

December 2017 Quarterly Activities Report

HIGHLIGHTS

MOUNT PEAKE VANADIUM-TITANIUM-IRON PROJECT (NT) (TNG: 100%)

- Updated Feasibility Study and Financial Model confirms robust business case for project development, with results reconfirming and enhancing the outcomes reported in the 2015 Definitive Feasibility Study.
- Key highlights of the updated Feasibility Study included a 12% reduction in pre-production CAPEX to A\$853 million, forecast life-of-mine net cash-flow of A\$11.7 billion, a pre-tax NPV_{8%} of A\$4.7 billion and a reduced capital payback period of 3 years.
- Final Environmental Impact Statement (EIS) Addendum Report for the mine site component of the Mount Peake development submitted to the Northern Territory Environment Protection Authority (EPA) for final assessment. This followed the completion of several work streams, including an extensive fieldwork component.
- In December, the NTEPA advised that it had not requested any further information on the EIS Addendum Report, clearing the way for it to finalise its Assessment Report and provide it to the Minister, the Company and key Northern Territory agencies to allow the Project to advance to the next stage of approvals and construction.
- Patent coverage for TNG's proprietary TIVAN® Process for the extraction and recovery of high-purity vanadium extended to the USA and Russia, with further approvals for the EU, Vietnam, China and Canada in progress.
- Agreement signed with Energy Made Clean, a wholly-owned subsidiary of Carnegie Clean Energy (ASX: CCE) to assess alternative power options for Mount Peake, including an evaluation of on-site renewable energy options for the Mount Peake mine and Darwin refinery sites.

CORPORATE

- TNG's Annual General Meeting was held in Perth on 28th November 2017, with all resolutions put to the meeting supported by shareholders. Resolution 8 was withdrawn and not put to the meeting.
- Strategic metals pricing across TNG's commodity suite continued to strengthen during the quarter and experienced solid price growth in 2017 in response to synchronised global economic growth:
 - **Vanadium pentoxide** prices increased by 110% – from US\$5/lb to a peak of US\$12/lb
 - **Titanium dioxide pigment** prices increased by 12% – from US\$2,900/t to US\$3,250/t
 - **Pig iron prices** increased by 15% – from US\$340/t to US\$390/t
- UK corporate advisory firm Hallgarten & Co picks vanadium as the “metal to watch” in 2018, forecasting that prices will reach US\$13.20/lb by the end of 2018 and US\$19/lb by the end of 2020.
- Full amount of Research & Development refund claim totalling \$1.73M received before costs. Cash reserves of \$ 4.83M at Quarter-end, providing a strong foundation for ongoing pre-development activities.

PROJECTS

Mount Peake Vanadium-Titanium-Iron 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 JORC Measured, Indicated and Inferred Resource totalling 160Mt (118Mt Measured, 20Mt Indicated, 22Mt Inferred), grading 0.28% V₂O₅, 5.3% TiO₂ and 23% Fe (refer to Table 4 on page 6 of this report for a full Statement of the Mineral Resource), Mount Peake is one of the largest undeveloped vanadium-titanium-iron projects in the world.

Updated Feasibility Study and Financial Model

During the quarter, TNG completed an updated Feasibility Study (FS) and Financial Model for its flagship 100%-owned Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory.

The results of the FS reconfirm and enhance the outcomes reported in the Definitive Feasibility Study (DFS) completed in 2015 (see ASX Announcement 31 July 2015), reinforcing the robust business case for the Mount Peake Project against the backdrop of a much stronger commodity environment – paving the way for TNG to secure a an attractive and competitive funding package for the project’s development. The updated results are summarised in Table 1 below:

Table 1 – Updated Feasibility Study results as at November 2017

	Updated FS, November 2017	DFS, July 2015
Pre-production CAPEX (Stage 1 infrastructure, mine site, concentrator, process plant)	A\$853 million	A\$970 million
Pre-tax IRR	44%	41%
Pre-tax NPV _{8%}	A\$4.7 billion	A\$4.9 billion
Pre-tax NPV _{10%}	A\$3.8 billion	A\$4.0 billion
Pre-tax NPV _{12%}	A\$3.1 billion	A\$3.3 billion
Pre-tax net annual average cash-flow	A\$738 million	A\$785 million
Life-of-mine net cash-flow	A\$11.7 billion	A\$11.6 billion
Total Operating costs ²	A\$185 per tonne of ore processed	A\$167 per tonne of ore processed
Payback	3 years	4 years

¹Updated Feasibility Study assumptions include long-term A\$/US\$ exchange rate of 0.75; updated long-term price assumptions of US\$22,400/tonne for V₂O₅ (US\$10.00/lb), US\$3,500.00/t TiO₂ pigment and US\$410.00/tonne for Pig Iron All other key physical parameters including mining and processing rates remain unchanged. ²Includes BOOT repayments

The updated FS achieved a new pre-production Capital Expenditure (CAPEX) of A\$853 million, representing a significant decrease of A\$117 million from the 2015 DFS CAPEX of A\$970 million, due primarily to the optimisations achieved during the past 18 months.

The financial model has shown an increase in the Project’s pre-tax internal rate of return (IRR) to 44% (up from 41%) on with only a moderate increase in forecast Operating Expenditure (OPEX) from A\$167 to a\$185 per tonne of ore processed² and a reduced payback period of 3 years.

The completion of the updated FS and Financial Model marked the culmination of an extensive body of work completed over the past 18 months in conjunction with the Company’s strategic development partner, SMS Group, Como Engineers and METS.

This work also included substantial additional variability test work overseen by Como Engineers in Perth on the TIVAN® flowsheet and mine site beneficiation flowsheet, a number of important enhancements to the TIVAN® flowsheet from work undertaken by the SMS Group, and further technical de-risking measures.

Details of the Optimisation Studies completed as part of the updated FS – including the updated Concentrator flowsheet finalised by Como Engineers, the updated and optimised flowsheet for the TIVAN® processing plant, the updated FS assumptions, details of the proposed BOOT (Build-Own-Operate-Transfer) arrangements for the TIVAN® facility, a revised mine schedule, and revised capital and operating cost estimates – were published as part of the detailed announced on the updated Feasibility Study and Financial Model released on 20 November 2017 (“Updated Feasibility Study and Financial Model Confirms Robust Business Case for Development of Mount Peake Vanadium-Titanium-Iron Project”, ASX – 20 November 2017).

Project Approvals

During the quarter, TNG completed and submitted the Environmental Impact Statement Addendum Report for the mine site component of the Mount Peake Project to the Northern Territory Environment Protection Authority (NTEPA) for final assessment.

The submission follows the completion of a number of work streams, including an extensive fieldwork component, which have allowed the EIS Addendum to be finalised. The scope of work leading to the lodgement of the EIS Addendum was agreed with the NTEPA following detailed feedback received on the original EIS submission.

Lodgement of the final EIS Addendum with the NTEPA represents the final step in the Northern Territory process for gaining environmental approval for the mine site component of the Mount Peake Project. The EIS Addendum provides additional information aimed at clarifying matters raised by review respondents.

The Mount Peake Project comprises a mine and processing facility to be located at Mount Peake, approximately 235km north-northwest of Alice Springs and 50km north-west of Ti Tree, and the Darwin TIVAN® Process Plant, to be located at the Middle Arm Industrial Precinct, some 16km to the south-east of Darwin.

The Mount Peake mine site and processing facility includes a proposed open-cut mining operation, integrated waste landform, ore processing plant, water dams, gas-fired power station, accommodation village, site access roads, Stuart Highway underpass, rail load-out facility and bore-field.

Environmental approvals for the mine and Darwin-based plant are being progressed separately, reflecting both their geographical separation (1,400 km) and the fact that significantly different environmental and social issues need to be addressed at the two locations. The mine and Darwin plant were referred separately to the NTEPA, which determined that both required assessment under the Northern Territory *Environmental Assessment Act 1982* (EA Act) at the level of Environmental Impact Statement (EIS).

The mine and Darwin plant were also separately referred to the Commonwealth Department of the Environment under the *Environment Protection and Biodiversity Conservation Act 1999*. Both were determined to be controlled actions with assessment by accredited assessment under the EA Act.

In late December, the NTEPA advised TNG that it had not requested any further information on the EIS Addendum, clearing the way for it to finalise the Assessment Report and provide it to the Minister, the Company and key Northern Territory agencies to allow the Project to advance to the next stage of approvals and construction (subject to all approvals and financing). The Assessment Report is also provided to the Federal delegate to facilitate completion of the assessment under Federal environmental legislation.

The completion of the EIS process will allow a decision on construction and mine development to move ahead next year subject to financing and other approvals.

Patent Coverage Extended

During the quarter, patents for TNG's proprietary TIVAN® hydrometallurgical process for the extraction and recovery of high-purity vanadium were approved in both United States of America and Russia after being granted in Australia.

The patents provide protection and security for the Company for one of its core pieces of Intellectual Property as it reaches the final stages of pre-development, reflecting the robustness of its leach process. TNG also owns the trademark "TIVAN".

The TIVAN® process patent is based on the extraction and recovery of vanadium and was developed by TNG and its metallurgical consultants, Perth-based METS Pty Ltd. The leach process is the backbone of the TIVAN® process which allows the Company to extract vanadium, titanium and iron in commercial grades and quantities. The Company's long-term business plan is for the TIVAN® process to be developed for licensing globally, which could be potentially highly lucrative for TNG and its shareholders.

The global patent process is being managed by Perth-based patent lawyers WRAYS. Approvals for China, Vietnam, South Africa, the European Union and Canada are currently in process.

Project Finance

TNG is continuing to progress financing discussions in conjunction with its Financial Advisor, Gresham Partners. The updated full financial model will be presented to the leading German Government-owned KfW IPEX-Bank GmbH in early 2018.

Research & Development Refund

During the quarter, TNG received the full amount of its Research & Development refund claim totalling \$1,730,700 before costs. The claim covers eligible test work for the 2016/17 financial year under the Federal Government's R&D tax incentive scheme.

Under the R&D tax incentive scheme, companies with a turnover of less than \$20 million which undertake research & development activities are entitled to a cash refund of 43.5 cents per dollar spent on eligible research and development in Australia. This incentive provides direct assistance for companies like TNG to continue their research and development activities with a view to potentially building further value for shareholders.

TNG's research relates to the commercial extraction of high-purity vanadium, titanium and iron from vanadiferous-titanomagnetite using its patented TIVAN™ hydrometallurgical process. The TIVAN™ process forms a key part of the Company's development plans for its flagship Mount Peake Vanadium-Iron-Titanium Project in the Northern Territory and its strategy to become a significant global supplier of strategic metals.

Commodity Pricing Development

TNG's expected production commodities all saw further significant improvements during the quarter, capping a strong year in 2017 which saw the following price increases across the Company's suite of strategic metals:

- Vanadium pentoxide prices increased by 110% – from US\$5/lb to a peak of US\$12/lb
- Titanium dioxide pigment prices increased by 12% – from US\$2,900/t to US\$3,250/t
- Pig iron prices increased by 15% – from US\$340/t to US\$390/t

Importantly, the price increases outlined above appear to represent more of a reversion to the historical mean prices after a period of extremely low sentiment in the industry, rather than a sudden bullish sentiment. The vanadium price in particular has been subject to positive analyst commentary since the beginning of 2018.

Other Prospects at Mount Peake

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

Graphite

The graphite potential of the Mount Peake Project is also continuing to emerge. This work is still at an early stage, however the graphite prospectivity at Mount Peake represents an exciting emerging opportunity for TNG, and requires further drilling and metallurgical testing. This may occur in 2018.

Other Projects

Cause Extended Mine Project: Nickel-Cobalt (80%: Mesmeric / 20%: TNG)

The Company has a 20% free-carried interest in the Cause Extended Mining Lease. As outlined in the last Quarterly Report, the Company understands that Mesmeric Resources has moved significant processing equipment onto the lease and there is potential for mining activity to resume in 2018. Further updates will be provided as they come to hand.

CORPORATE

Annual General Meeting

The Company's Annual General Meeting was held in Perth on 28th November 2017, with all resolutions put to the meeting supported by shareholders. Resolution 8 was withdrawn and not put to the meeting.

Cash

TNG had total cash reserves of \$4.83 million at Quarter-end.

Paul Burton
Managing Director

23 January 2018

Mount Peake Mineral Resources and Ore Reserves

The Mount Peake Mineral Resource estimate set out below (Table 2) was released in an ASX Announcement dated 26 March 2013, “Additional Information on the Mount Peake Resource”, and was completed in accordance with the guidelines of the JORC Code (2012). Initial mining and financial assessment work, based on the Mineral Resource, followed (see ASX Announcement – 15 July 2013, “TNG Considers Two-Stage Development Option for Mount Peake Project, NT”).

Table 2 – Mount Peake Mineral Resource estimate

Category	Tonnes (Mt)	V ₂ O ₅ %	TiO ₂ %	Fe%	Al ₂ O ₃ %	SiO ₂ %
Measured	120	0.29	5.5	24	8.2	33
Indicated	20	0.28	5.3	22	9.1	34
Inferred	22	0.22	4.4	19	10.0	38
TOTAL	160	0.28	5.3	23	8.6	34

Note: Mineral Resource is inclusive of Ore Reserves. Tonnage and grade figures in tables have been rounded and small discrepancies in totals may occur. Ore Reserve is reported using a 0.1% V₂O₅ cut-off. TNG is not aware of any new information or data that materially affects the mineral resource estimate included in the 26 March 2013 ASX Announcement and all material assumptions and technical parameters underpinning the assessment provided in that announcement continue to apply.

Ore Reserve

The Mount Peake Ore Reserve estimate (Table 3) was reported in an ASX Announcement dated July 31 2015, (“Mount Peake Feasibility Study confirms a world – class project capable of delivering outstanding returns over long life”).

Table 3 – Mount Peake Ore Reserve estimate

Category	Tonnes (Mt)	V ₂ O ₅ %	TiO ₂ %	Fe%
Proven	0	-	-	-
Probable	41.1	0.42	7.99	28.0
TOTAL	41.1	0.42	7.99	28.0

Note: Tonnage and grade figures in tables have been rounded to 2 or 3 significant figures and as a result small discrepancies may occur due to the effect of rounding. Ore Reserve is reported using a 15% Fe cut-off. TNG is not aware of any new information or data that materially affects the Ore Reserve estimate reported in the 31 July 2015 ASX Announcement and all material assumptions and technical parameters underpinning the assessment provided in that announcement continue to apply.

Tenement Schedule

The Group holds an interest in the following tenements or tenement applications at 31 December 2017:

Project	Tenements	Equity
Mount Peake	EL27069, EL27070, EL27941, EL29578, EL30483, EL31389, ELR29627, MLA28341, MLA29855, MLA29856, MLA30686	100%
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	2% gold return interest on production.

Competent Person’s Statements

The information in this report that relates to the Mount Peake Mineral Resource estimates is extracted from an ASX Announcement dated 26 March 2013, (see ASX Announcement – 26 March 2013, “Additional Information on the Mount Peake Resource”, www.tngltd.com.au and www.asx.com.au), and was completed in accordance with the guidelines of the JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the

Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

The information in this report that relates to the Mount Peake Ore Reserve estimate is extracted from an ASX Announcement dated July 31 2015, ("Mount Peake Feasibility Study confirms a world – class project capable of delivering outstanding returns over long life", www.tngltd.com.au and www.asx.com.au), and was completed in accordance with the guidelines of the JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Ore Reserve estimate in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

Production Targets and Financial Information

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

Appendix 5B

Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

Name of entity

TNG Limited

ABN

12 000 817 023

Quarter ended ("current quarter")

31 December 2017

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(1,083)	(1,983)
(b) development	-	-
(c) production	-	-
(d) staff costs	(435)	(864)
(e) administration and corporate costs	(876)	(1,544)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	27	57
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	1,731	1,731
1.8 Other (TRT oncharge as per administrative services agreement)	281	511
1.9 Net cash from / (used in) operating activities	(355)	(2,092)
2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	(1)
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	80	80
(c) investments	-	-
(d) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other	-	-
2.6 Net cash from / (used in) investing activities	80	79

3. Cash flows from financing activities		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	-	-
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
3.10 Net cash from / (used in) financing activities	-	-

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	5,101	6,839
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(355)	(2,092)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	80	79
4.4 Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5 Effect of movement in exchange rates on cash held	-	-
4.6 Cash and cash equivalents at end of period	4,826	4,826

5. Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1 Bank balances	4,705	5,020
5.2 Call deposits	121	81
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)	4,826	5,101

6. Payments to directors of the entity and their associates

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Current quarter \$A'000
260
-

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7. Payments to related entities of the entity and their associates

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

Current quarter \$A'000
-
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Mining exploration entity and oil and gas exploration entity quarterly report

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

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9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	(500)
9.2 Development	-
9.3 Production	-
9.4 Staff costs	(414)
9.5 Administration and corporate costs	(780)
9.6 Other (provide details if material)	-
9.7 Total estimated cash outflows	(1,694)

10. Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	ELA28617	Sale	100%	0%
10.2 Interests in mining tenements and petroleum tenements acquired or increased				

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here: 

Date: 22 January 2018

Print name: Simon Robertson
(Company secretary)

Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.