



**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

ASX Announcement

22 February 2018

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#### Directors

Michael Fry:  
**Chairman**

Ian Prentice:  
**Executive Director**

Sonu Cheema:  
**Director and Company Secretary**

#### Issued Capital

22,650,001 ("TMT") Fully Paid  
Ordinary Shares

12,500,000 Fully Paid Ordinary  
Shares classified as restricted  
securities

14,950,000 Unquoted Options  
exercisable at \$0.25 on or before 31  
December 2019 (13,700,000  
classified as restricted securities)

3,000,000 Unquoted Options  
exercisable at \$0.35 on or before 12  
January 2021

10,000,000 Class B Performance  
Shares classified as restricted  
securities

ASX Code: TMT

FRA Code: TN6

## OUTSTANDING VANADIUM RECOVERIES FROM DETAILED METALLURGICAL TESTWORK

### HIGHLIGHTS

- Outstanding **vanadium recoveries of up to 97.8%** in to magnetic concentrates and very high **weight recoveries of up to 85.6%** at a grind size of 106 microns.
- Concentrate grades of +1.3% V<sub>2</sub>O<sub>5</sub>** delivered for transitional and fresh high grade massive magnetite zone with
- Exceptional rejection of deleterious elements silica and alumina results in very high quality magnetic concentrate** expected to be highly beneficial for efficient vanadium processing.
- Testing indicates that vanadium grade and recovery to a magnetic concentrate is **not sensitive to grind size**.
- Ongoing testwork will assess metallurgical variability throughout the Northern Block Resource and **downstream processing focused on the extraction of vanadium utilising the traditional salt roast / leach processing technique**.

### BACKGROUND

Technology Metals Australia Limited (ASX: TMT) ("**Technology Metals**" or the "**Company**") is pleased to announce results of the first phases of the detailed metallurgical testwork program ("**Testwork**") currently underway based on representative composite samples from diamond drilling at its Gabanintha Vanadium Project ("**Project**"). The Testwork was planned and is being managed by Mineral Engineering Technical Services Pty Ltd ("**METS**"), the Company's metallurgical consultant.

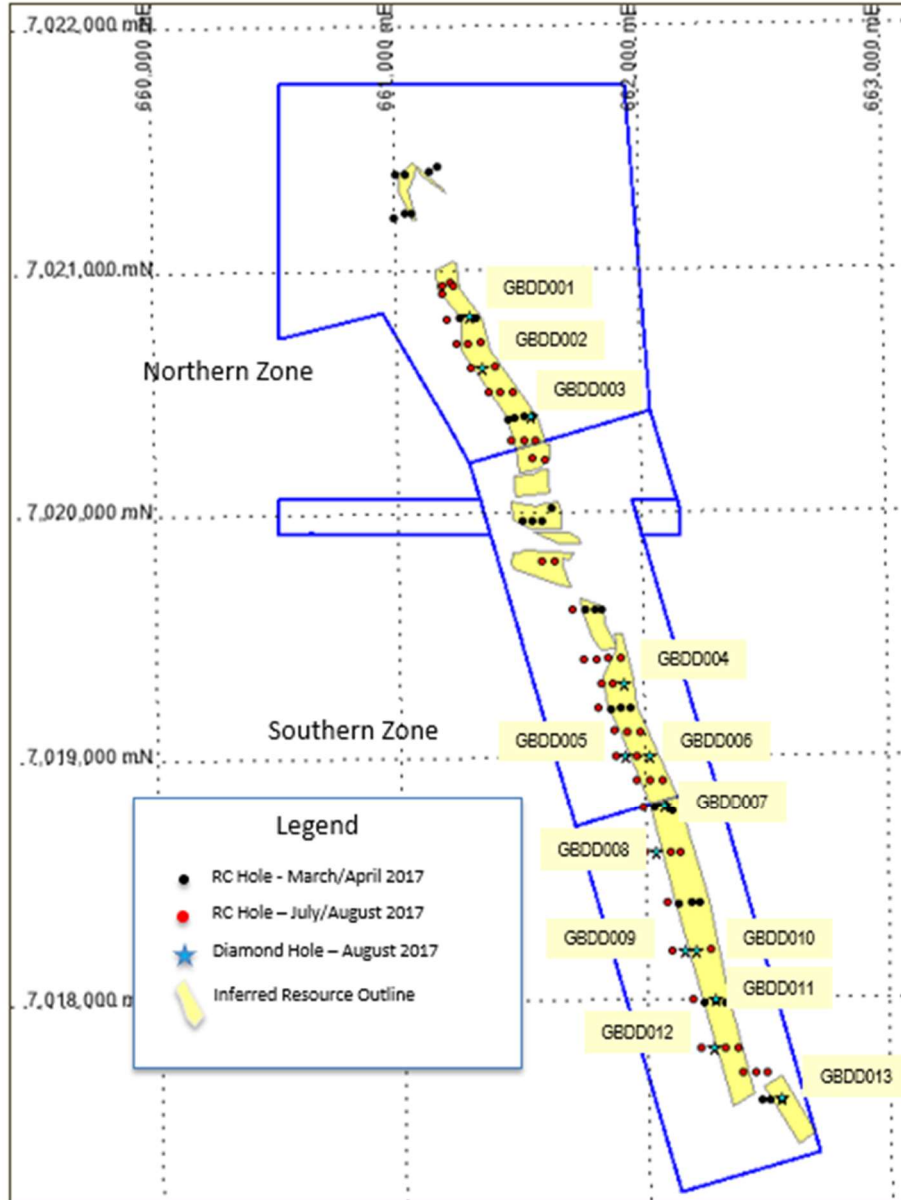
The detailed Testwork has been designed to follow up the highly encouraging results of the preliminary (sighter) round of Testwork completed on composite RC drill samples from the March 2017 drilling program. Six representative diamond drilling composite samples were selected by the Company's geological team in consultation with, reviewed and approved by, METS across the Northern Block Mineral Resource<sup>1</sup> ("**Resource**") based on geological characteristics, with the aim of testing a mix of oxide, transitional and fresh material from the high grade basal massive magnetite and the medium grade disseminated hanging wall zones.

**Executive Director Ian Prentice commented;** "These initial results from the representative diamond drilling composites have demonstrated the exceptional vanadium recoveries, and importantly the outstanding rejection of deleterious elements, in to a magnetic concentrate, confirming the very high quality of the Company's Gabanintha Vanadium Project".

1 – Technology Metals Australia – ASX Announcement dated 13 June 2017, Maiden Inferred Resource Defined at Gabanintha Including High Grade Component of 29.5Mt at 1.1% V<sub>2</sub>O<sub>5</sub>. Ian Prentice.

## DETAILED METALLURGICAL TESTWORK – DIAMOND DRILLING COMPOSITES

The Company's metallurgical consultants, METS, has developed a detailed metallurgical testwork program ("Testwork") for representative composite samples from the diamond drilling on the Northern Block. Thirteen (13) HQ diamond holes (for 1,235m) were completed as part of the resource infill and extension drilling program in the Northern Block, with three (3) holes completed in the Northern Zone and ten (10) in the Southern Zone (see Figure 1). The holes intersected the vanadium mineralisation at a range of depths throughout the Resource, with down hole depths ranging from 36m to 149.5m.



**Figure 1:** Gabanintha Vanadium Project – Northern Block Drilling Plan

ALS Metallurgy has been engaged to conduct the testwork under the supervision of METS. Six diamond drilling composite samples were selected to be representative of different zones throughout the Resource for this initial phase of testwork, being:

- Massive High Grade Fresh
- Massive High Grade Transition
- Massive High Grade Oxide
- Disseminated Medium Grade Fresh
- Disseminated Medium Grade Transition
- Disseminated Medium Grade Oxide

The initial phases of the Testwork have been designed to build on the data from the preliminary (sighter) round of testwork<sup>2</sup> and consist of:

- comminution testwork,
- generation of in-situ bulk density data,
- geometallurgical characterisation,
- establishment of grind sensitivity on beneficiation, and
- magnetic beneficiation testwork.

## MAGNETIC BENEFICIATION TESTWORK

Low Intensity Magnetic Separation (“**LIMS**”) testing, designed to be representative of conditions that would occur in a processing plant, has been completed at three nominal grind sizes of P80 passing 45, 106 and 250 microns on each of the six composites to assess the variability of vanadium grade and recovery relative to grind size. The LIMS testing for each grind size was undertaken by a triple pass methodology at 1200 Gauss, which has the benefit of producing a cleaner concentrate with less gangue (deleterious) material.

The LIMS testing at the 106-micron grind size delivered very high vanadium recoveries of 97.8% for the massive high grade fresh composite ranging down to 75.9 – 77% for the massive high grade transition and disseminated medium grade fresh composites (see Table 1). Vanadium grades reporting to the magnetic concentrate ranged from 1.27 to 1.34% V<sub>2</sub>O<sub>5</sub> for these composites, with weight recoveries ranging from 85.6% for the massive high grade fresh composite to 33% for the disseminated medium grade fresh composite. The combination of high weight recovery and vanadium recovery is expected to result in a smaller plant / lower capital expenditure to produce a vanadium bearing magnetic concentrate.

| Sample ID               | Target Screen Size (µm) | LIMS Testwork @ 1200G |        |          |                      |          |       |                                   |          |                      |          |                                    |          |
|-------------------------|-------------------------|-----------------------|--------|----------|----------------------|----------|-------|-----------------------------------|----------|----------------------|----------|------------------------------------|----------|
|                         |                         | Wt Dist'n (%)         | Fe (%) |          | TiO <sub>2</sub> (%) |          | V (%) |                                   |          | SiO <sub>2</sub> (%) |          | Al <sub>2</sub> O <sub>3</sub> (%) |          |
|                         |                         |                       | Grade  | Recovery | Grade                | Recovery | V (%) | V <sub>2</sub> O <sub>5</sub> (%) | Recovery | Grade                | Recovery | Grade                              | Recovery |
| MASSIVE FRESH           | P80 106                 | 85.6                  | 57.9   | 95.4     | 13.70                | 87.2     | 0.73  | 1.30                              | 97.8     | 0.46                 | 11.5     | 2.55                               | 45.9     |
| MASSIVE TRANSITION      | P80 106                 | 68.8                  | 55.6   | 73.5     | 14.30                | 69.1     | 0.75  | 1.34                              | 77.0     | 0.65                 | 17.8     | 2.50                               | 43.1     |
| MASSIVE OXIDE           | P80 106                 | 25.2                  | 54.7   | 28.2     | 14.4                 | 25.2     | 0.75  | 1.14                              | 28.0     | 1.0                  | 5.7      | 2.7                                | 13.2     |
| DISSEMINATED FRESH      | P80 106                 | 33.0                  | 55.5   | 64.9     | 14.30                | 63.7     | 0.71  | 1.27                              | 75.9     | 2.62                 | 3.3      | 2.80                               | 7.0      |
| DISSEMINATED TRANSITION | P80 106                 | 17.3                  | 52.6   | 32.7     | 15.00                | 37.4     | 0.63  | 1.12                              | 39.4     | 4.49                 | 3.0      | 2.51                               | 3.7      |
| DISSEMINATED OXIDE      | P80 106                 | 1.9                   | 53.1   | 4.5      | 17.00                | 4.3      | 0.67  | 1.20                              | 4.29     | 2.78                 | 0.2      | 1.92                               | 0.2      |

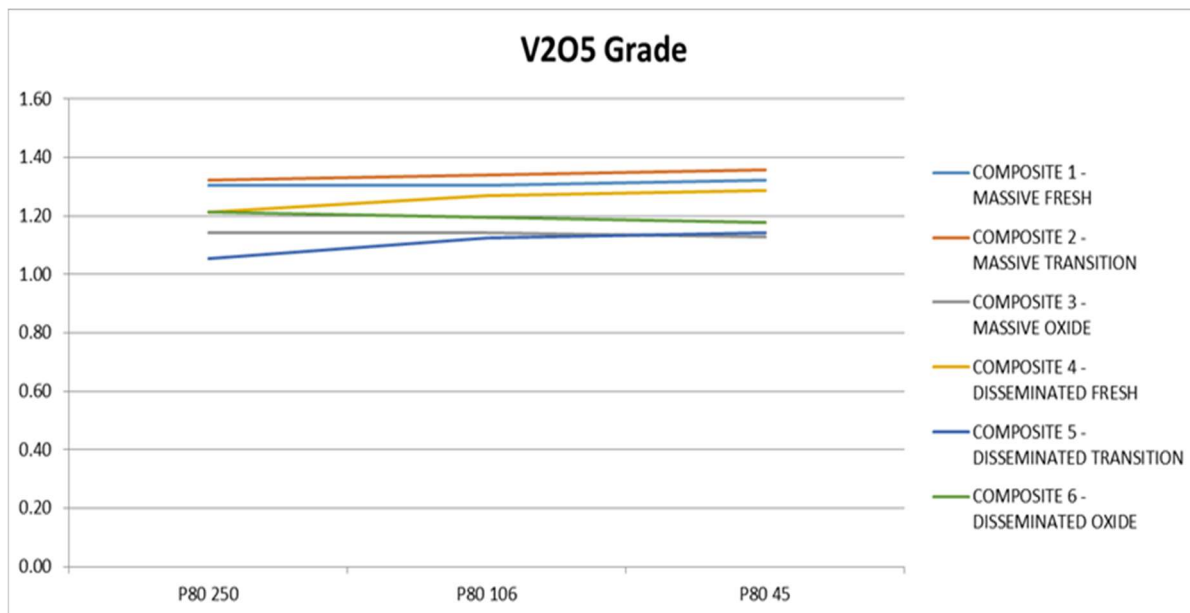
**Table 1:** Summary Assay Results – LIMS Testwork on P80 106 Grind Size-

This testing has delivered a very high rejection of gangue minerals across all of the composites, with between 82.2 and 99.8% of silica (SiO<sub>2</sub>) and 54.1 to 99.8% of alumina (Al<sub>2</sub>O<sub>3</sub>) reporting to the non-magnetic tails stream at the 106-micron grind size. This results in very low levels of deleterious elements silica (SiO<sub>2</sub>) and alumina (Al<sub>2</sub>O<sub>3</sub>) in the magnetic concentrates, with 0.46 to 1.0% and 2.5 to 2.7% respectively in the massive high grade magnetic concentrates. Low silica grades are an important factor for the efficient and effective salt roasting of vanadium concentrates.

Vanadium grades, recoveries and weight recoveries from the LIMS testwork for the massive high grade oxide, disseminated medium grade transition and disseminated medium grade oxide composites were in line with expectations given the lower levels of magnetic material present in the oxidised material. Levels of deleterious elements silica (SiO<sub>2</sub>) and alumina (Al<sub>2</sub>O<sub>3</sub>) were slightly elevated in the magnetic concentrates for the disseminated medium grade composites, ranging from 2.6 to 4.5% and 1.9 to 2.8% respectively. See Appendix 1 for detailed assay data for the LIMS testwork across the range of grind sizes.

Wet High Intensity Magnetic Separation (“**WHIMS**”) testing is being conducted on the non-magnetic tails stream produced from the LIMS testing, with a particular focus on optimising vanadium grade and recovery in the massive high grade oxide, disseminated medium grade transition and disseminated medium grade oxide composites. Results from this testwork will be reported as they become available.

Analysis of the impact on grind size on variability of vanadium grade and recovery indicates that there is a slight increase in vanadium grade in the magnetic concentrate and a generally modest reduction in recoveries at the finer grain sizes. The exception to this is the massive high grade oxide composite, where the finer grind size has a larger impact on vanadium recovery due to the remnant magnetics in the core of magnetite grains enabling magnetic separation at the coarser grind sizes. Figure 2 below shows the effect of grind size (at the three nominal grind sizes of P80 passing 45, 106 and 250 microns) on the grade of V<sub>2</sub>O<sub>5</sub> for each of the composites.



**Figure 2:** Effect of Grind Size on Concentrate V<sub>2</sub>O<sub>5</sub> Grade

## COMMUNITION TESTWORK

ALS Metallurgy has conducted a series of comminution tests on six portions of whole core, three of the medium grade disseminated hanging wall zone, from transitional to fresh material, and three of the high grade basal massive magnetite zone, from fresh material. Testing completed included Unconfined Compressive Strength ("UCS") Determination, Bond Crushing Work Index ("CWi") and SMC Tests, which can be used to conduct AG/SAG mill and crusher circuit simulations. Bond Ball Mill Work Index ("BBWi") testing has also been completed on the six representative composites used for the magnetic beneficiation testwork.

The UCS testwork indicated that the disseminated material had a UCS reading range of 82.5 to 148.6 Mpa, giving a Strong determination, and the massive material had a UCS reading range of 47.1 to 87.4 MPa, giving a Medium-Strong to Strong determination. The CWi returned an average of 15.5 kWh/t for the disseminated material (range of 7.1 to 30.1 kWh/t) and 4.9 kWh/t for the massive material (range of 1.9 to 9.5 kWh/t).

The SMC Tests delivered a Drop Weight Index ("DWi") of 26.22 kWh/t for the disseminated material (at an average SG of 3.07) and 12.88 kWh/t for the massive material (at an average SG of 4.41) resulting in a SAG Circuit Specific Energy ("SCSE") of 11.25 kWh/t for the disseminated material and 5.59 kWh/t for the massive material.

The BBWi testing returned an average of 19.9 kWh/t for the massive material, ranging from 18.4 kWh/t for the oxide up to 21.1 kWh/t for the transitional, and 16.6 kWh/t for the disseminated material, ranging from 18.8 kWh/t for the transitional up to 22.1 kWh/t for the fresh. This test measured the energy applied to reduce material of approximately 2.0 mm in size down to a milled product of P80 passing approximately 80 microns, a finer product than the mid range grind size used for the magnetic beneficiation testwork. The BBWi of 20 to 22.1 kWh/t for fresh material is considered typical for vanadium bearing titaniferous magnetite ores.

As previously reported, ALS also completed in-situ bulk density measurements for the six portions of whole core delivering a range of 4.41t/m<sup>3</sup> to 4.54t/m<sup>3</sup> for the high grade basal massive magnetite material and 3.02t/m<sup>3</sup> to 3.22t/m<sup>3</sup> for the medium grade disseminated material. The in-situ bulk density values recorded from the laboratory compare very well with data recorded in the field from the diamond drill core when it was geologically logged. CSA Global is using this data in the update of the Mineral Resource for the Project. Density values used for the estimation of the maiden Inferred Mineral Resource for the Northern Block were 3.6t/m<sup>3</sup> for the high grade basal magnetite zone and 2.4t/m<sup>3</sup> for the hanging wall disseminated zone. It needs to be noted that these values included a portion of oxide material which would deliver an overall lower bulk density, so they are not directly comparable with the data recorded from the portions of whole core.

## **ONGOING TESTWORK**

Follow up detailed magnetic beneficiation testwork will focus on a range of composite samples from discrete locations throughout the Northern Block Resource to provide characterisation along the strike and down dip of the Northern Block Mineral Resource. This work will involve running Davis Tube Recovery ("**DTR**") tests that are designed to replicate the parameters of the completed LIMS testwork on up to 30 individual diamond drilling sample composites. Data from this work will be incorporated in to open mine design work and assist with scheduling and identifying optimal blends of ore feed.

A program of downstream processing testwork has also commenced, using concentrate produced from the magnetic beneficiation testwork program. This work will focus on the extraction of vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) from the magnetic concentrates, utilising the traditional salt roast / leach processing route, but will also assess other processing options which may have the potential to extract other valuable minerals from the Resource.

This metallurgical data will feed in to the pre-feasibility study currently underway on the Project, which is designed to:

- assess potential processing flowsheet options,
- provide conceptual open pit mine designs / pit optimisations,
- provide indicative capital expenditure estimates, and
- provide indicative operating cost estimates.

## 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 reports indicating that vanadium pentoxide prices have rallied further in 2018 to in excess of US\$12/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,*

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**Executive Director**  
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- 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 40km 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, which consists of five granted tenements and one exploration licence application, is on strike from, and covers the same geological sequence as, Australian Vanadium Limited's (ASX: AVL) Gabanintha Vanadium project. 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 Barambie 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 is expected to result in an overall higher grade for the Gabanintha Vanadium Project.

Data from the Company's drilling programs completed over the course of 2017 has been used by independent geological consultants CSA Global to generate maiden Inferred Resource estimates, reported in accordance with the JORC Code 2012, for the Northern Block of tenements and the Southern Tenement at the Project (see Tables 5 and 6). The resource estimates confirmed the position of the Gabanintha Vanadium Project as one of the highest grade vanadium projects in the world.

**Table 2:** Mineral Resource estimate for Technology Metals Gabanintha Vanadium Project Northern Block as at 12 Jun 2017

| Mineral Resource estimate for Technology Metals Gabanintha Vanadium Project as at 12 Jun 2017   |                 |                |                                 |             |                                  |                    |                    |            |                          |
|---|-----------------|----------------|---------------------------------|-------------|----------------------------------|--------------------|--------------------|------------|--------------------------|
| Mineralised Zone  | Classification  | Million Tonnes | V <sub>2</sub> O <sub>5</sub> % | Fe %        | Al <sub>2</sub> O <sub>3</sub> % | SiO <sub>2</sub> % | TiO <sub>2</sub> % | LOI %      | Density t/m <sup>3</sup> |
| Basal massive magnetite   | Inferred        | 29.5           | 1.1                             | 46.4        | 6.1                              | 8.2                | 12.6               | 1          | 3.6                      |
| Hanging wall disseminated   | Inferred        | 33.2           | 0.5                             | 26.6        | 14.9                             | 27.1               | 7.2                | 5.1        | 2.4                      |
| <b>Combined Total</b>   | <b>Inferred</b> | <b>62.8</b>    | <b>0.8</b>                      | <b>35.9</b> | <b>10.8</b>                      | <b>18.3</b>        | <b>9.7</b>         | <b>3.2</b> | <b>2.8</b>               |
| * Note: The Mineral Resource was estimated within constraining wireframe solids using a nominal 0.9% V <sub>2</sub> O <sub>5</sub> lower cut off for the basal massive magnetite zone and using a nominal 0.4% V <sub>2</sub> O <sub>5</sub> lower cut off for the hanging wall 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% V <sub>2</sub> O <sub>5</sub> . Differences may occur due to rounding. |                 |                |                                 |             |                                  |                    |                    |            |                          |

**Table 3:** Mineral Resource estimate for Technology Metals Gabanintha Vanadium Project Southern Tenement as at 15 December 2017

| Classification  | Material               | Million Tonnes | V <sub>2</sub> O <sub>5</sub> % | Fe%         | Al <sub>2</sub> O <sub>3</sub> % | SiO <sub>2</sub> % | TiO <sub>2</sub> % | LOI%       | P%          | S%         |
|-----------------|------------------------|----------------|---------------------------------|-------------|----------------------------------|--------------------|--------------------|------------|-------------|------------|
| Inferred        | Massive magnetite      | 10.4           | 1.1                             | 49.1        | 4.9                              | 5.9                | 12.6               | -0.4       | 0.004       | 0.3        |
| Inferred        | Disseminated magnetite | 11.1           | 0.6                             | 30.2        | 11.9                             | 23.4               | 7.7                | 2.4        | 0.01        | 0.4        |
| <b>Inferred</b> | <b>Combined</b>        | <b>21.5</b>    | <b>0.9</b>                      | <b>39.3</b> | <b>8.5</b>                       | <b>14.9</b>        | <b>10.1</b>        | <b>1.0</b> | <b>0.01</b> | <b>0.3</b> |

\* Note: The Mineral Resource was estimated within constraining wireframe solids using a nominal 0.9% V<sub>2</sub>O<sub>5</sub> lower cut-off for the basal massive magnetite zone and using a nominal 0.4% V<sub>2</sub>O<sub>5</sub> 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% V<sub>2</sub>O<sub>5</sub>. Differences may occur due to rounding.

| <b>Capital Structure</b>                                 |                    |
|--|--------------------|
| Tradeable Fully Paid Ordinary Shares                     | 22.65m             |
| Escrowed Fully paid Ordinary Shares <sup>1</sup>         | 12.5m              |
| Fully Paid Ordinary Shares on Issue                      | 35.15m             |
| Unquoted Options <sup>2</sup> (\$0.25 – 31/12/19 expiry) | 14.95 <sup>3</sup> |
| Unquoted Options (\$0.35 – 12/01/21 expiry)              | 3.0m               |
| Class B Performance Share <sup>3</sup>                   | 10.0m              |

1 – 12.5 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 – Convert in to 10 million fully paid ordinary shares on achievement of an indicated resource of 20 Million tonnes at greater than 0.8% V<sub>2</sub>O<sub>5</sub> on or before 31 December 2019. All Performance Shares and any fully paid ordinary shares issued on conversion of the Performance Shares are subject to restriction until 21 December 2018.

## **About Mineral Engineering Technical Services Pty Ltd**

Mineral Engineering Technical Services Pty Ltd ("**METS**") is an industry leading independent consultancy that has nearly 30 years' experience across a wide range of projects. METS' vanadium specific experience has been developed by working on a range of vanadium projects throughout the World, including work on the Barrambie, Mount Peake, Youanmi, Mustavaara and Windimurra projects.

### **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 the Northern Block Mineral Resource estimate are based on information compiled by Mr Galen White. Mr White is a Principal Consultant with CSA Global and a Fellow of the Australian Institute of Mining and Metallurgy. Mr White 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 White 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 the Southern tenement Mineral Resource estimate 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 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'. 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.



**APPENDIX 1**

| Sample ID               | Target Screen Size (µm) | LIMS Testwork @ 1200G |        |          |                      |          |       |          |          |                      |          |                                    |          |
|-------------------------|-------------------------|-----------------------|--------|----------|----------------------|----------|-------|----------|----------|----------------------|----------|------------------------------------|----------|
|                         |                         | Wt Dist'n (%)         | Fe (%) |          | TiO <sub>2</sub> (%) |          | V (%) |          |          | SiO <sub>2</sub> (%) |          | Al <sub>2</sub> O <sub>3</sub> (%) |          |
|                         |                         |                       | Grade  | Recovery | Grade                | Recovery | V (%) | V2O5 (%) | Recovery | Grade                | Recovery | Grade                              | Recovery |
| MASSIVE FRESH           | P80 250                 | 85.4                  | 57.4   | 94.5     | 13.80                | 87.9     | 0.73  | 1.30     | 96.8     | 0.55                 | 13.6     | 2.75                               | 49.2     |
|                         | P80 106                 | 85.6                  | 57.9   | 95.4     | 13.70                | 87.2     | 0.73  | 1.30     | 97.8     | 0.46                 | 11.5     | 2.55                               | 45.9     |
|                         | P80 45                  | 85.9                  | 58.8   | 95.5     | 13.60                | 86.8     | 0.74  | 1.32     | 97.9     | 0.32                 | 8.8      | 2.36                               | 44.2     |
| MASSIVE TRANSITION      | P80 250                 | 68.4                  | 55.1   | 72.6     | 14.40                | 69.1     | 0.74  | 1.32     | 75.8     | 0.82                 | 21.7     | 2.73                               | 46.4     |
|                         | P80 106                 | 68.8                  | 55.6   | 73.5     | 14.30                | 69.1     | 0.75  | 1.34     | 77.0     | 0.65                 | 17.8     | 2.50                               | 43.1     |
|                         | P80 45                  | 64.2                  | 56.0   | 69.2     | 14.10                | 64.3     | 0.76  | 1.36     | 73.1     | 0.47                 | 11.9     | 2.30                               | 36.3     |
| MASSIVE OXIDE           | P80 250                 | 36.9                  | 54.1   | 40.8     | 14.5                 | 37.0     | 0.75  | 1.14     | 40.8     | 1.3                  | 10.8     | 2.9                                | 21.1     |
|                         | P80 106                 | 25.2                  | 54.7   | 28.2     | 14.4                 | 25.2     | 0.75  | 1.14     | 28.0     | 1.0                  | 5.7      | 2.7                                | 13.2     |
|                         | P80 45                  | 7.9                   | 55.5   | 9.0      | 13.8                 | 7.5      | 0.74  | 1.13     | 8.5      | 0.7                  | 1.3      | 2.5                                | 4.0      |
| DISSEMINATED FRESH      | P80 250                 | 34.8                  | 53.4   | 66.2     | 14.30                | 66.9     | 0.68  | 1.21     | 76.4     | 3.95                 | 5.3      | 3.47                               | 9.1      |
|                         | P80 106                 | 33.0                  | 55.5   | 64.9     | 14.30                | 63.7     | 0.71  | 1.27     | 75.9     | 2.62                 | 3.3      | 2.80                               | 7.0      |
|                         | P80 45                  | 32.0                  | 56.9   | 64.1     | 14.00                | 60.4     | 0.72  | 1.29     | 75.1     | 1.96                 | 2.5      | 2.45                               | 5.9      |
| DISSEMINATED TRANSITION | P80 250                 | 19.1                  | 49.5   | 33.1     | 14.80                | 38.8     | 0.59  | 1.05     | 39.3     | 6.82                 | 5.2      | 3.31                               | 5.6      |
|                         | P80 106                 | 17.3                  | 52.6   | 32.7     | 15.00                | 37.4     | 0.63  | 1.12     | 39.4     | 4.49                 | 3.0      | 2.51                               | 3.7      |
|                         | P80 45                  | 16.0                  | 54.5   | 31.3     | 14.40                | 33.3     | 0.64  | 1.14     | 36.9     | 3.54                 | 2.2      | 2.11                               | 2.9      |
| DISSEMINATED OXIDE      | P80 250                 | 2.3                   | 53.5   | 5.3      | 17.20                | 5.0      | 0.68  | 1.21     | 5.11     | 2.07                 | 0.2      | 1.73                               | 0.2      |
|                         | P80 106                 | 1.9                   | 53.1   | 4.5      | 17.00                | 4.3      | 0.67  | 1.20     | 4.29     | 2.78                 | 0.2      | 1.92                               | 0.2      |
|                         | P80 45                  | 1.0                   | 54.0   | 2.4      | 16.30                | 2.1      | 0.66  | 1.18     | 2.21     | 2.22                 | 0.1      | 2.10                               | 0.1      |

| Sample ID               | Target Screen Size (µm) | Rejection - Non Mags |                  |                                |       |                  |       |       |
|-------------------------|-------------------------|----------------------|------------------|--------------------------------|-------|------------------|-------|-------|
|                         |                         | Fe                   | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | V     | TiO <sub>2</sub> | MgO   | CaO   |
|                         |                         | (%)                  | (%)              | (%)                            | (%)   | (%)              | (%)   | (%)   |
| MASSIVE FRESH           | P80 250                 | 5.52                 | 86.45            | 50.81                          | 3.23  | 12.07            | 57.45 | 83.12 |
|                         | P80 106                 | 4.64                 | 88.49            | 54.12                          | 2.16  | 12.78            | 61.53 | 90.03 |
|                         | P80 45                  | 4.53                 | 91.23            | 55.84                          | 2.10  | 13.20            | 63.03 | 91.02 |
| MASSIVE TRANSITION      | P80 250                 | 27.36                | 78.25            | 53.56                          | 24.19 | 30.92            | 60.60 | 62.47 |
|                         | P80 106                 | 26.46                | 82.23            | 56.86                          | 22.96 | 30.87            | 64.74 | 85.47 |
|                         | P80 45                  | 30.82                | 88.13            | 63.74                          | 26.86 | 35.74            | 71.12 | 79.09 |
| MASSIVE OXIDE           | P80 250                 | 59.17                | 89.16            | 97.08                          | 59.15 | 63.05            | 74.86 | 89.36 |
|                         | P80 106                 | 71.77                | 94.28            | 97.29                          | 71.99 | 74.79            | 84.94 | 92.77 |
|                         | P80 45                  | 90.99                | 98.75            | 97.47                          | 91.55 | 92.45            | 95.27 | 97.37 |
| DISSEMINATED FRESH      | P80 250                 | 33.82                | 94.71            | 90.87                          | 23.63 | 33.06            | 87.05 | 94.31 |
|                         | P80 106                 | 35.08                | 96.67            | 93.03                          | 24.13 | 36.31            | 91.31 | 95.86 |
|                         | P80 45                  | 35.93                | 97.55            | 94.06                          | 24.91 | 39.63            | 93.49 | 96.56 |
| DISSEMINATED TRANSITION | P80 250                 | 66.92                | 94.81            | 94.40                          | 60.67 | 61.19            | 92.61 | 88.90 |
|                         | P80 106                 | 67.28                | 96.96            | 96.30                          | 60.65 | 62.60            | 95.58 | 91.37 |
|                         | P80 45                  | 68.74                | 97.80            | 97.12                          | 63.06 | 66.66            | 96.96 | 92.95 |
| DISSEMINATED OXIDE      | P80 250                 | 94.69                | 99.83            | 99.80                          | 94.89 | 94.97            | 99.28 | 99.64 |
|                         | P80 106                 | 95.52                | 99.81            | 99.82                          | 95.71 | 95.71            | 99.32 | 99.59 |
|                         | P80 45                  | 97.63                | 99.92            | 99.90                          | 97.79 | 97.87            | 99.69 | 99.81 |