



**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

**ASX Announcement**

**30 October 2018**

ACN: 612 531 389

T: 08 6489 1600

F: 08 6489 1601

E: [investors@tmtlimited.com.au](mailto:investors@tmtlimited.com.au)

Suite 9, 330 Churchill Avenue,

Subiaco WA 6008

[www.tmtlimited.com.au](http://www.tmtlimited.com.au)

#### Directors

Michael Fry:  
**Chairman**

Ian Prentice:  
**Managing Director**

Sonu Cheema:  
**Director and Company Secretary**

#### Issued Capital

47,508,334 ("TMT") Fully Paid Ordinary Shares

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

6,133,333 – Quoted Options ("TMT0") exercisable at \$0.40 on or before 24 May 2020

20,623,334 – Unquoted Options – various exercise prices and dates

**ASX Code: TMT, TMT0**

**FRA Code: TN6**



## QUARTERLY ACTIVITIES REPORT & APPENDIX 5B

**FOR THE QUARTER ENDING 30 SEPTEMBER 2018**

The Board of Technology Metals Australia Limited (ASX: **TMT**) ("**Technology Metals**" or the "**Company**") is pleased to provide an update on activities for the quarter ending 30 September 2018.

#### HIGHLIGHTS

- Definitive Feasibility Study commenced on the Gabanintha Vanadium Project; a large, long life, low cost development opportunity.
- Stage 1 project enhancement drilling completed, consisting of 6,730m of RC and Diamond drilling across 45 holes.
- All resource infill and extension holes intersected broad zones of massive magnetite mineralisation, with massive magnetite mineralisation intersected 25 to 50m down dip of current Indicated Resource to vertical depths of up to 190m.
- Very shallow oxidation profile confirmed at North Pit and Southern Tenement; combined with competency of footwall host rock highlights opportunity to steepen pit walls.
- Further downstream processing testwork delivered a very high purity V<sub>2</sub>O<sub>5</sub> product with a purity of 99.53% and confirmed the Gabanintha ore is amenable to conventional salt roast / water leach processing.
- Vanadium prices have exceeded US\$30/lb V<sub>2</sub>O<sub>5</sub> driven by demand growth from the new Rebar standards in China and continued tightness of supply.
- TMT management attended the Noosa Mining and Exploration Investor Conference, the FerroAlloyNet International Vanadium Products Summit in Xiamen, China and subsequent to the end of the quarter the 121 Mining Investment Conference in Hong Kong.
- As at the end of September 2018 the Company had cash of \$1.76 million and as at 29 October 2018 the Top 20 shareholders held 50.2% of the fully paid ordinary shares.
- Subsequent to the end of the quarter the Company completed a placement of 12,000,000 fully paid ordinary shares at a price of \$0.50 per share (to raise \$6,000,000 before costs) to institutional and high net worth investors.

**Chairman, Michael Fry commented:** *"The rapid progression of the Definitive Feasibility Study on the large, long life, low cost Gabanintha Vanadium Project development opportunity combined with the confirmation of the delivery of a very high purity V<sub>2</sub>O<sub>5</sub> product is very well timed given the tightness in vanadium supply, resulting in vanadium prices reaching decade highs".*

## SUMMARY

During the September 2018 Quarter the Company and its high quality team of experienced industry expert consultants commenced the definitive feasibility study ("DFS") on the development of the Gabanintha Vanadium Project ("Project"). This followed the June 2018 delivery of the Gabanintha pre-feasibility study ("PFS") which confirmed the Project to be a large, long life, low cost development opportunity.

Wave International ("Wave"), as the lead consultant, is managing the DFS on behalf of the Company supported by a range of industry leading consultants with considerable expertise in their fields. The study team is focused on delivering a very high quality outcome in a time frame to support the rapid development of this outstanding project, with the DFS scheduled for completion in the June quarter 2019.

The stage 1 Project enhancement drilling, which consisted of 6,730m of RC and Diamond drilling across 45 holes, was completed after the end of the quarter. Drilling was extremely successful across the Project area in both infilling and extending the defined mineralisation. Diamond drilling has confirmed the very shallow oxidation profile in the North Pit area and the Southern Tenement, which is expected to have positive implications for early access to higher yielding high grade mineralisation. The shallower oxidation profile in these areas, combined with the overall interpreted competency of the host rocks, highlights the potential for steeper pit walls than those included in the PFS proposed open pit designs.

Further downstream metallurgical testwork has definitively shown that the Gabanintha ore is amenable to conventional salt roast / water leach processing. This work generated a very high purity final  $V_2O_5$  product with a purity of 99.53%. Sub-samples of this high purity  $V_2O_5$  have been dispatched to a range of potential vanadium end-users initially targeting the steel and vanadium redox flow battery (VRB) industry sectors. The very high purity achieved in this initial product generation stage underscores the opportunity to also target the speciality chemical and aeronautical industries.

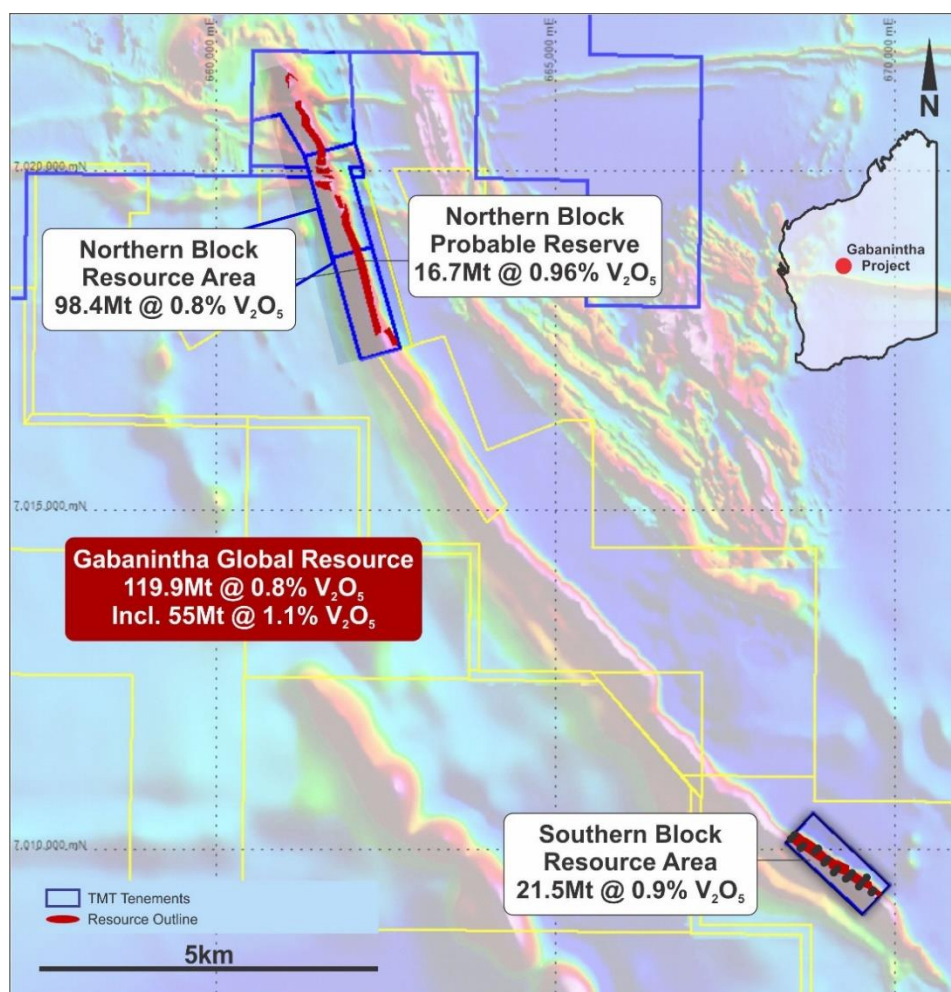


Figure 1: Gabanintha Vanadium Project Layout

## DEFINITIVE FEASIBILITY STUDY

The Gabanintha pre-feasibility study ("PFS") completed in June 2018, based on the Indicated Mineral Resource contained within the Northern Block of tenements and developed to a confidence level of -15% to +25%, confirmed the Project to be a large, long life, low cost development opportunity. The outstanding results, level of detail and high quality of the PFS has enabled the Company to transition directly to the commencement of a definitive feasibility study ("DFS") on the development of the Project.

The PFS was based on the Indicated Mineral Resource of 21.6 Mt at 0.9% V<sub>2</sub>O<sub>5</sub> in the Northern Block of tenements out of a global Indicated and Inferred Mineral Resource of 119.9 Mt at 0.8% V<sub>2</sub>O<sub>5</sub>, delivering a production schedule of 19.2 Mt at 0.96% V<sub>2</sub>O<sub>5</sub>, including a probable reserve of 16.7 Mt at 0.96% V<sub>2</sub>O<sub>5</sub>, with a mine plan based on the development of two open pits; the North Pit and the Central Pit.

It is anticipated that the Project production profile will ramp up to approximately 13,000 tpa high purity (+99%) V<sub>2</sub>O<sub>5</sub> delivering a rapid capital payback of about 2.5 years from commencement of commissioning (including a six (6) month ramp up period). Estimated life of mine operating costs of US\$4.27/lb V<sub>2</sub>O<sub>5</sub>, over a projected 13 year mine life, compares very favourably to global peers.

The DFS formally commenced on Tuesday 31 July 2018 with the engagement of a high quality 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 is being managed on behalf of the Company by Wave International ("**Wave**") as the lead consultant supported by a range of industry leading consultants with considerable expertise in their fields. Other consultants engaged in the preparation of the DFS are:

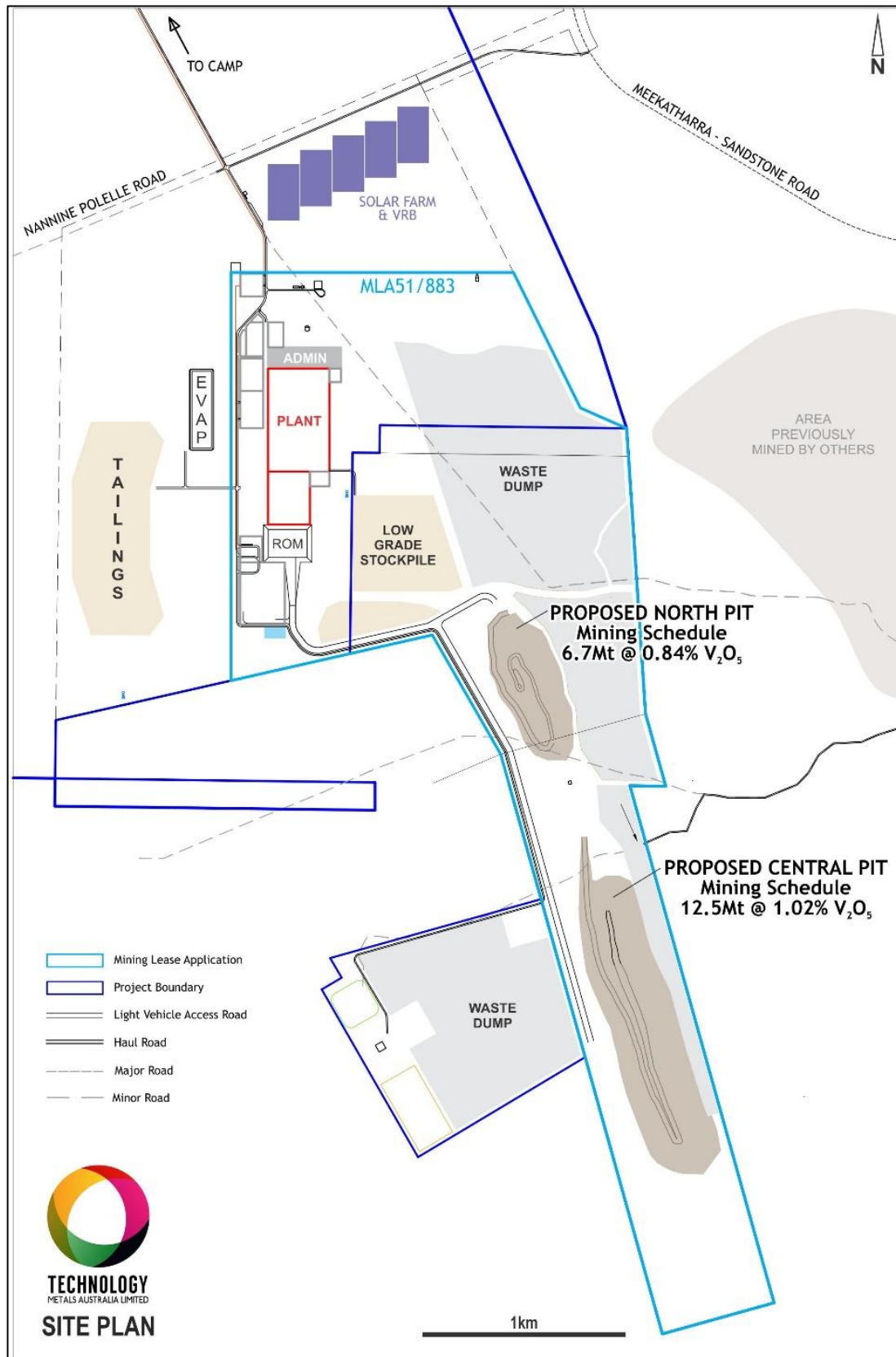
- METS Engineering for ongoing metallurgical testwork, product assessment and mineral processing, supported by a range of accredited laboratories.
- CSA Global for resource and mining study work, supported by third party geotechnical engineering consultants, and
- Integrate Sustainability for environmental, heritage, health, safety and statutory approvals advice and support.

The DFS on the development of the Project has made significant progress during the quarter, with activities completed to date including:

- Progression of metallurgical testwork, including work on generation of final product sample to provide to potential off-take partners;
- Completion of Stage 1 drilling program designed to infill and expand the resource, generate geotechnical data for open pit design and provide additional sample for metallurgical testwork;
- 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.

Ongoing activities in support of the DFS include:

- Updating the global Mineral Resource, including the Indicated portion of the Resource;
- Revising the PFS open pit mine designs incorporating updated geotechnical data;
- Updating mine scheduling based on detailed geometallurgical data;
- Provide an updated ore reserve estimate within the expanded global Mineral Resource, and
- Provide revised capital and operating cost estimates to a DFS level of accuracy and an updated Project financial model.



**Figure 2:** Gabanintha Vanadium Project – Northern Block – Proposed Site Layout

The Company and its team of experienced industry expert consultants are focused on delivering a very high quality DFS aimed at rapidly progressing the development of the globally significant Gabanintha Vanadium Project, with the DFS scheduled for completion in the June quarter 2019.

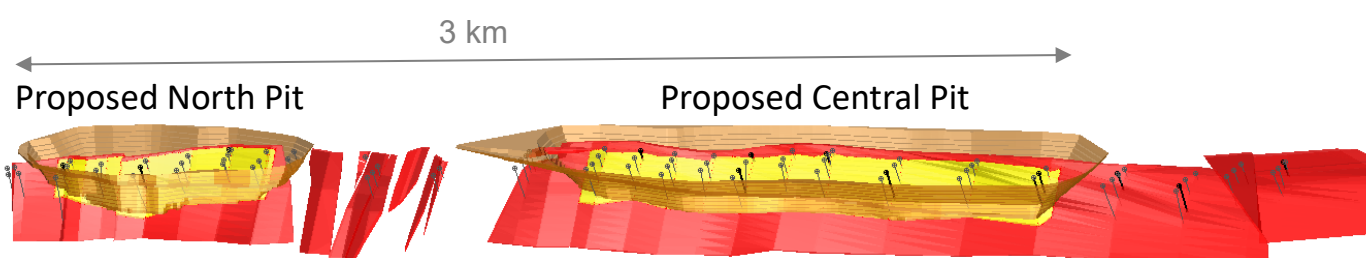
## PROJECT ENHANCEMENT OPPORTUNITIES – STAGE 1 DRILLING PROGRAM

A number of significant opportunities have been identified to enhance the results of the Project 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 Project enhancement drilling program, which consisted of 6,730m of RC and Diamond drilling across 45 holes (see Tables 1 and 2), was designed to:

- extend the Northern Block Mineral Resource estimate to increase the overall resource size and the Indicated Mineral Resource category / Probable Reserve estimate (see Figure 3);
- provide geotechnical data, in particular for the footwall portions of the PFS open pit mine designs, to provide data to enable a steepening of the designed open pit walls, thereby decreasing the overall strip ratio;
- generate additional diamond core sample for the ongoing metallurgical test work program, including testing by proposed process plant equipment suppliers; and
- upgrade, and convert part of, the Southern Tenement Inferred Mineral Resource estimate to the Indicated Resource category.

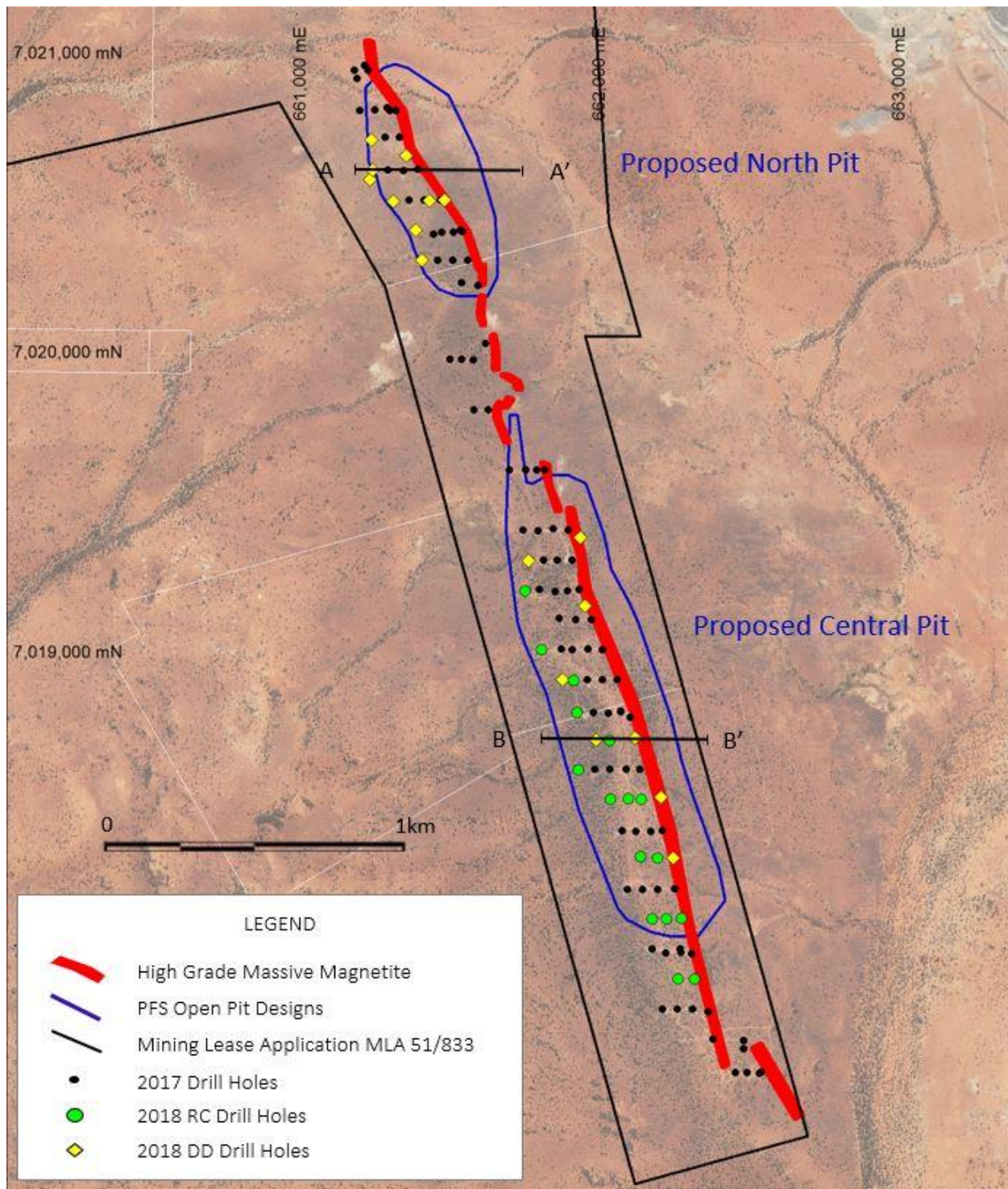


**Figure 3:** Northern Block Mineral Resource (Indicated – yellow, Inferred – red) – PFS Open Pit Designs

The drilling program consisted of:

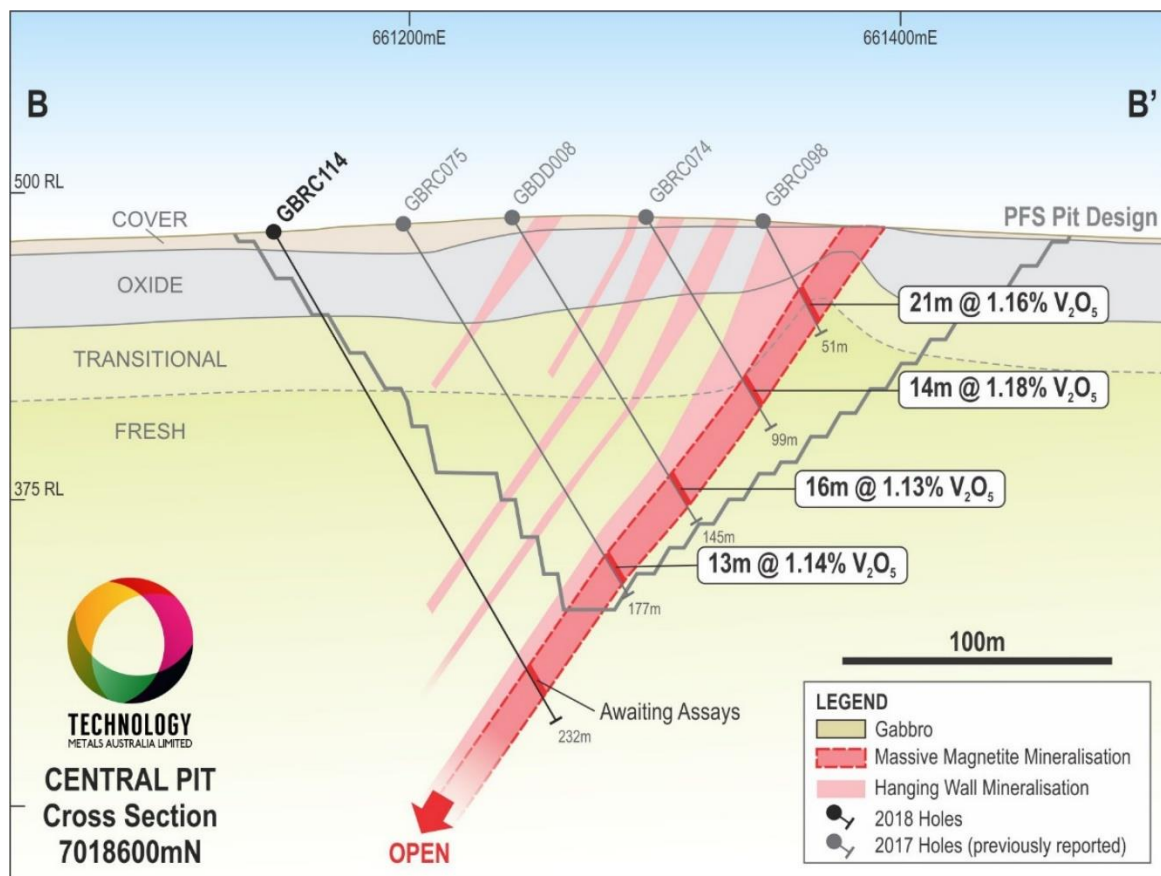
- 9 holes for a total of 1,651m, divided in to 524m of RC drilling and 1,127m of diamond drilling in the North Pit area, Northern Block of tenements (see Figure 4);
- 24 holes for a total of 3,643m, divided in to 2,364m of RC drilling and 1,279m of diamond drilling in the Central Pit area, Northern Block of tenements (see Figure 4); and
- 12 holes for a total of 1,436m, divided in to 826m of RC drilling and 610m of diamond drilling in the Southern Tenement.

Drilling was extremely successful across the Project area in both infilling and extending the defined mineralisation, with all holes targeting the resource intersecting broad zones of the basal massive magnetite mineralisation. The depth extension drilling typically targeted the basal massive magnetite mineralisation between 25 and 50m down dip of the current Indicated Mineral Resource / base of the designed “PFS” open pits. It is expected that a proportion of this previously defined Inferred Mineral Resource will be upgraded to Indicated Mineral Resource category and that the Inferred Mineral Resource will be extended down dip.



**Figure 4:** Drill Collar Location Plan, Northern Block of Tenements

Broad zones of basal massive magnetite mineralisation have been intersected at vertical depths to the top of the mineralisation of 175m in the North Pit area and 190m in the Central Pit. Figure 5 below, a cross section through the Central Pit, demonstrates the extension of the basal massive magnetite mineralisation beyond the previous extent of drilling and the designed "PFS" open pit and highlights the scope to materially increase the Indicated Mineral Resource and deepen the open pit design.



**Figure 5:** Cross Section – Central Pit, Northern Block

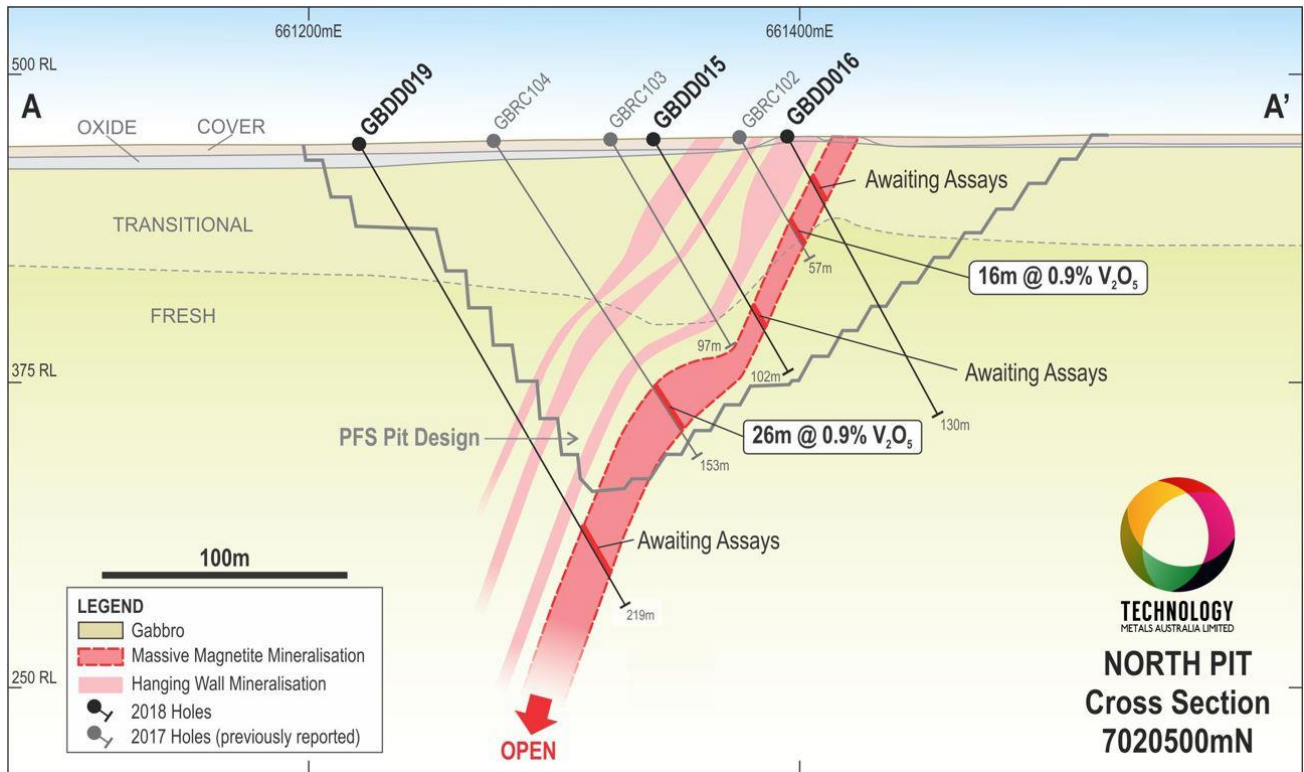
Infill RC and Diamond drilling has consistently intersected the massive magnetite zone and overlying banded and disseminated mineralisation. This additional data will assist in the development of a more detailed geological model, which in particular is expected to enhance the continuity of mineralisation in the southern portion and extension of the Central Pit area, with scope to add significant tonnage to the Indicated Mineral Resource in this area.

Initial assay results from the RC drill hole component of the stage 1 drilling program are expected to be available shortly. Processing of diamond core from the stage 1 drilling program is being progressively undertaken, with cutting of the core for sampling and assaying underway. The balance of the diamond core in mineralised zones will be used for ongoing metallurgical test work.

In the North Pit area and the Southern Tenement diamond drilling has confirmed the previously identified very shallow oxidation profile. The shallow oxidation profile has positive implications for early access to higher yielding high grade mineralisation and is expected to be a significant economic contributor for the development of the Project.

The shallower oxidation profile in these areas, combined with the overall interpreted competency of the host rocks, highlights the potential for steeper pit walls than those included in the PFS proposed open pit designs, particularly the very shallow (~40°) footwall pit slope angle (see Figure 6).

The cross section through the North Pit shown in Figure 6 highlights the very shallow footwall slope angle in the PFS proposed pit design and one of the recently completed Geotech focused diamond drill holes. Steepening of this footwall slope angle would be expected to have a material impact on the overall strip ratio, thereby reducing operating costs and enabling the open pits to be extended at depth to capture more of the defined basal massive magnetite mineralisation.



**Figure 6:** Cross Section – North Pit, Northern Block

Geotechnical data from the diamond drilling completed in the stage 1 program is being collated, reviewed and analysed by the Company's geotechnical consultants. The outcomes of this work will be incorporated in to updated open pit mine designs as the DFS progresses.

## BULK SAMPLE GENERATION DRILLING

Large diameter diamond drilling designed to generate bulk sample for process plant equipment vendors and large scale metallurgical testwork as part of the DFS commenced on 22 September 2018. Samples are being collected from 21 holes across three locations within the current North Pit region which has been identified as having a very shallow oxidation profile.

Material is being collected to replicate the expected process plant feed for the initial mine life at Gabanintha, focusing on a blend of transitional basal massive magnetite mineralisation, fresh hanging wall banded mineralisation and a large portion of fresh basal massive magnetite mineralisation. This blend is expected to deliver an optimal mass recovery in to a magnetic concentrate and metallurgical recovery of vanadium.

Initial representative samples from this drilling have been delivered to the laboratory to be composited, prepared and processed to generate a magnetic concentrate. A sub set of this sample will be provided to a roasting kiln supplier to conduct a sighter kiln test, designed to confirm optimal operating parameters for processing the magnetic concentrate as well as produce a larger volume of high purity final vanadium pentoxide product for end user assessment.



**Table 1:** RC Drilling Collar Table, Stage 1 Project Enhancement Drilling Program

Hole ID	Easting	Northing	RL (m)	EOH (m)^	Massive Magnetite Intersected
GBDD018*	661416	7020301	473	147.0	Yes, partly in RC
GBDD020*	661396	7020402	473	143.9	Yes, in diamond tail
GBDD021*	661253	7020602	471	89.5	Yes, in diamond tail
GBDD022*	661250	7020701	471	144.0	Yes, in diamond tail
GBRC109	661761	7019196	483	220	Yes
GBRC110	662044	7018697	495	130	Yes
GBRC111	662149	7018500	488	84	Yes
GBRC112	662106	7018503	490	124	Yes
GBRC113	662048	7018500	487	160	Yes
GBRC115	662205	7018304	481	95	Yes
GBRC116	662148	7018308	484	147	Yes
GBRC117	662285	7018103	478	64	Yes
GBRC118	662234	7018101	480	112	Yes
GBRC119	662186	7018101	483	208	Yes
GBRC120	662328	7017901	482	64	Yes
GBRC121	662272	7017900	483	124	Yes
GBRC122	661816	7019000	479	220	Yes
GBRC114	661940	7018598	483	232	Yes
GBRC123	661935	7018789	485	202	Yes
GBRC132	661923	7018898	488	178	Yes
GBRC124	668670	7010085	464	82	Yes
GBRC125	668744	7010027	465	90	Yes
GBRC126	668898	7009886	466	94	Yes
GBRC127	668867	7009848	464	130	Yes
GBRC128	669086	7009799	468	46	Yes
GBRC129	669021	7009717	465	154	Yes
GBRC130	669419	7009552	467	94	Yes
GBRC131	669388	7009516	466	136	Yes

^Holes with diamond drill core tails are deeper than stated

\*RC pre collared holes with diamond tails

**Table 2:** Diamond Drilling Collar Table, Stage 1 Project Enhancement Drilling Program

Hole ID	Easting	Northing	RL (m)	EOH (m)	Massive Magnetite Intersected
GBDD014	661364	7020650	472	130.0	Yes
GBDD015	661441	7020498	474	102.0	Yes, split by a dolerite
GBDD016	661492	7020500	474	129.6	Yes
GBDD017	661244	7020570	471	177.7	No, Geotech hole drilled west
GBDD018*	661416	7020301	473	189.6	Yes
GBDD019	661322	7020497	472	218.9	Yes
GBDD020*	661396	7020402	473	210.9	Yes
GBDD021*	661253	7020602	471	267.4	Yes
GBDD022*	661250	7020701	471	225.8	Yes
GBDD023	661963	7019147	488	130	Yes
GBDD024	661772	7019298	484	230.1	Yes
GBDD025	662129	7018705	493	140.3	Yes
GBDD026	662000	7018700	491	219.6	Yes
GBDD027	661887	7018899	485	189.8	No, Geotech hole drilled west
GBDD028	662256	7018304	479	130	No, Geotech hole drilled footwall
GBDD029	662215	7018508	484	120.0	No, Geotech hole drilled footwall
GBDD030	661947	7019375	495	118.8	No, Geotech hole drilled footwall
GBDD031	668631	7010053	463	160	Yes
GBDD032	668773	7010062	466	140.1	Yes
GBDD033	669184	7009735	468	150	Yes
GBDD034	669520	7009518	468	160	Yes

\*RC pre-collar (see previous table)

## METALLURGICAL TESTWORK – PRODUCT GENERATION

A program of metallurgical testwork designed to generate final product for end-users was completed during the quarter under the supervision of the Company's metallurgical consultant METS Engineering Group Pty Ltd ("**METS**"). This round of testwork was based on representative samples of the high grade massive magnetite zone from the diamond drilling completed in the 2017 drilling campaign.

Testwork has definitively shown that magnetic concentrates produced from all zones of the massive magnetite and the fresh disseminated magnetite are amenable to conventional salt roast / water leach processing. The magnetic concentrates delivered very high vanadium recoveries and rejection of gangue minerals from the high grade fresh and transition material and the disseminated medium grade fresh material. Vanadium grades reporting to the magnetic concentrate ranged from 1.27 to 1.34% V<sub>2</sub>O<sub>5</sub> for these ore types, with weight recoveries ranging from 85.6% for the massive high grade fresh composite to 33% for the disseminated medium grade fresh composite.

Previous downstream processing testwork confirmed the high quality of the Gabanintha ore, delivering final V<sub>2</sub>O<sub>5</sub> product with a purity in excess of 99% (see ASX announcement dated 31 May 2018).

The recently completed product generation testwork, conducted by ALS Metallurgy Services, used approximately 60kg of combined transitional and fresh high grade massive magnetite mineralisation, which generated approximately 49kg of magnetic concentrate after being processed through triple pass LIMS at 1200 Gauss. The composited magnetic concentrate was batch salt roasted, with the resultant calcine product water leached to ensure complete dissolution of sodium vanadate to the leach solution.

The leach solution containing the vanadium was then subjected to desilication, generating a cleaner ammonium metavanadate (AMV) feed solution than the previous downstream processing testwork. AMV precipitate was filtered from this feed solution, with >98% of the vanadium recovered in to a high purity precipitate. The AMV precipitate was then calcined to generate a final  $V_2O_5$  product (see Figure 7), with a calculated purity of 99.53% based on the sum of impurities method. Impurities within the final  $V_2O_5$  consist of a small volume of alumina, chromium, copper, potassium and magnesium.



Figure 7: Photograph of High Purity 99.53%  $V_2O_5$  Product from Gabanintha

Sub-samples of this high purity  $V_2O_5$  have been dispatched to a range of potential vanadium end-users to be independently assessed for relevant applications, initially targeting the steel and vanadium redox flow battery (VRB) industry sectors. The very high purity achieved in this initial product generation stage underscores the opportunity to also target the speciality chemical and aeronautical industries, thereby providing scope to attract substantial premiums to the 98%  $V_2O_5$  pricing index.



Figure 8: High Purity 99.53%  $V_2O_5$  Sub-Samples Packaged for Dispatch

This work further confirms that the mineralisation from the Gabanintha deposit is well suited to produce a very high purity  $V_2O_5$  product using conventional salt roast / water leach processing techniques, with relatively low reagent consumption and without the requirement of additional costly contaminant removal steps. Both the solution and final product produced from this testwork are regarded as extremely clean and low in solution impurities.

## MARKETING ACTIVITIES

During the quarter the Company attended the Noosa Mining and Exploration Investor Conference held from 18 to 20 July 2018. The Managing Director, Ian Prentice, delivered a presentation titled “Leading The Charge in the Vanadium Industry; Aiming to be the Next Producer in an Evolving Market” at the conference. This very well attended conference provided an ideal opportunity to elevate investor awareness of the Company and its outstanding position at the forefront of the emerging vanadium development companies.

TMT management attended the FerroAlloyNet International Vanadium Products Summit in Xiamen, China, on 12 – 14 September 2018. The FerroAlloyNet Summit enabled the Company to continue to build relationships with a range of vanadium end users and producers and coincided with the announcement of the delivery of the very high purity V<sub>2</sub>O<sub>5</sub> from product generation testwork. The ongoing strengthening of relationships with these vanadium end users and producers, being conducted in parallel with the rapid progression of the development of the Project, is a key component of the Company’s strategy in place to progress the development of its very high quality, high grade Gabanintha Vanadium Project.

Subsequent to the end of the quarter the Company attended the 121 Mining Investment Conference in Hong Kong held from 23 to 24 October 2018. TMT management had a number of very constructive one-on-one meetings with a range of investors and the Managing Director, Ian Prentice, delivered a presentation titled “Leading The Charge in the Vanadium Industry; Rapidly progressing the DFS for the development of a globally significant, high grade, vanadium project” at the conference. There was a high level of interest in vanadium at this very well attended conference given the recent commodity price appreciation and provided an ideal opportunity for the Company to demonstrate its outstanding position at the forefront of the emerging vanadium development companies.

## TENEMENTS

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.

During the quarter a desktop heritage survey was completed by the Wutha Native Title Claimant Group over P51/2942 (the Southern Tenement) and subsequent to the end of the quarter a further heritage survey was conducted with representatives of the Yugunga-Nya Claimant Group over the Gabanintha Northern Block tenements in mid October.

Table 3: Tenement Status as at 30 September 2018

LOCATION	TENEMENT	INTEREST ACQUIRED OR DISPOSED OF DURING THE QUARTER	ECONOMIC INTEREST
Gabanintha Project (WA)	E51/1510-I	Nil	100%
Gabanintha Project (WA)	P51/2785-I	Nil	100%
Gabanintha Project (WA)	P51/2942	Nil	100%
Gabanintha Project (WA)	P51/2943	Nil	100%
Gabanintha Project (WA)	P51/2944	Nil	100%
Gabanintha Project (WA)	E51/1818	Nil	100%
Gabanintha Project (WA)	P51/2930	100%	100%
Gabanintha Project (WA)	MLA51/883	Nil - Application	100%
Gabanintha Project (WA)	MLA51/884	Nil - Application	100%

Also during the quarter the Company acquired the 1.5% net profits interest ("**Royalty**") over E51/1510 and P51/2785, the tenements that cover the proposed North Pit and associated supporting infrastructure (see Figure 2).

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 (issued on or about 10 September 2018),
- 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.

## CORPORATE

As at 29 October 2018 the Top 20 shareholders held 50.2% of the fully paid ordinary shares and the Company had cash of \$1.76 million as at 30 September 2018.

During the quarter a number of options were exercised resulting in the issue of fully paid ordinary share in the Company, namely:

- 533,333 \$0.40 exercise options and 10,000 \$0.25 exercise options on or about 8 August 2018;
- 250,000 \$0.35 exercise options and 50,000 \$0.25 exercise options on or about 24 August 2018; and
- 50,000 \$0.40 exercise options (and the cancellation of 25,000 \$0.40 exercise Employee Incentive Options) on or about 21 September 2018.

On 28 September 2018 the Company announced a placement of 12,000,000 fully paid ordinary shares at a price of \$0.50 per share (to raise \$6,000,000 before costs) to institutional and high net worth investors. The placement, and receipt of funds, was completed subsequent to the end of the quarter on 5 October 2018.

Subsequent to the end of the quarter the Company joined Vanitec, the vanadium industry organisation which brings together representatives of companies and organisations involved in the mining, processing, manufacture, research and use of vanadium with the objective of promoting the use of vanadium bearing materials and thereby increase vanadium consumption.

Project specific announcements lodged on the ASX during the September 2018 quarter were:

- TMT Investor Presentation; July 2018, 3 July 2018;
- Strategic Tenement Acquisition to Boost Gabanintha, 4 July 2018;
- TMT Investor Presentation; Noosa Mining and Exploration Investor Conference July 2018, 18 July 2018;
- Commencement of DFS and Drilling at Gabanintha, 8 August 2018;
- Gabanintha DFS Update; 7 September 2018;
- High Purity +99.5% V<sub>2</sub>O<sub>5</sub> Product Confirmed at Gabanintha, 12 September 2018

## 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.

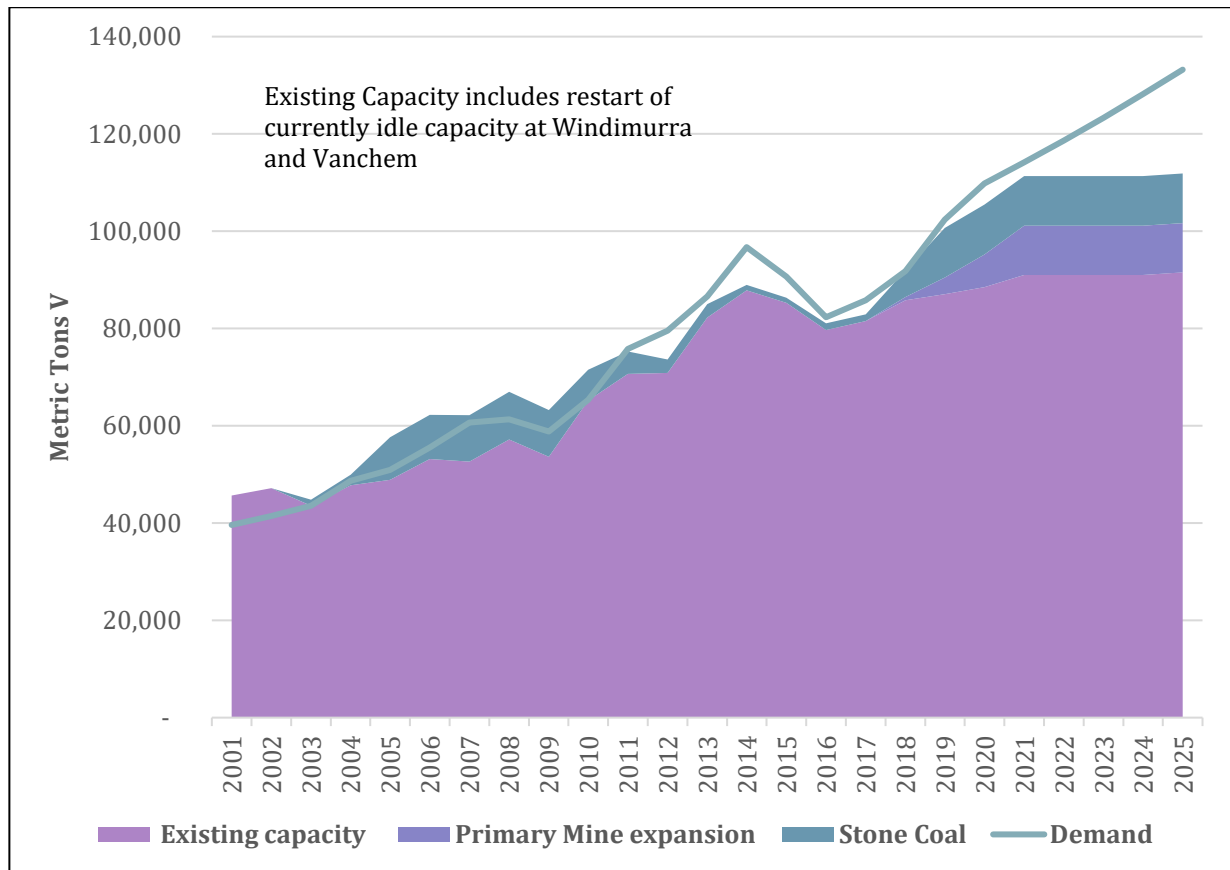


Figure 9: Vanadium Supply and Demand; source TTP Squared

The global vanadium market has been operating in a deficit position for the past five years (source: TTP Squared Inc), with a reported deficit of ~2,600 tonnes V metal in 2017. Vanadium Inventories are reported to have been fully depleted in 2017 (source: TTP Squared Inc). Significant production declines in China and Russia have exacerbated this situation, with further production curtailment occurring in China as a result of mine closures resulting from environmental restrictions and the banning of the import of vanadium slag. Chinese domestic consumption, driven by increasing intensity of use in steel (in particular in rebar) have impacted on Chinese exports ability to fill the global supply gap.

The increasing demand and limited supply side reaction is forecast to result in a global deficit of ~21,300t V (~37,900t V<sub>2</sub>O<sub>5</sub>) in 2025 (Source: TTP Squared) assuming full resumption of Chinese Stone Coal production (see Figure 9).

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\$30/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

**Executive 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 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 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 6: Global Mineral Resource estimate for the Gabanintha Vanadium Project as at 5 March 2018

Technology Metals Gabanintha Vanadium Project - Global Mineral Resources as at March 2018										
Material	Classification	Tonnage (Mt)	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%
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% V<sub>2</sub>O<sub>5</sub> lower cut-off for the 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.

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 7: Ore Reserve Estimate as at 31 May 2018

Reserve Category	Tonnes (Mt)	Grade V <sub>2</sub> O <sub>5</sub> %	Contained V <sub>2</sub> O <sub>5</sub> Tonnes (Mt)
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

Capital Structure	
Tradeable Fully Paid Ordinary Shares	47.508m
Escrowed Fully paid Ordinary Shares <sup>1</sup>	22.51m
Fully Paid Ordinary Shares on Issue	70.018m
Unquoted Options <sup>2</sup> (\$0.25 – 31/12/19 expiry)	14.615m
Unquoted Options (\$0.35 – 12/01/21 expiry)	2.75m
Quoted Options (\$0.40 – 24/05/20 expiry)	6.133m
Unquoted Options (\$0.40 – 24/05/20 expiry)	3.258m

<sup>1</sup> – 22.51 million fully paid ordinary shares will be tradeable from 21 December 2018.

<sup>2</sup> – 13.69 million unquoted options are subject to restriction until 21 December 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.

## Appendix 5B

# Mining exploration entity and oil and gas exploration entity monthly report

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

### Name of entity

Technology Metals Australia Limited

ACN	Quarter ended ("current quarter")	
612 531 389	30 September 2018	
Consolidated statement of cash flows	Current Quarter (Sept 2018) \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for:		
(a) exploration & evaluation	(1,109)	(1,109)
(b) development	-	-
(c) production	-	-
(d) staff costs	(77)	(77)
(e) administration and corporate costs	(287)	(287)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	9	9
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (GST Refund received during period)	149	149
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,315)</b>	<b>(1,315)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-

## Mining exploration entity and oil and gas exploration entity quarterly report

	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>-</b>	<b>-</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	367	367
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>367</b>	<b>367</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	2,710	2,710
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,315)	(1,315)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	367	367
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>1,762<sup>1</sup></b>	<b>1,762</b>

<sup>1</sup> On 5 October 2018, the Company issued a total of 12,000,000 fully paid ordinary shares via a Placement at a price of \$0.50 per share to raise \$6,000,000 before costs.

5. Reconciliation of cash and cash equivalents at the end of the month (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current Quarter \$A'000	Previous Quarter \$A'000
5.1 Bank balances	762	710
5.2 Call deposits	1,000	2,000
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>1,762<sup>1</sup></b>	<b>2,710</b>

<sup>1</sup> On 5 October 2018, the Company issued a total of 12,000,000 fully paid ordinary shares via a Placement at a price of \$0.50 per share to raise \$6,000,000 before costs.

6. Payments to directors of the entity and their associates	Current quarter \$A'000
6.1 Aggregate amount of payments to these parties included in item 1.2	77
6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

Payment of director's fees.

7. Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	33
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

The Company engages Cicero Corporate Services Pty Ltd, which Mr Sonu Cheema is a director of, for administrative and company secretarial services.

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

-

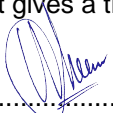
## Mining exploration entity and oil and gas exploration entity quarterly report

<b>9. Estimated cash outflows for next quarter</b>		<b>\$A'000</b>
9.1	Exploration and evaluation	3,500
9.2	Development	-
9.3	Production	-
9.4	Staff costs	70
9.5	Administration and corporate costs	255
9.6	Other (provide details if material)	-
<b>9.7</b>	<b>Total estimated cash outflows</b>	<b>3,825</b>

<b>10.</b>	<b>Changes in tenements (items 2.1(b) and 2.2(b) above)</b>	<b>Tenement reference and location</b>	<b>Nature of interest</b>	<b>Interest at beginning of quarter</b>	<b>Interest at end of quarter</b>
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	-	-	-	-
10.2	Interests in mining tenements and petroleum tenements acquired or increased	P51/2930	Direct	-	100%

### Compliance statement

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

Sign here:  .....

Date: 30 October 2018

Director and Company Secretary

Print name: Sonu Cheema

### Notes

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