



ASX ANNOUNCEMENT

29 OCTOBER 2019

OPTION AGREEMENT TO LOCATE VANADIUM PROCESSING PLANT NEAR GERALDTON, WA

Opportunity to process vanadium near coastal city gives AVL access to reduced gas costs and iron ore by-product sales opportunities.

KEY POINTS

- AVL has signed an Option Agreement for land, to locate its processing plant near to the City of Geraldton in Western Australia
- Mining and concentrate beneficiation remain located at the Project site near Meekatharra, with significantly reduced water and power requirements at the mine site
- New location of processing plant will reduce remote site capex at Meekatharra minesite, including removing the need for a gas pipeline to site
- Magnetite concentrate to be transported to the processing plant site via road
- An initial Option Study has demonstrated the positive impacts on operating costs from using a site close to the Dampier-Bunbury gas pipeline infrastructure and associated significantly lower domestic WA gas prices
- Opportunity can significantly improve potential for AVL to be a world lowest cost-quartile vanadium producer
- Strong Federal, State and Local Government support for the relocation
- Increased Mid-West region employment opportunities
- Utilises existing gas, water, road and rail infrastructure
- Close to Mid-West industry services platform
- Benefits flow through to the communities of Mullewa and Geraldton

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce that it has signed an option agreement over a potential site inland from Geraldton, which has been identified as a possible location for its vanadium processing plant.

AVL's pre-feasibility study ("PFS")¹ included a series of trade-off studies, one of which highlighted the potential to locate the processing plant for the Australian Vanadium Project ("the Project") closer

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¹ See ASX announcement dated 19 December 2018 'Gabanintha Pre-Feasibility and Maiden Ore Reserve'



to the existing gas infrastructure, to take advantage of reduced energy costs. In total, 11 alternate locations were considered, including coastal WA and locations between Meekatharra and Geraldton.

The final site selection process has narrowed the preferred location to land which is inland from Geraldton and west of Mullewa, to take full advantage of the available workforce, industry support and existing road, rail, water and gas infrastructure, (see Figure 1). The trade–off study demonstrated that the Geraldton plant location could improve the financial metrics of the Project.

AVL has commenced a detailed engineering study for the processing plant relocation, which will define the associated costs related to the move. Trade-offs between operating expenses, logistics and transport costs, plant capex and associated infrastructure costs will inform AVL's final decision to relocate.



Figure 1 Proposed Location of Processing Plant

Managing Director Vincent Algar comments, "Locating the processing plant near Geraldton rather than at the mine site presents a number of opportunities for AVL and our local communities. Our goal is to safeguard the business through all vanadium price cycles, by achieving lowest quartile costs of production. Moving the processing plant component could be an important step to achieve that. We have already started to engage with local stakeholders in the Geraldton region and we are



finding great enthusiasm for the processing plant project and the jobs it will bring to this important strategic regional centre. Support from all levels of government has been very encouraging.

The Company will now analyse the selected option in more detail, including working with the local community, completing technical and commercial reviews and commencing the environmental and regulatory approval processes, to allow a final decision about the best location for the processing plant to be made."



Figure 2 Processing Plant 3D Model

BENEFITS OF PROCESSING PLANT RELOCATION

The relocation of the processing plant would reduce AVL's capital and operating expenditure for gas supply for the Project as it would be unnecessary to build a new gas pipeline from the nearest existing pipeline infrastructure, either the Mid-West Gas Pipeline in Mount Magnet or from the Dampier-Bunbury Natural Gas Pipeline to the minesite location.

Without the need for large volumes of natural gas for the roast component of processing, the electrical energy requirement onsite can be provided by reliable hybrid power systems, which will include a significant component of renewable energy, combined with trucked natural gas or diesel. Energy storage as part of the hybrid power system is highly suited to the use of a megawatt-scale vanadium redox flow battery.

Relocating the processing plant would also significantly reduce the minesite water requirement by approximately one third of total water used.

Other benefits to relocating the processing plant include a camp not being required at the Geraldton location due to workers living at home; reduced construction costs and cheaper transportation costs for reagents.

A detailed study of the location is required, as there will be increased costs for transportation of the material from Meekatharra to the processing plant. The potential sale of an iron rich calcine by-product could offset these transportation costs, making the move particularly attractive.

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KEY TERMS OF THE AGREEMENT

The key terms of the Option Agreement with Wyalong Pastoral Co Pty Ltd are:

- Area of land to comprise the surveyed area to be used for construction, use and maintenance of a processing plant and associated roads and infrastructure for the treatment of vanadium and other minerals
- Approximate land area 1,334 acres, subject to survey
- Option expires on 31th October 2020 with two further one-year term extensions permitted
- Initial option fee of \$28,000, half payable in cash and half in AVL shares based on 5-day volume weighted average share price prior to the payment of the option fee
- Purchase price for the land will be \$2,100 per acre, to be calculated on the surveyed area to be used for the Project
- The option agreement (and any sale contract) is subject to and conditional upon regulatory authority subdivision approval
- Any area of the land not used for the processing plant may be leased back for farming purposes

An open pit mining operation and concentrator with associated workforce will be required onsite at Meekatharra irrespective of the location of the processing plant. As per the Pre-Feasibility Study released November 2018, total manpower requirement for the project are expected to be 500 during construction and 240 during operations. The initial project life is 17 years. Location of the processing plant away from the minesite is not anticipated to change the total workforce requirements significantly.

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FORWARD LOOKING STATEMENTS

This announcement may contain certain "forward looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors which could cause actual results to differ materially from future results expressed, projected or implied by such 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. Readers should not place undue reliance on forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

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ABOUT AUSTRALIAN VANADIUM

AVL is an Australian owned resource company focused on production of high value vanadium products in Australia. AVL is 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 and intends to produce a value added vanadium product in Australia prior to sale to steel, battery and specialty chemical customers.

The Australian Vanadium Project is currently one of the highest-grade vanadium projects being advanced globally with 183.6Mt at 0.76% vanadium pentoxide (V_2O_5), containing a high-grade zone of 96.7Mt at 1% V_2O_5 with an Ore Reserve of 18.24Mt at 1.04% V_2O_5 comprised of a Proved Reserve of 9.82Mt at 1.07% V_2O_5 and a Probable Reserve of 8.42Mt at 1.01% V_2O_5 , reported in compliance with the JORC Code 2012 (see ASX announcement dated 19 December 2018 'Gabanintha Pre-Feasibility Study and Maiden Ore Reserve').

The Australian Federal Government awarded the Australian Vanadium Project 'Major Project Status' in September 2019.

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.

AVL has developed a local production capability for high-purity vanadium electrolyte, which forms a key component of vanadium redox flow batteries (VRFB). AVL, through its 100% owned subsidiary VSUN Energy Pty Ltd, is actively marketing VRFB in Australia.

