



**ACQUISITION OF WORLD CLASS  
SPD VANADIUM PROJECT**

**March 2018**

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# Transaction Highlights



1  
2  
3  
4  
5  
6

## World-class Vanadium Asset

- Numerous drill intersections greater than 1%  $V_2O_5$  with concentrate grade averaging 2%+
- SPD Vanadium Project is a globally significant, high-grade Vanadium deposit located in an established producing region.



## Substantial resource

- Existing inferred resource of 513Mt at 0.78%  $V_2O_5$  (foreign resource under SAMREC)
- Drilling program to commence imminently to convert resource to JORC Code.
- Significant diamond hole & RC drill database to draw upon.



## Unmatched grade profile versus peers

- SPD Vanadium Project grade profile is one of the highest of all ASX-listed vanadium projects.
- Grade in concentrate averaging 2%  $V_2O_5$  and 13%  $TiO_2$ .
- Shallow mineralisation coupled with simple geology.



## Located near to existing infrastructure

- Significant regional infrastructure surrounding SPD Vanadium Project including road, rail & power.
- Nearby existing vanadium processing operations – Glencore (Rhovan) & Vametco (Bushveld).



## Attractive terms

- Staged acquisition (primarily back-ended) via project milestone completion.
- Transaction implies a value of circa \$9 million.
- See "Terms of Acquisition" slide for further details



## Well funded with balance sheet flexibility

- Following completion of the Placement Tando will have cash reserves of circa \$5.3 million.
- Potential for circa \$3 million of future equity funding via in-the-money options.
- Unencumbered resource offers off-take opportunities.



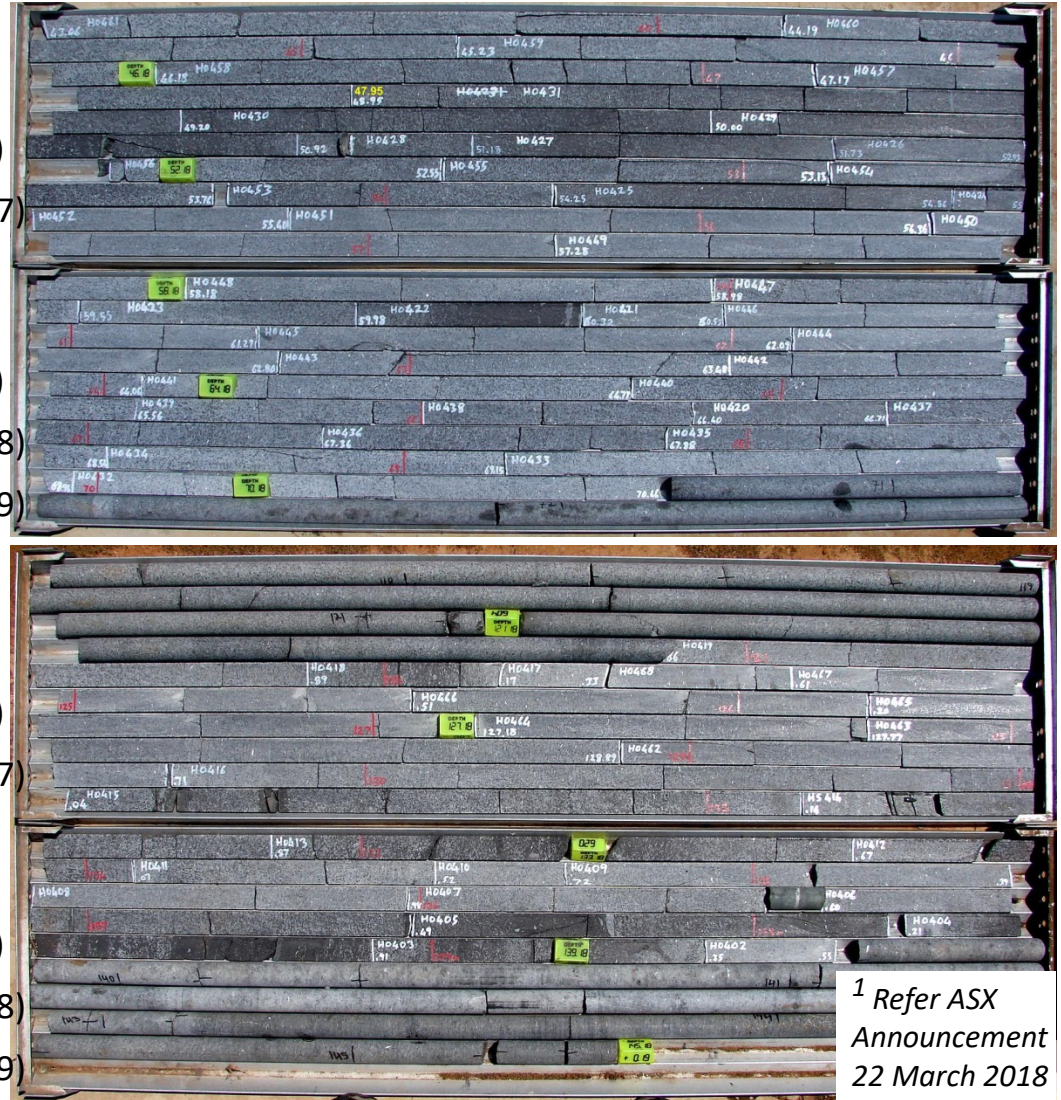
# High Grade Vanadium in Drilling

## Significant Whole Rock Results include<sup>1</sup>:

- 9m at 1.34% V<sub>2</sub>O<sub>5</sub> + 10.5% TiO<sub>2</sub> from 9m (SFR019)
- 14m at 1.08% V<sub>2</sub>O<sub>5</sub> + 7.07% TiO<sub>2</sub> from 9m (SFR013)
- 13m at 1.13% V<sub>2</sub>O<sub>5</sub> + 7.43% TiO<sub>2</sub> from 10m (SFR017)
- 26.9m at 0.80% V<sub>2</sub>O<sub>5</sub> from 43.1m  
& 12.2m at 0.90% V<sub>2</sub>O<sub>5</sub> from 127.2m (SFDD001)
- 15m at 0.92% V<sub>2</sub>O<sub>5</sub> + 6.44% TiO<sub>2</sub> from 8m (SFR018)
- 44m at 0.66% V<sub>2</sub>O<sub>5</sub> + 4.24% TiO<sub>2</sub> from 35m (SFR008)
- 34m at 0.65% V<sub>2</sub>O<sub>5</sub> + 4.58% TiO<sub>2</sub> from 23m (SFR009)

## Concentrates from above intersections return<sup>1</sup>:

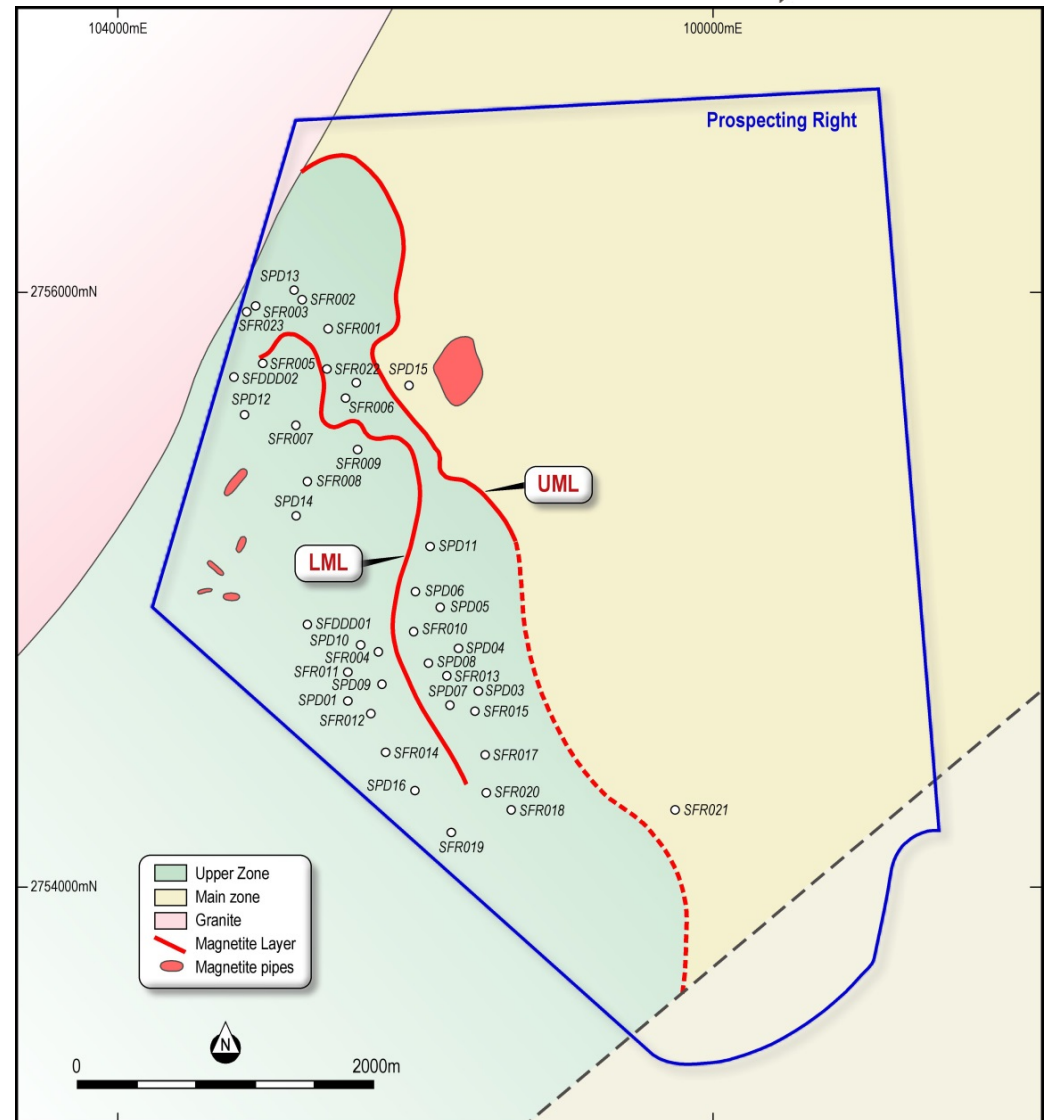
- 9m at 2.03% V<sub>2</sub>O<sub>5</sub> + 14.2% TiO<sub>2</sub> from 9m (SFR019)
- 14m at 2.36% V<sub>2</sub>O<sub>5</sub> + 12.8% TiO<sub>2</sub> from 9m (SFR013)
- 13m at 2.28% V<sub>2</sub>O<sub>5</sub> + 12.9% TiO<sub>2</sub> from 10m (SFR017)
- 26.9m at 1.93% V<sub>2</sub>O<sub>5</sub> from 43.1m  
& 12.2m at 2.10% V<sub>2</sub>O<sub>5</sub> from 127.2m (SFDD001)
- 15m at 2.28% V<sub>2</sub>O<sub>5</sub> + 12.1% TiO<sub>2</sub> from 8m (SFR018)
- 44m at 2.26% V<sub>2</sub>O<sub>5</sub> + 11.8% TiO<sub>2</sub> from 35m (SFR008)
- 34m at 2.20% V<sub>2</sub>O<sub>5</sub> + 12.3% TiO<sub>2</sub> from 23m (SFR009)



<sup>1</sup> Refer ASX  
Announcement  
22 March 2018

# Simple, magnetite-hosted mineralisation

- Two magnetite units averaging 23m thick
  - Upper Magnetite Layer (UML)
  - Lower Magnetite Layer (LML)
- Both units outcrop in project area => near surface mineralisation
- Located at base of Upper Zone of Bushveld Complex
- **42 holes drilled for 2398.6 metres (RC & DD)**



<sup>1</sup> Refer ASX Announcement 22 March 2018

# SAMREC Inferred Resource



Reef	Avg Thickness (m)	Tonnes (Mt)	Whole Rock V <sub>2</sub> O <sub>5</sub> %	Mt%	Magnetite Tonnes	V <sub>2</sub> O <sub>5</sub> % 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

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.

- The resource for the SPD Project as shown in Table 1 is estimated in accordance with the SAMREC Code (2007) and is therefore a “qualifying foreign resource estimate” as defined in the ASX Listing Rules. Further information regarding the qualifying foreign resource is presented in the ASX Announcement of 22 March 2018 utilising the template prescribed by the JORC Code (2012).
- Bill Oliver, Managing Director of Tando, is acting as the Competent Person for the Mineral Resource and has reviewed reports and data compiled by GEMECS Pty Ltd, independent geological consultants. GEMECS implemented the 2010 drill programme for Vanadium Resources (Pty) Ltd and the estimation of the resource presented here, including supervision of all drilling and sampling. GEMECS has confirmed that there are no material changes to the resource or underlying data since it was estimated in June 2010, and has confirmed that the information presented in this announcement is consistent with the data it reported to Vanadium Resources (Pty Ltd)
- 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.
- The Company plans to carry out further assessment and due diligence on the Mineral Resource, and then to implement a drilling programme to verify the Mineral Resource and, provided results are consistent with previous drilling, aim to increase the confidence in the Mineral Resource.

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# Site visit in progress



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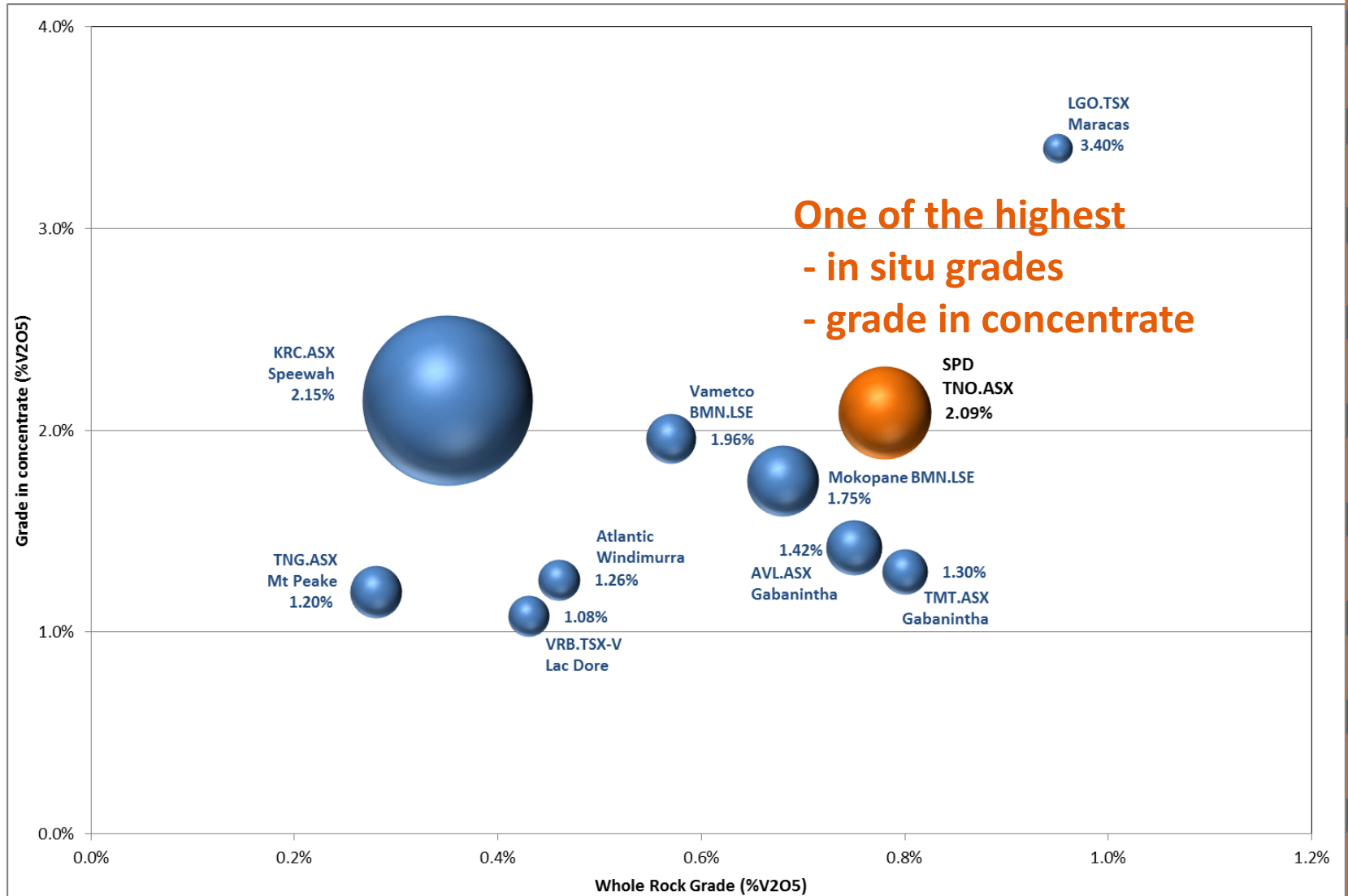


# Forward Plan

- Complete due diligence
- Carry out drilling to define a Mineral Resource under JORC Code (refer notes on slide 5)
- Collect diamond core drill samples for metallurgical sampling and testwork
- Feed into Scoping Study and progress towards production
- Continue Vanadium Resources' positive community and stakeholder engagement



# Globally Significant Project



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# Commodity Thematic – Vanadium



- Future demand forecast to rise due to usage in energy storage, principally Vanadium Redox Flow Batteries (VRFBs):
  - substantially longer lifespan than most batteries (up to 20 years)
  - able to hold charge for a significant time (up to 12 months)
  - able to discharge 100% charge without damage
  - scalability allowing large scale facilities to be constructed
  - greater chemical stability as only a single element is present in the electrolyte (ie safer)
- Requires high purity product > 98%  $V_2O_5$

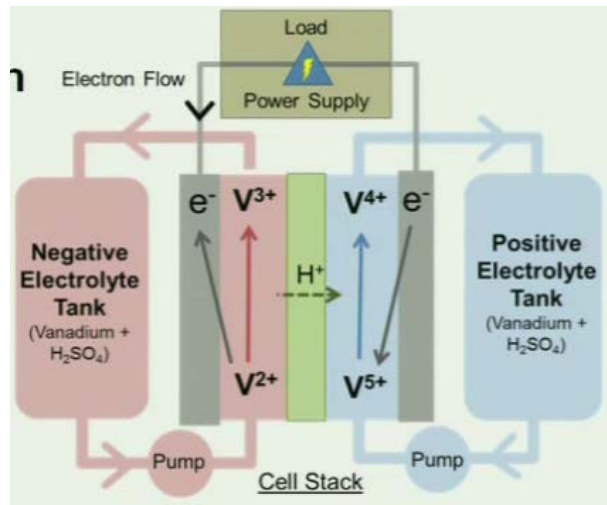
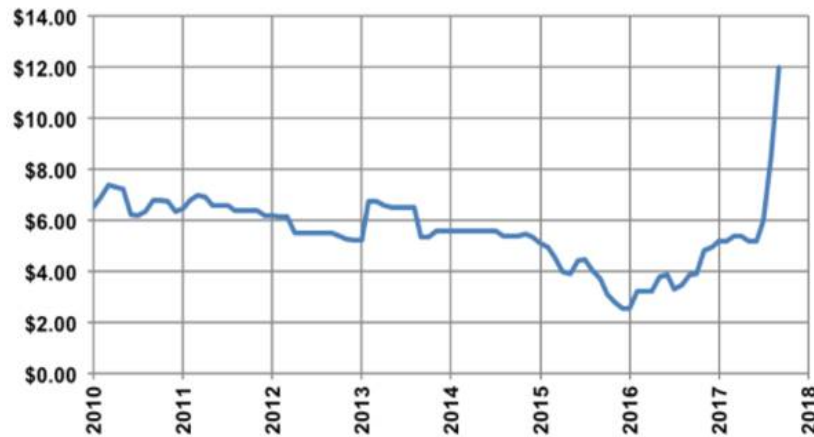


Image source:  
<https://www.iche.org/academy/videos/conference-presentations/component-and-performance-analysis-vanadium-redox-flow-batteries-experimental-and-modeling-studies>

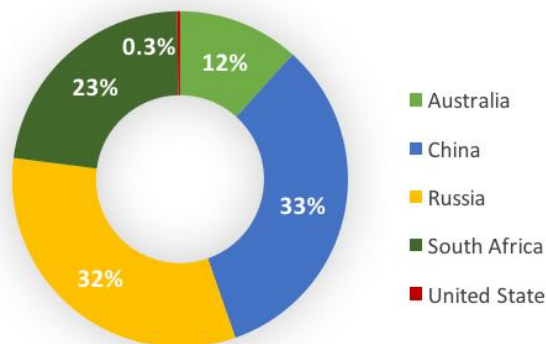
# Commodity Thematic – Vanadium

Figure 3. Vanadium ( $V_2O_5$ ) Price Chart  
(sources of data: Metal Bulletin & www.assetmacro.com)



## World Vanadium Reserve

Total 15 million metric tons



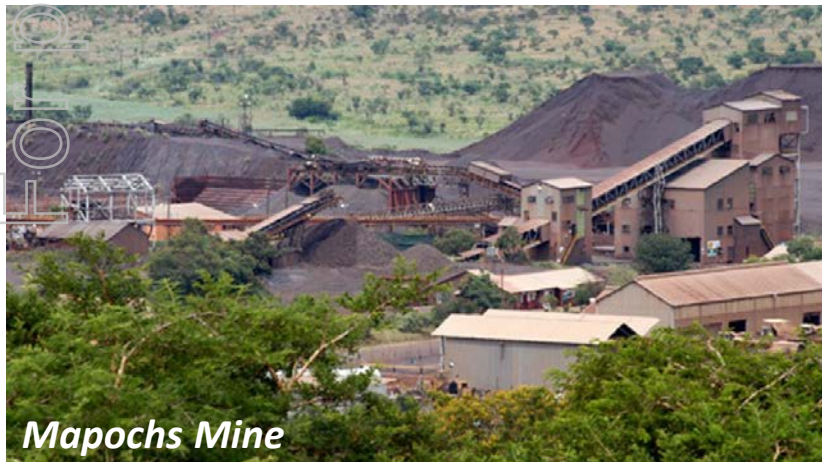
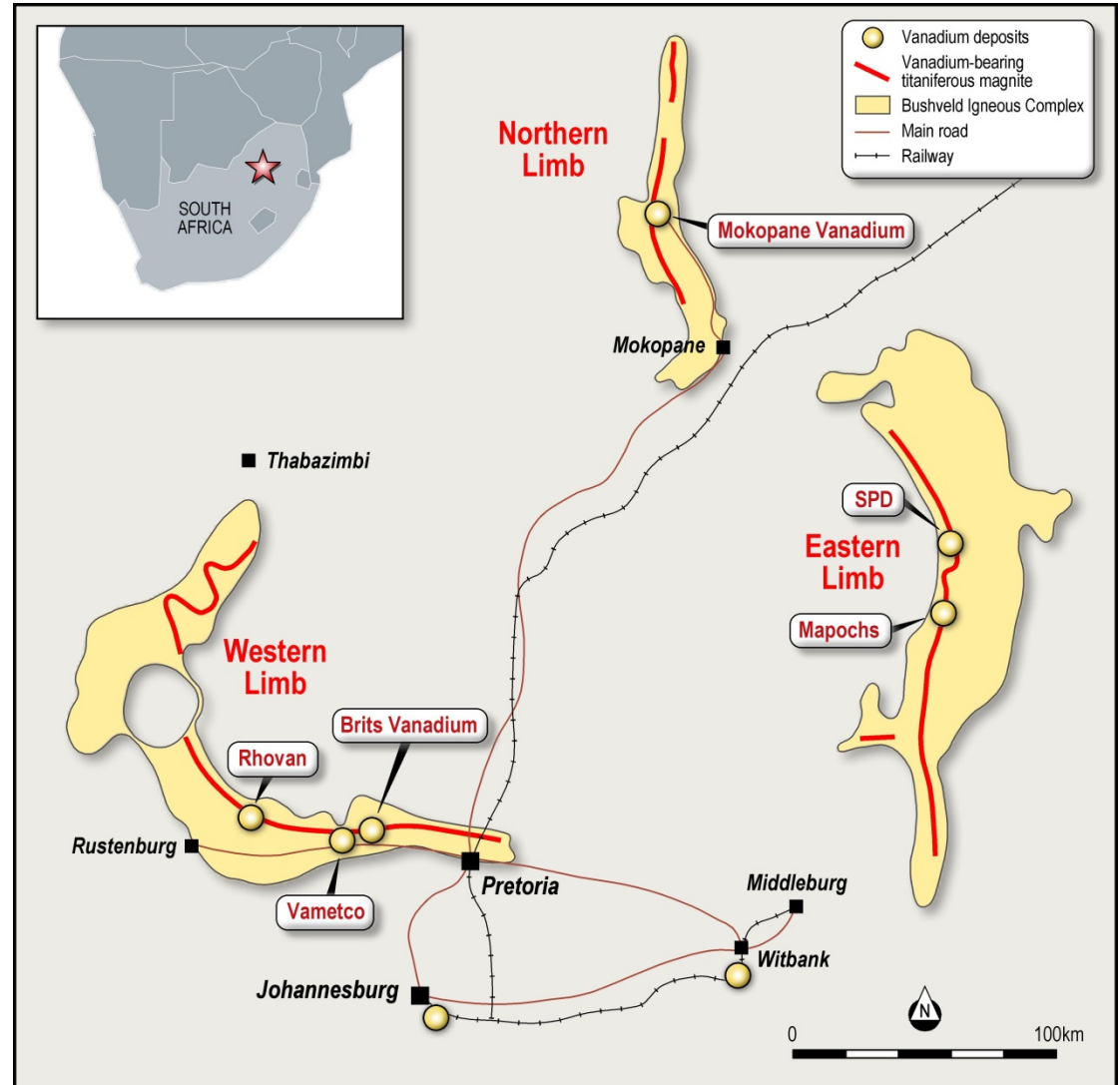
- Over 90% of the current demand for vanadium arises from its use to strengthen steel.
- Demand increasing due to more stringent regulations
- Over 85% of the world's vanadium is produced from China, Russia and South Africa
- Deposit types:
  - Titaniferous magnetite – predominant style being mined globally
  - Phosphate rock – used for production of fertilizers and produces vanadium as a by product. Not a major source of commercial vanadium
  - Uraniferous sandstones / siltstones – no current commercial production

# Established Vanadium Production Hub

Active vanadium mining and processing operations:

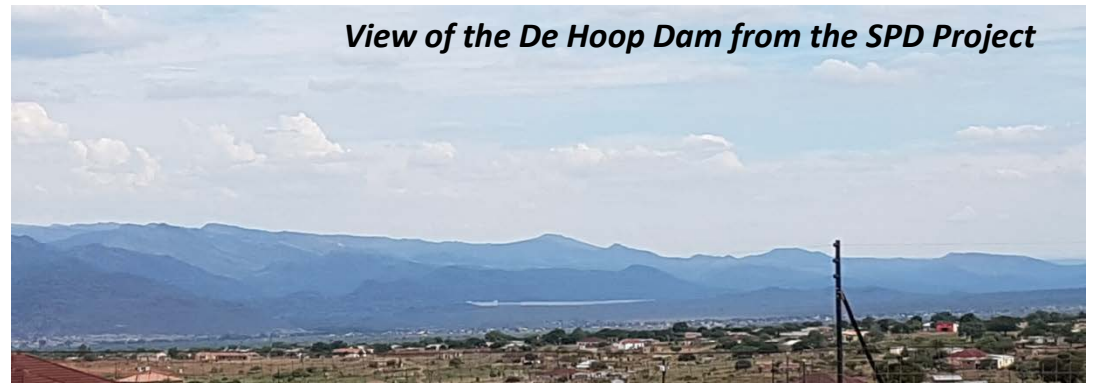
- Rhovan (Glencore)
- Vametco (Bushveld)

SPD Project adjacent to dormant Mapochs vanadium operation (formerly Evraz, now private)



Mapochs Mine

# Infrastructure rich region dominated by majors



*View of the De Hoop Dam from the SPD Project*



# Overview of Acquisition



- Significant High Grade Vanadium Project to be acquired
  - Numerous drill intersections  $> 1\% V_2O_5$
  - Grade in concentrate averages  $2\% V_2O_5$  and  $13\% TiO_2$
  - Resource  $> 500Mt$  (Note: resource estimated under the SAMREC Code, therefore a qualifying resource under the ASX Listing Rules. Further details and disclosures on slide 5)
- Work programme to rapidly advance project following DD period
  - Infill and confirmatory drilling which, if successful, will enable resource to be converted into a Mineral Resource under the JORC Code
  - Metallurgical testwork to assess hydrometallurgical processing options
  - Culminating in a Scoping Study to determine economic viability
- Staged Acquisition as project reaches milestones:
  - Total consideration 35 million TNO shares
- Martin Pawlitschek to join the board as a Non-Executive Director

# Terms of the Acquisition



- 35 million TNO shares to be paid at following milestones:
  - At completion of due diligence (45 days) = 12.5% (4,250,000 shares)
  - Delineation of a Measured Resource of at least 75Mt at 0.78% V<sub>2</sub>O<sub>5</sub> or 2% V<sub>2</sub>O<sub>5</sub> in concentrate = 25% (7,500,000 shares)
  - Completion of a Scoping Study= 12.5% (4,250,000 shares)
  - Completion of a Pre Feasibility Study = 20% (8,000,000 shares)
  - Completion of a Feasibility Study = 30% (11,000,000 shares)

*All milestones as defined in the JORC Code*

- Tando to acquire 73.95% of Vanadium Resources (Pty) Ltd
  - Balance held by community trust and BEE entities

# Capital Structure Post Acquisition



**Current Issued Shares 30.5M**

**24.5M tradeable (6.35M escrowed)**

**12.1M listed options (25c strike)**

**Placement of 5M shares to raise \$2M at 40cps**

**Enterprise Value at 40c = \$8.9M**

**EV inclusive of all consideration shares = \$12.6M**

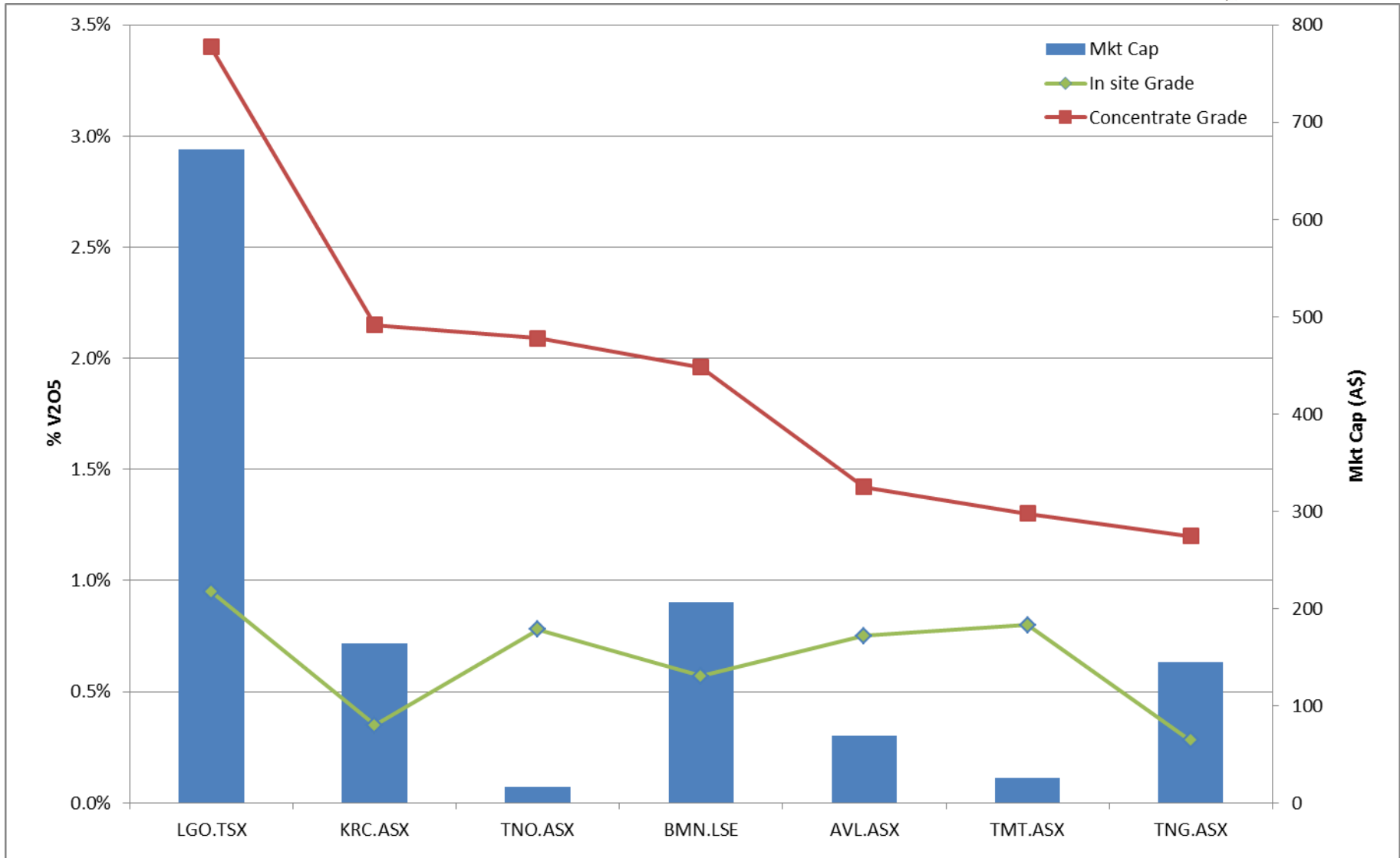
**Share split to increase liquidity**

(actual split to be determined based on prevailing share price and LR7.25)

	Shares	\$
Current Shares	30,500,001	\$3,300,000
Placement @ 40c	5,000,000	\$2,000,000
Consideration Shares	9,000,000	
<b>Total</b>	<b>44,500,001</b>	<b>\$4,500,000</b>

# Peer Comparison

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# Management Team



- **Bill Oliver, Managing Director**
  - Geologist with over 19 years wide ranging exploration experience in a range of commodities and jurisdictions.
  - Enviable track record in project identification and evaluation.
- **Jeremy King, Non-Executive Chairman**
  - Corporate advisor with over 15 years' experience in domestic and international legal, financial and corporate matters.
  - Extensive corporate experience and substantial global network.
- **Pat Burke, Non-Executive Director**
  - Lawyer with extensive legal, commercial and corporate advisory experience for ASX listed companies.
  - Has acted as a director for a number of ASX and AIM listed small to mid-cap resources companies over the past 10 years.
- **Martin Pawlitschek, Proposed Non-Executive Director**
  - currently serves as Senior Vice President of Geology for a mining focussed Private Equity fund, responsible for undertaking technical due diligence on mining projects.
  - Non-executive director of Raiden Resources (ASX.RDN) and Jadar Lithium (ASX.JDR).



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- All amounts in A\$ unless stated otherwise.
- The information in this report that relates to Exploration Results and other technical information for the Company’s Projects complies with the JORC Code and has been compiled by Mr Bill Oliver, a Competent Person who is a Member of The Australasian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy. Mr Oliver is the Managing Director of Tando Resources Limited. 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 document of the matters based on his information in the form and context in which it appears. The Exploration Results are based on standard industry practices for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in the ASX Announcement of 22 March 2018.

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