



# TNG LIMITED

DECEMBER 2013  
QUARTERLY REPORT

## 2014 A POTENTIAL TRANSFORMATIONAL YEAR FOR TNG AS MOUNT PEAKE DEVELOPMENT GATHERS MOMENTUM

MULTIPLE OPTIONS BEING CONSIDERED FOR TNG'S OTHER  
SIGNIFICANT NT MINERAL ASSETS, CONSISTENT WITH ITS FOCUS  
ON BECOMING A WORLD-CLASS STRATEGIC METALS COMPANY

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

- Major project status awarded by NT Government.
- Key off-take and investment negotiations underway following participation in a Northern Territory Ministerial investment trade delegation to Asia, during which TNG met with vanadium importers in Japan; steel producers in China, Japan and Korea; and titanium-dioxide importers in Asia.
- Potential investment discussions continuing with a major Middle Eastern investment and development company.
- Final optimisation and design work well advanced for the Mount Peake metallurgical process – final results from key metallurgical testwork programmes expected in early 2014.

- New magnetite-bearing gabbro outcrop outlined surrounding the Mount Peake Vanadium-Titanium-Iron deposit, with surface sampling returning high grade values up to 0.634%  $V_2O_5$ , 24.6%  $TiO_2$ , and 48.0% Fe – the highest grades recorded to date outside the existing Mount Peake resource. Drill testing planned for early in 2014.

### TIVAN® HYDROMETALLURGICAL PROCESS

- Investment and licensing agreement discussions in progress with a major overseas mining company for the TIVAN® Process, to underpin the final stage of commercialisation and the Mount Peake Definitive Feasibility Study.



- Acquisition of 100% ownership of the TIVAN® Process completed following execution of formal agreements with process engineering group Mineral Engineering Technical Services Pty Ltd ("METS").

## OTHER PROJECTS

- Manbarrum Zinc-Lead-Silver Project in the Northern Territory retained 100% by TNG.
- TNG will continue to progress options to realise value from Manbarrum and other non-core assets within its project portfolio.
- Further assessment and exploration plans in progress for Mount Hardy, Sandover and McArthur to advance these projects.

## CORPORATE

- \$2.3M shortfall placement completed and commitments received for approximately \$500,000 worth of shares (and free attaching options) on the same basis as the August 2013 Securities Purchase Plan (SPP).
- Annual General Meeting held on 27 November 2013, with all resolutions passed on a show of hands.
- Cash reserves of \$5.62M at Quarter-end.

## SUMMARY

The December 2013 Quarter saw continued steady progress for TNG as the Company gears up for a potentially transformational year in 2014, with the Definitive Feasibility Study (DFS) for its flagship Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory progressing and the Company closing in on important strategic deals to support the financing and development of the project.

During the Quarter, TNG participated in a Northern Territory Ministerial investment trade delegation to Asia, during which the Company's representatives met with vanadium importers in Japan; steel producers in China, Japan and Korea; and titanium-dioxide importers in Asia. Discussions were also held with an investment and development company from the Middle East.

Key metallurgical trials are also nearing completion, with results from two major testwork programmes for the TIVAN™ Process expected in early 2014. On the exploration front, recent mapping and surface rock and lag sampling over regional magnetic targets at Mount Peake has opened up a significant new exploration opportunity, identifying extensive new zones of outcropping magnetite-bearing gabbro with highly anomalous high-grade vanadium and titanium. These anomalies are located in close proximity to the existing Mount Peake resource, and further reinforce the outstanding prospectivity of the Mount Peake region.

## PROJECTS

### VANADIUM-TITANIUM-IRON

#### Mount Peake Project: TNG 100%

The Mount Peake Project is 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 Measured, Indicated and Inferred Resource totalling 160Mt grading 0.28% V<sub>2</sub>O<sub>5</sub>, 5.3% TiO<sub>2</sub> and 23% Fe, Mount Peake is rapidly emerging as one of the largest new vanadium-titanium-iron projects in Australia with reasonable prospects for eventual economic extraction. 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.





Table 1. Mount Peake Mineral Resource

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	8.81	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

NB: There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration will result in the determination of indicated mineral resources or that the production target itself will be realised.

TNG is in the process of completing a Definitive Feasibility Study (DFS) on the Mount Peake Project which is due for completion in 2014. 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.

#### Definitive Feasibility Study (DFS) Progress

Work continued during the Quarter on the Mount Peake Definitive Feasibility Study (DFS) under the revised structure and arrangements outlined during the June 2013 Quarter as a result of the decision to transfer management of the DFS in-house. TNG estimates that this new management structure will result in annual cost savings to the Company of approximately \$0.5 million.

During the quarter final metallurgical optimisation test work was carried out on the diamond drill core from Mount Peake. This work will provide fully optimised magnetic concentrate to CSIRO for the upcoming pilot plant test-work. Results from the optimisation work have provided further potential operating cost savings and results will be announced when finalised. The DFS is scheduled for completion during 2014.

TNG continued to advance its potential project funding aims and during the quarter participated in a Northern Territory Ministerial investment trade delegation to Asia, during which the Company met with vanadium importers in Japan; steel producers in China, Japan and Korea; and titanium-dioxide importers in Asia. As a result of these meetings, TNG can confirm that:

- Discussions are in progress with a major steel conglomerate for a magnetite concentrate off-take agreement;

- Discussions are in progress with a major end-user for a titanium dioxide off-take agreement; and
- Investment and licensing agreement discussions are in progress with a major overseas mining company regarding the TIVAN™ Process and the completion of a Definitive Feasibility Study.

In addition, potential investment discussions are also ongoing with a major Middle Eastern investment and development company.

#### Acquisition of 100% of TIVAN™ Process

On 1 October, TNG signed a binding agreement with process engineering group Mineral Engineering Technical Services Pty Ltd ("METS") to acquire 100% of the revolutionary TIVAN™ hydrometallurgical process for titano-magnetite hosted vanadium ores, in exchange for METS to share in any future licence and royalty agreements.

This acquisition process was completed in November following the execution of formal agreements with METS, including an Assignment of the Patent Deed.

TIVAN™ was developed as a cost-effective alternative to conventional pyro-metallurgical processes for vanadium ores, and forms a central plank of TNG's development plan for the Mount Peake Project. The process is designed to produce high purity vanadium-pentoxide, iron-oxide and titanium-dioxide products.

The consolidation of 100 per cent ownership of the TIVAN™ Process within TNG represents an important milestone for the Company, putting TNG in a strong position to move forward to complete the final commercialisation of the TIVAN™ Process as part of the Mount Peake Definitive Feasibility Study while also providing a potential new business strategy for the Company and its shareholders.

## New High-Grade Vanadium-Iron-Titanium Discovery

During the Quarter TNG discovered extensive new zones of outcropping magnetite-bearing gabbro with highly anomalous high-grade vanadium and titanium at Mount Peake. The discovery, from mapping and surface rock and lag sampling over regional magnetic targets, has opened up a significant new exploration opportunity surrounding the Mount Peake deposit itself (see ASX Announcement 6th December 2013).

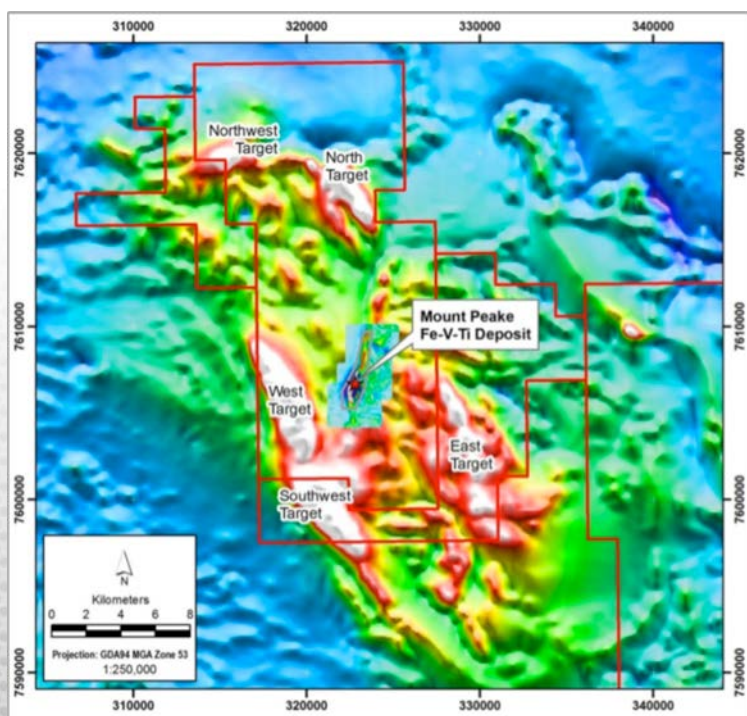
Five areas of significant magnetic highs have been identified within a broad zone extending over approximately 25km by 15km surrounding the Mount Peake V-Ti-Fe resource (Figure 1). Each of the five areas were mapped and sampled during November by the TNG exploration team, with a new area of outcropping gabbro discovered at the Eastern Target, located 5-8km east of the current Mount Peake resource.

Other areas had no exposure and transported cover masking any effective geochemistry. These aeromagnetic highs remain strong drill targets, particularly the two western zones.

At the Eastern Target, two areas of outcrop (Figures 2, 3 and 4) are separated by a thin colluvial sheet, indicating an intrusive similar to Mount Peake under thin transported cover (<5m). Using a highly anomalous threshold of 3,000ppm V, the total Eastern Target geochemical anomaly extends for 4km striking NW/SE, is up to 1km across (Figure 4), is centred on and extends both along strike and to the west of the outcropping gabbro.

Mapping and sampling was analysed by portable XRF (Niton) to provide initial guidance and 76 samples were submitted for XRF analysis at ALS Perth. Geochemical results (see ASX Announcement 6th December 2013) from these 76 samples included values of up to 0.634%  $V_2O_5$ , 24.6%  $TiO_2$ , and 48.0% Fe in magnetic lag (Table 2).

These results confirm field analysis (227 samples) by portable XRF (Niton). Rock chip samples of weathered gabbro obtained maximum values of 0.134%  $V_2O_5$  and 6.77%  $TiO_2$ , above the grade cut-off for the resource at Mount Peake.



← Figure 1: Location diagram showing the Mount Peake Project tenure against the background of a regional aeromagnetic image with the five magnetic targets shown surrounding the central Mount Peake Resource (red star)

↓ Figure 2: Magnetite gabbro outcrop, Eastern area

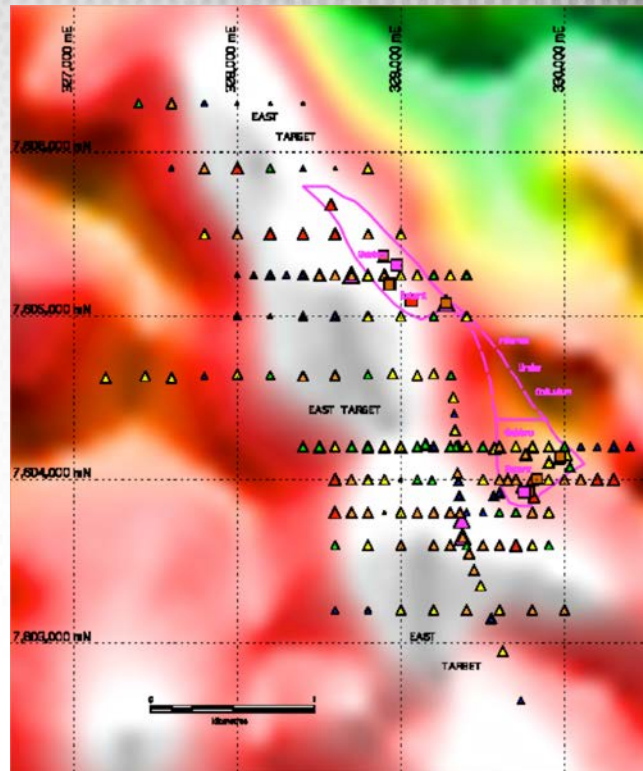






↑ Figure 3: Magnetite and gabbro fragments, on a TNG field magnet

→ Figure 4: Eastern Magnetic Target with aeromagnetic background image showing magnetic concentrate (triangles) and rock chip (squares) Vanadium results (ppm) and area of exposed and sub-cropping gabbro



Cautionary Statement: Chemical analyses results shown on Figure 4 are mostly from a Niton XRF portable analyser model XLt. As such they may not be representative of the whole sample, nor should they be seen as a substitute for laboratory based chemical analysis. However this figure also includes the data analysed by ALS laboratory by method analytical method ME-XRF21n as outlined in Table 2 below which supports the Niton data.

Table 2. Significant results from sampling on the Eastern Target at Mount Peake (ALS Method ME-XRF21n)

EASTERN TARGET SAMPLING	V <sub>2</sub> O <sub>5</sub> %	TiO <sub>2</sub> %	FE%
ROCK CHIP (9 Samples)			
Maximum Values	0.134	6.77	19.84
MAGLAG SAMPLING (67 Samples)			
Maximum Samples	0.635	24.6	48.03
Number >0.5% V, >15% TiO <sub>2</sub> , >40% Fe	18	51	48

TNG plans to design a drilling program over the Eastern Target following the integration of the existing geophysical data with the new mapping and geochemical results. Other geophysical targets will also be tested with drilling in 2014, providing confidence that additional V-Ti-Fe resources can be outlined outside of the Mount Peake Resource, which is currently the subject of a Definitive Feasibility Study.

## COPPER

### 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 gold, silver and lead, with surface sampling returning rock chip grades of up to 35% Cu, 18% Pb, 10% Zn, 7g/t Au and 400g/t Ag.

A diamond drilling programme was completed last Quarter over the main target areas at the Mount Hardy and Browns prospect areas, with several holes targeting major geophysical and geochemical anomalies within the Mount Hardy Project area including significant Electro-Magnetic (EM) conductors interpreted from down-hole electromagnetic (DHEM) geophysical surveys completed earlier this year.

The results were encouraging and confirmed the presence of copper grades below the supergene oxide material, while DHEM surveys have outlined several targets warranting further drill testing.

During the quarter further assessment and exploration planning was carried out. TNG remains enthusiastic about the potential of the Mount Hardy Copper Project and is considering potential avenues to progress the Project to the next level, including the possibility of securing external funding via farm-in joint venture.

#### 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.

Further assessment and exploration planning was carried out during the quarter to refine on-ground anomalies. Several zones have been highlighted for further exploration work which is anticipated to be carried out during this quarter.

#### McArthur – EL 27711 and ELA 30085

The McArthur River tenements, which are located approximately 50km south of McArthur township along the Tablelands Highway, covers part of the prospective McArthur Basin geology, 65km south-west of the McArthur Zinc mine.

Work completed by TNG during 2013 has outlined three large geochemically anomalous Zn-Cu-Pb zones (following a review of historical exploration data) associated with the Wollongorang Formation (see ASX Announcement on 16th 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.

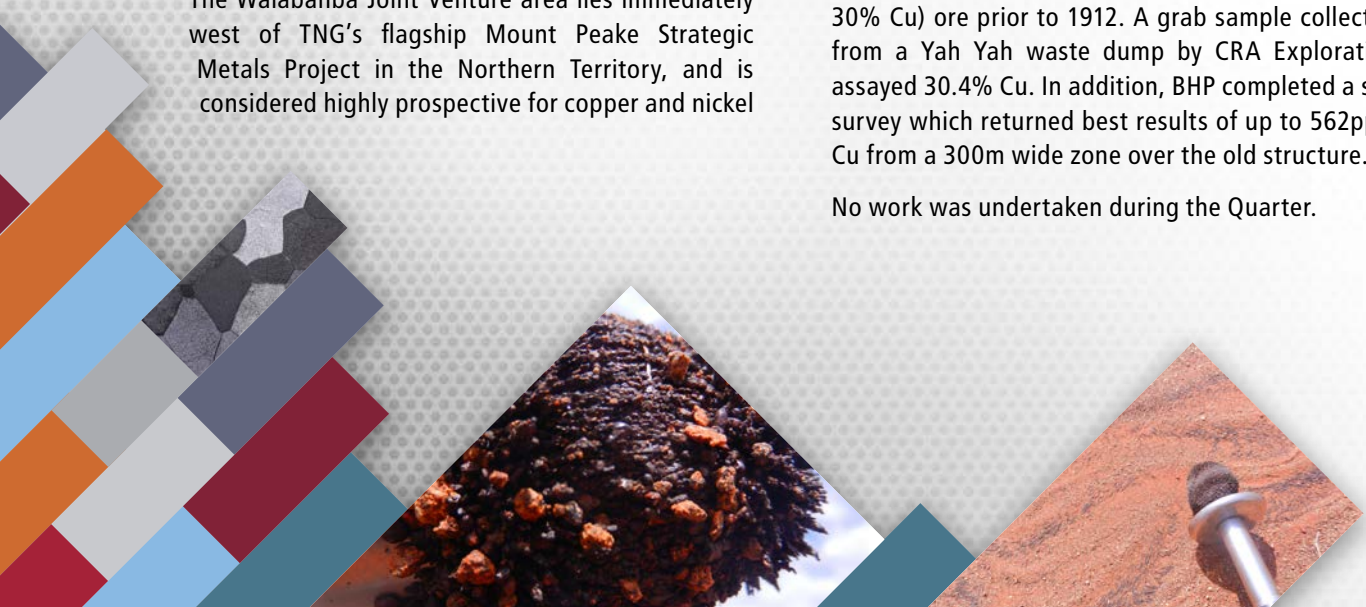
The potential of the Wollongorang Formation carbonaceous shales to host stratiform base metal accumulations has been confirmed by a program of field mapping and sampling by TNG geologists, together with relogging of drill core from the tenement area (accessed in the NTGS Core Library) during the December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

This large (ca. 125 sqkm) area warrants a program of geophysical surveying to define drilling targets, and this is planned for the 2014 dry season.

#### Yah Yah – ELA 28509

The Yah Yah tenement, located approximately 50km south-west 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.

No work was undertaken during the Quarter.



## **SANDOVER PROJECT: COPPER: TNG 100%**

### **ELA 29252, ELA 29253 and ELA 29254**

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 (EL's 29252 and 29253) were granted in late 2012 and 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 programs over these tenements is subject to agreement with the CLC managed Alcoota Pastoral Leaseholders.

## **OTHER PROJECTS**

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

#### **Manbarrum 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.

During the Quarter, Legacy Iron Ore (ASX: LCY) did not meet the terms of a binding scale agreement and the proposed purchase of the Manbarrum Project, as announced on 28 August 2013, did not proceed.

TNG now retains 100% ownership of the Manbarrum Project, which contains a substantial inventory of base metals and silver, together with a significant hematite prospect.

Manbarrum is a significant non-core asset for TNG, and the Company will continue to progress other options to realise value from it (and other non-core projects within its portfolio) while maintaining its focus on the flagship Mount Peake Vanadium-Iron-Titanium Project.

## **JOINT VENTURE PROJECTS**

### **COPPER-GOLD**

#### **Western Desert Resources Ltd (WDR) Joint Venture: TNG 20%, WDR 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.

WDR have completed their requirements to earn 80% of the project.

#### **McTavish Project Joint Venture: TNG 2% Royalty, Barmenco 70%**

Nothing to report.

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

Nothing to report.

### **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.

### **BAUXITE**

#### **Melville Island Joint Venture: TNG 100%, RTX (Rio Tinto earning 80%)**

RTX is progressing negotiations and grant of the licence application for bauxite exploration.



## CORPORATE

### CAPITAL RAISING

As announced last Quarter, in August 2013 TNG raised \$1.2 million before costs through a successful Securities Purchase Plan (SPP).

Under the terms of the SPP, eligible shareholders were offered the opportunity to subscribe for up to \$15,000 worth of fully-paid ordinary TNG shares at an issue price of \$0.045 per share including a free attaching listed option on a 1-for-2 basis. The options will have an exercise price of \$0.08 per share and an expiry date of 31 July 2015.

As outlined in the prospectus for the SPP, any shares not subscribed for by eligible shareholders under the SPP would comprise the shortfall and may be offered to institutional and/or sophisticated investors as a separate placement, at the discretion of the Directors.

During the December Quarter, the Company received applications for the full amount of the shortfall and completed a Shortfall Placement of 51,822,284 shares at \$0.045 per share, plus a free attaching option on the same terms and conditions as the SPP, to raise a further \$2.3 million.

In addition, TNG received commitments for a further \$500,000 worth of shares subject to renewal of the Company's 15% placement capacity at the Company's Annual General Meeting in November 2013. This resolution was subsequently passed at the AGM and when the placement is completed it will bring the total capital raised to \$4 million.

### DAVIS SAMUEL

The Supreme Court of the Australian Capital Territory delivered judgment on the Davis Samuel case on 1 August, 2013.

The Court gave judgment for the Commonwealth on its claims, including the claim against TNG in relation to the Kanowna Lights securities, but gave judgment for TNG on its counter-claim against ten of the defendants and on TNG's third party notice to Peter John Clark for damages to be assessed.

The court gave leave to both TNG and the Commonwealth to make further submissions on how the Commonwealth's election to recover funds from Mark Endresz impacts on the remedies available to the Commonwealth as against TNG. Subject to this, TNG may be required to deliver up the Kanowna Lights securities to the Commonwealth.

On 7 August 2013, the Court made orders setting out a timetable for hearing submissions from both TNG and the Commonwealth in relation to the effect on the Commonwealth's remedies against TNG of the Commonwealth's election to recover funds paid by TNG to other entities for the Kanowna Lights shares.

TNG has submitted that this election disentitles the Commonwealth to any remedy against TNG.

The judge heard the submissions during December 2013 and has reserved his decision.

### ANNUAL GENERAL MEETING

The Annual General Meeting of the company's shareholders was held on 27 November 2013, with all resolutions passed on a show of hands.





## COMPETENT PERSON'S STATEMENTS

### JORC 2004

The information in this report that relates to Exploration Results and Exploration Targets 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 this 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 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 she 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 this 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 this information in the form and context in which it 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 this 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 this information in the form and context in which it appears.