

# Annual General Meeting Company Update 27 November 2013

Paul Burton – Managing Director

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#### **Forward-Looking Statements**

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#### **Competent Person's Statement**

#### **JORC 2004**

The information in this report that relates to Exploration Results at McArthur River Project is based on information compiled by Paul Burton who is a Member of The Australasian Institute of Mining and Metallurgy and a Director of TNG Limited. Paul Burton 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Paul Burton consents to the inclusion in the report 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 Resources included in the 2012 PFS and is based in based on information compiled by Lynn Olssen who is a Member

of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Lynn Olssen 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Lynn Olssen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Financial Analysis is based on information compiled by Jeremy Peters who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Jeremy Peters 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Jeremy Peters consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mr Damian Connelly, MAAusIMM, Chartered Processional (MET), tMMICA, MSME, MSAIMM was responsible for the preparation of the metallurgical test work results reported herein. Mr Connelly has sufficient experience to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of the Exploration Results, Mineral Resources and Ore Reserves. Mr Connelly consents to the inclusion in the report of the matters based on his information in the form and context in which is appears.

#### **JORC 2012**

The information in this report that relates to 2013 Mineral Resource Upgrade for the Mount Peake project is based on and fairly represents, information and supporting documentation compiled by Lynn Olssen who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Lynn Olssen has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which she 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'. Lynn Olssen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

The information in this report that relates to Exploration Results and Exploration Targets for Mount Peake and Mt Hardy projects are based on information compiled by Exploration Manager Mr Kim Grey B.Sc. and M. Econ. Geol. Mr Grey is also a member of the Australian Institute of Geoscientists and a full time employee of TNG Limited. Mr Grey 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'. Mr Grey consents to the inclusion in the report of the matters based on his information in the form and context in which it appear.

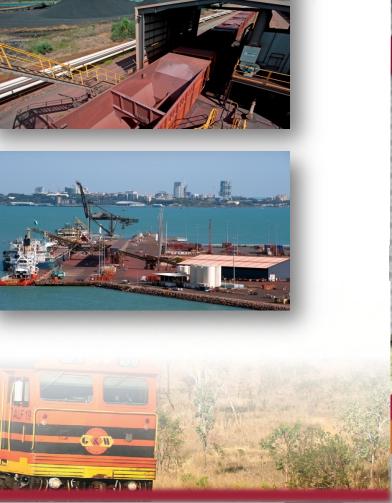
# Outlook for 2014

# Committed to development

- Focus on advancing Mount Peake development
- Finalise Metallurgical process
- Commercialise TIVAN plant
- Complete Definitive Feasibility Study
- Complete Environmental Impact Study
- Secure partner for development
- Secure off-take agreements
- Secure Mining Agreements and Permits
- Advance Copper projects







# Latest Developments:

Following recent NT Ministers overseas delegation the company confirms that:

The company met with: Vanadium importers in Japan,

Steel producers in China, Japan and Korea,

Titanium-dioxide importers in Asia

### As a result the company confirms:

- Discussions are in progress with a major Steel conglomerate for magnetite concentrate off-take agreement
- Discussions are in progress with Global end user for Titanium-Dioxide off-take agreement
- Investment and licencing agreement discussions are in progress with major overseas Mining company for TIVAN process and completion of Bankable Feasibility Study

In addition the company confirms:

Potential investment discussions are on-going with major middle-eastern Investment and Development company.

### 2013 In Review:

New projects; exploration success; Mt Hardy Copper, McArthur Significant exploration geophysical programmes completed; Mt Hardy Significant drilling campaigns completed; Mt Hardy and Mount Peake New resource established for Mount Peake Definitive Feasibility Study commenced for Mount Peake Two-stage development scenario for Mount Peake Major Project status awarded for Mount Peake by NT Government Agreements with NT Port, Rail authorities for Mount Peake logistics NOI submitted and EIS commenced for Mount Peake approval Acquisition of TIVAN process Offtake discussions in progress for Mount Peake products Agreement with CSIRO and leading European Engineering group for TIVAN Decision on Davis Samuel

# Corporate Overview

### THE GOAL:

To build a diversified Australian resources company focused on supplying key strategic metals to world markets from our extensive portfolio of mineral projects in the Northern Territory.

Key Corporate and Financial Data				
ASX code:	TNG			
Market capitalisation (at 4c):	\$21M			
Shares on issue:	526M			
Cash:	\$6.1M			

Major Shareholders				
Ao-Zhong International Mineral Resources	11.85%			
Aosu Investment & Development Co	11.39%			
WWB Investments P/L	10.88%			
(Directors hold approximately 13% of issued capital)				

Board of Directors					
Jianrong Xu	Chairman				
Paul Burton	Managing Director				
Michael Evans	Non-executive Director				
Stuart Crow	Non-executive Director				
Rex Turkington	Non-executive Director				
Zhigang Wang	Non-executive Director				

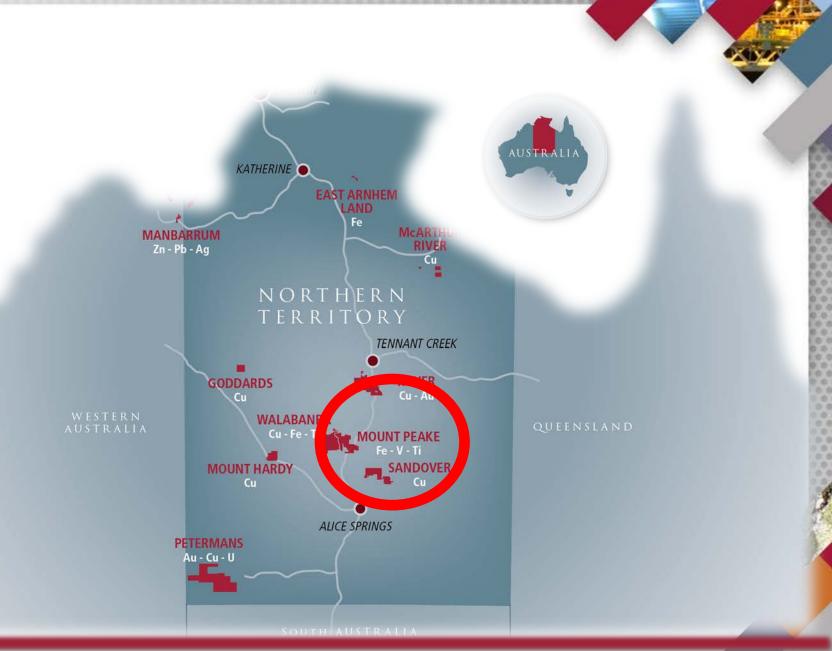
# Developing the Northern Territory

# TNG's retains an extensive Australian mineral asset portfolio:

- Mount Peake (Feasibility),
- Copper projects at Mount Hardy, McArthur River, Sandover, and Walabanba
- A bauxite project on Melville Island
- Base metals at Manbarrum Project



# Mount Peake Project: Focus



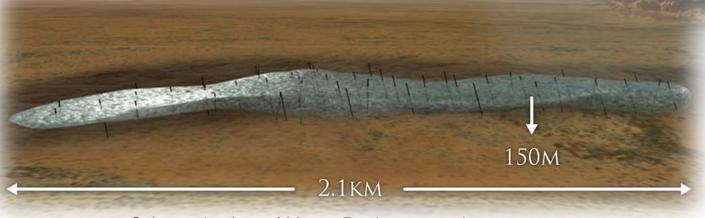
# Mount Peake Project : Key Facts High value world class asset \$13.6B LOM revenue (Supporting information in Appendix) North ■ 100%-owned + Close to road, rail and gas Direct access to Darwin Port Large, JORC Measured resource DFS commenced Agreements with all stakeholders underway Targeting production high purity oxide metals

# Mount Peake Project : Resource

Shallow large-scale resource underpins long-life project (Resource update March 2013)

Category	Tonnes (Mt)	V <sub>2</sub> O <sub>5</sub> %	TiO <sub>2</sub> %	Fe%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %
Measured	118	0.29	5.48	23.64	8.18	32.81
Indicated	20	0.28	5.33	22.05	9.09	33.98
Inferred	22	0.22	4.41	19.06	10.38	37.79
TOTAL	160	0.28	5.31	22.81	8.60	33.64

Ave Magnetite Concentrate: 1.2% 18% 55%



Schematic view of Mount Peake magnetite resource

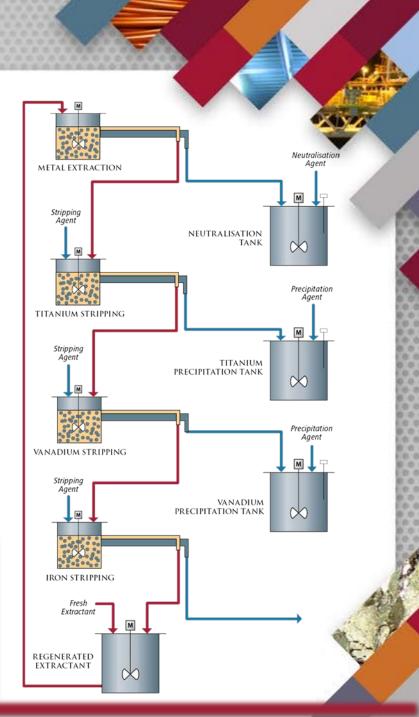
# TIVAN® Process:

- Hydrometallurgical process that extracts high purity vanadium, titanium and iron (Patent pending)
- 2012 PFS Pilot plant test work results: (refer ASX announcement 15/5/2012)
  - 99.6%  $V_2O_5$

- (+80% recovery)
- **99.9%** Fe<sub>2</sub>**0**<sub>3</sub> **(69.2%** Fe**)**(80% recovery)
- - Up to  $55\% \text{ TiO}_2$  (+75% recovery)
- Final optimisation and design work well advanced
- Commercialisation expected in 2014
- Patent/Trademark Registered in over 12 countries

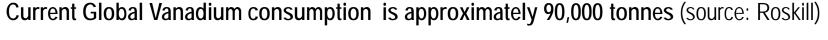






# Product: 1 - Vanadium Pentoxide

### Vanadium PentoxideV205 – 99.6% Purity



Current Price approximately USD \$18/Kg (USD \$18,000 / Tonne)

### Main Uses:

- STEEL: Ferro-Vanadium FeV; Corrosion resistant
- ENERGY: Power, Energy and Nuclear applications
- **HIGH TECHNOLOGY**: Vanadium Pentoxide  $V_2O_5$  Multiple new technology uses







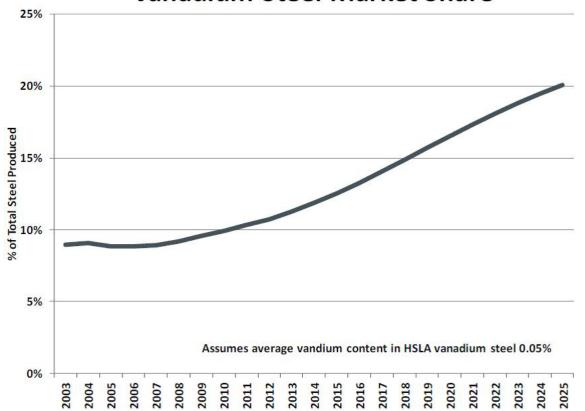


# Forecasts - Vanadium Pentoxide

Essential component in the development of high strength steels forecast to increase approximately 5% per year to 2025

REBAR GRADE 3 - if enforced could add 40,000t demand

### **Vanadium Steel Market Share**



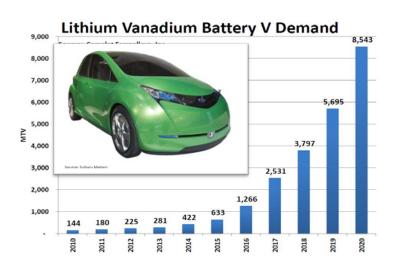


Source: Roskill

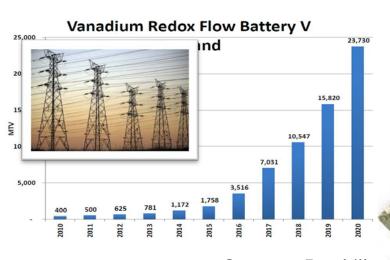
# New developments - Vanadium Pentoxide

### Essential element for some new batteries

- ELECTRIC CARS: Demand increasing due to rising energy prices and CO<sup>2</sup> Reduction targets
- Approximately 8kg of Pure Vanadium is used to produce one lithium-ion car battery
- 1 million hybrid cars would require 8000t of Vanadium.
- POWER STORAGE: Investment in power storage increasing







Source: Roskill

# Energy - Vanadium Pentoxide

# Vanadium Redox Batteries (VRB's) – volume storage for the electricity generated by solar and wind power.

- Approximately **7kg** of high purity Vanadium Pentoxide per kWh is required for a single VRB (source:Roskill)
- Japan building worlds largest VRB capable of producing 60,000kwh (420t Vanadium Pentoxide) (source: Japan Times, September 2013)



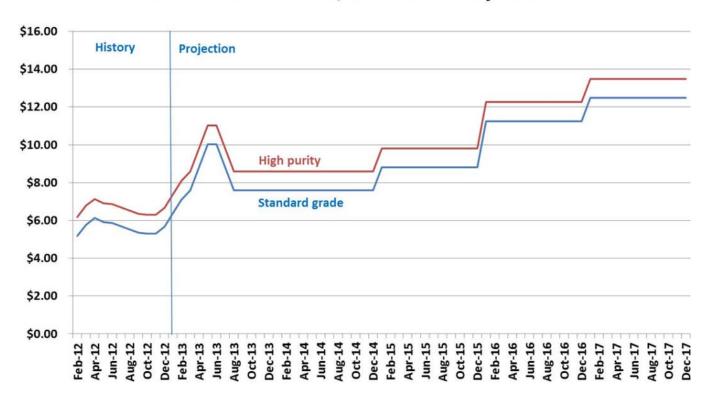




## Price Forecast - Vanadium Pentoxide

# Strong Price Increase forecast as a result of forecast increased demand

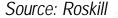
# Metal Bulletin V2O5 Monthly Average Price 2012-2013 Historical, 2013-2017 Projection











# Product 2 - Titanium Dioxide

# Titanium – 55% TiO<sub>2</sub>

Forecast 7% annual growth increase in demand (source:Roskill)

### Uses:

- ☐ HIGH TECHNOLOGY
- Coatings and Pigments
- MEDICAL
- AEROSPACE



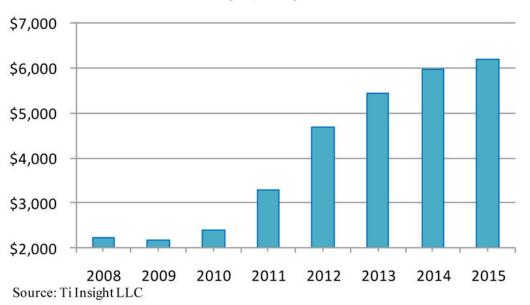




# Price forecast - Titanium Dioxide

### **Strong Price Forecast for high purity product**

# TiO<sub>2</sub> World Annual Average Price Forecast (US\$ PMT)









# Product 3 - Iron Oxide

# High Purity Iron Oxide Fe203 – 99.9% purity (69.2% Fe)

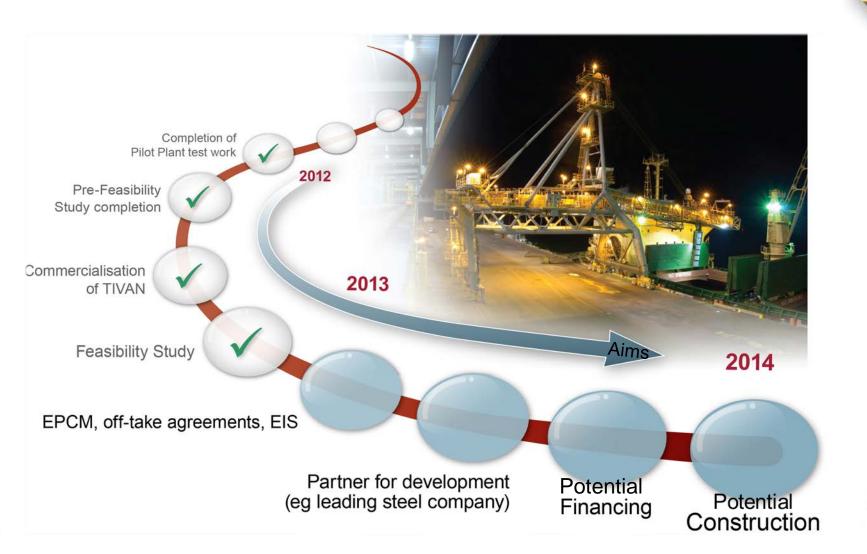
### Uses:

- Coatings and Pigments
- Chemicals and Food Additives
- Magnetics
- Feedstock for processing
- Powder Metallurgy
- Price can range up to \$1000/tonne

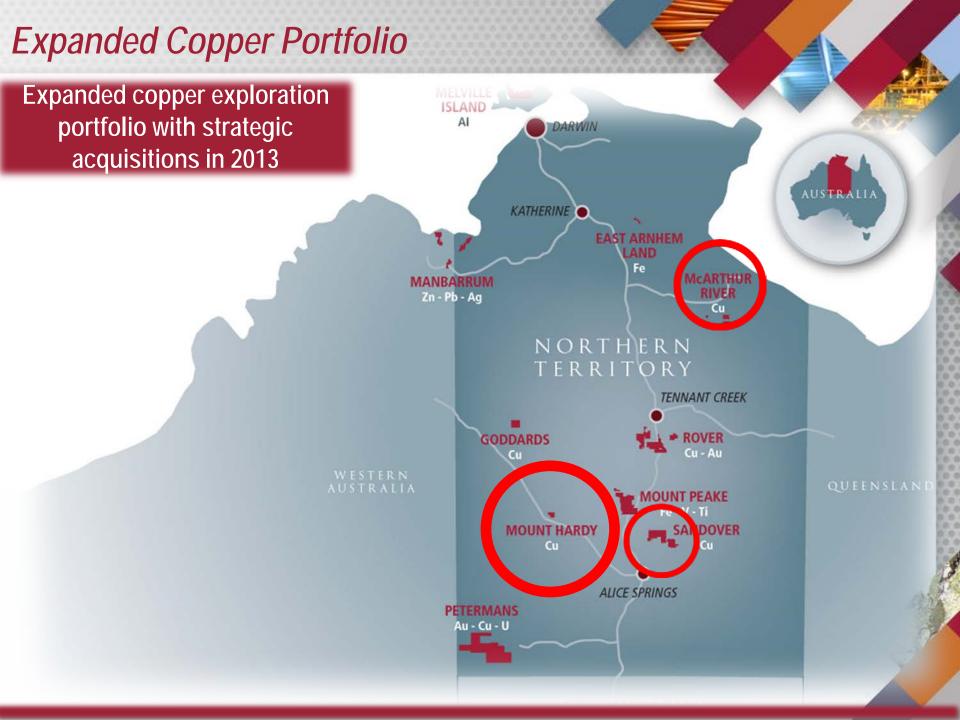


# Mount Peake Project Development

# Potential Development pathway



# Mount Peake additional Potential Graphite Within Mount Peake tenements 40m intercept of graphite mineralisation from regional drilling Potential for an extensive zone of graphite mineralisation Large EM target ■ Further testwork with Mount Peake development **Nickel Copper** Extensive Nickel Copper prospectivity in Arunta province



# Advanced Copper Project

### **Mount Hardy Copper Project**

- HTEM identified 17 EM targets (8 tested to date)
- Extensive surface rock chip grades up to 35% Cu, 18% Pb, 10% Zn, 7g/t Au, 400g/t Ag
- 2013 Drilling confirmed significant sulphide copper grades below oxide

Range of good intersections:

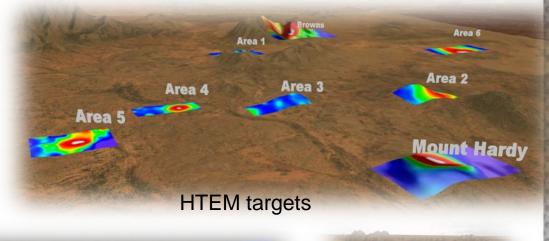
10m @1%Cu

5m @2.5% Cu, 1% Pb, 4% Zn

21m @ 0.5% Cu, 2% Pb, 4% Zn

(Refer ASX announcement 30 July 2013)

2013 DHEM refined more targets



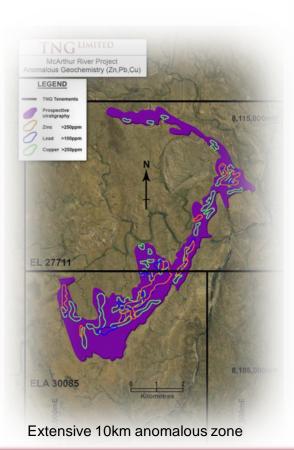
Mt Hardy prospect IP anomaly

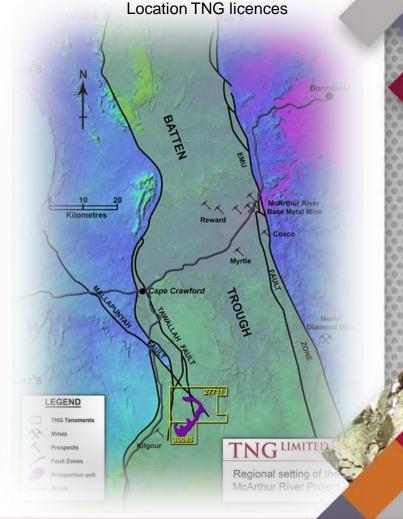
Browns IP anomaly

# Increased Base Metals Portfolio

# McArthur River Copper / base metals Project

- ✓ 60Km SW of Major mines
- ✓ Extensive high-grade surface Cu with Zn, Pb
- ✓ Rock chip up to 3% Cu,
- ✓ 10km zone
- Existing IP targets





# Summary

- Company adapted to a challenging environment in 2013
- Retain a mineral-asset rich project portfolio in NT
- Project asset value increased and expanded
- Developing a world-class Vanadium-Titanium- Iron Project
- TIVAN® process continuing to advance
- Outlook for strategic metals predicted to be strong
- Quality copper and base metal projects
- Well positioned for strong development in 2014.



VANADIUM METAL





# **THANK YOU**

Paul Burton – Managing Director

# Appendix - Supporting Data

### Mineral Resources and Exploration Targets:

The Pre-Feasibility Study (PFS) is based on the updated Indicated and Inferred Resource for Mount Peake published on 12 October 2011 of 160Mt @ 0.3% V2O5, 5% TiO2 and 23% Fe (Indicated 110Mt @ 0.29% V2O5, 5.3% TiO2 and 23% Fe; Inferred 48Mt @ 0.24% V2O5, 4.5% TiO2 and 21% Fe). The Pre-Feasibility assumptions the financial model is based on mining 75.9 Mt of the 160 Mt Mineral Resource Of this amount 20.4% is from the Inferred Mineral Resource category. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

In addition to this resource, TNG has published an Exploration Target of 500-700Mt grading 0.2-0.4% V2O5 and 25-35% Fe. The potential quantity and grade is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

#### Pre-Feasibility Study:

Reference to the PFS is to the ASX announcement 9 July 2012, which was prepared based on the Company's presently delineated mineral resource estimate. Any investment decision should be considered based on this information. Full details of the Mount Peake Pre-Feasibility Study are available in the Company's ASX Announcements 9 July 2012 and 19 September 2013. Mining is based on the PFS financial analysis which includes 20.4% of Inferred Resource material (there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised).

### Key assumptions of 2012 PFS include:

- Operating costs and pit slope angles related to mining estimated to a Pre-Feasibility Study level (±25%)
- V<sub>2</sub>O<sub>5</sub> price of US\$20,305/tonne (> 90% grade)
- TiO<sub>2</sub> price of US\$400/tonne (> 55% grade)
- Fe<sub>2</sub>O<sub>3</sub> price of US\$200/tonne (> 69% grade)
- Royalty rate of 2.5% per tonne of plant feed
- Discount rate of 8%
- AUD\$/US\$ exchange rate of 1 US\$ = 1AUD\$

#### **Nett Annual Cash Flow:**

Is defined as the average discounted cash flow per annum after all CAPEX (pre-strip CAPEX, initial CAPEX, and expansion CAPEX) has been deducted, but ignores cost or source of capital, hedging, tax, depreciation, rehabilitation and salvage.

