# TNG LIMITED

29 April 2015

# **March 2015 Quarterly Activities Report**

# Feasibility Study on Mount Peake Vanadium Project progressing for delivery as TNG prepares to spin-off NT base metal assets for shareholder value

# HIGHLIGHTS

# MOUNT PEAKE VANADIUM-TITANIUM-IRON PROJECT (NT)

- Mount Peake Feasibility Study progressed on schedule with the final aspects of the Study nearing completion and the overall project development pathway on track.
- Two Binding Term Sheets signed with the leading Korean ferro-vanadium group, WOOJIN IND. CO. Ltd, for vanadium off-take encompassing at least 60% of the vanadium pentoxide ( $V_2O_5$ ) to be produced by Mount Peake and for the transfer of WOOJIN's proprietary ferro-vanadium technology to TNG, allowing it to convert  $V_2O_5$  into high-value ferro-vanadium (FeV).
- Memorandum of Understanding signed with leading Australian industrial, construction and environmental service provider, McMahon Services Australia Pty Ltd, and leading indigenous contractor, Intract Australia Limited, for civil engineering and construction work at Mount Peake.
- Successful geotechnical and aquifer drilling completed as part of the Mount Peake Feasibility Study, with key
  outcomes including:
  - Discovery of a large aquifer system capable of providing a sustainable long-term source of water to supply all requirements for the project over its planned 20-plus year life;
  - Completion of diamond drilling within the proposed open pit area, generating excellent quality data to feed into the geotechnical model with overall competent ground conditions expected around the pit.
- Global firm GHD appointed to complete the final Environmental Impact Statement for Mount Peake. The EIS is expected to be submitted to regulatory authorities at the end of Q2 2015, in parallel with completion of the Mount Peake Feasibility Study.

# TIVAN® HYDROMETALLURGICAL PROCESS

- Final stages of the CSIRO Pilot Plant and commercial design for the downstream TIVAN<sup>®</sup> Refinery underway with the final testwork program scheduled to commence by the end of April.
- Subsequent to the end of the Quarter, TNG contracted SMS Siemag, one of world's leading metallurgical engineering and plant building companies, to oversee and coordinate the finalisation of the engineering study on the improved TIVAN® Process which underpins the downstream processing route for Mount Peake.

# **OTHER PROJECTS**

- Discovery of a significant zone of high-grade copper mineralisation at the McArthur River Zinc-Copper Project in the NT, with reconnaissance rock chip sampling returning results of 48% Cu, 47% Cu and 68gpt Ag
- These results further enhance the prospectivity of the McArthur River Project, which is proposed for inclusion in the spin-off of TNG's non-core base metal assets via Todd River Resources.

# CORPORATE

- General Meeting of shareholders convened for 20 May 2015 to approve the proposed spin-off of Todd River Resources which will host a highly prospective portfolio of zinc, copper and base metal assets.
- Institutional investment of \$2.0M secured through placement to a strategic Hong Kong institutional investor.
- Cash reserves of \$4.3M at Quarter-end.

# SUMMARY

The March 2015 Quarter was a pivotal period for TNG, with the Feasibility Study for the Company's flagship Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory entering its final stages and on track for completion by mid-2015.

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During the Quarter the Company was able to build on its strong and growing relationship in place with Korean ferrovanadium giant, WOOJIN, by signing two sets of Binding Term Sheets – the first for vanadium off-take and marketing, and the second for the exchange of WOOJIN's proprietary technology that will enable TNG to convert vanadium pentoxide ( $V_2O_5$ ) mined at Mount Peake into high-value ferro-vanadium (FeV).

Under the Binding Term Sheet for off-take, WOOJIN will purchase a minimum of 60% of refined  $V_2O_5$  from TNG's TIVAN<sup>®</sup> plant, with the off-take to be negotiated on an arm's length basis at a price based on a pre-determined formula based on Metal Bulletin's vanadium pentoxide, CIF Europe min. 98% quotation.

This marks a significant step towards the finalisation of a binding long-term off-take agreement for the Company's forecast vanadium pentoxide production which will underpin the financing and development of the Mount Peake Project.

This agreement was closely followed by the signing of a second Binding Term Sheet with WOOJIN which provides for the transfer of WOOJIN's proprietary ferro-vanadium technology to TNG.

Under this second Binding Term Sheet, TNG and WOOJIN have agreed terms for the formation of a Conversion Joint Venture to enable the establishment and operation of a WOOJIN  $V_2O_5$  conversion plant at TNG's TIVAN<sup>®</sup> refinery site, capable of converting  $V_2O_5$  to high-value FeV.

The conversion technology is currently in use at WOOJIN's Gimpo plant in Korea, enabling WOOJIN to achieve the highest vanadium recovery in the world for FeV production at a low conversion cost. The addition of this process to the TIVAN® plant will provide TNG with the ability to produce additional value-added products for global distribution.

The agreement also provides terms for TNG and WOOJIN to form a Marketing Joint Venture for the sale and distribution of the FeV produced under the Conversion Joint Venture. WOOJIN's capabilities and technology are very complementary to TNG's own proprietary TIVAN<sup>®</sup> downstream processing technology, and the Company expects that the combination of the world-class Mount Peake project with WOOJIN's enhanced processing capability and marketing reach will be very powerful indeed.

The final aspects of the Mount Peake Feasibility Study are now nearing completion, with highly successful programs of geotechnical and aquifer drilling completed during the Quarter and the appointment of GHD to complete the final stages of the Environmental Impact Statement.

The final stages of the CSIRO Pilot Plant and commercial design for the TIVAN<sup>®</sup> Refinery are now also underway, paving the way for final process design for the Mount Peake Feasibility Study. The final testwork program is scheduled to commence by the end of April.

Subsequent to the end of the Quarter, TNG contracted SMS Siemag, one of world's leading metallurgical engineering and plant building companies, to oversee and coordinate the finalisation of the engineering study on the improved TIVAN<sup>®</sup> Process which underpins the downstream processing route for Mount Peake.

The Company also signed a Memorandum of Understanding for the Mount Peake Project's civil engineering and construction work with leading Australian industrial, construction and environmental service provider, McMahon Services Australia Pty Ltd, and leading indigenous contractor, Intract Australia Limited. The MOU covers all aspects of the Mount Peake civil engineering and construction work, including construction of the mine, camp, airport, railway siding and mine haul road.

Outside of Mount Peake, exploration at the McArthur River Zinc-Copper Project in the Northern Territory has yielded a new discovery, with reconnaissance rock chip sampling returning results of 48% Cu, 47% Cu and 68gpt Ag. This new zone extends over an area of 300m x 600m within a large 700m x 1400m area of soil anomalism, further enhancing the prospectivity of the McArthur River Project, which is proposed for inclusion in the spin-off of TNG's non-core base metal assets via Todd River Resources.

A General Meeting of TNG Shareholders has been convened for 20 May 2015 to approve the demerger of all base-metal assets into Todd River Resources, a wholly owned subsidiary of TNG. Once completed, Todd River Resources will have one of the largest base metal footprints in the Northern Territory with ownership of a number of advanced assets including the large Manbarrum Zinc Project.

Also subsequent to the end of the Quarter, TNG secured a \$2.04 million investment from a strategic Hong Kong institutional investor, further strengthening the Company's position in challenging economic conditions.



# PROJECTS

## VANADIUM-TITANIUM-IRON

#### Mount Peake Project: TNG 100%

The Mount Peake Project is emerging as a world-scale strategic metals project located 235km north-west of Alice Springs in the Northern Territory close to existing key power and transport infrastructure including the Alice Springs-Darwin Railway and the Stuart Highway. With a JORC Measured, Indicated and Inferred Resource totalling 160Mt (118Mt Measured, 20Mt Indicated, 22Mt Inferred), grading 0.28%  $V_2O_5$ , 5.3% TiO<sub>2</sub> and 23% Fe, Mount Peake is one of the largest undeveloped vanadium-titanium-iron projects in the world. The area under licence covers a highly prospective, but poorly explored part of the Western Arunta geological province which offers significant exploration upside for TNG within an extensive 100%-owned ground-holding.

TNG is in the process of completing a Feasibility Study on the Mount Peake Project which is expected to be completed in mid-2015. A Pre-Feasibility Study (PFS) completed in 2012 outlined a robust project capable of generating Life of Mine revenues of \$13.6 billion over a +20-year mine life from the production of high quality and purity products: Vanadium pentoxide, ironoxide and titanium dioxide. TNG is also reviewing a two-stage development option with a low capital cost start-up development producing magnetite concentrate which has the potential to generate early cash flow.

#### Binding Term Sheets signed with WOOJIN for vanadium off-take and technology exchange

On 10 March 2015, TNG signed a Binding Term Sheet with the major Korean-based ferro-vanadium producer WOOJIN IND., CO., LTD., (WJN) for the sale of up to 60% of the vanadium production from Mount Peake.

This development follows the execution of a Letter of Intent (LOI) between WJN and TNG in June 2014. Since then, the two companies have been working in close collaboration to pursue binding agreements and establish a basis for long-term understanding and cooperation.

The Binding Term Sheet further cements the relationship between TNG and WOOJIN and marks a significant step towards the finalisation of a binding long-term off-take agreement for the company's forecast vanadium pentoxide production which will underpin financing and development of the world-scale Mount Peake Project.

The key terms agreed upon in the Binding Term Sheet are as follows and will be incorporated into a binding off-take agreement:

- 1. WOOJIN to purchase a minimum of 60% of refined vanadium pentoxide ( $V_2O_5$ ) from TNG's TIVAN<sup>®</sup> plant.
- 2. Potential pre-production financing terms.
- 3. Off-take will be negotiated on an arm's length basis at a price based on a pre-determined formula based on *Metal Bulletin*'s vanadium pentoxide, CIF Europe min. 98% quotation.

TNG remains in discussions with companies in the alternative energy sector for the remaining 40 per cent of forecast vanadium production from Mount Peake.

On 19 March 2015, TNG signed a second Binding Term Sheet with WOOJIN providing for the transfer of WOOJIN's proprietary ferro-vanadium technology to TNG to allow TNG to also be able to convert vanadium pentoxide ( $V_2O_5$ ) into high-value ferro-vanadium (FeV).

Under this second Binding Term Sheet, TNG and WOOJIN have agreed terms for the formation of a Conversion Joint Venture to enable the establishment and operation of a WOOJIN  $V_2O_5$  conversion plant at TNG's TIVAN<sup>®</sup> refinery site, capable of converting  $V_2O_5$  to high-value FeV.

The WOOJIN conversion technology was developed by WOOJIN in 1990 and is currently in use at its Gimpo plant in Korea, enabling WOOJIN to achieve the highest vanadium recovery in the world for FeV production at a low conversion cost.

The agreement with TNG provides for the transfer of WOOJIN's proprietary FeV conversion technology to the Conversion Joint Venture. The addition of this process to the TIVAN<sup>®</sup> plant will provide TNG with the ability to produce additional value-added products for global distribution.



The agreement also provides terms for TNG and WOOJIN to form a Marketing Joint Venture for the sale and distribution of the FeV produced under the Conversion Joint Venture.

#### MOU for Mount Peake civil engineering works

During the Quarter, TNG signed a Memorandum of Understanding (MOU) for the Mount Peake Project's civil engineering and construction work with leading Australian industrial, construction and environmental service provider, McMahon Services Australia Pty Ltd, and leading indigenous contractor, Intract Australia Limited.

Intract is a business formed by the partnership of the Aboriginal Foundation of South Australia and McMahon Services to provide contracting services to the mining and civil construction industry. Intract has been developed to deliver long-term employment to Aboriginal people through the provision of stable jobs, skills training and comprehensive mentoring and support.

The MOU covers all aspects of the Mount Peake civil engineering and construction work, including construction of the mine, camp, airport, railway siding and mine haul road. Following the signing of the MOU the parties commenced a 90-day due diligence period and, subject to satisfactory completion of due diligence, may enter into binding agreements for:

- 1. All civil engineering and construction requirements related to the development of the Mount Peake mine;
- 2. Potential funding or investment in TNG, either on a project or corporate basis; and
- 3. Any other mutually beneficial arrangements with a focus on the operation of TNG's Mount Peake mine.

## Appointment of GHD to complete Environmental Impact Statement

During the Quarter, TNG appointed global environmental consulting group GHD to complete the final stages of the Environmental Impact Statement (EIS) for the Mount Peake Project.

It is anticipated that the completed EIS will be submitted to the Northern Territory Environment Protection Authority by the end of Q2 2015, around the same time that the Mount Peake Feasibility Study is scheduled for completion.

The EIS will evaluate the environmental impacts of mining and processing the magnetite deposit at Mount Peake, together with the potential impacts of the transport of the magnetite concentrate to Darwin for shipping. Key elements of the EIS include:

- Surface water and groundwater assessments;
- Flora and fauna surveys and assessment;
- Social impact assessment;
- Air quality assessment;
- Noise and vibration assessment;
- Transport assessment;
- Greenhouse gas emission assessment;
- Waste management;
- Public consultation;
- Economic assessment;
- Mine closure and rehabilitation; and
- Preparation and submission of the EIS.

Several components of this work which commenced in early 2013 (base line flora and fauna field work, surface and groundwater studies), have already been completed by GHD, which was initially contracted by TNG to start work on some aspects of the EIS (see ASX Announcement – 18 January 2013).

Since then, the potential for a separate mine and processing plant facility have been considered under the two-stage development plan with start-up mining and export of magnetite concentrate. This has resulted in a simplified mine site and subsequent changes to the scope of work required.

The Notice of Intent (NOI) for Mount Peake was submitted to the Northern Territory Environment Protection Authority in mid-2013 and Terms of Reference were subsequently obtained in 2014.

Together with TNG staff, GHD will provide public information and communication materials as well as conduct stakeholder engagement meetings as part of the important local consultation and social impact assessment studies which form a key part of the EIS. All of these items represent important components of the permitting and community consultation process which



are required to be completed over the coming months. As part of its mandate, GHD will also liaise with the various relevant government agencies as required.

#### Mount Peake Feasibility Study Progress

Work continued during the Quarter on the Mount Peake Feasibility Study.

#### Geotechnical drilling

Geotechnical drilling commenced at Mount Peake in late February and preliminary results were announced subsequent to the end of the Quarter. Six holes for a total of 612m of PQ sized core were drilled from within the resource area. Holes were oriented to intersect the likely pit wall positions on both the western and eastern sides, in the north, central and southern portions of the Mount Peake orebody.

Six holes for a total of 612m of PQ sized core were drilled from within the resource area. Hole positions are shown on Figure 1, and details of the drilling are outlined in Appendix 1. Holes were oriented to intersect the likely pit wall positions on both the western and eastern sides, in the north, central and southern portions of the Mount Peake orebody.

Testwork on samples taken from this portion of the pit will be fed into the overall geotechnical model for the deposit, allowing the pit slope angles to be determined. This work will inform the pit design work that Snowden Mining Industry Consultants (SMIC) will complete over the coming months. Pit design will then allow the overall financial analysis for the project to be completed as one of the final components of the Feasibility Study.

Just under 200 geotechnical samples were taken which are now at the geotechnical laboratory for testwork over the next few weeks. A series of analyses will be conducted including Point Load Strength Index (PLSI) tests, Unconfined Strength Index (UCS) tests, Direct Shear (DS) tests and others.

Structural core logging has confirmed that the rocks surrounding the Mount Peake orebody are competent (see Figure 2) and pit walls (subject to the test results) are likely to be relatively steep. The deposit has a relatively thin (20-40m) weathered profile and a thin (2-15m) tertiary sand overburden zone, which will allow steeper pit walls to commence near the surface.

This has positive implications for the economics of the open pit design, as it allows for a more efficient mining operation with the potential for reduced mine development capital expenditure and operating costs.

All drill core was oriented and detailed geotechnical and structural logging was carried out on site on all intervals drilled. The core was also processed with full geological/mineralogical/regolith logs completed, magnetic susceptibility was determined and all core was analysed by on-site portable XRF, allowing accurate mine sequence lithological picks and ore zone determinations to be made.

Mineralised samples, together with a representative sample suite, were sampled (1/4 core PQ samples cut on site) and submitted to a commercial laboratory for a suite of elemental determinations, including vanadium (V), titanium (Ti), and iron (Fe) (Lab Code XRF21n). Samples are now with the laboratory, and results will be reported when available.

As expected, only narrow grade material was intersected in the geotechnical holes along the eastern side of the resource zone, where grade and widths are lower than the main zone. Along the western margin of the resource the magnetite gabbro ore zone terminates abruptly against an unmineralised gabbro which is then in fault contact with coarse K-spar granite further to the west.

As expected, geotechnical holes along the western pit edge mostly intersected granite and did not intersect V-Ti-Fe mineralisation. The north-western hole (15MPDDH026) drilled down the "granite contact" fault zone, in a position high on the pit wall and dipping into the wall, providing the only zone of structural instability for the pit design.

The completion of the geotechnical drilling program marks an important milestone towards completion of the Mount Peake Feasibility Study, providing Snowden with all the data they now require to complete the open pit mine design. With steep pit walls envisaged, the results indicate the potential for significant cost savings both in mine capital development and in ongoing operating costs, which are encouraging indications for the final outcomes of the Feasibility Study.

#### Aquifer drilling

A program of water bore drilling commenced at Mount Peake during the Quarter, designed to prove the availability of water for use on the proposed Mount Peake mine site for process plant water, site dust suppression and camp potable water supply, as required for the Feasibility Study.



Drilling was undertaken in a known aquifer located some 25-50km from the potential mine site. GHD Hydrological Consultants supervised the drilling works and pump testing of the aquifers intersected in the drilling, and also assessed the sustainable yield of the aquifer system to ensure its suitability for the mine development.

Subsequent to the end of the Quarter, the Company announced that this program of water bore drilling had been successful, with the discovery of a large aquifer system capable of providing a sustainable long-term water source for the project.

The drilling program outlined a large aquifer system within the Hansen Palaeochannel, which lies beneath the Hansen River, located around 20km from the Mount Peake deposit. Preliminary indications from pump test-work are that it is capable of providing a sustainable long-term source of water to supply all of the requirements of the Mount Peake mining and processing operation over the planned 20-plus year life of the project.

A detailed assessment of the aquifer's characteristics is now being conducted. This includes sample analysis from all recent drilling as well as all of the existing station bores in the area. The aquifer system will be incorporated into the overall Mount Peake surface and groundwater model being developed by GHD.

Following the aquifer assessment, GHD will undertake design and costing work for the development of the borefield. This will include all necessary permitting required through the Mines and Water Resources Departments. These results will form a component of the overall Feasibility Study which is due to be completed by the middle of 2015.

The discovery of a large aquifer system capable of providing a sustainable long-term water source significantly de-risks this critical aspect of the Mount Peake Project, and ticks a very important box as part of the overall Feasibility Study.

#### **TIVAN®** Process

Appointment of SMS Siemag to oversee final stages of CSIRO Pilot Plant and commercial design for TIVAN<sup>®</sup> refinery

Subsequent to the end of the Quarter, TNG appointed SMS Siemag, one of world's leading metallurgical engineering and plant building companies, to oversee and coordinate the finalisation of the engineering study on the improved TIVAN<sup>®</sup> Process which underpins the downstream processing route for the Mount Peake Project.

The final testwork program is scheduled to commence by the end of April at a Pilot Plant facility currently being constructed at the CSIRO laboratories in Perth.

SMS Siemag is part of Germany's SMS group, which employs 13,500 people and has annual worldwide sales of approximately €3.5 billion.

SMS will guide the Company's metallurgical consultants, METS Pty Ltd, and the CSIRO through the completion of the final engineering and testing activities and provide independent validation of the technical feasibility of the TIVAN® refinery process. TNG's patent-pending and improved TIVAN® process, which is currently in Pilot Plant design, is expected to yield substantially improved economics in terms of lower capital requirements, reduced energy consumption as well as the ability to produce a higher value titanium-bearing by-product.

The Pilot Plant preparation work is advanced with most of the construction completed at the large CSIRO Hydrometallurgical facility in Perth. Final designs following pre-pilot testing and pre-pilot feed material preparation is near-complete and the full testwork program is expected to commence by the end of April.

TNG and SMS Siemag are also in ongoing discussions about SMS' involvement with the engineering, plant and equipment design as the supplier for the first TIVAN<sup>®</sup> refinery.

## Other prospects at Mount Peake

The Company has identified significant other mineralisation potential in the Mount Peake area.

#### Graphite

The graphite potential of the Mount Peake Project is also continuing to emerge. This work is still at an early stage, however the graphite prospectivity at Mount Peake represents an exciting emerging opportunity for TNG, which will be further tested during 2015.



#### **OTHER PROJECTS**

#### **COPPER**

#### McArthur – EL 27711 and EL 30085

The McArthur River tenements, which are located approximately 50km south of Cape Crawford along the Tablelands Highway, covers part of the prospective McArthur Basin geology, 65km south-west of the McArthur Zinc mine operated by Xstrata, and within the Batten Fault Zone which hosts several other areas of base metal mineralisation, including the recently outlined Teena Deposit (Rox/Teck).

Work completed by TNG in 2013 outlined three large geochemically anomalous Zn-Cu-Pb zones (following a review of historical exploration data) associated with the Wollogorang Formation (see ASX Announcement on 16<sup>th</sup> September 2013). ELA 30085 was applied for during 2013 to secure the full 17km of strike extent of prospective stratigraphy. The central anomaly is 3000m long and up to 450m wide with values up to 1400ppm Zn and 670ppm Pb in soil samples. The other zones have results of up to 1,150ppm Cu and 800ppm Zn.

The potential of the Wollogorang Formation carbonaceous shales to host stratiform base metal accumulations has been confirmed by field mapping and sampling by TNG geologists, together with relogging of drill core from the tenement area (accessed in the NTGS Core Library) during 2013.

During the Quarter TNG significantly expanded the exploration potential of the McArthur River Project following the discovery of a significant zone of high-grade copper mineralisation at surface.

The Company has received analytical results from a recent reconnaissance program of surface rock chip sampling at McArthur River including exceptional high copper grades of 47% Cu and 48% Cu. The results define an immediate priority zone for follow-up drilling.



Figure 1 Specimen sample MC15001, showing the breccia texture and copper minerals (green malachite and sooty black chalcocite and tenorite)

The McArthur River Project is located 60km south-west of the world-class McArthur River Zinc Mine operated by Glencore, and within the Batten Fault Zone, which hosts several other base metal resources, including the recently outlined Teena deposit (Rox/Teck).

The Project is part of a portfolio of noncore base metal assets held by TNG in the Northern Territory which are intended to be included in the demerger of Todd River Resources, planned for later this year. This is consistent with TNG's focus on advancing its world-class Mount Peake

Project to development.

Previous exploration has focused mainly on the zinc prospectivity of the area but this recent work by TNG indicates a new area of potentially significant copper prospectivity.

Recent work by TNG at McArthur River highlighted the zinc and copper potential of the tenements (*see ASX Announcements* – *16 September 2013, 20 August 2014, and 14 October 2014*), with reconnaissance drilling to test the geological model completed at two target zones based on anomalous surface soil geochemistry and coincident geophysical (IP) conductors.

Sampling of this drill core proved an intersection of the prospective lithology, the Wollogorang Formation with numerous sulphides and returned results of over 0.2% for both zinc and copper (*see ASX Announcement – 18 December 2014*).

As part of a follow-up exercise, rock samples were collected during routine cross-section traversing related to the drilling that was undertaken in September/October 2014.



During this process, a significant area of surface outcropping rocks containing malachite and chalcocite (copper-bearing minerals) were noted and collected in a large zone of brecciated shale near the base of the prospective Wollogorang Formation to the west of previously reported hole 14MCDDH002 (see Figure 3 showing an enlarged view of the location of the copper rock chip sample and extent of the copper soil anomaly area, McArthur River Project).

Analytical results for the sample are shown in Table 1 below, while sampling details are outlined in the Company's ASX Announcement dated 16 February 2015. Copper returned >40% (above the upper detection limit of the technique) in the four acid digest analysis (ME-ICP61a/Cu-OG62), and so two new samples taken from the original pulp powder were analysed by XRF method (ME-XRF15c) resulting in grades of 48.3% and 47.9% copper.

Table 1: Rock sample analytical results by ICP, conducted at ALS laboratories, Perth.

Sample Number	Analysis	Cu (ppm)	Au (ppm)	Ag (ppm)	Bi (ppm)	S (%)
MC15001	ICP	>100000	0.031	68	1050	1.76

Table 2: Rock sample analytical results by XRF, conducted at ALS laboratories, Perth

Sample Number	Analysis	Cu (%)	
MC1E001	VDE	48.3	
WIC15001	XKF	47.9	



Figure 3: Location of rock chip sample MC15001, stratigraphic units, other visual copper minerals noted and soil geochemistry. Copper soil anomalies cover an 1100 by 1400 metre area within an overall anomalous zone extending for 9km with distinct structural and stratigraphic control.





Discussions with Traditional Owners are continuing in relation to access.

The sample also contains highly anomalous silver, grading 68ppm Ag, with background zinc and lead. The sample has tenorite (high grade and dark/black "earthy" copper oxide mineral) present and chalcocite, indicative of hydrothermal alteration.

During 2013/2014, TNG focused on the zinc potential within the central Wollogorang Formation – which is similar in many ways to the mineralization seen at the world-class McArthur River Zinc Mine, located 60km to the north (*see ASX Announcement – 20 August 2014*).

This high-grade copper sample provides significant encouragement that economic-grade copper mineralisation may also be found within the tenement package. A program of rock sampling, geological mapping, and geophysics covering this significantly anomalous area has been designed and may be conducted early in the coming dry season.

#### Yah Yah – ELA 28509

The Yah Yah tenement, located approximately 50km southwest of the McArthur township, contains the historical Yah Yah copper mine, which produced some 40 tonnes of hand-picked, high-grade copper (20-30% Cu) ore prior to 1912. A grab sample collected from a Yah Yah waste dump by CRA Exploration assayed 30.4% Cu. In addition, BHP completed a soil survey which returned best results of up to 562ppm Cu from a 300m wide zone over the old structure.

Figure 2: Location of rock chip sample MC15001, in relation to regional geochemical anomalism and drilling, McArthur River Project, NT.

#### Mount Hardy Project: TNG 100% Mount Hardy – EL 29219, EL 27892, EL 28694

The Mount Hardy Copper Project is located within the Mount Hardy Copper Field, approximately 300km north-west of Alice Springs. The project area is situated on the Mount Doreen (SF52-12) and Mount Theo (SF52-08) 1:250,000-scale sheets. Access to the Mount Hardy tenement is via the Tanami Highway. The Project contains extensive areas of surface copper with anomalous zinc, gold, silver and lead, with surface sampling returning rock chip grades of up to 35% Cu, 18% Pb, 10% Zn, 7g/t Au and 400q/t Ag.

The Company is of the view that the mineralisation at Mount Hardy is similar in style to other identified mineralised prospects in the Arunta, including those at KGL's Jervois project and Kidman's Home of Bullion prospect.

No further work is planned on this project ahead of the proposed demerger.

#### Walabanba Hills JV: Copper: TNG earning 51% with potential to increase to 80% (all minerals except uranium)

The Walabanba Joint Venture area lies immediately west of TNG's flagship Mount Peake Strategic Metals Project in the Northern Territory, and is considered highly prospective for copper and nickel mineralisation based on previous exploration results. TNG work since 2012 has identified three drill-ready EM targets.

No further work is planned on this project ahead of the proposed demerger.

#### Sandover Project: Copper: TNG 100%

ELA 29252 and ELA 29253





The Sandover Copper Project tenements are located approximately 100km north-east of Alice Springs just north of the Plenty Highway. The project area is situated on the Alcoota (SF53-10) 1:250,000 scale map sheet. The two tenements (ELA's 29252 and 29253) cover 894km<sup>2</sup> (283 blocks) in the highly prospective Aileron and Irindina Provinces, some 120-180km to the north-east of Alice Springs. Access to conduct field programmes over these tenements is subject to agreement with the CLC managed Alcoota Pastoral Leaseholders.

Discussions with Traditional Owners are continuing in relation to access.

No further work is planned on this project ahead of the proposed demerger.

# **OTHER PROJECTS**

#### **COPPER-ZINC-LEAD-SILVER, IRON-ORE**

#### Manbarrum Zinc-Lead-Silver Project: TNG 100%

Located 82 kilometres north east of the township of Kununurra in the Northern Territory, The Manbarrum Project comprises three Exploration Licenses and two Authority to Prospect licenses (under section 178) covering a combined area of 407 square kilometres. The Project comprises a series of Mississippi-Valley-style lead-zinc-silver deposits which TNG discovered in 2007. Two deposits totalling more than 35Mt of combined zinc-lead-silver mineralisation have been discovered to date, with a number of untested targets.

No further work is planned on this project ahead of the proposed demerger.

#### **Legune Hematite Project**

No further work is planned on this project ahead of the proposed demerger.

#### **Black Range Project**

The two new tenements within the Black Range Project were granted in August and cover approximately 60km of strike of the Sherwin Iron formation, host to existing iron resources being exploited by Western Desert Resources (ASX:WDR) and Sherwin Iron (ASX: SHD).

This project will remain in TNG after the proposed demerger.

#### **Tomkinson Basin Project**

The two tenements here should be granted early in 2015 allowing planning for field work in 2015. The target is the Namerinni Formation, at time equivalent of the host sequence from the McArthur River Zn-Pb-Ag-Cu mine in the McArthur Basin to the northeast.

No further work is planned on this project ahead of the proposed demerger.



#### JOINT VENTURE PROJECTS

## **COPPER-GOLD**

#### Western Desert Resources Ltd (WDR) Joint Venture: TNG 100%,

#### (WDR earning 51% with scope to earn up to 80%)

The Rover Project covers three granted exploration licences in the lucrative Tennant Creek goldfields, two of which (EL24471 and EL25581) are in joint venture with TNG Ltd and one (EL28128) is 100% held by WDR.

No further work is planned on this project ahead of the proposed demerger.

#### McTavish Project Joint Venure: TNG 2% Royalty, Barminco 70%

No further work is planned on this project ahead of the proposed demerger.

#### Kintore East Joint Venture: TNG 20%, La Mancha 80%

No further work is planned on this project ahead of the proposed demerger.

#### **NICKEL MINING PROJECTS:**

Nickel Cawse Extended Joint Venture: TNG 20%, Norilsk 80%

The Cawse laterite nickel operation has been placed on indefinite care and maintenance by Norilsk Nickel Australia and is subject to a sale agreement by Norilsk Nickel.

No further work is planned on this project ahead of the proposed demerger.

#### BAUXITE

#### **Melville Island Licence**

In October 2012 TNG formally signed the farm-in and joint venture agreement on its 100% owned Melville Island licence ELA 28617 in the Northern Territory with Rio Tinto Exploration Pty Ltd (RTX). TNG will receive an initial cash payment of \$50,000, and RTX will progress negotiations and grant of the licence application for bauxite exploration. Following the grant of the licence RTX must spend \$5M within 4 years to earn 80% equity in the project with TNG retaining 20% equity at which point TNG may elect to contribute, sell or convert its equity to a 2% Net Smelter Royalty (NSR). The Melville Island Exploration licence application has been a strategic licence for TNG being located in a prospective area for bauxite and other minerals. The licence area covers approximately 1,400km.

No further work is planned on this project ahead of the proposed demerger.

#### CORPORATE



shareholders to hold 80 per cent of the shares via an in-specie distribution.

Following the demerger, Todd River Resources will have one of the largest base metal footprints in the Northern Territory with ownership of a number of advanced assets including the large Manbarrum Zinc Project.

The demerger is consistent with TNG's focus on the development of the Mount Peake Project.

Notice of Meeting

A Notice of General Meeting was despatched to Shareholders on 16 April 2015 for a meeting to be held on 20 May 2015. A Copy of the Notice is also available to download from the ASX platform.

The primary purpose of the Meeting is to seek approval for the proposed demerger of the Company's base metal assets in the Northern Territory via its subsidiary company Todd River Resources Limited, as announced on 27 November 2014.

The proposed demerger is consistent with TNG's recent focus, which has been on the evaluation and development of the world-class Mount Peake Project. This has resulted in the Company becoming recognised as an emerging vanadium and strategic metals producer.

This success has overshadowed the significant potential and value that the Directors believe is in the NT Base Metals Assets, which include the Petermans, Sandover, Mount Hardy, Walabanba, Rover, Goddards, McArthur River, Melville Island and Manbarrum Projects.

The Company's primary objective in undertaking the Spin-out is to separate the NT Base Metal Assets from its other assets and to achieve the following commercial objectives:

- to allow TNG to concentrate on the development of its flagship asset, the world-class Mount Peake Vanadium-Titanium-Iron Project;
- to create a separate entity to focus on the future development of the NT Base Metal Assets;
- to provide separate funding channels for Todd River and the NT Base Metal Assets, thereby allowing the Company to conserve its cash resources for undertaking activities connected with its flagship asset and also enabling each entity to achieve a funding profile more attuned to the stage of development of its respective assets; and
- to make it easier to raise equity to fund the NT Base Metal Assets.

The Spin-out is also considered to be an opportunity for shareholders to realise maximum value from the NT Base Metal Assets as it will allow the Company to divest these assets, which it considers to be non-core to its strategic objectives, while focusing on its flagship Mount Peake Project. Both TNG and its shareholders will retain a significant exposure to the future upside from these assets.

The Board considers that the value of the NT Base Metal Assets is not recognised in TNG's share price and believes that the time has come to separate and transfer these quality projects into an independent company with specific commodity and management focus.

The Notice sets out details for the process under which the Spin-out will be conducted if approval is obtained from Shareholders at the Meeting and the Company proceeds with the proposal. This includes details of how the Shares to be issued to TNG in Todd River as consideration for the NT Base Metal Assets will be distributed to TNG Shareholders, resulting in the following structure being achieved:

The Notice also provides information about the NT Base Metals Assets and Todd River, the prospects for Todd River following the restructure, the advantages and disadvantages of the proposal and key risk factors facing Todd River.

Shareholders are encouraged to carefully consider the contents of Notice of Meeting and to attend the Meeting in person or appoint a proxy to vote on your behalf.





#### \$2.0M Placement to Institutional Investor

Subsequent to the end of the Quarter, TNG secured an investment from Trafalgar Capital a strategic Hong Kong and London based institutional investor

The Placement, comprising a total of 15.72 million shares at an issue price of 13 cents per share to raise \$2.04 million (before costs), is unconditional and will be issued under TNG's 15% placement capacity under ASX Listing Rule 7.1. The Placement was settled on 24 April 2015.

The funds raised from the Placement will be used to progress completion of the feasibility study for the Mount Peake Project.

#### **Davis Samuel**

TNG has submitted its appeal against the final judgment orders for the long-standing (12 year) legal matter between the Commonwealth and Davis Samuel in which TNG has been one of 27 defendants. The details of the Davis Samuel matter have been disclosed by the Company in its statutory reporting since 2002.

The Company also remains in discussions with the Commonwealth on the question of costs.

#### Cash

TNG had total cash reserves of \$4.4 million at Quarter-end. Subsequent to the quarter end TNG raised \$2.04 million (excluding costs

Paul Burton Managing Director

29 April 2015



#### **Tenement Schedule**

The Group holds an interest in the following tenements or tenement applications at 31 March 2015:

Project	Tenements	Equity		
Mount Peake	EL27069, EL27070, EL27787, EL27941, EL28941, EL29578, ELR29627, EL29867, MLA28341, MLA29855, MLA29856	100%		
McArthur River	EL27711, EL28503, EL30085	100%		
Melville Island	ELA28617	100% (Farm in agreement)		
Croker Island	ELA29164	100%		
East Arnhem Land	EL28218, EL28219	100%		
Black Range	ELA 30207, ELA 30208	100%		
Mount Hardy	EL27892, EL29219, EL 28694	100%		
Manbarrum JV	A24518, A26581, EL24395, EL25646, EL25470 MLA27357	100%		
Sandover	ELA29252, ELA29253	100%		
Walabanba Hills	EL26848, EL27115, EL27876	100% (Farm in agreement)		
Warramunga/Rover JV	EL24471, EL25581, ELA25582, ELA25587, MLC647	100% (Farm in agreement)		
Peterman Ranges	ELA26383, ELA25564, ELA26384, ELA25562, ELA26382	100% (Farm in agreement)		
Goddard's	ELA24260	100% (Farm in agreement)		
Cawse Extended	M24/547, M24/548, M24/549, M24/550	20% free carried to production, or can be converted to a 2% net smelter return on ore mined. Unicorn Pit is now excised and a wet tonne royalty applies.		
Kintore East P16/2370, P16/2371, P16/2372, P16/2373, P16/2374, P16/2459		Diluting from 49% to 2% gold return interest on production. Current percentage interest is 23.75%.		
Tomkinson	ELA30348, ELA 30359	100%		

#### **Competent Person's Statements**

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Exploration Manager Mr Kim Grey B.Sc. and M. Econ. Geol. Mr Grey is 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.

The information in this report that relates to Mineral Resources included in the 2012 PFS and is based is 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 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 Financial Analysis on Mount Peake 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, FAAusIMM, 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.