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## **ASX Announcement**

## 30 April 2020

ACN: 612 531 389

T: 08 6489 1600

F: 08 6489 1601

E: investors@tmtlimited.com.au

Suite 9, 330 Churchill Avenue,

Subiaco WA 6008

www.tmtlimited.com.au

### Directors

Michael Fry: **Chairman** 

Ian Prentice: Managing Director

Sonu Cheema: Director and Company Secretary

## **Issued Capital**

106,906,712 ("TMT") Fully Paid Ordinary Shares

14,888,750 – Quoted Options ("TMTO") exercisable at \$0.40 on or before 24 May 2020

6,008,334 – Unquoted Options – various exercise prices and dates

ASX Code: TMT, TMTO

FRA Code: TN6



# EXCELLENT DRILLING AND METALLURGICAL RESULTS AT SOUTHERN TENEMENT

# MINERAL RESOURCE UPDATE UNDERWAY WITH SCOPE TO SUPPORT MINE LIFE EXTENSION

# HIGHLIGHTS

- SOUTHERN TENEMENT DIAMOND DRILL CORE ASSAYS CONFIRM WIDE, HIGH GRADE MASSIVE MAGNETITE MINERALISATION:
  - I0m at 1.16% V<sub>2</sub>O<sub>5</sub> from 81m in GBDD031,
  - 22m at 1.12% V₂O₅ from 33m in GBDD033,
  - 12m at 1.16%  $V_2O_5$  from 28m in GBDD034.
- METALLURGICAL TESTWORK YIELDS EXCELLENT VANADIUM RECOVERY TO HIGH GRADE MAGNETIC CONCENTRATES:
  - Magnetic concentrates averaging 1.48% V<sub>2</sub>O<sub>5</sub> at an average 92% recovery from fresh massive ore,
  - Magnetic concentrates averaging 1.64% V<sub>2</sub>O<sub>5</sub> at an average 80% recovery from fresh hanging wall ore.
- ASSAY AND METALLURGICAL DATA BEING INCORPORATED INTO UPDATED SOUTHERN TENEMENT RESOURE ESTIMATE.
- SCOPE TO UPGRADE PART OF RESOURCE TO INDICATED CATEGORY AND SUPPORT GVP MINE LIFE EXTENSION.

# BACKGROUND

Technology Metals Australia Limited (ASX: **TMT**) ("**Technology Metals**" or the "**Company**") is pleased to announce the results from the diamond drilling component of the previously completed Southern Tenement resource drilling and Davis Tube Recovery ("**DTR**") testwork undertaken on composite samples from RC drilling at the Southern Tenement.

This work has confirmed the presence of broad zones of massive magnetite with high  $V_2O_5$  grades along the strike of the Southern Tenement. The drilling also highlighted the typically very shallow weathering profile, which has very positive implications for yield into magnetic concentrate, vanadium recovery and operating costs.

The DTR testwork has returned the GVP's highest vanadium grades in magnetic concentrate with excellent vanadium recoveries and high mass yields into a high quality concentrate.

**TMT Managing Director Ian Prentice commented**; "The data collected from the diamond drilling completed at the Southern Tenement, combined with the extremely positive metallurgical testwork, provides a high level of confidence in the outcome of the pending update to the Mineral Resource estimation. A material portion of this Mineral Resource estimate is expected to be upgraded to the Indicated category and this has the potential to deliver a substantial increase to the GVP operating life, initially targeting a mine life beyond 20 years, which is expected to be viewed favourably by prospective financiers". The Gabanintha Vanadium Project ("**GVP**" or "**Project**") hosts a global Measured, Indicated and Inferred Mineral Resource of 131 Mt at 0.9% V<sub>2</sub>O<sub>5</sub>, including an outstanding high grade component of 71.2 Mt at 1.1% V<sub>2</sub>O<sub>5</sub>, and is divided between the Northern Block (109.5Mt at 0.8% V<sub>2</sub>O<sub>5</sub>) and the Southern Tenement (21.5Mt at 0.9% V<sub>2</sub>O<sub>5</sub>) (see Figure 1). The very high quality definitive feasibility study ("**DFS**") on the development of the globally significant GVP was based solely on the Northern Block Mineral Resource and delivered a Proven and Probable Ore Reserve of 29.6Mt at 0.88% V<sub>2</sub>O<sub>5</sub> from a Measured and Indicated Mineral Resource of 30.0 Mt at 0.9% V<sub>2</sub>O<sub>5</sub> (TMT.ASX Announcement 21 August 2019). This maiden Ore Reserve supports an initial 16 year project life, with +1.0% V<sub>2</sub>O<sub>5</sub> feed grade for the first 12 years of operation.

The Southern Tenement Inferred Mineral Resource currently hosts a **high grade component of 10.4Mt at 1.1% V<sub>2</sub>O<sub>5</sub>** providing clear scope for a material increase to the initial project life identified in the DFS. Work is now underway to update the Southern Tenement Mineral Resource, incorporating data from all available drilling, with the aim of defining a maiden Indicated Mineral Resource component for this area.



Figure 1: Gabanintha Vanadium Project Layout

The Southern Tenement area, known locally as Black Hills, is located 15km southeast of the proposed processing plant and has a similar outcrop character to the Ironstone Ridge outcrop in the Northern Block of the GVP. Resource drilling at the Southern Tenement has been completed in two phases, with 23 RC drill holes for 2,393m at nominal 200m line spacing completed in August 2017 and an infill (nominal 100m spacing) and deeper drilling program consisting of eight (8) RC holes for 666m and four (4) PQ sized diamond holes for 610m completed in late 2018 (see Figure 2). Data from the 2017 drilling phase was used for the current Southern Tenement Mineral Resource.



Figure 2: Southern Tenement Drill Hole Location Plan

The four diamond drill holes were drilled orthogonal to the strike of the outcropping ridges of ironstone to supplement geological and geotechnical understanding of the Southern Tenement Mineral Resource (see Appendix 1 for collar table). These locations were chosen to help identify structural complexity and apparent thickening of the ore body identified in previous RC drilling as well as test the geotechnical and geological properties of the footwall. Processing of the diamond drill core, deferred to ensure a clear focus on the Northern Block DFS activities, has now been undertaken, with assay and geotechnical rock property testing completed.

The diamond drilling has confirmed the presence of broad zones of high grade massive magnetite mineralisation along the strike of the Southern Tenement, with intersections of:

- 10m @ 1.16%  $V_2O_5$  from 81 to 91m in GBDD031 (weakly deformed)
- 3.8m @ 1.16%  $V_2O_5$  from 23.8 to 27.6m in GBDD032 (sheared)
- 22m @ 1.12%  $V_2O_5$  from 33 to 55m in GBDD033 (structurally thickened)
- 12m @ 1.16%  $V_2O_5$  from 28 to 40m in GBDD034 (relatively undeformed), and
- $11m @ 1.04\% V_2O_5$  from 102 to 113m in GBDD034 (structural repeat)

In the more structurally complex areas, the massive magnetite zone has been thickened (eg: GBDD033) and when the deep footwall was drilled in the more sheared area (GBDD034) repeats of the massive mineralisation were located. This explained the outcrop pattern mapped by TMT geologists that was previously inadequately tested by RC drilling.

Widths of mineralisation of approximately 10-15m and 1-1.2% V<sub>2</sub>O<sub>5</sub> are typical of the very consistent nature of the massive magnetite zone at the GVP. The Southern Tenement mineralisation is subject to some late intrusions and strike slip faulting, so thickened and attenuated intersections are present as described in the Table 1. The current Mineral Resource model allows for this along strike variation, however, the presence of high grade repeats in areas previously defined as being in a footwall position, such as in hole GBDD034, have not yet been modelled.

Narrower lenses of sheared varitextured medium grade ore occur in the apparent footwall to the massive magnetite zone as follows:

- 4m @ 0.99%  $V_2O_5$  from 78 to 82m in GBDD034
- 3m @ 0.89%  $V_2O_5$  from 136 to 139m in GBDD034
- $3m @ 0.80\% V_2O_5$  from 142 to 145m in GBDD034
- 7m @ 0.85% V<sub>2</sub>O<sub>5</sub> from 147 to 154m in GBDD034

The diamond drilling also confirmed the typically very shallow weathering profile present in the Southern Tenement, with fresh rock present from between 5-18m down hole as can be seen in the cross section in Figure 3. This weathering profile is similar to what is observed in the North Pit area of the Northern Block, where near surface ore has been demonstrated to be amenable to very high magnetic recoveries into magnetic concentrates. The presence of higher yielding fresh ore close to surface has very positive implications for operating costs, with lower mining, crushing and beneficiation costs per tonne of magnetic concentrate produced.



Figure 3: Cross Section A-B Highlighting Broad Massive Magnetite Zone and Shallow Oxidation

Assay data of all significant intersections from the diamond drill holes, as presented in Table 1, shows that the high grade massive magnetite zones are consistently low in impurities where the mineralisation is relatively undeformed.

Hole_ID	From (m)	To (m)	Interval (m)	V205 %	Fe %	TiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	LOI %
GBDD031	45	50	5	0.42	20.7	5.4	18.1	32.2	1.4
GBDD031	52	57	5	0.56	26.4	7.0	15.4	26.6	1.7
GBDD031	65	67	2	0.86	39.7	10.4	7.5	14.9	1.0
GBDD031	75	81	6	0.69	32.6	8.2	9.8	20.5	2.9
GBDD031	81	91	10	1.16	50.3	13.0	4.8	4.1	-1.0
GBDD031	91	93	2	0.52	25.1	5.9	10.5	27.4	3.4
GBDD032	2	6	4	0.72	30.2	8.9	13.7	20.6	7.1
GBDD032	11	18	7	0.55	26.8	6.8	13.6	26.6	6.3
GBDD032	19.8	23.8	4	0.58	27.1	6.9	8.5	18.2	7.6
GBDD032	23.8	27.8	3.8	1.16	49.0	13.2	4.3	3.8	1.0
GBDD033	0	14	14	0.56	26.8	7.1	15.3	27.1	6.6
GBDD033	17	20	3	0.87	39.7	10.9	8.8	16.4	5.0
GBDD033	22	25	3	0.83	38.1	9.8	8.2	16.4	4.1
GBDD033	28	33	5	0.77	33.8	9.6	8.2	19.9	5.6
GBDD033	33	55	22	1.12	48.5	12.7	5.3	6.5	0.3
GBDD033	57.5	61	3.5	0.54	26.5	5.9	9.7	31.1	4.0
GBDD034	13	15	2	0.44	20.3	5.7	17.9	33.2	3.1
GBDD034	16.85	22	5.15	0.53	25.2	6.8	15.5	28.8	2.4
GBDD034	24	28	4	0.47	23.9	5.8	15.3	28.3	4.1
GBDD034	28	40	12	1.16	50.5	13.1	4.4	4.6	-0.8
GBDD034				LATE FAULT	ING AND INT	RUSIONS			
GBDD034	78	82	4	0.99	43.6	11.4	6.6	13.1	-0.9
GBDD034	86	90	4	0.60	29.2	8.1	13.2	24.6	0.5
GBDD034				LATE FAULT	ING AND INT	RUSIONS			
GBDD034	102	113	11	1.04	47.3	12.3	5.4	6.8	-0.3
GBDD034				LATE FAULT	ING AND INT	RUSIONS			
GBDD034	136	139	3	0.89	40.6	10.6	7.9	13.9	-0.3
GBDD034				LATE FAULT	ING AND INT	RUSIONS			
GBDD034	142	145	3	0.80	36.8	10.2	11.2	16.6	0.2
GBDD034				LATE FAULT	ING AND INT	RUSIONS			
GBDD034	147	1.54	7	0.85	38.6	10.3	87	15.6	-0.1

**Table 1:** Major Element Geochemistry of Vanadiferous Magnetite intersections in Southern TenementDiamond Drilling

Metallurgical testwork, consisting of Davis Tube Recovery ("**DTR**") testing, has been completed in parallel with the processing of the diamond drill holes to provide metallurgical recovery data to inform the updated Southern Tenement Mineral Resource model. DTR has proven to be an effective proxy for Low Intensity Magnetic Separation ("**LIMS**") results in the Central and North pits of the Northern Block.

The DTR testing was completed on 21 composite samples prepared from stored coarse RC drill sample material from the RC drilling programs at the Southern Tenement, with a total of 50.5kg of material tested. The testwork, completed at a commercial laboratory under the supervision of TMT's metallurgical consultants METS Engineering Group Pty Ltd, was designed to assess magnetic yield and vanadium recovery to a magnetic concentrate.

Key findings of the testwork are:

- High mass recovery for the massive magnetite zone,
- Excellent vanadium recovery to magnetic concentrate,
- Higher vanadium in concentrate grades than recorded in the Northern Block, especially from disseminated mineralisation
- Low silica and aluminium in concentrate
- Greater rejection of TiO<sub>2</sub> to the non-magnetic tails than observed in the Northern Block

The mass recovery to a magnetic concentrate for fresh massive magnetite samples is very high, averaging 72%, with excellent vanadium recovery to concentrate averaging 92%. The average vanadium in concentrate grades of 1.48% V<sub>2</sub>O<sub>5</sub> for the fresh massive magnetite samples and 1.64% V<sub>2</sub>O<sub>5</sub> for hangingwall magnetite exceeds the concentrate grades recorded in the Northern Block (see Figure 4) whilst maintaining low levels of the impurities silica and aluminium (see Table 2). The completed DTR testwork suggests that more deformed or altered zones of vanadium mineralisation from the Southern Tenement tend to produce a higher quality magnetic concentrate.



Figure 4: V<sub>2</sub>O<sub>5</sub> Head Grade versus V<sub>2</sub>O<sub>5</sub> Concentrate Grade – Southern Tenement versus Northern Block

# Table 2: Summary results of Southern Tenement DTR Testing

	Mass	F	e	V2	<b>O</b> 5	Si	<b>O</b> 2	Al <sub>2</sub>	<b>O</b> 3
Composite	Rec	Grade	Dist'n	Grade	Dist'n	Grade	Dist'n	Grade	Dist'n
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
ST_MASFR1	70.3%	59.2	86%	1.42	91%	0.62	8%	1.51	22%
ST_MASFR2	82.7%	59.4	93%	1.45	96%	0.64	21%	1.44	35%
ST_MASFR3	80.3%	60.1	92%	1.42	96%	0.52	12%	1.83	36%
ST_MASFR4	72.2%	61.8	87%	1.55	93%	0.63	10%	1.51	25%
ST_MASFR5	76.4%	61.8	90%	1.50	94%	0.50	21%	2.10	45%
ST_MASFR6	66.9%	62.3	86%	1.53	93%	0.75	8%	1.45	16%
ST_MASFR7	76.7%	60.4	90%	1.45	94%	0.64	14%	1.54	32%
ST_MASFR8	73.6%	62.1	89%	1.50	95%	0.46	9%	2.05	36%
ST_MASFR9	68.7%	62.5	85%	1.56	93%	0.66	10%	1.52	20%
ST_MASFR10	58.7%	59.5	76%	1.48	84%	2.48	20%	2.25	23%
ST_MASFR11	63.9%	58.1	81%	1.41	87%	3.91	28%	3.16	31%
Massive Fresh Mean	71.9%	60.7	87%	1.48	92%	1.07	15%	1.85	29%
ST_MASTR2	65.9%	57.7	78%	1.55	88%	1.40	19%	1.37	23%
ST_MASTR3	50.8%	65.3	61%	1.66	67%	2.02	24%	1.30	19%
Massive Transition Mean	58.4%	61.5	70%	1.61	77%	1.71	21%	1.34	21%
ST HWED1	26.7%	50.2	52%	1 72	70%	2.80	10/	1 99	10/
	20.7 /0	09.2	00%	1.75	12/0	2.09	4 /0	1.00	4 /0
ST_HWFR2	33.7%	62.6	66%	1.62	81%	2.72	4%	1.64	4%
ST_HWFR3	42.0%	63.4	72%	1.62	84%	1.84	4%	1.00	4%
ST_HWFR4	33.2%	61.8	68%	1.60	83%	1.58	2%	0.85	3%
Hangingwall Fresh Mean	33.9%	61.8	65%	1.64	80%	2.26	4%	1.34	4%
ST_HWTR1	25.6%	55.3	52%	1.55	68%	2.40	3%	1.78	3%
ST_HWTR2	18.0%	61.3	40%	1.49	52%	2.42	2%	0.79	1%
Hangingwall Transition Mean	21.8%	58.3	46%	1.52	60%	2.41	2%	1.29	2%
ST_FWFR1	55.2%	60.2	81%	1.51	90%	2.51	11%	1.19	10%
ST_FWFR2	29.2%	60.2	63%	1.49	82%	2.54	3%	0.95	3%
Footwall Fresh Mean	42.2%	60.2	72%	1.50	86%	2.53	7%	1.07	7%

# Southern Tenement Mineral Resource Update

The current Southern Tenement Inferred Mineral Resource of 21.5Mt at 0.9% V<sub>2</sub>O<sub>5</sub> includes a high grade component of 10.4Mt at 1.1% V<sub>2</sub>O<sub>5</sub>. This Mineral Resource was not included in the GVP DFS completed in August 2019. Data from the infill and depth extension drilling program completed in late 2018, including the diamond drill hole data reported in this announcement, is being incorporated into an updated Mineral Resource estimate ("**MRE**") being prepared by CSA Global.

The new Southern Tenement MRE will be based on an updated geological model factoring in the increased understanding of the geology, including previously unidentified high grade repeats in areas previously defined as being in a footwall position, thickening and attenuated intersections resulting from some late intrusions and strike slip faulting.

Incorporation of the recently completed metallurgical testwork, confirming high recovery of vanadium in to a high quality magnetic concentrate, and geotechnical data supporting open pit mining assumptions is expected to enable a portion of the updated MRE to be upgraded to the Indicated Mineral Resource category. This would in turn demonstrate the opportunity for the Southern Tenement to provide a material increase to the 16 year GVP operating life identified in the DFS, with an aim to initially extend this mine life beyond 20 years, which is expected to be viewed favourably by prospective Project financiers and strategic partners.

The updated Southern Tenement MRE is expected to be completed in the current quarter. This new MRE, combined with the geotechnical data generated from the deep diamond drill holes, is expected to enable the completion of preliminary open pit design work to assess the tenor of Mineral Resources contained within an open pit shell and therefore the scope to extend the GVP mine life.

For, and on behalf of, the Board of the Company, and authorised for release to ASX by

Ian Prentice Managing Director Technology Metals Australia Limited

Shareholders and other interested parties can speak to Mr Sonu Cheema if they have any queries in relation to this announcement: +61 8 6489 1600

- 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 has been 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 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 eleven granted tenements and three applications (including two Mining Leases) divided between the Northern Block of Tenements (12 tenements) and the Southern Tenement (2 tenements). 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, coarse grained massive vanadium – titanium – magnetite basal unit, which results in an overall higher grade for the Gabanintha Vanadium Project.





GVP Location and Tenure

Data from the Company's 2017 and 2018 drilling programs including 111 RC holes and 53 HQ and PQ diamond holes 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 for the Project, reported in accordance with the JORC Code 2012 edition. The Resource estimate confirms the position of the Gabanintha Vanadium Project as one of the highest grade vanadium projects in the world.

Material Type	Classification	Tonnage (Mt)	V <sub>2</sub> O <sub>5</sub> %	Fe%	Al <sub>2</sub> O <sub>3</sub> %	SiO₂ %	TiO₂ %	LOI %	P%	<b>\$</b> %
	Measured (North)	1.2	1.0	44.7	6.2	10.4	11.4	0.0	0.009	0.2
	Indicated (North)	18.5	1.1	49.1	5.2	5.8	12.9	-0.1	0.007	0.2
Massive	Inferred (North)	41.0	1.1	47.7	5.6	7.1	12.6	0.3	0.008	0.2
Magnetite	Inferred (South)	10.4	1.1	49.1	4.9	5.9	12.6	-0.4	0.004	0.3
	Total Inferred	51.5	1.1	48.0	5.5	6.9	12.6	0.1	0.007	0.2
	Massive Global	71.2	1.1	48.2	5.4	6.7	12.7	0.1	0.007	0.2
	Indicated (North)	10.3	0.6	28.6	13.1	25.5	7.5	3.0	0.030	0.2
Disseminated /	Inferred (North)	38.5	0.5	27.1	12.7	27.4	6.9	3.3	0.027	0.2
Banded	Inferred (South)	11.1	0.6	30.2	11.9	23.4	7.7	2.4	0.012	0.4
Magnetite	Total Inferred	49.6	0.6	27.8	12.5	26.5	7.1	3.1	0.024	0.2
	Diss / Band Global	59.9	0.6	27.9	12.6	26.4	7.2	3.1	0.025	0.2
Combined	Global Combined	131	0.9	39.0	8.7	15.7	10.1	1.4	0.015	0.2

Global Mineral Resource estimate for the Gabanintha Vanadium Project as at 27 March 2019

\* 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 grade for the basal massive magnetite zone and using a nominal 0.4% V<sub>2</sub>O<sub>5</sub> lower cut-off grade 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

Data from the global Mineral Resource and the recently completed DFS on the Gabanintha Vanadium Project were used by independent consultants CSA Global to generate a Proven and Probable Ore Reserve estimate based on the Measured and Indicated Mineral Resource of 30.1 Mt at 0.9% V<sub>2</sub>O<sub>5</sub> located within the Northern Block of tenements at Gabanintha.

Reserve Category	Tonnes (Mt)	Grade V₂O₅%	Contained V2O5 Tonnes (Mt)
Proven	1.1	0.96	0.01
Probable	28.5	0.88	0.25
Total	29.6	0.88	0.26

Ore Reserve Estimate as at July 2019

 Note: Includes allowance for mining recovery (98% for massive magnetite ore and 95% for banded and disseminated ore) and mining dilution applied as a 1 metre dilution skin; resulting in a North Pit dilution for massive magnetite ore of 13% at 0.45% V<sub>2</sub>O<sub>5</sub>, and North Pit dilution for banded and disseminated ore of 29% at 0.0% V<sub>2</sub>O<sub>5</sub>; a Central Pit dilution for massive magnetite ore of 10% at 0.46% V<sub>2</sub>O<sub>5</sub>, and Central Pit dilution for banded and disseminated ore of 20% at 0.0% V<sub>2</sub>O<sub>5</sub>.)

• Rounding errors may occur

Capital Structure	
Fully Paid Ordinary Shares on Issue	106.906m
Unquoted Options (\$0.35 – 12/01/21 expiry)	2.75m
Quoted Options (\$0.40 – 24/05/20 expiry)	14.889m
Unquoted Options (\$0.40 – 24/05/20 expiry)	3.258m

## 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 it has a reasonable basis for its forward-looking statements; 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 John McDougall. Mr McDougall is the Company's Exploration Manager and a member of the Australian Institute of Geoscientists. Mr McDougall 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 McDougall 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 Grant Louw. Mr Louw is a Principal Consultant with CSA Global and a Member of the Australian Institute of Geoscientists. Mr Louw 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 Louw 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 announcement that relates to the Processing and Metallurgy for the Gabanintha project is based on and fairly represents, information and supporting documentation compiled by Mr Brett Morgan and reviewed by Mr Damian Connelly, both employees of METS Engineering Group Pty Ltd. Mr Connelly takes overall responsibility for the Report as Competent Person. Mr Connelly 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 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'. The Competent Person, Damian Connelly consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

# **APPENDIX** 1

Gabanintha Vanadium Project, Southern Tenement, Diamond Drilling Collar Table - GDA94, MGA Zone 50

Hole ID	Hole Type	Depth (m)	Drilled Date	Azimuth	Inclination	Easting (m)	Northing (m)	RL (m)	True Width
GBDD031	DDH	159.9	17/09/2018	-60	40	668631	7010053	463	~85%
GBDD032	DDH	140.2	18/09/2018	-50	40	668773	7010062	466	~87.5%
GBDD033	DDH	150	18/09/2018	-60	40	669184	7009735	468	~85%
GBDD034	DDH	160	21/09/2018	-60	45	669520	7009518	468	~85%

# **APPENDIX 2**

JORC Code, 2012 Edition – Table 1

# **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Diamond Drilling was undertaken on PQ size using triple tube drilling in the oxidised rock and conventional double tube in fresh rock to ensure maximum recovery and representivity.</li> <li>Core loss was typically&lt;0.2m in completely oxidised samples runs of 1.5m and &gt;95% core recovery was achieved in fresh rock.</li> <li>Sampling was completed using a diamond saw with half core being sampled to the base of partial oxidation(max 18m) and quarter core being the primary sample for fresh rock,</li> <li>One primary sample was selected for assay from each metre, with every 20<sup>th</sup> sample having a duplicate quarter core.</li> <li>Except where geotechnical samples were taken, core was sampled on a 1m or 0.5m basis. Geotechnical samples were re-inserted into the assay stream as whole crushed core.</li> <li>Core was cut using diamond blade core saw into quarter using a bottoming cut left of the orientation line.</li> <li>Samples were taken from the same side of the orientation line throughout each hole. For un-oriented core, samples were selected from a consistent side of the core.</li> <li>Core was measured on a 20cm basis by a KT-10 Plus magnetic susceptibility meter.</li> <li>All Samples are analysed by XRF spectrometry following digestion and Fused Disk preparation.</li> <li>Blanks and Certified Reference Materials (CRM) were inserted at a rate of 1:50 and 1:20 samples, respectively. CRMs were produced from mineralized material sourced from TMT's Gabanintha deposit and certified by a commercial CRM vendor.</li> <li>Drilling occurred in September 2018, sampling was undertaken by diamond saw late in 2019 and assay was conducted on delivered core sample in early 2020.</li> <li>Where possible, diamond drill holes were probed via downhole Televiewer probe and selected drill holes probed with down hole magnetic susceptibility sonde.</li> <li>QEMScan was used to confirm that vanadium is hosted within titanomagnetite minerals within the host gabbro.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).</li> </ul>	<ul> <li>PQ2/3 sized drill core was selected for future metallurgical reasons</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>There does not appear to be any relationship between recovery and grade in the "massive" magnetite mineralisation.</li> <li>Recovery was maximised in diamond drilling by using triple tube in weathered rock. Core recovery was assessed by measuring expected and recovered core and losses were logged where noted. Core recovery exceeded 98%.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All chips and core have been qualitatively geologically logged to a minimum interval length and precision sufficient for calculation of a mineral resource.</li> <li>All core holes have been logged by an independent geotechnical consultant.</li> <li>All diamond core has been photographed to a high resolution for electronic storage prior to sampling.</li> <li>Where possible, diamond drill holes and selected reverse circulation drill holes were probed via downhole Televiewer probe and selected drill holes probed with down hole magnetic susceptibility sonde.</li> <li>Geotechnical logging was undertaken on all diamond holes. Geotechnical studies are underway to optimise wall angles on proposed pits</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Core was sampled on ¼ basis. Some sections of whole core were selected for geotechnical or metallurgical sampling and are noted as such.</li> <li>Duplicate sampling was undertaken at a rate of 1 per 20 samples to monitor repeatability of all sampling.</li> <li>Core was duplicate sampled by assaying a second ¼ (HQ and PQ)</li> <li>Samples presented to the laboratory were split to &lt;2kg and pulverised to 95% passing 75 microns. 30g of pulverised material was split and presented for assay.</li> <li>Davis Tube Recovery (DTR) tests were completed on selected 2m composites of mineralised intervals defined by assay data</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the</li> </ul>	<ul> <li>Pulverised samples from every metre were fused with a lithium borate flux and cast in to disks and analysed by XRF spectrometry – method FB1/XRF77. In addition LOI was</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>completed by Gravimetric analysis.</li> <li>This is considered to approximate a total analysis method.</li> <li>Davis Tube Recovery (DTR) was performed via compositing pulverised sample rejects, by a commercial laboratory.</li> <li>All comparisons of DTR are done on P80 250 micron target sizing and laser sizing was done as a check.</li> <li>Field duplicates (at least 1 duplicate sample for every 20 samples analysed), laboratory check samples and standards are considered to be suitable quality control procedures.</li> <li>Quality control procedures demonstrate acceptable levels of accuracy and precision have been achieved. CRM materials inserted to the sample stream at the laboratory have performed acceptably, and field duplicate samples have performed well. Batches of samples are periodically sent for check assay by an umpire laboratory.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Logging was completed onto paper and transcribed or digitally captured in the field</li> <li>All logging and sampling information has been captured into a commercially supplied database.</li> <li>Assay data was supplied in electronic format</li> <li>Data has been subjected to QAQC cross-checks and verification by company personnel prior to acceptance into the database.</li> <li>Significant intersections were correlated with mineralised zones as defined from geological logging.</li> <li>All significant intersections were verified by an independent geologist who is the designated Exploration Manager and the Competent Person.</li> <li>The estimation of significant intersections has been checked by alternate company personnel.</li> <li>There were no adjustments to assay data.</li> <li>2 RC holes have been twinned by diamond holes with a third diamond hole twinning an historical RC hole.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The grid system used for collar positions is MGA94 - Zone 50.</li> <li>A 2017 50cm resolution digital elevation model and high-resolution aerial photogrammetric survey is used for topographic survey control</li> <li>Planned hole collar positions were located in the field using hand held GPS.</li> <li>Final hole collar positions were surveyed using differential RTK GPS with an accuracy of ±5cm horizontally and ±10cm</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>vertically.</li> <li>Down hole deflections were measured using an Axis CHAMP north-seeking gyroscope every 30m down hole and near the collar.</li> <li>Downhole magnetic susceptibility and Televiewer data was captured on a &lt;1cm accuracy down hole</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The drill data is on nominal 100m line spacing with holes located every 50m along the drill lines.</li> <li>Detailed airborne magnetics supports strike and down dip continuity assumptions of the massive magnetite zone which is known to host high grade mineralisation.</li> <li>This continuity has been additionally supported by drilling data.</li> <li>Data is considered appropriate for use in estimating a Mineral Resource.</li> <li>No sample compositing is used in primary assay except for DTR recovery testing</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	• The drilling has been completed at an orientation that would have been unlikely to have introduced a sampling bias. The drill holes are drilled orthogonal to the measured strike +-10°, the apparent thickness is estimated 0.85 X the true thickness except where noted in the collar table. Drill deviations were not noticeably higher through the mineralised zone.
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were collected in polyweave bags, sealed securely and transported by Company personnel until handover to a commercial transport company, which delivered the samples by road transport to the laboratory.</li> <li>Drill core samples for geotechnical rock property testing were transported to the commercial laboratory as whole core by registered consignment and sequential sample numbers were assigned and sample bags presented to the geotechnical lab for submission as disctrete crushed samples to the commercial assay laboratory. All remaining core from the current program was labelled with non-degrading metal tags.</li> <li>The commercial transport was tracked and after a holding period at the Laboratory the samples were reconciled against the sample list on the submissions provided after the 2019 sampling program.</li> </ul>

Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>A representative from the independent geological consultants, CSA Global, visited the site during the infill and extensional drilling program and reported drilling and sampling procedures and practices to be acceptable.</li> <li>Apart from umpire assay and use of experienced field geologists (all &gt;20yrs experience) to supervise sampling, no written audits have been completed to date. Data Validation is done by a supervising geologist, database geologist and a Resource consultant all independent and contracted to the company.</li> </ul>

# 1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The areas drilled are located on current Prospecting Licence P51/2942,</li> <li>The tenements for the global Mineral Resource Estimate are granted and held by The KOP Ventures Pty Ltd, a wholly owned subsidiary of Technology Metals Australia Limited.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Reverse circulation drilling was completed in 1998 by Intermin Resources NL under an option agreement on tenements held by Oakland Nominees Pty Ltd – consisting of GRC9801 to GRC9805 (on Prospecting Licences 51/2164) and GRC9815 to GRC9817 (on Prospecting Licence 51/2183).</li> <li>The areas drilled are located on current Prospecting Licences 51/2943 (GRC9801, GRC9802), 51/2944 (GRC9803, GRC9804, GRC9805) and 51/2942 (GRC9815 to GRC9817) held by The KOP Ventures Pty Ltd, a wholly owned subsidiary of Technology Metals Australia Limited.</li> <li>Exploration prior to this drilling included geological mapping and limited rock chip sampling completed across a zone of outcropping vanadiferous titanomagnetite layered mafic igneous unit by various parties.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	• The Gabanintha vanadium deposit is of a layered igneous intrusive type, hosted within a gabbro intrusion assigned to the Archaean Meeline Suite.
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:	See attached Appendix 1

Criteria	JORC Code explanation	Commentary
	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Significant intervals (as shown in Table 1 have been defined nominally using a 0.4% V<sub>2</sub>O<sub>5</sub> lower cut-off grade, length weighted average grades and no more than 2m of consecutive lower grade mineralisation.</li> <li>High grade intervals (as shown in Table 1) have been defined nominally using a 0.8% V<sub>2</sub>O<sub>5</sub> lower cut-off grade, length weighted average grades and nominally no more than 1m of consecutive lower / medium grade mineralisation.</li> <li>Where intervals were taken for specific geotechnical tests (6 samples of generally &lt;5cm), the grade is calculated as zero for the contribution to the composite intervals. Longer geotechnical core samples were assayed in a separate batch after geotechnical testing. Assay was done on crushed whole core included using appropriate QAQC and reconciliation with the correct downhole interval. No weighting was given to the whole core versus PQ quarter core in composites.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>Down hole lengths of mineralisation are reported.</li> <li>True width is estimated at approximately 0.85 x down hole widths except in GBDD033.</li> <li>See the cross section shown in Figure 3 for an approximation of true width.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>A map showing tenement and drill hole locations has been included (see Figure 1 and Figure 2).</li> <li>Cross sections showing the relationship between mineralisation and geology has been included (see Figure 3).</li> <li>A table of all intersections for the reported drilling has been included (see Table 1)</li> </ul>
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.	• Results for all mineralised intervals have been included, including both low and high grades.

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>Geophysical data in the form of aero magnetic data assists the geological interpretation of the main high magnetite unit and highlights offsets due to faults and or dykes. Historic drilling data is not used due to uncertainty in location and orientation</li> <li>Oxidation state has been modelled based on geological logging and geometallurgical characterisation</li> <li>Bulk density estimates have been completed on diamond core samples of fresh, transitional and oxidised material based on 654 measurements from 45 of 47 holes including &gt;60 samples from the reported diamond holes</li> <li>Bulk density measurements are a mixture of caliper and immersion methods.</li> <li>Metallurgical test work and bulk sampling results indicate amenability of magnetite concentrates to conventional roast leach processing (See ASX Release 12<sup>th</sup> December 2018 – Outstanding Gabanintha Metallurgical Results) and DTR has been found to be a suitable proxy for Low Intensity Magnetic Separation.</li> <li>Low values of deleterious elements (As, Mo, Cr) are associated with mineralisation</li> <li>Groundwater quality for potential water supply is suitable for use in mine planning and processing, with elevated salinity at the north-western end of the prospecting licence approaching the large channelised sheetwash catchment in adjacent tenements.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Samples from diamond drilling have been collected to enable further metallurgical testing of the different grades and types of mineralisation encountered in the drilling. It is expected LIMS testwork and QEMScan Mineralogy will be undertaken on coarse rejects reserved at the laboratory.</li> <li>Diamond drilling has also been used to gather geotechnical data relevant to open pit mine design parameters.</li> <li>The strike length of the outcropping mineralisation has been drill tested with outcrop receding under cover in adjacent tenements to the North West and South East. More high yielding fresh vanadiferous titaniferous magnetite may be present down dip in the structurally deformed and thickened apparent footwall in the vicinity of GBDD034.</li> </ul>