ASX ANNOUNCEMENT 10 DECEMBER 2019

NEW DRILLING STARTS AT THE AUSTRALIAN VANADIUM PROJECT

AVL targeting significant mine life extensions with new programmes of resource infill drilling.

KEY POINTS

- **A new 2000m RC infill drilling programme has started at The Australian Vanadium Project to further define and add value to the high-grade vanadium magnetite zone by:**
  - Focusing on shallow infill drilling over southern portion of the Inferred Resource base;
  - Low cost conversion of current Inferred Resources to Indicated Resources;
  - Providing opportunity and flexibility for DFS scheduling; and
  - Potential to significantly increase current 17-year planned life or scale of the Project.
- **Mineral Resource update underway to incorporate results from earlier 2018 and 2019 drill programmes.**
- **Drilling is complementary to existing Feasibility Study and approval activities.**
- **Increasing project life identified as a key factor in offtake and funding discussions.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce that it has commenced drilling on the southern strike extensions at The Australian Vanadium Project ("the Project"). The drilling has been prioritised to follow up on the best intersections from pre-2015 drilling. The new drilling will improve the existing drill spacing from 400m to approximately 140m. Priority planned holes are based on the thickness of the high-grade zone, V_2O_5 grade and the magnetitic susceptibility response.

A Mineral Resource update is underway, to incorporate the results of the earlier 2018 and 2019 drill programmes. A further update will be completed at the end of this drill programme.

Recent reprocessing of airborne magnetic data has generated a high resolution 'Inversion Model'. The results have focused the AVL team to the southern areas, where there is an opportunity to target shallow mineralisation with high magnetic properties and further improvement to vanadium recovery. The project has already demonstrated a globally unique high vanadium and Life-Of-Mine concentrate

mass recovery of 65% (see Appendix 5 and ASX announcement[1]) in pre-feasibility and pilot study test work. The options present the opportunity to increase the mine life or scale of the Project and to define more transitional and fresh ore close to the surface, increasing scheduling flexibility during mining.

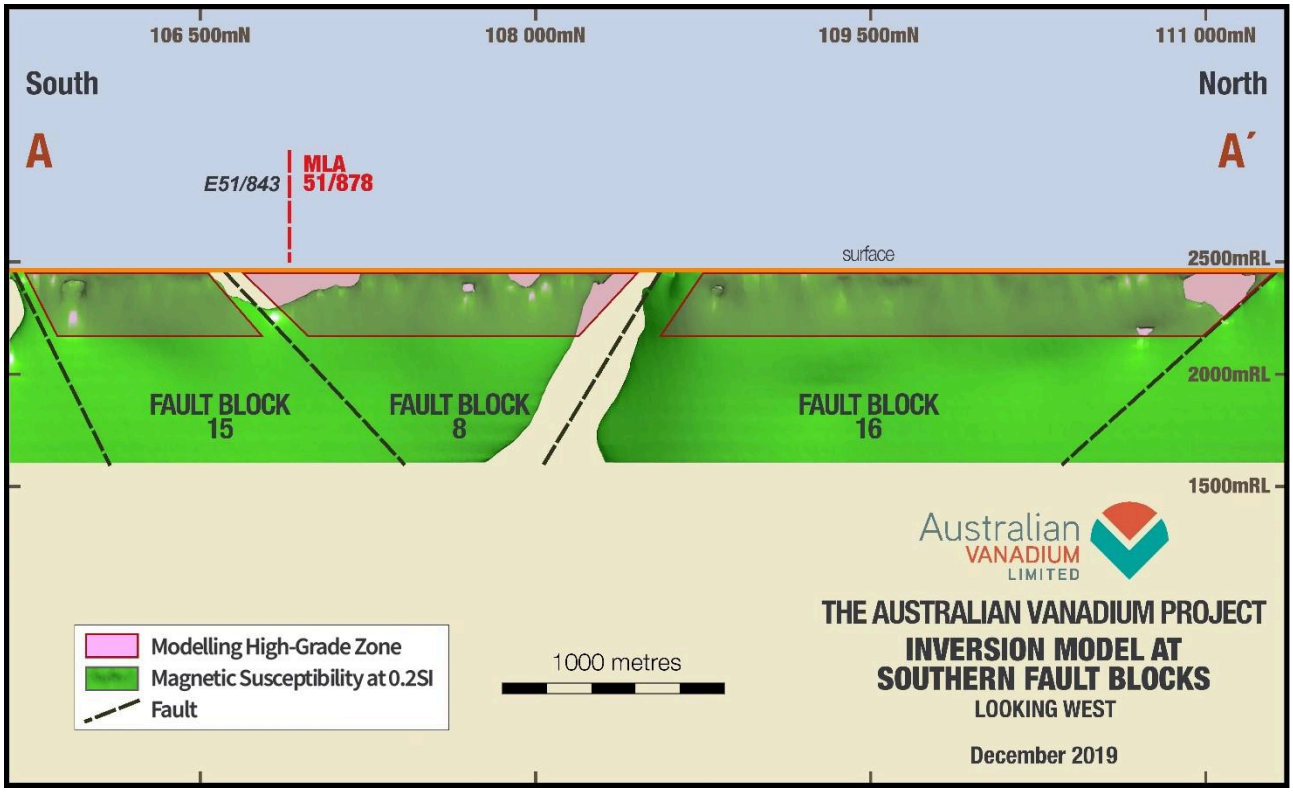


Figure 1 Magnetic susceptibility inversion model (green) blocks 15, 8 and 16.

The inversion model using the magnetic susceptibility data has successfully modelled the magnetic response in the subsurface. The inversion model was created by reprocessing an airborne magnetic survey at 50m flight line spacing flown in 2006. Figure 1 shows the fault offsets and the relative strength of the magnetic response. The targeted drilling is in areas where the response is greatest. Comparison of the inversion model with the Company's significant drilling, geophysics and mapping dataset shows a very high degree of correlation, supporting its use for exploration targeting.

Managing Director Vincent Algar commented, "Reprocessing of airborne magnetic data has focused the geology team to target areas interpreted to have more transitional mineralisation at surface, and hence better vanadium recovery though the proposed magnetic separation process. AVL's significant strike position is an opportunity to selectively target materials for mining to maximise the processing plant's capabilities. New Mineral Reserves that may result from this drilling aim to increase the mine life substantially. Our targeted project investors and offtake partners have

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

indicated they value a de-risked, large resource base, with built-in flexibility for shallow open pit mining."

The southern resource blocks within AVL's leases contain Inferred Resources of 55.3 Mt at 0.97% V_2O_5. Infill drilling is designed to further define and where possible re-categorise vanadium bearing mineralisation to the Indicated Resource category.

A successful drilling campaign will significantly increase the potential mine life or scale of the Project to beyond the current 17 years as defined in the PFS[2] and enable better informed decisions on the optimal scale and mine life of the Project.

Figure 2 Drill rig preparation at The Australian Vanadium Project 9/12/19

The identification of additional surface transitional ore along the strike allows more options for satellite pits to be included in the mine schedule, increasing the flexibility in mining. The option to blend-in greater percentages of transitional and fresh material earlier in the mine schedule could also be beneficial. The PFS contemplates the mining and processing of 1.4 million tonnes of ore per annum.

[2] See ASX announcement dated 19 December 2018 '*Gabanintha Pre-Feasibility Study and Maiden Ore Reserve*'

RESOURCE DEFINITION DRILLING

As can be seen in Figure 3 and shown in Table 1, expansion of the Reserve base at the Project is achievable with low cost infill drilling through the southern Fault blocks. The outcome of conversion of any Resources to mining Reserves will add additional feedstocks to the Project life. The Project's processing plant is being designed to treat a blend of material types that are representative of the near surface mineralisation, which will include vanadiferous-titano-magnetites with a range of magnetic yields and concentrate grades. Opportunities to develop satellite pits can result in wider choices in scheduling, which improves plant performance.

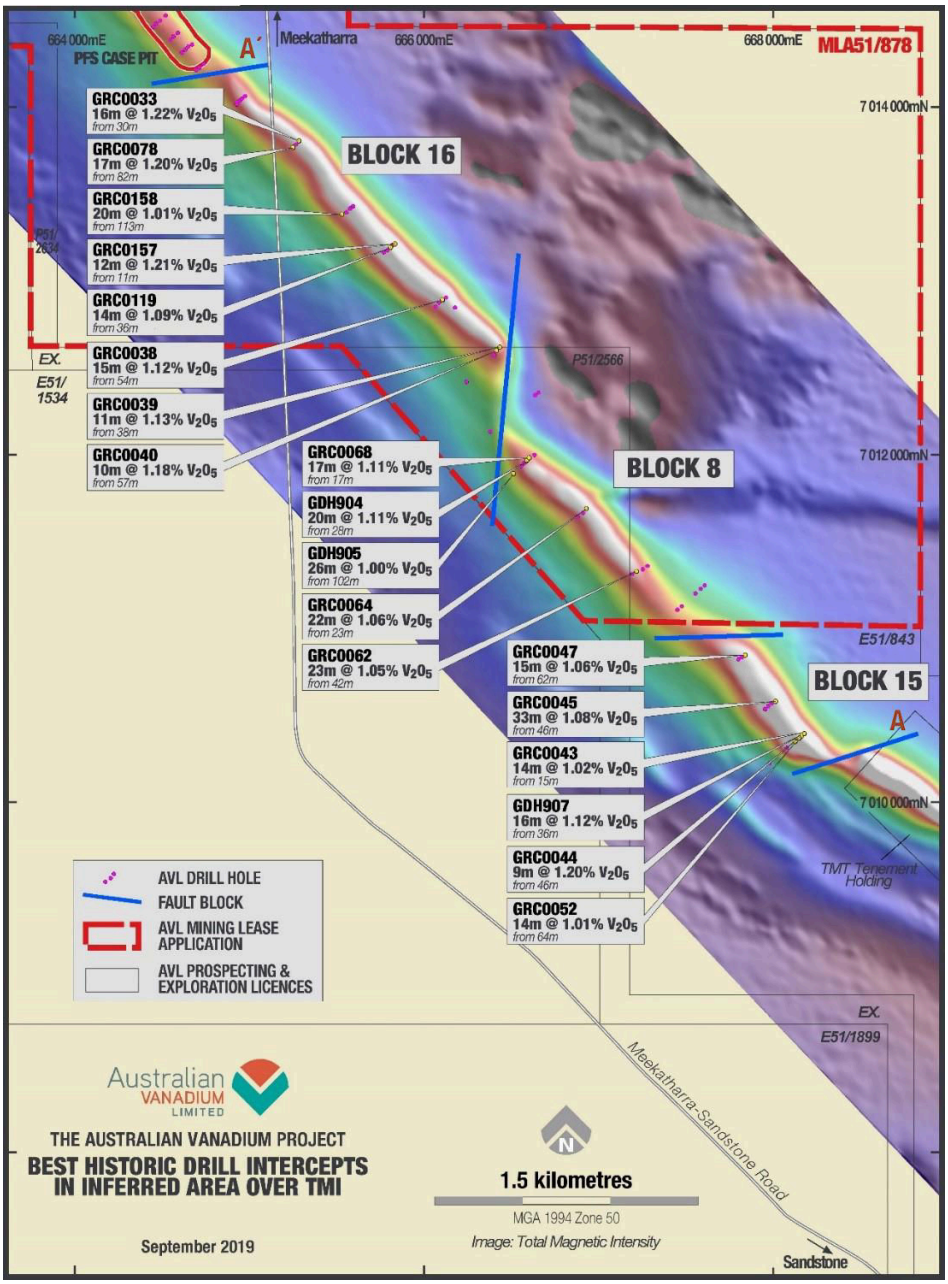


Figure 3 Historic Intercepts greater than 8m over 1.0% V_2O_5 in Southern Blocks

The strategy for improving the quality of the southern Resources will be to initially drill the top 140m (below surface) of the current Inferred Resources and where possible convert to the Indicated category. Mining costs increase significantly with increased depth, in this case primarily due to a higher stripping ratio and the need to stockpile low-grade ore, which will not be processed in the early part of the mine's life if ever (depending on economics). The planned drilling programmes are specifically targeting areas in the south with greater thickness, shallower dip and higher magnetic susceptibility, to maximise the conversion to Indicated Resources. The deposits are open at depth.

Table 1 Target Blocks for Resource Definition Drilling to 140m Below Surface

Block	Strike Extent (m)	Current Inferred Resource Tonnage to 140m Below Surface (Mt)	Current Resource Inferred Grade to 140m Below Surface					
			V_2O_5%	Fe%	TiO_2%	SiO_2%	Al_2O_3%	LOI%
8	1,590	16.8	0.94	41.3	11.3	11.7	8.1	3.8
15	850	9.4	0.99	45.0	11.3	9.0	6.3	3.9
16	2,220	12.5	1.01	42.9	11.2	10.9	7.1	2.3
Sum		**38.6**	**0.98**	**42.7**	**11.2**	**10.8**	**7.3**	**3.3**

Significant previous drilling results in the southern blocks are outlined in Table 2, with intercepts defined as greater than 8 metres over 1.0% V_2O_5. The location of the drillholes within the southern blocks are shown in Figure 3

Drilling of the priority 1 holes are planned to be completed by the end of 2019. Further priorities will be revisited after the results to ensure that the best areas are still being targeted. A Mineral Resource update will be completed at the end of each programme.

Table 2 Intercepts from Southern Blocks at greater than 8 m over 1.0% V_2O_5

Hole ID	Metre From	Metre To	Interval	Fault Block	V_2O_5%	Fe%	TiO_2%	SiO_2%	Al_2O_3%	LOI%
GDH904	28	48	20	8	1.11	42.8	12.4	11.5	8.4	3.4
GDH905	102	128	26	8	1.00	43.9	11.4	11.3	7.9	3.7
GRC0062	42	65	23	8	1.05	43.0	12.3	9.0	7.5	3.7
GRC0064	23	45	22	8	1.06	42.3	12.8	10.0	8.1	3.5
GRC0068	17	34	17	8	1.11	46.7	13.1	7.0	5.9	2.3
GDH907	36	52	16	15	1.12	47.6	12.6	7.7	6.0	2.5
GRC0043	15	29	14	15	1.02	43.7	11.7	12.1	7.0	-
GRC0044	46	55	9	15	1.20	50.2	13.0	3.8	4.4	-
GRC0045	46	79	33	15	1.08	46.9	12.0	7.1	5.3	-
GRC0047	62	77	15	15	1.06	46.9	11.7	7.4	6.8	-
GRC0052	64	78	14	15	1.01	47.7	11.7	7.0	4.9	3.2
GRC0033	30	46	16	16	1.22	46.8	13.9	5.9	5.6	-

Hole ID	Metre From	Metre To	Interval	Fault Block	V_2O_5%	Fe%	TiO_2%	SiO_2%	Al_2O_3%	LOI%
GRC0038	54	69	15	16	1.12	45.6	12.8	6.8	6.4	-
GRC0039	38	49	11	16	1.13	50.1	12.5	4.7	5.2	-
GRC0040	57	67	10	16	1.18	51.5	13.2	3.7	4.6	-
GRC0078	82	99	17	16	1.20	51.7	12.9	2.9	3.9	0.4
GRC0119	36	50	14	16	1.09	44.7	12.0	8.8	6.4	3.0
GRC0157	11	23	12	16	1.21	42.6	13.1	11.3	6.3	3.3
GRC0158	113	133	20	16	1.01	45.3	11.1	10.8	5.5	2.5

Subsequent programmes will be spaced out over 2020 and 2021. Work will be conducted in tandem with the ongoing DFS and subsequent engineering and construction work, subject to financing.

RESOURCES

The PFS defined an Ore Reserve of 18.24Mt at 1.04% V_2O_5 which is 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. The Reserve is derived from 10.2Mt at 1.11% V_2O_5 Measured Resources and 12.1Mt at 1.05% V_2O_5 Indicated Resources (see APPENDIX 1). In addition to the Resources which form the current Reserve, there are 3.3Mt of Indicated Resources at 1.04% V_2O_5 and 8.9 Mt of Inferred Resources at 0.98% V_2O_5 beneath the current pit optimisation. The total Resource (Measured, Indicated and Inferred) in the fault blocks where the pit is designed is 36.3 Mt at 1.04% V_2O_5.

APPENDIX 2 summarises the current Mineral Resource estimate by High-Grade (HG), Low Grade domains (LG2-5) and Transported domains (Trans 6-8) by each fault block.

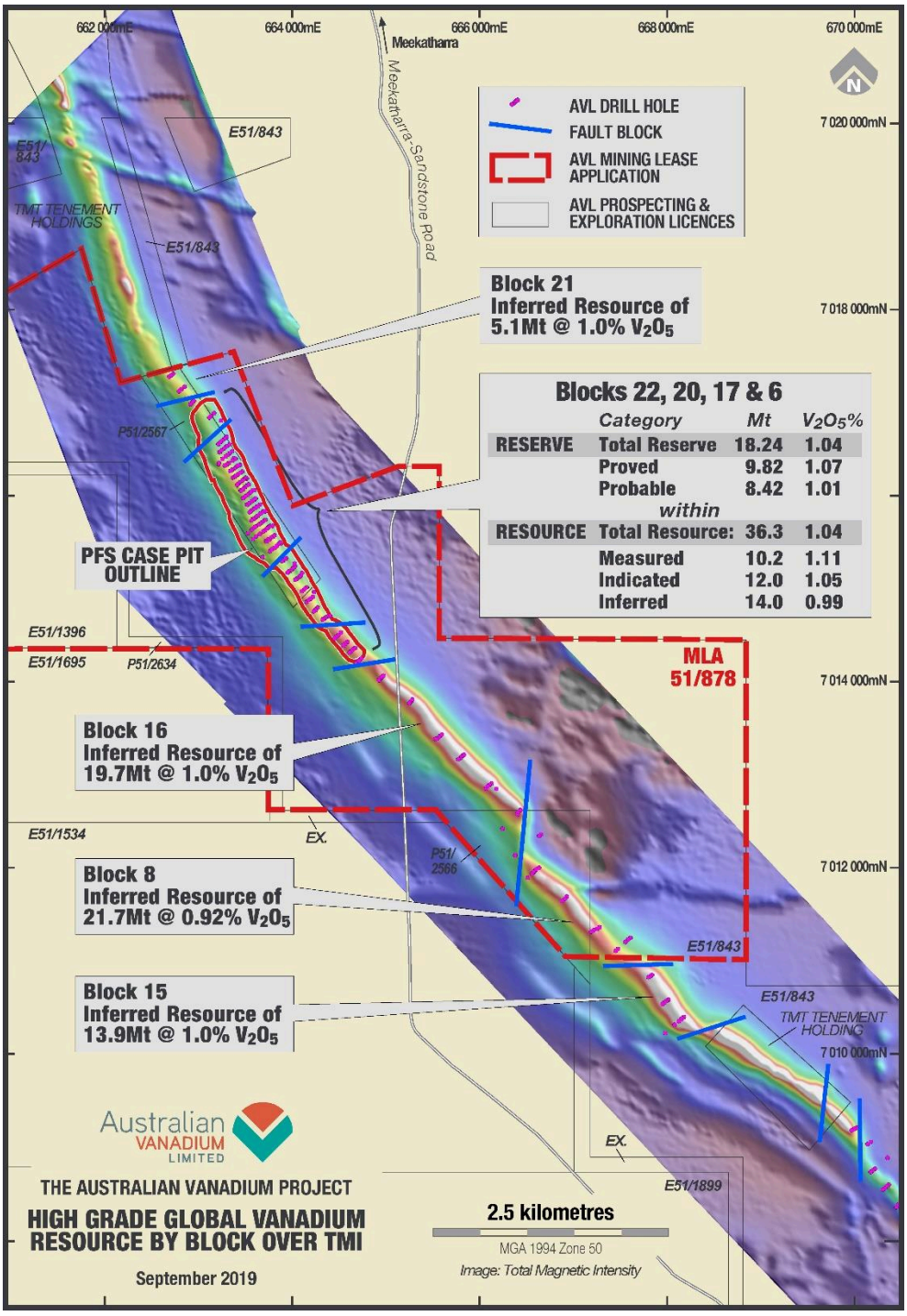


Figure 4 Total Magnetic Intensity Showing Mineral Resources by Major Fault Block

As shown in Figure 4, AVL's 100% controlled Mineral Resource extends over an 11.5km strike of the known magnetite bearing rocks. Mineralisation in the Indicated and Measured Resource category are all located in the northern portions of AVL's tenements. Drill spacing in this area ranges from 80m x 30m on average through the larger fault block 20, increasing to 130m x 30m on average in fault blocks 17 and 6. The southern area of the tenements were drilled at a spacing of over 400m x 25m on average in 2008 and resulted in defined mineralisation in the Inferred Resources category.

The target economic mineralisation at The Australian Vanadium Project is a massive vanadiferous titano-magnetite horizon located at the base of a thick gabbro sequence. The high-grade zone ranges in thickness from 15 to 20m and dips between 45 and 60 degrees to the southwest. The high-grade zone 'HG 10' is separated occasionally by faulting and is interpreted into kilometre-scale blocks. The planned infill drilling programmes will focus on the higher grade and thicker portions of HG zone. The current PFS takes in Fault blocks 22, 20,17 and 6.

The total Resources in these blocks are as follows:

Table 3 Resources by Fault Block

Block #	Area	Category	Current Resource Tonnage (Mt)	Current Resource Grades					
				V_2O_5%	Fe%	TiO_2%	SiO_2%	Al_2O_3%	LOI%
22	In pit extents	Measured	1.0	1.10	41.7	12.5	10.4	9.3	4.9
22		Indicated	0.7	1.09	40.8	12.6	11.4	9.6	5.2
22		Inferred	2.6	1.02	40.0	12.9	12.1	10.4	5.7
20	In pit extents	Measured	9.2	1.11	42.9	12.7	10.2	7.9	3.8
20		Indicated	5.9	1.09	44.4	12.1	9.7	7.2	3.1
20		Inferred	4.7	1.08	43.4	12.0	10.6	7.7	3.4
17	In pit extents	Indicated	5.5	1.01	43.6	11.5	11.4	7.8	3.7
17		Inferred	1.5	0.95	42.7	10.9	12.7	7.9	3.8
6	In pit extents	Inferred	5.2	0.91	40.1	10.4	14.7	8.4	3.3
Subtotal Pit	**Within PFS pit extents**		**36.3**	**1.04**	**42.6**	**11.9**	**11.3**	**8.1**	**3.7**
21	North of pit	Inferred	5.1	1.00	41.7	11.4	12.3	7.8	3.9
16	South of pit	Inferred	19.7	1.00	42.5	11.0	11.3	7.2	2.3
8	South of pit	Inferred	21.7	0.92	40.5	11.0	12.7	8.4	3.8
15	South of pit	Inferred	13.9	1.00	45.1	11.3	9.1	6.3	3.7
Subtotal	**Outside pit extents**		**60.4**	**0.97**	**42.29**	**11.11**	**11.37**	**7.45**	**3.29**
Sum			**96.7**	**1.00**	**42.4**	**11.4**	**11.3**	**7.7**	**3.5**

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 continous disclosure policy and has been approved by the Board.

COMPETENT PERSON STATEMENT – EXPLORATION RESULTS AND EXPLORATION TARGETS

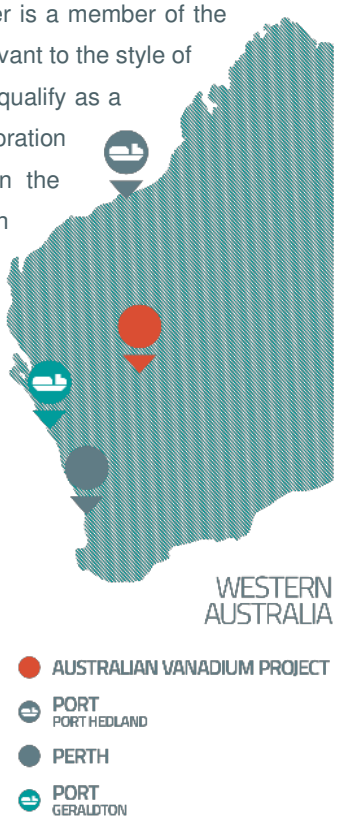
The information in this report that relates to Exploration Results and Exploration Targets is based on and fairly represents information and supporting documentation prepared by Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Davis is a shareholder of Australian Vanadium Limited. Mr Davis is a 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 consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

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 Davis is a shareholder of Australian Vanadium Limited. 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 the Australasian Institute of Mining and Metallurgy. 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 2012 Edition of the 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.



APPENDIX 1

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low-grade and nominal 0.7% V_2O_5 wireframed cut-off for high-grade (total numbers may not add up due to rounding).

Zone	Classification	Mt	V_2O_5%	Fe%	TiO_2%	SiO_2%	Al_2O_3%	LOI%
HG 10	Measured	10.2	1.11	42.7	12.6	10.2	8.0	3.9
	Indicated	12.1	1.05	43.8	11.9	10.6	7.6	3.5
	Inferred	74.5	0.97	42.1	11.2	11.6	7.6	3.4
	Sub-total	**96.7**	**1.00**	**42.4**	**11.4**	**11.3**	**7.7**	**3.5**
LG 2-5	Measured	-	-	-	-	-	-	-
	Indicated	28.6	0.50	24.6	6.9	27.5	17.9	8.6
	Inferred	53.9	0.49	25.3	6.7	27.5	16.4	7.3
	Sub-total	**82.5**	**0.49**	**25.1**	**6.8**	**27.5**	**16.9**	**7.7**
Transported 6-8	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	4.4	0.65	28.2	7.2	24.7	16.7	8.5
	Sub-total	**4.4**	**0.65**	**28.2**	**7.2**	**24.7**	**16.7**	**8.5**
Total	Measured	10.2	1.11	42.7	12.6	10.2	8.0	3.9
	Indicated	40.7	0.66	30.3	8.3	22.5	14.8	7.1
	Inferred	132.7	0.77	34.8	9.2	18.5	11.5	5.1
	Sub-total	**183.6**	**0.76**	**34.3**	**9.2**	**18.9**	**12.1**	**5.5**

APPENDIX 2

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low-grade and nominal 0.7% V_2O_5 wireframed cut-off for high-grade (total numbers may not add up due to rounding by fault block).

		Block #	Cat	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
HG 10		20	Measured	9.2	1.11	42.9	12.7	10.2	7.9	3.8
		22		1.0	1.1	41.7	12.5	10.4	9.3	4.9
			Subtotal	**10.2**	**11.1**	**42.7**	**12.6**	**10.2**	**8.0**	**3.9**
		17	Indicated	5.5	1.01	43.6	11.5	11.4	7.8	3.7
		20		5.9	1.09	44.4	12.1	9.7	7.2	3.1
		22		0.7	1.09	40.8	12.6	11.4	9.6	5.2
			Subtotal	**12.1**	**1.05**	**43.8**	**11.9**	**10.6**	**7.6**	**3.5**
		6	Inferred	5.2	0.91	40.1	10.4	14.7	8.4	3.3
		8		21.7	0.92	40.5	11.0	12.7	8.4	3.8
		15		13.9	1.00	45.1	11.3	9.1	6.3	3.7
		16		19.7	1.00	42.5	11.0	11.3	7.2	2.3
		17		1.5	0.95	42.7	10.9	12.7	7.9	3.8
		20		4.7	1.08	43.4	12.0	10.6	7.7	3.4
		21		5.1	1.00	41.7	11.4	12.3	7.8	3.9
		22		2.6	1.02	40.0	12.9	12.1	10.4	5.7
			Subtotal	**74.5**	**0.97**	**42.1**	**11.2**	**11.6**	**7.6**	**3.4**
		Sum	**HG Total**	**96.7**	**1.0**	**42.4**	**11.4**	**11.3**	**7.7**	**3.5**
LG 2-5		17	Indicated	7.7	0.49	26.1	6.7	26.9	18.0	8.6
		20		18.1	0.51	24.1	7.0	27.8	17.8	8.4
		22		2.9	0.50	23.6	6.8	27.0	17.8	9.9
			Subtotal	**28.6**	**0.5**	**24.6**	**6.9**	**27.5**	**17.9**	**8.6**
		6	Inferred	4.0	0.46	25.2	6.3	28.1	16.4	7.9
		8		6.4	0.50	23.6	6.6	28.1	18.9	7.9
		15		4.7	0.49	23.5	6.4	29.1	17.1	3.5
		16		18.6	0.52	26.8	6.9	26.5	14.3	5.9
		17		3.0	0.48	25.7	6.7	27.5	17.7	8.5
		20		5.4	0.51	24.7	6.9	27.9	17.4	8.2
		21		5.6	0.45	25.4	6.6	26.7	17.6	9.9
		22		6.2	0.43	24.4	6.5	29.0	17.5	9.5
			Subtotal	**53.9**	**0.49**	**25.3**	**6.7**	**27.5**	**16.4**	**7.3**
		Sum	**LG Total**	**82.5**	**0.49**	**25.1**	**6.8**	**27.5**	**16.9**	**7.7**
Transported 6-8		8	Inferred	0.9	0.73	33.5	8.4	19.4	12.3	8.2
		15		0.3	0.91	42.9	8.6	13.0	10.1	5.3
		17		0.0	0.53	21.5	7.5	31.7	19.7	8.2
		20		1.1	0.55	16.4	7.4	31.6	24.1	10.9
		21		0.3	0.50	28.3	5.7	24.9	16.6	10.2
		17		0.0	0.59	33.6	6.0	26.6	11.9	5.7
		20		1.6	0.66	29.9	6.6	25.3	15.9	7.4
		22		0.1	0.47	22.6	5.1	27.2	16.6	12.0
		20		0.1	0.50	30.9	5.1	26.3	15.1	7.5
		Sum	**Transported Total**	**4.4**	**0.65**	**28.2**	**7.2**	**24.7**	**16.7**	**8.5**

		Block #	Cat	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
Total			Measured	10.2	1.1	42.7	12.6	10.2	8.0	3.9
			Indicated	40.7	0.66	30.3	8.3	22.5	14.8	7.1
			Inferred	132.7	0.77	34.8	9.2	18.5	11.5	5.1
			Grand Total	**183.6**	**0.76**	**34.3**	**9.2**	**18.9**	**12.1**	**5.5**

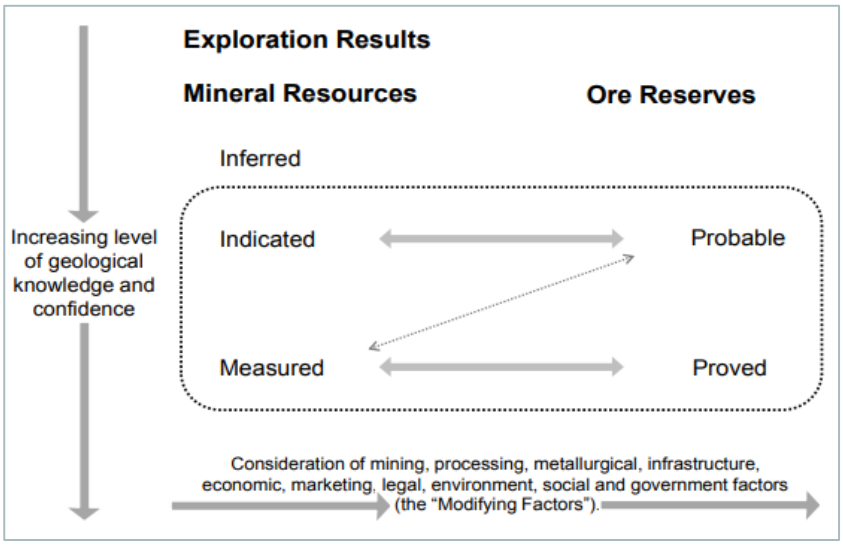
APPENDIX 3

Collar Details for Southern Block Historic Intercepts

Hole ID	MGA 94 East	MGA 94 North	RL	Hole Depth (Metres)	Hole Type	Dip	Azimuth
GDH904	666,566	7,011,966	465	90.5	Diamond	-59	50
GDH905	666,487	7,011,893	465	161.3	Diamond	-59	46
GRC0062	667,193	7,011,333	465	72	RC	-60	50
GRC0064	666,906	7,011,694	465	54	RC	-60	50
GRC0068	666,577	7,011,982	465	42	RC	-60	50
GDH907	668,132	7,010,371	464	99.5	Diamond	-61	52
GRC0043	668,146	7,010,382	464	61	RC	-60	50
GRC0044	668,119	7,010,369	464	67	RC	-60	50
GRC0045	667,986	7,010,571	464	79	RC	-60	50
GRC0047	667,810	7,010,838	464	79	RC	-60	50
GRC0052	668,102	7,010,345	463	111	RC	-60	50
GRC0033	665,261	7,013,799	464	55	RC	-60	50
GRC0038	666,079	7,012,897	465	73	RC	-60	50
GRC0039	666,412	7,012,610	466	55	RC	-60	50
GRC0040	666,391	7,012,594	466	69	RC	-60	50
GRC0078	665,225	7,013,769	464	102	RC	-60	50
GRC0119	665,783	7,013,193	465	60	RC	-60	50
GRC0157	665,802	7,013,211	465	30	RC	-60	50
GRC0158	665,505	7,013,375	465	138	RC	-60	50

APPENDIX 4

JORC Code Explanation of Mineral Resources and Ore Reserves.



APPENDIX 5

Reserve Statement.

Reserve Classification	Tonnes	V_2O_5 %	V_2O_5 Produced (t)
Proved	9,820,000	1.07	65,000
Probable	8,420,000	1.01	56,000
Total	**18,240,000**	**1.04**	**121,000**

The key inputs or modifying factors include:

- Ore mining recovery of 95%.
- Mining dilution of 5%.
- A nominal plant throughput of 1.45 Mt/a based on a blend of ore types.
- An overall Life of Mine (LOM) V_2O_5 process recovery of 64%.
    - Based on metallurgical testwork and refinery flowsheet benchmarks.
- Geotechnical parameters based on independent consultant report by Dempers & Seymour.
- CMB costs averaging A$17.09/t were used for pit optimisation and is based on preliminary plant design and cost estimates by Wood, including expected power and consumable usage and an overhead cost (general and admin) of A$2.24/t
- Total mining costs averaging $3.50/t ore and waste mined (LOM).
- Pit designs based on optimal discounted cash flow pit shell using US$8/lb V_2O_5 revenue price.
- Gross royalty of 5.0% which includes 2.5% WA Government Royalty and additional royalties.

APPENDIX 6

2019 Drilling Progress Update with latest Mineral Resource Estimate dated November 2018 (2012 JORC Code – Table 1).

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The Australian Vanadium Project deposit was sampled using diamond core and reverse circulation (RC) percussion drilling from surface. During 2019 a further 30 PQ diamond drill holes have been completed to collect metallurgy sample for a plant pilot study. 12 are drilled down-dip into the high-grade zone. These were complimented by an additional 18 PQ diamond drill tails on RC pre-collars, drilling vertically. The down dip holes are measured by hand-held XRF at 50 cm intervals to inform metallurgy characterisation but will not form part of any resource estimation update unless certified laboratory analysis is completed on a cut portion of the drill core. The 18 diamond tails were cut and a ¼ of the PQ sized core was sent for analysis.13 RC holes for 1,224m drilled during October 2019 are now complete with assays received. At the time of the latest Mineral Resource estimation (November 2018), a total of 250 RC holes and 20 diamond holes (6 of which are diamond tails) were drilled into the deposit. 59 of the 251 holes were either too far north or east of the main mineralisation trend or excised due to being on another tenancy. One section in the southern part of the deposit (holes GRC0156, GRC0074, GRC0037 and GRC0038) was blocked out and excluded from the resource due to what appeared to be an intrusion which affected the mineralised zones in this area. Of the remaining 191 drillholes, one had geological logging, but no assays and one was excluded due to poor sample return causing poor representation of the mineralised zones. Two diamond holes drilled during 2018 were not part of the resource estimate, as they were drilled into the western wall for geotechnical purposes. The total metres of drilling available for use in the interpretation and grade estimation was 17,530m at the date of the most recent resource estimate. The initial 17 RC drillholes were drilled by Intermin Resources NL (IRC) in 1998. These holes were not used in the 2015 and 2017 estimates due to very long unequal sample lengths and a different grade profile from subsequent drilling. 31 RC drillholes were drilled by Greater Pacific NL in 2000 and the remaining holes for the project were

Criteria	JORC Code Explanation	Commentary
		drilled by Australian Vanadium Ltd (Previously Yellow Rock Resources Ltd) between 2007 and 2018. This drilling includes 20 diamond holes (6 of which are diamond tails) and 76 RC holes, for a total of 20,974m drilled. All of the drilling sampled both high and low-grade material and were sampled for assaying of a typical iron ore suite, including vanadium and titanium plus base metals and sulphur.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	PQ core from diamond tails was ¼ cored and sent for assay. The remaining core went to make up the pilot plant metallurgical sample. The Down Dip 2019 PQ core has not been sampled. Handheld XRF machines being used to take ½ metre measurements on the core have been calibrated using pulps from previous drilling by the Company, for which there are known head assays. 2018 HQ diamond core was half-core sampled at regular intervals (usually one metre) with smaller sample intervals at geological boundaries. 2015 diamond core was quarter-core sampled at regular intervals (usually one metre) and constrained to geological boundaries where appropriate. 2009 HQ diamond core was half-core sampled at regular intervals (one metre) or to geological boundaries. Most of the RC drilling was sampled at one metre intervals, apart from the very earliest programme in 1998. RC samples have been split from the rig for all programmes with a cone splitter to obtain 2.5 – 3.5 kg of sample from each metre. Field duplicates were collected for every 40th drill metre to check sample representativity from the drill rig splitter. During the 2019 RC programme recently completed, field duplicates were collected from the rig splitter for every 30th drill metre.

Criteria	JORC Code Explanation	Commentary
	Aspects of the determination of mineralisation that are Material to the Public Report.	RC drilling samples were collected at one metre intervals and passed through a cone splitter to obtain a nominal 2-5kg sample at an approximate 10% split ratio. These split samples were collected in pre-numbered calico sample bags. The sample was dried, crushed and pulverised to produce a sub sample (~200g) for laboratory analysis using XRF and total LOI by thermo-gravimetric analysis. Diamond core was drilled predominantly at HQ size for the earlier drilling (2009) and entirely HQ for the 2018 programme, with the 2015 and 2019 drilling at PQ3 size. Field duplicates, standards and blanks have been inserted into the sampling stream at a rate of nominally 1:20 for blanks, 1:20 for standards (including internal laboratory), 1:40 for field duplicates, 1:20 for laboratory checks and 1:74 for umpire assays.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Diamond drillholes account for 14% of the drill metres used in the Resource Estimate and comprises HQ and PQ3 sized core. RC drilling (generally 135 mm to 140 mm face-sampling hammer) accounts for the remaining 86% of the drilled metres. Six of the diamond holes have RC pre-collars (GDH911, GDH913 & GDH916, 18GEDH001, 002 and 003), otherwise all holes are drilled from surface. No core orientation data has been recorded in the database. 17 RC holes were drilled during the 2018 programme and three HQ diamond tails were drilled on RC pre-collars for resource and geotechnical purposes. The core was not orientated but all diamond holes were logged by OTV and ATV televiewer. Six RC holes from the 2018 campaign are not used in the resource estimate due to results pending at the time of the latest update, and two diamond holes drilled during 2018 were not used as they are for geotechnical purposes and do not intersect the mineralised zones. During 2019 a further 12 PQ diamond holes have been drilled down-dip on the high-grade zone for metallurgical sample but have not been sampled for assay analysis as they have been sampled for a metallurgy pilot study programme. As such they do not form part of any resource estimation. An addition 18 PQ diamond tails on RC pre-collars have been drilled vertically, of which 16 are expected to contribute to the resource and two were used for the metallurgy pilot study programme. A further 13 RC holes using a 140 mm face hammer on a Schramm drill rig have been completed during October 2019.

Criteria	JORC Code Explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond core recovery is measured when the core is recovered from the drill string. The length of core in the tray is compared with the expected drilled length and is recorded in the database. For the 2019, 2018 and 2015 drilling, RC chip sample recovery was judged by how much of the sample was returned from the cone splitter. This was recorded as good, fair, poor or no sample. The older drilling programmes used a different splitter, but still compared and recorded how much sample was returned for the drilled intervals. All of the RC sample bags (non-split portion) from the 2018 programme were weighed as an additional check on recovery. An experienced AVL geologist was present during drilling and any issues noticed were immediately rectified. No significant sample recovery issues were encountered in the RC or PQ drilling in 2015. No significant sample recovery issues were encountered in the RC or PQ drilling in 2019 except where core loss occurred in three holes intersecting high grade ore. This involved holes 19MTDT012 between 142.9m and 143.3m; 19MTDT013 from 149m to 149.6m, 151m to 151.4m and 159.5m to 160m; as well as 19MTDT016 between 29.5m and 30.7m down hole. In each case the interval lost was included as zero grade for all elements for the estimation of the total mineralised intercept.
	Measures taken to maximize sample recovery and ensure representative nature of the samples.	Core depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers. Recovered core was measured and compared against driller's blocks. 2019 diamond core samples had a coarse split created at the laboratory that was also analysed to evaluate laboratory splitting of the sample. RC chip samples were actively monitored by the geologist whilst drilling. Field duplicates have been taken at a frequency between every 30th and every 50th metre in every RC drill campaign. All drillholes are collared with PVC pipe for the first metres, to ensure the hole stays open and clean from debris.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship between sample recovery and grade has been demonstrated. Two shallow diamond drillholes drilled to twin RC holes have been completed to assess sample bias due to preferential loss/gain of fine/coarse material. Geologica Pty Ltd is satisfied that the RC holes have taken a sufficiently representative sample of the mineralisation and minimal loss of fines has occurred in the RC drilling resulting in minimal sample bias.
Logging	Whether core and chip samples have been	All diamond core and RC chips from holes included in the latest resource estimate were geologically logged.

Criteria	JORC Code Explanation	Commentary
	geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Diamond core was geologically logged using predefined lithological, mineralogical and physical characteristics (such as colour, weathering, fabric, texture) logging codes and the logged intervals were based on lithological intervals. RQD and recoveries were also recorded. Minimal structural measurements were recorded (bedding to core angle measurements) but have not yet been saved to the database. The logging was completed on site by the responsible geologist. All of the drilling was logged onto paper and was transferred to a SQL Server drillhole database using DataShedTM database management software. The database is managed by Mitchell River Group (MRG). The data was checked for accuracy when transferred to ensure that correct information was recorded. Any discrepancies were referred back to field personnel for checking and editing. All core trays were photographed wet and dry. RC chips were logged generally on metre intervals, with the abundance/proportions of specific minerals, material types, lithologies, weathering and colour recorded. Physical hardness for RC holes is estimated by chip recovery and properties (friability, angularity) and in diamond holes by scratch testing. From 2015, drilling also had magnetic susceptibility recorded, with the first nine diamond holes (GDH901-GDH909) having readings taken on the core every 30 cm or so downhole. Holes GDH910 to GDH917 had readings every 50 cm and RC holes GRC0159 to GRC0221 had readings for each one metre green sample bag. 2018 RC drill holes also have magnetic susceptibility data for each one metre of drilling. Pulps from historic drillhole are in the process of being measured for magnetic susceptibility, with calibration on results applied from control sample measurement of pulps from drill programmes from 2015 onwards where measurements of the RC bags already exist. All resource (vs geotechnical) diamond core and RC samples have been logged to a level of detail to support Mineral Resource estimation to and classification to Measured Mineral Resource at best. Geotechnical logging and OTV/ATV data was collected on three diamond drillholes from the 2018 campaign, by consultant company Dempers and Seymour, adding to an existing dataset of geotechnical logging on 8 of the 2015 diamond drillholes and televiewer data for four of the same drillholes. In addition, during 2018 televiewer data was collected on a further 15 RC drillholes from various drill campaigns at the project. PQ diamond drill holes completed during 2019 were geologically and geotechnically logged in detail by the site geologists.

Criteria	JORC Code Explanation	Commentary
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging was both qualitative and quantitative in nature, with general lithology information recorded as qualitative and most mineralisation records and geotechnical records being quantitative. Core photos were collected for all diamond drilling.
	The total length and percentage of the relevant intersections logged.	All recovered intervals were geologically logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	The 2018 and 2009 HQ diamond core were cut in half and the half core samples were sent to the laboratories for assaying. Sample intervals were marked on the core by the responsible geologist considering lithological and structural features. No core was selected for duplicate analysis. The 2015 PQ diamond core was cut in half and then the right-hand side of the core (facing downhole) was halved again using a powered core saw. Quarter core samples were sent to the laboratories for assaying. Sample intervals were marked on the core by the responsible geologist considering lithological and structural features. No core was selected for duplicate analysis. 16 of the 18 total vertical diamond PQ diamond drill holes from 2019 have been quarter core sampled and assayed. Sample intervals were marked on the core by the responsible geologist considering lithological and structural features.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC drilling was sampled by use of an automatic cone splitter for the 2019, 2018 and 2015 drilling programmes; drilling was generally dry with a few damp samples. Older drilling programmes employed riffle splitters to produce the required sample splits for assaying. One in 40 to 50 RC samples was resampled as field duplicates for QAQC assaying, with this frequency increasing to one in 30 for the October 2019 RC drilling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation techniques employed for the diamond core samples follow standard industry best practice. All samples were crushed by jaw and Boyd crushers and split if required to produce a standardised ~3kg sample for pulverising. The 2015 programme RC chips were split to produce the same sized sample. All samples were pulverised to a nominal 90% passing 75 micron sizing and sub sampled for assaying and LOI determination tests. The remaining pulps are stored at an AVL facility. The sample preparation techniques are of industry standard and are appropriate for the sample types and proposed assaying methods.

Criteria	JORC Code Explanation	Commentary
	Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.	Field duplicates, standards and blanks have been inserted into the sampling stream at a rate of nominally 1:20 for blanks, 1:20 for standards (including internal laboratory), 1:40 for field duplicates, 1:20 for laboratory checks and 1:74 for umpire assays. Also, for the recent sampling at BV, 1 in 20 samples were tested to check for pulp grind size. For 2019 diamond core samples, duplicates were created from the coarse crush at a frequency of 1 in 20 samples at the laboratory and assayed.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.	To ensure the samples collected are representative of the in-situ material, a 140mm diameter RC hammer was used to collect one metre samples and either HQ or PQ3 sized core was taken from the diamond holes. Given that the mineralisation at the Australian Vanadium Project is either massive or disseminated magnetite/martite hosted vanadium, which shows good consistency in interpretation between sections and occurs as percentage values in the samples, Geologica Pty Ltd considers the sample sizes to be representative. Core is not split for duplicates, but RC samples are split at the collection stage to get representative (2-3kg) duplicate samples. The entire core sample and all the RC chips are crushed and /or mixed before splitting to smaller sub-samples for assaying.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	As all of the variables being tested occur as moderate to high percentage values and generally have very low variances (apart from Cr_2O_3), the chosen sample sizes are deemed appropriate.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All samples for the Australian Vanadium Project were assayed for the full iron ore suite by XRF (24 elements) and for total LOI by thermo-gravimetric technique. The method used is designed to measure the total amount of each element in the sample. Some 2015 and 2018 RC samples in the oxide profile were also selected for SATMAGAN analysis that is a measure of the amount of total iron that is present as magnetite (or other magnetic iron spinel phases, such as maghemite or kenomagnetite). SATMAGAN analysis was conducted at Bureau Veritas (BV) Laboratory during 2018. Although the laboratories changed over time for different drilling programmes, the laboratory procedures all appear to be in line with industry standards and appropriate for iron ore deposits, and the commercial laboratories have been industry recognized and certified Samples are dried at 105°C in gas fired ovens for 18-24 hours before RC samples being split 50:50. One portion is retained for future testing, while the other is then crushed and pulverised. Sub-samples are collected to produce a

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		66g sample that is used to produce a fused bead for XRF based analysing and reporting. Certified and non-certified Reference Material standards, field duplicates and umpire laboratory analysis are used for quality control. The standards inserted by AVL during the 2015 drill campaign were designed to test the V_2O_5 grades around 1.94%, 0.95% and 0.47%. The internal laboratory standards used have varied grade ranges but do cover these three grades as well. During 2018 and 2019, three Certified Reference Materials (CRMs) were used by AVL as field standards. These covered the V_2O_5 grade ranges around 0.327%, 0.790% and 1.233%. These CRMs are also certified for other relevant major element and oxide values, including Fe, TiO_2, Al_2O_3, SiO_2, Co, Ni and Cu (amongst others). Most of the laboratory standards used show an apparent underestimation of V_2O_5, with the results plotting below the expected value lines, however the results generally fall within ± 5-10% ranges of the expected values. The other elements show no obvious material bias. Standards used by AVL during 2015 generally showed good precision, falling within 3-5% of the mean value in any batch. The standards were not certified but compared with the internal laboratory standards (certified) they appear to show good accuracy as well. Field duplicate results from the 2015 drilling all fall within 10% of their original values. The BV laboratory XRF machine calibrations are checked once per shift using calibration beads made using exact weights and they performed repeat analyses of sample pulps at a rate of 1:20 (5% of all samples). The lab repeats compare very closely with the original analysis for all elements. 2019 PQ diamond core has been assayed, and studies on all results for QAQC sample performance is in progress. Geologica considers that the nature, quality and appropriateness of the assaying and laboratory procedures is at acceptable industry standards.

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	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	The geophysical readings taken for the Australian Vanadium Project core and RC samples and recorded in the database were magnetic susceptibility. For the 2009 diamond and 2015 RC and diamond drill campaigns this was undertaken using an RT1 hand magnetic susceptibility meter (CorMaGeo/Fugro) with a sensitivity of 1 x 10^{-5} (dimensionless units). The first nine diamond holes (GDH901 – GDH909) were sampled at approximately 0.3m intervals, the last eight (GDH910 – GDH917) at 0.5m intervals and the RC chip bags for every green bagged sample (one metre). During 2018 and 2019 RC and diamond core has been measured using a KT-10 magnetic susceptibility metre, at 1 x 10^{-3} ssi unit. In addition to the handhold magnetic susceptibility described above the 2019 drilling included downhole magnetic susceptibility. This was taken using a Century Geophysical 9622 Magnetic Susceptibility tool. The 9622 downhole tool sensitivity is 20 x 10^{-5} with a resolution of 10cm 2019 diamond core is being analysed using an Olympus Vanta pXRF with a 20 second read time. The unit has been calibrated using pulp samples with known head assays from previous drill campaigns by the Company. Standard deviations for each element analysed are being recorded and retained. Elements being analysed are: Mg, Al, Si, P, S, K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, W, Hg, Pb, Bi, Th, and U. Four completed diamond drillholes were down hole surveyed by acoustic televiewer (GDH911, 912, 914 and 915) as a prequel to geotechnical logging during the 2015 drill campaign. A further six holes from the 2018 campaign have been down hole surveyed using acoustic televiewer and optical televiewer (18GEDH001, 002 and 003 and partial surveys of 18GERC005, 008 and 011) for 627 metres of data. Televiewer data was also collected during 2018 on some of the holes drilled in 2015 and prior. The holes surveyed were GRC0019, 0024, 0168, 0169, 0173, 0178, 0180, 0183, 0200 and Na253, Na258 and Na376 for a further 286.75 m of data. All 12 of the 2019 down dip PQ holes have been televiewer surveyed.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	QAQC results from both the primary and secondary assay laboratories show no material issues with the main variables of interest for the recent assaying programmes.

Criteria	JORC Code Explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Diamond drill core photographs have been reviewed for the recorded sample intervals. Geologica Pty Ltd Consultant, Brian Davis, visited the Australian Vanadium Project site on multiple occasions and the BV core shed and assay laboratories in 2015 and 2018. Whilst on site, the drillhole collars and remaining RC chip samples were inspected. All of the core was inspected in the BV facilities in Perth and selected sections of drillholes were examined in detail in conjunction with the geological logging and assaying. Resource consultants from Trepanier have visited the company core storage facility in Bayswater and reviewed the core trays for select diamond holes.
	The use of twinned holes.	Two diamond drillholes (GDH915 and GDH917) were drilled to twin the RC drillholes GRC0105 and GRC0162 respectively. The results show excellent reproducibility in both geology and assayed grade for each pair.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All primary geological data has been collected using paper logs and transferred into Excel spreadsheets and ultimately a SQL Server Database. The data were checked on import. Assay results were returned from the laboratories as electronic data which were imported directly into the SQL Server database. Survey and collar location data were received as electronic data and imported directly to the SQL database. All of the primary data have been collated and imported into a Microsoft SQL Server relational database, keyed on borehole identifiers and assay sample numbers. The database is managed using DataShed™ database management software. The data was verified as it was entered and checked by the database administrator (MRG) and AVL personnel
	Discuss any adjustment to assay data.	No adjustments or calibrations were made to any assay data, apart from resetting below detection limit values to half positive detection values.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	The 2019 drill holes have been set out using a real-time Kinematic (RTK) GPS system. At completion of drilling the collar positions were picked up by a professional surveyor with an RTK system. For the 2018 drilling, all collars were set out using a handheld GPS. After drilling they were surveyed using a Trimble RTK GPS system. The base station accuracy on site was improved during the 2015 survey campaign and a global accuracy improvement was applied to all drillholes in the Company database. For the 2015 drilling, all of the collars were set out using a Trimble RTK GPS system. After completion of drilling all new collars were re-surveyed using the same tool.

Criteria	JORC Code Explanation	Commentary
		Historical drill holes were surveyed with RTK GPS and DGPS from 2008 to 2015, using the remaining visible collar location positions where necessary. Only five of the early drillholes, drilled prior to 2000 by Intermin, had no obvious collar position when surveyed and a best estimate of their position was used based on planned position data. Downhole surveys were completed for all diamond holes, using gyro surveying equipment, as well as the RC holes drilled in 2015 (from GRC0159). Some RC drillholes from the 2018 campaign do not have gyro survey as the hole closed before the survey could be done. These holes have single shot camera surveys, from which the dip readings were used with an interpreted azimuth (nominal hole setup azimuth). The holes with interpreted azimuth are all less than 120m depth. All other RC holes were given a nominal -60º dip measurement. These older RC holes were almost all 120m or less in depth.
	Specification of the grid system used.	The grid projection used for the Australian Vanadium Project is MGA_GDA94, Zone 50. All reported coordinates are referenced to this grid.
	Quality and adequacy of topographic control.	High resolution Digital Elevation Data was captured by Arvista for the Company in June 2018 over the MLA51/878 tenement area using fixed wing aircraft, with survey captured at 12 cm GSD using an UltraCam camera system operated by Aerometrex. The data has been used to create a high-resolution Digital Elevation Model on a grid spacing of 5m x 5m, which is within 20 cm of all surveyed drill collar heights, once the database collar positions were corrected for the improved ground control survey, that was also used in this topography survey. The vertical accuracy that could be achieved with the 12 cm GSD is +/- 0.10 m and the horizontal accuracy is +/- 0.24m. 0.5m contour data has also been generated over the mining lease application. High quality orthophotography was also acquired during the survey at 12cm per pixel for the full lease area, and visual examination of the imagery shows excellent alignment with the drill collar positions. The November 2018 Mineral Resource used this surface for topographic control within the Mining Lease Application area (MLA51/878). For the entire 2017 and July 2018 Mineral Resource estimates, and the November 2018 Mineral Resource estimate outside the MLA area, high resolution Digital Elevation Data was supplied by Landgate. The northern two thirds of the elevation data is derived from ADS80 imagery flown September 2014. The data has a spacing of 5M and is the

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		most accurate available. The southern third is film camera derived 2005 10M grid, resampled to match it with the 2014 DEM. Filtering was applied and height changes are generally within 0.5M. Some height errors in the 2005 data may be +/- 1.5M when measured against AHD but within the whole area of interest any relative errors will mostly be no more than +/- 1M. In 2015 a DGPS survey of hole collars and additional points was taken at conclusion of the drill programme. Trepanier compared the elevations the drillholes with the supplied DEM surface and found them to be within 1m accuracy. An improved ground control point has been established at the Australian Vanadium Project by professional surveyors. This accurate ground control point was used during the acquisition of high quality elevation data. As such, a correction to align previous surveys with the improved ground control was applied to all drill collars from pre-2018 in the Company drill database. Collars that were picked up during 2018 were already calibrated against the new ground control. 2019 drill collar locations have been verified with a DGPS in the field (accuracy about 20 cm on the horizontal) with final RTK pick up complete for all but the October 2019 RC drillholes (survey scheduled in the coming fortnight).
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The 2018 RC drilling in Fault Block 17 and 6 has infilled areas of 260 m spaced drill lines to about 130m spaced drill lines, with holes on 30 m centres on each line. The closer spaced drilled areas of the deposit now have approximately 80m to 100m spacing by northing and 25m to 30m spacing by easting. Occasionally these spacings are closer for some pairs of drillholes. Outside of the main area of relatively close spaced drilling (approximately 7015400mN to 7016600mN), the drillhole spacing increases to several hundred metres in the northing direction but maintains roughly the same easting separation as the closer spaced drilled area.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The degree of geological and grade continuity demonstrated by the data density is sufficient to support the definition of Mineral Resources and the associated classifications applied to the Mineral Resource estimate as defined under the 2012 JORC Code. Variography studies have shown very little variance in the data for most of the estimated variables and primary ranges in the order of several hundred metres.

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	Whether sample compositing has been applied.	All assay results have been composited to one metre lengths before being used in the Mineral Resource estimate. This was by far the most common sample interval for the diamond drillhole and RC drillhole data.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The grid rotation is approximately 45º to 50º magnetic to the west, with the holes dipping approximately 60º to the east. The drill fences are arranged along the average strike of the high-grade mineralised horizon, which strikes approximately 310º to 315º magnetic south of a line at 7015000mN and approximately 330º magnetic north of that line. The mineralisation is interpreted to be moderate to steeply dipping, approximately tabular, with stratiform bedding striking approximately north-south and dipping to the west. The drilling is exclusively conducted perpendicular to the strike of the main mineralisation trend and dipping approximately 60º to the east, producing approximate true thickness sample intervals through the mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The orientation of drilling with respect to mineralisation is not expected to introduce any sampling bias. Drillholes intersect the mineralisation at an angle of approximately 90 degrees, with the exception of hole 19RRC012 and 013 that are steeper, plus the vertical diamond tails drilled in early 2019. All results presented in this release are down hole intersection widths. The 2019 PQ diamond holes are deliberately drilled down dip to maximise the amount of metallurgy sample collected for the pilot study, with all material used for metallurgy purposes (hence not being available for assay). They are not intended to add material to the resource estimation, or to define geological boundaries, though where further control on geological contacts is intercepted, this will be used to add more resolution to the geological model.
Sample security	The measures taken to ensure sample security.	Samples were collected onsite under supervision of a responsible geologist. The samples were then stored in lidded core trays and closed with straps before being transported by road to the BV core shed in Perth (or other laboratories for the historical data). RC chip samples were transported in bulk bags to the assay laboratory and the remaining green bags are either still at site or stored in Perth. RC and core samples were transported using only registered public transport companies. Sample dispatch sheets were compared against received samples and any discrepancies reported and corrected.

Criteria	JORC Code Explanation	Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	A review of the sampling techniques and data was completed by Mining Assets Pty Ltd (MASS) and Schwann Consulting Pty Ltd (Schwann) in 2008 and by CSA in 2011. Neither found any material error. AMC also reviewed the data in the course of preparing a Mineral Resource estimate in 2015. The database has been audited and rebuilt by AVL and MRG in 2015. In 2017 geological data was revised after missing lithological data was sourced. Geologica Pty Ltd concludes that the data integrity and consistency of the drillhole database shows sufficient quality to support resource estimation.