QUARTERLY ACTIVITIES REPORT

Period ending 31st March 2020

HIGHLIGHTS

- The Australian Vanadium Project Resource increased to 208 Million Tonnes (Mt) at 0.74% vanadium pentoxide ($V_2O_5$).
  - Indicated Resource of the distinct high-grade magnetite zone increased by 115% to 25.1Mt at 1.10% $V_2O_5$.
  - High-grade magnetite zone, the focus of economic studies, now 87.9Mt at 1.06% $V_2O_5$.
  - Successful conversion of 13Mt of existing high-grade Mineral Resources from Inferred to Indicated strongly supports optimisation studies to extend the projected Project lifetime.

- Successful completion of Crushing Milling and Beneficiation (CMB) pilot verifies positive outcomes and confirms high vanadium recoveries; consistent, excellent concentrate qualities.
  - Concentrate generated from life-of-mine average feed blend achieved 76% vanadium recovery, at a grade of 1.37% $V_2O_5$ and 1.68% $SiO_2$.
  - Year 0-5 pilot testing achieved 69% vanadium recovery to concentrate at 1.39% $V_2O_5$ and 1.83% $SiO_2$.

- Pilot test work underway at Metso laboratories in the USA, confirming pelletising and Grate Kiln roasting methods unique to AVL Project.
  - Testwork prior to piloting confirmed high vanadium extraction, with pelletised roast leach extraction as high as 95.5%.

- Western Australian Government Lead Agency Status awarded.

- Company confirms it will pursue the location of its vanadium processing plant near the city of Geraldton in Western Australia, offering substantial benefits to the Project and local communities around the port city.

- Letter of Intent for the proposed sale of vanadium products to be produced by AVL signed with subsidiary of HBIS Group Chengsteel.

- Heritage negotiations relating to the Mining Agreement proceeding via teleconference.

Corporate

- Company reacts to global COVID-19 crisis by implementation of cost reduction and expenditure restrictions to protect the Company, its assets and team.

- Cash at bank on 31st March 2020 was $4.3 million.
Management Comment

Notwithstanding the current health and economic climate due to the devastating COVID-19 pandemic, AVL has structured its team and activities with clear goals to continue to progress the Australian Vanadium Project (“the Project”) towards funding and construction. The release of a major Mineral Resource upgrade during the quarter is strongly supportive of the Company’s aims.

Having made rapid and significant changes to director and key staff salaries and contractor payments, the Company reviewed its key expenditures, making reductions or deferrals where possible, to manage available funds, (see ASX announcement dated 30th March 2020 ‘AVL Business Strategy Update’). As the Company remains well funded, critical bodies of work will be continued to progress the Project towards completion.

The Company is taking a conservative approach to spending due to significant uncertainty regarding timelines for the end to the COVID-19 global crisis and the return to normal economic activity.

AVL will continue to position itself as the next primary vanadium mine to be brought into production globally, with steps continuing to be made to achieve this goal.

Activities for the quarter ended 31\textsuperscript{st} March 2020 for Australian Vanadium Limited ("AVL" or “the Company”) are as follows:

**THE AUSTRALIAN VANADIUM PROJECT**

**Resource Upgrade for Project Extension**

*See ASX announcement dated 4th March 2020 ‘Total Vanadium Resource at The Australian Vanadium Project Rises to 208 Million Tonnes’*

Following a series of drill programmes through 2018 and 2019, AVL updated its Resource for a total of 208.2 million tonnes (Mt) at 0.74% V\textsubscript{2}O\textsubscript{5}. This revised Mineral Resource estimate included a 115% increase to the Indicated Mineral Resource\textsuperscript{1} in the geologically distinct, massive vanadium-bearing magnetite high-grade zone which is the focus of current economic studies. The most recent resource update prior to this updated was reported in November 2018.

\textsuperscript{1} Based on contained V\textsubscript{2}O\textsubscript{5} metal. All increases mentioned in this announcement are based on contained metal increases.
Overall, the total Mineral Resource increased by 24.6Mt (9.5%), as a result of infill and deeper drilling within the deposit. The deposit remains open at depth, with potential to convert further Inferred Resources located along the Company’s 11.5km of strike length, (see Figure 2) to the Measured and Indicated categories, if required in the future.

Managing Director, Vincent Algar commented, “In discussions with potential funding and joint venture partners, a de-risked and large resource base has been a key requisite. The updated Resource is the result of focused additional drilling and increased understanding of the geological setting. The new Indicated Resources successfully targeted known higher magnetic areas which will benefit the mine planning, adding flexibility to the schedule. Flexibility will ensure feed and concentrate specifications are optimal for the Project’s process, enabling recovery of high purity vanadium products. The increase in tonnages consolidates the global significance of the Project, which is comparable to operating producers Largo Resources and Bushveld Minerals.”
Figure 2 - TMI of the Project showing fault blocks and February 2020 high-grade Mineral Resource and cross section locations
MINERAL RESOURCE SUMMARY

The table below shows the global Mineral Resource reported as in-situ vanadium pentoxide (V$_2$O$_5$) by geological domain (HG, combined low-grade (LG) and combined Transported) for all fault blocks at the Project. The distribution of the Mineral Resource by fault block and category is shown in Figure 2, showing Total Magnetic Intensity (TMI) with new and existing drilling overlain and the HG Mineral Resource by category for each fault block.

<table>
<thead>
<tr>
<th>2020 Feb</th>
<th>Category</th>
<th>Mt</th>
<th>V$_2$O$_5$ %</th>
<th>Fe %</th>
<th>TiO$_2$ %</th>
<th>SiO$_2$ %</th>
<th>Al$_2$O$_3$ %</th>
<th>LOI %</th>
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<tbody>
<tr>
<td>HG</td>
<td>Measured</td>
<td>10.1</td>
<td>1.14</td>
<td>43.9</td>
<td>13.0</td>
<td>9.2</td>
<td>7.5</td>
<td>3.7</td>
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<tr>
<td></td>
<td>Indicated</td>
<td>25.1</td>
<td>1.10</td>
<td>45.4</td>
<td>12.5</td>
<td>8.5</td>
<td>6.5</td>
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<tr>
<td></td>
<td>Inferred</td>
<td>52.7</td>
<td>1.04</td>
<td>44.6</td>
<td>11.9</td>
<td>9.4</td>
<td>6.9</td>
<td>3.3</td>
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<td></td>
<td>Subtotal</td>
<td>87.9</td>
<td>1.06</td>
<td>44.7</td>
<td>12.2</td>
<td>9.2</td>
<td>6.8</td>
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<td>LG 2-5</td>
<td>Indicated</td>
<td>44.5</td>
<td>0.51</td>
<td>25.0</td>
<td>6.8</td>
<td>27.4</td>
<td>17.0</td>
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<td></td>
<td>Inferred</td>
<td>60.3</td>
<td>0.48</td>
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<td>28.5</td>
<td>15.3</td>
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<tr>
<td></td>
<td>Subtotal</td>
<td>104.8</td>
<td>0.49</td>
<td>25.1</td>
<td>6.6</td>
<td>28.0</td>
<td>16.1</td>
<td>7.2</td>
</tr>
<tr>
<td>Trans 6-8</td>
<td>Inferred</td>
<td>15.6</td>
<td>0.65</td>
<td>28.4</td>
<td>7.7</td>
<td>24.9</td>
<td>15.4</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>15.6</td>
<td>0.65</td>
<td>28.4</td>
<td>7.7</td>
<td>24.9</td>
<td>15.4</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>Measured</td>
<td>10.1</td>
<td>1.14</td>
<td>43.9</td>
<td>13.0</td>
<td>9.2</td>
<td>7.5</td>
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<tr>
<td></td>
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<td>69.6</td>
<td>0.72</td>
<td>32.4</td>
<td>8.9</td>
<td>20.6</td>
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<td>8.8</td>
<td>20.2</td>
<td>11.9</td>
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<td>Subtotal</td>
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<td>33.6</td>
<td>9.0</td>
<td>19.8</td>
<td>12.1</td>
<td>5.6</td>
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Oxidation Zone Re-Interpretation

The previous Resource model contained hard coded surfaces to separate the oxide, transitional and fresh material for geo-metallurgical support. The interpretation was facilitated using geological logging, element assays, core photos, magnetic susceptibility logs, loss on ignition (LOI) and SATMAGAN$^2$ data. While these boundaries have remained for comparison, magnetic susceptibility is now added to the resource estimation as a graduated quantification of the degree of weathering; an improvement on using hard boundaries.

Magnetic susceptibility (magsus) has a direct correlation to the SATMAGAN data that was measured in the laboratory and can be used as an estimation of magnetism which is an important factor in concentrate production from the high-grade ore. The vanadium is within the magnetite, therefore magnetic separation is the primary process in plant designs for ore beneficiation.

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$^2$ SATMAGAN (Saturation Magnetic Analyser) is a laboratory method to determine the proportion of magnetic iron oxide (Fe$_3$O$_4$) present
In conjunction with the work undertaken by AVL’s metallurgical team during the pilot study, magsus readings were used for the selection of the pilot process samples to ensure consistency of the feed characterisation of oxide, transitional and fresh material. Magsus is strongly correlated with the SATMAGAN data and spatially with the 3D magnetic inversion model generated from the airborne magnetic survey flown by Southern Geoscience Australia in 2006 at 50m line spacing. Studies are underway to understand the relationships and resolve an algorithm to define recovery based on a function of magsus. Further variability test work is envisaged following the pilot study processes flowsheet to assess variable geochemical and magsus values and define a relationship with vanadium recovery.

The updated Mineral Resource had a significant impact on the overall tonnage and amount of material in the Indicated category, due to the focus on converting Inferred Resources to Indicated Resources through infill drilling. The drilling in the southern blocks 50 and 60 resulted in:
• 11.8 million tonnes being converted to Indicated Resources in those areas
• Closer drill spacing increasing the level of understanding and interpretation of the HG and LG zonation, especially in block 60.
• Reinterpretation moving material to LG zone 2 from the HG10 zone.

New Mine Optimisation Studies commence
Mine optimisation studies have commenced to incorporate the new Indicated Resources into a revised mine plan. The Pre-Feasibility Study (PFS) completed in December 2018\(^3\) indicated that open pit mining would be an appropriate mode of extraction through the fault blocks that have Indicated and Measured Resources defined and reported reserves on that basis.

High Vanadium Extraction Confirmed
See ASX announcement dated 5\(^{th}\) February 2020 ‘High Vanadium Extraction Confirmed as Pyrometallurgical Pilot Begins’

During the quarter, the Company announced the successful completion of bench-scale pelletising, roasting and leaching testwork and the commencement of a detailed pilot scale test programme with Metso in the USA.

Figure 4 - Vanadium Rich Iron Concentrate Pellets Produced During Bench-scale Roast Testing

Bench-scale testing of innovative pellet roast and a hydrous leach flowsheet achieved a vanadium leach extraction of up to 95.5%. Laboratory testwork completed in 2019 in Brisbane indicated that a pelletised roast and water leach of AVL’s vanadium rich concentrate can deliver improved vanadium extraction relative to the traditional rotary kiln processing which was applied as the basis

\(^3\) See ASX announcement dated 19 December 2018 ‘Gabanintha Pre-Feasibility Study and Maiden Ore Reserve’
of the PFS. AVL is aiming to develop a processing flowsheet with the world’s highest primary vanadium recovery from vanadiferous titanomagnetite (VTM).

Results of the bench-scale testwork show:

- High quality pellets, with the mechanical strength required to survive the roasting process, can be produced without additional binders or processing steps.
- Vanadium roast leach extraction was as high as 95.5%, varying between 86.9% at low roast temperature and 95.5% under optimised temperatures, bed depths and retention times. All tests were performed at 4% soda ash addition, which was the basis consumption rate in the PFS.

The particle size required for pelletisation was confirmed to be similar to the particle size of the final concentrate generated in the crushing, milling and beneficiation (CMB) pilot.

Approximately 587kg of preliminary beneficiation concentrate was tested to characterise pellet performance, vanadium extraction, reagent usage and operating conditions for the Grate Kiln pilot testing which is now underway at the Metso pyrometallurgical testing facilities in Danville, Pennsylvania, USA. The beneficiation circuit concentrate represents the average first five years of forecast production.

The objective of the pilot Grate Kiln testwork is to optimise economics and define full scale process design criteria for the Project. The Grate Kiln is an efficient, low risk and proven technology for pelletising iron concentrates. AVL is adapting this proven industrial technology to modify and improve the traditional vanadium salt roast processing techniques as it moves to deliver the Project.

Completion of this phase of pyrometallurgical testwork is expected to deliver a high degree of certainty in forecasting full scale Grate Kiln performance and in the estimation of associated capital and operating costs for the Definitive Feasibility Study (DFS).

Pellet processing using the Grate Kiln process for vanadium extraction has the following advantages:

- Higher reaction progress due to intimate contact with reactants.
- Greatly reduced kiln build-up due to melting compounds being contained in the pellet.
- Significant reduction in dust loss due to agglomeration of fine particles into pellets.
- Ease of process control and heat recovery by incorporating a travelling grate and packed bed cooling.
- Incorporating a rotary kiln which evenly heats pellets to further enhance desired reactions.
The Grate Kiln process is a proven technology that is successfully used for processing a variety of different types of concentrates where pelletising enhances reactions. The process has traditionally been used to treat fine iron concentrate prior to feeding to a blast furnace, but has also been adopted for other processes such as titanium and phosphate reduction. In the early development of the Grate Kiln process it was used to produce lime and cement. The Grate Kiln process has been proven successful for several non-traditional processes, highlighting its flexibility in design.

**Crushing, Milling and Beneficiation (CMB) Circuit Design**

*See ASX announcement dated 16th March 2020 ‘Pilot Study Programme Confirms High Vanadium Recoveries and Concentrate Quality’*

During the quarter, the company completed its DFS pilot study of the Crushing Milling and Beneficiation (CMB) circuit which used 20 tonnes of representative mine feed material. The test work verified multiple positive outcomes for the final circuit design.

The rigorous test work validated an optimised beneficiation flowsheet. The test work focused on processing of two likely ore feed blends, representative of the average life-of-mine and the first five years of forecast process feed.

*Figure 5 - Magnetic Concentrate Feed to Regrind Mill*
Findings confirmed the Project’s high vanadium recoveries and consistent excellent concentrate qualities:

- Concentrate generated from life-of-mine average feed blend achieved 76% vanadium recovery, at a grade of 1.37% $\text{V}_2\text{O}_5$ and 1.68% $\text{SiO}_2$.
- Year 0-5 pilot testing achieved 69% vanadium recovery to concentrate at 1.39% $\text{V}_2\text{O}_5$ and 1.83% $\text{SiO}_2$.
- High vanadium recovery and low silica content represent unique value opportunities for AVL in ongoing economic studies.

A key indicator of success in bringing a project into production is a full understanding of the ore body and how it behaves and the processing methodology that will be used. AVL’s rigorous approach to test work significantly reduces future risk, by ensuring the process will work as intended when built at full scale, increasing attractiveness to potential Project investors.

The concentrate generated from the Y0-5 blend CMB pilot work is now being used by Metso in the USA for the roasting part of the pilot work. Following completion of the roast pilot, pre-roasted pellets will be sent to CRC-P partners ALS and ANSTO for completion of high purity $\text{V}_2\text{O}_5$ extraction, samples of which will be available to potential offtake partners and vanadium redox flow battery manufacturers.

**Australian Federal Government CRC-P Grant for Critical Minerals**

*See ASX announcement dated 10th February 2020 ‘AVL Awarded $1.25 Million Vanadium Research and Development Grant’*

In February 2020 AVL announced that it had been awarded a highly competitive Australian Federal Government Cooperative Research Centres Project (CRC-P) Grant to partly fund industry-leading critical metals research aimed at improving the efficiency of vanadium processing. The $4.9m research initiative is being undertaken by AVL in conjunction with world renowned industry and academic partners including Wood, ALS, Curtin University and the Australian Nuclear Science and Technology Organisation (ANSTO).

The grant includes $1.25 million in direct grant funding on milestone achievements, with in-kind contributions from participating partners and a contribution of $2.5 million by AVL.

AVL and its partners aim to develop innovative solutions that improve all aspects of vanadium production from Vanadium-Titanium-Magnetite (VTM) deposits, including:

- Development of an ultra-high purity vanadium pentoxide production path;
• Extraction of valuable by-products including critical minerals such as titanium;
• Increasing recoveries from mine to mill; and
• Reduction of waste products from mining and processing.

The results from the research are expected to have a positive impact on operating costs for the Project by decreasing processing costs, improving the quality of vanadium products and enabling the extraction of valuable by-products, including other critical minerals. Improvements to the extraction of vanadium and valuable by-products could provide significant additional revenue over the Project’s life.

Lead Agency Status Awarded

See ASX announcement dated 21st April 2020 ‘Australian Vanadium Project Awarded Lead Agency Recognition’

AVL’s Project has been awarded Lead Agency Status through the Western Australian Government’s Department of Mines, Industry, Regulation and Safety (“DMIRS”). The award provides State recognition in addition to the Major Project Status awarded by the Federal Government in September 2019.

DMIRS, Western Australia’s lead agency for the regulation of the resources sector, offers a Lead Agency Framework which provides a single point of contact within the State Government, that provides assistance and coordination of the government’s approvals process. Assistance offered includes multi-agency project briefings. Through the application process, the Department of Jobs, Tourism, Science and Innovation (JTSI) has also offered its assistance to the Company.

The Western Australian Minister for Mines and Petroleum Bill Johnston congratulated Australian Vanadium Ltd on being awarded Lead Agency Status. “Vanadium is proving to be a key component in battery technology and renewable energy storage and has been influential in forming the Western Australian Future Battery Industry Strategy, which was officially launched in January 2019,” he said. “Australian Vanadium’s Project demonstrates that Western Australia continues to be the leading jurisdiction for the ethical and sustainable production of battery and critical minerals.”

Formal recognition of the importance of The Australian Vanadium Project to Western Australia by the State Government is a crucial step forward. The status provides greater certainty to those considering an investment in the Project, which is already located in a Tier 1 global mining destination. AVL has defined a vanadium project of significant size and economic potential. Official
endorsement by the Western Australian Government complements the previously received Federal Government Major Project Status. Assistance with the approval process will be most welcome.

Figure 6 - Todd Richardson, Hon Bill Johnston MLA, Vincent Algar

Geraldton Processing Plant Location

In October 2019, AVL announced that it had signed an option agreement for land to locate the processing plant for the Project near the city of Geraldton in Western Australia. Studies of the site and region are ongoing, although currently paused due to COVID-19 restrictions. During the quarter, the Company confirmed its decision to pursue the processing plant relocation as the primary design for the Project. All future work will take this preferred location for the processing plant component of the project into account.

The Company is investigating potential purchasers of the iron-rich calcine by-product that will be generated after extraction of high purity vanadium products. The sale of iron-titanium by-products is one of the key opportunities of the unique near-coastal location of the plant.

The benefits of relocating the processing plant from being co-located at the minesite include:

- Access to cheaper gas and the associated capital cost reduction of not needing to build a gas pipeline to the minesite.
• The potential for power at the minesite to have a large component of renewable energy, including a vanadium redox flow battery.
• Significantly reduced minesite water requirements by approximately one third of total water used.
• A reduced minesite camp, due to reduced numbers of personnel onsite and workers at the Geraldton location living locally at home.
• Reduced construction costs for the processing plant and cheaper transportation costs of reagents.
Letter of Intent with Yanshan Vanadium Titanium

See ASX announcement dated 15th January 2020 ‘Letter of Intent Signed with Hebei Vanadium Titanium Industrial Technology Research Institute’

AVL announced that it had signed a Letter of Intent (LOI) with Hebei Yanshan Vanadium and Titanium Industry Technology Research Co Ltd (“Yanshan Vanadium Titanium”) to negotiate and sign a binding technical services and purchase agreement for AVL’s vanadium products.

Yanshan Vanadium Titanium is a subsidiary of HBIS Group Chengsteel based in the Hebei province in China. HBIS Group is one of the world’s largest steelmakers, with approximately 120,000 employees. HBIS Chengsteel is currently the world’s third largest vanadium producer and has been involved in many ground-breaking projects.

In January 2020, Managing Director Vincent Algar and Chief Operating Officer Todd Richardson visited Chengde to meet with Yanshan Vanadium Titanium at their head office (see Figure 8). Technical discussions were undertaken regarding potential improvements to the Project’s process, which Yanshan Vanadium Titanium believes could result in cost improvements.

Discussions between the two parties are ongoing to expand the terms of discussion. A pause to negotiations occurred due to COVID-19 restrictions. Discussions re-recommended on 1st April 2020,
following the partial lifting of lockdown conditions in parts of China including Chengde, where Yanshan is located with Chengsteel.

**Australian Vanadium Project Path Forward**

**Pilot Study**

The objective of the pilot Grate Kiln testwork currently underway at the Metso pyrometallurgical testing facilities in Danville, Pennsylvania, USA is to optimise economics and define full-scale process design criteria.

Completion of this phase of pyrometallurgical testwork is expected to deliver a high degree of certainty in forecasting full scale Grate Kiln performance and in the estimation of associated capital and operating costs.

![Figure 9 - Grate Kiln Pellet Testwork at Metso](image-url)
Completion of vanadium roast-leach and hydrometallurgical test work is underway to finalise the Project flowsheet.

**Environmental Studies**
Environmental work continues to progress well. Follow up work regarding flora and vegetation identification has been completed by Biologic, including:

- 3D modelling of habitat for subterranean fauna;
- Taxonomy work to identify oligochaetes; and
- DNS analysis of other taxa.

**Mining Agreement**
Native Title negotiations in relation to the Mining Agreement and grant of the Mining Licence are currently being undertaken via teleconference. Formal discussions around the terms of the agreement are progressing well.

**ENERGY STORAGE**
During the past four years, VSUN Energy has announced 3 battery sales, all of which have been to the agricultural sector. The first was a CellCube 10kW/100kWh system to a native tree nursery in Busselton, Western Australia.\(^4\) That battery has provided power to the property since its installation in late 2016 and has not drawn any energy from the Western Power grid. Neighbours suffering black outs have commented on the property’s lack of outages.

The second VRFB sale was to an orchard in Pakenham, Victoria\(^5\). Engineering work is currently underway on this project, with completion due this year. The third sale was to goat farm Meredith Dairy in Meredith, Victoria\(^6\) which is also undergoing engineering work, with financing to be finalised and installation this year. The VRFB solution for the latest two projects is being supplied by battery manufacturer Invinity Energy Systems (the newly merged Avalon Battery and redT Energy).

The recent bushfires in the eastern states have further highlighted the difficulty that energy networks have to provide power through a poles and wire network and over vast distances. The wires can be the cause of fires and can also be destroyed through fire, with a large cost for replacement. Many utilities are looking at having standalone microgrids installed in these areas. The scalability, long

\(^4\) See ASX announcement dated 14th September 2016 ‘Vanadium Energy Storage Installation’
\(^5\) See ASX announcement dated 4th September 2019 ‘AVL Secures Vanadium Redox Flow Battery Sale’
\(^6\) See ASX announcement dated 17th October 2019 ‘VSUN Energy Sells Vanadium Redox Flow Battery to Victorian Dairy Farmer’
lifespan and the non-flammable nature of VRFBs can be a perfect solution. VSUN Energy is currently exploring ways that the company can assist businesses in these regions.

AVL is looking into ways to provide VSUN Energy with its own funding, to give it the best chance of achieving its potential given the significant project pipeline it has developed. The current project pipeline for energy solutions using renewable energy and various commercial VRFBs is 20.9GWh.

With its office located in Western Australia, VSUN Energy’s staff have focused their time on building relationships with local utilities Western Power and Horizon Power. Whilst the majority of opportunities for the two utilities are provided through tenders, VSUN Energy is investigating novel ways to provide the opportunity for the VRFB to be showcased. Outstanding tender results are currently both with Western Power, one for the Community Battery Panel and one for round two of the Stand Alone Power Systems.

On 4th April 2020 the Western Australian Minister for Energy, the Hon Bill Johnston MLA, released the State’s Distributed Energy Resources (DER) Roadmap which seeks to overcome technical, regulatory and market barriers to integrate DER into the grid, including additional community batteries. This announcement followed one earlier in the month which included provisions to support Western Power’s use of stand-alone power systems and energy storage devices.
VSUN Energy’s main target markets are agriculture, mining and commercial/industrial, with any off-grid settings where diesel is being used making the best economic and environmental sense. Relationships with VRFB manufacturers around the world remain strong. Potential projects are assessed to discover the optimum sizing for the battery, which is then sourced from the appropriate partner.

A residential VRFB remains a highly desirable product for the Australian market, however a suitable product, designed specifically for the Australian market is not yet available. VSUN Energy is in talks with various manufacturers who offer smaller systems. There is potential for manufacture in Australia and through its global relationships and role in the Future Battery Industry Co-operative Research Centre (CRC), VSUN Energy hopes to be able to offer a residential system for sale in the near future.

In addition to VRFB sales, the company is pursuing sales of vanadium electrolyte within Australia. Through its relationship with AVL, VSUN Energy aims to be able to supply vanadium electrolyte at a preferential cost. Ultimately the electrolyte will be produced from vanadium sourced from the Australian Vanadium Project, but in the meantime, VSUN Energy will utilise AVL’s strong network in the vanadium industry to secure the product at the right price. As recently announced and previously mentioned7, AVL has been awarded a CRC-P Federal Government grant to partly fund a project

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7 See ASX announcement dated 10th February 2020 ‘AVL Awarded $1.25 Million Vanadium Research and Development Grant’
which aims to develop an ultra-high purity vanadium pentoxide product which will be used in the VRFB market.

CORPORATE

Business Strategy Update

See ASX announcement dated 30th March 2020 ‘AVL Business Strategy Update’

The first quarter of 2020 has been dominated by the rapid escalation of the global COVID-19 pandemic. Effects of the pandemic have been felt by all sectors of society and the economy on a global scale. The mining industry has likewise been affected.

The Company has taken steps to protect the health of its staff and the communities in which we live and work, as well as minimising the financial impact on the Company during this time.

To protect the Company during this period of uncertainty, AVL instigated cost reduction strategies and will be scaling back some work until the business environment improves. Conditions will be reviewed frequently to enable a ramp up of activity when appropriate. The programme of works allows progression of the Project, while safeguarding the financial health of the Company. The measures taken to ensure the Company is in a strong position at the end of the crisis include:

- 50% reduction in salaries for the Managing Director and Chief Operating Officer.
- Up to 50% reduction in fees for non-executive directors and key consultants.
- Salary reductions for remaining staff after redundancies were completed.
- Significant reduction of external consulting activity.
- Postponement of field-based activities relating to geotechnical work for site location and mine design.

High priority work which is key to maintaining the Project’s timeline will continue, including:

- Native Title negotiations in relation to the Mining Agreement and grant of the Mining Licence (currently being undertaken via teleconference).
- Completion of vanadium roast-leach and hydrometallurgical test work to finalise the Project flowsheet.
- Generating a new Mining Reserve using the recently upgraded Mineral Resources and updating the Project’s financial modelling.
- Active online strategic investor meetings and company presentations.
- VSUN Energy pursuing renewable project leads using Vanadium Redox Flow Batteries.
- Maintaining relationships with the Company’s stakeholders globally.
Appendix 5B – Quarterly Cash Flow Report
The cash position of AVL at 31st March 2020 was $4.3 million.

The aggregate amount of payments to related parties and their associates included in the current quarter cash flows from operating activities were $158,000, comprising Directors’ fees, salaries and superannuation.

Marketing
In March 2020, Vincent Algar presented a paper on leasing vanadium electrolyte for vanadium redox flow batteries at the International Coalition for Energy Storage and Innovation Conference which was organised by the inventor of the VRFB, Emeritus Professor Maria Skyllas-Kazacos from the University of New South Wales in Sydney.

Vincent Algar also presented by invitation at the WA Major Projects Conference in Perth, signifying the importance of the Project to Western Australia.

With the cancellation or postponement of physical conferences, AVL has organised one-on-one meetings with relevant parties. Conferences such as 121 Mining London which AVL was scheduled to attend, have converted their meetings to an online format and included a wider geographic range of participants, which will enable AVL to take its message to an even broader audience.

The Company’s social media platforms continue to be used to good effect, bringing the AVL vanadium story and its energy storage counterpart to a wide audience. Media coverage remains strong.

Targeted outreach for strategic investor meetings and company presentations to interested parties continues. Building and developing relationships with potential offtake partners, debt and equity funds and joint venture opportunities remains a high priority. In the current environment, many are keen to undertake due diligence prior to the market regaining its momentum.

For further information, please contact:
Vincent Algar, Managing Director +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.
# MINERAL RESOURCE AND ORE RESERVE

**Table 2 - The Australian Vanadium Project Mineral Resource Estimate at February 2020 by Domain and Resource Classification**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Classification</th>
<th>MT</th>
<th>V₂O₅%</th>
<th>Fe%</th>
<th>TiO₂%</th>
<th>SiO₂%</th>
<th>Al₂O₃%</th>
<th>LOI%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HG 10</td>
<td>Measured</td>
<td>10.1</td>
<td>1.14</td>
<td>43.9</td>
<td>13.0</td>
<td>9.2</td>
<td>7.5</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Indicated</td>
<td>25.1</td>
<td>1.10</td>
<td>45.4</td>
<td>12.5</td>
<td>8.5</td>
<td>6.5</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Inferred</td>
<td>52.7</td>
<td>1.04</td>
<td>44.6</td>
<td>11.9</td>
<td>9.4</td>
<td>6.9</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>87.9</td>
<td>1.06</td>
<td>44.7</td>
<td>12.2</td>
<td>9.2</td>
<td>6.8</td>
<td>3.2</td>
</tr>
<tr>
<td>LG 2-5</td>
<td>Measured</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Indicated</td>
<td>44.5</td>
<td>0.51</td>
<td>25.0</td>
<td>6.8</td>
<td>27.4</td>
<td>17.0</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>Inferred</td>
<td>60.3</td>
<td>0.48</td>
<td>25.2</td>
<td>6.5</td>
<td>28.5</td>
<td>15.3</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>104.8</td>
<td>0.49</td>
<td>25.1</td>
<td>6.6</td>
<td>28.0</td>
<td>16.1</td>
<td>7.2</td>
</tr>
<tr>
<td>Transported 6-8</td>
<td>Measured</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Indicated</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Inferred</td>
<td>15.6</td>
<td>0.65</td>
<td>28.4</td>
<td>7.7</td>
<td>24.9</td>
<td>15.4</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>15.6</td>
<td>0.65</td>
<td>28.4</td>
<td>7.7</td>
<td>24.9</td>
<td>15.4</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>Measured</td>
<td>10.1</td>
<td>1.14</td>
<td>43.9</td>
<td>13.0</td>
<td>9.2</td>
<td>7.5</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Indicated</td>
<td>69.6</td>
<td>0.72</td>
<td>32.4</td>
<td>8.9</td>
<td>20.6</td>
<td>13.2</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>Inferred</td>
<td>128.5</td>
<td>0.73</td>
<td>33.5</td>
<td>8.8</td>
<td>20.2</td>
<td>11.9</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>208.2</td>
<td>0.74</td>
<td>33.6</td>
<td>9.0</td>
<td>19.8</td>
<td>12.1</td>
<td>5.6</td>
</tr>
</tbody>
</table>

8 Using a nominal 0.4% V₂O₅ wireframed cut-off for low grade and nominal 0.7% V₂O₅ wireframed cut-off for high grade (total numbers may not add up due to rounding).
### Table 3 - Tenement Schedule

Tenement information as required by Listing Rule 5.3.3 for the quarter ended 31 March 2020.

<table>
<thead>
<tr>
<th>Project</th>
<th>Location</th>
<th>Tenements</th>
<th>Economic Interest</th>
<th>Notes</th>
<th>Change in Quarter %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Australia</td>
<td>The Australian Vanadium Project</td>
<td>E51/843</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1396</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1534</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1685</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1694</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1695</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E51/1899</td>
<td>100% Granted¹</td>
<td></td>
<td>100%</td>
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<tr>
<td></td>
<td></td>
<td>ELA51/1943</td>
<td>100% on application</td>
<td></td>
<td>Nil</td>
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<tr>
<td></td>
<td></td>
<td>ELA51/1944</td>
<td>100% on application</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P51/2566</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P51/2567</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P51/2634</td>
<td>100% Granted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MLA51/878</td>
<td>100%¹ on Application</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>Western Australia</td>
<td>Nowthanna</td>
<td>M51/771</td>
<td>100% Granted</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>Western Australia</td>
<td>Peak Hill</td>
<td>E52/3349</td>
<td>0.75% NSR Production Royalty</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>Western Australia</td>
<td>Coates</td>
<td>E70-4924-I</td>
<td>100% Granted</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>South Africa</td>
<td>Blesberg</td>
<td>(NC) 940 PR</td>
<td>5%</td>
<td>Earning up to 26%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Note 1:** Australian Vanadium Limited retains 100% rights in V/U/Co/Cr/Ti/Li/Ta/Mn & iron ore on The Australian Vanadium Project. Bryah Resources Limited holds the Mineral Rights for all minerals except V/U/Co/Cr/Ti/Li/Ta/Mn & iron ore only.
FORWARD LOOKING STATEMENTS

Some of the statements contained in this report are forward looking statements. Forward looking statements include, but are not limited to, statements concerning estimates of tonnages, expected costs, statements relating to the continued advancement of Australian Vanadium Limited’s projects and other statements that are not historical facts. When used in this report, and on other published information of Australian Vanadium Limited, the words such as ‘aim’, ‘could’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘potential’, ‘should’ and similar expressions are forward looking statements.

Although Australian Vanadium Limited believes that the expectations reflected in the forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that the actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward-looking statements including the potential that Australian Vanadium Limited’s project may experience technical, geological, metallurgical and mechanical problems, changes in vanadium price and other risks not anticipated by Australian Vanadium Limited.

Australian Vanadium Limited is pleased to report this information in a fair and balanced way and believes that it has a reasonable basis for making the forward-looking statements in this report, including with respect to any mining of mineralised material, modifying factors, production targets and operating cost estimates.

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.

COMPETENT PERSON STATEMENT – EXPLORATION RESULTS AND TARGETS

The information in this report that relates to Exploration Results and Exploration Targets is based on and fairly represents information and supporting documentation prepared by Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Davis is a member of the Australasian Institute of Mining and Metallurgy and has 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 Davis
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 members of the Australasian Institute of Mining and Metallurgy (AusIMM) and Mr Davis is a member of the Australian Institute of Geoscientists, 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 scientific and technical information in this announcement that relates to ore reserves estimates for the Project is based on information compiled by Mr Roselt Croeser, an independent consultant to AVL. Mr Croeser is a member of AusIMM. Mr Croeser 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 JORC 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Croeser 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. B.Sc Extractive Metallurgy), Mr McNab is a Member of AusIMM. Brian McNab 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.