**ASX ANNOUNCEMENT** **23RD AUGUST 2022**

# VANADIUM DRILL PROGRAM COMMENCEMENT

*New diamond drill program underway in southern ore blocks at the Australian Vanadium Project to support Mineral Resource classification upgrades and metallurgical confirmation of higher vanadium concentrate grades.*

## KEY POINTS

- **10 hole diamond program for 900m of drilling commenced to provide additional core for variability studies on concentrate vanadium grade and FeTi coproduct in southern ore blocks 50, 60 and 70 at the Australian Vanadium Project.**
- **Recent studies identified[1]:**
  - **Vanadium concentrate grades of up to 1.51% $V_2O_5$, 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% $V_2O_5$ used in the Bankable Feasibility Study in the early years of production which could positively impact project economics.**
- **Diamond program infills existing diamond drill lines to regular 300m spacing and will properly define geochemical gradient of $V_2O_5$, Fe and $TiO_2$ in preparation for mining phase.**
- **Program follows up exceptional 2020 drilling results[2] showing higher Fe, $V_2O_5$ grades and shallower weathering in southern ore blocks.**
- **Infill reverse circulation (RC) drilling will follow diamond program and include grade control level verification of initial mining blocks to further improve the Mineral Resources.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to advise that diamond drilling of 10 metallurgical quality (HQ3 size) diamond holes has commenced at the Australian

[1] See ASX Announcement dated 21st September 2021 '*AVL Prepares for Vanadium Project Growth Opportunity*'
[2] See ASX Announcement dated 4th February 2020 *'Shallow High-Grade Vanadium Intersection from Southern Infill Drilling'*

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Vanadium Project ("the Project") at Gabanintha, south of Meekatharra. AVL released a Bankable Feasibility Study (BFS)[3] in April 2022 which focused on the Project's high-grade vanadium horizon. The planned intersections of the high-grade vanadium horizon in these holes will allow additional concentrate recovery testwork to be conducted on the Company's southern ore blocks (50, 60, 70), see Figures 2 and 3. Ore in blocks 60 and then 50 are planned to be extracted at the start of the mining schedule as outlined in the BFS.

Drilling in 2020 and metallurgical work in 2021 has identified increased vanadium concentrate grades and iron titanium (FeTi) coproduct grades in the southern blocks. This drill program will increase the regularity of the diamond core material available to approximately 300m spaced sections through blocks 60 and 70, plus provide a diamond core section in the centre of the designed pit in block 50. The initial mining pit at the Project will commence in block 60. This new data will further improve the mining schedule and potentially increase project value, while providing excellent definition of expected ore and concentrate grades.


**Figure 1 - Drilling at the Australian Vanadium Project**

Managing Director, Vincent Algar comments, *"The excellent geological and metallurgical body of work already completed by AVL's technical team across the Project has provided the Company with a unique understanding of the orebody. This program is about identifying further value which can*

[3] See ASX Announcement dated 6th April 2022 *'Bankable Feasibility Study for the Australian Vanadium Project'*

*add significantly to the Project, as well as confirming the early Reserves which are a must for banks and institutional investors as the Project moves towards final funding, approval and development. The effect of material variability and potential additional value from the southern ore blocks' feed to the Project is a key value initiative underway by the AVL team in the current post-BFS, pre-Final Investment Decision (FID) work."*

The key objectives of this drilling program are to confirm increased grades and recoveries of Fe and vanadium pentoxide ($V_2O_5$) in the concentrate and to further enhance the Mineral Resources at the start of mining. A reverse circulation (RC) drill program will follow the diamond program, with similar objectives.

The location of the Project, with Mineral Resource and entire deposit block numbering is shown in Figure 2.

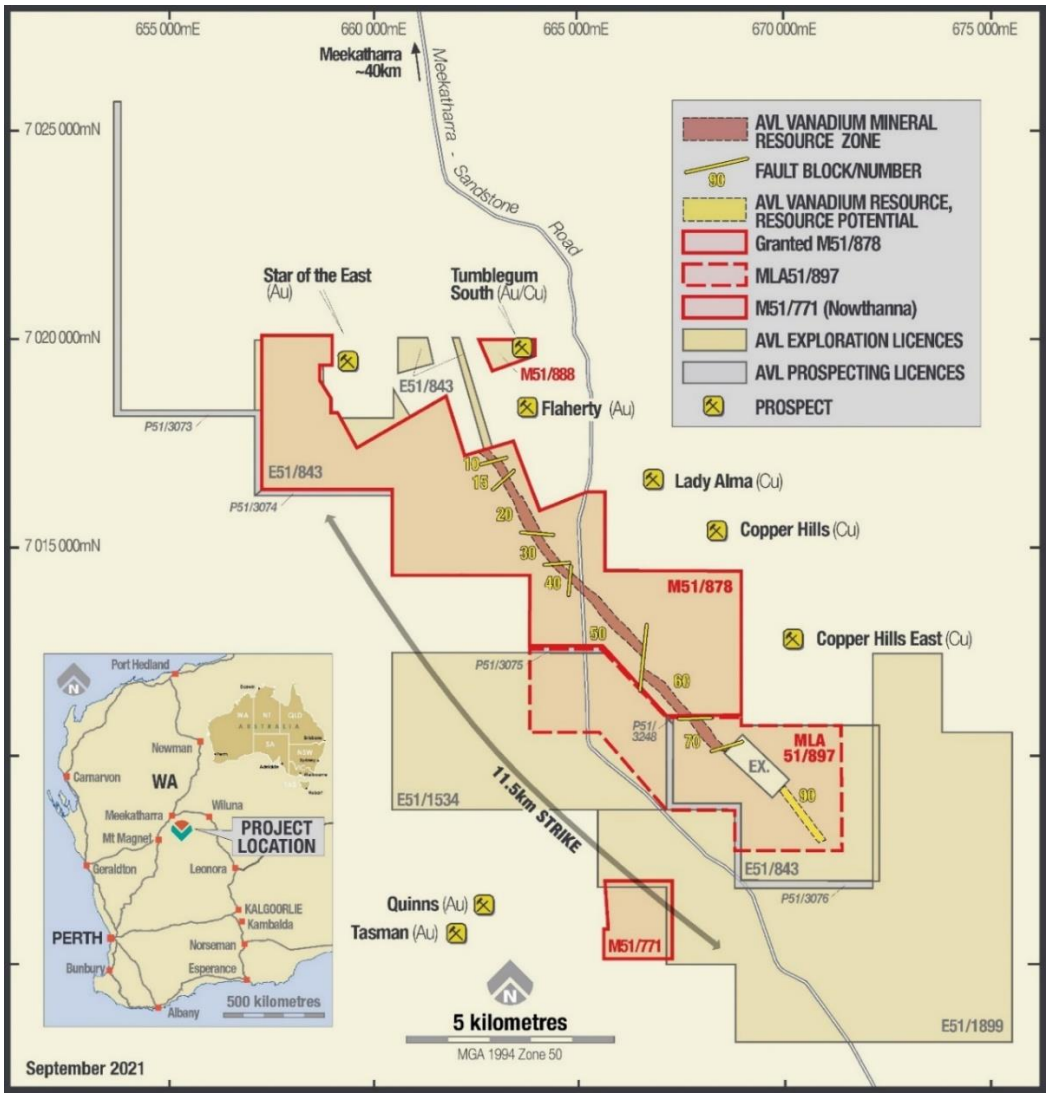


**Figure 2 - Location Map, Fault Blocks and Tenure**

Recent relevant work 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[4] 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.
- 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 $V_2O_5$.
- Development of an Exploration Target at Block 90 (south of Technology Metals Australia's Yarrabubba Block) for further resource development activities after Project commencement.

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.

**Diamond Drill Program**

The diamond drilling program will infill existing diamond core sections to about regular 300m spacing within the fault blocks. The holes have the dual purpose of providing metallurgy sample for concentrate variability samples and twinning select RC holes for quality assurance, quality control (QAQC) of existing RC drilling. The QAQC component supports future increases of the Mineral Resource category for each of blocks 50, 60 and 70.

HQ3 (triple tube HQ – 61.6mm diameter core) will be drilled from surface, providing diamond core representation of all geology domains in the model.

[4] See ASX announcement dated 1st October 2021 *'Mineral Resource Update at the Australian Vanadium Project'*

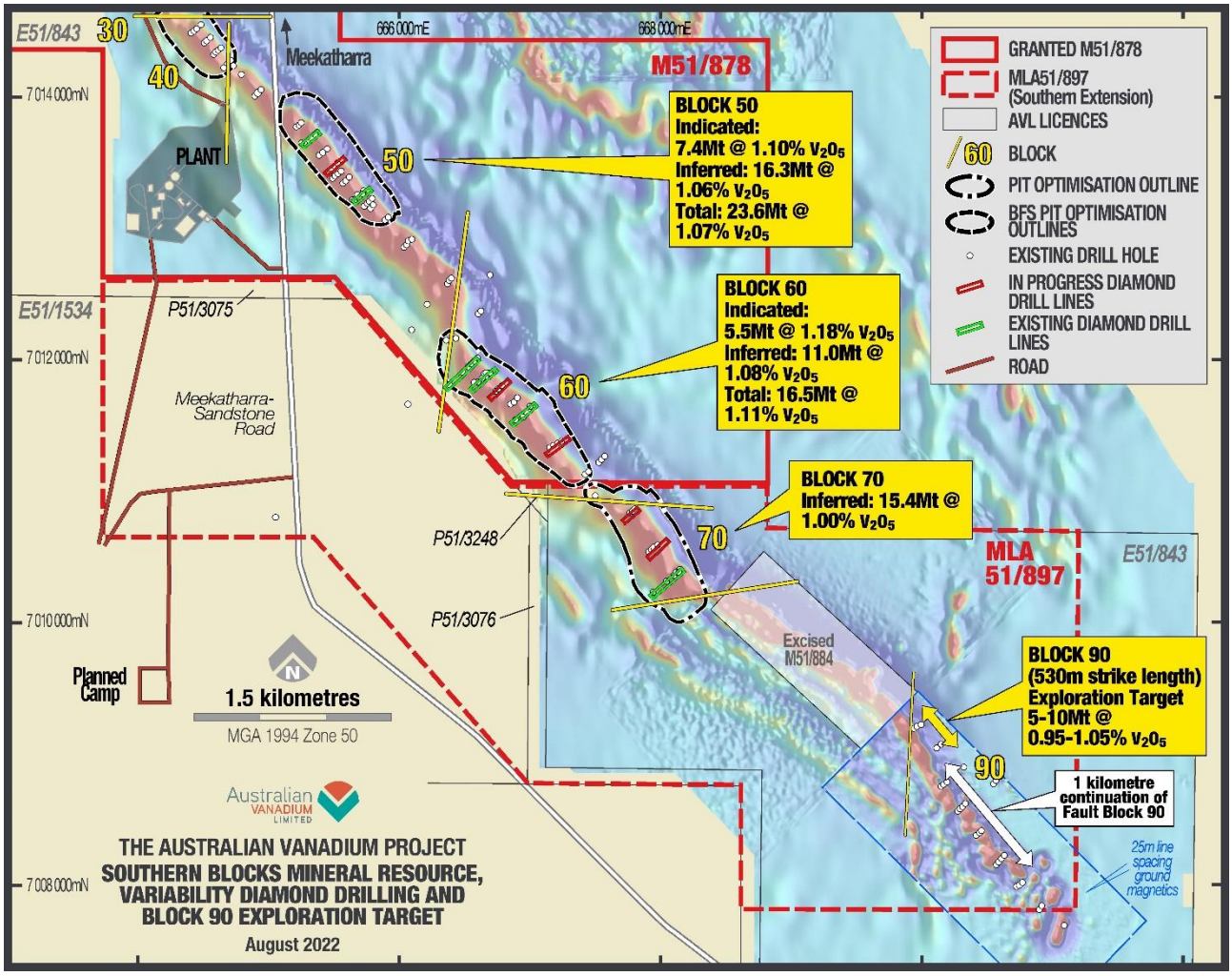


**Figure 3 - Proposed Site layout and TMI for Blocks 50, 60 and 70 with Existing and In-Progress Diamond Drill Sections and Block 90 Exploration Target**

## Block 70 Resource Opportunity and Block 90 Exploration Target

The mine schedule presented in the BFS[3] commences mining in Block 60 and 50, and largely advances northwards over the 25-year life of the Project. Block 70 mineralisation is currently excluded from the mine schedule for the BFS as it is located just south of the granted Mining Licence ML 51/878. Block 70 has an Inferred Mineral Resource of 15.4Mt at 1.00% $V_2O_5$ which AVL will upgrade to Indicated Mineral Resources with infill RC drilling during September and October 2022. This drilling will result in 140m spaced drill lines with 30m drill centres on each line to a depth of 100m below surface, with depth of drilling guided by the preliminary optimisation pit shell.

Figure 3 presents the pit optimisation outlines for block 70 (excluded from BFS Mine Schedule) and the pit optimisation outlines for block 50 and 60 that are mined early in the BFS Mine Schedule. Also shown are the Mineral Resources for each of the southern fault blocks (50, 60 and 70). The location

of existing diamond drill hole lines and the in-progress diamond drill hole lines are shown. Furthermore, the previously released Exploration Target[1] in block 90 is also shown.

The strike length in Block 90 has a strong magnetic signature (as demonstrated by improved magnetic survey resolution data collected via ground magnetics in 2021) and is 530m in length. Extrapolating to 200m below surface based on the tonnage defined in Block 70 (the closest block in AVL ground) and using the average grade of Block 70 in the HG10 domain, 0.95 – 1.05% $V_2O_5$ (+- 5% and rounding to the nearest 0.05) resulting in an Exploration Target of 5 – 10 million tonnes of HG10 at 0.95 – 1.05% $V_2O_5$ at Block 90.

*The potential quantity and grade of the Block 90 Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.*

**Table 1 - Exploration Target for Block 90**

| Block | Tonnes Range | $V_2O_5$ % | Calculation Method |
|---|---|---|---|
| **90** | 5 – 10 million | 0.95 – 1.05% | Tonnes per strike linear metre equivalent to HG10 domain in Block 70 ranging between 100 and 200 m from surface with average block model grade of HG10 domain in Block 70, plus and minus 5% (rounded to nearest 0.05% $V_2O_5$). |

Figure 4 is the southern-most cross section from Block 70, showing the HG10 domain thickness and $V_2O_5$ grade. Figure 5 is a photo of drill core from GDH908 (on section shown in Figure 4), drilled during 2009 in Block 70, with $V_2O_5$ and Fe grades.

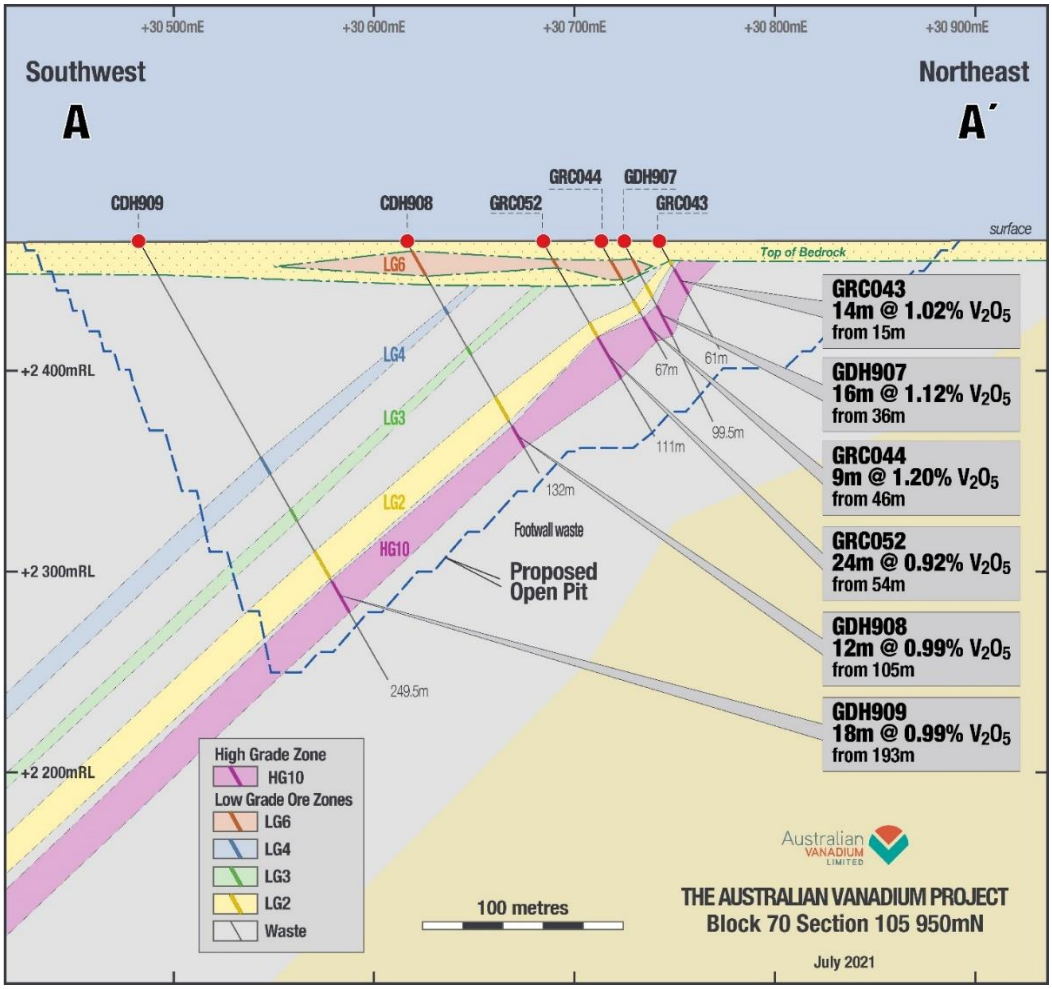


**Figure 4 - Block 70 Southern-most Cross Section 105,950 m North with HG10 grades and thickness**

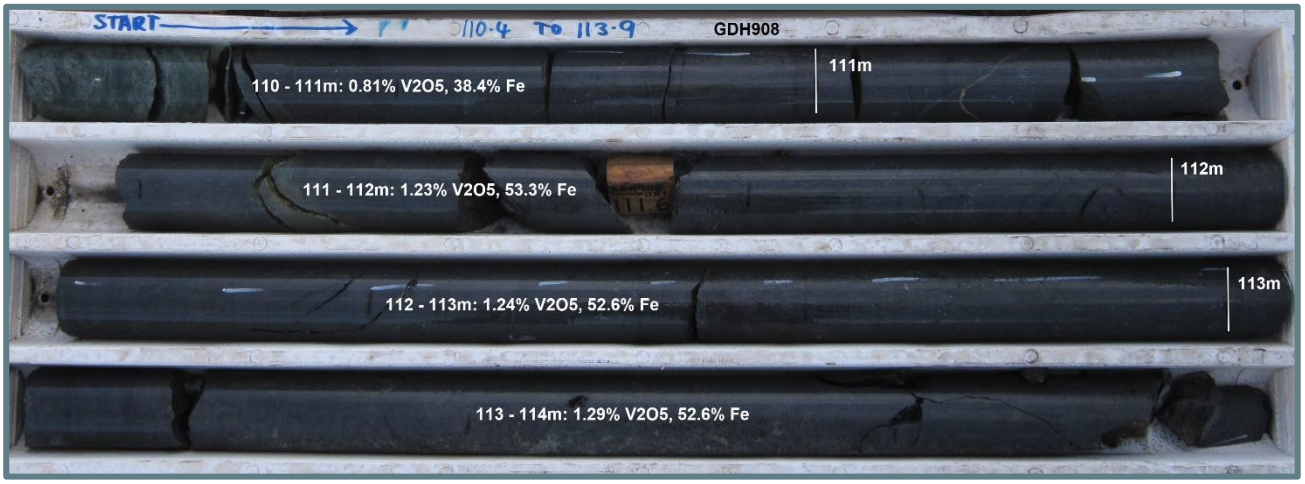


**Figure 5 - HG10 domain drill core from GDH908 with $V_2O_5$% and Fe% grades**

## Variability Testwork Upside

Results from 2021 variability and recovery testwork[1] has previously highlighted the following attributes of the high-grade domain in the southern blocks:

- Average iron grade in the magnetic concentrates increases in the southern blocks (50, 60 and 70) with grade in the fresh concentrates averaging over 60% iron using standard DTR procedure at 1500 gauss (G).
- Separation of titanium from iron is easier to achieve to the south, resulting in a higher overall iron content and vanadium content in the concentrates.
- For weathered samples, Wet High Intensity Magnetic Separator (WHIMS) is required to extract oxidised magnetite (hematite) at a magnetic field of 8000 G. The high magnetic field results in weakly magnetic minerals reporting to the concentrate, such as the titanium-bearing minerals.
- Shallowing weathering profiles in the southern blocks provide fresh high grade domain earlier in the mine life. The shallowing of the weathering profile is interpreted to be a function of the amount of faulting, which appears to be more dominant in the northern extent of the mineralisation.
- Higher concentrate vanadium and iron grades have the potential to lower the unit cost of production and improve the FeTi coproduct value.

This gradual lateral change of mineralogy is a common feature of Layered Intrusions and can present economic opportunities. Understanding variability from all possible ore locations and depths is critical to developing the best overall process flow sheet and project economics. This is central to AVL's testing philosophy. Figure 6 illustrates the trend of iron grade in Davis Tube Recovery (DTR) concentrate by sample northing location.

Further tests are planned from the current diamond program to conclusively prove the spatial relationship of iron, titanium, and vanadium reporting to concentrate. Work will continue until mining commences, to confirm and quantify the iron-titanium separation efficiency in AVL's southern blocks and any associated improvements in quality and value of AVL's FeTi coproduct. Existing variability test program results are being used to support resource block model process predictions including mass yield, vanadium recovery and concentrate quality, essential for effective mine planning. Additional results from this current round of diamond drilling will add data points to further define the mineral trends from north to south.

AVL has designed and optimised its processing circuit through rigorous testing, to include blends of weathered and unweathered vanadium bearing material, attempting to maximise recovery of vanadium at the lowest possible cost from the whole orebody.

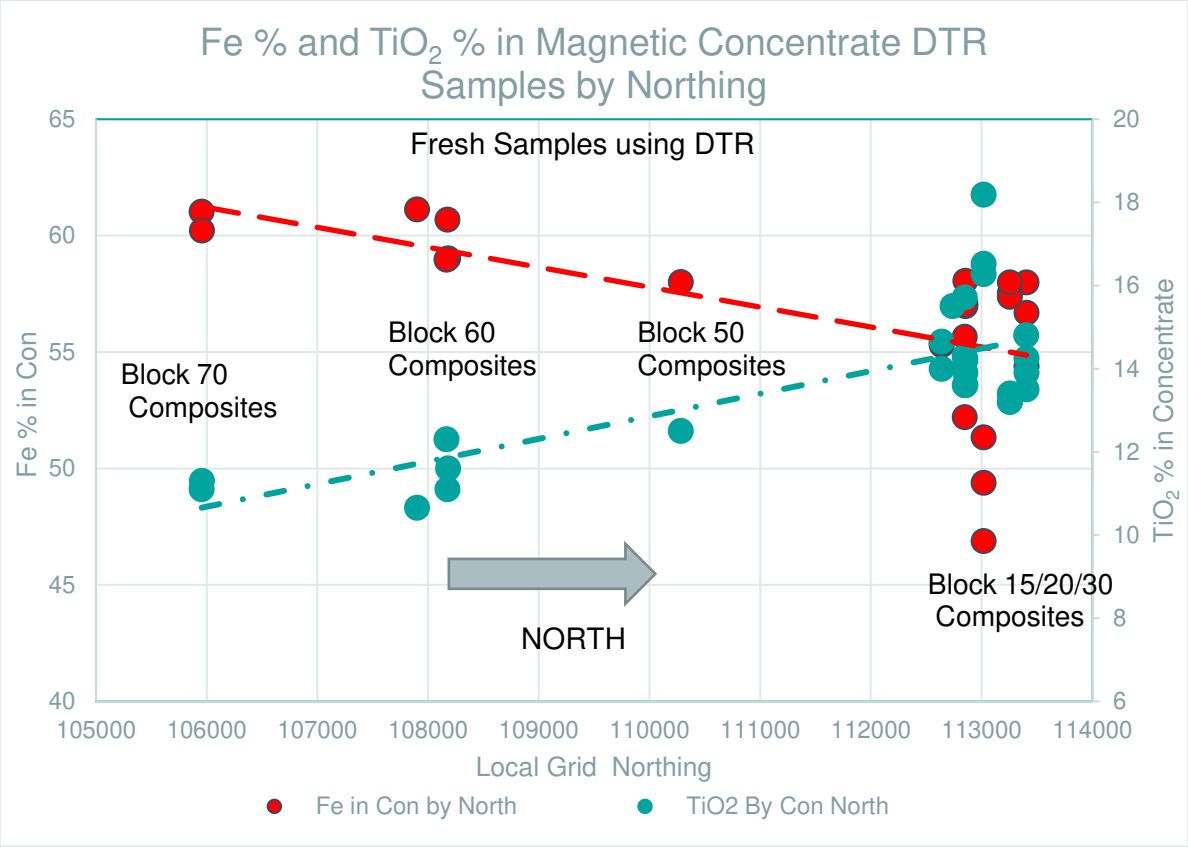


**Figure 6 - Fe% and $TiO_2$ in Concentrate by Northing**

## Next Steps

AVL will complete the planned diamond drilling and undertake further RC drilling to increase the Mineral Resource categories in parts of the southern ore blocks 50, 60 and 70.

Upon completion of drilling and further characterisation work, improved quantification of the location and amount of material that will produce a higher iron-vanadium concentrate will be incorporated into an updated Mineral Resource Estimate, mine studies and financial modelling for the Project.

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 1st November 2021 *'Mineral Resource Update at the Australian Vanadium Project'* and ASX announcement dated 6th 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% $V_2O_5$ 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 % | $TiO_2$ % | $SiO_2$ % | $Al_2O_3$ % | 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 |
| | **Subtotal** | **95.6** | **1.07** | **44.7** | **12.2** | **9.1** | **6.8** | **3.2** |
| 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 |
| | **Subtotal** | **128.5** | **0.49** | **24.9** | **6.6** | **28.2** | **16.1** | **7.2** |
| **Transported** | Inferred | 14.9 | 0.66 | 29.0 | 7.8 | 24.5 | 15.1 | 7.8 |
| | **Subtotal** | **14.9** | **0.66** | **29.0** | **7.8** | **24.5** | **15.1** | **7.8** |
| 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 |
| | **Subtotal** | **239.0** | **0.73** | **33.1** | **8.9** | **20.4** | **12.3** | **5.6** |

The Australian Vanadium Project - Ore Reserve Statement as at April 2022, at a cut-off grade of 0.7% $V_2O_5$.

| Ore Reserve | Mt | $V_2O_5$% | Fe% | $TiO_2$% | $SiO_2$% | LOI% | $V_2O_5$ 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 |
| **Total Ore** | **30.9** | **1.09** | **62.8** | **12.4** | **9.3** | **3.2** | **223.8** | 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 6th April 2022 which is available on the Company's website 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 6th April 2022 which is available on the Company's website 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.