

30 October 2018

# TNG SIGNS BINDING TERM SHEET WITH LEADING SWITZERLAND-BASED SPECIALTY CHEMICALS DISTRIBUTOR "DKSH" FOR LIFE-OF-MINE TITANIUM DIOXIDE PIGMENT OFF-TAKE FROM THE MOUNT PEAKE PROJECT

Binding Term Sheet encompasses purchase and global distribution of up to 100% of TNG's TiO2 production

## **Key Points**

- Binding Term Sheet for the life-of-mine off-take of TNG's TiO₂ pigment production.
- DKSH will provide a full distribution service, including freight financing (delivery to DKSH FOB Darwin), technical support, logistics, marketing and sales for TNG's TiO<sub>2</sub> product(s) from the Mount Peake Vanadium-Titanium-Iron Project.
- TNG will sell and DKSH will purchase up to 100% of TNG's TiO₂ production on an FOB basis for DKSH to distribute globally, excluding the Iberian Peninsula and European Nordic countries.
- TNG will initially produce a high-durability pigment for the outdoor coating industry, which represents the largest pigment market, before expanding to other high-value niche markets.
- TNG and DKSH have agreed to move towards a Binding Off-take Agreement reflecting these key points.
- TNG already has binding life-of-mine off-take agreements in place for vanadium with Korean group Woojin (2015) and for iron products with Gunvor (2016).
- The finalisation of a binding off-take agreement for titanium dioxide production means that TNG has binding sales contracts in place for all three of its high-value products, supporting its funding and commercialisation strategy for the Mount Peake Project.

Australian strategic metals company TNG Limited (ASX: TNG) is pleased to announce that it has signed a Binding Term Sheet with one of the leading market expansion services providers, **DKSH**, to purchase, on a life-of-mine basis, up to 100% of the titanium dioxide (TiO<sub>2</sub>) pigment that will be produced by its flagship 100%-owned **Mount Peake Vanadium-Titanium-Iron Project** in the Northern Territory.

The Binding Term Sheet – which has been entered into with a highly respected multi-billion dollar group which is a leader in its field, particularly across the Asian region – is an off-take arrangement for the third high-value product stream from the Mount Peake Project, complementing binding agreements which are already in place for the Project's vanadium and iron products.

DKSH is a publicly-listed (SWX: DKSH) leading market expansion services provider. Headquartered in Zurich and with a history dating back over 150 years, DKSH is deeply rooted in communities all across the Asia-Pacific region. The company offers any combination of sourcing, marketing, sales, distribution and after-sales-services and is organized into four Business Units: Consumer Goods, Healthcare, Performance Materials and Technology. Its core business is supporting other companies to grow their business in new or existing markets.

With 780 business locations in 36 countries and 30,320 specialized staff, it is one of the top-30 Swiss companies ranked by sales and employees. In 2017, DKSH generated annual net sales above US\$11 billion. For more information: <a href="http://www.dksh.com">http://www.dksh.com</a>

The Binding Term Sheet encompasses the titanium dioxide (TiO₂) pigment products that will be produced by TNG's proprietary TIVAN™ hydrometallurgical process, incorporating the innovative new process announced earlier this year (see ASX announcement, 26 February 2018).



The breakthrough process, which is based on the conventional TiO<sub>2</sub> sulphate route, followed extensive technical work undertaken by TNG and its partners over the past two years.

The TIVAN® titanium feedstock's low iron content is a significant advantage over standard TiO<sub>2</sub> feedstocks. Lowiron feedstock has the potential to minimise the environmental impact compared to a standard sulphate titanium pigment production process – an important competitive and strategic advantage for TNG.

This recent technical breakthrough has the potential to further improve TNG's TiO<sub>2</sub> product quality, price and the overall economics of Mount Peake, while at the same time reducing the technical complexity and environmental impact of the Project.



TNG and DKSH management meeting at DKSH's office in Shanghai, China.

From left to right: Paul Burton (TNG – MD), Ramon J. Viñas (DKSH – VP, Global Specialty Chemicals), Natale Capri (DKSH – Co-Head Business Unit Performance Materials and member of Group Management), Philippe Guillemaille (TNG – TiO<sub>2</sub> Manager), Paul Vollant (TNG – GM Business Development), Carole Lin (DKSH – GM Business Unit Performance Materials China Mainland & Hong Kong)

Together with the binding agreements already in place for TNG's vanadium and iron products, the signing of a Binding Term Sheet with DKSH marks another important step in the Company's commercial strategy and paves the way for financing and development of the Mount Peake Project to proceed.

The Company already has the following off-take agreements in place:

- A binding life-of-mine off-take agreement with WOOJIN Metals for minimum 60% of vanadium output; (see ASX announcement 19 March 2015); and
- A binding Term Sheet for life-of-mine off-take agreement with Gunvor (Singapore) for iron products (see ASX announcement 23 March 2016).

The signing of a Binding Term Sheet with DKSH follows other significant recent milestones for TNG, including the completion of an updated Feasibility Study and Financial Model for the Mount Peake Project completed in November 2017 (see ASX release, 20 November 2017) and the signing of the landmark Mount Peake Native Title Mining Agreement (see ASX release, 11 October 2018), paving the way for the grant of the Mount Peake Mining Leases.



## **Management Comment**

Commenting on the signing of a Binding Term Sheet with DKSH, TNG's Managing Director, Mr Paul Burton, said:

"We are very pleased to have the opportunity to work with a world-leading market expansion services provider as a long-term strategic partner for our titanium dioxide business. DKSH is a great fit for us following the technological breakthrough we announced earlier this year in respect of our ability to produce titanium dioxide pigments.

"Under the agreement, DKSH will provide a full distribution service for our titanium dioxide products including technical support, global logistics, marketing and sales – utilising its extensive global network and strengths, particularly across the Asian region. Our core target market will initially be the production of a high-durability pigment for the outdoor coating industry, before branching out into other high-value niche markets.

"This represents another major step forward for our shareholders and for the Mount Peake Project. We are looking forward to finalising a binding off-take agreement within six months, which will mean that the project will have binding off-take agreements in place for all three of its high-value products.

"Together with other key permitting milestones, including the expected grant of the Mount Peake Mining Licence in the fourth quarter of this year, this final off-take agreement will allow us to progress our commercialisation strategy for the Mount Peake Project, including the completion of the overall project funding package."

Commenting on the signing of a Binding Term Sheet with TNG, DKSH's Co-Head Business Unit Performance Materials, Dr Natale Capri, said:

"With our market coverage and long-standing successful track-record in the worldwide distribution of specialty chemicals to the plastics and coatings industry, we are TNG's optimal partner to exclusively market their titanium dioxide pigments. Our customers worldwide will benefit from a reliable and steady supply of high-quality products. We are delighted to team up with TNG and jointly market the products made by their unique process."

Paul E Burton

Managing Director

30 October 2018



# **Summary Key Binding terms:**

**Services:** full range of materials handling services, including logistic, marketing and after-sales

Territory: Worldwide, except Portugal, Spain, Norway, Sweden, Denmark and Finland.

Product: TNG360, a high durability pigment for outdoor coating, and/or other pigment products.

Offtake volume: a TiO<sub>2</sub> capacity up to 150,000 tons per year.

Net back Price mechanism: with a mutually agreed commission for DKSH

**Product:** TNG will provide DKSH with high quality TiO2 products conforming to the standard market specifications agreed

The Off-Take Agreement shall enter into force on the date of first commercial production from the Plant and be effective as long as Mount Peake and the Plant remain operative

The Parties agree to seek to finalize the Off-Take Agreement to reflect the terms herein not later than 6 months after the signature of this Binding Term Sheet.

## **Additional Information**

TNG updated the economics of its Definitive Feasibility Study (DFS) for the Mount Peake Project in November 2017, confirming a world-class project capable of generating outstanding returns (ASX Release, 20 November 2017).

Key findings of the updated DFS included life-of-mine net cash flow of \$11.7 billion, a pre-tax IRR of 44% and an NPV<sub>8</sub> of \$4.7 billion (see ASX Announcement – 20 November 2017).

TNG intends to produce three commercial products:

# Vanadium Pentoxide and Vanadium Electrolyte:

TNG has previously confirmed the ability to produce high-purity vanadium pentoxide at +99% purity from its TIVAN® plant following an extensive pilot plant testwork program in 2015 (ASX release, 8 July 2015).

Subsequently, the Company successfully produced commercial-grade high-purity vanadium electrolyte from this vanadium pentoxide (see ASX release, 10 October 2016) to the exacting and detailed specifications required by Sumitomo Electric (SEI). TNG has a binding life of mine off-take agreement for its vanadium pentoxide in place with Korea's WOOJIN Group.

## **Titanium Dioxide – Titanium Pigment**

TNG has previously confirmed its ability to produce a high-grade titanium dioxide feedstock from its TIVAN® process, grading approximately 80% TiO<sub>2</sub> (see ASX release, 8 July 2015). This feedstock is a direct residue from the initial leaching phase of the TIVAN® process, where the vanadium and iron have been dissolved into solution. A subsequent technical breakthrough in February 2018 confirmed that this titanium feedstock can be directly used in the production of high-grade pre-coating titanium pigment. This technical breakthrough has the potential to further improve the economics of the Mount Peake Project, while at the same time reducing the technical complexity and environmental impact of the Project.

**Iron Oxide**: As part of the acid digestion process, the iron component of the magnetite is removed and then captured once the vanadium is extracted from solution, producing a 99.9% pure Fe<sub>2</sub>O<sub>3</sub> product.



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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 pig iron. 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.

#### **Production Targets and Financial Information**

Information in relation to the Mount Peake Definitive Feasibility, including production targets and financial information, included in this report is extracted from an ASX Announcement dated 20 November 2017, (see ASX Announcement – 20 November 2017, "<u>Updated Feasibility Study Results</u>", <u>www.tngltd.com.au</u> and <u>www.asx.com.au</u>). The Company confirms that all material assumptions underpinning the production target and financial information set out in the announcement released on 20 November 2017 continue to apply and have not materially changed.

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

This announcement has been prepared by TNG Ltd. 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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