# **ASX Announcement**



# **Quarterly Activities Report for period ending 31st March 2017**

# **Highlights:**

- » Blesberg Lithium-Feldspar project commenced drilling and exploration activity.
- » AVL agreed to sell base metal and gold rights over Gabanintha Project into new IPO, Bryah Resources Limited. AVL shareholders to receive priority offer in new float.
- » New exploration licences at Gabanintha increase strategic holding
- » Key environmental surveys commenced on Gabanintha licence
- » Significant cobalt reported from existing Gabanintha drilling, metallurgical test work indicates by-product opportunity during vanadium processing
- » VSUN Energy subsidiary committed to investigating residential VRB opportunities and potential manufacture in Australia
- » Company completed installation and commissioning of State's first vanadium electrolyte pilot plant located at UWA.
- » Daniel Harris appointed as non-Executive Director strengthening vanadium credentials.

Activities for the March 2017 quarter for Australian Vanadium Limited ("AVL" or "the Company") are as follows:

#### BLESBERG LITHIUM-TANTALUM PROJECT DRILLING AND EXPLORATION

In the ASX announcements of 16 February 2017, 21 March 2017 and 18 April 2017, AVL reported on the progress of the drilling and exploration programme at Blesberg, South Africa. At the date of the most recent announcement, 9 drill holes had been completed, successfully intersecting the pegmatite zone in all holes. Drill samples have been submitted for laboratory assay. Spodumene zones have been identified in multiple drill holes.

The Company has conducted initial exploration on the exposed Noumas pegmatite as well as soil sampling traverses and ground reconnaissance of hitherto unexplored pegmatite zones (exposed and under cover) on the Prospecting Right. Initial results suggest the licence has excellent pegmatite potential which is amenable to simple, cost effective exploration techniques.

The Company is currently undertaking a 4,000m RC (reverse circulation) and 500m diamond core drilling programme intended to allow the Company to calculate and report a mineral resource estimate in accordance with the 2012 JORC Code.

28.04.2017

#### **ASX ANNOUNCEMENT**

#### **Australian Vanadium Limited**

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# **Projects:**

Gabanintha Vanadium Gabanintha Gold, Copper Nowthanna Hill: Uranium Blesberg: Lithium Tantalum Feldpsar



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The programme has been designed to achieve a drill intersection spacing of 50m, sufficient to allow good resolution of the pegmatite geometry and mineral distribution. Drilling was stopped for a two week break over Easter and recommenced on 27<sup>th</sup> April.

The Company has conducted further soil geochemical sampling programs which have identified pegmatite extensions. Results offered strong indicators of presence of lithium minerals in the underlying or nearby rocks. Reconnaissance work away from the main workings at Blesberg has identified additional targets which include evidence of spodumene, lithium mineralisation and tantalite. Sampling results of historical products at the site have shown a beryl content of 10.71% BeO. The composite spodumene samples reported lithium contents between 2.86% - 4.76% Li<sub>2</sub>O indicating highly prospective Lithium grades.

For the Feldspar composite sampling that was undertaken,  $Al_2O_3$  was within  $18\% \pm 2\%$ ;  $Fe_2O_3$  was <0.12%;  $K_2O + Na_2O + LiO_2 + Rb_2O$  was >11%; CaO + MgO was <1%; and  $Al_2O_3 + K_2O + CaO + MgO$  was >30%, thereby meeting all the technical specifications of existing local purchasers of Feldspar within the ceramics and glass industry.

# **Additional Targets**

Reconnaissance work away from the main workings at Blesberg identified additional lithium bearing pegmatite targets:

- Relic textures of spodumene in outcropping pegmatites in P2 area and scree from the P1 area (Figure 2). These are indicative of the presence of lithium mineralisation in the absence of fresh spodumene at surface (See Plate 1). Erosion of spodumene is common in outcropping pegmatites around the world. Relic textures of spodumene are also seen in the Pilbara pegmatites in Western Australia.
- Confirmed presence of tantalite in P2 Area, strongly supporting the presence of mineralised pegmatites at depth.
- Mapping of outcropping pegmatites in the east of P2, with individual widths up to 18m and an aggregate width of 55m of pegmatites over 160m. This dense swarm extends west under shallow cover towards the main Noumas pegmatite, offering a very exciting walk-up drill target.
- Significant spodumene zones in upper Noumas 1 quarries, which are the target of continuing drilling.
- Low cost soil geochemistry using handheld XRF and Lithium index methods will be used to fully identify targets in the P2 area.



Plate 1: Relic Texture of Spodumene (striations, shape of cavity, eroded and weathered clay material), Noumas 1

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#### **Project Background**

The Blesberg Project is located approximately 80km north of Springbok in the remote Northern Cape Province of South Africa (see Figure 1). It lies at the western end of the Northern Cape Pegmatite Belt. This belt extends from Vioolsdrif in the west for about 450 km towards the east. The deposit is one of the largest known economically mineralised and exploited pegmatite deposits in the Pegmatite Belt.



Figure 1 – Blesberg Lithium Project Location Map

Mining at Blesberg commenced in 1925. The main products from later mining were beryl, bismuth, tantalite-columbite, spodumene, feldspar and mica. Feldspar production from the mine was reported to be of very high quality, with the feldspar being pure white and unstained by iron oxide. Historical information about mine production quantities and quality is very limited, however a sample analysis of a 150 ton shipment of feldspar from the 1960s assayed 1.74% Li<sub>2</sub>O (Schutte, I. Memoir 60 Geological Survey of South Africa,1972).

Mining operations, which ceased last decade, have never exceeded a modest scale and as such no significant exploration drilling of the deposit and its depth potential has been undertaken. As with many other pegmatite fields globally, lithium was not considered in previous exploration and mining.

# **Project Tenure & Infrastructure**

The Blesberg Prospecting Right ((NC) 940 PR) covers 887 Hectares and includes the entire historic Blesberg Hill and mine and infrastructure, including a power line to the base of the hill. The mine site is 5km off the sealed N7 Highway between Steinkopf and Vioolsdrif on the Namibian Border. The project is in a low population area known as the Richtersveld. The nearby regional capital of Springbok has a strong history of mining, being intimately located with one of Africa's oldest copper mines at Okiep. Many mining and exploration skills are still available in the region.

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#### Activities Planned at Blesberg for the Second Quarter of 2017

AVL's experienced international field geologist residing in Cape Town is managing the exploration activities at the Blesberg Mine. Continued drilling will focus on evaluating the main Blesberg pegmatite beneath the historical surface mine workings, with several holes to be drilled on the sand plain (See P1 in Figure 2) to test the outcropping pegmatite identified during exploration.

Activities to be undertaken in 2017 will include:

- Completion of RC and diamond drilling program over the main pegmatite and extensions.
- Following assay results, generation of a maiden mineral resource at Blesberg
- Mapping and sampling of additional pegmatite zones across the Prospecting Right area;
- Evaluation of all potential economic minerals present at Blesberg, including lithium, feldspar, tantalum, beryl and caesium;
- Determination of an accurate exploration target at Blesberg, (including the main Noumas I pegmatite and adjacent pegmatite bodies) see P1 and P2 areas in Figure 2;
- Volumetric and analytical assessment of the current dump and ramp material at Blesberg; and
- Advancing the environmental assessment and mining right application process.

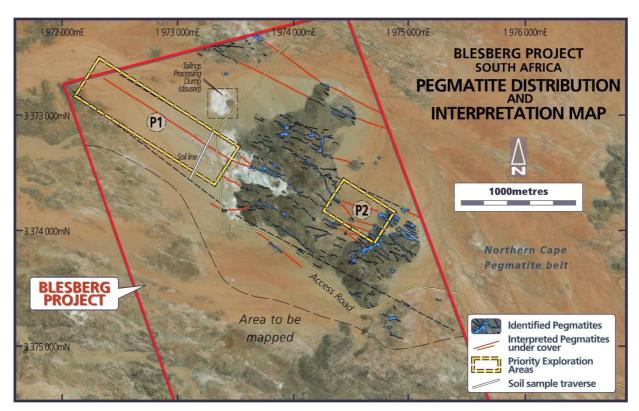


Figure 2 – Blesberg Project showing airborne/satellite mapping of pegmatites and prospective exploration targets in the sand plain

# **Composite Sample Results**

Four composite samples were taken from 3 sample sites at the Blesberg Mine. These samples were considered representative of the spodumene, beryl and feldspar mineralisation observed in the historical excavations. The spodumene sample was further differentiated into 2 x 23kg composite samples based on colour. The beryl sample (BBG1) results are included in Table 1a below. The results for the two spodumene samples and feldspar sample are shown in Tables 1b and 1c. Table 1d below shows the results of the mineralogy of BBG1, indicating it is almost completely composed of beryl.

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Beryl, is an ore of Beryllium. (Be, atomic number 4) which is a relatively rare element in the universe and is classified as an alkaline-earth metal. Beryllium is a metal that adds many properties when alloyed with aluminium, copper, iron and nickel.

The composite sampling was not intended to provide a representative grade of the pegmatite but rather an indication of the quality of historical products.

The beryl sample reports BeO content of 10.71%. The presence of megacryst (cm to decametre scale) beryl has been historically noted at Blesberg, and earlier low intensity mining has targeted the mineral specifically in the past. Beryl is known to occur in the northern contact zone, away from the lithium-tantalum rich intermediate zone.

The composite spodumene samples reported lithium contents between 2.86% - 4.76% Li<sub>2</sub>O indicating highly prospective Lithium grades.

For the feldspar,  $Al_2O_3$  was within 18%  $\pm$  2%;  $Fe_2O_3$  was <0.12%;  $K_2O$  +Na<sub>2</sub>O+LiO<sub>2</sub>+Rb<sub>2</sub>O was >11%; CaO+MgO was <1%; and  $Al_2O_3+K_2O+CaO+MgO$  was >30%, thereby meeting all the technical specifications of existing local purchasers of feldspar. A summary of assay results is shown below in Tables 1a – 1c.

The four composite samples were further analysed using X-Ray Powder Diffraction (XRD) to gain insights as to their respective mineralogy. The composite spodumene and feldspar samples reported highly prospective mineralogies, containing a majority of spodumene and microcline. A summary of the mineralogy results are shown below in Table 1d.

Table 1a - Beryl Sample

Sample ID	Sample Wt. (kg)	Easting (m)	Northing (m)	Elev. (m)	Sample Description	Be (ppm)
BBG1	22.7	766074	6790766	791	Beryl in feldspar matrix with euhedral crystals, Green	36800

Table 1b - Spodumene Samples

Sample ID	Sample Wt. (kg)	Easting (m)	Northing (m)	Elev. (m)	Sample Description	Li (%)	Li <sub>2</sub> O (%)	Ta (ppm)	Th (ppm)	U (ppm)
BBG3	23.5	765850	6790734	716	Spodumene, Light Pink	2.21	4.76	11	<5	<5
BBG4	23.4	765850	6790734	716	Spodumene, Pink-Purple	1.33	2.86	<5	<5	<5

Table 1c - Feldspar Sample

Sample ID	Sample Wt. (kg)	Easting (m)	Northing (m)	Elev. (m)	Sample Description	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	K₂O (%)	CaO (%)	MgO (%)
BBG2	25.5	765741	6790634	708	Feldspar, Brilliant White	19.43	0.08	12.72	0.07	0.03

Table 1d

Sample ID	Spodumene*	Eucryptite*	Petalite*	Beryl	Quartz	Plagioclase	Microcline	Muscovite
BBG1				96.74		3.26		
BBG3	80.31	0.35	0		2.35	11.38	0.72	4.89
BBG4	41.42	14.77	2.73		1.04	33.61	1.24	5.19
BBG2	0	0	0.37		0	21.57	78.06	0

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Table 2 - Assay Methods

Assay method and description	Elements and grade range
ICP(Four acid ICP)	Li - 0.005 – 10% Ta - 10-5,000 ppm Nb - 2-4,000 ppm Th - 4-4,000 ppm U - 4-10,0000 ppm
ICP (Be Ore Grade)	Be – 0.001% - 10%
XRF(Whole Rock By Fusion/XRF)	$Al_2O_3 - 0.02\% - 20\%$ $Fe_2O_3 - 0.02 - 20\%$ $K_2O - 0.02 - 20\%$ $CaO - 0.02 - 80\%$ $MgO - 0.02 - 45\%$
Qualitative and quantitative XRD  (using a PANalytical Empyrean diffractometer with PIXcel detector and fixed slits with Fe filtered Co-Kα radiation and identified using X'Pert Highscore plus software)	Spodumene – 1-100%  Eucryptite – 1-100%  Petalite – 1-100%  Quartz – 1-100%  Plagioclase – 1-100%  Microcline – 1-100%

# **GABANINTHA VANADIUM PROJECT**

## **Environmental Studies**

On 24 March 2017 AVL provided an update on the environmental study work at Gabanintha. The desktop subterranean fauna study has been completed. A vertebrate and short-range endemic (SRE) invertebrate fauna study and a two season level 2 flora and vegetation study is now underway. The results of these studies will determine whether or not further studies need to be undertaken. Studies are ongoing as the company advances the Mining Licence application M51/878.

#### **Additional Licences**

On 13 March 2017 the Company announced that it had agreed to acquire two exploration licences adjacent to the Gabanintha Vanadium Mineral Resource near Meekatharra. The tenements were acquired 100% from an unrelated private third party with no encumbrances, for a consideration of \$100,000 payable in AVL shares.

The licences (E51/1694 and E51/1695) lie immediately to the west of the Company's Gabanintha vanadium-titanium-iron Mineral Resource (Figure 3).

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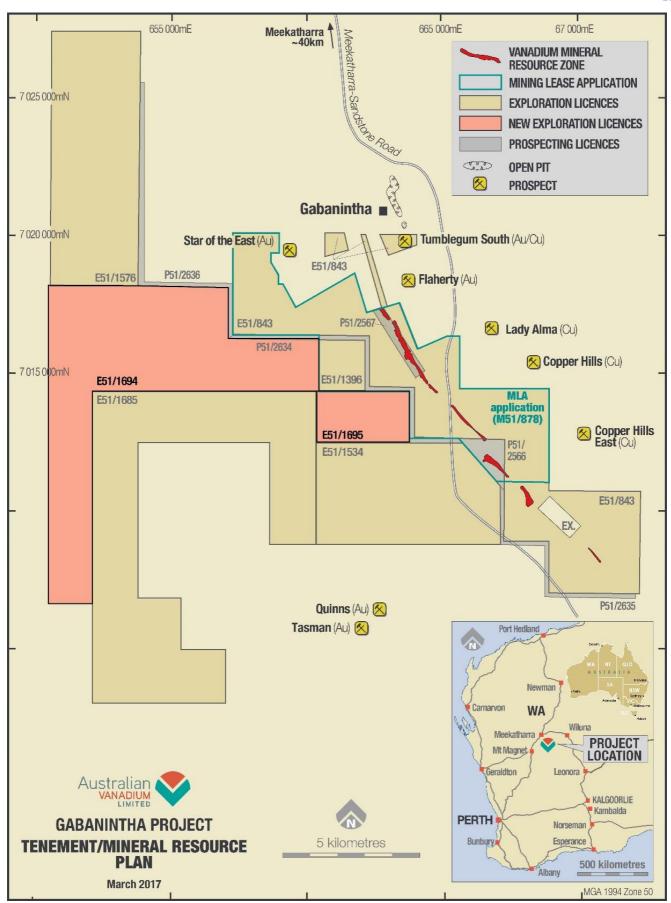


Figure 3 – Gabanintha Location Map showing new tenement acquisitions



#### Cobalt

ASX announcements dated 16 March 2017 and 31 March 2017 identified and confirmed significant cobalt assays at the Gabanintha project site. The Company recognises the importance of analysing the cobalt content further as part of the Gabanintha project studies that are currently underway, due to it being a potentially commercially viable by-product. This will involve a cobalt resource estimation and full review of metallurgical results generated as part of the beneficiation test work conducted in 2015. Additional specific test work will be undertaken on cobalt as required.

Cobalt has been found in the layered mafic igneous sequence (Lady Alma Igneous Complex) at Gabanintha, distributed within the magnetite rich layers which form the bulk of the vanadium resource. The cobalt is likely to be present in a non-magnetic sulphide component present in the ore.

The review of drilling and metallurgical test work data identified the following key information:

- The resource database contains 10,979 x 1m cobalt assay results (RC and diamond) from previous drilling.
- Of these, 1,270 x 1m samples assayed over 200ppm Co with an average of 275ppm Co.
- 14 drill holes had intercepts averaging over 5,000 grade metres (ppm x m) of cobalt with the largest down hole interval being 61 metres at 239.18 ppm Co in GDH903 from 154m to 215m (14,590 grade metres).
- 26 separate drill holes report intersections above 500ppm Co, at an average of 537ppm Co.
- 309 intersections in 99 drill holes report above 200ppm Co at an average of 253ppm Co.
- Maximum assay of 0.18% (1,828ppm) Co recorded in GRC102 (42m-43m).
- Wide intersections of up to 61m at 239ppm Co from 154m to 215m in GDH 903.
- Higher grade intersections include;
- 14m at 362ppm Co from 54m including 2m at 970 ppm from 55m in GDH 911 and;
- 6m at 612ppm Co from 39m including 2m at 1,272 ppm Co in GRC102.
- A close association of cobalt exists with the existing vanadium horizons, but appears located in the non-magnetic fraction, indicating a by-product opportunity.
- A review of the November 2015 beneficiation program indicates cobalt reporting to the non-magnetic fraction in Davis Tube Recovery (DTR), Low Intensity Magnetic Separator (LIMS) and Wet High Intensity Magnetic Separator (WHIMS) test work in the transitional material.
- Cobalt appears to be mostly absent from the oxidised material, providing an excellent proxy for the base of oxidation.

The cobalt assays have been modelled using Leapfrog software and demonstrates a consistent distribution within parts of the overall deposit (see Figure 4 below).

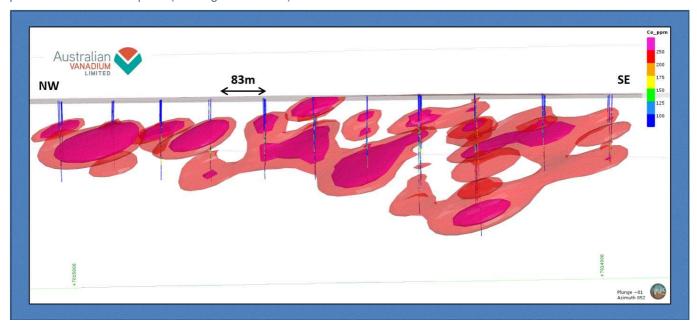


Figure 4 - Gabanintha Cobalt Distribution Grade Shells (200ppm and 250ppm Co) - Long Section

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#### VANADIUM ELECTROLYTE PILOT PLANT

As reported in the December 2016 Quarterly report, the Company successfully commissioned the State's first vanadium electrolyte pilot plant, located at the University of Western Australia.

Company personnel have been operating the pilot plant to successfully produce vanadium electrolyte suitable for use in Vanadium Redox Flow Batteries (VRB).

The installation of the pilot plant has enabled AVL to develop vanadium electrolyte production expertise and capability within Australia. The Company aims to develop both stand-alone and mine-attached vanadium electrolyte production capacity to support the growing demand in the VRB energy storage sector.

The pilot plant is being used to test and verify the production of vanadium electrolyte products that are suitable for use in third party VRB. Initially the Company plans to supply vanadium electrolyte to VRB being sold in Australia, New Zealand, the Pacific and Asia. However, the Company has also been approached by battery manufacturers in Europe who are seeking long term electrolyte supplies.

# **Commercialisation strategy**

Following the successful pilot plant installation, plans for a larger commercial plant are being evaluated by the Company as part of a Concept Study. Technology options, plant sizing and location are being assessed to determine the ideal commercial model, capital and operating costs for the commercial plant.

The potential rapid development of a commercial plant in Australia is in keeping with AVL's strategy to offer investors involvement in the entire energy storage value chain and provide early cash flow opportunities. The Concept Study will be advanced with the assistance of C-Tech Innovation Pty Ltd and other experts in the vanadium electrolyte sector.

#### Distribution

Ongoing discussions on the future sale and distribution of vanadium electrolyte continue with numerous VRB manufacturers, who are experiencing rapid growth in demand for their large-scale storage systems. Demand for electrolyte quality vanadium pentoxide is rising and strongly supports the integration strategy adopted by AVL.

#### **VSUN ENERGY PTY LTD**

The Company's 100% owned subsidiary, VSUN Energy, is investigating the feasibility of developing a residential VRB product in Australia. The ASX announcement dated 13 April 2017 outlines the strategy which includes the potential to manufacture the battery in Australia.

# **Residential Battery Plans**

VSUN Energy believes that the existence of a residential VRB product in developing markets, particularly Australia with its extremely high levels of residential rooftop generated solar energy, will have a consequential impact on the sales of larger VRB systems, as people become more comfortable and familiar with the robustness of the VRB technology. Small scale VRBs are also ideally suited for small scale standalone applications such as powering remote telecommunications facilities and irrigation pumping facilities.

VSUN Energy is currently finalising initial market reviews and partner discussions and will then undertake a feasibility study into developing a residential VRB product in Australia.

Manufacturing locations within Australia are being considered, which would enable VSUN Energy to increase local employment and build Australian expertise in this growing technology. Local manufacturing will also reduce the cost of transportation and therefore the cost of batteries to Australian customers.

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#### Sales Update

The Company has changed its sales strategy to appoint sub-agents in the solar industry. The sub-agency agreement will allow solar installers and consultants to collaborate in sales opportunities where storage is required or requested by the customer.

The potential sales leads currently being pursued is 72 open leads at the date of this report. The number of separate CellCube units within the sales pipeline is 316, representing 225.5MWh of storage. This indicates the very large potential market of VRB systems within the Australian market, after less than one year of lead generation by a small team at VSUN Energy.

All leads are for the potential sale of CellCube systems and, in some cases, include solar PV systems. Emphasis in these leads continues to be for large CellCube systems (FB 250kW-1000kWh and larger). Interest in multiple smaller units is also growing as the capabilities of the systems become acknowledged. Leads include projects from sectors including mining, industrial, agricultural, multi-residential, hotels, educational, commercial and tender responses.

VSUN Energy has also submitted responses to South Australian, Western Australian and two Victorian Expression of Interests for grid-scale energy storage. Partnerships for specific projects are being instigated. All respondents to the Western Australian Kalbarri Reliability Improvement Project Expression of Interest (EOI) were advised they will be invited to the next phase of the project which is the Request for Tender (RFT). Western Power advised that a battery based solution will be sought for the project. VSUN Energy submitted a proposal that uses large scale Vanadium Redox Flow Batteries in the EOI phase.

#### CellCube functioning flawlessly since installation

VSUN Energy's first installation of a VRB energy storage system in Western Australia on a rural property near Busselton was reported in September 2016.

The Company is pleased to report that since installation and commissioning, the battery has performed flawlessly. During this time the battery has been continuously monitored on the internet via a modem link. The site has been completely powered day and night by solar power, with the stored solar power being used from the battery during non-sunlight hours. No grid usage has been required. Only three visits have taken place to the battery since commissioning and these were not for battery maintenance but for sales purposes. The chart in Figure 5 shows the battery charge level (fluctuating daily as the battery discharges overnight, then recharges with solar power).



Figure 5 – Continuous use of the Busselton FB10-100 CellCube showing charge level and battery power level since commissioning in October 2016.

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#### **CORPORATE**

#### DANIEL HARRIS APPOINTED AS NON-EXECUTIVE DIRECTOR

On 1 February 2017, the Company announced the appointment of Daniel Harris to its Board of Directors. Daniel brings with him a vast amount of expertise in the vanadium industry and an understanding of the resource sector from both a technical and financial perspective.

Recent roles include the interim CEO and Managing Director at Atlas Iron; Chief Executive & Operating Officer at Atlantic; Vice President & Head of Vanadium Assets at Evraz Group; Managing Director at Vametco Alloys; General Manager of Vanadium Operations at Strategic Minerals Corp and acting as an independent technical and executive consultant to GSA Environmental Limited in the United Kingdom.

#### **BRYAH RESOURCES LTD**

On 20 January 2017, AVL announced that it had agreed to sell the precious and base metal rights in the Gabanintha Project, as well as its 100% equity in Peak Hill tenement (E52/3349) to Bryah Resources Limited (Bryah).

The consideration for the sale comprises:

- 5,000,000 ordinary shares in Bryah; and
- a 0.75% net smelter return royalty upon commencement of production.

Bryah lodged its prospectus with ASIC on 26 April 2017 and expects an ASX quotation date of 31 May 2017. On completion of the IPO, AVL will hold a relevant interest in Bryah of between 6.67% - 8.93%.

Under the deal AVL retains all mineral rights to vanadium, titanium, chromium, uranium, lithium, tantalum, iron ore manganese and cobalt within the Gabanintha Project area and retains primary title over the licenses. The development by AVL of the world class high grade vanadium-titanium-iron project at Gabanintha will continue unabated.

Bryah's focus is on gold and copper exploration, which means that the transaction represents an opportunity for AVL to realise value for the gold and base metals' potential of its Gabanintha and Peak Hill Projects, whilst it continues to pursue its strategic focus on energy storage minerals, primarily vanadium and lithium.

Apart from the Gabanintha and Peak Hill Projects acquired from AVL, Bryah has recently acquired tenements covering 500km<sup>2</sup> within the highly prospective and under-explored Bryah Basin, approximately 100km north of Meekatharra (see Figure 6). With the addition of the AVL ground, this land holding exceeds 700km<sup>2</sup>.

All eligible AVL shareholders at the record date of 27 April 2017 will be given a priority opportunity to participate in the IPO with a letter detailing how to apply to be sent out shortly

For further information please see ASX announcements dated 20 January 2017, 3 March 2017 and 24 April 2017.

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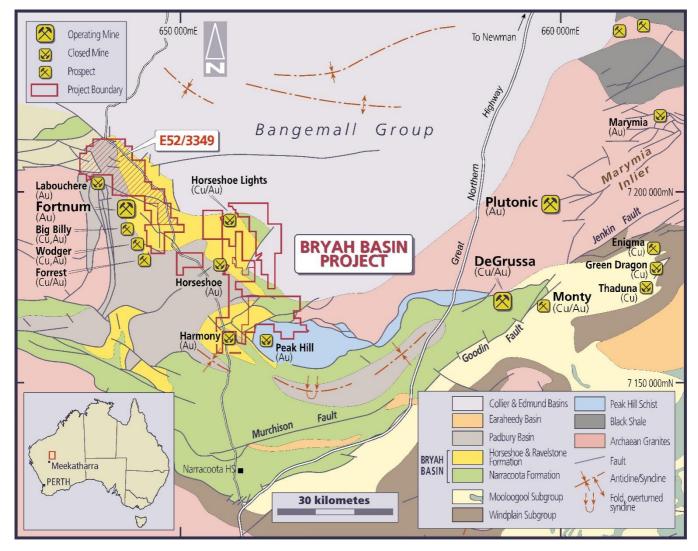


Figure 6 – Bryah Resources Limited's Bryah Basin Project Location Map

#### Nowthanna Hill Uranium M51/771

The Nowthanna Uranium Project is situated approximately 47 kilometres south east of Meekatharra. The project consists of tenement application M51/771 which covers a portion of the calcrete palaeochannel near the Quinn's Lake inland drainage. This same palaeochannel and lake contains the calcrete hosted uranium deposits at Nowthanna and Nowthanna South. The Company has held the tenement application since listing in 2007. The project is immediately adjacent to and contiguous with the Nowthanna Hill Uranium deposit owned by Toro Energy, located on retention licence application R51/3 and containing an Inferred Resource of 11.9 Mt at 399ppm U<sub>3</sub>O<sub>8</sub>, containing 10.5Mlbs U<sub>3</sub>O<sub>8</sub> reported to JORC 2012 standards and using a 200ppm U<sub>3</sub>O<sub>8</sub> cutoff (Toro Energy Annual Report 2015, p13). Historical uranium resources have been calculated on M51/1771 but have not yet been updated by AVL.

During the course of 2016, AVL successfully negotiated a mining project agreement with the Yugunga-Nya people, which will now enable the state to grant the mining lease. The Company awaits the completion of signatures by the various parties to the agreement.

# **Cash Position**

As at the 31st March 2017, the Company had \$2.46 million in cash and cash equivalents.

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#### Capital Raising and share issues

During the quarter a total of 31,190,000 unlisted options with an exercise price of 1.4712 cents each were exercised, raising a total of \$458,867 for the Company.

A total of 6,250,000 million shares were issued in consideration for the tenement acquisitions at Gabanintha.

# **Company Presentations and Conference Attendance**

During the Quarter the Company attended and presented at a number of industry conferences. These included:

- Mining Indaba Cape Town Discovery Forum (5-7 February 2017)
- World Renewable Energy Conference XVI (5-9 February 2017)
- 92<sup>nd</sup> Vanitec Meeting (4-6 April)
- Remote Area Power Supply Conference (21-22 March)

During the June 2017 quarter the Company will present at and attend:

- Solar Energy & Energy Storage Conference & Exhibition (3-4 May 2017)
- Resources Rising Stars Conference (29-30 May 2017)
- International Flow Battery Forum (27-29 June 2017)
- Energy and Mines Conference (29-30 June 2017)
- 2nd Vanitec Energy Storage Committee Meeting (30 June 2017)

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#### **About Australian Vanadium Limited**

AVL is a diversified resource company with an integrated strategy with respect to energy storage, seeking to offer investors a unique exposure to all aspects of the vanadium value chain – from resource through to steel and energy storage opportunities as well as other energy storage metals exposure through the acquisition and evaluation of lithium/tantalum projects.

AVL is advancing the development of its 100%-owned, world-class Gabanintha vanadium project. The Gabanintha vanadium project is currently one of the highest-grade vanadium projects being advanced globally with existing Measured Resources of 7.0Mt at 1.09% grade  $V_2O_5$ , Indicated Resources of 17.8Mt at 0.68% grade  $V_2O_5$  and Inferred Resources of 66.7Mt at 0.83% grade  $V_2O_5$ , a total of 91.4Mt, grading 0.82%  $V_2O_5$  and containing a discrete high-grade zone of 56.8Mt, grading 1.0%  $V_2O_5$  reported in compliance with the JORC Code 2012 (see YRR ASX Announcement 10 November 2015).

Table 3 – Gabanintha Project 2015 Mineral Resource Estimation

	High (	Grade	Low (	Grade	Total		
Category	Material V <sub>2</sub> O <sub>5</sub> (Mt) %		Material (Mt)	V <sub>2</sub> O <sub>5</sub> %	Material (Mt)	V <sub>2</sub> O <sub>5</sub> %	
Measured	7.0	1.09	-	-	7.0	1.09	
Indicated	4.3	1.07	13.4	0.55	17.8	0.68	
Inferred	45.5	0.97	21.1	0.53	66.7	0.83	
TOTAL	56.8	1.00	34.6	0.53	91.4	0.82	

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AVL is aiming to develop a local commercial production capacity for high-purity vanadium electrolyte, which forms a key component of vanadium redox flow batteries (VRB).

AVL, through its 100%-owned subsidiary VSUN Energy Pty Ltd, is actively marketing VRB in Australia through a distribution agreement with world-leading flow battery manufacturer, GILDEMEISTER Energy Storage GmbH.

As part of its broader energy metals focus, AVL has also commenced a staged acquisition of a controlling 50.03% interest in the Blesberg Lithium-Tantalum Project in South Africa (see ASX Announcement 21 December 2016).

#### **Tenement Schedule**

Tenement Information as Required by Listing Rule 5.3.3 For the Quarter Ended 31 March 2017								
Project	Location	Tenements	Economic Interest	Notes	Change in Quarter %			
Western Australia	Gabanintha	E51/843	100% Granted		Nil			
		E51/1396	100% Granted		Nil			
		E51/1534	100% Granted		Nil			
		E51/1576	100% Granted		Nil			
		E51/1685	100% Granted		Nil			
		E51/1694	100% Granted		100%			
		E51/1695	100% Granted		100%			
		P51/2566	100% Granted		Nil			
		P51/2567	100% Granted		Nil			
		P51/2634	100% Granted		Nil			
		P51/2635	100% Granted		Nil			
		P51/2636	100% Granted		Nil			
		MLA51/878		100% On application	Nil			
Western Australia	Nowthanna	MLA51/771		100% On application	Nil			
Western Australia	Peak Hill	E52/3349	0.75% NSR Production Royalty	100% sold to Bryah Resources Limited	100%			
Western Australia	Coates	E70-4924-I		100% On application	Nil			
South Africa	Blesberg	(NC) 940 PR		Earning 50.03%	Nil			

# **Concept Study Parameters – Cautionary Statement**

The Concept Study in this report (nominal +/- 50% accuracy) is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the current conclusions of the Concept Study will be realised. There is a moderate level of geological confidence associated with Measured Indicated and Inferred Mineral Resources and there is no certainty that further exploration and development work will result in the estimation of Ore Reserves or that the production target itself will be realised. The Company advises the Concept Study results and production targets reflected in this announcement are highly preliminary in nature as conclusions are drawn from the average grade of Measured, Indicated and Inferred Resources. A generic mining cost per tonne of material moved and an average resource grade has been used to determine overall mining and processing costs as opposed to a detailed mining block model evaluation to produce a detailed mining schedule.

#### **Competent Person References**

# Competent Person Statement - Exploration Results Gabanintha

The information in this statement that relates to Exploration Results at Gabanintha is based on information compiled by independent consulting geologist Brian Davis BSc DipEd who is a Member of The Australian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and is employed by Geologica Pty Ltd.

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Brian Davis 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr. Davis consents to the inclusion in the report of the matters based on the information made available to him, in the form and context in which it appears.

# Competent Person Statement - Mineral Resource Estimation

The information relating to the Gabanintha Project 2015 Mineral Resource estimate reported in this announcement is based on information compiled by Mr John Tyrrell. Mr Tyrrell is a Member of The Australian Institute of Mining and Metallurgy (AusIMM) and a full time employee of AMC (AMC Consultants Pty Ltd). Mr Tyrrell has more than 25 years' experience in the field of Mineral Resource Estimation. He has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and in resource model development to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr. Tyrrell consents to the inclusion in the report of the matters based on the information made available to him, in the form and context in which it appears.

The information is extracted from the report entitled "Substantial high-grade vanadium resource highlights Gabanintha's world-class potential" released to ASX on 10 November 2015 and is available on the company website at 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, in the case of estimates of Mineral Resource 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 has not been materially modified from the original market announcement.

#### Competent Person Statement - Blesberg Exploration Program

The information relating to the Blesberg Lithium-Tantalum Project exploration program reported in this announcement is based on information compiled by Mr Vincent Algar. Mr Algar is a Member of The Australian Institute of Mining and Metallurgy (AusIMM) and a full-time employee of the Company. Mr Algar has more than 25 years' experience in the field of mineral exploration. He has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr. Algar consents to the inclusion in the report of the matters based on the information made available to him, in the form and context in which it appears.

# **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 Companies other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publicly any revisions to any "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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