# HIGH GRADE DRILL INTERSECTIONS CONTINUE AS RESOURCE ESTIMATION COMMENCES

## HIGHLIGHTS

- **All results from reserve drilling have now been received**
- **Receipt of results enables commencement of Mineral Resource update**
- **Consistent surface in situ grades of +1.0% $V_2O_5$ including:**
  - **8m at 1.24% $V_2O_5$**
  - **9m at 1.20% $V_2O_5$**
  - **10m at 1.18% $V_2O_5$**
  - **11m at 1.17% $V_2O_5$**
  - **9m at 1.17% $V_2O_5$**
  - **10m at 1.12% $V_2O_5$**
- **Results continue to demonstrate the high grade, high quality nature of the Steelpoortdrift Vanadium Project**

The management of Vanadium Resources Limited (ASX:VR8) (**VR8** or **the Company)** is pleased to announce all results have now been received from the reserve drilling programme at the Steelpoortdrift (SPD) Vanadium Project in South Africa.

The short reserve drilling program has improved the definition of mineralisation within the planned initial mining area at Steelpoortdrift and should enable an upgrade in the confidence of the Mineral Resource in this area.

Drilling focussed on the 53.4Mt of near surface mineralisation contained within the conceptual pit shell used as the basis of the Company's recent Scoping Study (refer ASX Announcement 2 May 2019).

The current Mineral Resource stands at 612 million tonnes at an in situ grade of 0.78% $V_2O_5$ in the Indicated and Inferred categories (refer Appendix 2 and ASX Announcement 16 April 2019). The resource includes a high grade, near surface component of 169 million tonnes at an in situ grade of 1.07% $V_2O_5$.

Full results are shown on Figure 1 and tabulated in Appendix 1 including:

- 8m at 1.24% $V_2O_5$ , 9.64% $TiO_2$ from 27m (VRC072)
  *within a wider interval of 44m at 0.77% $V_2O_5$ from 7m*
- 9m at 1.20% $V_2O_5$ , 9.41% $TiO_2$ from 12m (VRC073)
  *within a wider interval of 36m at 0.83% $V_2O_5$ from 0m (surface)*
- 10m at 1.18% $V_2O_5$ , 9.29% $TiO_2$ from 2m (VRC068)
  *within a wider interval of 27m at 0.87% $V_2O_5$ from 0m (surface)*
- 11m at 1.17% $V_2O_5$ , 9.40% $TiO_2$ from 0m (surface, VRC065)
  *within a wider interval of 30m at 0.87% $V_2O_5$ from 0m (surface)*
- 9m at 1.17% $V_2O_5$ , 9.27% $TiO_2$ from 8m (VRC066)
  *within a wider interval of 29m at 0.80% $V_2O_5$ from 0m (surface)*
- 10m at 1.12% $V_2O_5$ , 7.53% $TiO_2$ from 57m (VRC069)
  *within a wider interval of 29m at 0.80% $V_2O_5$ from 0m (surface)*
- 8m at 1.12% $V_2O_5$ , 7.58% $TiO_2$ from 28m (VRC060)
- 9m at 1.06% $V_2O_5$ , 7.11% $TiO_2$ from 53m (VRC071)
- 15m at 0.99% $V_2O_5$ , 6.32% $TiO_2$ from 76m (VRC057)

These results continue to show the high grade, high quality nature of the vanadiferous titanomagnetite present at Steelpoortdrift, which produces a high-quality concentrate for downstream processing to produce value added specialist products suitable for the steel, renewable energy (VRFB battery) and industrial minerals markets. The concentrate contains approximately 2.2% V2O5, 12% TiO2 and 55% Fe (ASX Announcement 18 March 2019), which commodities are sought by these markets.

The Mineral Resource for the near surface, high grade zone delineated by the reserve drilling programme will be updated in the coming weeks. The new Mineral Resource Estimate and accompanying report will form a key part of data packs being supplied to interested parties in Asia and South Africa, which the Company will continue to engage with regarding potential sale of the Steelpoortdrift concentrate, strategic investment opportunities, and collaboration to develop downstream processing options, provision of project finance, prepayments for offtake and other financial partnerships.

**For and on behalf of the board:**

Mauro Piccini

Company Secretary

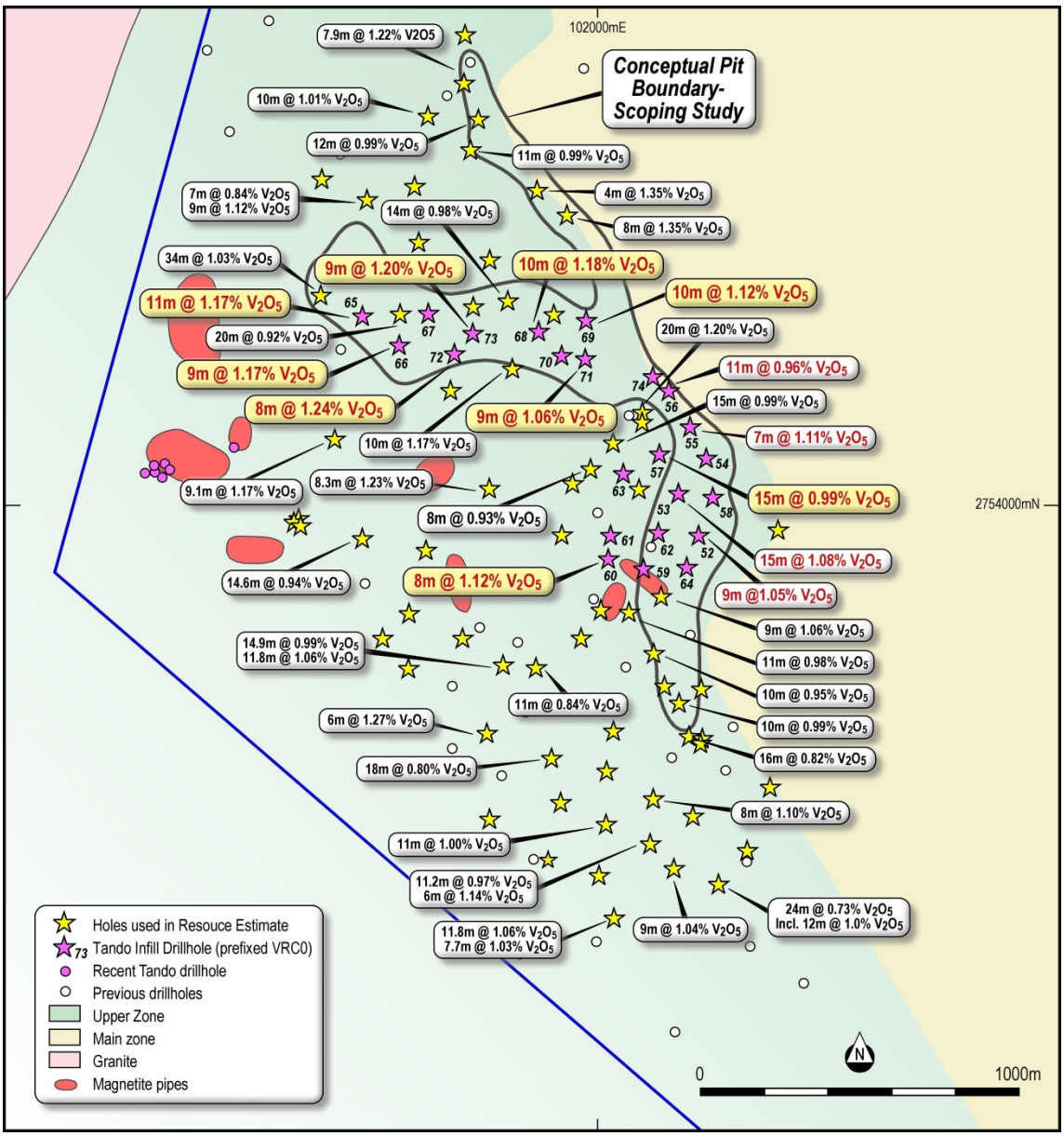


***Figure 1***. *Drilling Completed at the Steelpoortdrift Vanadium Project.*

## Competent Persons Statement

The information in this announcement that relates to Exploration Results and other technical information relating to drilling, sampling and the geological interpretation derived from the Exploration Results complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Mr Bill Oliver, the Managing Director of Vanadium Resources Ltd. Mr Oliver is a Member of the Australasian Institute of Mining and Metallurgy and the Australasian Institute of Geoscientists. He has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. Mr Oliver consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. The Exploration Results are based on standard industry practises for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in Appendix 2.

The information in this announcement that relates to Mineral Resources, including the Mineral Resources contained within the Production Target, complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and that has been compiled, assessed and created by Mr Kerry Griffin BSc.(Geology), Dip Eng Geol., a Member of the Australian Institute of Geoscientists and a Principal Consultant at Mining Plus Pty Ltd, consultants to the Company. Mr Griffin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Griffin is the competent person for the resource estimation and has relied on provided information and data from the Company, including but not limited to the geological model and database. Mr Griffin consents to the inclusion in this announcement of matters based on his information in the form and context in which it appears. Further details on the Mineral Resource can be found in the ASX Announcement dated 16 April 2019.

The Company confirms that all material assumptions and parameters underpinning the Mineral Resource Estimates and the Production Targets reported in the market announcements dated 16 April 2019 and 2 May 2019 continue to apply and have not materially changed, and that it is not aware of any new information or data that materially affects the information that has been included in this announcement. As detailed in this announcement results of the drill programme just completed will be used to update the Mineral Resource.

## Disclaimer

Some of the statements appearing in this announcement may be in the nature of forward looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which VR8 operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward looking statement. No forward looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside VR8's control.

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This announcement is not an offer, invitation or recommendation to subscribe for, or purchase securities by VR8. Nor does this announcement constitute investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision. Investors should obtain their own advice before making any investment decision.

## APPENDIX 1: Significant Drillhole Intercepts from Reserve Drilling at the Steelpoortdrift Vanadium Project

| HOLE ID | Drill Type | EAST | NORTH | EOH (m) | UNIT | INTERSECTION (whole rock) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | From (m) | Width (m) | $V_2O_5$ % | $TiO_2$ % |
| **VRC052** | RC | 802508 | 7246091 | 76 | IMZ | 32 | 17 | 0.56 | 3.90 |
| | | | | | LMZ | 65 | 9 | 1.05 | 6.43 |
| **VRC053** | RC | 802446 | 7246226 | 79 | IMZ | 35 | 15 | 0.58 | 3.99 |
| | | | | | LMZ | 62 | 15 | 1.08 | 6.53 |
| **VRC054** | RC | 802538 | 7246331 | 58 | IMZ | 23 | 17 | 0.60 | 3.59 |
| **VRC055** | RC | 802490 | 7246429 | 13 | LMZ | 0 | 11 | 0.89 | 5.05 |
| | | | | | *incl* | 4 | 7 | 1.11 | 6.19 |
| **VRC056** | RC | 802430 | 7246542 | 15 | LMZ | 0 | 11 | 0.96 | 5.99 |
| **VRC057** | RC | 802395 | 7246349 | 93 | IMZ | 30 | 23 | 0.56 | 4.00 |
| | | | | | LMZ | 76 | 15 | 0.99 | 6.32 |
| **VRC058** | RC | 802556 | 7246204 | 114 | IMZ | 60 | 22 | 0.54 | 3.87 |
| | | | | | LMZ | 101 | 12 | 0.67 | 4.27 |
| **VRC059** | RC | 802331 | 7245997 | 46 | UMZ | 0 | 24 | 0.68 | 4.75 |
| | | | | | *incl* | 18 | 6 | 1.11 | 7.37 |
| **VRC060** | RC | 802228 | 7246019 | 46 | UMZ | 3 | 33 | 0.65 | 4.63 |
| | | | | | *incl* | 28 | 8 | 1.12 | 7.58 |
| **VRC061** | RC | 802237 | 7246093 | 43 | UMZ | 0 | 36 | 0.67 | 3.81 |
| | | | | | *incl* | 27 | 9 | 0.99 | 5.96 |
| **VRC062** | RC | 802381 | 7246094 | 46 | UMZ | 5 | 3 | 0.78 | 12.3 |
| | | | | | UMZ | 16 | 25 | 0.68 | 7.16 |
| **VRC063** | RC | 802276 | 7246287 | 70 | IMZ | 36 | 10 | 0.58 | 4.11 |
| | | | | | LMZ | 53 | 11 | 0.97 | 6.08 |
| **VRC064** | RC | 802465 | 7245991 | 49 | IMZ | 10 | 19 | 0.56 | 4.07 |
| | | | | | LMZ | 40 | 8 | 0.93 | 6.07 |
| **VRC065** | RC | 801480 | 7246804 | 46 | UMZ | 0 | 30 | 0.87 | 6.63 |
| | | | | | *incl* | 0 | 11 | 1.17 | 9.40 |
| **VRC066** | RC | 801594 | 7246708 | 41 | UMZ | 0 | 29 | 0.80 | 6.41 |
| | | | | | *incl* | 8 | 9 | 1.17 | 9.27 |
| **VRC067** | RC | 801683 | 7246807 | 23 | UMZ | 0 | 14 | 0.72 | 5.67 |
| **VRC068** | RC | 802029 | 7246735 | 36 | UMZ | 0 | 27 | 0.87 | 6.50 |
| | | | | | *incl* | 2 | 10 | 1.18 | 9.29 |
| | | | | | *incl* | 21 | 5 | 0.89 | 5.93 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **VRC069** | RC | 802173 | 7246769 | 69 | IMZ | 27 | 19 | 0.55 | 4.01 |
| | | | | | LMZ | 57 | 10 | 1.12 | 7.53 |
| **VRC070** | RC | 802094 | 7246661 | 23 | UMZ | 0 | 16 | 0.72 | 5.44 |
| **VRC071** | RC | 802169 | 7246648 | 63 | UMZ | 0 | 2 | 1.04 | 8.19 |
| | | | | | IMZ | 31 | 12 | 0.57 | 4.14 |
| | | | | | LMZ | 51 | 11 | 0.96 | 6.43 |
| | | | | | *incl* | 53 | 9 | 1.06 | 7.11 |
| **VRC072** | RC | 801763 | 7246679 | 54 | UMZ | 7 | 44 | 0.77 | 6.59 |
| | | | | | *incl* | 27 | 8 | 1.24 | 9.64 |
| | | | | | *incl* | 45 | 5 | 0.89 | 6.09 |
| **VRC073** | RC | 801821 | 7246743 | 43 | UMZ | 0 | 36 | 0.83 | 6.71 |
| | | | | | *incl* | 12 | 9 | 1.20 | 9.41 |
| | | | | | *incl* | 31 | 4 | 0.96 | 6.72 |
| **VRC074** | RC | 802379 | 7246587 | 8 | LMZ | 1 | 3 | 1.05 | 6.87 |

Notes:

- All coordinates are in UTM Zone 35S (WGS 84).
- All holes are vertical (-90 dip).
- Results should be read in conjunction with the data provided in Appendix 2.

## APPENDIX 2: Mineral Resource Statement for the SPD Vanadium Project

***Table 1***. *SPD Vanadium Project Global Mineral Resource by Resource Category.*

| Category | $V_2O_5$ Cutoff | SG | Tonnes (Mt) | Whole Rock $V_2O_5$% |
|---|---|---|---|---|
| **Indicated** | 0.45% | 3.39 | 231 | 0.78 |
| **Inferred** | 0.45% | 3.40 | 380 | 0.77 |
| **Total** | | | **612** | **0.78** |

***Table 2***. *SPD Vanadium Project Mineral Resource by Zone (Indicated & Inferred).*

| Layer | $V_2O_5$ Cutoff | SG | Tonnes (Mt) | Whole Rock $V_2O_5$% |
|---|---|---|---|---|
| **Upper Zone** | 0.45% | 3.39 | 289 | 0.75 |
| **Intermediate Zone** | 0.45% | 3.40 | 123 | 0.56 |
| **Lower Zone** | 0.45% | 200 | 200 | 0.94 |
| **Total** | | | **612** | **0.78** |

***Table 3***. *SPD Vanadium Project Mineral Resource by Grade*

| $V_2O_5$ Range | Category | SG | Tonnes (Mt) | Whole Rock $V_2O_5$% |
|---|---|---|---|---|
| > 0.90% | Indicated | 3.55 | 68 | 1.05 |
| > 0.90% | Inferred | 3.56 | 102 | 1.09 |
| **Sub Total** | **> 0.90%** | | **169** | **1.07** |
| 0.45% - 0.90% | Indicated | 3.33 | 164 | 0.68 |
| 0.45% - 0.90% | Inferred | 3.35 | 279 | 0.65 |
| **Sub Total** | **0.45% - 0.90%** | | **442** | **0.66** |
| **Total** | | | **612** | **0.78** |

***Table 4***. *SPD Vanadium Project Mineral Resource within 100m of surface by Grade*

| $V_2O_5$ Range | Category | SG | Tonnes (Mt) | Whole Rock $V_2O_5$% |
|---|---|---|---|---|
| > 0.90% | Indicated | 3.55 | 53 | 1.05 |
| > 0.90% | Inferred | 3.57 | 43 | 1.09 |
| **Sub Total** | **> 0.90%** | | **97** | **1.05** |
| 0.45% - 0.90% | Indicated | 3.33 | 146 | 0.68 |
| 0.45% - 0.90% | Inferred | 3.35 | 176 | 0.66 |
| **Sub Total** | **0.45% - 0.90%** | | **322** | **0.67** |
| **Total** | | | **419** | **0.78** |

**Notes to Tables 1 - 4:** The Mineral Resource Estimate was completed using the following parameters:

- The SPD Vanadium Resource extends over a strike length of 4000m and has been drilled up to 150m vertically below surface (1100m down-dip);
- Mineralisation is hosted in a series of magnetite bearing layers near the contact between the Upper and Main Zone of the Bushveld Igneous Complex. These layers have been denoted the Upper, Intermediate and Lower Zones with average thicknesses of 19, 14 and 12m respectively. At the base of the Lower Layer there is a marker horizon of massive magnetite which is 1 – 2m thick.
- 97 drillholes (56 RC and 41 diamond core holes) were used in the resource estimate representing a total of 7608.1m of drilling. Drillhole information is listed in the ASX Announcement of 16 April 2019.
- 36 RC holes and 27 diamond core holes drilled by VR8 were included along with 20 RC holes and 1 diamond core hole drilled previously by Vanadium Resources (Pty) Ltd (**Vanres**) and 13 DD holes drilled by Vanadium Technology (Pty) Ltd, a subsidiary of Xstrata (**Vantech**). Drilling was carried out on sections spaced between 150m – 200m apart, with mineralisation intersected at approximately 150m intervals on section.
- RC drilling by VR8 and Vanres was sampled via face sampling hammer, collected by a rig mounted cyclone and split using a riffle. Diamond core drilling by VR8 sampled NQ core by splitting the core in half. Historical drilling also sampled diamond core, predominantly BQ size, by sawing in half.
- Samples were analysed at commercial laboratories (SGS, ALS) using pressed disc XRF.
- Quality control protocols for all drilling included the use of certified reference materials (CRMs), blanks and duplicates as detailed in the ASX Announcement of 16 April 2019.
- All drillholes were surveyed in both South Africa LO29 grid (WGS84 projection) and UTM Zone 35S.
- All except 2 holes were vertical. Downhole surveys have been carried to confirm no excessive deviation.
- Geological domains were constructed using a 0.20% cut-off grade.
- 3 wireframe surfaces were constructed based on the geological interpretation. Samples within the wireframe were composited to 1m intervals.
- Block grades were estimated using interpolation of the 1m composite data by the Ordinary Kriging method. Search ellipses were set based on geostatistics with search distances ranging from 180 to 1,000m along strike.
- A Surpac block model was used for the estimate with a block size of 40m X by 40m Y by 5m Z, with sub-blocking to 10mX by 10m Y by 1.25m Z.
- Bulk density values used for mineralisation are detailed in the tables above. These were sourced from SG data measurements on core.
- The numbers tabulated in Appendix 1 may not sum correctly as a result of rounding
- The deposit has been classified as Indicated and Inferred Mineral Resource based on data quality, sample spacing, geological understanding and geostatistical analysis as discussed in the ASX Announcement of 16 April 2019.

These notes should be read in conjunction with the information detailed in the ASX Announcement of 16 April 2019. The Company is not aware of any new information which materially changes this Mineral Resource, but as stated in this announcement the results of a recent infill drilling programme will be used to update the Mineral Resource.

## APPENDIX 2.

The following Tables are provided to ensure compliance with the JORC Code (2012 Edition) requirements for the reporting of Exploration Results at the SPD Vanadium Project.

### Section 1: Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Sampling techniques** | *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* | RC drilling using 5 ¼" face sampling hammer. |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | RC drilling sampled at 1m intervals<br><br>RC drilling split on site using a riffle splitter. |
| | *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | All aspects of the determination of mineralisation are described in this table.<br><br>RC drilling using these methods are considered appropriate for sampling the vanadiferous titanomagnetite unit which hosts the mineralisation.<br><br>All of the drill samples have been sent to a commercial laboratory for crushing, pulverising and chemical analysis by industry standard practises. |
| **Drilling techniques** | *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. core diameter, triple of standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc).* | RC drilling uses face sampling hammer and 5 ¼" bit sizes. |
| **Drill sample recovery** | *Method of recording and assessing core and chip sample recoveries and results assessed.* | RC drill samples are weighed to give a quantitative basis to estimation of recovery. |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | RC drilling – consistent drilling technique, cleaning of cyclone. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | No relationship observed between recovery and grade.<br><br>There is no known or reported relationship in historical drilling between sample recovery and grade. |
| **Logging** | *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* | RC drill chips are being geologically logged for the total length of the hole. Logging is recording lithology, mineralogy, alteration, veining, structure, mineralisation and weathering. Logs are coded using the company geological coding legend and entered into Excel worksheets prior to being loaded into the company database. All core is being photographed with images to be stored on the company server. Logging is appropriate and sufficiently detailed to support Mineral Resource estimates. |
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | Logging of chips is both qualitative (eg. colour) and quantitative (eg. minerals percentages). |
| | *The total length and percentage of the relevant intersections logged.* | 100% of all drilling to date by the Company has been logged. |
| **Sub-sampling techniques and sample preparation** | *If core, whether cut or sawn and whether quarter, half or all core taken.* | Sampling for all diamond core samples will be undertaken on split core, halved via a core saw. |
| | *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | RC drilling will be sampled dry and split through a riffle splitter. |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | The sampling techniques for RC drilling are of consistent quality and appropriate. |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | To ensure representivity sampling followed the same methodology at all times, with field duplicates taken and inserted. Certified Reference Materials (CRMs) were selected to be similar in chemistry to the mineralisation being targeted. |
| | *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* | One field duplicate is collected per 20 samples in addition to laboratory duplicates which were also reported. |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | The material and sample sizes are considered appropriate given the magnetite unit being sampled. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Quality of assay data and laboratory tests** | *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* | The samples were sent to ALS Johannesburg, an ISO accredited commercial laboratory, for preparation and whole rock analysis. All samples were analysed by XRF fusion for Al2O3, As, Ba, CaO, Cl, Co, Cr2O3, Cu, Fe, K2O, MgO, Mn, Na2O, Ni, P, Pb, S, SiO2, Sn, Sr, TiO2, V, Zn and Zr as well as loss on ignition.<br><br>Davis Tube analysis was carried out by SGS Laboratories Johannesburg, an ISO accredited commercial laboratory. Davis Tube analysis carried out at magnetic field of 1000G with magnetic and non-magnetic fractions analysed by XRF fusion for Fe, TiO2, V2O5, P2O5, SiO2, Al2O3, CaO, Cr2O3, MgO, MnO, Na2O, K2O and loss on ignition. |
| | *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* | Hand held assay devices have not been reported. |
| | *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | For RC drilling QA/QC samples are inserted every 10 samples. These alternate between a CRM & blank, and a field duplicate.<br><br>CRM are sourced from an accredited source and are of similar material to the mineralisation being sampled.<br><br>QA/QC samples are checked following receipt of each assay batch to confirm acceptable accuracy and precision. |
| **Verification of sampling and assaying** | *The verification of significant intersections by either independent or alternative company personnel.* | Assay results and intersections have been reviewed by independent geological consultants. |
| | *The use of twinned holes.* | Twinned holes are being drilled as part of the drilling programme. |
| | *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | Primary data is collected in the field and entered into Excel worksheets prior to being loaded into a database managed by an independent consultant. |
| | *Discuss any adjustment to assay data.* | Analytical result for V converted to $V_2O_5$ by multiplying by 1.785. |
| **Location of data points** | *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral* | Location data has been recorded by handheld GPS (±5m accuracy on easting and northing) and will be regularly checked by survey by a licensed surveyor. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *Resource estimation.* | Drillhole deviation for drilling is being measured via in-rod surveys during drilling. |
| | *Specification of the grid system used.* | The grid system for the SPD Vanadium Project is UTM Zone 35 S (WGS 84 Datum). |
| | *Quality and adequacy of topographic control.* | Good, based on recent UAV and heliborne surveys. |
| **Data spacing and distribution** | *Data spacing for reporting of Exploration Results.* | Drilling to date over the SPD Vanadium Prospect is on approximately 150m - 300m centres east-west and 300m -450m centres north-south over the mineralised body. |
| | *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* | Data spacing is deemed sufficient to establish geological and grade continuity to establish a mineral resource estimate, refer ASX Announcement 16 April 2019. |
| | *Whether sample compositing has been applied.* | No sample compositing has been applied. |
| **Orientation of data in relation to geological structure** | *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* | The majority of the drilling at the SPD Vanadium Project is inclined to the north-east which is considered appropriate given the regional and local geological stratigraphy. |
| | *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | To date, orientation of the mineralised domain has been favourable for perpendicular drilling and sample widths are not considered to have added a significant sampling bias. |
| **Sample security** | *The measures taken to ensure sample security.* | Samples are stored at a secure yard. Samples are then delivered to the assay laboratory in Johannesburg by representatives of the Company. |
| **Audits or reviews** | *The results of any audits or reviews of sampling techniques and data.* | No independent audits have been undertaken. |

## Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Mineral tenement and land tenure status** | *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* | The SPD Project comprises a Mining Right covering the farm Steelpoortdrift 365 KT. |
| | *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | The tenure is in good standing. |
| **Exploration done by other parties** | *Acknowledgment and appraisal of exploration by other parties.* | The Project has previously been explored for magnetite-hosted Fe-V-Ti deposits. |
| **Geology** | *Deposit type, geological setting and style of mineralisation.* | Vanadium mineralisation at the SPD Project is located close to the contact between the Upper Zone and Main Zone of the Bushveld Igneous Complex and adjacent to the Steelpoort Fault. Mineralisation is hosted in two layers, the Upper Magnetite Layer (UML) and Lower Magnetite Layer (LML), which dip shallowly (10-12deg) to the west. |
| **Drill hole Information** | *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>• *easting and northing of the drill hole collar*<br>• *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>• *dip and azimuth of the hole*<br>• *down hole length and interception depth*<br>• *hole length.* | Refer Appendix 1. |
| | *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | Not applicable, information has been included. |
| **Data aggregation methods** | *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* | All results > 0.5% $V_2O_5$ have been averaged weighted by downhole length, and inclusive of a maximum of 2m internal waste. Davis Tube results are reported for the same intervals as the whole |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | rock analyses. |
| | *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* | High grade intervals > 1% $V_2O_5$ and 1.5% $V_2O_5$ have also been reported. No internal waste used for these. |
| | *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No metal equivalent values are being used for reporting exploration results. |
| **Relationship between mineralisation widths and intercept lengths** | *These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | Downhole lengths reported, true widths not known at this time. |
| **Diagrams** | *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | Appropriate diagrams are shown in the text. |
| **Balanced reporting** | *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | All results > 0.5% $V_2O_5$ included. |
| **Other substantive exploration data** | *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | Exploration data is contained in previous ASX Announcements. |
| **Further work** | *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br><br>*Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this* | As detailed in the text – infill drilling has commenced and will inform a Mineral Resource update. This will then be used as the basis of a PFS. |

| Criteria | JORC Code explanation | Commentary |
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| | *information is not commercially sensitive.* | |