66.2  | 37.1                                    |
|                           | Intermediate | 27.9                 | 0.67  | 32.8                                     | 1.91   | 174.8   | 97.9                                    |
|                           | Lower        | 107.9                | 0.72  | 32.3                                     | 2.03   | 709.4   | 397.4                                   |
|                           | <b>Total</b> | <b>141.5</b>         | <b>0.74</b>   | <b>33.8</b>                              | <b>2.00</b>  | <b>950.5</b>  | <b>532.4</b>                            |
| Inferred                  | Upper        | 10.3                 | 1.46  | 63.6                                     | 1.75   | 114.8   | 64.3                                    |
|                           | Intermediate | 7.0                  | 0.67  | 32.1                                     | 1.92   | 43.3  | 24.3                                    |
|                           | Lower        | 25.4                 | 0.74  | 31.3                                     | 2.00   | 158.4   | 88.7                                    |
|                           | <b>Total</b> | <b>42.7</b>          | <b>0.90</b>   | <b>39.2</b>                              | <b>1.93</b>  | <b>316.6</b>  | <b>177.3</b>                            |
| Indicated and<br>Inferred | Upper        | 16.0                 | 1.45  | 64.4                                     | 1.76   | 181.0   | 101.4                                   |
|                           | Intermediate | 35.0                 | 0.67  | 32.7                                     | 1.91   | 218.1   | 122.2                                   |
|                           | Lower        | 133.3                | 0.72  | 32.1                                     | 2.03   | 867.9   | 486.1                                   |
|                           | <b>Total</b> | <b>184.2</b>         | <b>0.78</b>   | <b>35.0</b>                              | <b>1.98</b>  | <b>1,267.2</b>  | <b>709.8</b>                            |

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<sub>2</sub>O<sub>5</sub> grades back-calculated from concentrate, versus those derived from whole rock assays.
6. Depleted using 31 December 2020 pit survey.
7. Reported on a Gross Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.



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

| Class                  | Seam Name    | Tonnes       | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|------------------------|--------------|--------------|---|-------------------------------|--|---|-----------------------|
|                        |              | (Millions)   | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
| Indicated              | Upper        | 4.2          | 1.44  | 65.9                          | 1.78   | 49.0  | 27.4                  |
|                        | Intermediate | 20.7         | 0.67  | 32.8                          | 1.91   | 129.3   | 72.4                  |
|                        | Lower        | 79.9         | 0.72  | 32.3                          | 2.03   | 525.0   | 294.0                 |
|                        | <b>Total</b> | <b>104.7</b> | <b>0.74</b>                                       | <b>33.8</b>                   | <b>2.00</b>                                      | <b>703.4</b>                                      | <b>394.0</b>          |
| Inferred               | Upper        | 7.6          | 1.46  | 63.6                          | 1.75   | 84.9  | 47.5                  |
|                        | Intermediate | 5.2          | 0.67  | 32.1                          | 1.92   | 32.1  | 17.9                  |
|                        | Lower        | 18.8         | 0.74  | 31.3                          | 2.00   | 117.2   | 65.6                  |
|                        | <b>Total</b> | <b>31.6</b>  | <b>0.90</b>                                       | <b>39.2</b>                   | <b>1.93</b>                                      | <b>234.3</b>                                      | <b>131.2</b>          |
| Indicated and Inferred | Upper        | 11.8         | 1.45  | 64.4                          | 1.76   | 133.9   | 75.0                  |
|                        | Intermediate | 25.9         | 0.67  | 32.7                          | 1.91   | 161.4   | 90.4                  |
|                        | Lower        | 98.7         | 0.72  | 32.1                          | 2.03   | 642.2   | 359.7                 |
|                        | <b>Total</b> | <b>136.3</b> | <b>0.78</b>                                       | <b>35.0</b>                   | <b>1.98</b>                                      | <b>937.7</b>                                      | <b>525.2</b>          |

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<sub>2</sub>O<sub>5</sub> grades back-calculated from concentrate, versus those derived from whole rock assays.
6. Depleted using 31 December 2020 pit survey.
7. Reported on an Attributable Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.



## Comparative Resource Tables

| Class                  | Seam Name    | Tonnes       | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite | Tonnes           | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|------------------------|--------------|--------------|---|-------------------------------|--|---|-----------------------|------------------|---|-------------------------------|--|---|-----------------------|
|                        |              | (Millions)   | %   | %                             | %  | (Thousands)                                       | (Thousands)           | (Millions)       | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
| 31 December 2020       |              |              |   |                               |  |   |                       | 31 December 2019 |   |                               |  |   |                       |
| Indicated              | Upper        | 5.7          | 1.44  | 65.9                          | 1.78   | 66.2  | 37.1                  | 5.7              | 1.44  | 65.9                          | 1.78   | 66.3  | 37.1                  |
|                        | Intermediate | 27.9         | 0.67  | 32.8                          | 1.91   | 174.8   | 97.9                  | 28.2             | 0.67  | 32.8                          | 1.91   | 176.6   | 98.9                  |
|                        | Lower        | 107.9        | 0.72  | 32.3                          | 2.03   | 709.4   | 397.4                 | 108.8            | 0.72  | 32.3                          | 2.03   | 715.7   | 400.9                 |
|                        | <b>Total</b> | <b>141.5</b> | <b>0.74</b>                                       | <b>33.8</b>                   | <b>2.00</b>                                      | <b>950.5</b>                                      | <b>532.4</b>          | <b>142.7</b>     | <b>0.74</b>                                       | <b>33.8</b>                   | <b>2.00</b>                                      | <b>958.6</b>                                      | <b>537.0</b>          |
| Inferred               | Upper        | 10.3         | 1.46  | 63.6                          | 1.75   | 114.8   | 64.3                  | 10.4             | 1.46  | 63.5                          | 1.75   | 115.3   | 64.6                  |
|                        | Intermediate | 7.0          | 0.67  | 32.1                          | 1.92   | 43.3  | 24.3                  | 7.0              | 0.67  | 32.1                          | 1.92   | 43.3  | 24.3                  |
|                        | Lower        | 25.4         | 0.74  | 31.3                          | 2.00   | 158.4   | 88.7                  | 25.4             | 0.74  | 31.3                          | 2.00   | 158.4   | 88.7                  |
|                        | <b>Total</b> | <b>42.7</b>  | <b>0.90</b>                                       | <b>39.2</b>                   | <b>1.93</b>                                      | <b>316.6</b>                                      | <b>177.3</b>          | <b>42.8</b>      | <b>0.90</b>                                       | <b>39.2</b>                   | <b>1.93</b>                                      | <b>317.2</b>                                      | <b>177.6</b>          |
| Indicated and Inferred | Upper        | 16.0         | 1.45  | 64.4                          | 1.76   | 181.0   | 101.4                 | 16.0             | 1.45  | 64.3                          | 1.76   | 181.7   | 101.7                 |
|                        | Intermediate | 35.0         | 0.67  | 32.7                          | 1.91   | 218.1   | 122.2                 | 35.3             | 0.67  | 32.7                          | 1.91   | 220.0   | 123.2                 |
|                        | Lower        | 133.3        | 0.72  | 32.1                          | 2.03   | 867.9   | 486.1                 | 135.2            | 0.72  | 32.1                          | 2.03   | 874.1   | 489.6                 |
|                        | <b>Total</b> | <b>184.2</b> | <b>0.78</b>                                       | <b>35.0</b>                   | <b>1.98</b>                                      | <b>1,267.2</b>                                    | <b>709.8</b>          | <b>185.5</b>     | <b>0.78</b>                                       | <b>35.0</b>                   | <b>1.98</b>                                      | <b>1,275.9</b>                                    | <b>714.7</b>          |

**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<sub>2</sub>O<sub>5</sub> grades back-calculated from concentrate, versus those derived from whole rock assays.
6. 2019 depletion as at 31 December 2019.
7. 2020 depletion as at 31 December 2020.
8. Reported on a Gross Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.



**Table 2a: Vametco Mineral Resource at a cut-off grade of 20% magnetite, 31 December 2020 versus 31 December 2019 – Attributable Basis**

| Class                  | Seam Name    | Tonnes           | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite | Tonnes           | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|------------------------|--------------|------------------|---|-------------------------------|--|---|-----------------------|------------------|---|-------------------------------|--|---|-----------------------|
|                        |              | (Millions)       | %   | %                             | %  | (Thousands)                                       | (Thousands)           | (Millions)       | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
|                        |              | 31 December 2020 |   |                               |  |   |                       | 31 December 2019 |   |                               |  |   |                       |
| Indicated              | Upper        | 4.2              | 1.44  | 65.9                          | 1.78   | 49.0  | 27.4                  | 4.2              | 1.44  | 65.9                          | 1.78   | 49.0  | 27.5                  |
|                        | Intermediate | 20.7             | 0.67  | 32.8                          | 1.91   | 129.3   | 72.4                  | 20.9             | 0.67  | 32.8                          | 1.91   | 130.7   | 73.2                  |
|                        | Lower        | 79.9             | 0.72  | 32.3                          | 2.03   | 525.0   | 294.0                 | 80.5             | 0.72  | 32.3                          | 2.03   | 529.6   | 296.6                 |
|                        | <b>Total</b> | <b>104.7</b>     | <b>0.74</b>                                       | <b>33.8</b>                   | <b>2.00</b>                                      | <b>703.4</b>                                      | <b>394.0</b>          | <b>105.6</b>     | <b>0.74</b>                                       | <b>33.8</b>                   | <b>2.00</b>                                      | <b>709.4</b>                                      | <b>397.3</b>          |
| Inferred               | Upper        | 7.6              | 1.46  | 63.6                          | 1.75   | 84.9  | 47.5                  | 7.7              | 1.46  | 63.5                          | 1.75   | 85.3  | 47.8                  |
|                        | Intermediate | 5.2              | 0.67  | 32.1                          | 1.92   | 32.1  | 17.9                  | 5.2              | 0.67  | 32.1                          | 1.92   | 32.1  | 17.9                  |
|                        | Lower        | 18.8             | 0.74  | 31.3                          | 2.00   | 117.2   | 65.6                  | 18.8             | 0.74  | 31.3                          | 2.00   | 117.2   | 65.6                  |
|                        | <b>Total</b> | <b>31.6</b>      | <b>0.90</b>                                       | <b>39.2</b>                   | <b>1.93</b>                                      | <b>234.3</b>                                      | <b>131.2</b>          | <b>31.7</b>      | <b>0.90</b>                                       | <b>39.2</b>                   | <b>1.93</b>                                      | <b>234.7</b>                                      | <b>131.4</b>          |
| Indicated and Inferred | Upper        | 11.8             | 1.45  | 64.4                          | 1.76   | 133.9   | 75.0                  | 11.9             | 1.45  | 64.3                          | 1.76   | 134.4   | 75.3                  |
|                        | Intermediate | 25.9             | 0.67  | 32.7                          | 1.91   | 161.4   | 90.4                  | 26.1             | 0.67  | 32.7                          | 1.91   | 162.8   | 91.1                  |
|                        | Lower        | 98.7             | 0.72  | 32.1                          | 2.03   | 642.2   | 359.7                 | 99.3             | 0.72  | 32.1                          | 2.03   | 646.8   | 362.3                 |
|                        | <b>Total</b> | <b>136.3</b>     | <b>0.78</b>                                       | <b>35.0</b>                   | <b>1.98</b>                                      | <b>937.7</b>                                      | <b>525.2</b>          | <b>137.3</b>     | <b>0.78</b>                                       | <b>35.0</b>                   | <b>1.98</b>                                      | <b>944.1</b>                                      | <b>528.8</b>          |

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<sub>2</sub>O<sub>5</sub> grades back-calculated from concentrate, versus those derived from whole rock assays.
6. Original depletion as at 31 December 2019.
7. New depletion as at 31 December 2020.
8. Reported on an Attributable Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.



**Table 3: Vametco Ore Reserves, 31 December 2020 - Gross Basis**

| Class    | Seam Name    | Tonnes      | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|----------|--------------|-------------|---|-------------------------------|--|---|-----------------------|
|          |              | (Millions)  | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
| Probable | Upper        | 0.9         | 0.57  | 26.8                          | 1.77   | 4.1   | 2.3                   |
|          | Intermediate | 6.8         | 0.52  | 23.4                          | 1.88   | 30.0  | 16.8                  |
|          | Lower        | 38.8        | 0.63  | 29.3                          | 2.05   | 233.1   | 130.5                 |
|          | <b>Total</b> | <b>46.4</b> | <b>0.62</b>                                       | <b>28.4</b>                   | <b>2.02</b>                                      | <b>267.2</b>                                      | <b>149.7</b>          |

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 2020 using 31 December 2020 pit survey.
5. The Ore Reserve estimate was based on the original pit design, modifying factors and Ore Reserves compiled in March 2019 using Surpac Open Pit software.
6. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2020.
7. Reported on a Gross Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.

**Table 4: Vametco Ore Reserves, 31 December 2020 - Attributable Basis**

| Class    | Seam Name    | Tonnes      | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|----------|--------------|-------------|---|-------------------------------|--|---|-----------------------|
|          |              | (Millions)  | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
| Probable | Upper        | 0.6         | 0.57  | 26.8                          | 1.77   | 3.0   | 1.7                   |
|          | Intermediate | 5.0         | 0.52  | 23.4                          | 1.88   | 22.2  | 12.4                  |
|          | Lower        | 28.7        | 0.63  | 29.3                          | 2.05   | 172.5   | 96.6                  |
|          | <b>Total</b> | <b>34.4</b> | <b>0.62</b>                                       | <b>28.4</b>                   | <b>2.02</b>                                      | <b>197.8</b>                                      | <b>110.7</b>          |

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 2020 using 31 December 2020 pit survey.
5. The Ore Reserve estimate was based on the original pit design, modifying factors and Ore Reserves compiled in March 2019 using Surpac Open Pit software.
6. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2020.
7. Reported on an Attributable Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.

Comparative Reserve Tables

| <b>Table 3a: Vametco Ore Reserve at a cut-off grade of 20% magnetite, 31 December 2020 versus 31 December 2019 – Gross Basis</b> |              |             |   |                               |  |   |                       |             |   |                               |  |   |                       |
|--|--------------|-------------|---|-------------------------------|--|---|-----------------------|-------------|---|-------------------------------|--|---|-----------------------|
| Class  | Seam Name    | Tonnes      | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite | Tonnes      | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|  |              | (Millions)  | %   | %                             | %  | (Thousands)                                       | (Thousands)           | (Millions)  | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
| 31 December 2020   |              |             |   |                               |  |   | 31 December 2019      |             |   |                               |  |   |                       |
| Probable   | Upper        | 0.9         | 0.57  | 26.8                          | 1.77   | 4.1   | 2.3                   | 1.0         | 0.58  | 27.3                          | 1.78   | 4.6   | 2.6                   |
|  | Intermediate | 6.8         | 0.52  | 23.4                          | 1.88   | 30.0  | 16.8                  | 6.8         | 0.53  | 23.8                          | 1.87   | 30.4  | 17.0                  |
|  | Lower        | 38.8        | 0.63  | 29.3                          | 2.05   | 233.1   | 130.5                 | 39.6        | 0.63  | 29.3                          | 2.06   | 239.1   | 133.9                 |
|  | <b>Total</b> | <b>46.4</b> | <b>0.62</b>                                       | <b>28.4</b>                   | <b>2.02</b>                                      | <b>267.2</b>                                      | <b>149.7</b>          | <b>47.4</b> | <b>0.62</b>                                       | <b>28.5</b>                   | <b>2.02</b>                                      | <b>274.1</b>                                      | <b>153.5</b>          |

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. 2019 depletion as at 31 December 2019.
5. 2020 depletion as at 31 December 2020.
6. The Ore Reserve estimate was based on the original pit design, modifying factors and Ore Reserves compiled in March 2019 using Surpac Open Pit software.
7. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2020.
8. Ore Reserve estimate compared to previous depleted Ore Reserves estimate compiled in December 2019.
9. Reported on a Gross Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.





**Table 4a: Vametco Ore Reserve at a cut-off grade of 20% magnetite, 31 December 2020 versus 31 December 2019 – Attributable Basis**

| Class    | Seam Name    | Tonnes                  | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite | Tonnes                  | V <sub>2</sub> O <sub>5</sub> grade of whole rock | Magnetite grade of whole rock | V <sub>2</sub> O <sub>5</sub> grade in magnetite | Tonnes V <sub>2</sub> O <sub>5</sub> in magnetite | Tonnes V in magnetite |
|----------|--------------|-------------------------|---|-------------------------------|--|---|-----------------------|-------------------------|---|-------------------------------|--|---|-----------------------|
|          |              | (Millions)              | %   | %                             | %  | (Thousands)                                       | (Thousands)           | (Millions)              | %   | %                             | %  | (Thousands)                                       | (Thousands)           |
|          |              | <b>31 December 2020</b> |   |                               |  |   |                       | <b>31 December 2019</b> |   |                               |  |   |                       |
| 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                  |
|          | <b>Total</b> | <b>34.4</b>             | <b>0.62</b>                                       | <b>28.4</b>                   | <b>2.02</b>                                      | <b>197.8</b>                                      | <b>110.7</b>          | <b>35.1</b>             | <b>0.62</b>                                       | <b>28.5</b>                   | <b>2.02</b>                                      | <b>202.8</b>                                      | <b>113.6</b>          |

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. 2019 depletion as at 31 December 2019.
5. 2020 depletion as at 31 December 2020..
6. The Ore Reserve estimate was based on the original pit design, modifying factors and Ore Reserves compiled in March 2019 using Surpac Open Pit software.
7. Ore Reserve estimate depleted using Datamine Studio 5DP Open Pit software and latest topography supplied by Vametco as of 31 December 2020.
8. Ore Reserve estimate compared to previous depleted Ore Reserves estimate compiled in December 2019.
9. Reported on an Attributable Basis. Bushveld Minerals shareholding in Vametco Alloys is 74%.