

ASX ANNOUNCEMENT

24<sup>TH</sup> OCTOBER 2022

# VANADIUM RESOURCE DEVELOPMENT DRILL PROGRAM COMPLETED

*Southern block drilling completed to support updated Mineral Resource and classification upgrades for first five years of planned mining at the Australian Vanadium Project.*

## KEY POINTS

- 7,283 metres of Reverse Circulation drilling completed at the Australian Vanadium Project during September and October 2022.
- 813.5 metres of diamond drilling completed during August 2022.
- Reverse Circulation program infills previous drilling in southern blocks 50, 60 and 70 to underpin updated Mineral Resource with increased classification level.
- Programs provide characterisation material to evaluate expected increases in processed iron and vanadium concentrate grade from the southern blocks.
- Updated Mineral Resource Estimate scheduled for early 2023 which will be used in updated Mine Schedule targeting highest possible V<sub>2</sub>O<sub>5</sub> recovery in concentrate early in the mine life.
- Recent work programs<sup>1</sup> identified:
  - Vanadium concentrate grades of up to 1.51% V<sub>2</sub>O<sub>5</sub>, confirming near surface opportunities for improving vanadium concentrate grades and recoveries.
  - Iron grades in fresh magnetic concentrate of up to 61.0% Fe identified in beneficiation of historical core samples in southern ore blocks, demonstrating potential to improve value of AVL's FeTi coproduct grade.
- Verification of vanadium concentrate grades greater than 1.39% V<sub>2</sub>O<sub>5</sub> used in AVL's Bankable Feasibility Study<sup>2</sup> in the early years of production can contribute positively to project economics.

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to advise that a diamond drill program and reverse circulation (RC) drilling of a significant program of works has been completed at the Australian Vanadium Project ("the Project") at Gabanintha, south of Meekatharra.

<sup>1</sup> See ASX Announcement dated 21<sup>st</sup> September 2021 'AVL Prepares for Vanadium Project Growth Opportunity'

<sup>2</sup> See ASX Announcement dated 6th April 2022 'Bankable Feasibility Study for the Australian Vanadium Project'

AVL's Bankable Feasibility Study (BFS) focused on the Project's high-grade vanadium horizon at the Gabanintha orebody. The recently completed drilling infills the high-grade vanadium horizon in resource blocks 50, and 60. Ore from these blocks are in the current mine plan and scheduled to be extracted at the start of the mining schedule as outlined in the BFS. The drilling completed also greatly improves the resolution of data in block 70, the southernmost block of the current mineral resource and presently excluded from BFS.

Managing Director, Vincent Algar comments, *"The prompt and safely executed infill and metallurgical drill program by the AVL geological team provides the Company with a further detailed understanding of the orebody where mining will commence. This program has produced new information that will add significant value to the Project and confirm early Reserves essential for banks and institutional investors as the Project moves towards final funding, approval and development. Completion of the program represents a key value initiative in the current post-BFS, pre-Final Investment Decision (FID) phase of work."*

Drilling results in 2020 and metallurgical work in 2021 identified increased vanadium concentrate grades and iron titanium (FeTi) coproduct grades in the southern blocks. This recently completed drill program (Figure 1) infills drill lines to a spacing of 70m by 30m in the top 100m vertically of early mine-life BFS pit optimisations in block 60 and 50. This is the same drill density which currently supports the Measured Mineral Resource category in northern blocks 15 and 20.



**Figure 1 – RC Drilling at the Australian Vanadium Project**

Infill drilling to 140m by 30m spacing elsewhere supports an increase of the Mineral Resource to Indicated category in areas of current Inferred Mineral Resource. The initial mining pit at the Project is currently scheduled to commence in block 60.

The new data will further improve the mining schedule optimisation and has the potential to increase project value, while providing excellent definition of expected ore geometry and grades, and anticipated concentrate grades.

Additional drill core now available through the southern blocks will be used to provide sample for whole rock mineralogy studies, further characterising department of iron, vanadium and titanium in the high-grade vanadium domain. Further variability testwork is planned, using both core samples and RC samples.

The location of the Project, with Mineral Resource and entire deposit block numbering is shown in Figure 2. Drill holes completed are shown in Figure 3, which also demonstrates the position of the 2022 RC and diamond drilling relative to the BFS pit optimisations, and the current block 70 pit optimisation which is currently excluded from the Mine Schedule.

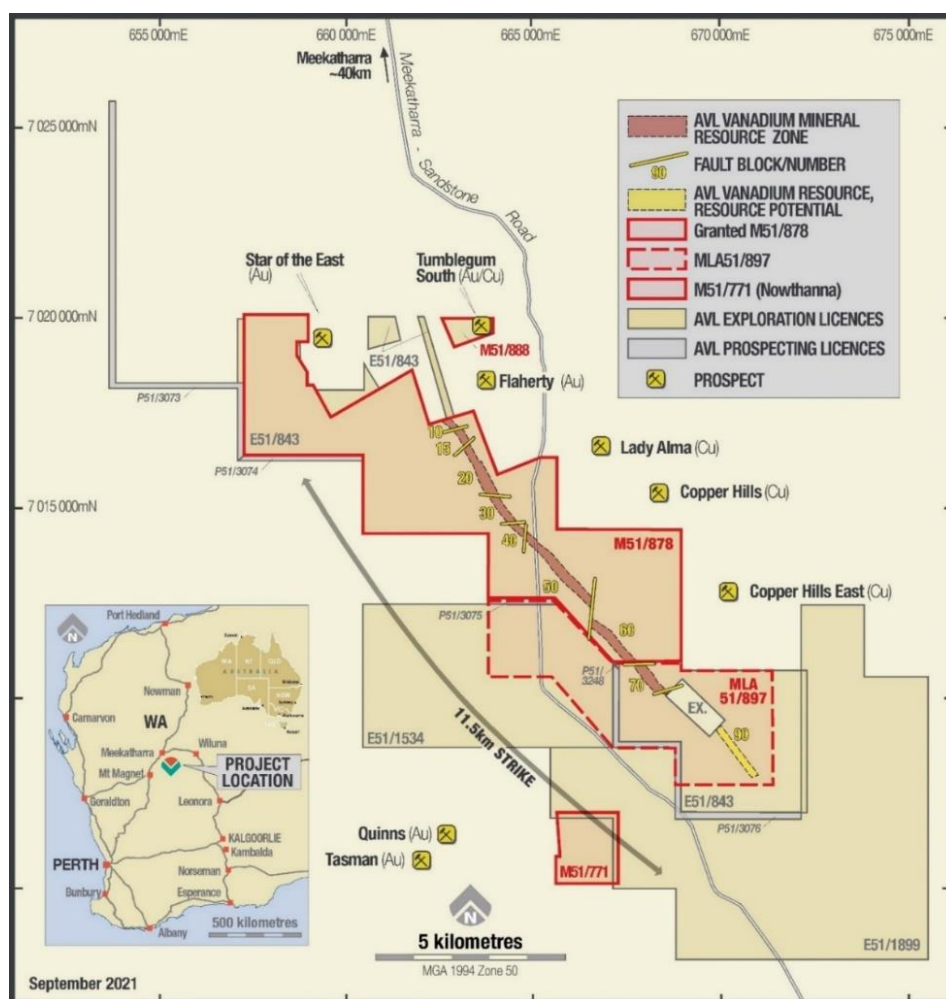
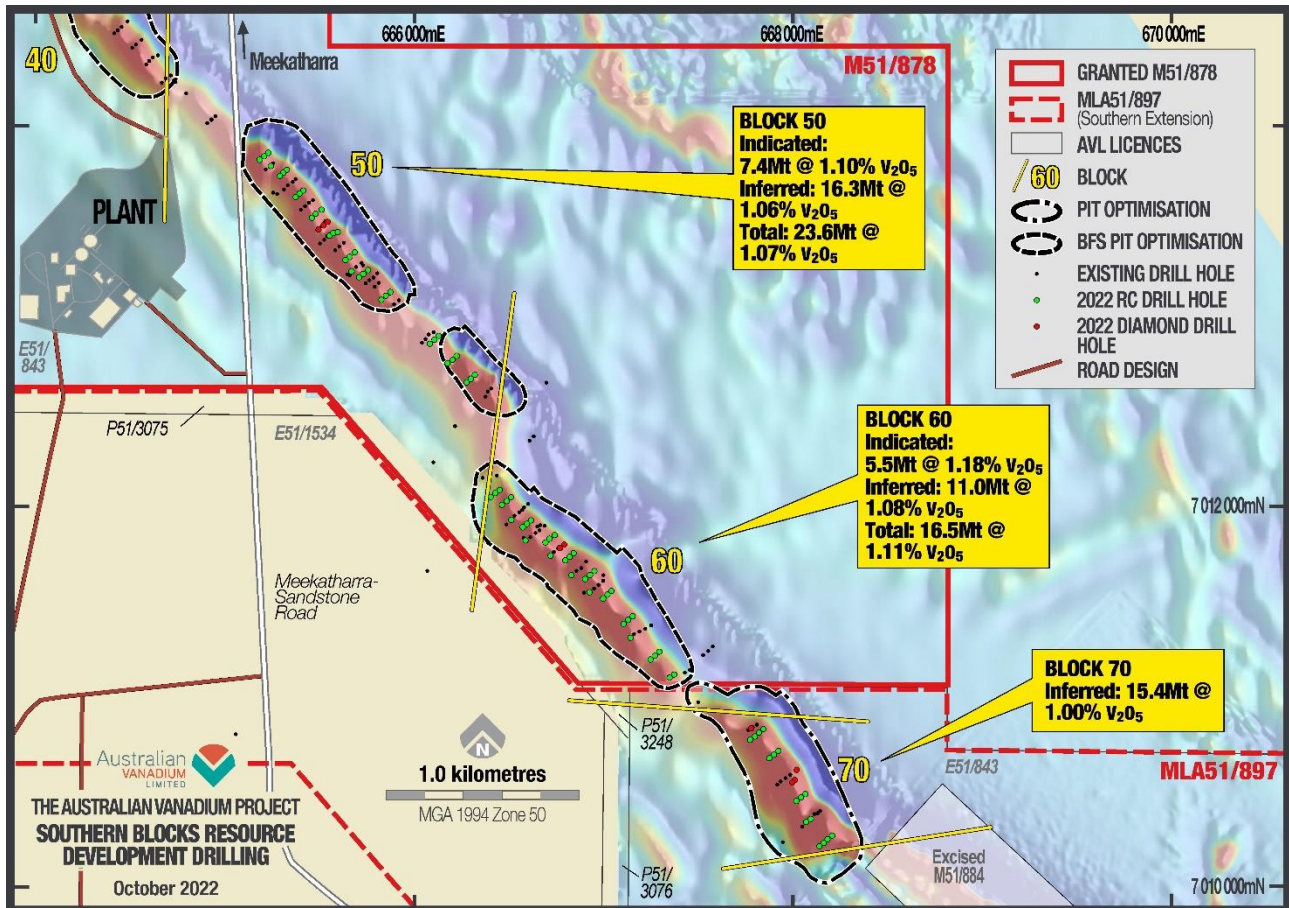


Figure 2 - Location Map, Fault Blocks and Tenure



**Figure 3 - Collar Plan of 2022 Drilling on Total Magnetics Imagery, with high-grade Mineral Resource by Block**

Recent relevant work prior to 2022 resource development drilling programs at the Project includes:

- Drilling reported in February 2020 on southern ore blocks identified a shallow weathering profile and exceptional high grade vanadium intersections, including two of the highest grade and width intersections at the Project through the consistent massive vanadium titanium horizon being:
  - 22m at 1.25%  $V_2O_5$  from 32m in 19RRC031, including 15m at 1.44%  $V_2O_5$  from 37m
  - 21m at 1.28%  $V_2O_5$  from 39m in 19RRC015, including 14m at 1.42%  $V_2O_5$  from 43m
- The October 2021 Mineral Resource Update<sup>3</sup> defines Block 70, currently excluded from the BFS mining schedule, as containing an Inferred Mineral Resource of 15.4Mt at 1.00%  $V_2O_5$ . This block is the target of infill drilling for Mineral Resource category upgrade and inclusion in future mine planning.

<sup>3</sup> See ASX announcement dated 1<sup>st</sup> October 2021 'Mineral Resource Update at the Australian Vanadium Project'

- Variability testwork released in September 2021 which supports further work on expanding Mineral Resource definition in southern blocks and optimisation studies, due to positive results in upgrading Fe and V<sub>2</sub>O<sub>5</sub>.

AVL's primary focus is on developing high-value vanadium processing and recovery, maximising coproduct opportunities in Fe and maximising economics through detailed understanding of the Project's mineralisation.

### **Next Steps**

Once all data is returned, including assays and interpretation of down-hole survey data, a geological model update is scheduled. During early 2023, a Mineral Resource Estimate update will be completed, with associated mine studies and financial modelling for the Project to follow.

AVL continues to progress all required statutory approvals with associated studies to drive the Australian Vanadium Project towards an operating world class vanadium mine.

For further information, please contact:

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*This announcement has been provided 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 one of the most advanced vanadium projects being developed globally, with 239Mt at 0.73% vanadium pentoxide ( $V_2O_5$ ), containing a high-grade zone of 95.6Mt at 1.07%  $V_2O_5$  and an Ore Reserve of 30.9Mt at 1.09%  $V_2O_5$  comprised of a Proved Reserve of 5Mt at 1.11%  $V_2O_5$  and a Probable Reserve of 20.4Mt at 1.07%  $V_2O_5$ , reported in compliance with the JORC Code 2012 (see ASX announcement dated 1<sup>st</sup> November 2021 *'Mineral Resource Update at the Australian Vanadium Project'* and ASX announcement dated 6<sup>th</sup> April 2022 *'Bankable Feasibility Study for the Australian Vanadium Project'*).

VSUN Energy is AVL's 100% owned renewable energy and energy storage subsidiary which is focused on developing the Australian market for vanadium redox flow batteries for long duration energy storage. VSUN Energy was set up in 2016 and has since become world-renowned for its VRFB 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 VRFB energy storage.

## APPENDIX 1

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V<sub>2</sub>O<sub>5</sub> wireframed cut-off for low-grade and nominal 0.7% V<sub>2</sub>O<sub>5</sub> wireframed cut-off for high-grade (total numbers may not add up due to rounding).

Zone	Category	Mt	V <sub>2</sub> O <sub>5</sub> %	Fe %	TiO <sub>2</sub> %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	LOI %
HG	Measured	11.3	1.14	43.8	13.0	9.2	7.5	3.7
	Indicated	27.5	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	56.8	1.04	44.6	11.9	9.4	6.9	3.3
	<b>Subtotal</b>	<b>95.6</b>	<b>1.07</b>	<b>44.7</b>	<b>12.2</b>	<b>9.1</b>	<b>6.8</b>	<b>3.2</b>
LG	Indicated	54.9	0.50	24.9	6.8	27.6	17.1	7.9
	Inferred	73.6	0.48	25.0	6.4	28.7	15.4	6.6
	<b>Subtotal</b>	<b>128.5</b>	<b>0.49</b>	<b>24.9</b>	<b>6.6</b>	<b>28.2</b>	<b>16.1</b>	<b>7.2</b>
Transported	Inferred	14.9	0.66	29.0	7.8	24.5	15.1	7.8
	<b>Subtotal</b>	<b>14.9</b>	<b>0.66</b>	<b>29.0</b>	<b>7.8</b>	<b>24.5</b>	<b>15.1</b>	<b>7.8</b>
Total	Measured	11.3	1.14	43.8	13.0	9.2	7.5	3.7
	Indicated	82.4	0.70	31.7	8.7	21.2	13.5	6.2
	Inferred	145.3	0.71	33.0	8.7	20.7	12.0	5.4
	<b>Subtotal</b>	<b>239.0</b>	<b>0.73</b>	<b>33.1</b>	<b>8.9</b>	<b>20.4</b>	<b>12.3</b>	<b>5.6</b>

The Australian Vanadium Project - Ore Reserve Statement as at April 2022, at a cut-off grade of 0.7% V<sub>2</sub>O<sub>5</sub>.

Ore Reserve	Mt	V <sub>2</sub> O <sub>5</sub> %	Fe%	TiO <sub>2</sub> %	SiO <sub>2</sub> %	LOI%	V <sub>2</sub> O <sub>5</sub> production kt	Ore Reserve	Mt
Proved	10.5	1.11	61.6	12.8	9.5	3.7	70.9	Waste	238.5
Probable	20.4	1.07	63.4	12.2	9.2	3.0	152.9	Total Material	269.4
<b>Total Ore</b>	<b>30.9</b>	<b>1.09</b>	<b>62.8</b>	<b>12.4</b>	<b>9.3</b>	<b>3.2</b>	<b>223.8</b>	Strip Ratio	7.7

## **ASX CHAPTER 5 COMPLIANCE AND CAUTIONARY AND FORWARD-LOOKING STATEMENTS**

### ***ASX Listing Rules 5.19 and 5.23***

#### **ASX Listing Rule 5.19**

The information in this announcement relating to production targets, or forecast financial information derived from a production target, is extracted from the announcement entitled 'Bankable Feasibility Study for the Australian Vanadium Project' released to the ASX on 6<sup>th</sup> April 2022 which is available on the Company's website [www.australianvanadium.com.au](http://www.australianvanadium.com.au).

The Company confirms that all material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the original market announcement continue to apply and have not materially changed.

#### **ASX Listing Rule 5.23**

The information in this announcement relating to exploration results and mineral resource and ore reserve estimates for the Australian Vanadium Project is extracted from the announcement entitled 'Bankable Feasibility Study for the Australian Vanadium Project' released to the ASX on 6<sup>th</sup> April 2022 which is available on the Company's website [www.australianvanadium.com.au](http://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 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 announcement.

### **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.