



Leading the Charge in the Vanadium Industry

Progressing the development of the large, long life, low cost, high grade Gabanintha Vanadium Project

**Schroder Equities
Australian Resources Conference
22 February, 2019**

ASX: TMT, TMT0; FRA: TN6

www.tmtlimited.com.au

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Competent Person’s Statement

The information in this presentation that relates to Exploration Results are based on information compiled by Mr Ian Prentice. Mr Prentice is Managing Director of the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Prentice has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this presentation and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (“JORC Code”). Mr Prentice consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resource estimates is based on information compiled by Mr Aaron Meakin. Mr Meakin is a Principal Consultant with CSA Global and a Member of the Australian Institute of Mining and Metallurgy. Mr Meakin has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (“**JORC Code**”). Mr Meakin consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information that relates to Ore Reserves is based on information compiled by Mr Daniel Grosso and reviewed by Mr Karl van Olden, both employees of CSA Global Pty Ltd. Mr van Olden takes overall responsibility for the Report as Competent Person. Mr van Olden is a Fellow of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC (2012 Edition). The Competent Person, Karl van Olden has reviewed the Ore Reserve statement and given permission for the publication of this information in the form and context within which it appears.

The information in this report that relates to the Processing and Metallurgy for the Gabanintha project is based on and fairly represents, information and supporting documentation compiled by Damian Connelly who is a Fellow of The Australasian Institute of Mining and Metallurgy and a full time employee of METS. Damian Connelly has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (“**JORC Code**”). Damian Connelly consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

All currency amounts are in AUD\$ unless stated otherwise.

Invest in a World-Class Vanadium Development Project



- 🌈 **Vanadium – a metal we can't do without**
 - **Structural change** in industry has resulted in a global deficit
 - **Metal of the future** ability to reduce product weight with no loss of strength and large scale battery applications
- 🌈 **Gabanintha – a globally significant vanadium deposit**
 - **Large high grade resource** in Murchison region of Western Australia
 - **High purity product** samples delivered to prospective end-users
- 🌈 **Robust Pre-Feasibility Study* delivered June 2018**
 - **Industry competitive US\$4.27/lb V_2O_5** operating cash cost
 - **Production rate of up to 13,000tpa** of high purity V_2O_5
- 🌈 **Definitive Feasibility Study on track for mid 2019 delivery**
 - **Bulk sample generated** for pilot plant testwork
 - **Generating final product** for end-users to perform testwork
- 🌈 **Global Peer**
 - **Largo Resources, Inc. (TSX:LGO CN\$1.3bn)** operating Maracas Menchen Mine, Brazil, 2019 production guidance 10,000t to 11,000t V_2O_5

*Refer TMT ASX announcement dated 21 June 2018 for full details of the pre-feasibility study



Corporate Overview

Company Snapshot

ASX Codes	TMT, TMTO
Cash as at 31 Dec 2018 (plus Feb placement)*	\$7.3m
Market Cap (as at 15 Feb 2019)	\$26.0m
Tradeable Shares on Issue	67.5m
Escrowed Shares on Issue**	20.0m
Total Shares on Issue	87.5m
Unlisted Options (various)***	20.61m
Listed Options - (\$0.40 – 24/05/20)*	14.9m

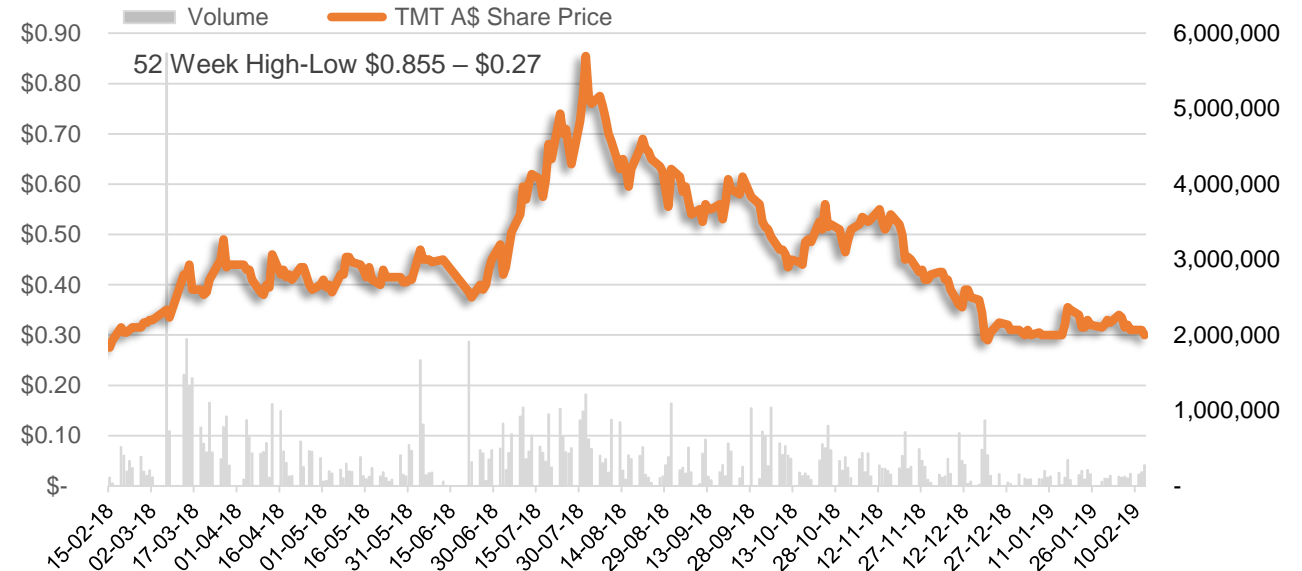
* \$4.55m placement, 17.5 million fully paid shares issued and 8.75 million listed option – Refer ASX Announcement 18 February 2019

** 20m shares subject to restriction until 30 June 2019,

*** 14.6m \$0.25, 31/12/19 expiry; 2.75m \$0.35 12/01/21 expiry; 3.26m \$0.40, 24/05/20 expiry



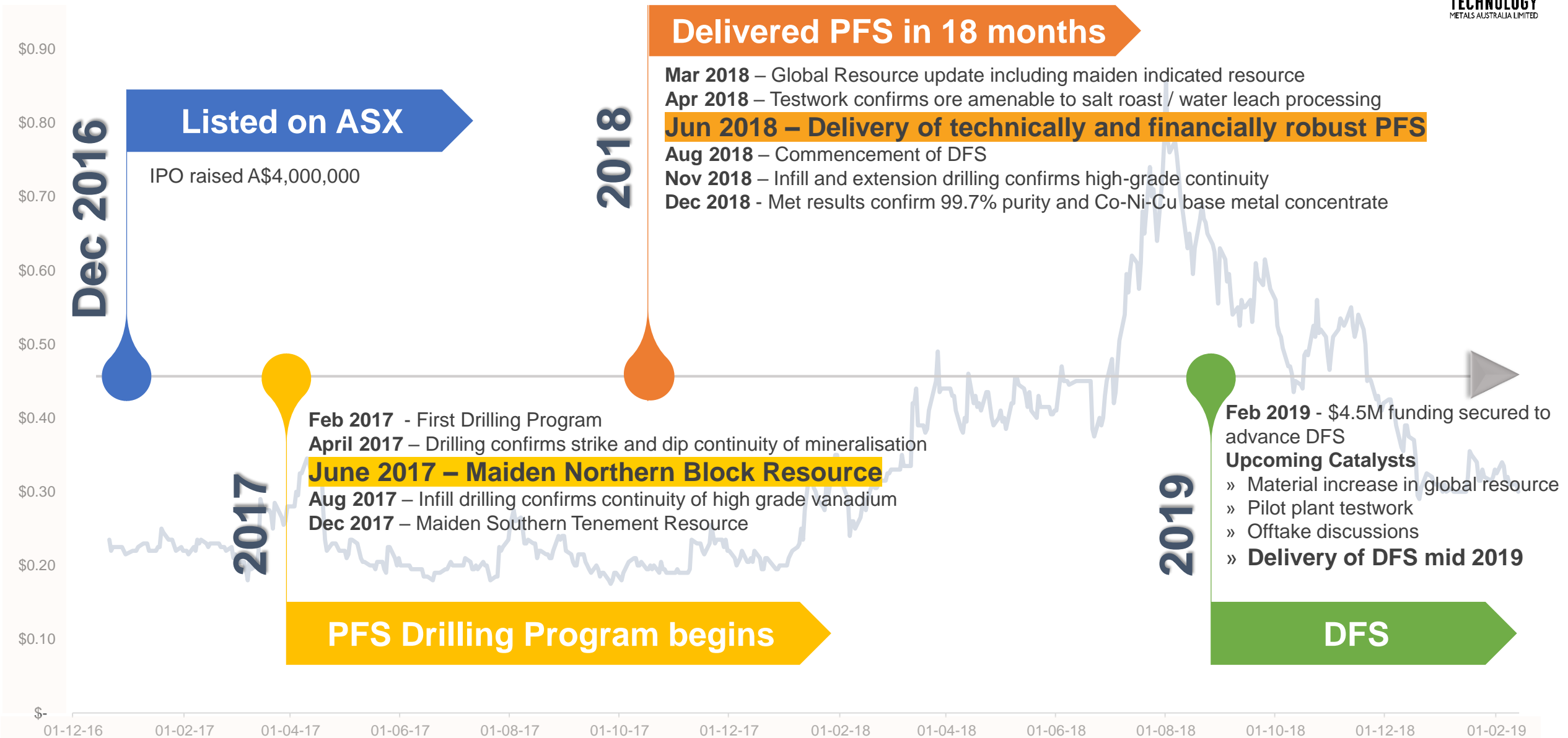
12 Month Share Price Performance



“We expect [vanadium] prices to remain high for some time - so it’s the perfect time to finance and develop a project”

- Jack Bedder, Roskill, December 2018.

Key milestones achieved



2019 – Key Catalysts

- Material increase in the global resource, and importantly the Indicated Resource estimate that will support a material extension of mine life.
- Pilot plant testwork to generate high purity final product for end-user testing
- Progression of discussions with potential off takers / end users
 - Assisted by specialist advisers, TMT is targeting a range of jurisdictions including China, Japan, Korea, India and Europe
 - Targeting steel industry for majority of forecast output, supplemented by the specialty alloy and battery sectors
 - Aiming to secure fixed volume off take agreements with potential linkage to equity / project investment and / or prepayments
- Delivery of high quality DFS to facilitate securing of project financing package



TMT High Purity 99.53% V₂O₅ Sub-Samples dispatched to end users – Sept 2018

Experienced Board and Development Team



Michael Fry - Non-Executive Chairman

Mr Fry holds a Bachelor of Commerce degree from the University of Western Australia, is a Fellow of the Financial Services Institute of Australasia, and is a past member of the ASX

Mr Fry has extensive corporate and commercial experience, financial and capital market knowledge and a background in corporate treasury management.



Ian Prentice - Managing Director

Mr Prentice is a Member of the Australasian Institute of Mining and Metallurgy and holds a Bachelor of Science (Geology) from the University of Western Australia.

Mr Prentice has served as a Director for a number of ASX-listed resource companies, with activities ranging from exploration and project acquisition in Asia and Africa through to project development and production in Australia.



Sonu Cheema - Non-Executive Director and Company Secretary

Mr Cheema has completed a Bachelor of Commerce majoring in Accounting at Curtin University and is a member of CPA Australia.

Mr Cheema has over 10 years' experience working with public and private companies in Australia and abroad and holds the position of Accountant and Company Secretary for a number of ASX listed entities.



David English - Project Director

Mr English has over 30 years of industry experience and been involved in some of Western Australia's largest recent mining project developments.

Mr English was General Manager Operations at the Windimurra Vanadium Project (Feb 2008 – Feb 2010) and Project Manager for Independent Group's Nova nickel mine and Sandfire Resource's DeGrussa copper mine.



Financial Advisors



Vanadium

**The Metal You Need to
Know About**



What is Vanadium Used For

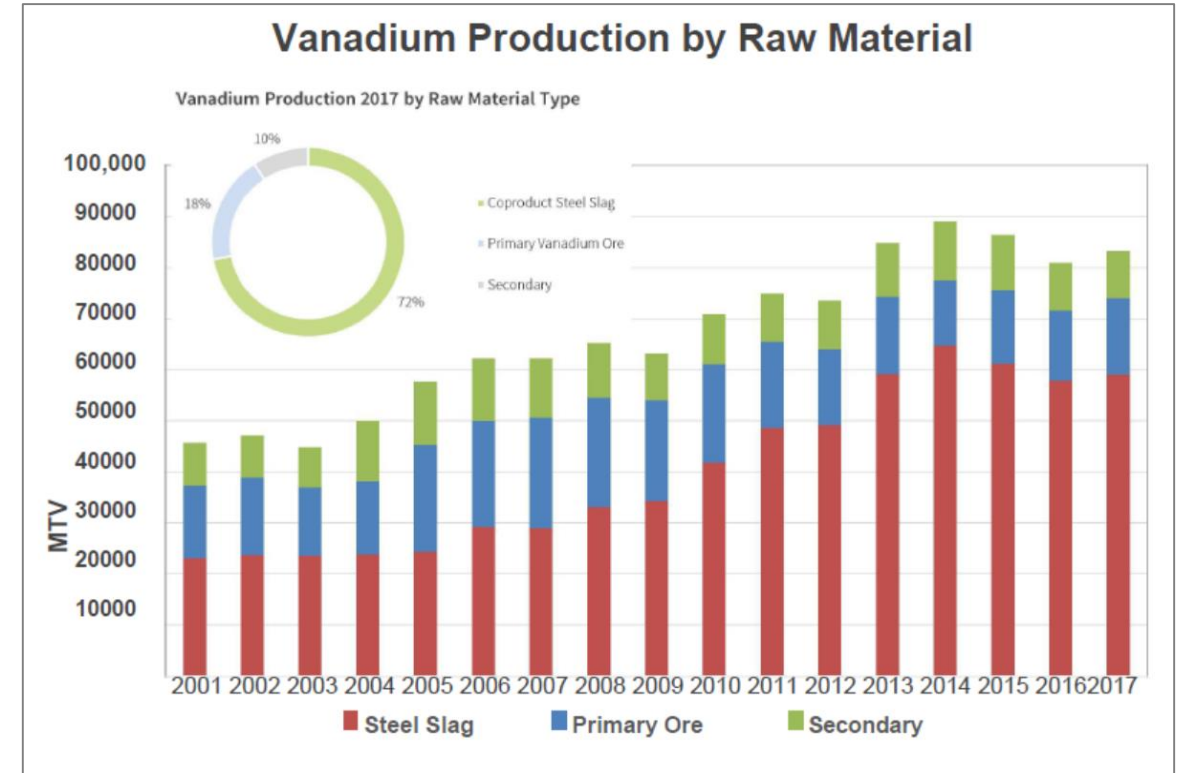


- The main use of vanadium is in steel alloys; a small amount of vanadium adds strength, toughness and corrosion resistance, thereby reducing the weight of steel required for specific purposes.
- Vanadium steel – lightweight, durable, easily machined – was developed in Europe in the early 1900's – with its first industrial use in the chassis of the Model T Ford.
- By 2025, it's estimated that 85 percent of all cars will use vanadium alloys to reduce their weight, increasing fuel efficiency to suit stringent fuel economy standards.
- Specialty alloys – particularly with titanium and aluminium – are a rapidly emerging consumer of vanadium.
- Titanium-aluminum-vanadium alloy is used in jet engines and for high-speed aircraft.
- Vanadium-titanium alloys have the best strength-to-weight ratio of any engineered material on earth



Vanadium Supply Constraints

- Structural change in industry has seen consumption outstrip supply since 2010.
- Global industry rationalisation, strict environmental regulations in China and limited new supply resulting in a production decline.
- Ban on slag imports to China implemented 1 January 2018 amidst shutdowns of Chinese plants.
- Annual global production in 2017 (~83,200t V metal) made up of steel slag co-product (72%), primary ores (18%) and 10% from secondary.
- China was largest producer at 57% of supply, followed by Russia and South Africa.
- Production from existing sources forecast to reach ~111,900t V metal by 2025 (source: TTP Squared).

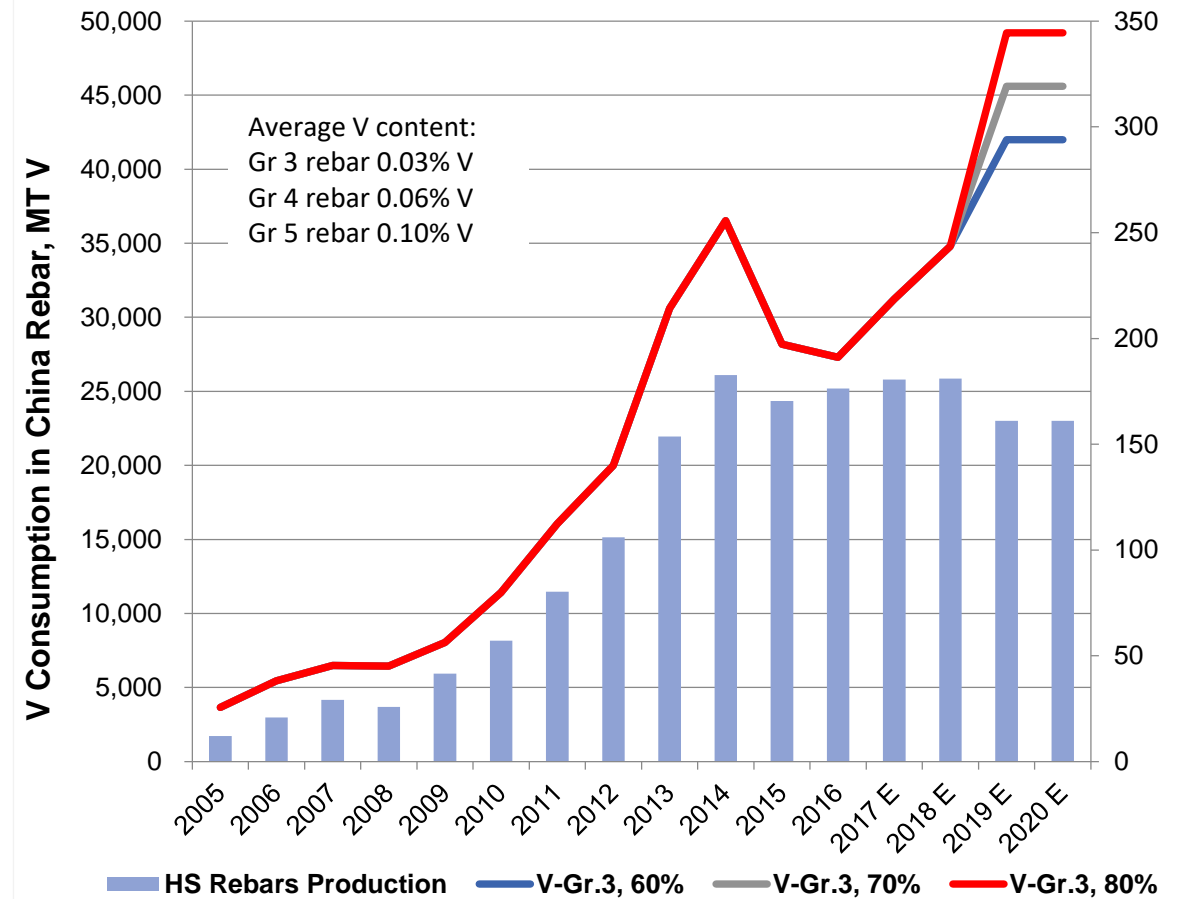


Source: Vanitec

Vanadium Consumption Increasing

- Consumption in 2017 (~85,800t V metal) dominated by steel alloys (86%) with chemical industry and energy storage at 9% and aeronautical at 5%.
- Global consumption dominated by China at 44%, Europe at 18% and North America at 12%.
- Growth of intensity of use of vanadium in steel is the main driver of increasing consumption.
- New Chinese Rebar standards will see intensity of use in China increase from 0.048kg/T steel towards European / USA levels of 0.078 – 0.097kg/T steel.
- Global consumption forecast to increase to 133,200t V metal by 2025 (source: TTP Squared).

Vanadium Consumption in Chinese Rebar

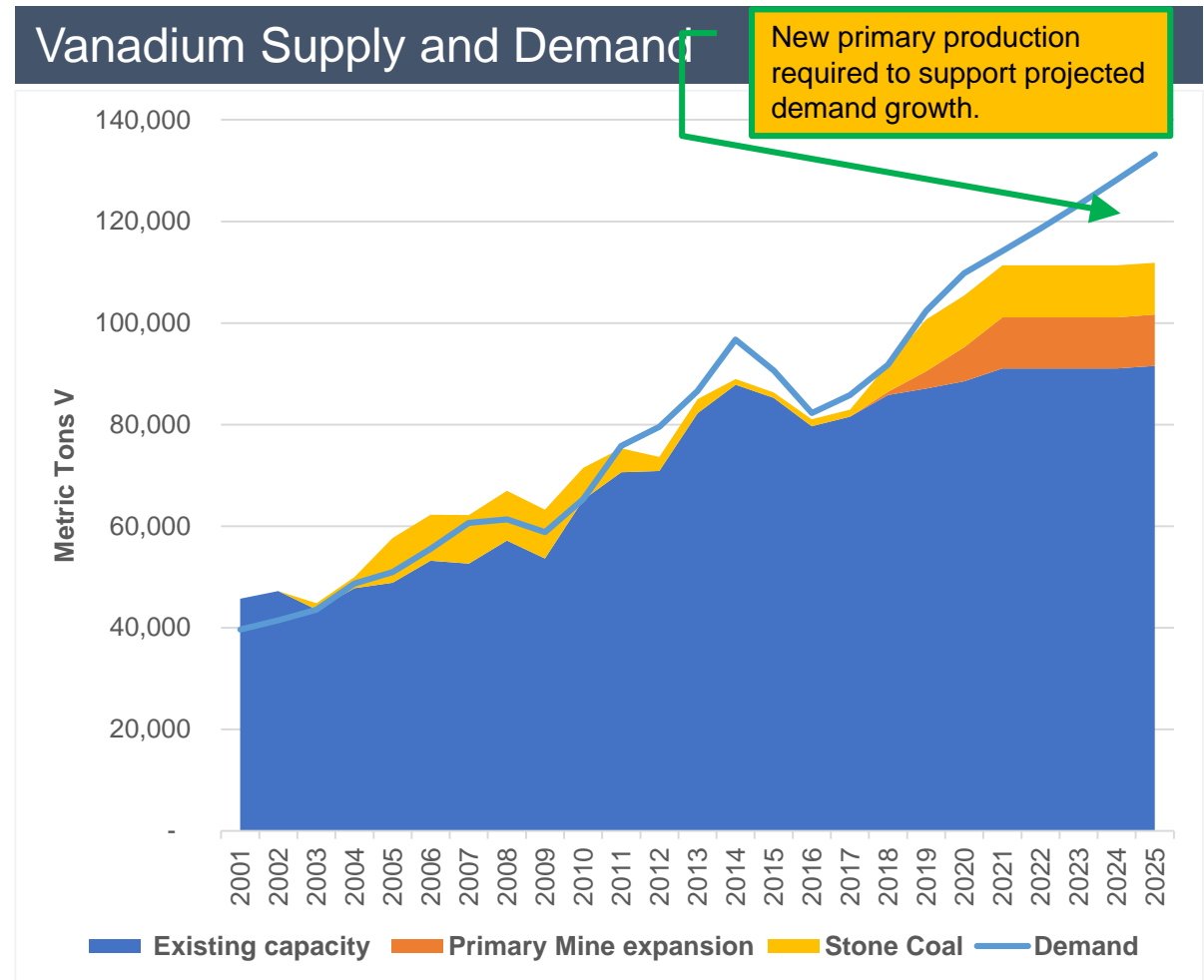


Source: China Iron & Steel Research Institute (CISRI)

Vanadium Market in Deficit



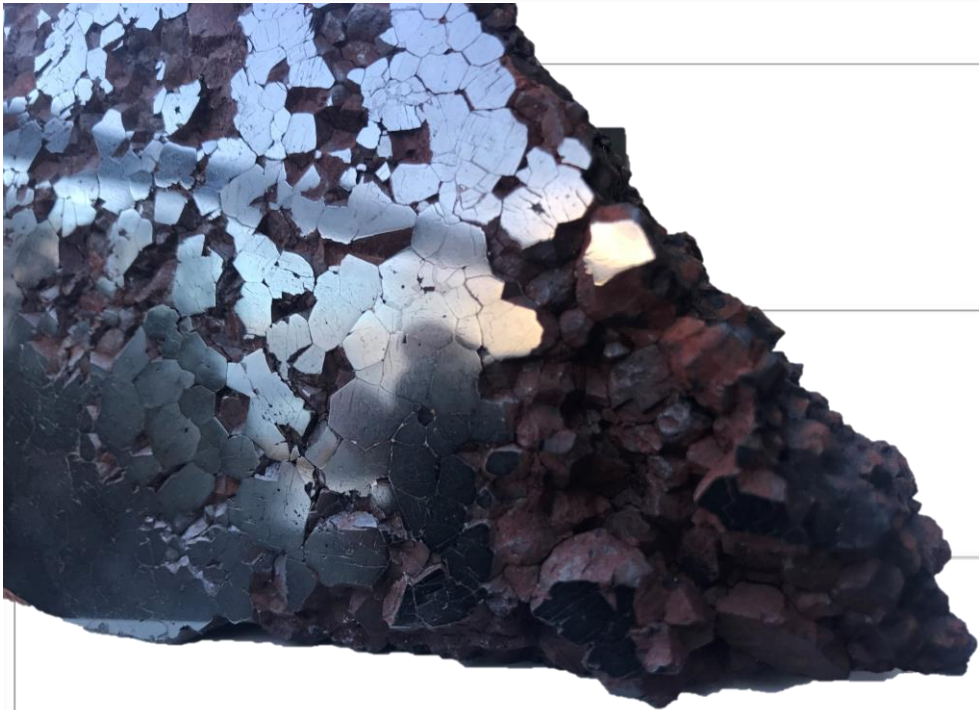
- Shortfall of ~2,600t V metal in 2017, with World (ex China) consumption outstripping supply since 2006.
- Chinese market dynamics impacting on ability to fill global supply gap.
- Current V_2O_5 pricing* reflects surging Chinese demand and limited readily available supply:
 - **CHINA** US\$15.00 – 16.00/lb
 - **EUROPE** US\$17.00 – 17.75/lb
- 15 – 20% premium for high purity product.
- Global deficit forecast to increase to ~21,300t V (~37,900t V_2O_5) in 2025 (Source: TTP Squared).
- Emerging primary producers vital to meeting the increasing demand.



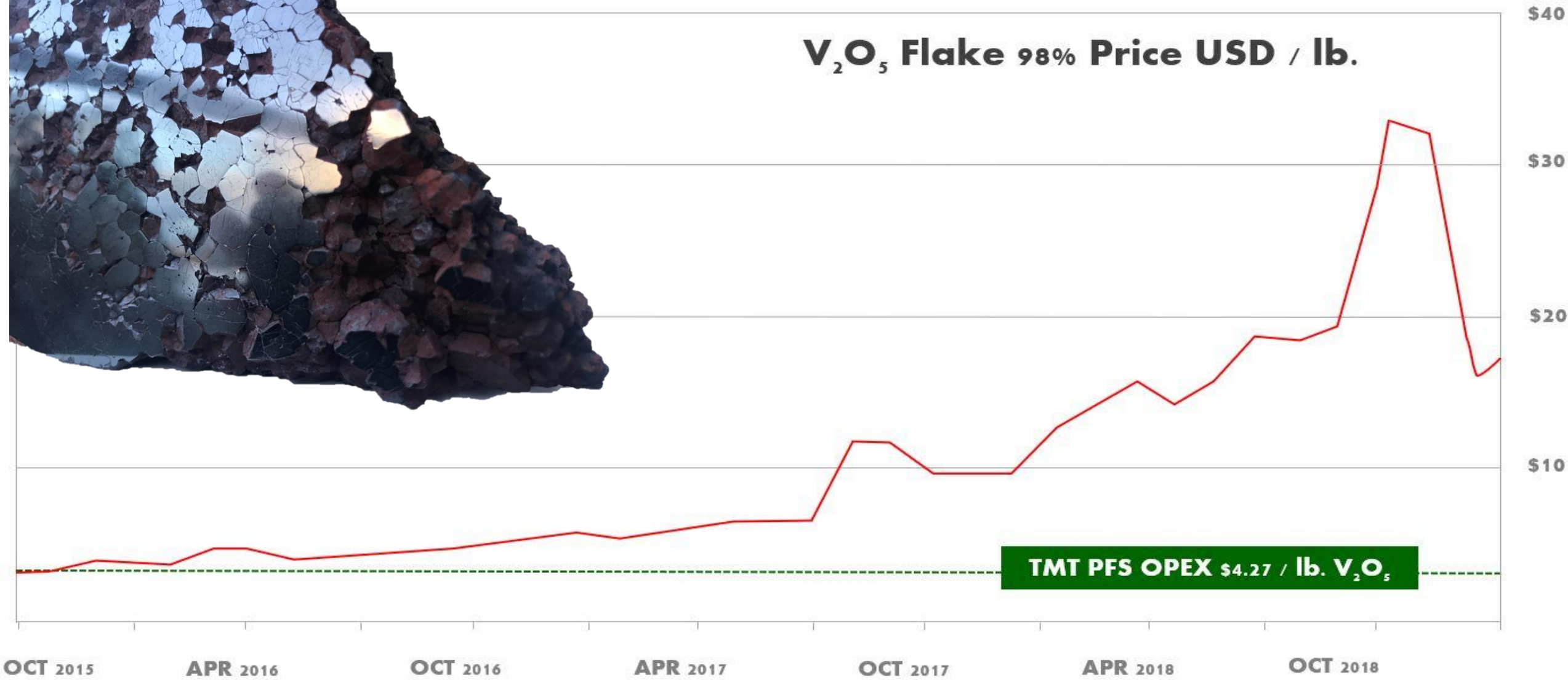
Source: TTP Squared

* – Source: FerroAlloyNet, 18 February 2018.

Vanadium Shines



V₂O₅ Flake 98% Price USD / lb.



Emerging Vanadium Market



Market Disrupter – VRB's

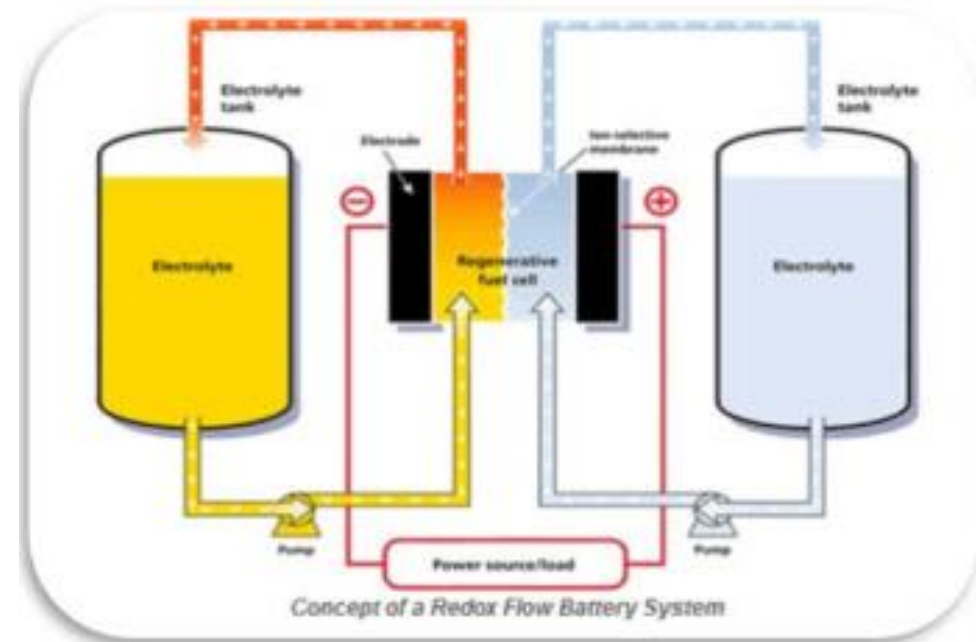


- Vanadium Redox Batteries (VRB's) provide an efficient storage and re-supply solution for renewable energy, suitable for large-scale applications.
- VRB's are able to time-shift large amounts of previously generated energy for later use – balancing solar and wind intermittency.
- Vanadium ions in different oxidation states are used to store energy; battery capacity expandable by adding more storage tanks.
- VRB and chemical industry vanadium demand set to climb to 23,730t V metal by 2020.
- Rongke Power developing a 200MW/ 800MWh battery in Dalian, China, using ~6,960 tonnes V_2O_5 .



Advantages of VRB's

- Lifespan of +20 years with very high cycle life (up to 20,000 cycles) and no capacity loss.
- Rapid recharge and discharge, with very fast response time (<70ms).
- Can discharge to 100% with no performance degradation with excellent long term charge retention.
- Only one battery element – vanadium is anode and cathode – unique among flow batteries.
- Easily scalable into large MW applications; provide a grid scale solution – peak shaving, regulating load frequency, driving grid efficiency.
- Suitable for micro grids for remote communities, mine sites, islands etc.
- Improved safety (non-flammable) compared to Li-ion batteries.

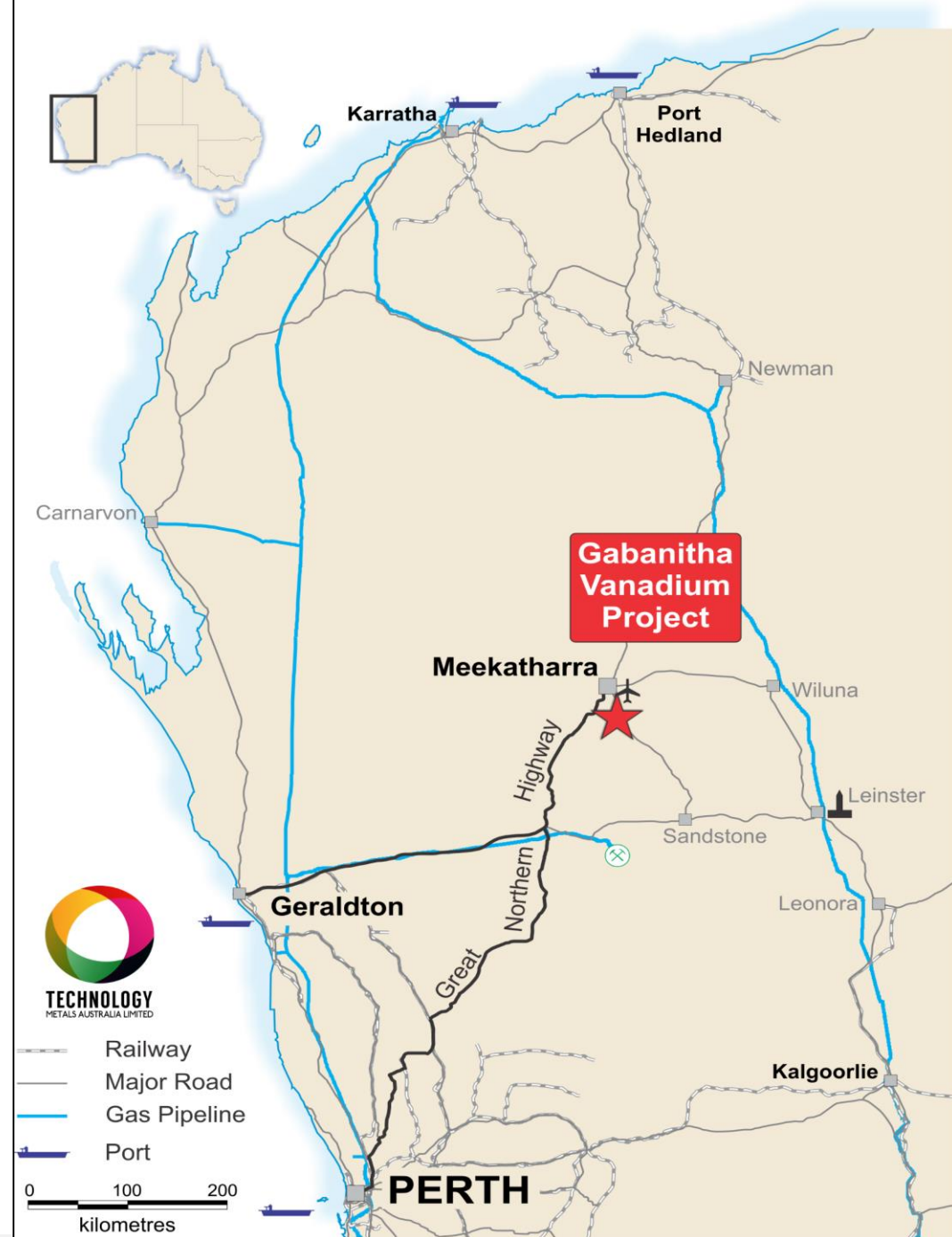


Gabanintha Vanadium Project



Outstanding Location

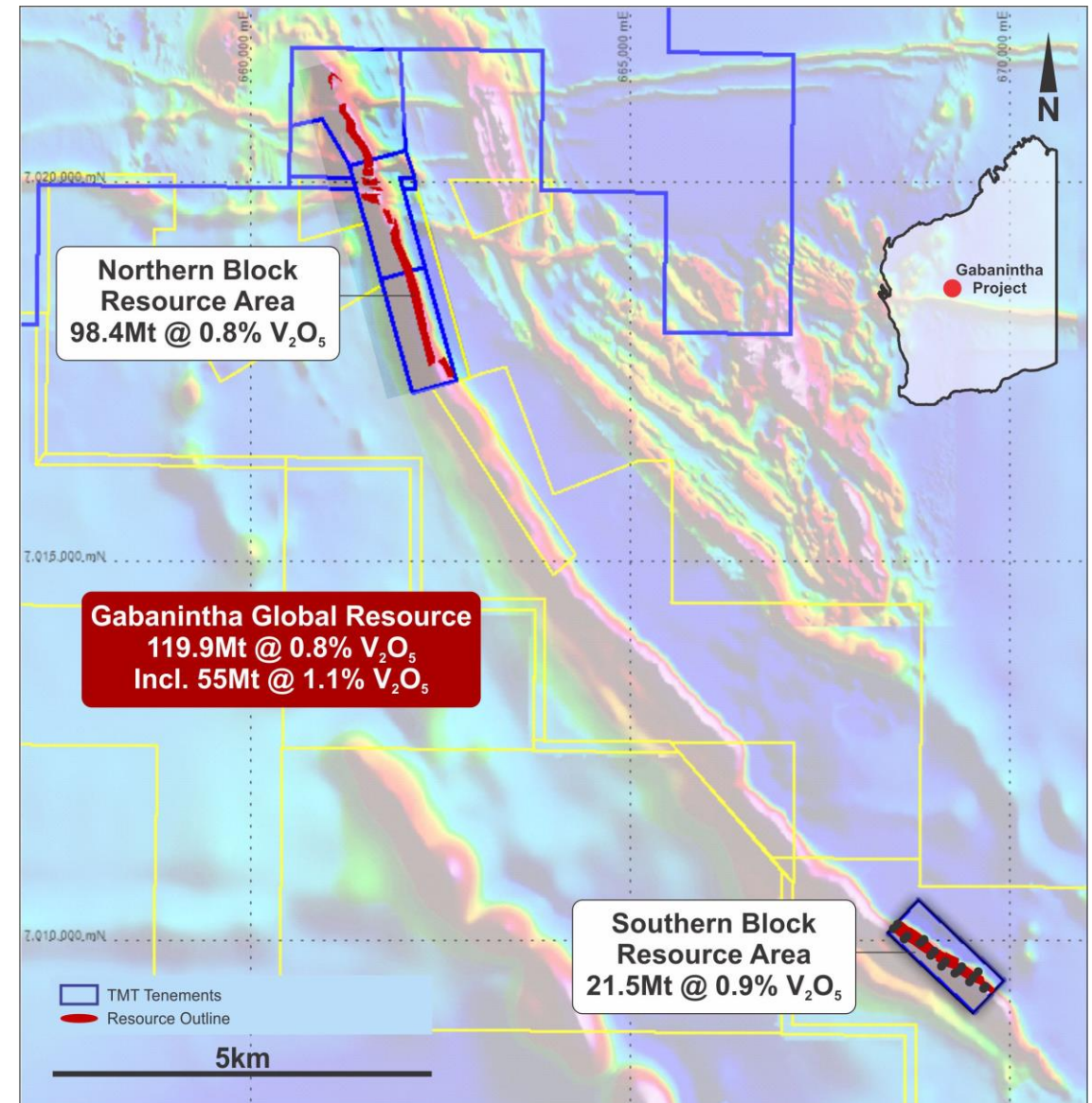
- 40km south of regional centre of Meekatharra in Murchison District of Western Australia.
- Sparsely populated region with +100 year history of mining.
- Excellent infrastructure – sealed National Highway from Perth passes within 30km of the project.
- Port of Geraldton 500km to the south west accessible via sealed highway.
- Gas pipeline within 160km to east or south.
- Granted tenure with Mining Lease applications in place.



Geological Setting

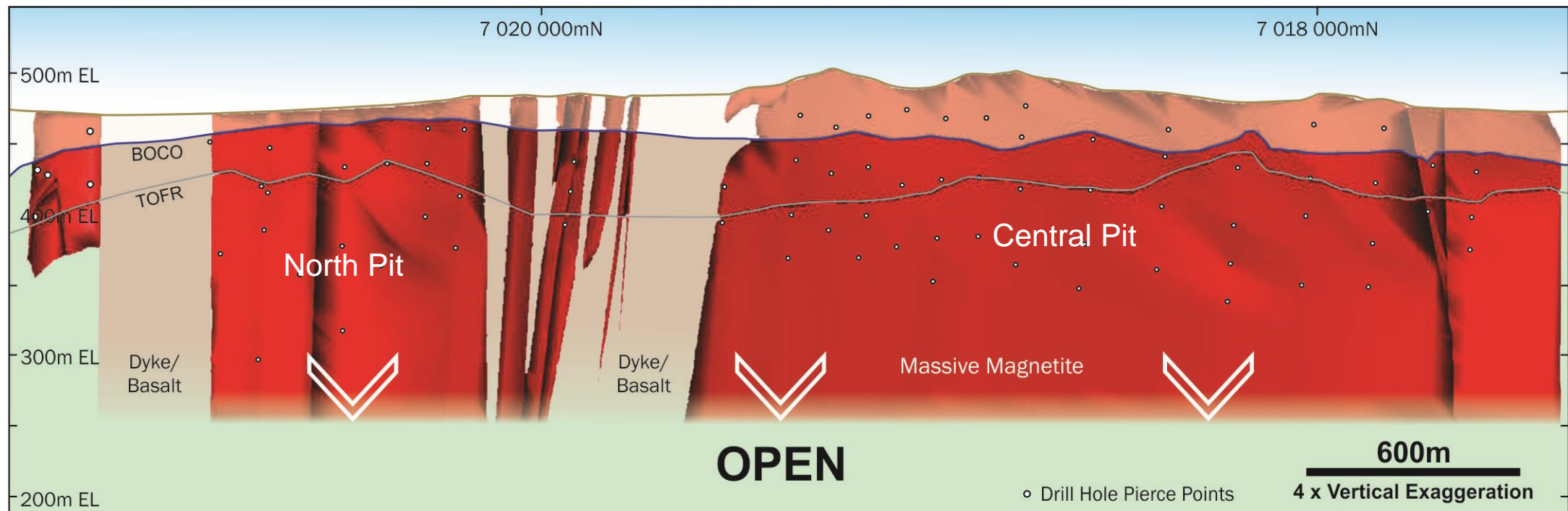
- Mineralisation hosted by a layered mafic igneous unit – magnetite layers host high grade vanadium.
- Outstanding consistency of grade and continuity of mineralisation in broad high grade massive magnetite zone – over 5.5km strike of the mineralised unit.
- Mineralisation outcrops along majority of strike length and dips to the west / south west at 55° to 60°.
- Mineralisation remains open at depth with high grade zone intersected at in excess of 190m vertical.
- Maiden reserve* of 16.7Mt at 0.96% V_2O_5 contained within Indicated resource of 21.6 Mt at 0.9% V_2O_5 .

*Refer TMT ASX announcement dated 21 June 2018 for full details of the probable reserve



Oxidation Profile – a Key Point of Differentiation

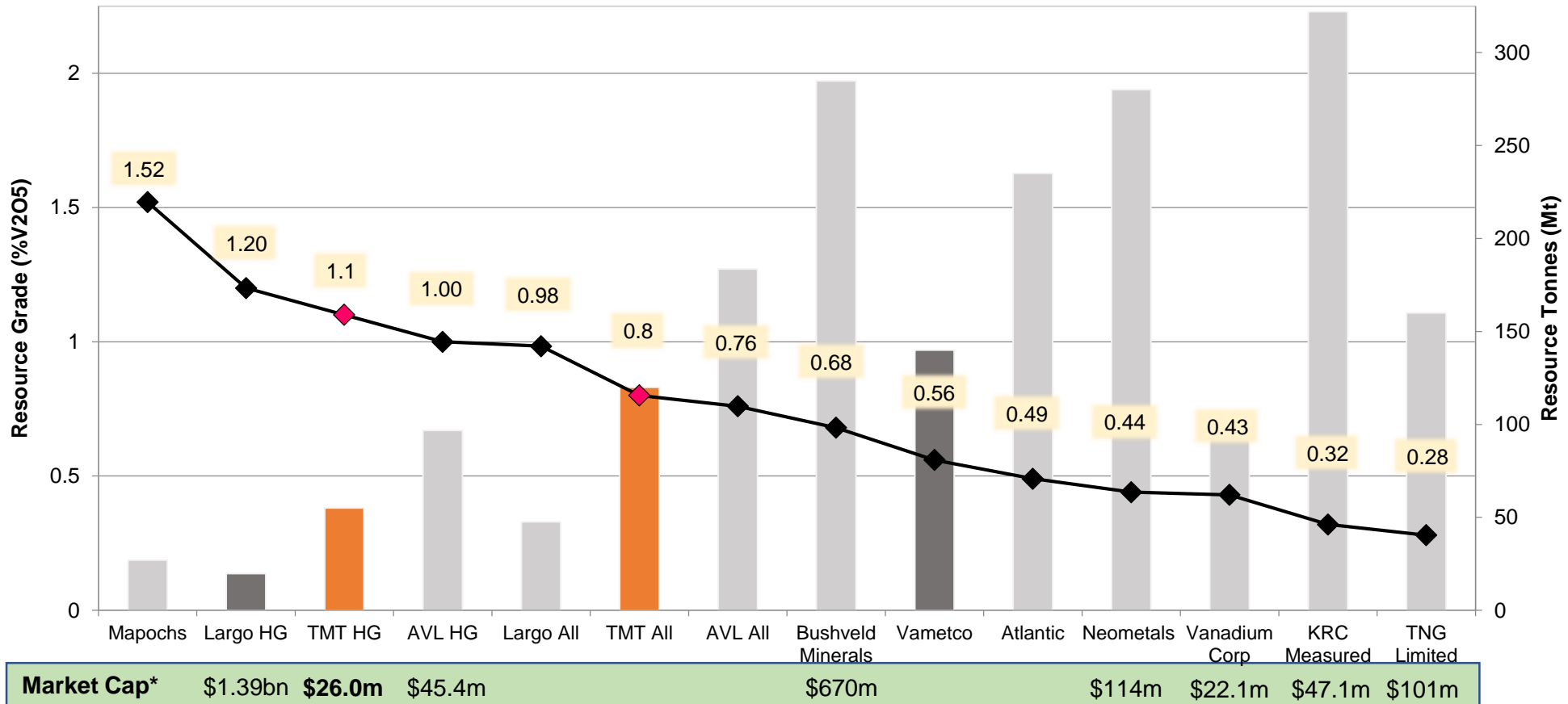
- Very shallow oxidation profile in North Pit area.
- Early access to higher yielding transitional and fresh material – positive impact on project economics.
- Higher yield equates to lower ore mined per tonne of final product.
- Southern Tenement has similar very shallow oxidation profile.



Long Section – Northern Block – Massive Magnetite Zone

Global Vanadium Projects (ex China)

TMT at the Right End of the Chart



* – Market capitalisation of listed entities as at 18 November 2019. Bushveld Minerals and Neometals hold other significant resource assets. Vametco 75% owned by Bushveld Minerals. Atlantic Limited not listed. Mapochs owned by International Resources

Development Pathway



Pre-feasibility Study Delivers*

MASSIVE MAGNETITE RESOURCE

55Mt
@ 1.1V₂O₅



MINING RESERVE

16.7Mt
@ 0.96 V₂O₅



PROCESSING PLANT

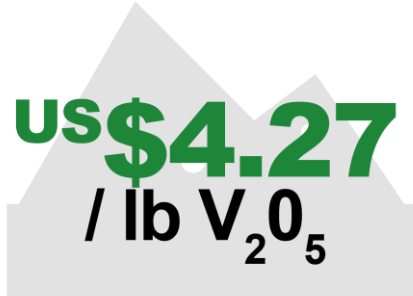

13,000t V₂O₅ p.a.

MINE LIFE


13+YEARS

OPEX

US\$4.27
/ lb V₂O₅



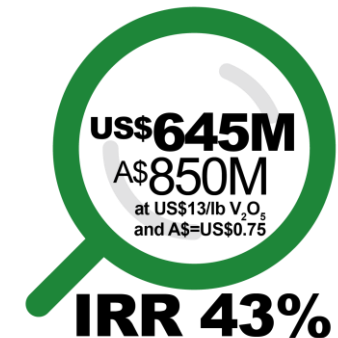
PAYBACK


<2.5years
at US\$13/lb V₂O₅

CAPITAL COSTS

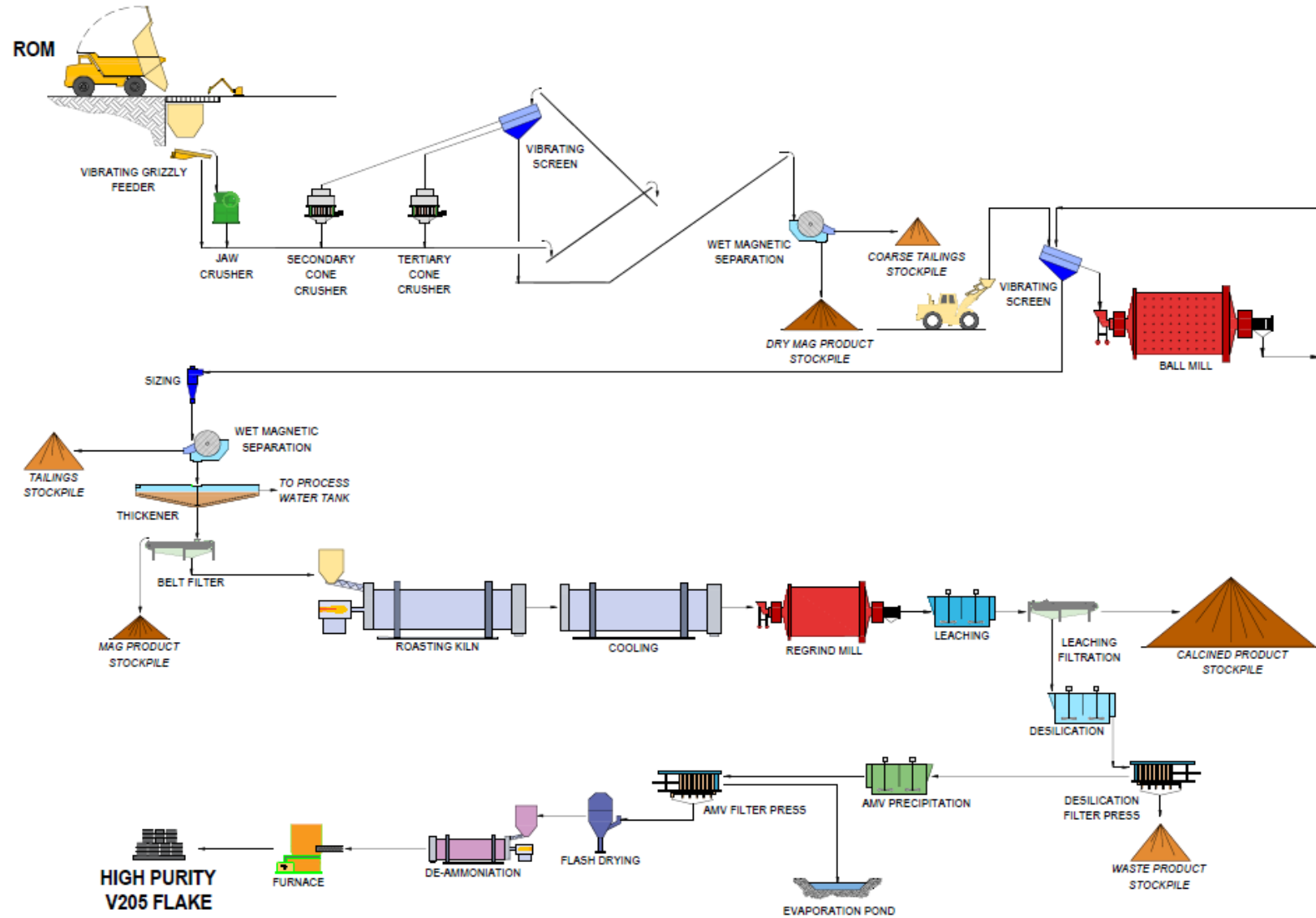

US\$285M
A\$380M

POST TAX NPV


US\$645M
A\$850M
at US\$13/lb V₂O₅
and A\$=US\$0.75
IRR 43%

* – Refer TMT ASX announcement dated 21 June 2018 for full details of the pre-feasibility study.

Proposed Processing Flow Sheet



Metallurgical Testwork*

- Bench scale testwork completed on diamond drilling samples; scaled up to sighter testwork on 300kg representative sample from the North Pit area.
- Concentrate grades of $>1.3\% \text{V}_2\text{O}_5$ for transitional and fresh high grade massive magnetite zone with very high weight recoveries of up to 85.6%.
- Exceptional rejection of deleterious elements Si and Al resulting in very high quality magnetic concentrate.
- Downstream test work confirms salt roast / water leach processing capable of delivering very high purity final product – up to $99.7\% \text{V}_2\text{O}_5$.
- Testwork has enabled delivery of final product samples to end-users / off takers – setting TMT apart from its peers.
- Product expected to be suited to both steel and chemical / VRB industries.



* – Refer TMT ASX announcements dated 8 September 2017, 22 February, 4 April 2018, 31 May 2018, 12 September 2018 and 12 December 2018 for full details of metallurgical testwork.

Base Metal (Co-Ni-Cu) By-product Stream*

- Preliminary base metal recovery testwork delivered highly encouraging flotation concentrates with a combined base metal content of 10% - 15%
- Base metal cleaner concentrates contain up to **2.31% cobalt, 4.47% nickel and 9.50% copper**
- Significant scope for optimisation of base metal recovery into a concentrate product
- Modelling of the grade and distribution of the base metal sulphides to be included in updated Project Resource estimation



Cleaner flotation test and resultant filtered base metal concentrate

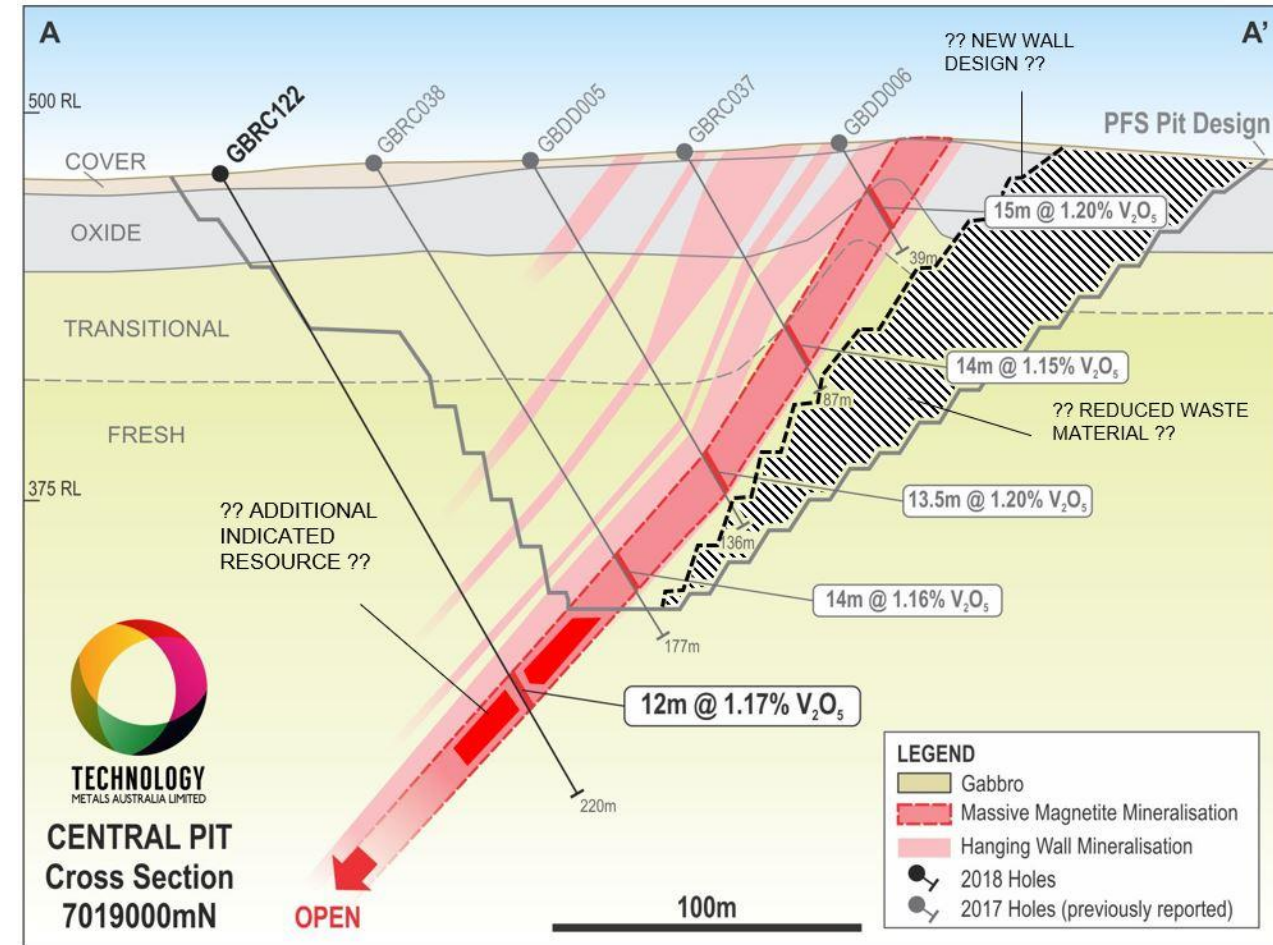
Material specifications for base metal cleaner concentrates

Al ₂ O ₃ (%)	As (%)	CaO (%)	Co (%)	Cr (%)	Cu (%)	Fe (%)	K ₂ O (%)	MgO (%)
1.45 – 5.45	0.01 - 0.02	0.31 – 1.20	1.28 – 2.31	0.03 – 0.07	4.18 – 9.50	17.0 – 29.3	0.01 – 0.04	5.95 – 14.4
MnO (%)	Na (%)	Ni (%)	P (%)	S (%)	SiO ₂ (%)	TiO ₂ (%)	V ₂ O ₅ (%)	LOI1000 (%)
0.02 – 0.07	0.08 - 0.10	2.50 – 4.47	0.01 – 0.02	14.60 - 34.40	11.80 – 27.47	0.35 – 1.88	0.02 – 0.07	12.52 - 21.46

* - Refer TMT ASX Announcement 12 December 2018

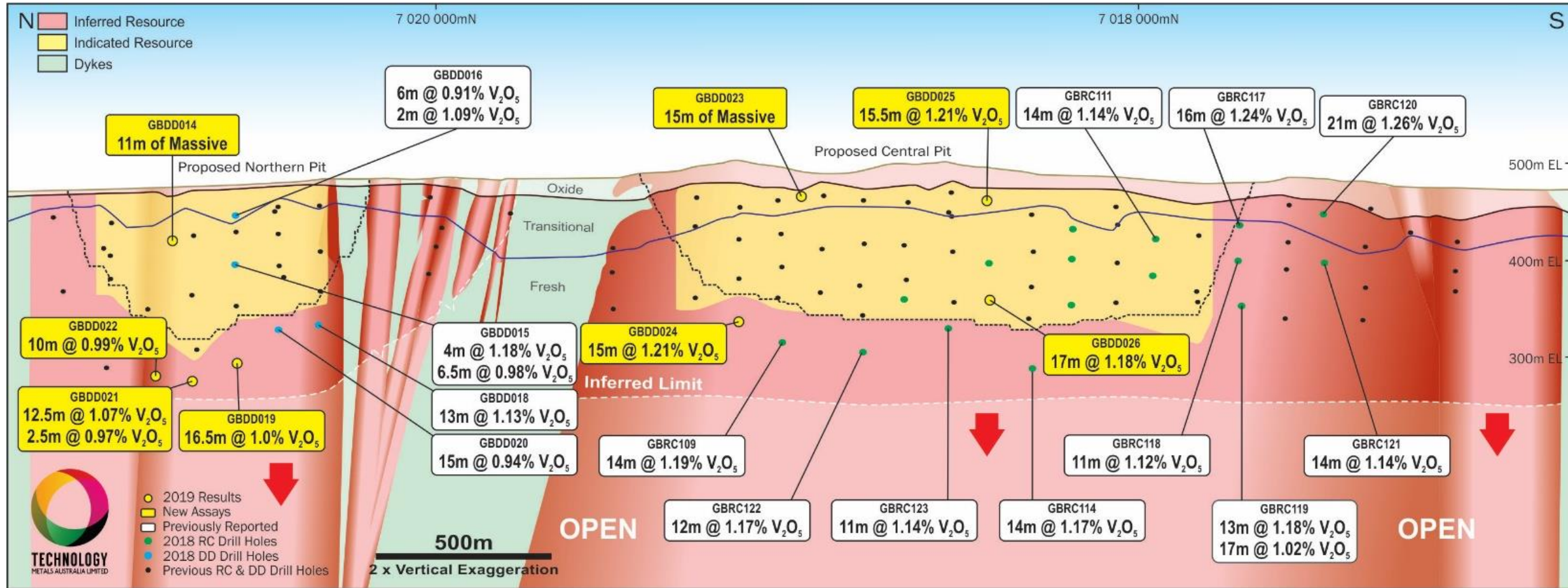
Project Enhancement Drilling Program*

- Resource infill and extension drilling (3,741m RC across 28 holes and 2,989m diamond across 21 holes) intersected broad massive magnetite mineralisation.
- Success in infilling and extending high grade mineralisation; confirmed competency of host rocks.
- Massive magnetite mineralisation intersected 25 to 50m down dip of Indicated Resource; vertical depths of up to 190m.
- Infill holes expected to extend Central Pit Indicated Resource by +300m to south.
- Extension of Indicated Resource and steeper open pit walls will enable open pits to be deepened; increasing Reserve and mine life.



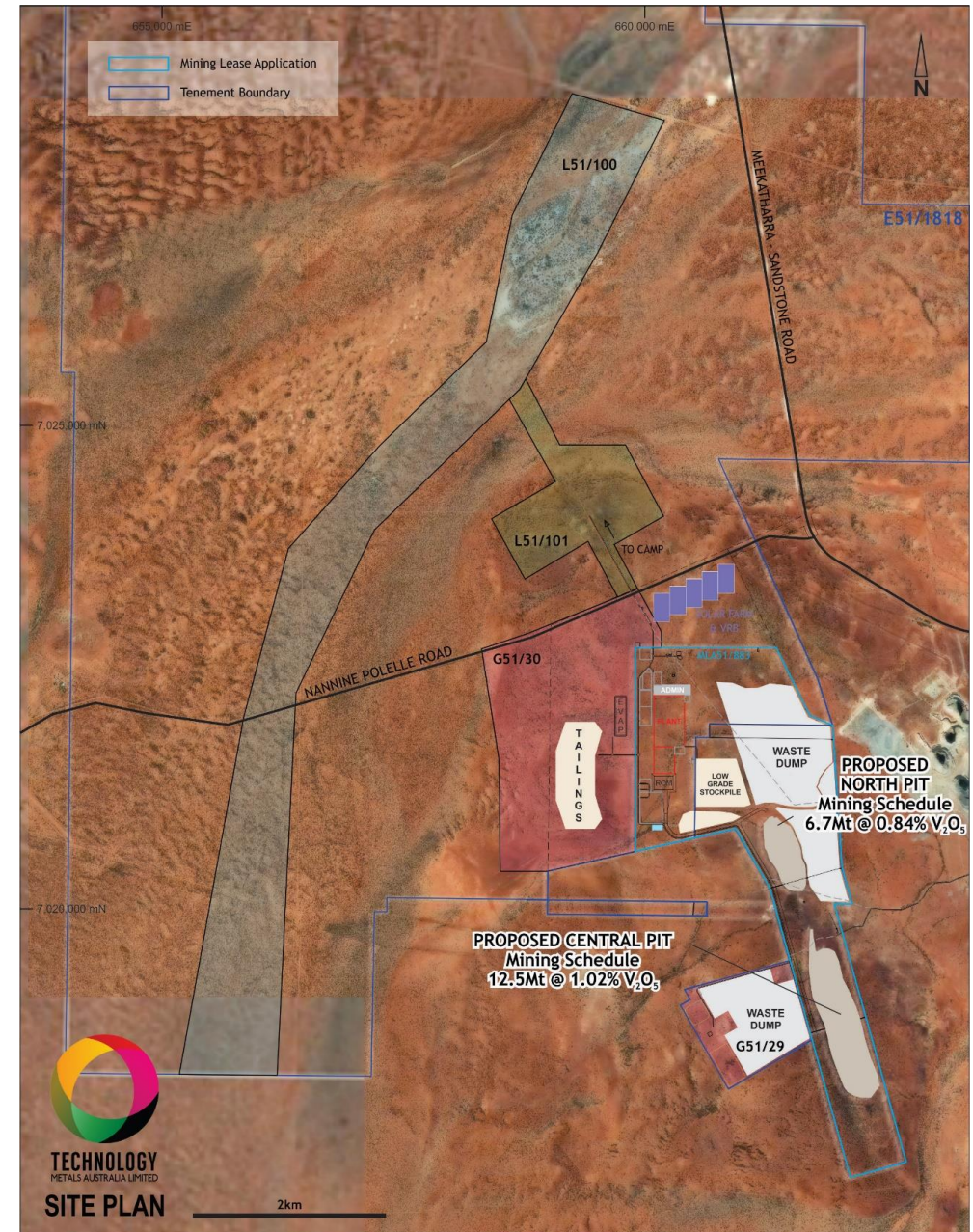
* – Refer TMT ASX announcement dated 8 November 2018, 20 December 2018 and 30 January 2019 for full details of project enhancement drilling results.

Growing Resource



Development Milestones

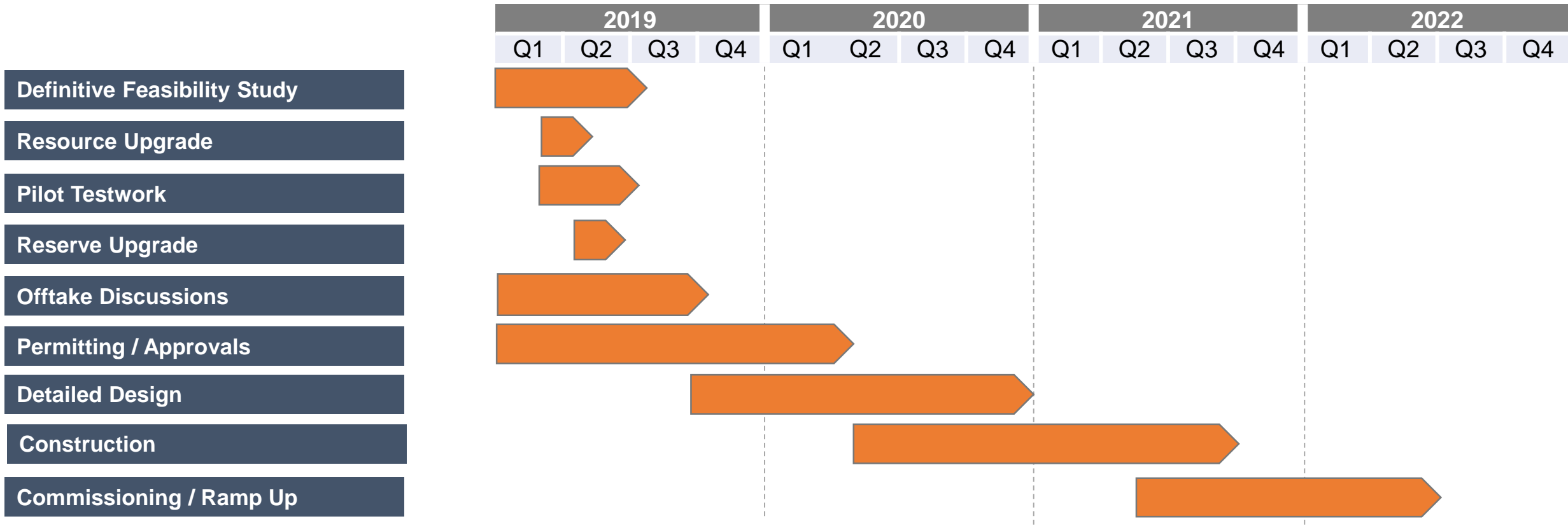
- Bulk sample collection drilling program completed along the strike of the proposed North Pit.
- Pilot plant testwork underway including scaled-up kiln testwork – optimise process flow sheet.
- This work generating further final product sample for off taker / end-user testing.
- Detailed process plant design and engineering completed with packages sent to prospective vendors for quotation.
- Environmental and heritage studies progressing in support of advancing mining lease grant and statutory approvals.
- Process water source identified to the north of treatment plant on TMT tenure.
- On track to deliver high quality DFS results mid 2019.



Gabanintha Project Schedule



Indicative Timetable



Investment Case

- **Leveraged to structural change in vanadium industry** with positive outlook for commodity pricing driven by demand growth in steel and VRB's.
- **Progressing offtake discussions** underpinned by delivery of very high purity final product for end-user testing.
- **Exposure to a globally significant** high grade, low cost, large scale and long life vanadium development project.
- **Stable well resourced mining environment** with excellent infrastructure and access to services.
- **Experienced Board and management** team focused on rapidly progressing the project to maximise shareholder value.



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Global Mineral Resource*



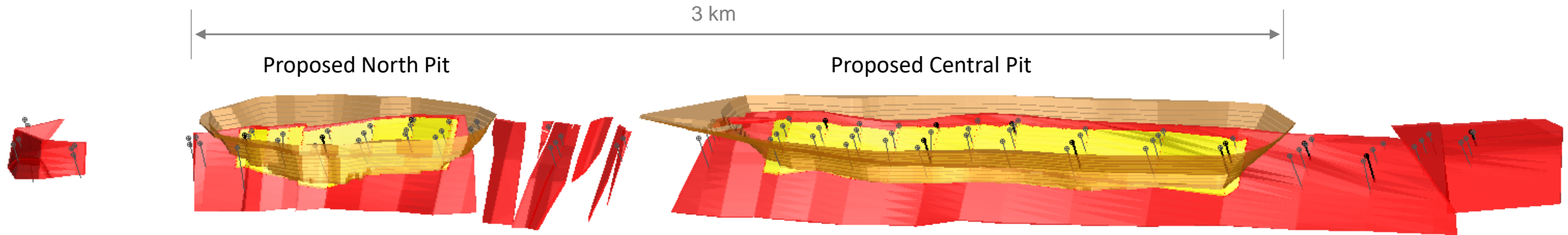
- Overall Global Resource of **119.9Mt at 0.8% V₂O₅** split between **98.4Mt at 0.8% V₂O₅** in the Northern Block and **21.5Mt at 0.9% V₂O₅** in the Southern Tenement.
- One of the highest grade deposits in the World, with exceptional high grade resources of **55.0Mt at 1.1% V₂O₅** within consistent basal massive magnetite.
- Probable Reserve of 16.7Mt at 0.96% V₂O₅** contained within **Indicated Resource of 21.6Mt at 0.9% V₂O₅** (Northern Block only – includes a high grade component of 14.5Mt at 1.1% V₂O₅).
- Scope identified to materially increase the Indicated Resource within an expanded global resource.

Technology Metals Gabanintha Vanadium Project - Global Mineral Resources as at March 2018										
Material	Classification	Tonnage (Mt)	V2O5%	Fe%	Al2O3%	SiO2%	TiO2%	LOI%	P%	S%
Massive magnetite	Indicated	14.5	1.1	49.2	5.1	5.8	12.8	-0.2	0.007	0.2
	Inferred	40.5	1.1	48.3	5.5	6.5	12.7	0.2	0.007	0.2
	Indicated + Inferred	55.0	1.1	48.5	5.4	6.3	12.7	0.1	0.007	0.2
Disseminated magnetite	Indicated	7.1	0.6	29.9	12.6	24.4	7.8	2.9	0.032	0.1
	Inferred	57.7	0.6	27.2	13.7	26.7	7.2	4.0	0.024	0.2
	Indicated + Inferred	64.9	0.6	27.5	13.5	26.4	7.2	3.9	0.025	0.2
Combined	Indicated + Inferred	119.9	0.8	37.1	9.8	17.2	9.7	2.1	0.016	0.2

* Note: The Mineral Resource was estimated within constraining wireframe solids using a nominal 0.9% V2O5 lower cut-off for the Massive magnetite zone and using a nominal 0.4% V2O5 lower cut-off for the banded and disseminated mineralisation zones. The Mineral Resource is quoted from all classified blocks within these wireframe solids above a lower cut-off grade of 0.4% V2O5. Differences may occur due to rounding.

* – Refer TMT ASX announcements dated 13 June 2017, 18 December 2017 and 6 March 2018 for full details of the mineral resource estimation.

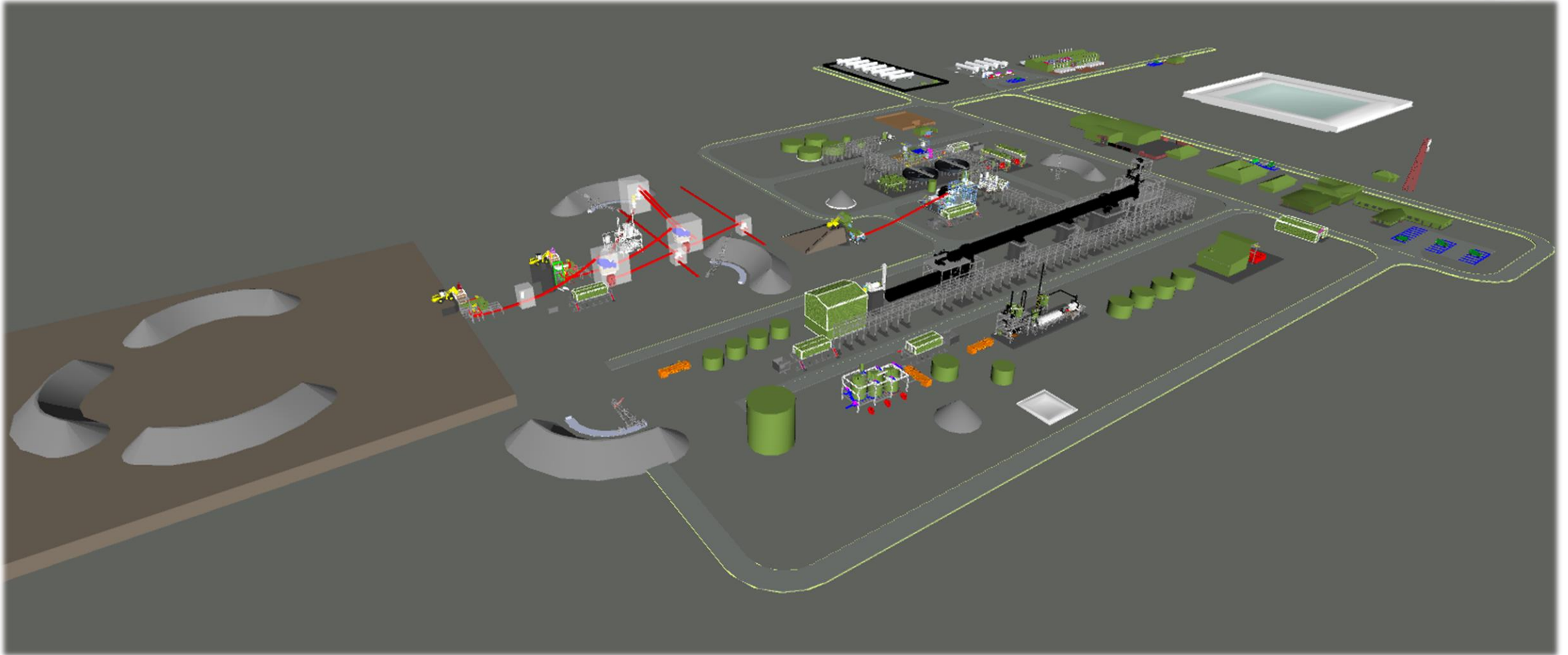
Northern Block Resource Classification



Long section view towards the east (090°) of classified model (Indicated – yellow, Inferred – red)

- PFS open pit designs for North Pit (mining schedule of 6.7Mt at 0.84% V_2O_5) and Central Pit (mining schedule of 6.7Mt at 0.84% V_2O_5).
- Highlights that pit designs capture the majority of the Indicated Resource (yellow), the lack of drilling beneath the pit designs and the broad spacing of drilling at the southern end of the Central Pit.
- Clear scope to materially increase the Indicated Resource within an expanded Global Resource.
- Drilling has now been completed to depth below the pit designs and infilled to minimum 100m line spacing.
- Bulk sample drilling in North Pit expected to upgrade a portion of the resource to Measured Category.

Processing Facility Schematic



Gabanintha Project – Schematic Processing Plant Layout