

## TNG FILES APPLICATION FOR THE TRADE MARK “TNG360” FOR ITS TITANIUM DIOXIDE PIGMENT

*The trade mark will highlight TNG’s unique and high-value product*

### Key Points

- The trade mark will be recognizable globally and will distinguish TNG’s TiO<sub>2</sub> pigment from competitors.
- TNG360 will designate TNG’s initial pigment grade for paint and coatings applications. TNG also intends to register other easily identifiable names for its subsequent pigment grades.
- The trade mark will also highlight the unique whiteness of TNG’s pigment due to the very low iron content of its feedstock.
- TNG’s process and feedstock will also have a very low environmental impact – a key aspect for customers in helping them to achieve their social responsibility targets.
- A trade mark is an effective communication tool and an asset creating long-term value for TNG.

Australian strategic metals company TNG Limited (ASX: TNG) (“TNG” or the “Company”) is pleased to advise that it filed an application to trade mark the name of its first titanium dioxide pigment as “TNG360” on 22 March 2019.

A trade mark is an efficient mechanism to make TNG’s unique process, product and services easily identifiable globally. It also provides protection to both TNG and its customers for its intellectual property, an important component of running a successful global company.

Existing sulfate and chloride processes for titanium dioxide pigment production have been respectively using ilmenite and rutile as feedstock for more than a century. Such resources are limited and key producing mines are close to depletion. TNG uses a new source of feedstock, titanomagnetite, processed by using its proprietary TIVAN<sup>®</sup> hydrometallurgical processing technology (see Figure 1).

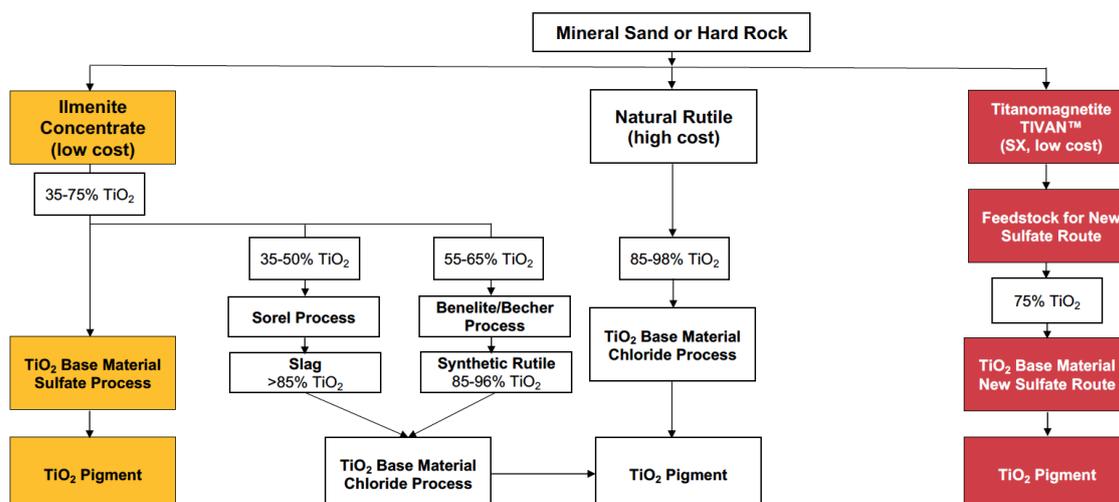


Figure 1: Comparison of the TiO<sub>2</sub> feedstocks – TNG’s new sulfate route shown in red.

TNG360 will highlight the uniqueness of TNG’s TiO<sub>2</sub> pigment, which uses a feedstock with the lowest iron content globally. This will result in a neutral colour tone (fig. 2).

Oxide	Ilmenite 44%	TiO <sub>2</sub> Slag 80%	Tivan
TiO <sub>2</sub>	44.0	79.4	74.20
Fe <sub>Total</sub>	35.5	9.40	2.34
SiO <sub>2</sub>	3.3	4.30	18.39
Cr <sub>2</sub> O <sub>3</sub>	0.09	0.13	0.03
Al <sub>2</sub> O <sub>3</sub>	0.7	1.80	2.43
MgO	4.5	5.70	0.42
CaO	0.35	0.66	0.91
V <sub>2</sub> O <sub>5</sub>	0.20	0.35	0.24

**Figure 2: The Tivan feedstock has fewer residual impurities (e.g. Fe<sub>Total</sub> and Cr<sub>2</sub>O<sub>3</sub>)**

TNG’s finished product, TiO<sub>2</sub> pigment, will have similar properties and command a similar premium to chloride produced pigment. TNG expects that its new process for the production of titanium dioxide pigment will yield very high physical and optical properties compared to other TiO<sub>2</sub> pigments (Figure 3).

	Sulfate	Chloride	TNG
Brightness	Less bright	More bright	More bright
Undertone	More yellow	Less yellow	Neutral
Dispersibility	More	Less	More
Abrasiveness	Less	More	Less

**Figure 3: Comparison of the TiO<sub>2</sub> processes.**

The low iron content of the feedstock will also minimize the environmental impact compared to traditional titanium pigment production processes. This represents an important competitive advantage for TNG as this is a key issue for customers in meeting their sustainable development targets.

TNG360 will be the first grade of titanium dioxide pigment produced by TNG targeting the paint and coatings market. The Company subsequently intends to develop a larger product portofolio to target the plastics, cosmetics and pharma industries.

## **Management Comment**

TNG's Managing Director, Mr Paul Burton, said: *"By lodging this trademark application, TNG is moving not only to protect our IP in respect of the high-purity TiO<sub>2</sub> pigment process we successfully developed last year, but also to ensure that our unique, high-value product will be recognisable globally and distinguished from our competitors. This is an important part of our overall strategic development and, together with our patented TIVAN® Process, represents an asset that will create long-term value for TNG."*

Paul E Burton  
**Managing Director**

28 March 2019

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### **About TNG**

TNG is building a world-scale strategic metals business based on its flagship 100%-owned Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory. Located 235km north of Alice Springs, Mount Peake will be a long-life project producing a suite of high-quality, high-purity strategic metals products for global markets including vanadium pentoxide, titanium dioxide and iron ore fines. The project, which will be a top-10 global producer, has received Major Project Facilitation status from the NT Government.

Vanadium is a highly strategic metal which is used as an alloy in steel. It is also in strong demand for use in energy storage, with vanadium redox batteries used to store electricity generated by solar and wind power, and lithium-vanadium ion batteries used to power hybrid cars.

### **Forward-Looking Statements**

This announcement has been prepared by TNG Limited. This announcement is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained.

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