

**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

ASX Announcement

7 September 2018

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#### Directors

Michael Fry:  
**Chairman**

Ian Prentice:  
**Managing Director**

Sonu Cheema:  
**Director and Company Secretary**

#### Issued Capital

33,958,334 ("TMT") Fully Paid Ordinary Shares

22,510,000 Fully Paid Ordinary Shares classified as restricted securities

14,615,000 Unquoted Options exercisable at \$0.25 on or before 31 December 2019 – 13,700,000 classified as restricted securities

2,750,000 Unquoted Options exercisable at \$0.35 on or before 12 January 2021

6,133,333 – Quoted Options ("TMTO") exercisable at \$0.40 on or before 24 May 2020

3,333,334 - Unquoted Options exercisable at \$0.40 on or before 24 May 2020 vest on 15 September 2018

**ASX Code: TMT, TMTO**

**FRA Code: TN6**

# GABANINTHA DFS UPDATE

## HIGHLIGHTS

- STAGE 1 DRILLING COMPLETED AT NORTH PIT AREA.
- ALL HOLES INTERSECTED BROAD ZONES OF HIGH GRADE MASSIVE MAGNETITE MINERALISATION AT DOWN HOLE DEPTHS OF UP TO 195M.
- DRILLING HAS CONFIRMED THE VERY SHALLOW OXIDATION PROFILE PROVIDING EARLY ACCESS TO HIGH YIELDING HIGH GRADE MINERALISATION AND POTENTIAL FOR STEEPER PIT WALLS.
- ACQUIRED THE 1.5% NET PROFIT INTEREST OVER E51/1510 AND P51/2785, THE TENEMENTS THAT COVER THE PROPOSED NORTH PIT AND PROJECT INFRASTRUCTURE.
- THIS ACQUISITION IS VERY POSITIVE FOR THE FUTURE DEVELOPMENT AND ECONOMICS OF THE PROJECT.

## BACKGROUND

Technology Metals Australia Limited (ASX: TMT) ("Technology Metals" or the "Company") is pleased to provide an update on progress of the definitive feasibility study ("DFS") at its Gabanintha Vanadium Project ("Gabanintha" or "Project").

Stage 1 drilling has been completed in the North Pit area, consisting of 9 holes for a total of 1,659m, divided in to 521m of RC drilling and 1,138m of diamond drilling. Holes targeted the depth extension of the Mineral Resource, provided geotechnical data for the proposed open pit walls and generated additional sample for metallurgical testwork.

The Company has also completed the acquisition of the 1.5% net profit interest ("Royalty") over E51/1510 and P51/2785, the tenements that cover the proposed North Pit and associated supporting infrastructure. The consideration for the acquisition consists of fully paid TMT shares upon the satisfaction of a number of milestones. The acquisition of the Royalty is very positive for the future development, and enhances the economics, of the Project.

The DFS has made significant progress since formal commencement on Tuesday 31 July 2018, maintaining the momentum and focus generated through the delivery of the pre-feasibility study.

**Managing Director Ian Prentice commented:** "The stage 1 drilling data has confirmed our belief in the importance of the North Pit in the overall development of the Gabanintha Vanadium Project, with the acquisition of the Royalty over this area very positive for the planned development of this globally significant vanadium project".

## PROJECT ENHANCEMENT OPPORTUNITIES

A number of significant opportunities have been identified to enhance the results of the Project pre-feasibility study (**PFS**), including

- Upgrading more of the Inferred Mineral Resources to the Indicated category, thereby increasing the mine life;
- Conducting a detailed geotechnical assessment, focussed on the footwall of the designed pits, allowing steeper pit walls and significantly reducing the overall strip ratio; and
- Optimising the open pit mine scheduling to ensure maximum financial returns with staged open pit development and early access to higher yielding ore.

The stage 1 drilling program, which consists of approximately 6,600m of drilling across the Northern Block of tenements and the Southern Tenement, is designed to provide the initial data in support of the Project enhancement opportunities.

### STAGE 1 DRILLING PROGRAM

The stage 1 drilling program is progressing well, with all stage 1 holes now completed in the North Pit area (see Figure 1). This drilling consisted of 9 holes for a total of 1,659m, divided in to 521m of RC drilling and 1,138m of diamond drilling.

This program is designed to:

- extend the Northern Block Mineral Resource estimate both along strike and at depth to increase the overall resource size and the Indicated Mineral Resource category / Probable Reserve estimate (see Figure 1);
- upgrade, and convert part of, the Southern Tenement Inferred Mineral Resource estimate to the Indicated Resource category;
- provide geotechnical data, in particular for the footwall portions of the designed pits, to provide sufficient data to enable a steepening of the designed open pit walls, thereby dramatically decreasing the overall strip ratio; and
- generate additional diamond core sample for the ongoing metallurgical testwork program, including the generation of final product to be provided to potential vanadium end-users.

All holes targeting the depth extension of the Mineral Resource estimate in the North Pit area intersected broad zones of massive magnetite mineralisation, with down hole depths of up to 195m to the top of the mineralisation. Geotechnical data is being collected for each of the holes completed in the North Pit area, with eight (8) holes intersecting the footwall zone and one (1) hole drilled in to the western proposed pit wall area. Drilling in the North Pit area has confirmed the previously identified very shallow oxidation profile, which has positive implications for early access to higher yielding high grade mineralisation and the potential for steeper pit walls than included in the pre-feasibility study ("**PFS**") proposed open pit designs.

Drilling is continuing in the Central Pit area (see Figure 1) and in the Southern Tenement. The RC drilling component of the stage 1 program is on track to be finished by mid September, with the diamond drilling component expected to be completed in late September.

Preliminary assessment of the geotechnical data from drilling in the North Pit is expected to be available in mid to late September, with initial assay results from the North Pit area RC drill holes expected to be available in October 2018.

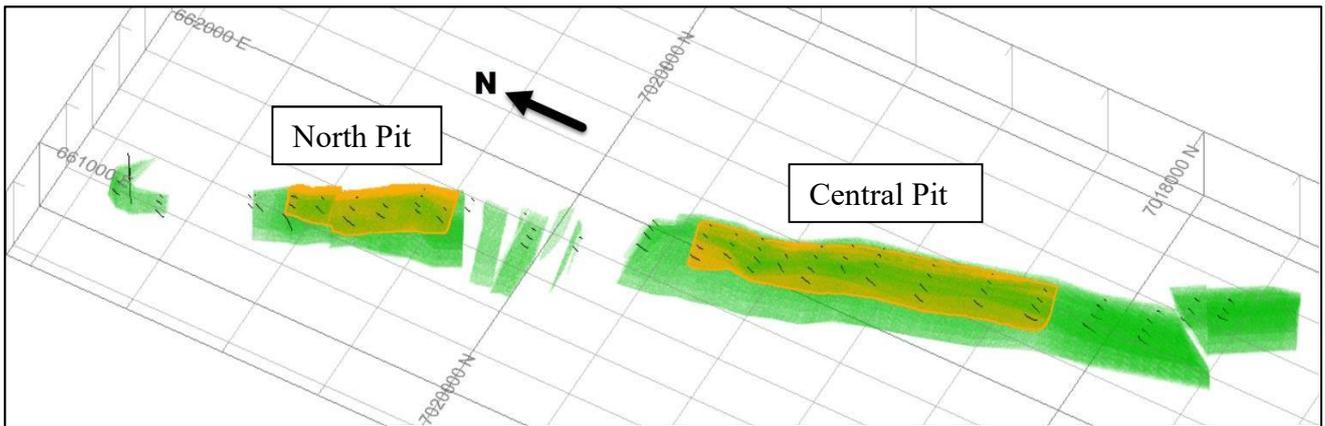


Figure 1: Northern Block Mineral Resource (Indicated – orange, Inferred – green)

## **TENURE**

The Company continues to progress the process of grant of its two Mining Lease applications; MLA51/883 over the Northern Block of Tenements and MLA51/884 over the Southern Tenement, with ongoing engagement with representatives of the Yugunga-Nya Native Title Claimant Group and the Wutha Native Title Claimant Group

In addition, the Company is very pleased to advise that it has acquired the 1.5% net profits interest ("**Royalty**") over E51/1510 and P51/2785, the tenements that cover the proposed North Pit (see Figure 2) and associated supporting infrastructure. In consideration for this acquisition TMT will issue fully paid ordinary TMT shares to the Royalty holders.

The consideration is to be issued to the Royalty holders upon the satisfaction of a number of milestones, being:

- 1,500,000 fully paid ordinary shares upon execution of the settlement deed,
- 500,000 fully paid ordinary shares upon the grant of Mining Lease 51/883
- 500,000 fully paid ordinary shares upon a final investment decision in respect of development of the Project, and
- 500,000 fully paid ordinary shares on commencement of commercial production of vanadium from Mining Lease 51/883.

The Company believes that the acquisition of the Royalty is very positive for the future development, and enhances the economics, of the Project, particularly given that the Company expects that the North Pit with its significantly shallower oxidation profile will be the primary source of process plant feed for the initial operating period of the Project. The acquisition of the Royalty will also simplify the future operational management of the Project.

## **DEFINITIVE FEASIBILITY STUDY**

The definitive feasibility study ("**DFS**") on the development of the Project has made significant progress since formal commencement on Tuesday 31 July 2018, with the team of experienced industry expert consultants focused on delivering a high quality outcome in a time frame to support the rapid development of this outstanding project. The DFS team is being managed on behalf of the Company by Wave International ("**Wave**") as the lead consultant supported by a range of industry leading consultants including METS Engineering, CSA Global and Integrate Sustainability. The DFS is scheduled for completion in the June quarter 2019.

Work completed to date includes:

- Progression of metallurgical testwork, including work on generation of final product sample to provide to potential off-take partners;
- Investigation of local process water solutions;
- Progression of environmental and heritage studies in support of advancing mining lease grant and statutory approvals;
- Ongoing development of detailed process flow diagrams;
- Progress process plant engineering and design;
- Engineering concept designs for crushing circuit and stockpiling;
- Progression of development of site infrastructure layout plans;
- Commencement of design development for non-process infrastructure; and
- Issue of tenders for process plant vendor testwork services.

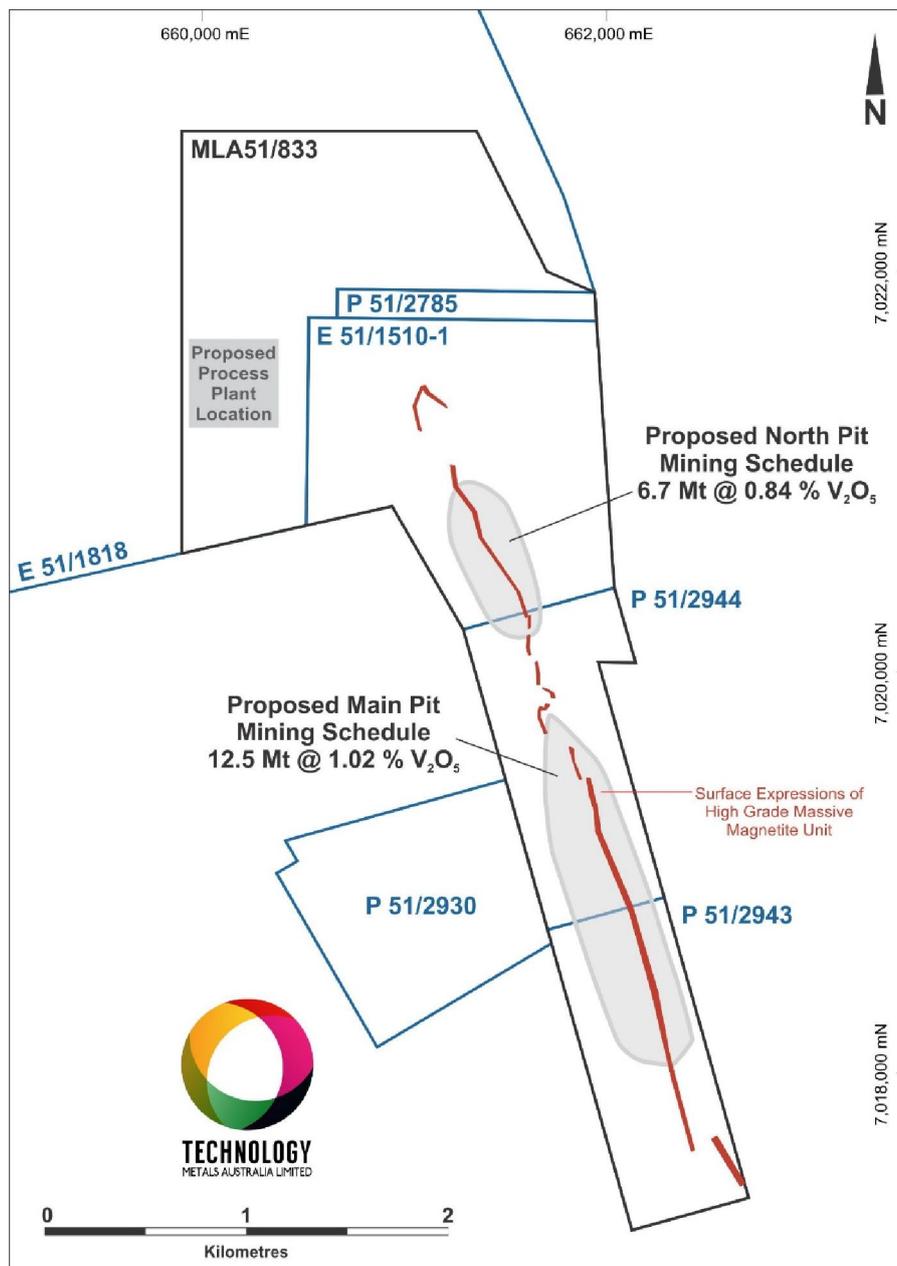


Figure 2: Gabanintha Project – Northern Block of Tenements Site Layout

## ABOUT VANADIUM

Vanadium is a hard, silvery grey, ductile and malleable speciality metal with a resistance to corrosion, good structural strength and stability against alkalis, acids and salt water. The elemental metal is rarely found in nature. The main use of vanadium is in the steel industry where it is primarily used in metal alloys such as rebar and structural steel, high speed tools, titanium alloys and aircraft. The addition of a small amount of vanadium can increase steel strength by up to 100% and reduces weight by up to 30%. Vanadium high-carbon steel alloys contain in the order of 0.15 to 0.25% vanadium while high-speed tool steels, used in surgical instruments and speciality tools, contain in the range of 1 to 5% vanadium content. Global economic growth and increased intensity of use of vanadium in steel in developing countries will drive near term growth in vanadium demand.

An emerging and likely very significant use for vanadium is the rapidly developing energy storage (battery) sector with the expanding use and increasing penetration of the vanadium redox batteries (“VRB’s”). VRB’s are a rechargeable flow battery that uses vanadium in different oxidation states to store energy, using the unique ability of vanadium to exist in solution in four different oxidation states. VRB’s provide an efficient storage and re-supply solution for renewable energy – being able to time-shift large amounts of previously generated energy for later use – ideally suited to micro-grid to large scale energy storage solutions (grid stabilisation). Some of the unique advantages of VRB’s are:

- a lifespan of 20 years with very high cycle life (up to 20,000 cycles) and no capacity loss,
- rapid recharge and discharge,
- easily scalable into large MW applications,
- excellent long term charge retention,
- improved safety (non-flammable) compared to Li-ion batteries, and
- can discharge to 100% with no damage.

Global economic growth and increased intensity of use of vanadium in steel in developing countries will drive near term growth in vanadium demand.

The global vanadium market has been operating in a deficit position for the past five years (source: TTP Squared Inc), with a forecast deficit of 9,700 tonnes in 2017. As a result, vanadium inventories have been in steady decline since 2010 and they are forecast to be fully depleted in 2017 (source: TTP Squared Inc). Significant production declines in China and Russia have exacerbated this situation, with further short term production curtailment expected in China as a result of potential mine closures resulting from environmental restrictions and the banning of the import of vanadium slag.

The tightening supplies of vanadium are resulting in a global shortage, with prices appreciating dramatically since mid 2017, with the vanadium pentoxide prices have increased further in 2018 to in excess of US\$19/lb V<sub>2</sub>O<sub>5</sub>, from a low of less than US\$4/lb V<sub>2</sub>O<sub>5</sub> in early 2017.

*For, and on behalf of, the Board of the Company,*

Ian Prentice  
**Managing Director**  
**Technology Metals Australia Limited**

- ENDS -

## **About Technology Metals Australia Limited**

**Technology Metals Australia Limited (ASX: TMT)** was incorporated on 20 May 2016 for the primary purpose of identifying exploration projects in Australia and overseas with the aim of discovering commercially significant mineral deposits. The Company's primary exploration focus is on the Gabanintha Vanadium Project located 40 km south east of Meekatharra in the mid-west region of Western Australia with the aim to develop this project to potentially supply high-quality V<sub>2</sub>O<sub>5</sub> flake product to both the steel market and the emerging vanadium redox battery (VRB) market.

The Project consists of seven granted tenements (and two Mining Lease applications). Vanadium mineralisation is hosted by a north west – south east trending layered mafic igneous unit with a distinct magnetic signature. Mineralisation at Gabanintha is similar to the Windimurra Vanadium Deposit, located 270km to the south, and the Barrambie Vanadium-Titanium Deposit, located 155km to the south east. The key difference between Gabanintha and these deposits is the consistent presence of the high grade massive vanadium – titanium – magnetite basal unit, which results in an overall higher grade for the Gabanintha Vanadium Project.

Data from the Company's 2017 drilling programs (85 RC holes (for 8,386 m) and 13 HQ diamond holes (for 1,235.5 m) at the Northern Block and 23 RC holes (for 2,232 m) at the Southern Tenement) has been used by independent geological consultants CSA Global to generate a global Inferred and Indicated Mineral Resource estimate, reported in accordance with the JORC Code 2012 edition, for the Project. The Resource estimate confirmed the position of the Gabanintha Vanadium Project as one of the highest grade vanadium projects in the world.

Table 1: Global Mineral Resource estimate for the Gabanintha Vanadium Project as at 5 March 2018

<b>Technology Metals Gabanintha Vanadium Project - Global Mineral Resources as at March 2018</b>										
<b>Material</b>	<b>Classification</b>	<b>Tonnage (Mt)</b>	<b>V2O5%</b>	<b>Fe%</b>	<b>Al2O3%</b>	<b>SiO2%</b>	<b>TiO2%</b>	<b>LOI%</b>	<b>P%</b>	<b>S%</b>
Massive magnetite	Indicated	14.5	1.1	49.2	5.1	5.8	12.8	-0.2	0.007	0.2
	Inferred	40.5	1.1	48.3	5.5	6.5	12.7	0.2	0.007	0.2
	<b>Indicated + Inferred</b>	<b>55.0</b>	<b>1.1</b>	<b>48.5</b>	<b>5.4</b>	<b>6.3</b>	<b>12.7</b>	<b>0.1</b>	<b>0.007</b>	<b>0.2</b>
Disseminated magnetite	Indicated	7.1	0.6	29.9	12.6	24.4	7.8	2.9	0.032	0.1
	Inferred	57.7	0.6	27.2	13.7	26.7	7.2	4.0	0.024	0.2
	<b>Indicated + Inferred</b>	<b>64.9</b>	<b>0.6</b>	<b>27.5</b>	<b>13.5</b>	<b>26.4</b>	<b>7.2</b>	<b>3.9</b>	<b>0.025</b>	<b>0.2</b>
<b>Combined</b>	<b>Indicated + Inferred</b>	<b>119.9</b>	<b>0.8</b>	<b>37.1</b>	<b>9.8</b>	<b>17.2</b>	<b>9.7</b>	<b>2.1</b>	<b>0.016</b>	<b>0.2</b>

\* Note: The Mineral Resource was estimated within constraining wireframe solids using a nominal 0.9% V2O5 lower cut-off for the Massive magnetite zone and using a nominal 0.4% V2O5 lower cut-off for the banded and disseminated mineralisation zones. The Mineral Resource is quoted from all classified blocks within these wireframe solids above a lower cut-off grade of 0.4% V2O5. Differences may occur due to rounding.

Data from the Global Mineral Resource and the recently completed PFS on the Gabanintha Vanadium Project were used by independent consultants CSA Global to generate a maiden Probable Ore Reserve estimate based on the Indicated Mineral Resource of 21.6 Mt at 0.9% V<sub>2</sub>O<sub>5</sub> located within the Northern Block of tenements at Gabanintha.

Table 2: Ore Reserve Estimate as at 31 May 2018

<b>Reserve Category</b>	<b>Tonnes (Mt)</b>	<b>Grade V<sub>2</sub>O<sub>5</sub>%</b>	<b>Contained V<sub>2</sub>O<sub>5</sub> Tonnes (Mt)</b>
Proven	-	-	-
Probable	16.7	0.96	0.16
<b>Total</b>	<b>16.7</b>	<b>0.96</b>	<b>0.16</b>

- Includes allowance for mining recovery (95%) and mining dilution (10% at 0.0 %V<sub>2</sub>O<sub>5</sub>)
- Rounding errors may occur

<b>Capital Structure</b>	
Tradeable Fully Paid Ordinary Shares	33.958m
Escrowed Fully paid Ordinary Shares <sup>1</sup>	22.51m
Fully Paid Ordinary Shares on Issue	56.468m
Unquoted Options <sup>2</sup> (\$0.25 – 31/12/19 expiry)	14.615m
Unquoted Options (\$0.35 – 12/01/21 expiry)	2.75m
Unquoted Options <sup>3</sup> (\$0.40 – 24/05/20 expiry)	9.467m

1 – 22.5 million fully paid ordinary shares will be tradeable from 21 December 2018.

2 – 13.7 million unquoted options are subject to restriction until 21 December 2018.

3 – 3,333,334 options vest to eligible employees and consultants on 15 September 2018.

### **Forward-Looking Statements**

This document includes forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Technology Metal Australia Limited's planned exploration programs, corporate activities and any, and all, statements that are not historical facts. When used in this document, words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should" and similar expressions are forward-looking statements. Technology Metal Australia Limited believes that its forward-looking statements are reasonable; however, forward-looking statements involve risks and uncertainties and no assurance can be given that actual future results will be consistent with these forward-looking statements. All figures presented in this document are unaudited and this document does not contain any forecasts of profitability or loss.

### **Competent Persons Statement**

The information in this report that relates to Exploration Results are based on information compiled by Mr Ian Prentice. Mr Prentice is a Director of the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Prentice has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity which they are 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' ("**JORC Code**"). Mr Prentice consents to the inclusion in this 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 Mineral Resources is based on information compiled by Mr Aaron Meakin. Mr Meakin is a Principal Consultant with CSA Global and a Member of the Australian Institute of Mining and Metallurgy. Mr Meakin has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report 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' ("**JORC Code**"). Mr Meakin consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information that relates to Ore Reserves is based on information compiled by Mr Daniel Grosso and reviewed by Mr Karl van Olden, both employees of CSA Global Pty Ltd. Mr van Olden takes overall responsibility for the Report as Competent Person. Mr van Olden is a Fellow of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC (2012 Edition). The Competent Person, Karl van Olden has reviewed the Ore Reserve statement and given permission for the publication of this information in the form and context within which it appears.

The information in this report that relates to the Processing and Metallurgy for the Gabanintha project is based on and fairly represents, information and supporting documentation compiled by Damian Connelly who is a Fellow of The Australasian Institute of Mining and Metallurgy and a full time employee of METS. Damian Connelly 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' ("**JORC Code**"). Damian Connelly consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.