ASX ANNOUNCEMENT **16TH MARCH 2020**

PILOT STUDY PROGRAMME CONFIRMS HIGH VANADIUM RECOVERIES AND CONCENTRATE QUALITY

DFS pilot test results verify multiple positive outcomes for crushing, milling and beneficiation circuit (CMB) design for The Australian Vanadium Project in Western Australia.

KEY POINTS

- **Rigorous pilot-scale test work has validated an optimised beneficiation flowsheet.**
- **Test work focused on processing of two likely ore feed blends, representative of the average life-of-mine and the first five years of forecast process feed.**
- **Findings confirm the Project's high vanadium recoveries and consistent excellent concentrate qualities.**
  - Concentrate generated from life-of-mine average feed blend achieved **76% vanadium recovery,** at a grade of **1.37% V_2O_5** and **1.68% SiO_2.**
  - Year 0-5 pilot testing achieved **69% vanadium recovery to concentrate at 1.39% V_2O_5** and **1.83% SiO_2**.
- **High vanadium recovery and low silica content represent unique value opportunities for AVL in ongoing economic studies.**
- **Pilot work for roasting; water leaching and high purity vanadium extraction underway with partners Metso, ALS and ANSTO to define final processing circuit design for the Project.**
- **AVL's rigorous approach to test work significantly reduces future risk, by ensuring the process will work as intended when built at full scale, increasing attractiveness to potential Project investors.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce that it has confirmed world-leading high vanadium recoveries and consistent excellent concentrate quality in its completed 20 tonne pilot scale testing and validation of the CMB flowsheet. Work has confirmed that the concentrator circuit is capable of treating both of the likely production ore blends and has delivered robust results throughout typical unit operations.

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The Company tested two blends which were most likely to be available during mining operations. Blend 1 (the Y0-5 pilot blend), represents the average first 5 years of process feed, and Blend 2 (the LOM pilot blend) represents the life of mine feed to the concentrator. The associated concentrate vanadium and silica grades of these samples are outlined below in Table 1 and Table 2.

Managing Director, Vincent Algar comments: 'The progress made by the processing team in the completion of the CMB pilot has been significant and ground-breaking. This is outlined by the excellent results we have achieved with vanadium grade and recovery and by lowering our concentrate silica content. The benefits of our thorough test work programme have already begun to show. The work increases the Company's capabilities in vanadium extraction and builds confidence in delivering high vanadium recovery when in production.'

'A key indicator of success in bringing a project into production is a full understanding of the ore body and how it behaves and the processing methodology that will be used. Test work begins at bench scale in the laboratory and once the process has been proved at that scale, a larger set of tests are undertaken to ensure that when the project is built at full scale it will work properly. During the test work at bench and pilot scale lessons are learnt and modifications are made to the circuit and re-tested and refined until the process is ready for full scale. This is the reason that AVL is taking so much care to do this work properly and reduce risk down the track.'

Figure 1 **- Magnetic Concentrate Feed to Regrind Mill**

The pilot test work was performed at the ALS piloting facility in Balcatta, Western Australia. Approximately 20 tonnes of diamond drill core was processed to determine the optimum flow sheet for beneficiation (Figure 1). Significant improvements in the flow sheet were made as the testing progressed, including the inclusion of wet high-intensity magnetic separation (WHIMS) and reverse silica flotation. The new flowsheet can be seen in Figure 2 below.

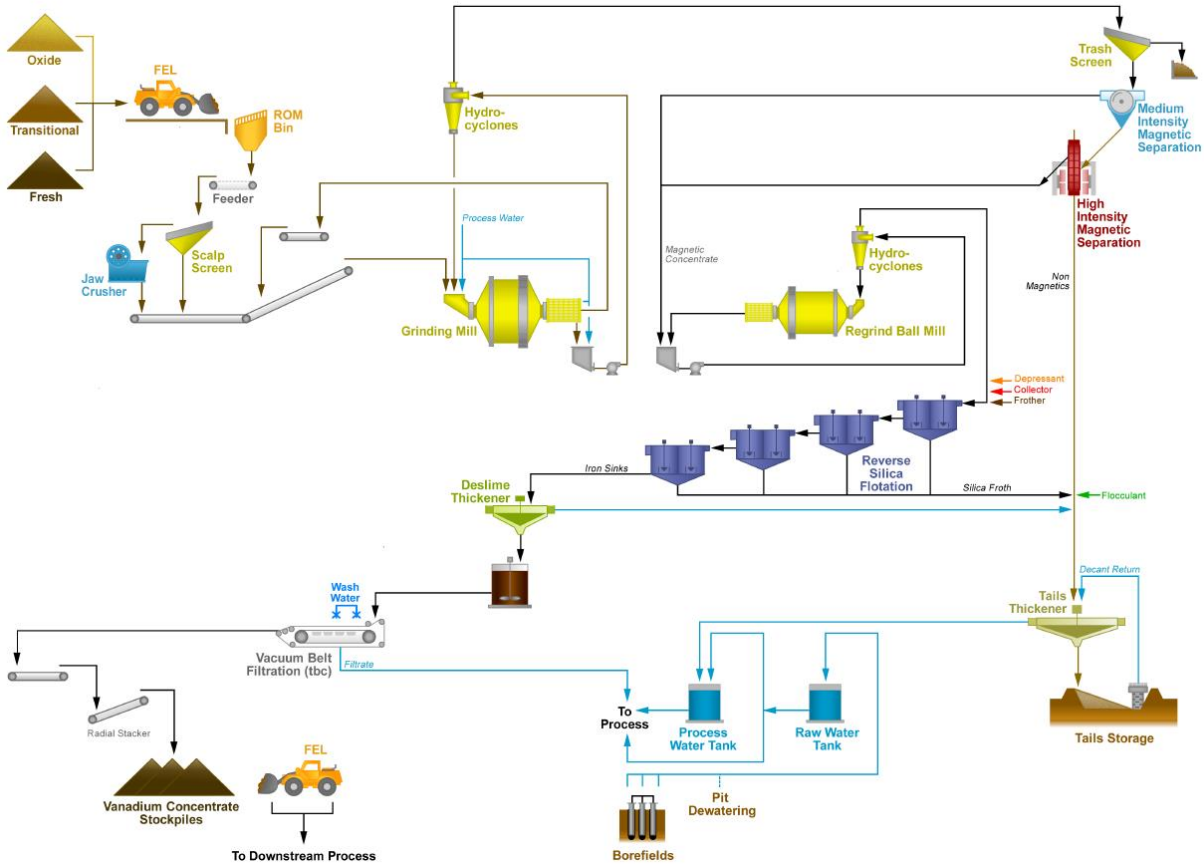

***Figure 2* - New AVL Crushing, Milling, and Beneficiation Flow Sheet**

Process Flow Description

Blended ore is fed to a grinding mill circuit which grinds material to the optimal size for magnetic separation. A medium intensity magnetic separator (MIMS) then produces the first concentrate, while the tails proceed to a wet high intensity magnetic separator (WHIMS). Concentrate from both magnetic stages are combined and fed to a regrind ball mill circuit. The reground concentrate is then fed to a final polishing step that includes a flotation circuit, to remove any liberated silicates. Silica rich tails from both the flotation circuit and the WHIMS units are pumped to a thickener prior to disposal in an integrated tailings facility. The final concentrate is then thickened and filtered before being stored on a stockpile.

Pilot Test Results

Test work results indicate that the concentrator can recover 76% and 69% of vanadium fed in the LOM and Y0-5 blends respectively. Importantly, concentrate quality for both blends are exceptional at 1.37% and 1.39% V_2O_5 respectively, with silica grades less than 1.9% SiO_2. Silica is a contaminant that has a large impact on vanadium extraction, reagent usage and overall product quality in the manufacture of V_2O_5. It competes with vanadium for the soda ash reagent in roasting, while supressing vanadium extraction. Soluble silicates then require additional reagents in a downstream desilication step. Clean final concentrate product can be seen in Figure 3 below.

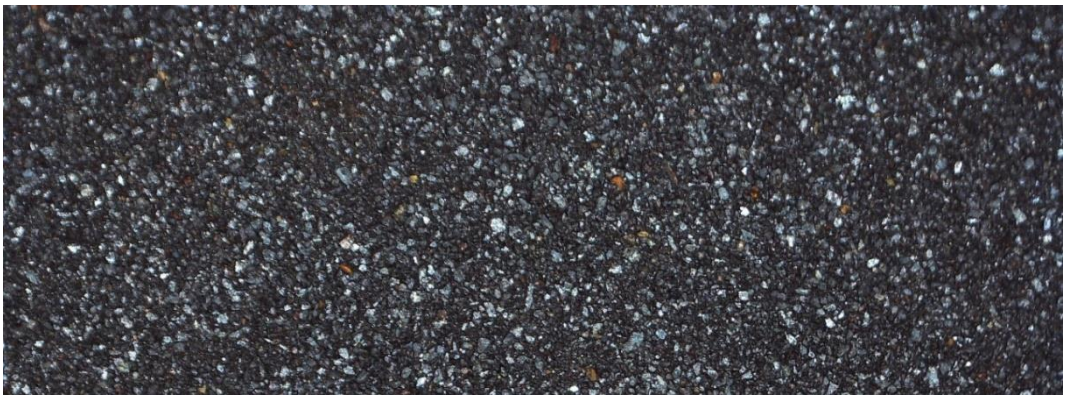

Figure 3 **- LOM Final Vanadium Titanium Iron Concentrate – Flotation Sinks**

Reverse silica flotation, the final step in the Project flowsheet, is displayed in Figure 4 below. This polishing step has proved to be critical in the production of high quality, low silica concentrate.

Figure 4 **- Reverse Silica Flotation Circuit Pilot Test**

Abridged assay results for both blends can be seen in the following tables. Total mass recovery to concentrate for the Y0-5 blend was 56.3% and for the LOM was 62.3%. This very high vanadium yield is globally unique to The Australian Vanadium Project and is a result of AVL's focus on a

geometallurgical understanding of the feed material. The yield is in line with the PFS assumptions used in sizing the beneficiation and tails circuit.

***Table 1* - Year 0-5 Blend Beneficiation Results**

	V_2O_5 %	SiO_2 %	Al_2O_3 %	TiO_2 %	Fe %
Feed Grade	1.13	8.66	6.73	13.20	44.70
Tails Grade	0.79	17.41	11.76	10.97	33.65
Final Concentrate Grade	**1.39**	**1.83**	**2.81**	**14.94**	**53.33**
Final Concentrate Recovery	69.2	11.8	23.4	63.5	67.0

The LOM blend contained significantly more fresh rock material versus the Y0-5 blend, which resulted in a higher overall vanadium recovery and lower silica content. Results for the LOM blend are reported in Table 2 below.

***Table 2* - Life of Mine Blend Beneficiation Results**

	V_2O_5 %	SiO_2 %	Al_2O_3 %	TiO_2 %	Fe %
Feed Grade	1.12	8.13	6.55	12.90	45.8
Tails Grade	0.72	18.98	12.96	10.10	30.66
Final Concentrate Grade	**1.37**	**1.68**	**2.74**	**14.56**	**54.80**
Final Concentrate Recovery	76.0	13.0	26.2	70.8	75.0

Progress on Follow Up Stage Pilot Work

Roast pilot testing has commenced on concentrate generated from the Y0-5 blend. The Metso Pyro Research and Test Center in Danville, Pennsylvania, USA[1] is currently performing pot grate and rotary kiln tests to determine optimum reagent addition, energy requirements and equipment configuration. Results will further support the processing technology selection and finalise design criteria for The Australian Vanadium Project's pyrometallurgical flowsheet.

Following completion of the roast pilot, pre-roasted pellets will be sent to CRC-P[2] partners ALS and ANSTO for completion of high purity V_2O_5 extraction, samples of which will be available to potential offtake partners and vanadium redox flow battery manufacturers.

For further information, please contact:

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[1] See ASX announcement dated 5th February 2020 *'High Vanadium Extraction Confirmed as Pyrometallurgical Pilot Begins'*

[2] See ASX announcement dated 10th February 2020 *'AVL Awarded $1.25 Million Vanadium Research and Development Grant'*

ABOUT AUSTRALIAN VANADIUM LTD

AVL is a resource company focused on vanadium, seeking to offer investors a unique exposure to all aspects of the vanadium value chain – from resource through to steel and energy storage opportunities. AVL is advancing the development of its world-class Australian Vanadium Project.

The Australian Vanadium Project is currently one of the highest-grade vanadium projects being advanced globally, with 208.2Mt at 0.74% vanadium pentoxide (V_2O_5) and containing a high-grade zone of 87.9Mt at 1.06% V_2O_5 reported in compliance with the JORC Code 2012 (see ASX announcement dated 4th March 2020 '*Total Vanadium Resource at The Australian Vanadium Project Rises to 208 Million Tonnes*').

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 Resources 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 have not been materially modified from the original market announcement.

COMPETENT PERSON STATEMENT – METALLURGICAL RESULTS

The information in this announcement that relates to Metallurgical Results is based on information compiled by independent consulting metallurgist Brian McNab (CP. B.Sc Extractive Metallurgy), Mr McNab is a Member of AusIMM. Brian McNab is employed by Wood Mining and Metals. Mr McNab has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken, to qualify as a Competent Person as defined in the JORC 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr McNab consents to the inclusion in the announcement of the matters based on the information made available to him, in the form and context in which it appears.

COMPETENT PERSON STATEMENT — MINERAL RESOURCE ESTIMATION

The information in this announcement 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 Barnes and Mr Davis are both members of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). Both 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 announcement of the matters based on their information in the form and context in which they appear.

This announcement has been approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.

APPENDIX 1

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low-grade and nominal 0.7% V_2O_5 wireframed cut-off for high-grade (total numbers may not add up due to rounding).

2020 Feb	Category	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
HG	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	25.1	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal	**87.9**	**1.06**	**44.7**	**12.2**	**9.2**	**6.8**	**3.2**
LG 2-5	Indicated	44.5	0.51	25.0	6.8	27.4	17.0	7.9
	Inferred	60.3	0.48	25.2	6.5	28.5	15.3	6.7
	Subtotal	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Trans 6-8	Inferred	15.6	0.65	28.4	7.7	24.9	15.4	7.9
	Subtotal	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Subtotal	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**