

23 November 2018

4th Drilling Rig Mobilised to drill High-Grade Pipes at SPD Vanadium Project



Figure 1. Drilling equipment being slung into place.

Tando Resources (ASX: TNO, **Tando** or **the Company**) is pleased to announce that it has mobilised a 4th drilling rig being a heliborne drill rig to drill the high grade vanadium pipes at its SPD Vanadium Project in South Africa.

This follows the completion of an initial phase of drilling at the Cluster 1 vanadium pipe target. A total of 13 holes were completed with assays anticipated in coming weeks.

The heliborne rig was moved onto site yesterday to drill the Cluster 5 target, which returned the highest grades in surface sampling (refer ASX Announcement 5 July 2018 and Figure 2). The Company has elected



to utilise a heliborne rig to drill cluster 5, which sits outside the main SPD deposit, where it will be able to assess the results prior to committing capital for the construction of additional road infrastructure.

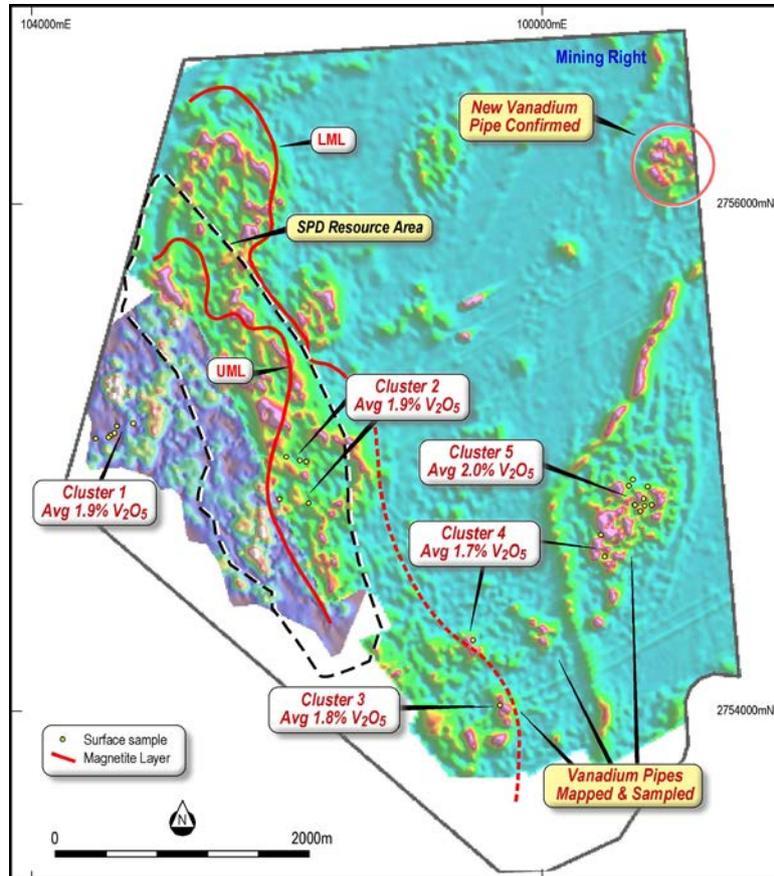


Figure 2. Magnetic image showing location of Vanadium Pipes at the SPD Project.

In parallel with the drill testing of the pipes the Company is continuing its Phase 2 drilling programme onsite with 3 rigs continuing to be active. The Phase 2 drill programme aims to increase the confidence in the SPD deposit, where there is currently a resource of 513 million tonnes at a grade of 0.78% V_2O_5 defined under the SAMREC code. This resource is a “foreign resource” (as defined in the ASX Listing Rules and detailed in Appendix 1 below) with estimation of a maiden JORC resource in progress.

The cost to complete the entire Phase 1 and Phase 2 drilling programme and the resultant resource estimations is fully funded from existing cash reserves. The Company is also fully funded for the metallurgical and mining studies which will follow completion of the drilling programme.

Background on the SPD Vanadium Project

Global vanadium projects are summarised in Figure 4. Currently approximately 85% of the world’s vanadium is produced in China, Russia and South Africa. The SPD Vanadium Project is located in one of these producing



regions and has the potential to be globally significant based on its tonnage and grade in concentrate (Figure 3).

The SPD Vanadium Project is located in a similar geological setting to the mining operations of Rhovan (Glencore), Vametco (Bushveld Minerals) and Mapochs in the Gauteng and Limpopo provinces of South Africa (Figure 4). Both the Rhovan and Vametco processing plants include refining to generate products used in the global steel making industry and aim to develop downstream processing to produce materials used in the battery market. The SPD Vanadium Project is located only 30km from the currently dormant Mapochs mine which has a processing plant and railway infrastructure.

The region around the SPD Vanadium Project contains critical infrastructure such as:

- High voltage power lines and sub stations operated by the state provider ESKOM,
- Water resources including the De Hoop Dam 15km south of the project,
- Rail links,
- Sealed roads around the project area,
- Mining service companies and support business in the immediate area,
- Available skilled workforce within the local community and the region.

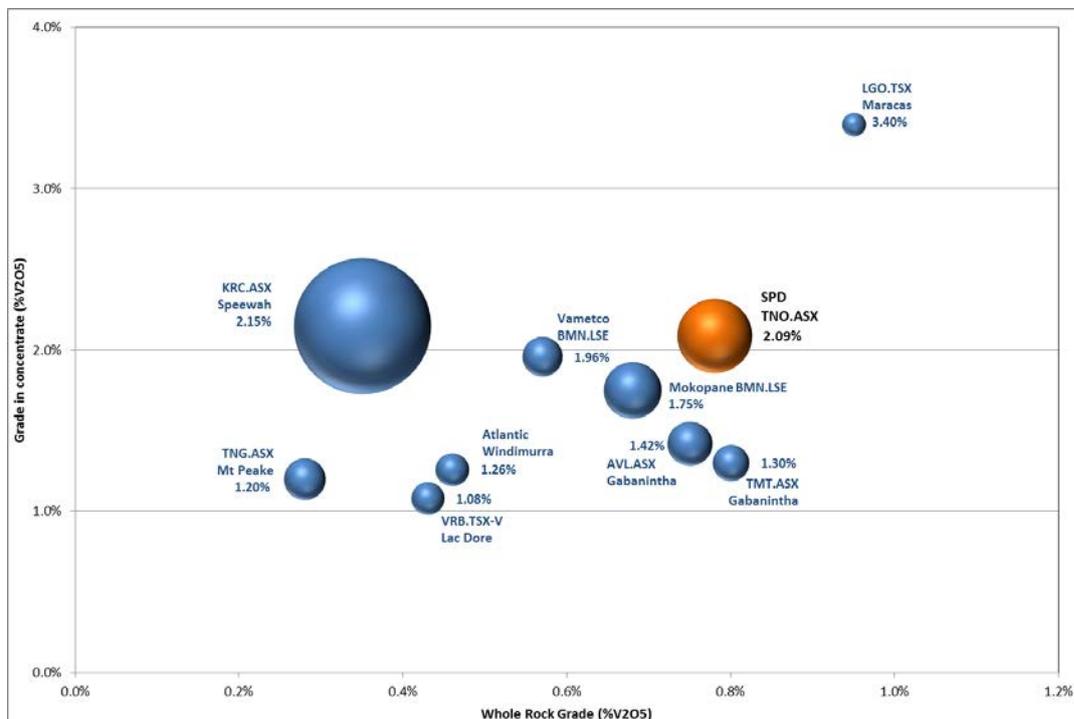


Figure 3. Global vanadium projects categorised by resource grade and grade in concentrate. Label states concentrate grade based on reported testwork. Bubble size denotes tonnage. Tonnes and grade based on reported total resources, due to different host exchanges these are reported under differing reporting regimes (JORC, 43-101 or SAMREC). Source: Company websites, ASX / TSX / LSE announcements.

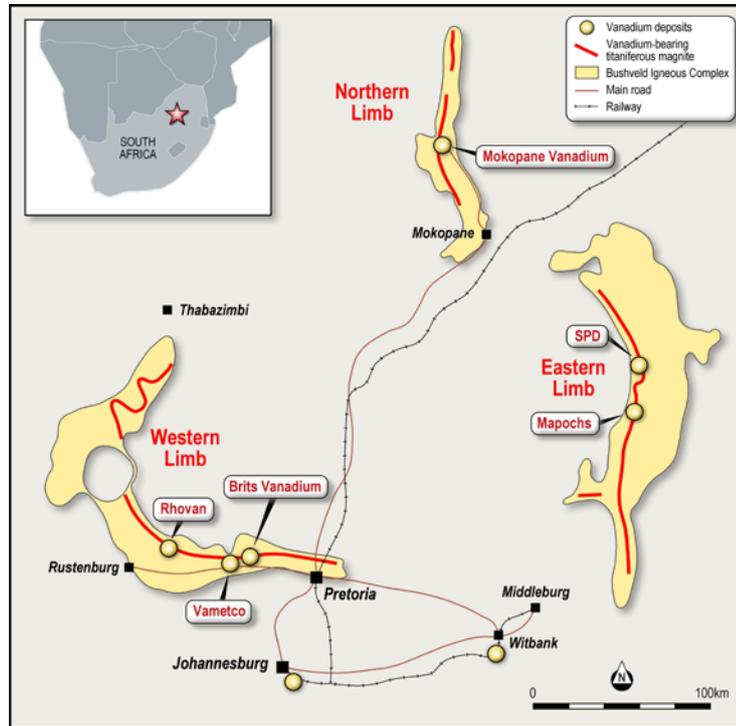


Figure 4. Location of the SPD Vanadium Project and other vanadium deposits in the Bushveld Igneous Complex.

Background on Vanadium

The Company has targeted vanadium as a commodity of interest due to its usage in energy storage, specifically vanadium redox flow batteries (**VRFB**). It is anticipated that forecast increase in battery usage for large scale energy storage will lead to a significant increase in the demand for vanadium. VRFB technology was developed in Australia and has the following advantages:

- a substantially longer lifespan than most current batteries (up to 20 years),
- being able to hold charge for a substantial time (up to 12 months),
- the ability to discharge 100% of its charge without damage,
- scalability to enable larger scale storage facilities to be constructed, and
- greater chemical stability as only a single element is present in the electrolyte.

These features make VRFBs attractive for household or small town sized energy storage requirements. According to research conducted by Lazard (NYSE.LAZ) VRFB's already have a levelised cost of storage that exceeds Li-ion battery storage by 26% to 32% on a comparative basis (full report available at <https://www.lazard.com/perspective/>). Current VRFB facilities in usage or in development are located in China and Japan with development of further facilities constrained by an absence of supply of "battery grade" V_2O_5 .

The price for >98% Vanadium Pentoxide (V_2O_5), a more commonly traded intermediate product, has increased from US\$3.50/lb at the start of 2017 and approximately US\$10/lb at the start of 2018 to current prices at and above US\$30/lb (fob China, source: Metal Bulletin).



Current day demand for vanadium arises from its use in steel making. Vanadium is principally used to add strength via various alloys as well as other speciality uses. This usage accounts for over 90% of current vanadium demand in today's market (with the balance supplying chemical usages). Demand from steel makers is forecast to increase with the recent implementation of stricter standards on the strength of steel to be used in construction (specifically rebar).

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Competent Persons Statement

The information in this announcement that relates to Exploration Results and other technical information 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 Tando 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 2012 Edition of 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.

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APPENDIX 1.

The resource for the SPD Vanadium Project as shown in Table 1 was estimated by GEMECS Pty Ltd based on all available drilling data in accordance with the SAMREC Code (2007) and is therefore a “qualifying foreign resource estimate” as defined in the ASX Listing Rules (further detail below and in the ASX Announcement of 22 March 2018). The resource was classed as inferred under the SAMREC Code. Bill Oliver, Managing Director of Tando, is acting as the Competent Person and has reviewed reports and data compiled and used in the resource estimation. The authors of the report on the 2010 exploration activities and resource estimate have confirmed that there are no material changes to the resource or underlying data since the date of the report (June 2010), and that the information presented here is consistent with the data it reported.

Table 1. SPD Vanadium Project resource (classed as inferred under the SAMREC Code).

Reef	Avge Thickness (m)	Tonnes (Mt)	Whole Rock V ₂ O ₅ %	Mt%	Magnetite Tonnes	V ₂ O ₅ % in Magnetite
Upper Layer	24	184.2	0.73	42.4	78.1	1.99
Lower Layer	22	329.1	0.81	41.6	136.0	2.20
Averages & Totals	23	513.3	0.78	41.9	215.0	2.09

Table 1 Notes: While this foreign resource is not reported in compliance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**), it is the Company’s opinion (and the opinion of the Competent Person for this document), that the data quality and validation criteria, as well as the resource methodology and check procedures, are reliable and consistent with criteria as defined by the JORC Code. All tabulated data has been rounded to one decimal place for tonnage and two decimal places for grades. %V₂O₅ is derived from XRF analysis by multiplying %V by 1.785.

The resource for the SPD Vanadium Project is based on two phases of drilling detailed in the ASX Announcement of 22 March 2018 (also refer Figure 1). Initial exploration by Vantech in 1997 comprised 16 diamond core drill holes for 1051.6m as well as detailed geological mapping. Exploration by VanRes comprised 23 RC drillholes for 1,073m and 2 diamond core drillholes for 278m drilled in 2010. Best whole-rock drilling results from the SPD Vanadium Project include:

- 9m at 1.34% V₂O₅ + 10.5% TiO₂ from 9m (SFR019)
- 13m at 1.13% V₂O₅ + 7.43% TiO₂ from 10m (SFR017)
- 14m at 1.08% V₂O₅ + 7.07% TiO₂ from 9m (SFR013)
- 20m at 0.96% V₂O₅ + 8.35% TiO₂ from 11m (SFR011)
- 15m at 0.92% V₂O₅ + 6.44% TiO₂ from 8m (SFR018)
- 12.2m at 0.90% V₂O₅ from 127.2m & 26.9m at 0.80% V₂O₅ from 43.1m (SFDD001)

Drill samples were passed through a Davis Tube to obtain a magnetic concentrate. Vanadium and titanium content analyses in the concentrate are very consistent, **averaging 2% V₂O₅ and 13% TiO₂** (ASX Announcement 22 March 2018).

The Competent Person has not yet completed sufficient review on the qualifying foreign resource estimate to classify it in accordance with the JORC Code at this time and consequently it is uncertain that, following evaluation and/or further exploration work that the qualifying foreign resource estimate will be able to be reported as a Mineral Resource in accordance with the JORC Code. As detailed in this announcement the Company has implemented a drilling programme to establish a Mineral Resource and is carrying out further drilling aimed at increasing the confidence in the Mineral Resource.