ASX ANNOUNCEMENT 28TH JULY 2021

VANADIUM WATER LEACH MEETS TARGET FOR WORLD LEADING EXTRACTION

Second stage leaching testwork supports targeted overall vanadium leach extraction for Bankable Feasibility Study

KEY POINTS

- **Overall combined roast and leach vanadium extraction including first[1] and second leach stages is validated at 92%, a key differentiator for AVL's pellet roast and leach processing circuit.**
- **The water-leach and wash processes impressively removed 99% of soluble vanadium from the Fe-Ti coproduct, enhancing its value for direct use in steelmaking.**
- **Unique AVL mechanical water leach circuit shown to be a viable, cost effective design, maximising onshore Australian extraction of high value critical mineral vanadium products.**
- **Work conducted at ALS testing facilities in Perth – a research partner in AVL's Australian Government's Cooperative Research Centre Projects scheme entitled: "Production of 99.95% Pure Vanadium Pentoxide and Vanadium Electrolytes".**
- **Another successful step advancing the Company's goal to design, build and operate the world's next and lowest cost primary vanadium operation.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to advise successful progress of the second stage of a two-stage pilot-scale water leach process for the Australian Vanadium Project (the Project). This is a significant milestone in the final pilot testwork programs which will allow the Company to conclude its final processing designs, mass balances and detailed costings for the BFS.

[1] See ASX announcement dated 8th June 2021 *'High Vanadium Extractions Confirmed in Pellet Leach Pilot as BFS Progresses'*

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Managing Director, Vincent Algar commented, *"The success of this phase of the water-based leach of AVL's pelletised concentrate compares very favourably to other global operations that process vanadium from vanadium titanium magnetite deposits. Combined roast/leach extractions reported elsewhere are generally under 90%, with extractions usually in the low to mid 80s.[2,3], supporting a significant advantage for the Australian Vanadium Project, having demonstrated overall vanadium extraction of 92%.*

These latest positive outcomes finalise key technical aspects of the BFS flowsheet design. A robust and well supported process engineering design pushes AVL further ahead towards the successful commencement of the of Project."

Pilot Process

The AVL water-based leach process is divided into two stages. The first pilot stage was run in May 2021 and comprised a rotating drum leach on a salt-roasted vanadium concentrate[4]. This recovered the majority of the vanadium in the plant feed. The leach residue from stage 1 was then tested in 1 metre columns to simulate a counter-current washing process, where the remaining vanadium and soluble metals are removed from the FeTi coproduct for an overall soluble vanadium extraction of 99%.

These and ongoing scaled up column water-wash test results will be used to model the final circuit design. This full-scale design will be a series of water irrigated stockpiles of iron-titanium coproduct, arranged in a counter-current format. A conceptual diagram is shown in Figure 1.

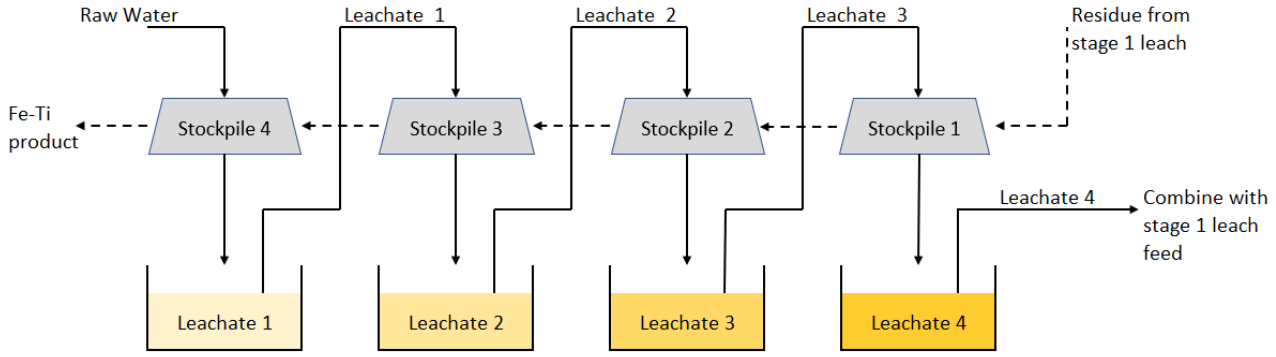

Figure 1 - A conceptual four-stage counter-current wash

[2] Largo Resources News Release, 12 May 2021. https://www.largoresources.com/
[3] Competent Persons' Report on the Vametco Vanadium Mine, North West Province, South Africa 10 January 2020. https://www.bushveldminerals.com/technical-reports/
[4] See ASX announcement dated 8th June 2021 *"High Vanadium Extractions Confirmed in Pellet Leach Pilot as BFS Progresses".*

Raw water is percolated through stockpile 4 and the resulting leach solution is directed to stockpile 3. The process is repeated for stockpiles 2 and 1, with the solution tenor increasing until the final leachate is recovered from stockpile 1. This pregnant solution is then pumped back into the primary mechanical leach circuit and ultimately progresses downstream to the precipitation circuit for final vanadium extraction. Clean FeTi coproduct is then prepared for sale. This process both maximises vanadium recovery and increases the quality of the FeTi coproduct.

The pilot testing shown in Figure 2 is set-up to mimic the full-scale counter current process. The operation progressed towards a steady state, with columns to the left being taken offline as they were completed. They are then prepared for analysis and used as marketing samples for FeTi coproduct offtake.

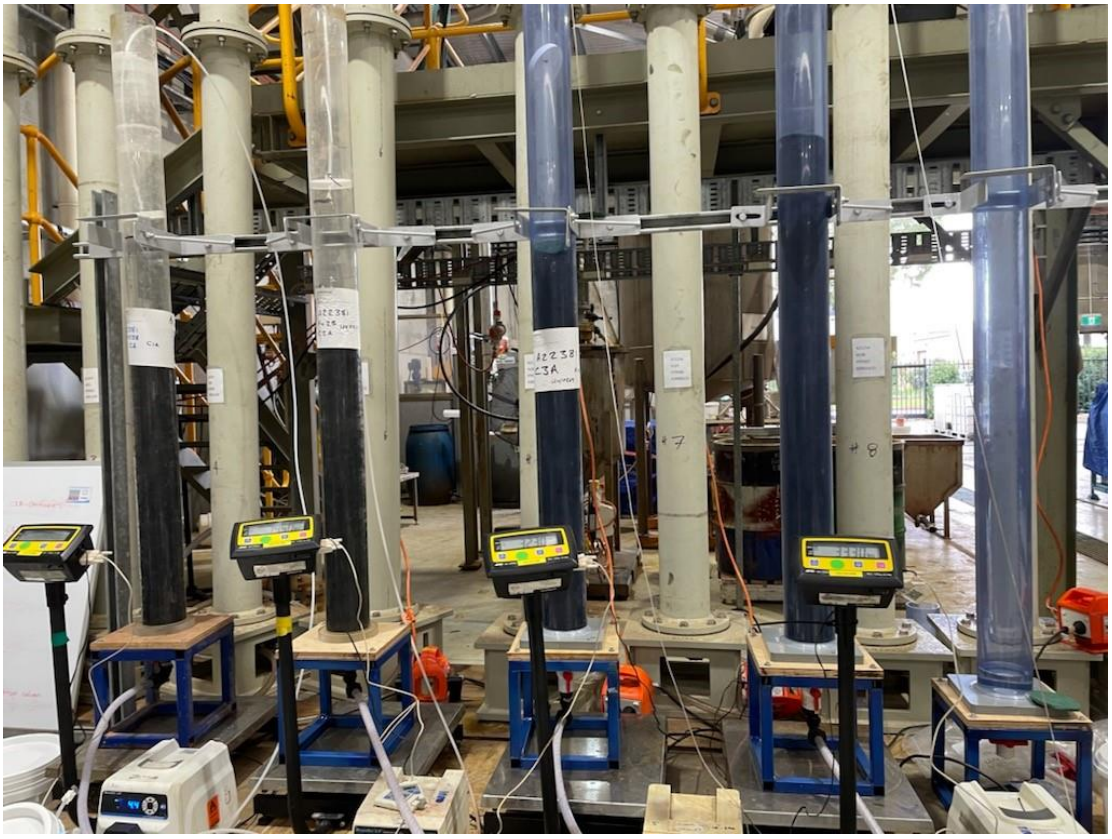

Figure 2 **- Counter-current 1m leach column arrangement showing four columns filled and leaching and one empty column to be filled**

Both an open-circuit and counter-current column configuration have been completed and have importantly demonstrated that 99% of the water-soluble vanadium can be removed from the roasted concentrate. A comparison of the residue assays from the completed columns and a hot water leach on the final residue, is shown in Table 1.

Table 1 - Comparison of column residues and a hot water wash residue.

Process	V (%)
Residue pulverised + hot water wash	**0.062**
Open-circuit column residue	0.065
Column 1 residue	0.066
Column 2 residue	0.069

The effectiveness of the wash process in the open-circuit leach can also be seen in the assays of the discharge liquor collected from the outflow of the column. In Figure 3, the vanadium in the discharge progressively dropped from 1500 mg/L to 24 mg/L over two weeks as the soluble vanadium was washed from the residue.

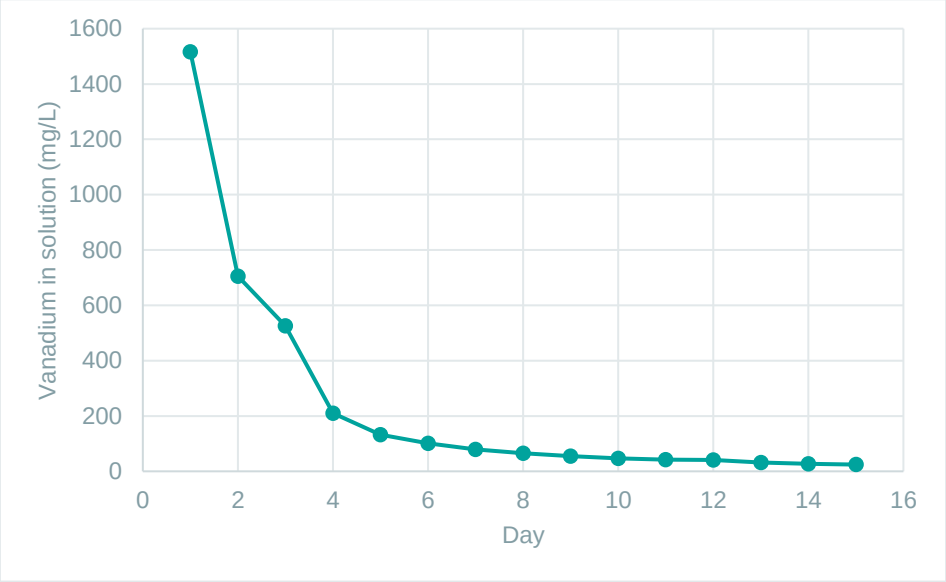

Figure** 3 **- Vanadium concentration in leach solution over two weeks for open-circuit column

Next steps in Pilot Program

The counter-current 1 metre column program (Figure 2) has provided sufficient data to set the leach flowsheet and commence the associated engineering design and layout activities for the BFS. Current results demonstrate an overall vanadium roast-leach extraction of 92% is achievable, with the unrecovered vanadium locked in silicates and iron oxides. Work has also commenced on open circuit testing of a 5.5 metre column leach (Figure 4) and will soon be followed by testing in counter current mode. These additional tests are designed at the full scale proposed heap height to confirm optimised leach conditions and scale up relationships from the 1 metre column counter-current program. This subsequent phase of leaching testwork will allow the AVL team to finalise the mass,

energy and water balance for the Project's vanadium leach extraction process to a higher level of certainty.

Figure 4 - 5.5 metre column (in the centre of the image)

The vanadium leachate from the testwork is being used simultaneously for selective vanadium salt precipitation, de-ammoniation and barren solution treatment test work programs. This work will finalise the BFS design of the full-scale circuit and produce a high-purity V_2O_5 product for generation of final marketing samples.

Significant amounts of AVL's iron-titanium coproduct have been generated by the pilot leach program, samples of which are destined for blast furnace customer testing in Asia. Vanadium pentoxide (V_2O_5) products will be analysed and used for specific customer testing in vanadium redox flow battery and specialty chemical applications.

AVL recognises the importance of vanadium as a global critical mineral and battery mineral and intends to build Australia's high value vanadium industry through the development of the Australian Vanadium Project in Western Australia.

For further information, please contact:

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

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 at Gabanintha. 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), 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'* and ASX announcement dated 22nd December 2020 *'Technical and Financial PFS Update'*).

VSUN Energy is AVL's 100% owned subsidiary which is focused on developing the market for vanadium redox flow batteries for energy storage.

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.

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**

The Australian Vanadium Project - Ore Reserve Statement as at December 2020, at a cut-off grade of 0.7% V_2O_5.

Ore Reserve	Mt	V_2O_5%	Fe_2O_3%	TiO_2%	SiO_2%	LOI%	V_2O_5 production kt
Proved	9.8	1.08	59.9	12.4	8.7	3.5	63.2
Probable	22.4	1.04	61.7	11.8	8.3	2.8	158.9
Total Ore	**32.1**	**1.05**	**61.2**	**12.0**	**8.4**	**3.0**	**222.1**

Ore Reserve	Mt
Waste	244.5
Total Material	276.7
Strip Ratio	7.6

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.

COMPETENT PERSON STATEMENT — ORE RESERVES

The technical information in this announcement that relates to the Ore Reserve estimate for the Project is based on information compiled by Mr Ross Cheyne, an independent consultant to AVL. Mr Cheyne is a Fellow of the Australasian Institute of Mining and Metallurgy. He is an employee and Director of Orelogy Mine Consulting Pty Ltd. Mr Cheyne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Cheyne consents to the inclusion in the announcement of the matters related to the Ore Reserve estimate in the form and context in which it appears.

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. BSc Extractive Metallurgy). Mr McNab is a Member of AusIMM. He 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.