Australian VANADIUM LIMITED

ASX ANNOUNCEMENT **2 JULY 2024**

COMPLETION OF FIRST PHASE OF OPTIMISED FEASIBILITY STUDY

KEY POINTS

- **AVL completes first phase of Optimised Feasibility Study for the Australian Vanadium Project with the determination of the optimal location for its downstream processing plant and mining focus areas to maximise project value**
- **The next phase of the study will focus on finalising a detailed mining plan and optimisation of plant and infrastructure**
- **AVL is pursuing opportunities for detailed engineering and the ordering of long lead items, enabled by its Federal Government grant funding**

In February 2024, Australian Vanadium Limited (ASX: AVL, the Company or AVL) implemented its merger with Technology Metals Australia Limited (TMT).[1] At that time, the Company advised that Wood Group had commenced work on an Optimised Feasibility Study (OFS) to consolidate the two adjoining projects across one orebody, with the first phase of the OFS expected to be completed within the June quarter of 2024.

The Company is pleased to announce that it has completed this first phase with the delivery of:

- Milestone 1 – Updated mineral resource estimate (MRE) – AVL has delivered an updated MRE for the consolidated Project, showing a 39% increase in Measured and Indicated categories for the high vanadium grade domain and increased iron concentrate grades.[2]
- Milestone 2 – Identification of an optimal location along strike to commence mining – AVL has identified the southern blocks of the Project, with higher vanadium and iron concentrate grades and favourable weathering attributes for economic mining, as the preferred location for initial mining.[3]
- Milestone 3 – Identification of optimal processing plant location – AVL has now completed a key trade-off study that has determined Tenindewa, near Geraldton in Western Australia, as the preferred location for the downstream processing plant for the Project.

[1] See ASX announcement dated 1 February 2024 *'Successful Implementation of AVL and TMT Merger'*
[2] See ASX announcement dated 7 May 2024 *'39% increase in High Grade Measured and Indicated Mineral Resource'*
[3] See ASX announcement dated 11 March 2024 *'Higher Vanadium and Iron Concentrate Grades Highlighted in Testwork'*

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Australian Vanadium Limited
Level 2, 50 Kings Park Road
West Perth, WA 6005

Phone: +61 8 9321 5594
Fax: +61 8 6268 2699
Email: info@avl.au

ASX: AVL
ABN: 90 116 221 740

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The first phase of the OFS has achieved its objective of determining the preferred development pathway for the integrated Project.

CEO, Graham Arvidson commented, *"We are excited to deliver this update on the Australian Vanadium Project. By focusing on the most promising sections of the orebody and conducting a comprehensive analysis to select the optimal location for the downstream processing plant, we have now finalised the key foundations from which the remaining OFS activities can fully define a 'stronger for longer' version of the Project which has been unlocked through the recent merger. The team will now execute the remaining OFS scope to maximise project definition and bankability, while minimising project execution risk. In parallel to ongoing OFS works, AVL continues to assess opportunities to utilise Federal grant funding which provides options for activities such as detailed engineering and acceleration of project schedule by proceeding with long lead equipment orders.*

"Timely delivery of the Project is a key objective for the Company in anticipation of growing demand for vanadium flow batteries, which will cornerstone the essential long duration energy requirements of the net zero carbon energy transition. We expect product from the Project will largely report to the electrolyte market, primarily in Australia through AVL subsidiary VSUN Energy."

Optimal location to commence mining

The Project includes a mine and a crushing, milling and beneficiation plant (CMB plant or concentrator) located at Gabanintha near Meekatharra in Western Australia, where mining and upstream processing of vanadium bearing magnetite ore are proposed to be undertaken (see Figure 1).

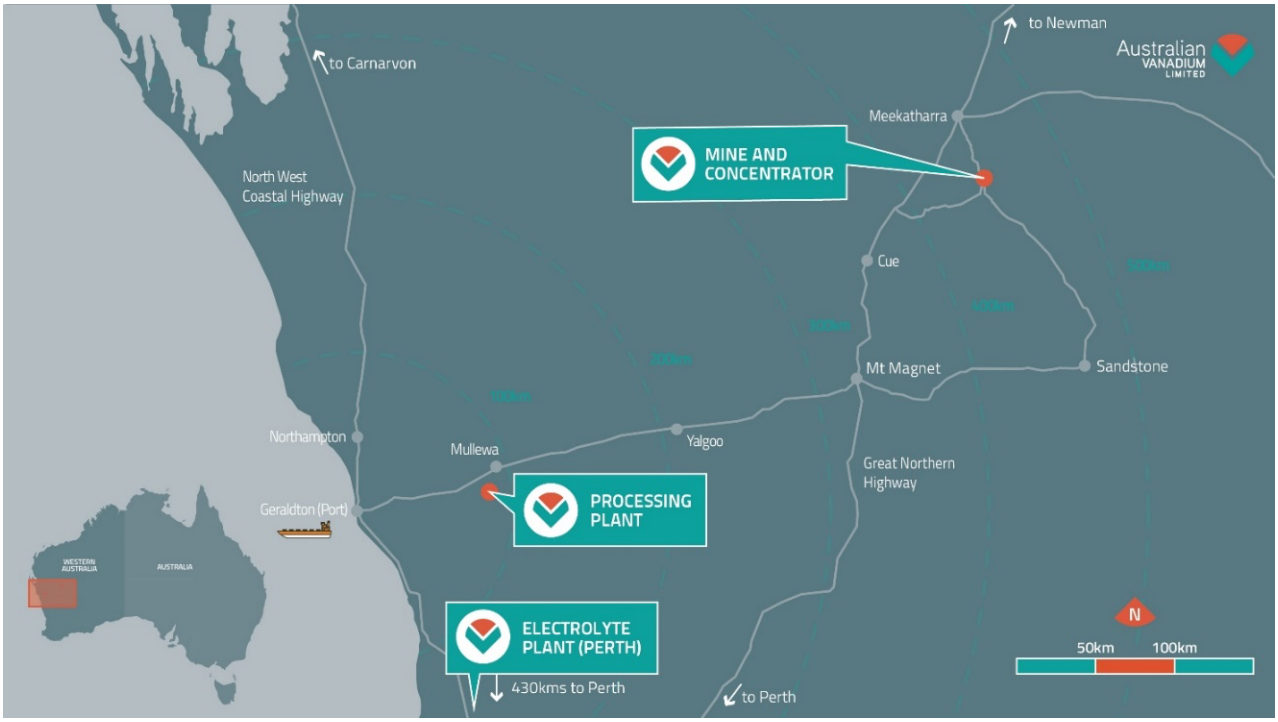

Figure 1 - AVL Project Locations

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The merger with TMT amalgamated the two companies' adjacent mining projects, located across one orebody at Gabanintha, which provided opportunities to realise synergies from creating a consolidated project. The OFS has been focussed on delivering those synergies, particularly in determining the optimal location to commence mining and the method of upstream processing to deliver the best economic outcome.

An integrated resource model has been prepared from the updated MRE developed under Milestone 1, which is enabling AVL to progress the OFS with combined geometallurgical domaining and improved definition of the vanadium, iron and titanium mineralisation. Areas that require additional infill metallurgical testing have also been identified from the model and these programs of testwork are underway.

Work under Milestone 2 identified the optimal location to commence mining as the southern end of the orebody in Block 50 through Block 80 (see Figure 2), being the area with the most economic grade for mining. Vanadium concentrates from Blocks 70 and 80 have been shown to average up to 1.6% V_2O_5 and iron concentrate grades averaging 60%.[4] This area of the orebody, comprising the southern end of the original AVL leases and TMT's Yarrabubba deposit, also offers a combination of shallow surface weathering and a low strip ratio, maximising mining efficiencies

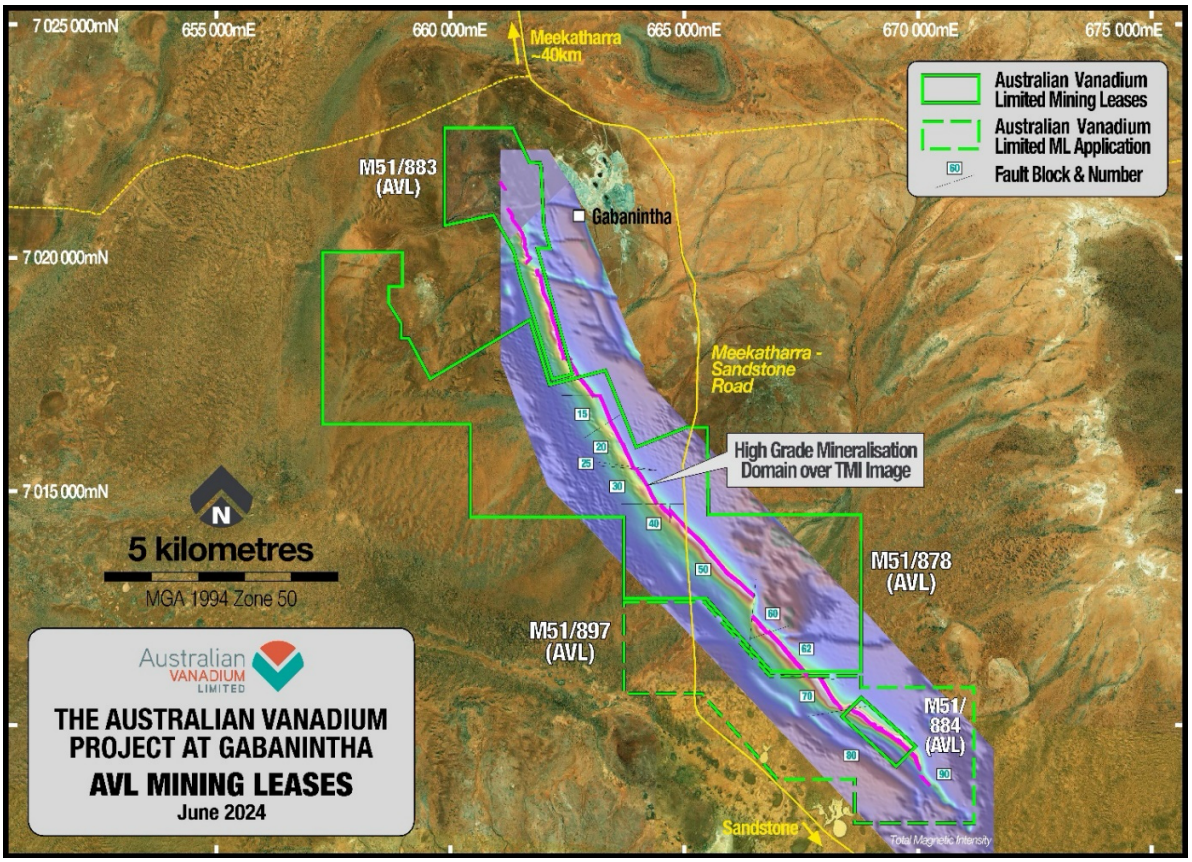

Figure 2 - Location and Tenure of The Australian Vanadium Project showing fault block numbering

[4] See ASX announcement dated 11 March 2024 *'Higher Vanadium and Iron Concentrate Grades Highlighted in Testwork'*

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An updated oxidation model for the orebody has been developed which allows AVL to further derisk the mining plan. This information will be used in the next phase of the OFS to optimise the final mining plan.

Project consolidation has allowed AVL greater flexibility for locating the CMB plant and infrastructure, which is expected to result in improved project layout and opportunities to reduce impacts on the land. Positive discussions are progressing with the Traditional Owners of the land, the Yugunga-Nya People, through the Yugunga-Nya Native Title Aboriginal Corporation, in parallel with the work on the OFS.

Optimal location of processing plant

Prior to the merger, AVL had proposed to locate its downstream processing plant at Tenindewa, near Geraldton in Western Australia (see Figure 1),[5] while TMT had proposed to locate its plant adjacent to the mine site at Gabanintha.

Further to Milestone 3, a trade-off study has been undertaken, evaluating the advantages and disadvantages of each option to determine the optimal location for the downstream processing plant. After careful consideration, the Tenindewa location was determined to be the most technically and economically viable location.

The key benefits of a downstream processing plant located at Tenindewa include:

- Reduced length of the gas pipeline to the plant (approximately 20km long to Tenindewa in contrast with 180km long to Gabanintha). The difference in length has significant impacts, including reduced:
    - cost of gas delivered;
    - permitting requirements; and
    - risk of delays and cost overruns.
- Multiple existing gas pipelines near Tenindewa improve certainty of supply and project economics.
- Readily available and permitted[6] low salinity water which reduces execution risk.
- Tenindewa is approximately 80km from Geraldton and approximately 18km from Mullewa, offering opportunities for regional employment and a local workforce, thereby reducing camp accommodation requirements.
- Lower delivery costs for reagents given location close to major centres and services along the coast from Geraldton and Perth.
- Significantly better economics for the sale of an iron concentrate product due to proximity to Port of Geraldton, along with the benefits derived from product diversification.

[5] See ASX announcement dated 6 April 2022 *'Bankable Feasibility Study for Australian Vanadium Project'*
[6] See ASX announcement dated 31 July 2023 *'Water Licence Approval for Processing Plant at Tenindewa'*

- Development of green hydrogen supply has been proposed near Tenindewa which may help to facilitate the decarbonisation of the plant.
- Potential for the plant to become a regional processing hub to treat vanadium concentrates from other mine sites in the Murchison area or imported vanadium containing materials.

Rezoning of the processing plant site at Tenindewa is currently underway through the Department of Planning, Lands and Heritage (DPLH) and the State Development Assessment Unit (SDAU). As part of the Development Application and Scheme Amendment processes, submissions have recently been received from stakeholders and AVL is in the process of responding to these submissions. The submission phase is the last part of the Development Application prior to the SDAU submitting its report for consideration to the Western Australian Planning Committee.

Next steps

Key milestones of the next phase of the OFS include:

- Finalising the detailed mining plan using the results of the updated MRE.
- Optimising all project infrastructure, which includes proposed roads and pit designs.
- Completing the layout and key design criteria for the upstream CMB plant at Gabanintha and downstream processing plant at Tenindewa.

Work on the OFS continues in parallel with the approval processes for both locations, in addition to offtake and financing discussions. The OFS will enable AVL to have an up-to-date technical and economic study available for potential funding partners, including Australian Government agencies.

The Company continues to benefit from a Federal Government grant of up to $49 million, with AVL recently receiving the second progress payment of $14.7 million.[7] Access to this grant funding enables AVL to pursue opportunities to minimise project execution risk through enhanced project definition, such as full detailed engineering of key infrastructure, and acceleration of project schedule, such as ordering of long lead equipment.

For further information, please contact:

Graham Arvidson, CEO

+61 8 9321 5594

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

[7] See ASX announcement dated 20 June 2024 *'$14.7 Million Received from Federal Grant'*

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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 one of the most advanced vanadium projects being developed globally, with 395.4Mt at 0.77% vanadium pentoxide (V_2O_5), containing a high-grade zone of 173.2Mt at 1.09% V_2O_5, reported in compliance with the JORC Code 2012 (see ASX announcement dated 7 May 2024 *'39% Increase in High Grade Measured and Indicated Mineral Resource'*).

VSUN Energy is AVL's 100% owned renewable energy and energy storage subsidiary which is focused on developing the Australian market for vanadium flow batteries for long duration energy storage. VSUN Energy was set up in 2016 and is widely respected for its VFB expertise. AVL's vertical integration strategy incorporates processing vanadium to high purity, manufacturing vanadium electrolyte and working with VSUN Energy as it develops projects based on renewable energy generation and VFB energy storage.

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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).

Zone	Category	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %
HG	Measured	30.6	1.14	46.3	12.9	7.4	6.2
	Indicated	74.8	1.11	47.5	12.6	7.0	5.7
	Inferred	67.9	1.06	45.3	12.1	9.0	6.6
	Subtotal	**173.2**	**1.09**	**46.5**	**12.5**	**7.8**	**6.1**
LG	Indicated	61.8	0.55	26.1	7.1	26.6	16.3
	Inferred	142.5	0.48	24.9	6.6	28.9	15.2
	Subtotal	**204.3**	**0.50**	**25.3**	**6.8**	**28.2**	**15.5**
Transported	Inferred	17.9	0.65	31.0	7.3	24.1	14.4
	Subtotal	**17.9**	**0.65**	**31.0**	**7.3**	**24.1**	**14.4**
Total	Measured	30.6	1.13	46.3	12.9	7.4	6.2
	Indicated	136.6	0.85	37.8	10.1	15.8	10.5
	Inferred	228.2	0.66	31.4	8.3	22.6	12.6
	Subtotal	**395.4**	**0.77**	**34.8**	**9.3**	**19.1**	**11.4**

Note: Totals may not add up due to rounding

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ASX CHAPTER 5 COMPLIANCE AND CAUTIONARY AND FORWARD-LOOKING STATEMENTS

ASX Listing Rule 5.23

The information in this announcement relating to mineral resource estimates for the Australian Vanadium Project is extracted from the announcement entitled '39% Increase in High Grade Measured and Indicated Mineral Resource' released to the ASX on 7 May 2024. The relevant announcement is available on the Company's website www.avl.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 announcements, and that all material assumptions and technical parameters underpinning the estimates in the original 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 announcements.

Forward-Looking Statements

This release may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of AVL and certain of the plans and objectives of AVL with respect to these items.

These forward-looking statements are not historical facts but rather are based on AVL's current expectations, estimates and projections about the industry in which AVL operates and its beliefs and assumptions.

Words such as "anticipates," "considers," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the industry in which AVL operates.

These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the control of AVL, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements. Such risks include, but are not limited to resource risk, metal price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the countries and states in which we sell our product to, and government regulation and judicial outcomes. For more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings.

AVL cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which reflect the view of AVL only as of the date of this release.

The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made.

AVL will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.