

## ASX ANNOUNCEMENT

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### DIRECTORS

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### PROJECTS

Mount Peake: Fe-V-Ti  
Manbarrum: Zn-Pb-Ag  
East Rover: Cu-Au  
McArthur: Cu

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## Scoping Study on *Ferro-Vanadium Production* adds Significant Value to Mount Peake Project

*Processing study indicates downstream FeV production could deliver substantial additional value*

### Highlights

- **Positive Scoping Study on production of high-value ferro-vanadium from Mount Peake Iron-Vanadium Project completed by Snowden Mining Industry Consultants**
- **Contemplates annual production of 4,703 tonnes of ferro-vanadium over an estimated 24-year mine life**
- **Ferro-vanadium sells for double the price of vanadium pentoxide, confirming the significant potential to enhance project economics**
- **Forecast Nett Annual Cashflow<sup>1</sup> increases to A\$226M**

Australian resources company TNG Limited (ASX: **TNG**) is pleased to report further significant results from a supplementary independent Scoping Study to evaluate the potential of producing a high-value **ferro-vanadium product** from its 100%-owned **Mount Peake Vanadium-Iron-Titanium Project** in the Northern Territory.

TNG commissioned metallurgical consultants, Mineral Engineering Technical Services (METS) and Snowden Mining Industry Consultants Pty Ltd ("Snowden") to commence the study following the February 2011 Scoping Study based on a proposal to divert part or all of the vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) product to a downstream ferro-vanadium (FeV) plant. Such a plant could be constructed in Darwin or elsewhere, such as Whyalla.

METS' Scoping Study assumed a fixed production of **4,700 tonnes per annum of ferro-vanadium** – or 105,000 tonnes over the life of the Project. This assumption was based on processing of the currently defined Inferred Resource at a rate of 2Mtpa. The capital cost for constructing the ferro-vanadium plant is estimated at A\$43.8 million.

The study estimates a **Nett Annual Cashflow<sup>1</sup> of \$78 million** from the production of FeV and increases the Mount Peake Project's **Total Nett Annual Cashflow<sup>1</sup> to \$226 million** or \$5.34 billion over the estimated mine life of 24 years. This represents a substantial **50% increase** and improvement on the project operating and financial parameters of the Mount Peake Project as outlined in the February 2011 Scoping Study (see *Appendix 1 below*). This cashflow was based on a projected ferro-vanadium spot price of US\$50/kg (refer below).

Ferro-vanadium is a highly valuable downstream product which sells for more than double the price of vanadium pentoxide.

Ferro-vanadium, which is produced in an electric-arc furnace, is an alloy of iron and vanadium. It is used to help make specialist steel, particularly for high-speed tools which require hardness and strength. Demand for vanadium products has risen sharply on the back of high-technology applications in the medical, electronics and aerospace industries.

Independent metal experts Roskill noted recently that the longer-term price for ferro-vanadium is forecast to rise from the current price of US\$35/kg to US\$75/kg by 2015. In the past decade, China has become both the main producer and main consumer of vanadium. Over the next decade, demand for vanadium is anticipated to be driven by emerging economies as they grow steel output and increase production of high-strength steels which have a higher vanadium content.

The Ferro-vanadium Scoping Study has been based on the same mining parameters as the project Scoping Study completed in February 2011 (see ASX announcement of 15 February 2011 and Appendix 1 below), with the contemplated mining and expansion sequence remaining unchanged except for the construction of a separate FeV plant.

**The key findings of this Ferro-Vanadium Scoping Study are as follows:**

- Mine Life: 23.63 years
- Ferro-vanadium processing rate (life-of-mine): 2 Mt /annum
- Total FeV metal production: 105,000 tonnes
- Total operating costs (excluding royalties): \$5.36/tonne
- Preliminary capital estimate<sup>2</sup>: \$43.8M (for Stage 1 – 2Mtpa)
- Nett Cashflow<sup>1</sup>: \$78M / annum
  
- **New Total Project Nett Cashflow<sup>1</sup> \$226M / annum**

**Key assumptions of the Scoping Study included:**

- Operating costs and pit slope angles related to mining estimated to a Scoping Study level (±50%)
- V<sub>2</sub>O<sub>5</sub> produced at site and transported by rail to FeV plant in Darwin
- Commodity pricing based on Roskill price forecast assumed for commencement of production by 2015
- FeV price of USD \$50/kg
- Royalty rate of 2.5% per tonne of plant feed
- A\$/US\$ exchange rate of 0.85 US\$ = 1A\$

**Ore processing Rate:**

This Study is based on the processing of anticipated V<sub>2</sub>O<sub>5</sub> production from a 2 million tonne per annum (Mtpa) mining operation over the life of the mine, and does not take into account TNG’s plan to increase mining levels to 5Mtpa through a Phase 2 mine expansion. This indicates there is significant potential to further enhance the project economics through additional ferro-vanadium production under an expanded mining scenario and from the identification of high-grade zones within the currently Inferred Resource.

**Operating Cost:**

A conservative operating cost has been estimated to take into account power generation requirements.

**Exchange Rate:**

The exchange rate was selected as the average forecast from 7 banks for the next 4 years. However in light of current exchange rate movements a parity exchange rate test using \$1 US = \$1 AUD, was also performed by Snowden and also a lower USD \$30 / kg FeV price (current price USD \$35/kg). All tests produced POSITIVE Nett Cashflow<sup>1</sup> (table 1) providing further support to a robust project. The tests also clearly highlighted the sensitivity to price fluctuations for Vanadium. The company considers it is in an advantageous position to absorb these with the ability to produce additional commercial high-grade Iron and Titanium products thereby not have a total reliance on a single product.

Parameter	Unit	Value	Value	Value
Exchange Rate	\$AU/\$US	\$0.85	\$0.85	\$1.00
FeV Price	US\$/t	\$50,000.00	\$30,000.00	\$50,000.00
V <sub>2</sub> O <sub>5</sub> Price	US\$/t	\$17,637.00	\$17,637.00	\$17,637.00
TiO <sub>2</sub> Price	US\$/t	\$155.60	\$155.60	\$155.60
Iron Price	US\$/t	\$200.00	\$200.00	\$200.00
	<b>NPV (M)</b>	<b>\$1,598.51</b>	<b>\$763.12</b>	<b>\$879.34</b>

**Table 1: FeV Price & Exchange Rate sensitivity test**

TNG’s Managing Director, Mr Paul Burton, said the results of the Ferro-Vanadium Scoping Study provided further confidence in the robust economics of the Mount Peake Project and demonstrated the substantial upside for the Project by considering the potential for a value-added downstream component.

“Although this is at Scoping level, the potential value which can be unlocked through a relatively small investment in an off-site downstream ferro-vanadium plant is remarkable,” Mr Burton said. “The Study estimates that Nett Annual

Cashflows<sup>1</sup> will increase to around \$226 million, an increase of 50% on the estimate in the February 2011 Scoping Study of \$148 million per annum.

“Based on the outstanding results of this Study, we will be including the potential to construct a ferro-vanadium plant as part of the Pre-Feasibility Study on the Mount Peake Project which is currently underway.

“The Mount Peake Project is clearly emerging as a world-class vertically integrated development opportunity for TNG and we are very steadfast about the opportunities which this presents for TNG shareholders,” he added.

In order to progress the ferro-vanadium concept, Snowdens recommended that TNG seek specialist advice on projected price and demand for ferro-vanadium, conduct further process recovery research and confirmation of process flows and undertake more detailed investigation of capital and operating costs and the financial parameters of a downstream operation. All these will be addressed in the company’s Pre-Feasibility study.

The company is proceeding with the next phase of pilot plant test work and pre-feasibility studies on the Mount Peake Project, including further resource drilling to upgrade the current JORC resource to Indicated and/or Measured standard and environmental studies.

## **TNG LIMITED**

Paul E Burton

Managing Director

13<sup>th</sup> April 2011

## **COMPETENT PERSON STATEMENT**

The information in this report that relates to Exploration Results is based on information compiled by Paul Burton who is a Member of The Australasian Institute of Mining and Metallurgy , an employee and 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.

Mr Damian Connelly, MAAusIMM, Chartered Processional (MET), MMICA, 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 it appears.

The information in this report that relates to Mineral Resources is based on information compiled by Michael Andrew who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Michael Andrew 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’. Michael Andrew 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 and Mining 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.

## **DISCLAIMER**

The scoping study has been prepared based on the Company’s presently delineated inferred mineral resource estimate and any investment decision should be considered based on this information.

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## Appendix 1:

### FEBRUARY 2011 SCOPING STUDY RESULTS:

#### The key findings of the Scoping Study are as follows:

- Mine Life: 23.63 years
- processing rate (life-of-mine): 5 Mt /annum
- Life-of-mine production: 107.1 million tonnes
- Process head grade: 0.33% V<sub>2</sub>O<sub>5</sub>, 25.39% Fe, 6.04% TiO<sub>2</sub>
- Total metal production: 349kt V<sub>2</sub>O<sub>5</sub>, 27,182kt Fe, 6,463kt TiO<sub>2</sub>
- Total operating costs (excluding royalties): \$46.6/tonne
- Preliminary capital estimate: \$370.3M (for Stage 1 – 2Mtpa)  
\$307.6M (for Stage 2 – 5Mtpa)
- Nett Cashflow<sup>1</sup> \$148.37M / annum

#### Key assumptions of the Scoping Study:

- Operating costs and pit slope angles related to mining estimated to a Scoping Study level (±50%)
- Commodity pricing based on a previous 4 year average
- V<sub>2</sub>O<sub>5</sub> price of US\$8.00/lb
- TiO<sub>2</sub> price of US\$155.60/tonne
- Fe<sub>2</sub>O<sub>3</sub> price of US\$200/tonne
- Royalty rate of 2.5% per tonne of plant feed
- A\$/US\$ exchange rate of 0.85 US\$ = 1A\$

#### <sup>1</sup>Nett Cashflow

Nett Cashflow is defined as the average undiscounted cashflow 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.

#### <sup>2</sup> FeV plant capacity capital cost estimate (+- 35% Accuracy)

Area	A\$ Million
<b>Direct cost</b>	
Ferrovandium plant	28.8
<b>Direct cost sub-total</b>	<b>28.8</b>
<b>Indirect cost</b>	
Field indirects	3.5
EPCM	4.3
Vendor reps	0.2
Capital spares	0.7
Commissioning spares	0.2
Insurance	0.4
<b>Indirect cost sub-total</b>	<b>9.3</b>
<b>Total cost</b>	
Contingency	5.7
<b>Grand total</b>	<b>43.8</b>