# TNG LIMITED

JUNE 2014 Quarterly report

# SOARS IN THE JUNE QUARTER

Strategic alliances secured with a powerful global network of partners to projects and company growth; new drill targets identified; graphite results and new exploration ground acquired.

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

Mount Peake Definitive Feasibility Study progressing and development pathway on track, with nonbinding Memorandum of Understanding (MoU) signed during the quarter with:

- Hyundai Steel Co., Ltd, a leading Korean-based global steel company and member of the Hyundai-Kia Automotive Group and ferro-vanadium giant WOOJIN. The MoU will consider a cornerstone investment in TNG and potential long term offtake for the iron products from Mount Peake.
- POSCO Engineering & Construction for construction and delivery of the Mount Peake project. The MoU provides for strategic cooperation to complete and deliver the Mount Peake DFS and contract for Engineering, Construction and Development of the Project.
- Global Pacific Partners (GPP), a leading global chemical products distributor, for long-term logistics, Titanium off-take and strategic cooperation with TNG.

- Gunvor Group, (Singapore), establishing the foundations for long-term strategic cooperation with a leading commodities trading house, Gunvor will consider the marketing and distribution of the high purity iron products and by-products from the Mount Peake project.
- Letter of Intent (LOI) for off-take signed with leading Korean ferro-vanadium group, WOOJIN IND. CO. Ltd for vanadium products off-take from the Mount Peake project. Agreements will also include the potential exchange of WOOJIN's proprietary ferro-vanadium technology, which could be incorporated with TNG's TIVAN® hydrometallurgical process to add ferro-vanadium production to the other products.

In addition the company has re-assessed the Mount Peake regional prospectivity and identified strong potential for significant graphite mineralisation close to the resource area.



#### TIVAN® HYDROMETALLURGICAL PROCESS

Magnetic concentrate produced for the downstream Leaching and Solvent Extraction testwork TIVAN Process testwork prior to commencement of the CSIRO pilot plant.

Enhanced magnetic recoveries leading to enhanced grades have been achieved from the magnetic separation test work.

Improved leach results from bulk leach test work.

Acid regeneration/recycling test work completed in Europe, with outcomes in-line with or better than expectations. Results being reviewed.

#### **OTHER PROJECTS**

- Northern Territory Government awards \$70,000 of funding to TNG for diamond drilling of two coincident geochemical and geophysical zinc and copper base metals targets at the company's 100% owned McArthur River Project.
- Compelling new drill targets identified at the companies Mount Hardy and Walabanba Copper Projects following extensive DHEM, IP and FLEM surveys carried out during the quarter.
- Applications submitted for new tenements in the

Tomkinson Basin area, north of Tennant Creek, following detailed review and assessment the area is considered highly prospective for McArthur River style base metal mineralisation (Zn, Cu, Pb, Ag).

#### **CORPORATE**

- +325% increase in TNG's share price between 1 April (6.3 cents per share) and 1 July 2014 (20.5 cents per share).
- New research reports published by Hardman & Co and Breakaway Research, with the Breakaway report maintaining its indicative value for TNG of \$0.28/share, contingent on successfully attracting an equity partner to fund and develop Mount Peake.
- Cash reserves of \$4.203M at quarter-end.
- The company has considered a split of its nonferrous projects in to a new entity to provide additional value for shareholders. A timetable of this will be announced when confirmed.

#### **SUMMARY**

The June 2014 quarter saw continued progress for TNG in the systematic development plans of its flagship Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory, with the company signing a series of landmark off-take and development agreements with a powerful global network of partners to help underpin all aspects of Mount Peake financing, construction, development and operation.

All agreements were specifically targeted by the company following extensive meetings with a number of potential suitors. Highly ranked in these is the agreement with Hyundai Steel Co, a leading Korean-based global steel company and member of the Hyundai-Kia Automotive Group, and ferrovanadium giant WOOJIN. This Memorandum of Understanding (MoU) lays the foundations for TNG to enter into binding agreements with Hyundai Steel for the financing and development of Mount Peake, and encompasses strategic co-operation with Hyundai Steel for a potential cornerstone investment in TNG and potential long-term off-take arrangements for the Mount Peake iron products. Importantly, it also considers all of TNG's resource projects.

The MoU builds on and complements other key agreements signed during the quarter, including leading Korean conglomerate POSCO Engineering & Construction for construction and delivery of Mount Peake, and agreements with WOOJIN, Gunvor Group and Global Pacific Partners for logistics, technology exchange, off-take and marketing.

With these initial agreements in place, TNG is now working with all of these groups to finalise binding agreements covering aspects of the financing, development and operations of Mount Peake, putting the company in a powerful position to realise its vision of becoming a major strategic metals house. Within the company's broader exploration portfolio, during the quarter TNG also completed extensive geophysical surveys over the Mount Hardy and Walabanba Hills Copper Projects, identifying six new drill-ready targets – two at Mount Hardy and four at Walabanba Hills. TNG intends to drill these targets as soon as possible to enable the Company to establish the potential of these projects and maximise their value for shareholders.

TNG was also awarded co-funding from the Northern Territory Department of Mines and Energy to test two significant base metal targets at its McArthur River Project in the Northern Territory. The funds will be used to test two areas with highly anomalous zinc-lead-silver-copper results over prospective stratigraphy, with significant surface geochemical anomalism coincident with geophysical anomalism. Drilling is expected to commence later in the September quarter subject to regulatory approvals.

In addition TNG further expanded its exploration portfolio in the Northern Territory during the quarter after applying for two new Exploration Licences in the Tomkinson Basin area to the north of Tennant Creek, following extensive review and assessment by TNG's in-house geologists. The new tenements are highly prospective for base metal mineralisation (zinc-copper-lead-silver), with exploration activities to focus on the discovery of deposits of a similar style to the world-class McArthur River Zinc Mine, located some 300km to the north-east. The new licence applications are consistent with the company's strategy to have a continuous pipeline of highly prospective projects and increasing value for its shareholders.

### PROJECTS

#### VANADIUM-TITANIUM-IRON

#### MOUNT PEAKE PROJECT: TNG 100%

The Mount Peake Project is emerging as a worldscale strategic metals project located 235km northwest 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, 20Mt Inferred), grading 0.28%  $V_2O_5$ , 5.3% TiO<sub>2</sub> and 23% Fe, Mount Peake is rapidly emerging as one of the largest new Vanadium-Titanium-Iron projects. 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 Definitive Feasibility Study (DFS) on the Mount Peake Project which is expected to be completed in 2014. A Pre-Feasibility Study (PFS) 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, iron-oxide 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.

#### LANDMARK AGREEMENT WITH HYUNDAI STEEL

On 10 July, TNG signed a wide-ranging three-way Memorandum of Understanding (MoU) with global steel giant Hyundai Steel Co., Ltd, paving the way for a potentially company-making funding, development and construction arrangement for the Mount Peake Project.

The non-binding MoU – with Hyundai Steel and leading ferro-vanadium producer, Korean-based WOOJIN IND., CO., Ltd – was signed during a visit by a high-level delegation comprising senior executives from both Hyundai Steel and WOOJIN to Perth.



Figure 1: TNG MD Paul Burton (left) with Mr Bum Soo, Kim, Senior Vice President, Hyundai Steel (centre) and Mr In Jong, Ki, Chairman of WOOJIN, signing the MOU. Standing at the rear from left are TNG Directors Mr Rex Turkington, Mr Stuart Crowe and Chairman Michael Evans, with Mr Byung Jik, Lim, Director, Hyundai Steel and Mr Tai Won, Choi, General Director, WOOJIN.

The MoU lays the foundations for TNG to enter into binding agreements with Hyundai Steel for the financing and development of Mount Peake and the potential long term offtake agreements for Iron and other products. Together with TNG's existing portfolio of global strategic partnerships, this puts the Company in a powerful position to realise its vision of becoming a major strategic metals house.

This is one of the most significant agreements and cooperation the company has entered into to date. Importantly, it also considers all of TNG's resource projects.

Hyundai Steel is a steel-making company headquartered in Incheon and Seoul, South Korea. It is a member of the Hyundai-Kia Automotive Group.

Hyundai Steel is today one of the world's leading electric furnace steelmakers with three new blast furnaces and production sites at Inchon, Pohang and Dangjin in Korea.

The company is now in discussions for binding agreements.

# DEVELOPMENT MOU SIGNED WITH KOREA'S POSCO E&C

During the quarter, TNG signed a wide-ranging three-way MoU with major Korean conglomerate POSCO Engineering & Construction (E&C) and its Perth based metallurgical consultants, METS Pty Ltd.

The MoU encompasses completion of the Feasibility Study, potential project finance assistance from the Korean Export Credit Agency (K-ECA) or Korean Banks, and construction and development of the Mount Peake Project.

The MOU provides a unique combined approach to provide efficient and cost effective delivery for the Mount Peake Project, and brings the resources, expertise, financial capability and networks of a major global conglomerate in the resource development and construction field for the development of Mount Peake.

POSCO E&C (part of the POSCO Group) specialises in major project development (Mega Projects). A worldwide total solution provider with over 8,000 employees globally, POSCO E&C had global orders of US\$12 billion and sales of US\$8 billion in 2013. It has a clear vision to become a top-10 global construction company by 2020.

The company is now in discussions for binding agreements.

#### LETTER OF INTENT SIGNED WITH KOREA'S WOOJIN FOR VANADIUM OFF-TAKE AND MARKETING

TNG has further cemented its strategic relationship with the major Korean-based ferro-vanadium producer WOOJIN IND., CO., LTD., (WJN) after signing a Letter of Intent that paves the way for binding agreements on vanadium off-take and marketing for Mount Peake.

The execution of this document followed the initial broad Memorandum of Understanding (MOU) signed between WJN and TNG in March 2014.

Since then, the parties have worked closely together to develop mutual understanding and cooperation to pursue binding agreements in relation to the Mount Peake Project. This included a visit from WJN's Chairman, Mr In Jong Ki, and General Manager, Mr Eddie Choi, to Darwin and Perth, Australia from May 12 to 15, 2014. The outcome of that visit was very positive and the parties have now confirmed their intention to enter into future binding agreements by committing to a Letter of Intent in relation to the vanadium products to be produced from Mount Peake.

WOOJIN has developed its own proprietary FeV conversion technology in 1990. The process enables the company to achieve the highest vanadium recovery in the world at a low conversion cost. The addition of this process to the TIVAN® plant would provide further added value products for global distribution.

Under the agreement, TNG may provide samples of its magnetite concentrate and vanadium pentoxide  $(V_2O_5)$  for potential future off-take arrangements, with the added potential for technology exchange for TNG to add a WOOJIN FeV plant to its TIVAN® operation, which may potentially be located in Malaysia (see ASX Release – 18 March 2014).

The company is now in discussions for binding agreements.

#### LONG-TERM STRATEGIC AGREEMENT WITH GLOBAL PACIFIC PARTNERS FOR TITANIUM PRODUCTS

TNG has signed a wide-ranging strategic MoU with leading global chemical products distributor Global Pacific Partners ("GPP").

GPP, a diversified global chemical distributor, is a division of Soda Ash Holding BV, a Dutch Holding Company that controls a number of chemical distributors globally. This makes it the world's largest independent distributor of soda ash, reselling over one million tonnes of soda ash annually throughout Central and South America, Eastern Europe, Oceania and other markets. With global offices and a vast distribution network, the group has chosen GPP to be the strategic platform focusing on growing the chemical distribution business. GPP has established relationships with TiO<sub>2</sub> producers and customers on a global basis.

The company is now in discussions for binding agreements.

#### LONG-TERM STRATEGIC AGREEMENT WITH GUNVOR GROUP FOR HIGH PURITY IRON PRODUCTS

During the quarter, TNG signed a wide-ranging strategic MoU with the leading global commodity trading company Gunvor Group ("Gunvor").

Founded in 2000, Gunvor Group is one of the world's largest independent commodities trading houses by turnover, creating logistics solutions that safely and efficiently move physical energy, metals and bulk materials from where they are sourced and stored to where they are demanded most.

The company is now in discussions for binding agreements.

#### DEFINITIVE FEASIBILITY STUDY (DFS) PROGRESS

Work continued during the quarter on the Mount Peake Definitive Feasibility Study (DFS) delivering encouraging results at a number of levels, including the continued potential for material reductions in both capital and operating costs. These savings, which should enhance project economics, will be further quantified and announced on completion of internal assessment.

The work completed to date, and scheduled, is summarised in detail below.

#### **METALLURGICAL TEST WORK**

The Company remains of the view that completion of the detailed metallurgical pilot test work programme is critical before the completion of mining plans, engineering and environmental impact studies.

There are six areas of metallurgical test work currently underway or scheduled that form part of the projects critical path, as follows:

- Final optimisation of the HPGR (high pressure grinding rolls) circuit design COMPLETED
- Final optimisation of magnetic separation test work - COMPLETED
- Final continuous crushing, grinding and magnetic separation at ALS Metallurgy of the bulk sample for the CSIRO pilot plant - COMPLETED
- Final optimisation of bench leach and SX (solventextraction) work at ALS Metallurgy
   UNDERWAY

- On completion of 1 to 4, a continuous bulk leaching and solvent extraction (CSIRO) run.
- On completion of 5, continuous bulk acid regeneration pilot plant-run in Europe.

The Company is pleased to report that Stages 1 to 3 have been completed and Stage 4 is nearing completion. In addition the company can confirm the following improvements:

#### MAXIMUM VANADIUM RECOVERY:

The magnetite material the will be processed through two stages of crushing and two stages of HPGR which is now the current route required to provide the maximum vanadium recovery for the process.

#### **ENHANCED MAGNETIC RECOVERIES:**

As a result of the interpretation of the previous testwork results, the design of the two stages of magnetic testwork has resulted in improved recoveries and grades from the magnetic separation testwork.

#### **IMPROVED BULK LEACH RESULTS:**

The bulk leach testwork results proved to be better than the preceding bench scale testwork, as well as the PFS bulk leach results.

#### OTHER WORK UNDERWAY:

#### **DEFINITIVE PILOT PLANT TEST WORK (CSIRO)**

The company's metallurgical consultants, METS Pty Ltd, have advised that, due to some logistical delays out of the company's control the magnetic concentrate from the 15 tonne bulk sample is now scheduled for delivery to the CSIRO in this current quarter.

# ACID REGENERATION / RECYCLING TEST WORK (EUROPE)

The work carried out by the company's European supplier has been comleted and results are in line with expectations but are currently being reviewed. The work focused on three important sections of the proposed plant for the TIVAN® Process. The acid regeneration plant is an integral part of the TIVAN® process. Once the review of results is completed these will be announced.

The next stages of work for this supplier are to determine the final CAPEX for their acid regeneration plant, to be incorporated into the overall DFS.

#### SCHEDULED WORK SUMMARY

# CONTINUOUS BULK LEACHING AND SOLVENT EXTRACTION AT CSIRO

Following the processing of the bulk sample Master Composite to generate a magnetite concentrate, the CSIRO pilot plant test run will commence. This is expected during the next quarter.

Once the CSIRO pilot plant run is complete, the results obtained will deliver final mass and energy balance and engineering and process design criteria information which would allow the final engineering design for the TIVAN® Hydrometallurgical Process Plant to commence.

The data captured from the continuous pilot run will also facilitate the tailings characterisation work on the TiO<sub>2</sub> plant residue stream for Titanium Tailings Storage Facility (TSF) design and lead into the Environmental Impact Assessment (EIS) Study.

# CONTINUOUS BULK ACID REGENERATION (EUROPE)

Once the CSIRO pilot plant trial is completed, the solvent extraction liquor samples can be sent to the leading European engineering firm for their continuous pilot plant completion and to produce the Iron Oxide (Fe<sub>2</sub>O<sub>3</sub>) component. At the end of this campaign, a final CAPEX of  $\pm$ 15% and OPEX  $\pm$ 10% for the Acid Regeneration Plant can be determined for inclusion in the DFS.

Once the CAPEX and OPEX data have been compiled, they will be provided to the Feasibility Study managers to incorporate into the Definitive Feasibility Study to allow it to be completed by December 2014. The completion of the DFS within this timeline remains subject to factors beyond TNG's control including availability of third-party equipment, resources and personnel which have had a determinative effect on progress to date.

#### **TIVAN® PLANT LOCATION AND ENGINEERING**

Once the definitive flow sheets for the front end Beneficiation and the TIVAN® Hydrometallurgical Plants are confirmed, the company will be in a position to define and confirm a suitable location for the processing plant as the final key inputs of power and water will be known. At that time, the company will re-tender for the DFS engineering contractor.

The company is evaluating all options for the TIVAN® plant location.

#### ENVIRONMENTAL IMPACT STUDY

An extensive amount of work continues to be completed to date as part of the EIS process by the Company's environmental consultants, GHD. Environmental work completed includes:

- Flora and fauna baseline survey reporting;
- Groundwater investigations (including drilling) of the Mount Peake deposit to determine aquifer properties and the likely volume and quality of groundwater encountered;
- Pump testing of bores to indicate availability of water supply for the project; and
- Finalisation of the Terms of Reference from the NOI.

# FUTURE WORK SCHEDULED TO RUN IN PARALLEL WITH FINALISING THE DFS:

- Completion of studies and impact assessment covering flora and fauna, heritage, groundwater, surface water, air quality, noise, traffic, social impacts and economics;
- Implementation of a community consultation program to advise stakeholders of the Project and to seek their input; and
- Preparation and submission of the draft Environmental Impact Statement (EIS).

#### MINING, GEOLOGY AND GEOTECHNICAL STUDIES

Proposals have been obtained to conduct the mining, geology and geotechnical studies required to complete CAPEX and OPEX for the DFS. Financial modelling is scheduled to take place over the last month of the DFS once the CAPEX estimate is completed.

#### TAILINGS STORAGE FACILITY (TSF) DESIGN

Proposals have been obtained to conduct the Tailings Storage Facility (TSF) design and to complete CAPEX and OPEX estimated for the TSF as part of the DFS process.

The tailings characterisation work is divided into two components and will initially start once a representative sample of the non-magnetic tailings stream is generated from the ALS pilot campaign in February and when representative samples of leach and salt residues are generated from the CSIRO pilot campaign.

#### **AQUIFER SEARCH**

A comprehensive desktop study has been completed which highlighted a number of high probability targets in close proximity to the Mount Peake mine site. These were drilled in the last drilling programme at Mount Peake however no significant aquifer was delineated. The company is continuing to work with its consultants on identifying a sustainable water source.

#### **POWER REQUIREMENTS**

A significant factor in the location of the TIVAN® processing and beneficiation plant will be availability of sufficient gas. The company continues to consider all options which will ultimately determine the location of the plant..

#### **PROJECT FINANCE**

The company remains of the view that the most suitable development path for Mount Peake is to engage a major partner, company or corporate conglomerate to provide development finance, engineering, procurement, design and construction in exchange for Project equity and or off-take agreements.

As previously advised, the company is in discussions with a number of parties in this regard and continues to evaluate all opportunities.

#### OTHER PROSPECTS AT MOUNT PEAKE

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

#### GRAPHITE

As previously announced (refer ASX Release 21 October 2010) the company intersected graphite mineralisation in two separate drill holes near the Mount Peake resource. Thick zones (>50m) of graphite were intersected in two holes drilled on a large (1km x 0.5km) airborne EM target to the northwest of the Mount Peake resource. The RC drilling samples provided material sufficient for only very limited metallurgical testwork on the graphite. This was carried out by the companies metallurgical consultants METS, and is outlined in Appendix One. From the limited drill material available the graphite intersected grades between 6-10% graphitic carbon with 35-55% of the graphite occurring in the <53 micron fraction, although one third reported in the >150 micron (coarse flake) fraction. A simple flotation test was carried out and results are highly encouraging with recovery of over 80% of the graphite in the first 4 minutes of the flotation test (Figure 2), and with Iron and Silicon recoveries of <10% indicating good selectivity and separation between the graphite and gangue minerals.

This produced a first pass concentrate averaging 46% graphitic carbon. Whilst preliminary this provides good evidence that the graphite is comparable to some existing Canadian resources (e.g. Bissett Creek, Ontario Canada, Mega Graphites North Burgess property, Canada).





↑ Figure 2. TOP - Cumulative Recovery over Duration of Flotation Test (METS data), and BOTTOM - First pass flotation concentrate photograph.

Using additional processing circuits METS advise that the concentrate grade will have the potential to increase up to >80% graphitic Carbon. Additional metallurgical test work will be planned once the company has obtained drill core of the graphite intersection, expected to take place during in the coming quarter.

Following this test work and a further review of the mineral potential, the company is of the view that the Mount Peake area may host significant multiple bodies of graphite mineralisation and further drill testing is planned.

If proven, the company would have the unique ability to produce all materials from Mount Peake for the energy storage (battery) and steel industry sectors; Vanadium Pentoxide, Iron Oxide, Titanium dioxide, Graphite.

### OTHER PROJECTS

#### **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 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 400g/t Ag.

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

TNG has continued a low-cost evaluation of this highly prospective copper project while it assesses the best way of progressing exploration activities without compromising its focus on the flagship Mount Peake Vanadium-Titanium-Iron Project.

As part of this approach, it completed three separate ground geophysical programs during the quarter using DHEM (Down Hole EM) and IP (Induced Polarisation) systems, details of which are outlined in Appendix Two.

DHEM surveys utilised a Crone Tx/Rx system Probe with 300x300m 20A loops at a 5Hz Base Frequency and 50msec Time Base.

The IP survey in each area was an offset dipole



↑ Figure 3: Location diagram for the Mount Hardy Project showing the 2014 geophysical survey areas.

array with a central Tx line and two 100m offset Rx lines, 50m station spacings, and a GDD 2400V/10A Transmitter.

Processing and interpretation work has now been completed. New prospects with drill-ready targets have been outlined at Target #6 and Target #7 at Mount Hardy (Figure 3).

In addition to these new areas, further delineation drilling is also planned for the Mount Hardy Prospect, Browns Prospect, EM Target #1 and EM Target #2 at Mount Hardy.

At EM Target #1 DHEM surveying was conducted on two holes (13MHDDH010 and 13MHDDH011) drilled in 2013. Both were drilled to test a strong EM conductor plate interpreted from previous RC drilling and the original HELITEM anomalous conductor zone.

Hole 13MHDDH010 returned a broad base metal mineralised zone of 21.0m @ 0.46% Cu, 4.35% Zn, 1.91% Pb, and 36g/t Ag, with maximum values reported of 1.88% Cu, 12.05% Zn, 7.25% Pb, and 130g/t Ag (see ASX Release 20 May 2013).

Interpretation of the combined DHEM data from these two holes has allowed a large and strong (750-1800 Siemens Conductance) conductor plate to be interpreted which warrants high priority drill follow-up (Figure 4). The modelled plate measures some 50m x 300m, plunging at around 30 degrees to the NNW. Three holes have been planned to test this plate, both between the intercepts of holes 13MHDDH010 and 011 and down-plunge of hole 13MHDDH011.

At EM Target #4, DHEM on hole 13MHDDH013 detected a small weak in-hole anomaly that has been tested, with no significant mineralisation seen. No further work is warranted.

At the Mount Hardy Prospect, DHEM surveying of hole 13MHDDH014 drilled on the IP anomaly returned no significant conductor. Previous work in the area has outlined a copper soil anomaly (see ASX Release – 27 September 2012), and drilling returned significant copper hits including 11.0m @ 0.87% Cu, 10.3m @ 1.35% Cu, and 6.0m @ 0.54% Cu (including 1m @ 9.44g/t Au) (see ASX Releases – 18 April, 29 April and 13 May 2013).

> The Mount Hardy copper mineralisation appears to be associated with a broad

moderate NNW dipping quartz/sericite shear/ alteration zone with abundant disseminated sulphides (chalcopyrite and pyrite) that do not interconnect to generate an EM response, but can be outlined by the IP geophysical technique.

This differs from the responses associated with Cu-Zn-Pb mineralisation at Browns and EM Target #1, which have more abundant sulphides and therefore generate a stronger EM response. Further drill testing is planned for the Mount Hardy Prospect, both down-dip and down-plunge of the existing drilling and following the IP response at depth.

Also at the Mount Hardy Project, Induced Polarisation (IP) surveys were completed on three areas during early April 2014. The 2013 IP survey over the Browns Prospect was extended to the west, and two EM conductors (outlined in the 2012 HELITEM survey) were surveyed, each with a single dipole array (Figure 3).

A single dipole array was added to the existing three arrays surveyed in early 2013 (see ASX Release 13 May 2013) at the Browns Prospect. Combined data has been interpreted with the anomaly now closed off to the northwest.

The single existing hole into this IP feature returned 13.0m @ 1.17% Cu, 1.82% Zn and 0.46% Pb from 74m down-hole in hole 13MHDDH015, including 1.0m @ 3.86% Cu, 11.75% Zn, 2.09% Pb (see ASX Release – 13 May 2013).

These base metal grades are hosted by a quartz breccia and, in places, approached massive sulphide composition. This mineralisation is hosted in siliciclastic schists of the Lander Beds Proterozoic rocks, as with other mineralisation seen over the Mount Hardy Project.

The IP target has an extent of around 500m x 200m. While there is no outcropping mineralisation up dip



↑ Figure 4: Sectional view (looking north) of the EM Target #1 area, showing the modelled conductor plate (blue polygon), together with existing and planned (yellow) drill holes.



↑ Figure 5: Oblique 3D view of the Browns IP survey area at the Mount Hardy Project, showing pseudosections of chargeability data, the wireframed resistivity low, the existing drill hole (13MHDDH015) and planned drilling (magenta traces).

of this drill intersection there is copper mineralisation seen some 200m to the south, which strikes WNW dipping to the NNE.

Mineralisation seen in hole 13MHDDH015 was a blind IP geophysical success, has a coincident chargeability high and resistivity low, and is open in all directions. There is significant potential for more mineralisation within this feature and further drill testing has now been planned (Figure 5).

EM Targets #6 and #7 were outlined in 2012 HELITEM interpretation (see ASX Release – 14 August 2012) and were both mapped in 2013. Shallow transported cover precluded effective geochemical testing and there was no geological explanation for the conductor zones.

Target #6 IP work outlined a shallow and broad weakly chargeable zone consistent with the EM survey that requires drill testing.

At EM Target #7, a highly conductive surface layer resulted in little signal being received from deeper in the profile. Despite this the centre of the IP conductive zone does correspond with the position of the HELITEM anomaly and drill testing is warranted. Both targets represent coincident EM and IP anomalies and are priority drill targets.

In addition to the above work, EM Target #2 at Mount Hardy also requires further drill testing. It was drilled in 2013 (see ASX Release 20 May 2013) with results shown on Figure 6, and returned maximum values of 5.9% Cu, 10.5% Zn, 3.4% Pb and 55g/t Ag. Hole 13MHDDH012 had collapsed and could not be accessed to allow DHEM surveying, however existing EM modelling allows for the design of several high priority follow up drill holes, as shown on Figure 6.

The geophysical work completed this quarter has resulted in two new drill-ready targets being outlined, while four existing prospects now have high priority areas ready for further drill testing.



↑ Figure 6: Plan and side view of the interpreted plate at the EM Target #2 at Mount Hardy, showing existing drill intercepts and planned pierce points for future drill testing.

#### 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.

Three areas were surveyed at the Walabanba Hills Project in April with a Fixed Loop Ground ElectroMagnetic (FLEM) system. Each of these areas (shown on Figure 7) was originally outlined from interpretation of HELITEM surveys in 2012, with subsequent ground mapping and sampling in 2013.



↑ Figure 7: Location diagram for the Walabanba Project showing the 2014 FLEM survey areas

All areas had mid to late time moderately to strongly conductive zones outlined from the HELITEM work, and the current ground work was designed to better define anomalism to allow for drill targeting.

At EM Target 1c, a 1400 x 1000m area was surveyed and interpretation shows four discrete anomalies (Figure 8) that centre on the original conductor with a coincident aeromagnetic high. Anomalies A and B are along the southern flank of a central ground polarisation (EM negative) zone, and have strong (300 Siemens) late time responses that are coincident with anomalous copper geochemistry. Anomaly C is a 500 Siemen south-dipping late time plate, while Anomaly D is a weak circular mid time feature. Drilling testing of Anomalies A, B and C at EM Target 1c is proposed.

A single strong mid-time anomaly at EM Target 1d and is a priority for drill testing (Figure 9).

The third area surveyed covered two adjacent but discrete EM conductor targets (5b and 5c) outlined from the HELITEM interpretation. Interpretation of the FLEM data (Figure 10) over these anomalies suggests two moderatelystrong conductive bodies are present. It is expected that three holes would be sufficient to adequately test the potential for base metal mineralisation at this location.

In total there are now four new drill-ready targets

outlined within the Walabanba project area, and these will be tested in the next drill programme expected to be later in the next quarter.



↑ Figure 8: Walabanba Project FLEM Target 1c survey area and interpretation, showing four separate conductive anomalies.



<sup>↑</sup> Figure 9: Composite of images from the Walabanba FLEM survey at Target 1d.



↑ Figure 10. Composite of images from the Walabanba FLEM survey at Target 5b/c.

#### MCARTHUR - EL 27711 AND EL 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 southwest 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 during 2013 has 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 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 Wollogorang 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.

During the quarter TNG was awarded co-funding from the Northern Territory Department of Mines and Energy to test two significant base metal targets at the McArthur River Project. The funds will be used to test two areas with zinc-lead-silver-copper mineralised prospective stratigraphy, significant surface geochemical anomalism and coincident geophysical anomalism.

Two deep diamond drill holes are planned, for a total of 600m, with drilling expected to commence in the coming quarter.

Work completed over the last three years by TNG has confirmed the potential of the central portion of the Wollogorang Formation to host economic zinc-lead-silver-copper mineralisation of a similar style to that found at McArthur River. This unit outcrops over 17km within the tenements and has defined soil geochemical anomalism in three main areas, as outlined in ASX Release of 16 September 2013.

Drilling will test two zones: the Central Zinc and Northeastern Zn-Cu anomalies (Figure 11).

The Central Zinc Zone has anomalous soil geochemistry (both historical and from recent TNG exploration) over an area of 450m x 3000m (at a 250ppm Zn anomalous threshold) with results of up to 1,400ppm Zn and 670ppm Pb, partially coincident patchy copper anomalism and coincident IP anomalies.

The Northeastern Zone is up to 850m long, with zinc soil results of up to 650ppm, copper to 1,000ppm and lead to 520ppm, as well as coincident (down-dip) IP (induced polarisation) geophysical anomalism. Both geochemical/geophysical zones are adjacent to regionally significant faults that may have been conduits for mineralising fluids (see ASX Release – 16 September 2013).



Figure 11: Plan showing areas of anomalous geochemistry and the locations of the planned holes.

#### 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.

Discussions with Traditional Owners are continuing in relation to access.

# 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 programs over these tenements is subject to agreement with the CLC managed Alcoota Pastoral Leaseholders.

Discussions with Traditional Owners are continuing in relation to access.

### OTHER PROJECTS

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

# ACQUISITION OF NEW TENEMENTS IN TOMKINSON BASIN AREA

During the quarter TNG further expanded its exploration portfolio in the Northern Territory after applying for two new Exploration Licences in the Tomkinson Basin area to the north of Tennant Creek.

The new tenements are prospective for base metal mineralisation (zinc-copper-lead-silver), with exploration activities to focus on the discovery of deposits of a similar style to the world-class McArthur River Zinc Mine, located some 300km to the north-east.

The Tomkinson Project tenements, comprising ELA 30348 (Helen Springs 50 Sub-blocks) and ELA 30359 (Powell Creek 71 Sub-blocks), which cover a total area of 399 square kilometres (Figure 12), were pegged by Enigma Mining Limited (a wholly-owned subsidiary of TNG Limited) during April 2014.

They are located 100km north of Tennant Creek and fall on the Helen Springs 1:250,000 map sheet area covering parts of the Helen Springs (PPL 1001) and Powell Creek (PPL 948) Pastoral Leases.

This ground covers areas of outcropping and subsurface sediments belonging to the Proterozoic Tomkinson Basin. In particular, the fine grained siltstone, carbonate and sandstone sediments of the 1660-1610 Ma Namerinni Group, deposited in shallow marine to fluviatile environments, are to be targeted. The Namerinni Group has recently been correlated with the Glyde package of rocks (McArthur Group) in the McArthur Basin that host both the ore at the McArthur River mine (in the HYC Member of the Barney Creek Formation), and mineralisation at several prospects in the Batten Fault Zone, such as the recent Teena discovery by Rox Resources and Teck.

This newly acquired ground is considered to be highly prospective for deposits of a similar style.

This sequence has been previously extensively explored for diamonds and manganese, but has only seen minor base metal exploration work over the last 20 years.

No base metal drilling has been conducted within the two tenements under application, and no recent geophysical surveys have been conducted that would have detected sulphides associated with this style of base metal mineralisation.

TNG believes there is scope for a significant minerlisation and a cost effective exploration program across the tenement package, initially utilising airborne electrical geophysical techniques to outline target areas, and then requiring ground geophysics (EM and IP) to guide a program of followup drilling is being planned.

The two tenements are expected to be granted in the third quarter of 2014, allowing planning and landholder liaison to commence and field programs to be started..



Figure 12: Location of the Tomkinson Project (ELA 30348 and 30359).

#### MANBARRUM ZINC-LEAD-SILVER PROJECT: TNG 100%

Located 82 km 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-leadsilver mineralisation have been discovered to date, with a number of untested targets.

Manbarrum is a significant but non-core asset for TNG, and the Company will continue to investigate 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.

With a strong recovery anticipated in the zinc and lead prices, and a considerable silver potential the projects remains of considerable value to shareholders.

#### LEGUNE HEMATITE PROJECT: GRADE 68% FE.

Negotiations are continuing with the Traditional Owners and AAPA to access the site for drill testing of this hematite hill. It is hoped agreement can be made during the next quarter to allow immediate drill testing.

#### **BLACK RANGE PROJECT**

The two new tenements within the Black Range project are likely to be granted in the September quarter. These cover an area of approximately 60km of the Sherwin Iron formation (Figure 13), host to existing Iron resources being exploited by Western Desert Resources (ASX:WDR) and Sherwin Iron (ASX: SHD).



Figure 13: Location of the Black Range Project tenure and prospective stratigraphy.

### 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.

# MCTAVISH PROJECT JOINT VENURE: TNG 2% ROYALTY, BARMINCO 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 and is subject to a sale agreement by Norilsk Nickel.

#### 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.

### CORPORATE

#### DAVIS SAMUEL

The Supreme Court of the Australian Capital Territory delivered judgment on the Davis Samuel case on 1 August, 2013. TNG and its lawyers are considering the judgment (which runs to more than 500 pages) and the company's options.

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. A decision is expected on 31 July 2014.

#### **NEW BROKER RESEARCH**

New broker research reports for TNG have been published by Hardman & Co and Breakaway Research, and are available to download from the company's website, www.tngltd.com.au.

The Breakaway report maintained an indicative share price target for TNG of 28 cents per share, contingent on the company finding a suitable equity partner to fund and develop the Mount Peake Project.

The strong progress made by TNG during the quarter, particularly in regards to the series of agreements signed for the Mount Peake project, delivered strong share price growth of more than 325% during the quarter from 6.3 cents per share on 1 April 2014 to 20.5 cents per share on 1 July 2014. The Company's share price has continued to strengthen since the end of the quarter.

Paul Burton Managing Director July 2014

### **TENEMENT SCHEDULE**

The Group holds an interest in the following tenements or tenement applications at 30 June 2014:

PROJECT	TENEMENTS	EQUITY
Mount Pea	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%.

#### 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.

### APPENDIX ONE

### SAMPLING TECHNIQUES AND DATA

(Graphite Metallurgical details are outlined here)

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Samples used for metallurgical testwork (flotation tests) were taken from RC sample material. Collected samples were cyclone split from the bulk 1 m interval.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	
	Aspects of the determination of mineralisation that are Material to the Public Report.	
Drilling techniques	Drill type (eg core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	RC (Reverse Circulation) drilling in 6" holes to 300m deep utilising a face sampling hammer.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	No significant sample loss was noted.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	All drill samples have been geologically logged for lithology, regolith, mineralogy, and mineralisation.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	
	The total length and percentage of the relevant intersections logged.	

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Samples used in the metallurgical work were subsampled from the bulk material by rotary split and dried then subsampled by riffle splitting to provide samples for: analysis, sizing analysis and flotation
	appropriateness of the sample preparation technique.	
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	testwork.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/ second-half sampling.	
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	The metallurgical testwork conducted to date is preliminary in nature. No duplicate or repeat testwork
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	<ul> <li>All analyses in testwork was by the following methods:</li> <li>Total Carbon and Sulphur – combustion and infrared</li> </ul>
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>detection by Labfit CS2000</li> <li>Element scans – by Mixed acid digest and ICP finish.</li> </ul>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Not Applicable in preliminary metallurgical testwork.
	The use of twinned holes.	
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	54
	Discuss any adjustment to assay data.	
Locations of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Geophysical and drilling surveys were controlled using a standard GPS device, with accuracy of better than 2 metros for Northing and
	Specification of the grid system used.	Easting, and around 5 metres
	Quality and adequacy of topographic control.	for RL.
		All coordinates data for the Mount Peake project are in MGA_GDA94 Zone 53.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Not Applicable for
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	metallurgical sampling.
	Whether sample compositing has been applied.	
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	With only two holes into the graphite body to date no orientation information is available to determine dip/ strike and plunge.
Sample security	The measures taken to ensure sample security.	Not Applicable.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been conducted on the graphite sampling material.

### SECTION 2 REPORTING OF EXPLORATION RESULTS

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Mount Peake graphite prospect is located on tenement EL 27070 which is wholly owned by TNG Limited. All project tenements are in good standing with no know impediments.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No previous work has been done on this graphite prospect.
Geology	Deposit type, geological setting and style of mineralisation.	The graphite zone drilled is hosted by Paleoproterozoic Lander Rock Beds schists, with the best grades occurring in quartz-chlorite-biotite- sillimanite-pyrite-graphite schists, with graphite controlled by metamorphism, primary rock composition and structural setting.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	Not applicable. No new drill information reported here.
	<ul> <li>Easting and northing of the drill collar</li> </ul>	
	<ul> <li>Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar</li> </ul>	
	Dip and azimuth of the hole	
	<ul> <li>Down hole length and interception depth</li> <li>Hole length.</li> </ul>	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Not applicable.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths	These relationships are particularly important in the reporting of Exploration Results.	Not applicable. No new drill results being reported.
and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figure 2 in the body of the report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Not applicable to metallurgical results/data.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Two flotation tests were conducted. Firstly with -53 micron feed material the concentrate achieved 46.9% grade with 97.2% graphite recovery. A second with regrind/rougher/ cleaner obtained 84% recovery with a maximum grade of 45.6% graphite. Further testwork would consider other concentration methods to the froth flotation used to date, differing grind sizes, and additional separation stages.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	This metallurgical work is preliminary and requires larger samples and core material to fully assess the economic potential of the prospect. Drilling is planned to both assess the size of the graphite occurrence and provide material for further testwork.

## APPENDIX TWO

### - SAMPLING TECHNIQUES AND DATA

(Geophysical survey details are outlined in here)

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Not Applicable.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	
	Aspects of the determination of mineralisation that are Material to the Public Report.	
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Not Applicable.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Not Applicable.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Not Applicable.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	
	The total length and percentage of the relevant intersections logged.	

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sub-sampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	Not Applicable.
sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Not Applicable.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and	The verification of significant intersections by either independent or alternative company personnel.	Not Applicable.
assaying	The use of twinned holes.	
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	
	Discuss any adjustment to assay data.	

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Locations of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	Geophysical surveys were controlled using a standard GPS device, with accuracy of better than 3 metres for Northing and Easting, and around 5 metres for RL. All coordinates data for the Mount Hardy project are in MGA_GDA94 Zone 52. All coordinates data for the Walabanba project are in MGA_GDA94 Zone 53.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Geophysical survey specifications are outlined in Appendix One.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Not Applicable.
Sample security	The measures taken to ensure sample security.	Not Applicable.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been conducted at either Mount Hardy or Walabanba.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Mount Hardy prospects are located on tenements EL 27892, EL 28694 (EM Target #7) and EL 29219 (EM Target #6) which are wholly owned by TNG Limited.
		The Walabanba prospects are located on tenements EL 27115 (Target 1d) and EL 26848 (Targets 1c and 5b/c) which are held by Toro Energy, with TNG as operator in JV.
		All tenements are in good standing with no know impediments.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Little previous work has been done on all of these tenements over the last decade. No previous drilling has been conducted on any of these geophysical targets, prior to TNG in 2012 at Mount Hardy.
Geology	Deposit type, geological setting and style of mineralisation.	This exploration program aimed to identify structurally controlled base metal mineralisation, similar to that already outlined at Mount Hardy and elsewhere in the Arunta at Jervios or Barrow Creek. Both areas are underlain by the Paleoproterozoic Lander Rock Beds schists and gneisses and have been intruded by Mesoproterozoic granites and are cut be major shear zones.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	Not applicable. No new drill information reported here.
	Easting and northing of the drill collar	
	<ul> <li>Elevation of RL (Reduced Level – elevation above sea level in metres) of the drill collar</li> </ul>	
	<ul><li>Dip and azimuth of the hole</li></ul>	
	<ul> <li>Down hole length and interception depth</li> </ul>	
	🗖 Hole length	

### SECTION 2 REPORTING OF EXPLORATION RESULTS

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Not applicable.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	Not applicable. No drill results being reported.
mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures 1 through 8 in the body of the report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Not applicable to geophysical survey data.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No substantial new data is available, beyond the geophysical survey data and interpretation reported here and outlined in Appendix One.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large- scale step-out drilling).	Based on this geophysical data drill testing is being planned.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

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