

## **QUARTERLY ACTIVITIES REPORT – OCTOBER 2019**

### **HIGHLIGHTS**

- ◆ **First Asian marketing tour concluded, including meetings with Chinese, Korean and Japanese participants in the vanadium market**
- ◆ **Substantial interest due to the world class nature of the Steelpoortdrift Vanadium Project – specifically its high grade and substantial tonnage**
- ◆ **Samples being sent to be tested by both potential customers and independent testing facilities**
- ◆ **Reserve drilling successfully completed with first results including consistent high in situ grades of +1.0% V<sub>2</sub>O<sub>5</sub> in LMZ.**
- ◆ **All samples have now been submitted for analysis with results to be used to upgrade the Mineral Resource within the initial mining area**
- ◆ **Accelerated acquisition of the Company's interest in the Steelpoortdrift vanadium project completed**
- ◆ **Change of company name, ASX code and branding completed**
- ◆ **Mr Nico van der Hoven and Mr Jurie Wessels appointed to the board**
- ◆ **Comprehensive strategy underway to fast-track further development of the VanRes Steelpoortdrift project and assess optimal processing options**

## ASIAN MARKETING TOUR

The Company took part in meetings with participants in the vanadium market from China, Korea and Japan including attendance at the International Vanadium Summit. Entities included vanadium battery makers, vanadium pentoxide producers, producers of high purity vanadium (such as vanadium electrolyte), steel makers, trading houses and research facilities.

There was substantial interest in the Company's world class Steelpoortdrift Vanadium Project due to the high grade (+2% V<sub>2</sub>O<sub>5</sub>) concentrate which can be produced by simple beneficiation and the size of the Mineral Resource that makes a long life of mine possible (refer ASX Announcements 18 March 2019 and 16 April 2019). Discussions focussed on immediate uses for concentrate, strategic investment opportunities, and collaboration to develop downstream processing options, provision of project finance, prepayments for offtake and other financial partnerships.

With environmental and community approvals in place and the grant of a WULA (Water Use Licence Application) pending, VR8 is in a unique position of being able to fast track production of vanadium concentrate which provides both concentrate sales and the front end of a value adding V<sub>2</sub>O<sub>5</sub> process line. Therefore, commencement of concentrate production would enable rapid development of downstream processing solutions to be carried out either by the Company or by strategic investor parties.



Figure 1. VR8 poster at the International Vanadium Summit.

In particular there was interest from a leading China-based vanadium redox flow battery manufacturer with testing planned on samples to be provided by the Company prior to further discussions on both supply of product, collaboration on vanadium electrolyte production and strategic alliances to produce Vanadium flow batteries. In addition, the variety of products sought by participants in the vanadium market confirmed to the board that a wider range of products is a strategic advantage in building a viable project and that low cost options to generate specialist vanadium as well as other products, such as iron and titanium, must be expedited.

Given this interest, VR8 is continuing discussions with multiple parties and has supplied both run of mine (RoM) and concentrate samples to various parties to enable these parties to complete test work to confirm the superior characteristics of Steelpoortdrift concentrate and to conduct test work to develop downstream processing options for the production of specialist vanadium, iron and titanium products.

In addition, proposals have been received from independent testing facilities within China recommended by a number of industry professionals to verify the attributes of the Company's concentrate and the implications for recovery, CAPEX and OPEX in downstream V<sub>2</sub>O<sub>5</sub> production. Data from this test-work will assist various parties to determine the level of interest in the Company.

The Company plans to return to China for follow up meetings with interested parties and to observe results from the testing of the Company's samples. The Company anticipates that these tests will confirm the high value of the concentrate from Steelpoortdrift and that commercial discussions will then commence.



**Figure 2.** Concentrate (LH) and RoM (RH) samples prior to despatch to China.

## RESERVE DRILLING SUCCESSFULLY COMPLETED

During the Quarter the Company completed a short campaign of reserve drilling at the Steelpoortdrift Vanadium Project. The programme comprised 23 holes for 1,154 metres (refer ASX Announcement 25 October 2019) and focussed on the near surface mineralisation within the conceptual pit shell used as the basis of the Company's recent Scoping Study. 53.4Mt of mineralisation is contained within this pit shell (refer ASX Announcement 2 May 2019).

The reserve drilling was planned to improve the definition of mineralisation in this zone and should enable an upgrade in the confidence of the Mineral Resource in this area.

The current Mineral Resource stands at 612 million tonnes at an in situ grade of 0.78% V<sub>2</sub>O<sub>5</sub> in the Indicated and Inferred categories (refer 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<sub>2</sub>O<sub>5</sub>.

First results were released in the ASX Announcement of 25 October 2019 and include:

- 15m at 1.08% V<sub>2</sub>O<sub>5</sub> , 6.53% TiO<sub>2</sub> from 62m (VRC053)
- 11m at 0.96% V<sub>2</sub>O<sub>5</sub> , 5.99% TiO<sub>2</sub> from surface (VRC056)
- 9m at 1.05% V<sub>2</sub>O<sub>5</sub> , 6.43% TiO<sub>2</sub> & 55% Fe from 65m (VRC052)
- 7m at 1.11% V<sub>2</sub>O<sub>5</sub> , 6.19% TiO<sub>2</sub> from 4m (VRC055)

All samples from the reserve drilling programme have now been delivered to the laboratory for analysis, with results from these samples to be used to update the Mineral Resource for the Steelpoortdrift Vanadium Project.





*Figure 2. Drilling at the Steelpoortdrift Vanadium Project.*

## **ACCELERATED ACQUISITION OF STEELPOORTDRIFT VANADIUM PROJECT**

As detailed in the June 2019 Quarterly Activities Report the Company issued shares and options to enable it to acquire 50% of the Steelpoortdrift Vanadium Project with the acquisition of the balance up to 73.95% being subject to approval under S11 of the South African Mineral and Petroleum Resources Development Act 2002.

As part of the accelerated acquisition of the maximum ownership permitted to the Company of the Steelpoortdrift Vanadium Project respected industry professionals Nico van der Hoven (current Chairman of JSE listed chrome producer Bauba Platinum with substantial experience developing and marketing commodities worldwide) and Jurie Wessels (who has significant experience in project identification and managing AIM and JSE listed resources companies) joined the board of VR8 in July.

## **APPOINTMENT OF MASTERMINES AS ASIAN MARKETING CONSULTANTS**

At the start of the Quarter Asia focussed commodity marketing advisors Mastermines was appointed to assist in the development of strategic commercial relationships with potential partners in the development of the Steelpoortdrift Vanadium Project.

The appointment of Mastermines is anticipated to both aid the development of the entire Steelpoortdrift project, and to specifically assist the Company in identifying suitable consumers of vanadium, titanium and iron products in each of these markets in Asia who could represent customers or potential partners in the development of the project.

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

Mauro Piccini

Company Secretary

### Tenement Table: ASX Listing Rule 5.3.3

#### Mining tenement interests held at the end of the quarter and their location

PERMIT NAME	PERMIT NUMBER	REGISTERED HOLDER / APPLICANT	AREA IN km <sup>2</sup>	PERMIT STATUS	PERMIT EXPIRY	INTEREST / CONTRACTUAL RIGHT
<b>Pilbara Region, Western Australia</b>						
Quartz Bore	E47/3352	VMS Resources Pty Ltd	15	Granted	21/12/2021	100%
Mt Sydney	E45/4939	Tando Resources Ltd	508	Granted	13/11/2023	100%
<b>Limpopo Region, South Africa</b>						
Steelpoortdrift KT365	10095MR	Vanadium Resources (Pty) Ltd	24.6	Granted	04/09/2048	Right to own 73.95%

#### The mining tenement interests relinquished during the quarter and their location

E52/3560 (Pilbara Region, Western Australia).

#### The mining tenement interests acquired during the quarter and their location

Nil.

#### Beneficial percentage interests held in farm-in or farm-out agreements at the end of the quarter

Not applicable.

#### Beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter

Nil.

### 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 the ASX Announcements referred to in the text.

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: Mineral Resource Statement for the SPD Vanadium Project

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

Category	V <sub>2</sub> O <sub>5</sub> Cutoff	SG	Tonnes (Mt)	Whole Rock V <sub>2</sub> O <sub>5</sub> %
Indicated	0.45%	3.39	231	0.78
Inferred	0.45%	3.40	380	0.77
<b>Total</b>			<b>612</b>	<b>0.78</b>

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

Layer	V <sub>2</sub> O <sub>5</sub> Cutoff	SG	Tonnes (Mt)	Whole Rock V <sub>2</sub> O <sub>5</sub> %
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
<b>Total</b>			<b>612</b>	<b>0.78</b>

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

V <sub>2</sub> O <sub>5</sub> Range	Category	SG	Tonnes (Mt)	Whole Rock V <sub>2</sub> O <sub>5</sub> %
> 0.90%	Indicated	3.55	68	1.05
> 0.90%	Inferred	3.56	102	1.09
<b>Sub Total</b>	<b>&gt; 0.90%</b>		<b>169</b>	<b>1.07</b>
0.45% - 0.90%	Indicated	3.33	164	0.68
0.45% - 0.90%	Inferred	3.35	279	0.65
<b>Sub Total</b>	<b>0.45% - 0.90%</b>		<b>442</b>	<b>0.66</b>
<b>Total</b>			<b>612</b>	<b>0.78</b>

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

V <sub>2</sub> O <sub>5</sub> Range	Category	SG	Tonnes (Mt)	Whole Rock V <sub>2</sub> O <sub>5</sub> %
> 0.90%	Indicated	3.55	53	1.05
> 0.90%	Inferred	3.57	43	1.09
<b>Sub Total</b>	<b>&gt; 0.90%</b>		<b>97</b>	<b>1.05</b>
0.45% - 0.90%	Indicated	3.33	146	0.68
0.45% - 0.90%	Inferred	3.35	176	0.66
<b>Sub Total</b>	<b>0.45% - 0.90%</b>		<b>322</b>	<b>0.67</b>
<b>Total</b>			<b>419</b>	<b>0.78</b>

**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.
- Further infill drilling will increase geological and grade data quality and possibly upgrade resource categories and supply data required for higher level mining studies.

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.