ASX Announcement

Vanadium Metallurgical Test Work Update

Testwork successfully delivers high-yield Gabanintha concentrates

Highlights:

- **Latest round of metallurgical testwork completed, confirming the Company's view that Gabanintha will be able to supply high quality V_2O_5 products to meet the needs of energy storage and steel making customers.**
- **Further testwork already underway to optimise process flowsheet ahead of up-coming Pre-Feasibility Study. Tests include assessing recovery of other metals including cobalt, nickel and copper.**
- **Magnetic separation testwork successfully delivers high-yield into primary concentrates including:**
  - **Fresh high-grade material achieving exceptional concentrate recovery of 92.3% of vanadium in a 1.42% V_2O_5 concentrate with very low silica content, before optimization.**
  - **Transitional high-grade material achieving combined concentrate recovery of 89.2% of vanadium in a 1.40% V_2O_5 concentrate, before optimization, and**
  - **Transitional concentrate grades of up to 1.72% V_2O_5 (Comp 17) and 1.66% V_2O_5 (Comp 16) were achieved, indicating significant upside across the deposit.**
- **First stage of detailed comminution test work reveals:**
  - **Consistent energy consumption of 6.9kWh/t established to break material in a AG/SAG milling scenario with a closing screen size of 2.8mm.**
  - **Density correlation strongly supports using average density of 3.6 applicable to oxide, transition and fresh high-grade materials, and**
  - **Abrasion index work indicates ore only "slightly abrasive" meaning modest wear on equipment.**

Australian Vanadium Limited (ASX:AVL, "the Company" or "AVL") is pleased to provide an update on ongoing detailed physical beneficiation testwork for the Gabanintha Vanadium Project near Meekatharra in Western Australia.

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ASX ANNOUNCEMENT

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Projects:

Gabanintha – Vanadium
Blesberg,South Africa – Lithium/Tantalum/Feldspar
Nowthanna Hill – Uranium/Vanadium
Coates – Vanadium

The aim of the testwork program is to determine comminution parameters for the high-grade vanadium ore at Gabanintha as well as accurately determining the recovery and quality of the vanadium ore concentrate. Together these pieces of information will allow AVL to define the process flowsheet for the planned Pre-Feasibility Study (PFS).

The definitive comminution and beneficiation test program is being conducted on diamond core previously collected by the Company. The core materials have been separated into high-grade and low-grade ore types. The major focus is on the recovery of a vanadium concentrate from the High Grade Zone (See Figure 1 section and Figure 2 long section).

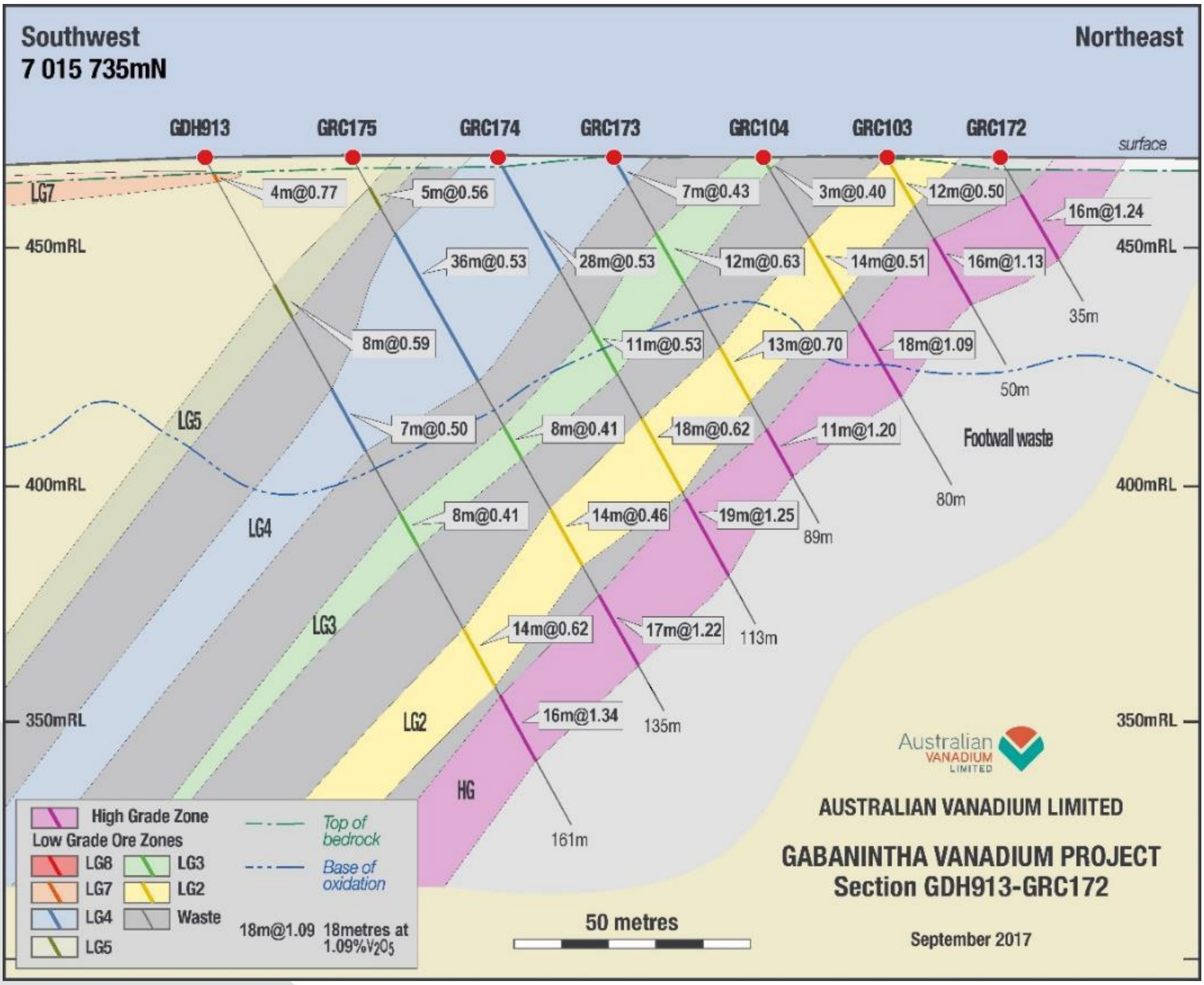

Figure 1: Typical Cross Section through Gabanintha Vanadium deposit

The High Grade Zone of massive-magnetite is located at the base of the mineralised intrusion (see typical cross section Figure 1). This High Grade Zone is the focus of current economic studies due to its potential for high-yield, high-grade vanadium-iron concentrate suitable for traditional roast-leach vanadium recovery. This method of vanadium recovery is the most common and well understood process for high-grade vanadium-titanium-iron ores globally and is currently used by all current global producers of vanadium from magnetite sources, including Largo Resources, Bushveld Vametco and Glencore's Rhovan operations.

The metallurgical testwork was based on 24 massive-magnetite composites from Gabanintha diamond drill core. The composites were selected as discrete intervals within 10 diamond drill holes with a 173m depth range (ranging from 14m from surface to 187m measured orthogonal to earths surface) across 915m of Northing thereby representing a significant portion of the current Measured and Indicated Resource area. Figure 2 shows the location of the composites in a two dimensional (2D) long section. The sampling specifically takes into account the distinction of the oxidation state within the high grade layer.

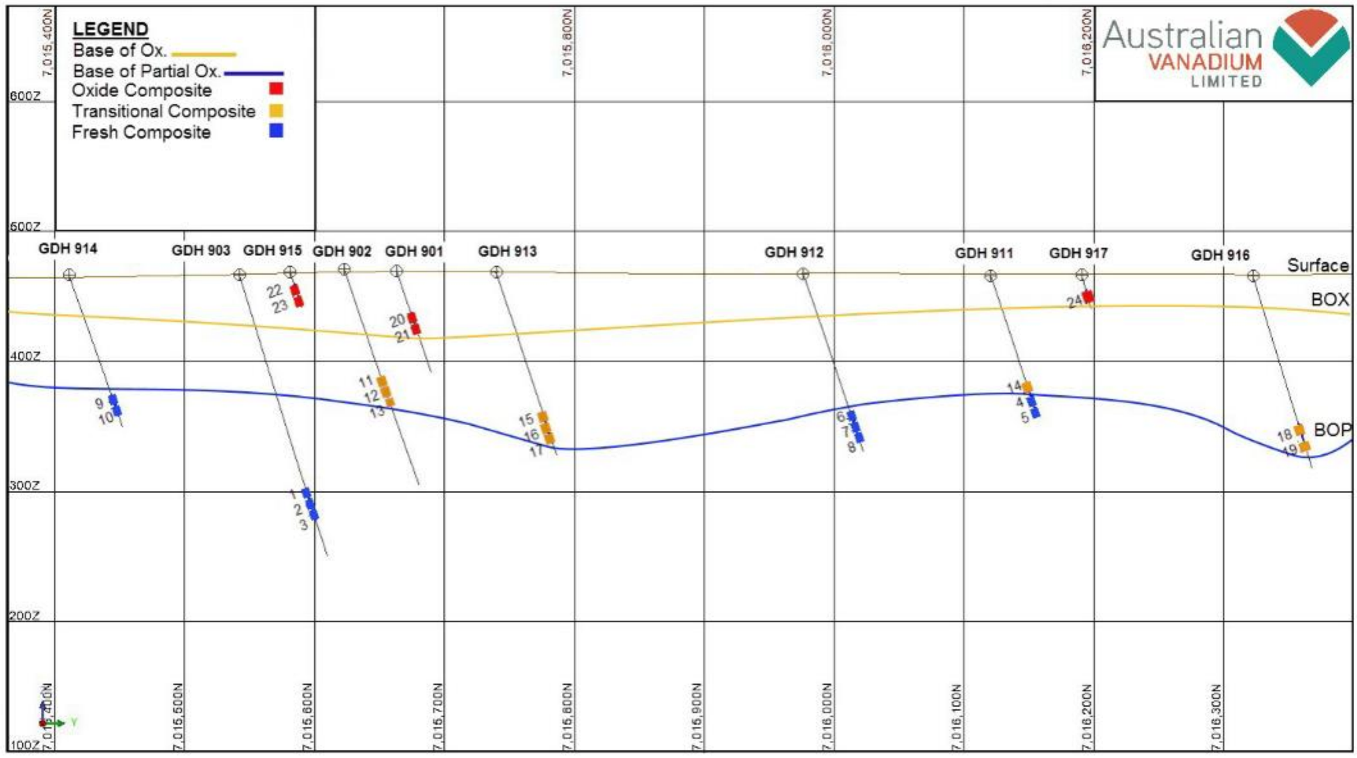

Figure 2: Long section (Northing & RL, 2D- spatial orientation) of metallurgical composites. Colours show oxidation state.

Magnetic Separation

Wet Low Intensity Magnetic Separation (WLIMS) was used to separate magnetic material from gangue material. A nominal feed size of P80 = 106 micron (i.e. 80% of material passing 106 micron) was targeted for the composites. The results indicate a primary magnetic concentrate grade and yield using low-intensity magnetic separation techniques highly attractive to the conventional salt roast vanadium recovery process. The magnetic separation results are explained and summarised in Appendix 1 below.

Highlights of the work include:

- Fresh high-grade WLIMS at 1500 Gauss (1500G) indicate exceptional concentrate recovery, capturing 92.3% of vanadium in a 1.42% V_2O_5 concentrate before optimisation. The average concentrate (10 composites) had an overall mass recovery of 72.9% with 57.3% Fe and a very low silica content of 0.55% SiO_2.
- Transitional high-grade WLIMS (1500G) and Rare Earth Magnetic Separator (REMS) (2700G) combined concentrate product captured 89.2% of vanadium in a 1.40% V_2O_5 concentrate before optimisation. The average concentrate (8 composites) had an overall mass yield of 72.9% with 50.8% Fe and 2.44% SiO_2 grade.
- Transitional concentrate grades of up to 1.72% V_2O_5 (Comp 17) and 1.66% V_2O_5 (Comp 16) were achieved, indicating significant upside across the deposit.
- Further work is already underway to optimise concentrate grade and lower silica and alumina in transition and fresh feed material. A number of opportunities have been identified to further enhance the concentrate quality and these are currently being tested in the laboratory.

Comminution Test Work

A series of standard detailed comminutions tests have been completed. These tests allow the determination of energy requirements to prepare a consistent sized ore for later processing in any operations. This entailed crushing and grinding, density and abrasiveness testing. The results are explained and summarised in Appendix 2 below.

Highlights of the first stage of detailed comminution test work completed are:

- Consistent energy consumption of 6.9 kWh/t was established to break material in a AG/SAG milling scenario with a closing screen size of 2.8mm.
- Density correlation strongly supports use of regressed density with iron grade in magnetite. Average density of 3.6 is applicable to oxide, transition and fresh high-grade materials.
- Abrasion index work indicate ore only “slightly abrasive”, indicating modest wear of comminution equipment.

Next Steps: Further improvements to concentrate grade and quality

Managing Director Vincent Algar commented, ‘The definitive work to date in the current program is providing us with great confidence that Gabanintha can produce a significant quantity and quality of vanadium concentrate to feed a conventional vanadium roast-leach process. We will continue to optimise the recovery to achieve the simplest possible flowsheet to take to our PFS. The results of this round of testwork confirms the Company’s view that Gabanintha will be able to supply high quality V_2O_5 products to meet the needs of the energy storage and steel making customers. With increasing market demand for vanadium right now, AVL will be accelerating its development activities to bring vanadium products to the market as soon as possible.

New test work is already underway to further optimise the work reported here, with a view to simplifying the process flowsheet which will form part of the up-coming PFS on the concentrate plant. The optimisation of feed quality and yield has significant implications for downstream project economics by ensuring the lowest use of water, reagents and power. The objective is for Gabanintha to provide the highest quality processing feed possible from the entire high-grade orebody via the simplest circuit design."

As part of the optimisation work on the transitional and oxide ores, a follow-on set of testwork is currently underway in consultation with Wood Group Consultants and conducted at Bureau Veritas Laboratories. The testwork includes:

- Density and size fraction analysis (previously shown to reduce silica content);
- Reverse silica flotation;
- Re-run of REMS (transition) and WHIMS (Oxide) tests with cleaning to preclude entrainment of silica and alumina seen in previous tests,
- Quantitative Mineralogy to confirm mineral associations, and
- Recovery of sulphide phase containing nickel, copper, cobalt, present in non-magnetic fraction of fresh composites.

For further information, please contact:

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References

Bond, F. C. (1962). "Crushing and Grinding Calculations." British Chemical Engineering.

About Gabanintha

Australian Vanadium Limited holds 100% of the Gabanintha Project near Meekatharra in Western Australia. Gabanintha hosts a declared Mineral Resource at Gabanintha comprising 179.6Mt at 0.75% Vanadium Pentoxide (V_2O_5), made up of a Measured Mineral Resource of 10.2Mt at 1.06% V_2O_5, an Indicated Mineral Resource of 25.4Mt at 0.62% V_2O_5 and an Inferred Mineral Resource of 144Mt at 0.75% V_2O_5.

The Mineral Resource includes a distinct and globally significant, massive magnetite high-grade zone of 92.8 Mt at 0.96% V_2O_5 consisting of a Measured Mineral Resource of 10.2Mt at 1.06% V_2O_5, an Indicated Mineral Resource of 4.8Mt at 1.04% V_2O_5 and an Inferred Mineral Resource of 77.8Mt at 0.94% V_2O_5.

Competent Person Statement — Mineral Resource Estimation

The information in this report that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Davis is a shareholder of Australian Vanadium Limited. Mr Barnes and Mr Davis are members of the Australasian Institute of Mining and Metallurgy and have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Barnes is the Competent Person for the estimation and Mr Davis is the Competent Person for the database, geological model and site visits. Mr Barnes and Mr Davis consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

The information is extracted from the report entitled "Significant vanadium resource upgrade at Gabanintha" released to ASX on 5 September 2017 and is available on the company website at www.australianvanadium.com.au.

The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resource or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the competent person's findings are presented has not been materially modified from the original market announcement.

APPENDIX 1 – MAGNETIC SEPARATION TESTWORK

Fresh Material

Fresh composites were subject to a Davis Tube Wash (DTW) at 1,500 Gauss (G). The fresh magnetic concentrates recovered ranged in V_2O_5 grade from 1.35% to 1.56% with a weighted average grade of 1.42% V_2O_5. A weighted average V_2O_5 recovery of 92.3% reported to the magnetic concentrates. See Table 3 below for recovery and concentrate grades across each composite sample tested.

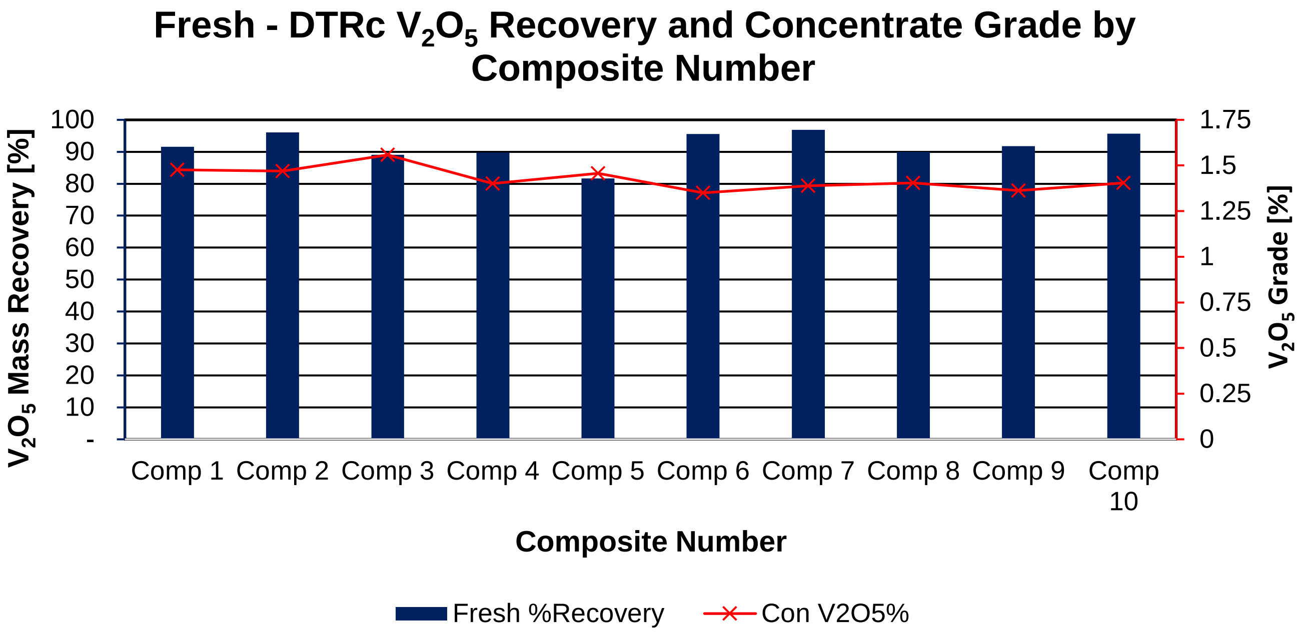

Figure 3 Fresh Composites V_2O_5 DTR recovery and concentrate grade

The average overall mass recovery of the fresh head/feed material was 72.9% to the magnetic concentrates. Assay results[1] for "anolytes of interest" have been calculated on a weighted average basis for the fresh material and are presented in Table 2 below.

Table 1: Abridged assay results for fresh composites on a weighted average basis.

Fresh	*Mass%*	*%Fe*	*%SiO_2*	*%Al_2O_3*	*%TiO_2*	*%V_2O_5*
Head – Assay		47.3	7.4	6.0	12.5	1.12
Mag-Con – Assay		57.3	0.55	2.3	13.7	1.42
Mag-Con - %Recovery	72.9	88.0	8.2	36.3	79.4	92.3

[1] Analytical Method – Samples were cast to form a glass bead and analysed by X-Ray Fluorescence (XRF).

Transitional Material

Transitional composites were subject to a DTW at 1,500 G. The non-magnetic DTW tailings were further subject to a Rare Earth Magnetic Separator at 2,700 G. The transitional, combined DTW and REMS, magnetic concentrates ranged in V_2O_5 grade from 1.21% to 1.72% with a weighted average grade of 1.40% V_2O_5. See Table 4 below for recovery and concentrate grades across each composite sample tested.

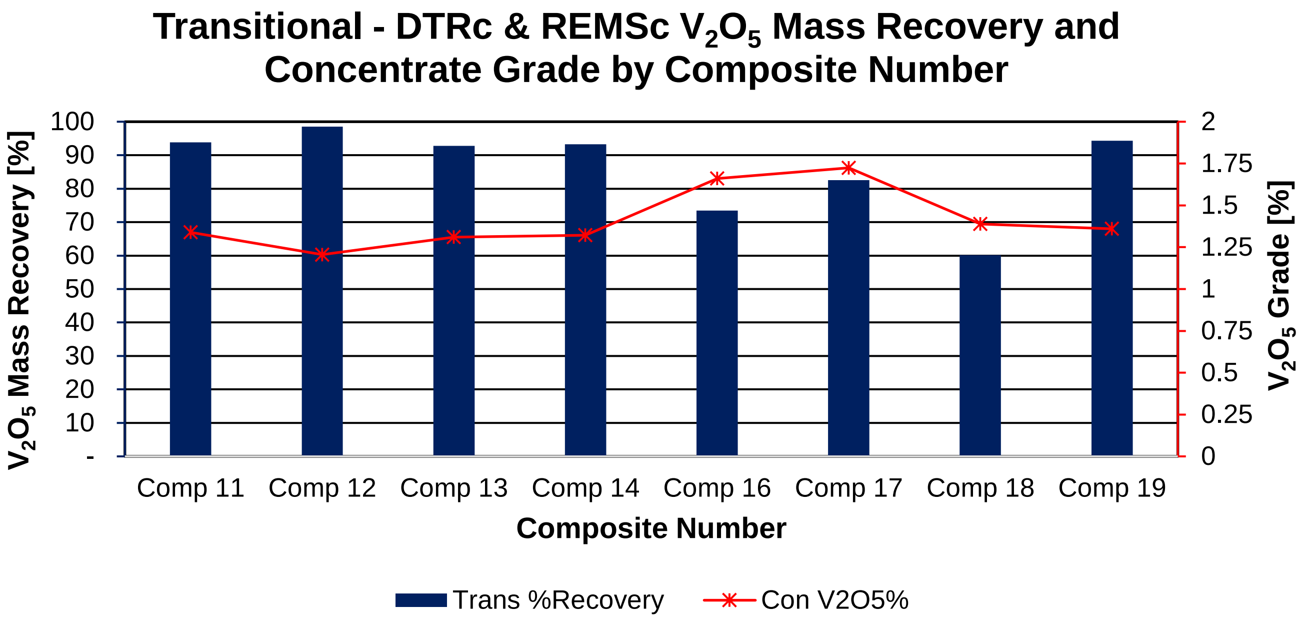

Figure 4 Transitional Composites V_2O_5 DTR and REMSc recovery and concentrate grade

A weighted average V_2O_5 recovery of 89.2% reported to the combined DTW and REMS magnetic concentrates. The average overall mass recovery of the transitional head/feed material was 72.9% to the combined DTW and REMS magnetic concentrates. Assay results[2] for “analytes of interest” have been calculated on a weighted average basis for the transitional material and are presented in Table 3 below. SiO_2 reduced on a weighted average basis for the transitional composites from 9.13% in the feed material to 2.44% in the magnetic concentrates.

Table 3: Abridged assay results for transitional composites on a weighted average basis.

Transitional	*Mass%*	*%Fe*	*%SiO_2*	*%Al_2O_3*	*%TiO_2*	*%V_2O_5*
Head - Assay		43.3	9.13	6.96	13.3	1.20
DTR Mag-Con – Assay		55.3	0.63	2.53	14.5	1.50
DTR Mag-Con - %Recovery	30.8	60.7	7.54	24.6	54.1	61.4
REMS Mag-Con – Assay		48.4	3.35	4.27	16.3	1.35
REMS Mag-Con - %Recovery	42.1 (of feed)	61.8	34.6	42.2	62.0	62.1
DTR+REMS Mag-Con – Assay		50.8	2.44	3.65	15.7	1.40
DTR+REMS Mag-Con - %Recovery	72.9	88.7	35.3	51.0	86.0	89.2

Oxide Material

The Gabanintha orebody contains a proportion of material within 30m of the surface that is oxidised or partially oxidised. The effect of this oxidation within a magnetite orebody such as Gabanintha is to reduce the magnetic nature of the ore. This will reduce the mass yield, vanadium yield and concentrate V_2O_5 grade if passed through similar processes as the fresh and transitional ores.

Work in the current program has confirmed that fully oxidised material (Composites 20-24) behaves highly variably using high-intensity magnetic separation or WHIMS (6000G). The materials, which have an average head grade of 1.19% V_2O_5, produced a concentrate of 1.26% V_2O_5 with silica (SiO_2) only reducing from 6.78% to 5.25%. Only 54% of the vanadium reported to the concentrate. Combined silica and alumina of 11% offer a significant opportunity to improve the product yield and grade from oxide feed material. The work to date confirms the previous results identified by AVL in its metallurgical studies in 2015 (See ASX Announcement 7 December 2015).

The vanadium at Gabaninta is generally associated with magnetite (an iron rich mineral) in fresh and transitional material. Magnetite (Fe_3O_4 or Fe_2(III)Fe(II)O_4) is ferrimagnetic and amenable to magnetic separation. In oxidised ore the magnetite has partially or completely altered to a variety of other forms, such as martite, maghemite, goethite and limonite, while hematite is only ferric (Fe(III)) and amenable to magnetic separation to a lesser degree or not at all.

The vanadium in the oxidised portions of the high grade zone is present in variable amounts of magnetic and non-magnetic iron minerals (see Fig 5) which can account for the high variability in the recoveries achieved in the oxide material to date. Testwork on oxide samples is ongoing.

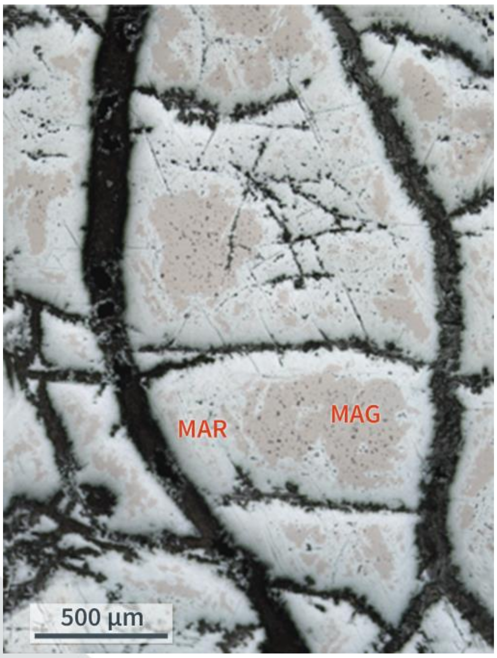

Figure 5 Polished section image of partially oxidised magnetite grain showing a remnant magnetite core and martite (non-magnetic) outer rim.

APPENDIX 2 – COMMUNITION TESTWORK

SMC Testing®

15 composites (5 of fresh, 5 of transitional and 5 of oxide material type) were individually primary crushed to -2mm, homogenised and split for SMC testing. The SMC Test® produces the JK parameter values A and b as well as estimates the JK parameter t_a and crusher model energy matrices. The SMC Test® can be used to conduct AG/SAG mill and crusher circuit simulations through the use of computer software (JKSimMet). Independent of this, it can be used in power-based calculations, which in conjunction with the Bond Ball Work Index test, enable the prediction of the specific energy of comminution circuits where such circuits include combinations of any of the following equipment:

- AG (autogenous grinding) and SAG (semi-autogenous grinding) mills
- Ball mills
- Rod mills, among other suitable comminution equipment.

The SAG Circuit Specific Energy (SCSE), as analysed by SMC Testing Pty Ltd, gives an indication of the energy consumption (in kWh/t) required to process the material in a typical/hypothetical AG/SAG milling circuit.

Arithmetic average SCSE for fresh, transitional and oxide material were calculated at 7.7, 6.5 and 6.4 kWh/t respectively, indicating minimal specific energy variability and moderate overall energy for the three material types in a hypothetical AG/SAG circuit (See Table 4)

SMC tests® also allow the determination of an A*b value. For Gabanintha rock the lowest A*b value (hardest rock) was calculated at 53 in fresh material. The highest A*b value (softest rock) was calculated at 198 in the transitional material. An A*b value of 53 corresponds to a relative rock hardness of "medium" whilst an A*b of >127 is "very soft".

SG values are calculated from rock fragments used in the SMC tests®. The SG varied for rock fragments within and between oxidation classification. The highest density of 4.46 t/m^3 was measured in the fresh material with the lowest reported density of 2.28 t/m^3 in the oxide material. A higher SG means more tonnage per cubic metre of a given material. Previous detailed work on bulk density (see ASX Announcement 5 September 2017) showed the strong correlation between Fe% and bulk density. Sufficient samples were taken to determine correlations. These correlations were applied to the block model density using a regression equation (See JORC Table 1, ASX Announcement 5 September 2017). The current SG work agrees with the previously determined correlations, confirming the approach of using a more local SG based on the regression with Fe% rather than just applying an average density for the material types.

High level results from the SMC Test® can be seen in Table 4 below:

Table 4 High Level SMC Test® Results.

	Arithmetic Average			MAXIMUM	
UNITS / MATERIAL	DWi [kWh/m³]	SG [Dim.Less]	SCSE [kWh/t]	SCSE [kWh/t]	SG [Dim.Less]
FRESH	5.1	3.88	7.7	9.1	4.46
TRANSITIONAL	2.8	3.37	6.5	7.7	4.14
OXIDE	3.0	3.65	6.4	7.3	4.25

The Drop Weight Index (DWi) is a measure of the resistance of a sample to impact breakage. The Gabanintha fresh samples reported an average DWi of 5.1 kWh/m^3 and maximum DWi of 7.1 kWh/m^3. The average fresh rock value is in the 32nd percentile when compared to all historical SMC DWi results (35,000 test results in global database used).

Abrasion Index (Ai)

The Bond Abrasion Test determines the Abrasion Index (Ai), which is used to predict steel media and liner wear in crushers and mills (Bond 1962). For the samples tested, the lowest Ai recorded was zero which - from the abrasion scale - is categorised as "non-abrasive" and the highest was 0.5 "medium abrasive" found in a fresh composite. The average of all 15 tests across the three material types was 0.19, which is characterised as "slightly abrasive".

Bond Ball Work Index

The Bond Ball Work index (BBWi or BWi) is determined using a dry grinding test in a standardised machine. It is defined (in this testwork) as the calculated specific energy (kWh/t) applied in reducing material of 3.35 mm in size to 80% of the milled products passing 125 microns.

- For the fresh samples the arithmetic average BWi calculated at 17.6 kWh/t
- For the transitional samples the arithmetic average BWi calculated at 14.5 kWh/t.
- For the oxide samples the arithmetic average BWi calculated at 17.4 kWh/t.
- All three values are categorised as "hard".

Ends