ASX ANNOUNCEMENT 25 MAY 2022

36 Million Tonne Nickel-Copper-Cobalt Mineral Resource at Gabanintha

Updated Indicated Mineral Resource within the AVL vanadium resource opens the way to Pre-Feasibility Study for base metals production

KEY POINTS

- **15% increase in updated Base Metals Indicated and Inferred Mineral Resource, from the previous Resource[1] to 36.0 Mt @ 766 ppm Nickel, 212 ppm Copper and 231 ppm Cobalt**
- **With AVL having completed a BFS and looking toward production, BYH can realise the value of their Battery metals**
- **BYH is named as a collaborator with AVL for a Modern Manufacturing Initiative (MMI) grant to AVL of $49M to progress critical minerals production**
- **Bryah holds a suite of mineral rights over the Australian Vanadium Project at Gabanintha including nickel, copper and gold**
- **During AVL's feasibility studies, flotation test work of non-magnetic tails from the vanadium beneficiation produced sulphide concentrates that contained up to 6.3% base metals including up to 2.02% Cobalt, 2.58% Nickel and 1.70% Copper**
- **Indicated portion of the Mineral Resource, 16.1 Mt @ 762 ppm Nickel, 212 ppm Copper and 231 ppm Cobalt, is situated in the high-grade vanadium zone (HG10) within the 3 planned open pits of AVL's vanadium project described in its BFS.**

Mineral Resource	Tonnes (million)	Nickel (ppm)	Nickel (tonnes)	Copper (ppm)	Copper (tonnes)	Cobalt (ppm)	Cobalt (tonnes)
Indicated	16.1	762	12,265	207	3,336	236	3,802
Inferred	19.9	770	15,330	216	4,295	226	4,501
Total	**36.0**	**766**	**27,596**	**212**	**7,630**	**231**	**8,303**

- **Australian Vanadium Limited (AVL) holds the mineral rights to vanadium, titanium, iron and cobalt and is a significant shareholder (4.8%) of Bryah**
- **The proposed 25-year mine life operation is located on a granted Mining Lease[2]**

[1]See AVL ASX announcement dated 28 November 2018 for full details.
[2]See AVL ASX announcement dated 22 December 2020 for full details.

Bryah Resources Limited ("Bryah" or "the Company") is pleased to advise a significant upgrade in the previously reported base metal mineral resource within the Australian Vanadium Project deposit ("Project") which is located within the Company's Gabanintha Project in central Western Australia (Figure 1).

Bryah holds mineral rights for all minerals, excluding vanadium, titanium, iron ore, cobalt, chromium, uranium, lithium, tantalum and manganese, which are held by Australian Vanadium Limited ("AVL"). AVL is a major shareholder (4.8%) of Bryah. Both companies are working together to maximise the recovery of metals from this world class Vanadium-Titanium-Magnetite (VTM) deposit, with Bryah taking the lead on further studies relating to the base metal recovery circuit. Nickel, Copper and Cobalt are all critically important, high value energy metals vital for the global transition to electric vehicles. The collaboration between Bryah and AVL has been assisted by the MMI grant to AVL of $49M to progress critical minerals. BYH is named as a collaborator under the MMI application.

The VTM deposit is approximately 11.5km long within the Project area with most of this lying on Mining Lease M51/878, which was granted in 2020. AVL has now completed a Bankable Feasibility Study[3] on the vanadium resource at the Project.

Commenting on the updated Mineral Resource estimate, CEO Ashley Jones said:

"With AVL progressing strongly toward vanadium production; completing the BFS and being granted a $49 Million grant from the Government, Bryah also comes a step closer to realising value in its mineral rights.

We are very pleased to report a substantial increase of 15% in the base metals Mineral Resource within the high-grade vanadium-titanium-magnetite deposit at Gabanintha. The Indicated and Inferred Mineral Resource has increased from 31.3 M million tonnes to 36.0 million tonnes @ 766 ppm Nickel, 212 ppm Copper and 231 ppm Cobalt.

Metallurgical test work from 2018 and 2022 indicate that a significant non-magnetic nickel-copper-cobalt rich sulphide tailings stream would come from the plant following magnetic separation of the vanadium-bearing magnetite concentrate. We know that the vanadium ore beneficiation process effectively concentrates the sulphide minerals in the tail, enabling further concentration by flotation methods."

[3] See AVL ASX Release dated 6 April 2022 for full details.

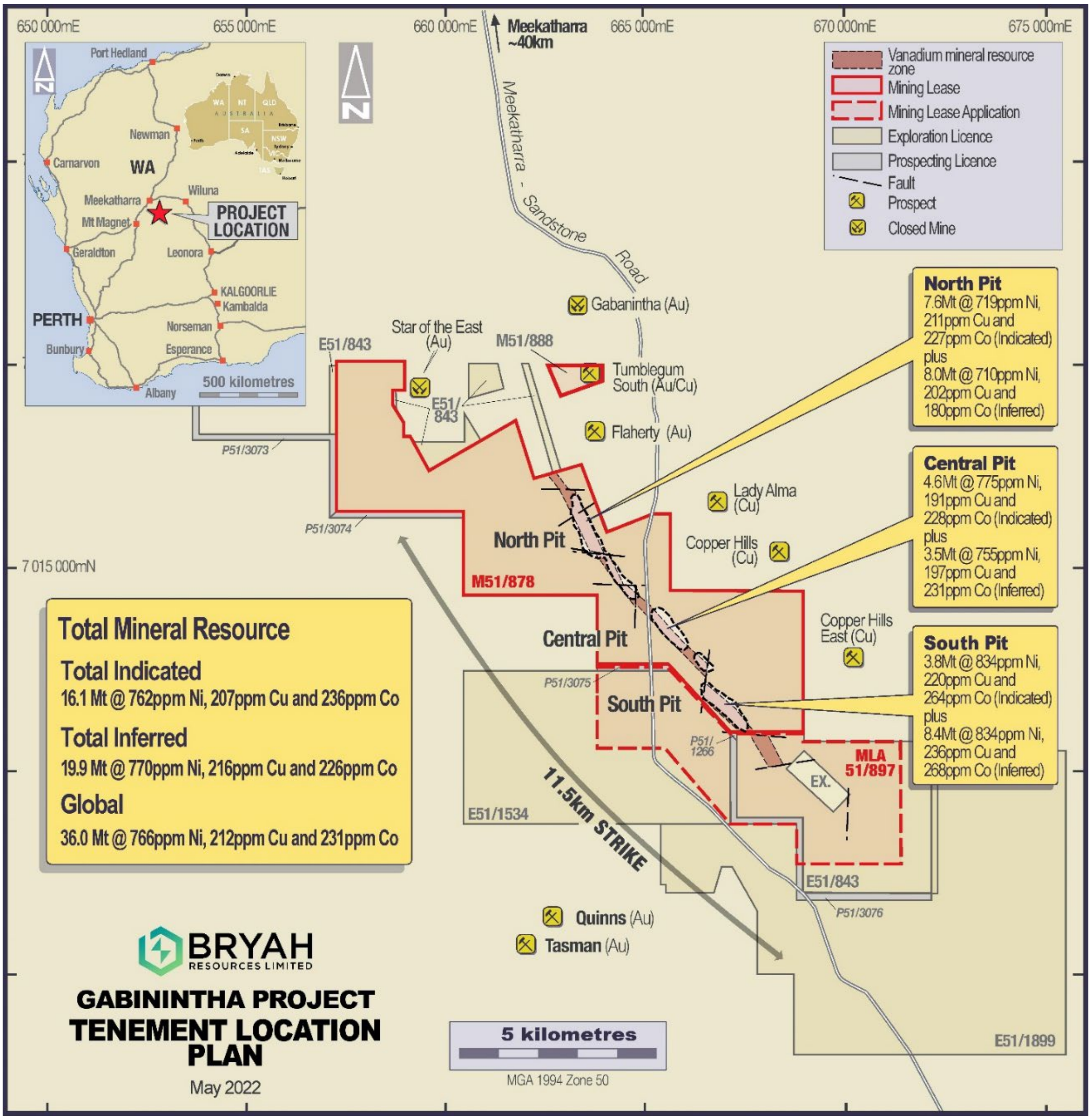

Figure 1 – Gabanintha Project Location Map

Base Metals Minerals Resource

An Indicated and Inferred Base Metal Mineral Resource for the Project has been reported within the high-grade vanadium domain, beneath the base of sulphide weathering, in the areas of highest drill density (80 – 140 metre spaced drill lines with 30 metre drill centres). Base metals are potentially economically recoverable as a sulphide flotation of the tails produced through beneficiation of the vanadium ore. Due to the reliance on concentration of the base metals into the non-magnetic tails through beneficiation of the vanadium ore, the Indicated material is restricted to the high-grade domain within the pit optimisations from AVL's Bankable Feasibility study (BFS). Inferred material is located beneath the optimised pits in the vanadium high-grade domain within classified vanadium Mineral Resources. Table 1 below outlines the resource, by pit area.

Table 1: May 2022 Base Metals Mineral Resource Inventory at the Australian Vanadium Project

2022 Base Metals Resource Area	Classification	Million Tonnes (Mt)	Ni ppm	Cu ppm	Co ppm	S %
In Pit North	Indicated	7.6	719	211	227	0.20
In Pit Central	Indicated	4.6	775	191	228	0.23
In Pit South	Indicated	3.8	834	220	264	0.11
Total In Pits	**INDICATED**	**16.1**	**762**	**207**	**236**	**0.19**
Under North Pit	Inferred	8.0	710	202	180	0.20
Under Central Pit	Inferred	3.5	755	197	231	0.25
Under and within South Pit	Inferred	8.4	834	236	268	0.15
Total Under Pits	**INFERRED**	**19.9**	**770**	**216**	**226**	**0.19**
Total Base Metals Resource	**GLOBAL**	**36.0**	**766**	**212**	**231**	**0.19**

The Mineral Resource categories and optimised open pits are shown in a long section (Figure 2) of the vanadium high-grade domain. Figure 3 is a cross section showing the pit design and location of the Indicated and Inferred base metals Mineral Resources within the vanadium high-grade domain.

The Indicated Mineral Resources portion is 16.1 Mt at 762 ppm Nickel, 207 ppm Copper and 236 ppm Cobalt. This part of the resource falls entirely within the existing pit designs for the proposed 25 year mine-life vanadium project and is expected to be processed through the 1.6 Mt per annum crushing, milling and beneficiation plant. AVL's BFS reports a reserve of 30.9 million tonnes. The base metal resource portion of the 30.9 Mt of high-grade vanadium resource that is included in the pits is 16.1 Mt and represents ~52% of the total beneficiation plant feed.

The remaining Inferred Mineral Resource lies within the classified vanadium resource in the high grade domain beneath the base of each of the designed pits where pit optimisations are currently drill limited, highlighting the potential for future production.

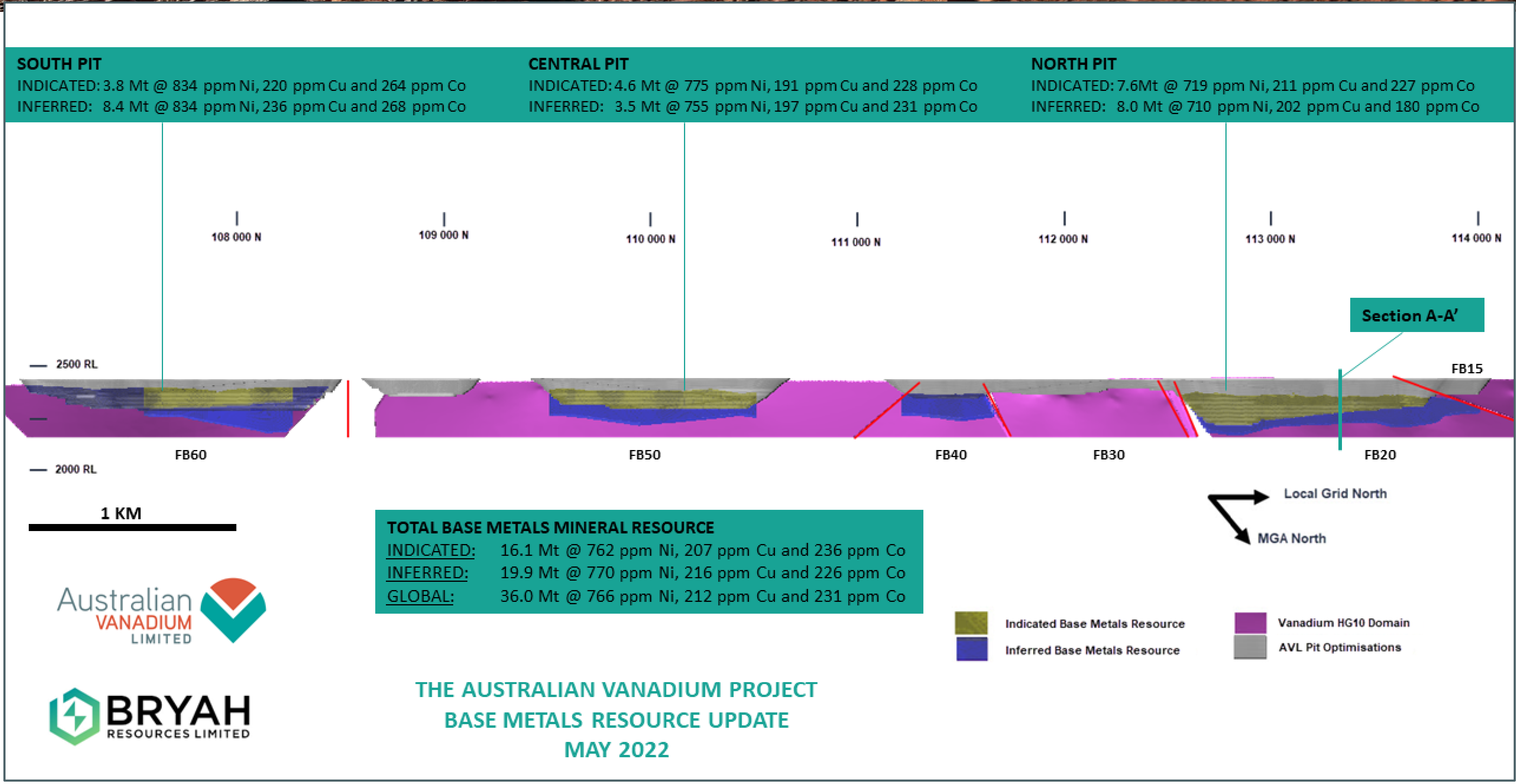

Figure 2 – Base Metals Mineral Resource Category Long Section – Local Grid, looking West.

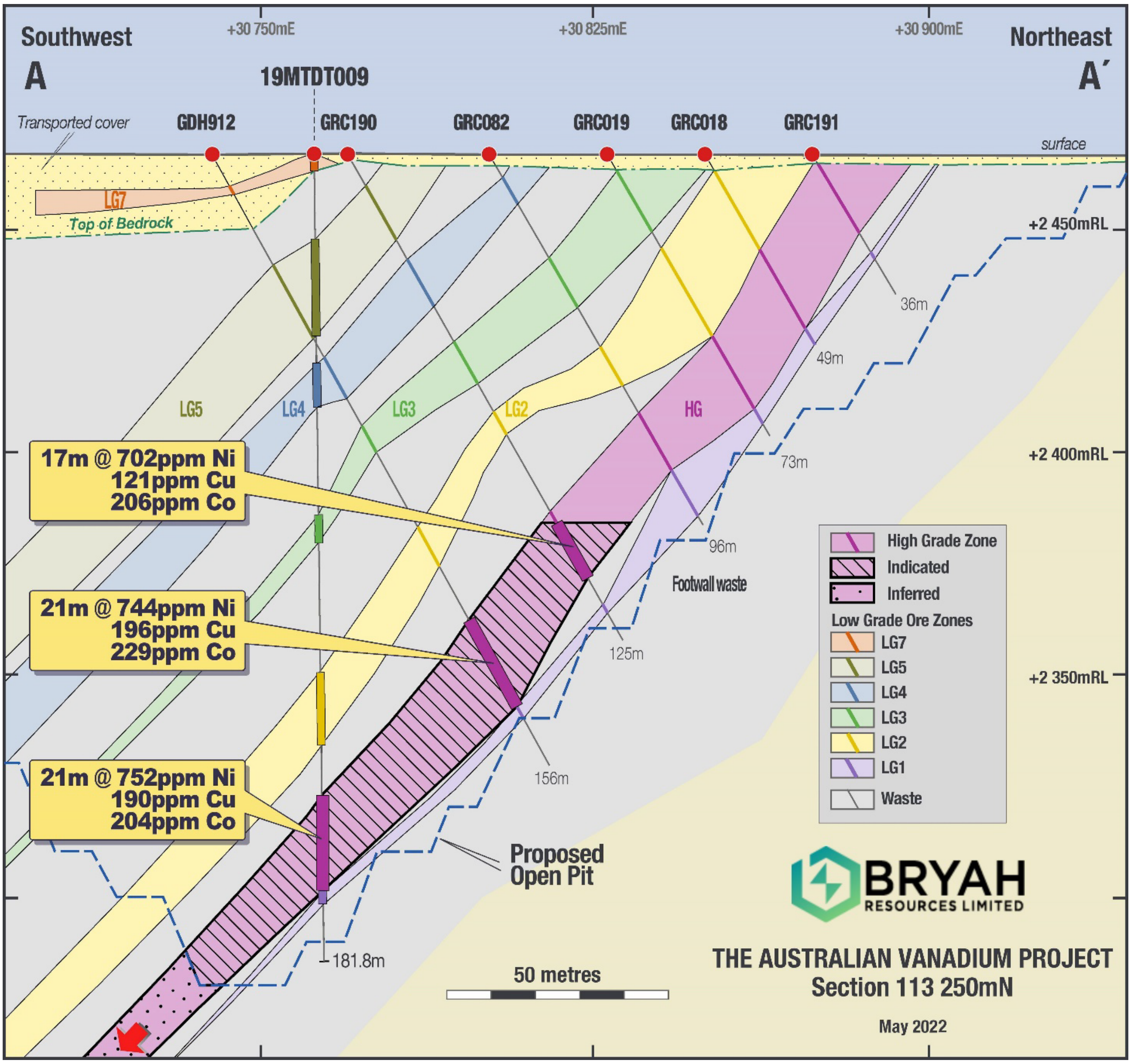

Figure 3 **– Cross Section at 113 250 mN showing geology model and location of the base metals Mineral Resource categories**

Recovery Test Work

The proportion of base metals that report to the non-magnetic tails is variable based on 18 tests conducted to date. Davis Tube Recovery (DTR) test work completed by AVL shows the percentage of the contained metal reporting to the tail in Table 2.

Table 2: Recovery (%) Reporting to Non-magnetic Tail

	Cu Recovery	Ni Recovery	Co Recovery	S Recovery
Average AVL Variability work	62%	34%	59%	93%
2021 bulk samples North Pits	39.3	20.5	47.6	85.6
2021 bulk samples South Pits	59.9	28.3	53.3	88.1

Further magnetic separation test work is planned to understand the variation in results and refine the proportion of each metal reporting to the non-magnetic tail. The difference between the recoveries is likely the difference between the LIMS and MIMS separation methodologies. The mass percentage to the magnetic tail were significantly higher for the LIMS separation only returning masses of 19% and 23.9% to the tail for the north and south pit samples.

The 2022 closed circuit floatation test work produced a potentially saleable product with sulphide concentrate grades in the market specifications range. Grades in the sulphide concentrate for both samples averaged 1.17 % Ni, 1.38% Cu and 1.34% Co and 30.1% S.

Relationship with Australian Vanadium Limited

Under the mineral rights agreement Bryah and AVL will work closely with one another in relation to the exercise of their respective rights and will agree upon the manner of their exercise to minimize interference with one another's operations.

Due to the nature of the very separate disposition of the metals in the orebody this is seen as being a very seamless processing solution that will maximise benefit for both companies, as AVL holds the rights to any cobalt in the sulphide-rich concentrate stream.

In the case of the nickel-copper-cobalt Mineral Resource reported within the VTM deposit, any production of a sulphide-rich concentrate will be dependent upon AVL bringing the Project into production.

In AVL's 2022 processing plant design a sulphide flotation circuit was not designed but provisional area was allowed for in the design to fit the process into the plant. The September 2018[4] Pre-Feasibility Study completed by AVL did include a sulphide flotation circuit.

Follow-Up Work

Bryah is liaising with AVL to incorporate the base metal circuit into the BFS study format.   in respect to the nickel-copper-cobalt mineral resource: This may include, further test work in line with the new schedule where the southern pits are mined earlier.

[4] See AVL ASX announcement dated 26 September 2018 (p19-21) for full details.

Summary of Resource Estimate and Reporting Criteria

As per ASX Listing Rule 5.8 and the 2012 JORC reporting guidelines, a summary of material information used to estimate the Mineral Resource is detailed below, (for more detail please refer to Table 1, Sections 1 to 3 included in Appendix 3).

Geology and geological interpretation

The Australian Vanadium Project deposit, located 40km south of the town of Meekatharra in Western Australia, is a layered intrusive body which is smaller than the Igneous Bushveld Complex in South Africa, but displays similar characteristics. Some of the world's most significant platinum, vanadium and chromite deposits are hosted by the Bushveld Complex.

The deposit is also similar to the Windimurra vanadium deposit and the Barrambie vanadium-titanium deposit located 260km south and 150km southeast of the Project respectively. The mineral deposit consists of a basal massive magnetite zone (10m - 15m in drilled thickness), overlain by up to five magnetite banded gabbro units between 5m and 30m thick, separated by thin, very low-grade mineralisation (<0.3% V_2O_5) waste zones. The sequence is overlain in places by a lateritic domain, a transported domain (occasionally mineralised) and a thin barren surface cover domain.

Eight mineralised domains were defined during the logging, interpretation and statistical modelling process which were composed of:

- One massive magnetite high-grade domain (split on oxide, transition and fresh boundaries).
- Four disseminated magnetite low-grade domains (split on oxide, transition and fresh boundaries).
- One laterite domain, and
- Two transported domains

The north-northwest striking deposit is affected by regional scale faults which offset the entire deposit (see Figure 1), breaking the deposit into a series of kilometre scale blocks. The larger blocks show relatively little signs of internal deformation, with strong consistency in the layering being visible in drilling and over long distances between drill holes (see cross section in Figure 3). This image was used to guide the modelling of the mineralized domain layers and define the faults blocks which form the boundaries of the extrapolated domains.

The Australian Vanadium Project differs from both the Barrambie and Windimurra deposits by the consistent presence along strike of the 10-15m thick basal massive magnetite zone and the higher overall vanadium grade of the deposit (Australian Vanadium Project 0.73% V_2O_5 overall[5], Windimurra 0.48% V_2O_5 and Barrambie 0.63% V_2O_5[6]). The grades observed in drilling allow extremely favourable comparison with other vanadium deposits globally.

The high-grade domain modelling focused on the discrete high-grade layer at the base of the westerly dipping mineralised package as well as defining several continuous low-grade mineralisation units above the main zone. The mineralised zones were modelled using a combination of geological, geochemical and grade parameters, focused on continuity of zones between drill holes on section and between sections.

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[5]Details of the current Mineral Resource estimate for the Australian Vanadium Project (formerly 'Gabanintha') are contained in this release. The information that refers to Mineral Resources in this announcement was prepared and first disclosed under the JORC Code 2004. Additional drilling in 2015 was incorporated and modelled into a revised and updated resource estimate to comply with the JORC Code 2012. The Australian Vanadium Project Mineral Resource was last revised in November 2021.

[6] Details of the Barrambie Deposit from the Neometals website www.neometals.com.au, Windimurra Deposit information from the Atlantic Limited website www.atlanticltd.com.au

The average strike of the high-grade domain is approximately 140-150º and generally dip 45º to 65º to the south-west, with the smaller and shallower (transported and lateritic) domains dipping 5º to 10º also to the south-west. Cross sections through the resource model showing drilling and grades are shown in **Figure 3**

The high and low-grade domains are split by the base of complete oxidation and the base of partial oxidation, to define oxide, transition and fresh zones. The portion of the base metal resource occurs in the 'fresh' zone where sulphides are present. For the purpose of the base metals mineral resource domain, fresh material is defined by a surface modelled by presence of sulphide in the rock.

Drilling techniques and hole spacing

Diamond drill holes account for 16% of the drill metres comprising HQ and PQ3 sized core. RC drilling (generally 135mm to 140mm face-sampling hammer) accounts for the remaining 84% of the drilled metres.

2019 RC drilling in Fault Block 50 and 60 has drilled out portions of the fault block to 140m spaced lines with 30m drill centres on lines. Some sections are closer together where new drilling bracketed existing drill lines to maintain a minimum 140m spacing between lines.

2019 diamond tail drilling has intersected the high grade zone (HG10) at about 60m downdip from the last existing drill hole on select sections that are at 80m spacing.

The 2018 RC drilling in Fault Block 30 and 40 has infilled areas of 260m spaced drill lines to about 130m spaced drill lines, with holes on 30m 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 drill holes. Outside of the main area of relatively close spaced drilling (approximately 7015400mN to 7016600mN), the drill hole spacing increases to between 140m and 400m in the northing direction but maintains roughly the same easting separation as the closer spaced drilled area.

Sampling and Sub-Sampling Techniques

Diamond core was quarter-core or half-core sampled at regular intervals (usually one metre) and constrained to geological boundaries where appropriate. Most of the RC drilling was sampled at one metre intervals, apart from the very earliest programme in 1998. Diamond core was drilled predominantly at HQ size for the earlier drilling (2009), with the 2015 drilling at PQ3 size. In 2019, 30 PQ diamond holes were drilled for metallurgical test work. 18 had RC pre-collars and 14 of the 18 diamond tails were cut and a ¼ of the PQ sized core were geologically sampled and sent for analysis. Of the 30, 12 PQ diamond holes were drilled down-dip on the high-grade zone for metallurgical samples but have not been sampled for assay analysis as they have been sampled as whole core for a metallurgy pilot study program.

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 thermos-gravimetric analysis.

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.

Sample Analysis Method

All samples for the Project were assayed for the full iron ore suite by XRF (24 elements) and for total LOI by thermogravimetric technique. The method used is designed to measure the total amount of each element in the sample. ICP-OES checks on some pulps were performed during 2019 and confirmed the XRF analysis is reporting the full V_2O_5 content of the rock.

Although the commercial laboratories changed over time for different drilling programs, they have been industry recognized and certified by NATA and their laboratory procedures all appear to be in line with industry standards and appropriate for iron ore deposits.

RC samples were dried at 105°C in gas fired ovens for 18-24 hours before samples were split 50:50 if greater than 3.5kg. When split, one portion was retained for future testing, while the other was then crushed and pulverised. Samples less than 3.5kg were all crushed and pulverised. Sub-samples were collected to produce a 66g sample that was used to produce a fused bead for XRF based analysing and reporting.

Drilling, sampling, preparation and analysis techniques are detailed in Appendix 3, JORC 2012 Table 1.

Cut-Off Grades

The high-grade domain wireframe is defined by a nominal 1.0% V_2O_5 grade cut-off, with occasional intervals between 0.7% and 1.0% selected to ensure domain continuity. The wireframes for the low-grade domains are based on a nominal 0.4% V_2O_5 grade cut-off (with occasional material above 0.3% V_2O_5 included to ensure domain continuity) and comprised of eight sub-domains. A similar approach is used as in the high-grade domain regarding selection of samples for sub-domain continuity, with samples below 0.4% V_2O_5 being occasionally selected within the domain. Everything encapsulated within the defined wireframes is reported in the resource tables.

Estimation Methodology

Trepanier Pty Ltd completed Ordinary Kriged estimates for V_2O_5, TiO_2, Fe_2O_3, SiO_2, Al_2O_3, Cr_2O_3, Co, Cu, Ni, S, magnetic susceptibility and loss on ignition (LOI) using Surpac™ software. Potential top-cuts were checked by completing an outlier analysis, but in this instance, no top-cutting was required. Variograms were completed for the estimated variables in the high-grade domain and the combined low-grade sub-domains. Grade estimates are keyed on the combined fault block and domain codes for the high-grade domain and the combined low-grade sub-domains. Domains 6, 7 and 8 were interpreted to be shallow, flat lying alluvial material and are estimated separately. Grade is estimated into parent cells with dimensions of 40mN, 8mE and 10mRL with sub-celling allowed to ensure accurate volume representation of the wireframed mineralisation interpretation. All sub-cells are assigned the same grade as its parent.

Bulk density applied in the current model is based on Fe_2O_3 regressions for different rock domains, based on Compensated Density Log (CDL) down hole data. This is a change from the previous method of bulk density modelling, that was based on a single continuum of Fe_2O_3 grade to bulk density, using Archimedes method measurements on single pieces of core. Full details of the updated density regression work are provided in the ASX:AVL vanadium Mineral Resource update announcement, dated November 2021[5].

Classification Criteria

The estimate is classified according to the guidelines of the 2012 JORC Code as Measured, Indicated and Inferred Mineral Resource. The classification has taken into account the relative confidence in tonnage and grade estimations, the reliability of the input data, the Competent Person's confidence in the continuity of geology and grade values and the quality, quantity and distribution of the drill hole and supporting input data.

In applying the classification, the vanadium Measured Mineral Resource has generally been restricted to the oxide, transition and fresh portion of the high-grade domain where the drill hole line spacing is less than 80mN to 100mN. Indicated Mineral Resource for vanadium is generally restricted to the oxide, transition and fresh high-grade and low-grade in areas where drill line spacing is between 100mN and 150mN. The remainder of the modelled zones to the north and south of the Measured and Indicated Resource with supporting drilling, mapping and geophysical data have been classified as Inferred Mineral Resource for vanadium. The classification applied relates to the global estimate of V_2O_5 and at the reported cut-off grades only. At different V_2O_5 grade cut-offs, the applied classification scheme may not be valid.

Classification of the base metals Mineral Resource was based on the vanadium ore that would be beneficiated to produce a base metal enrichment in the concentrate tails. For this reason, Indicated category material is limited to within the pit, beneath a surface defining the base of sulphide destruction (through weathering). Inferred category material is limited to classified vanadium resource beneath the optimised pits, or within pits where the vanadium Mineral Resource category is Inferred.

Mining and Metallurgical Methods and Parameters

Mine optimisation studies were completed to incorporate the new Indicated resources into a mine plan, as detailed in the BFS in 2022. The BFS indicates open pit mining is an appropriate mode of extraction, with reserves re-calculated for the northern pit, and also adding reserves within optimized pits in the central (block 50) and south (block 60) areas.

Metallurgical pilot study work was completed during 2019 - 2021 on the basal high-grade massive magnetite mineralisation. Pilot scale crushing, milling and beneficiation (CMB) test work has been completed on two blends. Namely Blend 1 (the Y0-5 pilot blend), representing the average first 5 years of process feed, and Blend 2 (the LOM pilot blend) representing the life of mine feed to the concentrator. The concentrator was capable of successfully treating both blends, delivering/exceeding the target concentrate quality, and the subsequent flowsheet was validated by pilot test work completed in Q1, 2020.

APPENDIX 1: Comparison Table of Mineral Resources.

2021 Base Metals Resource Area	Classification	Tonnes (Million)	Ni ppm	Cu ppm	Co ppm	S %
In Pit North	Indicated	9.3	723	205	214	0.21
In Pit Central	Indicated	4.5	777	193	228	0.23
In Pit South	Indicated	3.8	829	222	266	0.11
Total In Pits	**Indicated**	**17.7**	**760**	**205**	**229**	**0.19**
Under North Pit	Inferred	5.3	701	208	182	0.19
Under Central Pit	Inferred	3.6	769	200	234	0.25
Under South Pit	Inferred	4.7	823	235	269	0.20
Total Under Pits	**Inferred**	**13.6**	**761**	**215**	**226**	**0.21**
Total Base Metals Resource	**Indicated and Inferred**	**31.3**	**761**	**210**	**228**	**0.20**

2022 Base Metals Resource Area	Classification	Million Tonnes (Mt)	Ni ppm	Cu ppm	Co ppm	S %
In Pit North	Indicated	7.6	719	211	227	0.20
In Pit Central	Indicated	4.6	775	191	228	0.23
In Pit South	Indicated	3.8	834	220	264	0.11
Total In Pits	**INDICATED**	**16.1**	**762**	**207**	**236**	**0.19**
Under North Pit	Inferred	8.0	710	202	180	0.20
Under Central Pit	Inferred	3.5	755	197	231	0.25
Under and within South Pit	Inferred	8.4	834	236	268	0.15
Total Under Pits	**INFERRED**	**19.9**	**770**	**216**	**226**	**0.19**
Total Base Metals Resource	**GLOBAL**	**36.0**	**766**	**212**	**231**	**0.19**

Key Differences between the 2021 base metals mineral resource and this updated 2022 base metals mineral resource are:

Updated Mineral Resource and Reserve for the vanadium deposit, and therefore base metals, based on improved understanding of the deposit bulk density.

New pit optimisations and designs following the Mineral Resource Update in November 2021, affecting the base metal Mineral Resource category. Economics of the base metals Mineral Resource is dependent upon beneficiation of the high-grade vanadium ore through the crushing, milling and beneficiation plant to produce a base metal enriched tails product.

The new pit optimisations have resulted in a reduction of Indicated base metals Mineral Resource from 17.7 Mt to 16.1 Mt due largely to a shallowing of the northern pit, as low strip ratio material in the southern fault blocks is targeted preferentially in the AVL BFS.

Additional Inferred base metals Mineral Resource inventory is added in and beneath the southern pit area compared to the previous estimate, due to targeting of low-strip ratio material in the latest AVL pit optimisations that are the BFS base case. Inferred base metals Mineral Resource has increased from 13.6 Mt to 19.9 Mt.

A minor increase in the grade of the base metals globally is present in this Mineral Resource update due to inclusion of additional material in fault block 60. This fault block has a higher overall grade for nickel, copper and cobalt, relative to the other fault blocks in the deposit.

Further certainty on AVL's mine economics and availability of non-magnetic mine tailings is provided through completion of a BFS for the planned vanadium mine.

APPENDIX 2: Flotation Test work

LIMS separation of Magnetite and Sulphide Recovery[7]

AVL carried out metallurgical test work on three high-vanadium grade magnetite samples for the recovery of both a magnetic concentrate and a sulphide concentrate. Sample 2 Fresh (Fr) (25kg) and sample 7 Fresh (Fr) (25kg) and a Bulk-composite (90kg containing equal parts of samples 1 Fr, 3 Fr, 4 Fr, 5 Fr, 6 Fr, 7 Fr, 8 Fr, 9 Fr and 10 Fr) were used in the evaluation.

Each sample was ground to P_{80} 106 µm and underwent wet magnetic separation using a low intensity (1500 Gauss) magnetic separation drum. The non-magnetic stream was dried, sub-split and provided feed for bench-scale sulphide flotation test work.

The table below compares magnetic separation and flotation test data for the three samples. The flotation concentrate chemistry presented represents analysis of the first rougher or cleaner concentrate in open circuit test work and so provides an indication of the potential chemistry of a sulphide concentrate.

Table: Sulphide Recovery Test work - Magnetic Separation and Flotation Test Data

	Sample		
	2 Fr	7 Fr	Bulk Composite
Feed Grades[1]			
V_2O_5 %	1.34	1.23	1.09
S %	0.19	0.23	0.17
Co ppm	240	260	210
Ni ppm	940	1020	740
Cu ppm	230	280	180
Magnetic Stream V_2O_5 Grade (%)	1.44	1.37	1.36
Non Magnetic Stream Mass Recovery (%)	10.2	12.5	25.7
Non Magnetic Stream Grades[1] (%)			
S	1.63	1.58	0.68
Co	0.13	0.13	0.05
Ni	0.18	0.21	0.09
Cu	0.07	0.10	0.04
Flotation test reference	***2 Fr 4113/2***	***7 Fr 4113/3***	***BC 4113/2***
Flotation Concentrate 1 Grades (%)			
S	26.5	31.0	31.5
Co	1.71	2.02	1.54
Ni	1.61	2.58	1.36
Cu	0.82	1.70	0.94
Total Base Metals in Cleaner Concentrate 1 (%)	4.14	6.30	3.84

[7] See AVL ASX Announcement "Cobalt added to Vanadium at Gabanintha" dated 22 May 2018

[1] *Feed and non-magnetic stream grades are calculated based on measurements of the downstream product streams*

A summary of the key findings from the sulphide recovery test work are outlined below;

The flotation results demonstrate the potential to generate a sulphide concentrate containing 4 to 6% combined cobalt, nickel and copper from massive magnetite material proposed as feed to the Gabanintha vanadium recovery process.

Preliminary mineralogy work indicates the cobalt in the flotation concentrate is hosted in solid solution in pyrite (Co)FeS_2 and in the cobalt nickel mineral, Siegenite ($CoNi_2S_4$).

There is reasonable potential to further improve the concentrate quality in the samples tested as with other fresh massive iron mineralisation with high cobalt grade in the non-magnetic fraction

Table: Sulphide Recovery Test work 2022 Grade Results LIMS

Separation	Mass		Co		Cu		Fe		Ni		S	
Units	kg		%		%		%		%		%	
Test	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH
Non-Mags	28	36	0.06	0.06	0.05	0.06	21.06	22.51	0.11	0.12	0.81	1.06
Mags	119	113	0.02	0.02	0.02	0.01	57.34	58.64	0.10	0.10	0.03	0.05
Calc'd Head	**147**	**149**	**0.02**	**0.03**	**0.02**	**0.02**	**50.46**	**50.00**	**0.10**	**0.10**	**0.18**	**0.29**
Assay Head			**0.03**	**0.03**	**0.02**	**0.02**	**49.55**	**50.00**	**0.08**	**0.08**	**0.23**	**0.31**

Fresh and GDH refer to Northern pits and Southern Pit samples respectively.

Sulphide Recovery Test work 2022 Distribution LIMS

Separation	Mass		Co		Cu		Fe		Ni		S	
Units	%		%		%		%		%		%	
Test	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH
Non-Mags	19.0	23.9	47.6	53.3	39.3	59.9	7.9	10.8	20.5	28.3	85.6	88.1
Mags	81.0	76.1	52.4	46.7	60.7	40.1	92.1	89.2	79.5	71.7	14.4	11.9

Sulphide Recovery Test work 2022 Grade _ Floatation

Stream	Mass		Co		Cu		Fe		Ni		S	
	g		%		%		%		%		%	
	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH
Re-Clnr Con	354	509	1.63	1.04	1.31	1.44	34.32	30.41	1.27	1.06	33.57	26.72
Cleaner Con	517	562	1.20	0.97	0.94	1.33	28.80	29.01	0.95	1.00	24.10	24.97
Rougher Con	940	864	0.71	0.68	0.55	0.90	24.80	25.86	0.60	0.73	13.64	16.89
Rougher Tail	14,895	15,260	0.02	0.02	0.01	0.01	20.97	22.05	0.08	0.09	0.07	0.11
Calc'd Head	**15,835**	**16,124**	**0.06**	**0.05**	**0.05**	**0.06**	**21.20**	**22.25**	**0.11**	**0.12**	**0.88**	**1.01**
Assay Head			**0.06**	**0.06**	**0.05**	**0.06**	**21.06**	**22.51**	**0.11**	**0.12**	**0.81**	**1.06**

Sulphide Recovery Test work 2022 Recovery -Floatation

Stream	Mass		Co		Cu		Fe		Ni		S	
	%		%		%		%		%		%	
	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH	Fresh	GDH
Re-Cleaner Con	2.2	3.2	59.9	59.7	64.2	79.3	3.6	4.3	25.6	27.4	85.6	83.6
Cleaner Con	3.3	3.5	64.2	61.8	67.1	80.6	4.4	4.5	28.1	28.4	89.8	86.2
Rougher Con	5.9	5.4	69.0	66.7	71.4	84.5	6.9	6.2	32.5	32.2	92.5	89.7

Forward Looking Statements

This report 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. 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 report, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

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) and Ms Gemma Lee who is employed by Australian Vanadium Ltd as Principal Geologist. Mr Davis is a member of the Australasian Institute of Mining and Metallurgy and Ms Lee is a member of the Australian Institute of Geoscientists. Both Mr Davis and Ms Lee 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 Davis and Ms Lee consent to the inclusion in this report of the matters based on their 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 and Director of Bryah Resources Ltd). Mr Barnes and Mr Davis are both members of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). 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.

APPENDIX 3 *Section 1 - Sampling Techniques and Data*

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	Nature and quality of sampling (eg. 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. Eight diamond holes in PQ and HQ size were drilled in blocks 50 and 60 for geotechnical studies during 2020 for 895.6 metres. These holes are pending sampling and assay. Four of the eight holes were drilled towards the northeast and intersected the HG10 domain; four were drilled towards the southwest and intersected hangingwall units only. Logging and magnetic susceptibility measurements demonstrate the HG10 domain was intersected at the expected depths and thicknesses. During 2019 43 RC holes were drilled; 30 RC holes were drilled for 2,236m in the December 2019 drilling on blocks 50 and 60, and 13 RC holes for 1,224m drilled in blocks 20, 25 and 30 during October 2019. A further 30 PQ diamond drill holes were completed by March 2019, to collect metallurgy sample for a plant pilot study. 12 were 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 were measured by hand-held XRF at 50 cm intervals to inform metallurgy characterisation but will not form part of any resource estimation update as there is no certified laboratory analysis completed on the drill core, with material being used for metallurgical test work. 14 of the 18 diamond tails were cut and a ¼ of the PQ sized core was sent for analysis. At the time of the latest vanadium Mineral Resource estimation (November 2021), a total of 280 RC holes and 50 diamond holes (24 of which are diamond tails) were drilled into the AVL portion of the deposit. 20 of the 330 holes were either too far north or east of the main mineralisation trend. 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 310 drill holes, 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 26 660.89m of drilling with 23,650.32 metres being RC and 3,010.57 metres of DDH over 305 holes at the date of the most recent resource estimate. 18 down-dip metallurgical drillholes and 4 metallurgical diamond tails contribute magnetic susceptibility and geological logging to the Mineral Resource estimation, but not assay data, being drilled to provide metallurgical sample. The initial 17 RC drill holes were drilled by Intermin Resources NL (IRC) in 1998. These holes were not used in the 2015, 2017, 2018 and 2020 estimates due to very long unequal sample lengths and a different grade profile from subsequent drilling. 31 RC drill holes were drilled by Greater Pacific NL in 2000 and the remaining holes for the project were drilled by Australian Vanadium Ltd (Previously Yellow Rock Resources Ltd) between 2007 and 2019. This drilling includes 50 diamond holes (24 of which are diamond tails) and 170 RC holes, for a total of 27,655.75m drilled.

Criteria	JORC Code Explanation	Commentary
		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. Loss on Ignition was also assayed.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	PQ core from 2019 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, though handheld XRF datapoints were captured, as well as magnetic susceptibility data. 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 grade representation from the drill rig splitter. During the October 2019 RC programme, field duplicates were collected from the rig splitter for every 30th drill metre. During the December 2019 RC programme, field duplicates were collected from the rig splitter for every 20th drill metre.
	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 – 5 kg 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. 2020 diamond core was drilled at HQ and PQ size for geotechnical studies, with sampling and assay pending. 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. For the RC programme completed in December 2019, the field duplicates were incorporated at a rate of 1:20, while standards 1:50 and blanks also 1:50.
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 drill holes account for 16% 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 84% of the drilled metres. 24 of the diamond holes have RC pre-collars (GDH911, GDH913 & GDH916, 18GEDH001, 002 and 003, 19MTDT001 – 018), otherwise all holes are drilled from surface. No core orientation data (frequency, quality) 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

Criteria	JORC Code Explanation	Commentary
		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 additional 18 PQ diamond tails on RC pre-collars have been drilled vertically, of which 14 contribute to the resource. Two were used for the metallurgy pilot study programme, one was not sampled due to core loss and a further core hole cut but not submitted for assay. A further 43 RC holes using a 140 mm face hammer on a Schramm drill rig have been completed during October and December 2019. Eight HQ and PQ diameter diamond core holes were drilled from surface during 2020, in fault blocks 50 and 60. The holes were drilled for geotechnical information. Four of the holes were drilled towards the northeast and intercept the high grade domain. At the time of this release, the holes are pending sampling and assay. The high grade domain was intersected at the depth and thicknesses expected in the four holes drilled towards the northeast.
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. A further hole 19MTDT007 was considered a failed hole due to the degree of core loss (greater than 50% loss) through the HG10 domain. This was due to drilling issues rather than ground conditions. This hole does not form part of the mineral resource estimate as it is not considered representative.

Criteria	JORC Code Explanation	Commentary
	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 20th and every 50th metre in every RC drill campaign. All drill holes 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 drill holes drilled to twin RC holes have been completed to assess sample bias due to preferential loss/gain of fine/coarse material. AVL 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.

Criteria	JORC Code Explanation	Commentary
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	All diamond core and RC chips from holes included in the latest resource estimate were geologically logged. 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. Structural measurements were recorded (bedding to core angle measurements) and have been saved to the database. The logging was completed on site by the responsible geologist. All of the drilling was logged onto paper then transferred to a SQL Server drill hole database using DataShed™ 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 drill hole have been 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 Optical Televiewer (OTV) / Acoustic Televiewer (ATV) data was collected on three diamond drill holes from the 2018 campaign, by consultant company Dempers and Seymour, adding to an existing dataset of geotechnical logging on 8 of the 2015 diamond drill holes and televiewer data for four of the same drill holes. In addition, during 2018 televiewer data was collected on a further 15 RC drill holes 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. PQ and HQ diamond drill holes completed during 2020 were geologically logged in detail by the site geologists, and geotechnically logged by consultants PSM. Five of the eight geotechnical holes drilled during 2020 were down hole ATV surveyed.

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. 14 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 and occasional wet 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, and one in 20 for the December 2019 RC drilling.

Criteria	JORC Code Explanation	Commentary
	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.
	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.	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, the sample sizes are representative. Core is not split for duplicates, but RC samples are split at the collection stage to get representative (2.5-3kg) 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.
	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.

Criteria	JORC Code Explanation	Commentary
		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 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 generally are within 10% of their original values, with only six percent of duplicate samples being more than 10 percent different. 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. No duplicate split samples were taken from the core, however, a coarse crush split at a frequency of 1:20 samples was created by the laboratory and assayed. The nature, quality and appropriateness of the assaying and laboratory procedures is at acceptable industry standards.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and	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. During 2019, where archive material was available, historical drilling was re-measured with a

Criteria	JORC Code Explanation	Commentary
	model, reading times, calibrations factors applied and their derivation, etc.	KT-10 magnetic susceptibility metre, and comparison studies were completed with most of the Fugro and RT1 data replaced by KT-10 data, in addition to infilling gaps in the dataset. In addition to the handheld magnetic susceptibility described above the 2019 diamond 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 was analysed using an Olympus Vanta pXRF with a 20 second read time. The unit is 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 drill holes 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. Five of the eight PQ and HQ geotechnical drill holes completed in 2020 have been ATV 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.
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 drill hole collars and remaining RC chip samples were inspected. All of the core was inspected in the BV facilities in Perth and selected sections of drill holes were examined in detail in conjunction with the geological logging and assaying. Gemma Lee, Principal Geologist for AVL, has reviewed many of the diamond core drill holes from the project, and arranged check assaying for drill pulps, verifying the validity of the sample analysis.

Criteria	JORC Code Explanation	Commentary
		Resource consultants from Trepanier have visited site during 2019 and the company core storage facility in Bayswater and reviewed the core trays for select diamond holes during 2018.
	The use of twinned holes.	Two diamond drill holes (GDH915 and GDH917) were drilled to twin the RC drill holes 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 drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	For the 2019 and 2018 drilling, all collars were set out using a handheld GPS or DGPS. 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 drill holes 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. Historical drill holes were surveyed with RTK GPS and DGPS from 2008 to 2015, using the remaining visible collar location positions. Only five of the early drill holes, 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 drill holes 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 -60° dip measurement. These older RC holes were almost all 120m or less in depth.

Criteria	JORC Code Explanation	Commentary
	Specification of the grid system used.	The grid projection used for the Australian Vanadium Project is MGA_GDA94, Zone 50. A local grid has also been developed for the project and used for the latest Mineral Resource update (March 2020). The grid is a 40 degree rotation in the clockwise direction from MGA north.
	Quality and adequacy of topographic control.	High resolution Digital Elevation Data was captured by Arvista for the Company in June 2018 over the M51/878 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 the imagery shows excellent alignment with the drill collar positions. Outside M51/878, 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 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 drill holes 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 and subsequently are already calibrated against the new ground control.
Data Spacing and Distribution	Data spacing for reporting of Exploration Results.	2019 RC drilling in Fault Block 50 and 60 has drilled out portions of the fault block to 140 m spaced lines with 30 m drill centres on lines. Some sections are closer together where new drilling bracketed existing drill lines to maintain a minimum 140 m spacing between lines. 2019 diamond tail drilling has intersected the high grade domain at about 60 m downdip from the last existing drill hole on select sections that are at 80 m spacing. The 2018 RC drilling in Fault Block 30 and 40 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 drill holes. Outside of the main area of relatively close spaced drilling

Criteria	JORC Code Explanation	Commentary
		(approximately 7015400mN to 7016600mN), the drill hole spacing increases to between 140m and 400m 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.
	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 drill hole and RC drill hole 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 45° to 50° magnetic to the west, with the holes dipping approximately 60° to the east. The drill fences are arranged along the average strike of the high-grade mineralised horizon, which strikes approximately 310° to 315° magnetic south of a line at 7015000mN and approximately 330° 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 nearly all conducted perpendicular to the strike of the main mineralisation trend and dipping 60° to the east, producing approximate true thickness sample intervals through the mineralisation. The exception is 18 RC pre-collar, diamond tail holes drilled vertically to intersect the deposit at depth, and 12 down-dip diamond holes drilled from surface down-dip in the high grade domain to gain metallurgical sample. These holes do not contribute assay data to the estimation.
	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. Drill holes intersect the mineralisation at an angle of approximately 90 degrees. 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. The data integrity and consistency of the drill hole database shows sufficient quality to support resource estimation.

Section 2 - Reporting of Exploration Results

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	Following a decision by the Federal Court the Yugunga-Nya native title claim (WC1999/46) was not accepted for registration. Subsequent to the grant of M51/878, native title claim WCD2021/008 has become the NTT registration for the Yugunga Nya peoples covering the proposed mine site,. A Heritage survey was undertaken prior to commencing each drilling campaign which only located isolated artefacts but no archaeological sites per se. AVL have been completing heritage survey clearance work with the same group throughout the life of the project, covering all areas of Mineral Resource drilling.

Criteria	JORC Code Explanation	Commentary
		Mining Lease M51/878 covering most of E 51/843 and P51/2567, and all of P51/2566 and E51/1396 was granted by DMIRS during 2020, covering 70% of the Vanadium Project. The remainder of the deposit resource area is covered by Mining Lease Application MLA51/897 that overlies a portion of E51/843, P51/3076 and E51/1534 that are held by AVL. AVL has no joint venture, environmental, national park or other ownership agreements on the lease area. A Mineral Rights Agreement has been signed with Bryah Resources Ltd for base metals and gold exploration on the AVL Gabanintha tenements. Bryah Resources Limited (ASX: BYH) holds the Mineral Rights for all minerals except V/U/Co/Cr/Ti/Li/Ta/Mn & iron ore which are retained 100% by AVL. AVL owns shares in BYH and holds a 0.75% Net Smelter Return royalty upon commencement of production by BYH.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	At the time of reporting, there are no known impediments to obtaining a licence to operate in the area and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Australian Vanadium deposit was identified in the 1960s by Mangore P/L and investigated with shallow drilling, surface sampling and mapping. In 1998, drilling by Intermin Resources confirmed the down dip extent and strike continuation under cover between outcrops of the vanadium bearing horizons. Additional RC and initial diamond drilling was conducted by Greater Pacific NL and then AVL up until 2019. Previous Mineral Resource estimates have been completed for the deposit in 2001 (Mineral Engineering Technical Services Pty Ltd (METS) and Bryan Smith Geosciences Pty Ltd. (BSG)), 2007 (Schwann), 2008 (MASS & Schwann), 2011 (CSA), 2015 (AMC), 2017 (Trepanier) and 2018 (Trepanier).
Geology	Deposit type, geological setting and style of mineralisation.	The Australian Vanadium Project at Gabanintha is located approximately 40kms south of Meekatharra in Western Australia and approximately 100kms along strike (north) of the Windimurra Vanadium Mine. The mineralisation is hosted in the same geological unit as Windimurra, which is part of the northern Murchison granite greenstone terrane in the north west Yilgarn Craton. The project lies within the Gabanintha and Porlell Archaean greenstone sequence oriented approximately NW-SE and is adjacent to the Meekatharra greenstone belt. Locally the mineralisation is massive or bands of disseminated vanadiferous titano-magnetite hosted within the gabbro. The mineralised package dips moderately to steeply to the west and is capped by Archaean acid volcanics and metasediments. The footwall is a talc carbonate altered ultramafic unit.

Criteria	JORC Code Explanation	Commentary
		The host sequence is disrupted by late stage dolerite and granite dykes and occasional east and northeast -southwest trending faults with apparent minor offsets. The mineralisation ranges in thickness from several metres to up to 20 to 30m in thickness. The oxidized and partially oxidised weathering surface extends 40 to 80m below surface and the magnetite in the oxide zone is usually altered to Martite.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.	All drill results relevant to the mineral resource updates were disclosed at the time of each resource publication. For further information in addition to this release, see AVL ASX Announcement dated 1st November 2021, 4th March 2020 and 28th November 2018 for previous three vanadium Mineral Resource updates with extensive information on drilling completed at the project.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	Length weighed averages used for exploration results are reported in spatial context when exploration results are reported. Cutting of high grades was not applied in the reporting of intercepts.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	There were negligible residual composite lengths, and where present these were excluded from the estimate.

Criteria	JORC Code Explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used.
Relationship between mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Drill holes intersect the mineralisation at an angle of approximately 90 degrees. Diamond PQ holes in the 2019 program were drilled vertically (-90 degrees). This decreases the angle of intersection with the mineralisation.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	See Figures in the ASX releases of 1st November 2021, 4th March 2020, and 18th November 2018, which list drilling intercepts, maps and sections for the previous three Mineral Resource updates.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Comprehensive reporting of drilling details has been provided in the body of the announcement of 1st November 2021, 4th March 2020, and 18th November 2018.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All meaningful & material exploration data has been reported

Criteria	JORC Code Explanation	Commentary
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Extensional vanadium resource infill drilling is under consideration for the remaining 5 km of mineralisation that is currently drilled at broad spacing, which will also add base metals data.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	The long section shown in Figure 2 shows areas along strike of HG10 domain (outside of the current pit optimisations) that are prospective for base metals mineral resource, pending further infill drilling.

Section 3 - Estimation and Reporting of Mineral Resources

Criteria	JORC Code Explanation	Commentary
Database Integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	All the drilling was logged into Microsoft Excel, or logged onto paper and then transferred to a digital form and loaded into a Microsoft SQL Server relational drill hole database using DataShed^{TM} management software. Logging information was reviewed by the responsible geologist and database administrator prior to final load into the database. All assay results were received as digital files, as well as the collar and survey data. These data were transferred directly from the received files into the database. All other data collected for the Australian Vanadium Project were recorded as Excel spreadsheets prior to loading into SQL Server. The data have been periodically checked by AVL personnel, the database administrator as well as the personnel involved in all previous Mineral Resource estimates for the project.

Criteria	JORC Code Explanation	Commentary
	Data validation procedures used.	The data validation was initially completed by the responsible geologist logging the core and marking up the drill hole for assaying. The paper geological logs were transferred to Excel spreadsheets and compared with the originals for error. Assay dispatch sheets were compared with the record of samples received by the assay laboratories. Normal data validation checks were completed on import to the SQL database. Data has also been checked back against hard copy results and previous mines department reports to verify assays and logging intervals. Both internal (AVL) and external (Schwann, MASS, CSA and AMC) validations are/were completed when data was loaded into spatial software for geological interpretation and resource estimation. All data have been checked for overlapping intervals, missing samples, FROM values greater than TO values, missing stratigraphy or rock type codes, downhole survey deviations of ±10° in azimuth and ±5° in dip, assay values greater than or less than expected values and several other possible error types. Furthermore, each assay record was examined and mineral resource intervals were picked by the Competent Person. QAQC data and reports have been checked by the database administrator, MRG. MASS & Schwann and CSA both reported on the available QAQC data for the Australian Vanadium Project.
Site Visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The drill location was inspected by John Tyrrell of AMC in 2015 for the initial 2012 JORC resource estimation. Consulting Geologist Brian Davis of Geologica Pty Ltd has visited all the Australian Vanadium Project drilling sites since 2015 and has been familiar with the Australian Vanadium Project iron-titanium-vanadium orebody since 2006. AVL Principal Geologist, Gemma Lee, has visited site numerous times since early 2019, completing outcrop mapping and drilling supervision. Consulting Geologist Lauritz Barnes of Trepanier Pty Ltd visited the Australian Vanadium Project drilling sites in March 2019. The geology, sampling, sample preparation and transport, data collection and storage procedures were all discussed and reviewed with the responsible geologist for the 2015, 2017, 2018 and 2019 drilling. Visits to the BV laboratory and core shed in Perth were used to add knowledge to aid in the preparation of this Mineral Resource Estimate.
	If no site visits have been undertaken indicate why this is the case.	N/A
Geological Interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The Australian Vanadium Project's vanadium mineralisation lies along strike from the Windimurra Vanadium Mine and the oxidised portion of the high-grade massive magnetite/martite mineralisation outcrops for almost 14km in the company held lease area. Detailed mapping and mineralogical studies have been completed by company personnel and contracted specialists between 2000 and 2019, as well as multiple infill drilling programmes to test the mineralisation and continuity of the structures. These data and the relatively closely-spaced drilling has led to a good understanding of the mineralisation controls.

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		The mineralisation is hosted within altered gabbro and is easy to visually identify by the magnetite/martite content. The main high grade unit shows consistent thickness and grade along strike and down dip and has a clearly defined sharp boundary. The lower grade disseminated bands also show good continuity, but their boundaries are occasionally less easy to identify visually as they are more diffuse over a metre or so.
	Nature of the data used and of any assumptions made.	No assumptions are made regarding the input data.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations were considered in the current estimation and close comparison with the 2015 and 2018 resource models was made to see the effect of the new density data and revised geology model. Continuity of the low grade units, more closely defined from lithology logs, is now better understood and the resulting interpretation is more effective as a potential mining model. The near-surface alluvial and transported material has again been modelled in this estimation. The impact of the current interpretation as compared to the previous interpretation is a greater confidence in areas of infill drilling.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geological observation has underpinned the resource estimation and geological model. The high grade mineralisation domain has a clear and sharp boundary and has been tightly constrained by the interpreted wireframe shapes. The low grade mineralisation is also constrained within wireframes, which are defined and guided by visual (from core) and grade boundaries from assay results. The low grade mineralisation has been defined as four sub-domains, which strike sub-parallel to the high grade domain. In addition there is a sub parallel laterite zone and two transported zones above the top of bedrock surface. The resource estimate is constrained by these wireframes. Domains were also coded for oxide, transition and fresh, as well as above and below the alluvial and bedrock surfaces. The extents of the geological model were constrained by fault block boundaries. Geological boundaries were extrapolated to the edges of these fault blocks, as indicated by geological continuity in the logging and the magnetic geophysical data.
	The factors affecting continuity both of grade and geology.	Key factors that are likely to affect the continuity of grade are: • The thickness and presence of the high grade massive magnetite/martite unit, which to date has been very consistent in both structural continuity and grade continuity. Sulphides that host the base metals are present in the fresh rock as interstitial minerals to the magnetite cumulus crystals in the HG10 domain. • The thickness and presence of the low grade banded and disseminated mineralisation along strike and down dip. The low grade sub-domains are less consistent in their thickness along strike and down dip with more pinching and swelling than for the high grade domain.

Criteria	JORC Code Explanation	Commentary
		• SW-NE oriented faulting occurs at a deposit scale and offsets the main orientation of the mineralisation. These regional faults divide the deposit along strike into kilometre scale blocks. Internally the mineralised blocks show very few signs of structural disturbance at the level of drilling.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The massive magnetite/martite unit strikes approximately 14 km, is stratiform and ranges in thickness from less than 10m to over 20m true thickness. The low grade mineralised units are sub-parallel to the high grade zone, and also vary in thickness from less than 10m to over 20m. All of the units dip moderately to steeply towards the west, with the exception of two predominantly alluvial units (domains 7 and 8) and a laterite unit (domain 6) which are flat lying. All units outcrop at surface, but the low grade units are difficult to locate as they are more weathered and have a less prominent surface expression than the high grade unit. The high and low grade units are currently interpreted to have a depth extent of at least approximately 250m below surface. Mineralisation is currently open along strike and at depth.
Estimation and Modelling Techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Grade estimation was completed using Ordinary Kriging (OK) for the Mineral Resource estimate. Surpac™ software was used to estimate grades for V_2O_5, TiO_2, Fe_2O_3, SiO_2, Al_2O_3, Cr_2O_3, Co, Cu, Ni, S, magnetic susceptibility and loss on ignition (LOI) using parameters derived from statistical and variography studies. The majority of the variables estimated have coefficients of variation of significantly less than 1.0, with Cr_2O_3 being the exception. Drill hole spacing varies from approximately 80 m to 100 m along strike by 25 m to 30 m down dip, to 500 m along by 50 m to 60 m down dip. Drill hole sample data was flagged with numeric domain codes unique to each mineralisation domain. Sample data was composited to 1 m downhole length and composites were terminated by a change in domain or oxidation state coding. No grade top cuts were applied to any of the estimated variables as statistical studies showed that there were no extreme outliers present within any of the domain groupings. Grade was estimated into separate mineralisation domains including a high grade bedrock domain, four low grade bedrock domains and low grade alluvial and laterite domains. Each domain was further subdivided into a fault block, and each fault block was assigned its own orientation ellipse for grade interpolation. Downhole variography and directional variography were performed for all estimated variables for the high grade domain and the grouped low grade domains. Grade continuity varied from hundreds of metres in the along strike directions to sub-two hundred metres in the down-dip direction although the down-dip limitation is likely related to the extent of drilling to date.

Criteria	JORC Code Explanation	Commentary
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Prior to 2017, there had been five Mineral Resource estimates for the Australian Vanadium Project deposit. The first, in 2001 was a polygonal sectional estimate completed by METS & BSG. The subsequent models by Schwann (2007), MASS & Schwann (2008) and CSA (2011) are kriged estimates. AMC (2015) reviewed the geological interpretation of the most recent previous model (CSA 2011), but used a new interpretation based on additional new drilling for the 2015 estimate. In 2017 a complete review of the geological data, weathering profiles, magnetic intensity and topographic data as well as incorporation of additional density data and more accurate modelling techniques resulted in a re-interpreted mineral resource. This was revised in July and December 2018. A Mineral Resource update (adding magnetic susceptibility and new drill data) was completed in March 2020. Base Metals Mineral Resources for the Australian Vanadium Project have been reported by AVL and Bryah at the following dates: 5 July 2018 – Maiden base metals Mineral Resource, following on from metallurgy work on sulphide flotation work on the magnetite tails. 28 November 2018 – Update to base metals Mineral Resource, following additional drilling at the Project 1 June 2021 – Update to base metals Mineral Resource on the basis of PFS Update pit optimisations This release – Update to base metals Mineral Resource on the basis of the BFS pit optimisations No mining has occurred to date at the Australian Vanadium Project, so there are no production records. Additional infill drilling and extensional diamond core holes have resulted in further adjustments to the interpretation.
	The assumptions made regarding recovery of by-products.	Test work conducted by the company in 2015 identified the presence of sulphide hosted cobalt, nickel and copper, specifically partitioned into the silicate phases of the massive titaniferous vanadiferous iron oxides which make up the vanadium mineralisation at the Australian Vanadium Project. Subsequent test work has shown the ability to recover a sulphide flotation concentrate containing between 3.8 % and 6.3% of combined base metals treating the non-magnetic tailings produced as a result of the magnetic separation of a vanadium iron concentrate from fresh massive magnetite. See ASX Announcements dated 22 May 2018 and 5 July 2018. Leached calcine of 53.3% Fe, 8.89% Ti, 0.93% Si and 1.55% Al has been generated from the pilot scale test work and is considered an iron-titanium co-product when generated from AVL's relocated processing plant site at Tenindewa. Further characterisation test work and exploration of avenues to improve the calcine product quality are under review.

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	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).	Estimates were undertaken for Fe_2O_3, SiO_2, TiO_2, Al_2O_3, and LOI, which are non-commodity variables, but are useful for determining recoveries and metallurgical performance of the treated material. Estimated Fe2O3% grades were converted to Fe% grades in the final for reporting (Fe% = Fe_2O_3/1.4297). Estimates were also undertaken for Cr_2O_3 which is a potential deleterious element. The estimated Cr_2O_3% grades were converted to Cr ppm grades (Cr ppm = (Cr_2O_3*10000)/1.4615).
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units.	The Australian Vanadium Project block model uses a parent cell size of 40 m in northing, 8 m in easting and 10 m in RL. This corresponds to approximately half the distance between drill holes in the northing and easting directions and matches an assumed bench height in the RL direction. Accurate volume representation of the interpretation was achieved. Grade was estimated into parent cells, with all sub-cells receiving the same grade as their relevant parent cell. Search ellipse dimensions and directions were adjusted for each fault block. Three search passes were used for each estimate in each domain. The first search was 120m and allowed a minimum of 8 composites and a maximum of 24 composites. For the second pass, the first pass search ranges were expanded by 2 times. The third pass search ellipse dimensions were extended to a large distance to allow remaining unfilled blocks to be estimated. A limit of 5 composites from a single drill hole was permitted on each pass. In domains of limited data, these parameters were adjusted appropriately. No selective mining units were considered in this estimate apart from an assumed five metre bench height for open pit mining. Model block sizes were determined primarily by drill hole spacing and statistical analysis of the effect of changing block sizes on the final estimates.
	Any assumptions about correlation between variables.	All elements within a domain used the same sample selection routine for block grade estimation. No co-kriging was performed at the Australian Vanadium Project.
	Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation is used to define the mineralisation, oxidation/transition/fresh and alluvial domains. All of the domains are used as hard boundaries to select sample populations for variography and grade estimation.
	Discussion of basis for using or not using grade cutting or capping.	Analysis showed that none of the domains had statistical outlier values that required top-cut values to be applied.
	The process of validation, the checking process used, the comparison of model	Validation of the block model consisted of: • Volumetric comparison of the mineralisation wireframes to the block model volumes. • Visual comparison of estimated grades against composite grades.

Criteria	JORC Code Explanation	Commentary
	data to drill hole data, and use of reconciliation data if available.	• Comparison of block model grades to the input data using swathe plots. As no mining has taken place at the Australian Vanadium Project to date, there is no reconciliation data available.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	All mineralisation tonnages are estimated on a dry basis. The moisture content in mineralisation is considered very low.
Cut-Off Parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A nominal 0.4% V_2O_5 wireframed cut off for low grade and a nominal 0.7% V_2O_5 wireframed cut off for high grade has been used to report the Mineral Resource at the Australian Vanadium Project. Consideration of previous estimates, as well as the current mining, metallurgical and pricing assumptions, while not rigorous, suggest that the currently interpreted mineralised material has a reasonable prospect for eventual economic extraction at these cut off grades.
Mining Factors or Assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	AVL completed a mining Scoping Study in October 2016 for the Australian Vanadium Project. The primary mining scenario being considered is conventional open pit mining. In September 2018, AVL released a base case PFS which included key assumptions supporting a planned open pit vanadium mining operation at the Australian Vanadium Project. The March 2020 Mineral Resource was the basis for new optimisation studies during 2020 for an open pit mine plan incorporating the additional Indicated resources, upon which a PFS Update released in December 2020 was based. The October 2021 vanadium Mineral Resource is the basis for the BFS for the Australian Vanadium Project.

Criteria	JORC Code Explanation	Commentary
Metallurgical Factors or Assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	The metallurgical work conducted has been significant with programs designed to support a Bankable Feasibility Study flowsheet. Lab work supporting the BFS is complete and final reports are being finalised. The work included bench scale variability test work and pilot scale test work on indicative process feed blends to validate an optimised CMB flowsheet and the sodium salt roast/leach section of the refinery flowsheet. This test program has generated product that meets typical >98.5% V_2O_5 flake chemical specification. An optimisation test work program has been completed and has led to the process design for the bankable feasibility study. Other metallurgical programs are underway assessing routes to upgrade the iron rich co product that will be generated by the vanadium extraction process. Metallurgical studies supporting the PFS (Q4 2018) focused on bench scale comminution and magnetic separation test work on 24 contiguous drill core intervals from the high-grade vanadium domain. These samples included 10 off from the "fresh" rock zone, 9 off from the zone defined as "transitional" and 5 off from the near surface oxidised horizon, "oxide". Some preliminary bench scale roast and leach testing was carried out and used to support process design criteria applied in the PFS. Metallurgical studies supporting the PFS Update (Q4 2020) included bench scale variability tests on both diamond core and RC material and pilot testing of bulk samples made up from diamond drill core to represent average early years (0-5) and life of mine (LOM) process feed. The pilot testing of the optimised beneficiation circuit generated two controlled batches (total 2.2 tonne) of concentrate that were used to develop and optimise a grate kiln process, similar to a pelletisation process for iron ore. Significantly higher vanadium leach extraction has been achieved relative to conventional processing of fine concentrate in a rotary kiln, as applied in the BFS flowsheet. The following table provides a summary of the metallurgical testing supporting the PFS Update and so the Mineral Resources statement. The cut-off date for test work supporting the PFS design basis was 30 September 2020. **Flowsheet Area** / **Type of test** / **Number of tests** Concentration / Comminution • Bond ball mill work index — 31 tests • Bond rod mill work index — 15 tests • UCS — 12 tests • SMC — 30 tests • JKDWi — 3 tests

Criteria	JORC Code Explanation	Commentary		
			Bench scale silica reverse flotation	34 tests
			Tails and concentrate thickening	20 tests
			Concentrate filtration	12 tests
			Pilot scale beneficiation	4 tests (optimised conditions)
			Concentrate characterisation	2 size by assay tests
				2 XRD tests
			Variability test program	47 small scale WHIMS tests
				32 DTR or DTW tests
				26 REMS Stick tests
				6 LMA tests
				1 LIMS/WHIMS test
				1 silica reverse flotation test
				16 Qemscan analyses
		Vanadium Extraction	Bench scale roast and leach	41 muffle furnace roast tests
				6 pot roast tests
				5 agitated tank leach tests
				3 bottle roll leach tests
				5 counter current pellet leach tests
			Pilot scale roasting	31 small batch pelletising tests
				44 large batch pelletising tests

Criteria	JORC Code Explanation	Commentary

		55 Grate Kiln roast tests and 47 batch water leach tests
	Bond ball mill work index	1 calcine regrind test
	Large scale batch leach	5 bulk static tank leach tests
		1 bulk agitated tank leach test
		2 column leach tests
		3 spiral leach tests
Vanadium Purification	Evaporation	14 tests
	Bench scale desilication	3 tests
	Bench scale AMV precipitation	10 tests
	Bench scale APV precipitation	8 tests
	Bench scale deammoniation	5 tests
Calcine Upgrading	Calcine characterisation	3 XRD tests
		3 TGA tests
		2 TCLP tests
	Calcine upgrading	8 roast tests
		12 DTR tests
		4 Carpco magnetic fractionation tests

Albeit a prefeasibility study update, through the pilot scale testing and additional variability test work undertaken in 2019 and 2020, the metallurgical understanding and confidence in the process design has improved considerably. The following metallurgical summary supports the Resource Statement and grounds for justifying reasonable prospects of eventual economic extraction.

Criteria	JORC Code Explanation	Commentary
		• The oxide, transitional and fresh materials are similar in comminution behaviour and exhibit a moderate rock competency and ball milling energy demand. The abrasiveness of the massive iron mineralisation (vanadium enriched zone) is on average low, indicating grinding media and wear liner unit consumption rates will be low when processed. • Most of the vanadium exists within massive iron mineralisation which can effectively be recovered to a magnetic concentrate at a grind size P_{80} ranging 106 to 160 µm. A positive and consistent response to magnetic separation has been shown from Davis Tube recovery (DTR) testing of fresh un-oxidised material within the high-grade domain. The degree of weathering impacts the magnetic susceptibility of the mineralisation and therefore the response to magnetic separation. Test work has confirmed wet high intensity magnetic separation (WHIMS) to be an effective scavenger for upper profile transitional and well oxidised material. • Lower vanadium grade assay intervals (0.4 to 0.7% V_2O_5) are common at the boundary of the high-grade massive iron zone but are observed to be more related to inclusion of mafic rock (gangue), often intercalated. Lower vanadium grade material representing the expected mine dilution was included in the pilot test work feed blends and when individually tested has recovered a magnetic concentrate. There are reasonable grounds to propose that eventual economic extraction of low-grade material (0.4 to 0.7% V_2O_5) could be viable at least at the end of the project via a preconcentration step not yet within the beneficiation flowsheet. • The processing of blends of fresh and variably oxidised material can achieve a low silica (1.8%) and alumina grade (2.8%) concentrate when the magnetic concentrate is reground to P_{80} 75 µm and cleaned in a silica reverse flotation circuit. • The beneficiation flowsheet adopted for the PFS Update has been validated by pilot scale test work which involved processing two blends of diamond core material designed to be indicative of average PFS schedule process feed. The optimised flowsheet includes medium intensity magnetic separation (MIMS), a scavenger WHIMS circuit, combined magnetic concentrate regrinding and final cleaning via a silica reverse flotation circuit. Concentrates from the pilot plant of 1.4% V_2O_5 were achieved at 69 and 76% vanadium recovery for the years 0-5 and LoM blends respectively. The higher vanadium recovery sample contained a component of fresh material (45% by mass). • Optimised pilot scale testing of a grate kiln process with mixes of concentrate, sodium salt and a binder in the form of green pellets, has achieved vanadium water leach extraction of 92 to 93%. • Preliminary bench scale testing of desilication and ammonium meta vanadate (AMV) precipitation has proven vanadium in leach liquor generated by the pilot testing can be purified to generate a product with acceptable chemistry for the >98.5% V_2O_5 flake market. This traditional vanadium hydrometallurgical purification path has been adopted for the flowsheet supporting the PFS Update. Similar leach liquor purification flowsheets were applied in Xstrata's Windimurra refinery flowsheet in Western Australia and at Largo Resources Maracas vanadium project in Bahia, Brazil. • Leached calcine of 53.3% Fe, 8.89% Ti, 0.93% Si and 1.55% Al has been generated from the pilot scale test work and is considered an iron-titanium co-product when generated from AVL's relocated processing plant site at Tenindewa. Further characterisation test work and exploration of avenues to improve the calcine product quality are under review Base metals economics are based on the above beneficiation of the vanadium ore, resulting in an enriched base metals by-product. Additional studies are required for feasibility of the base metals to be quantified. The vanadium economics are not dependent on a base metals byproduct.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td>Environmental Factors or Assumptions</td><td>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfield project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</td><td>Environmental studies and impact assessment are currently being undertaken for Feasibility and approvals work. For the BFS a commensurate level of study and design was completed for a Tailings Storage Facility (TSF) that will form part of an Integrated Waste Landform (IWL), the other portion of the IWL being waste rock from the mined pits. This work was undertaken by Golder and confirmed that the tails stream from the concentrator can be effectively stored and rehabilitated. Tailings seepage characterisation at Gabanintha has been completed, with controls required to prevent adverse impacts from tailings seepage into subterranean fauna habitat well considered. Waste streams from the processing plant at Tenindewa, including calcine residue and a sodium sulphate rich bleed solution are assumed to be managed within a lined storage facility.</td></tr>
<tr><td>Bulk Density</td><td>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</td><td>Multiple campaigns of Archimedes SG determinations have been completed, on diamond core ranging from HQ to PQ size, and either whole, half or quarter core. The majority of Archimedes measurements (SG = Weight in Air/(Weight in Air – Weight in Water)) were completed on plastic wrapped core to account for porosity. The measurements are assumed to be dry mass basis. Samples were selected from all bedrock rock types at the deposit. Samples were selected from all oxidation states within the bedrock geology.

Additional data sets collected were pycnometry (problematic due to no account for porosity); Down hole Compensated Density logs (gamma gamma method with two collimated detectors short and long distances from with source, with an eccentring arm to hold the tool against the wall of the hole, with measurements that account for hole rugosity, fluids in hole and porosity); and ‘XSG’ data that is a regression developed from Compton values to measured Archimedes SG determinations, applied to portions of diamond holes where continual XRF scanning was applied. All methods are determinations, rather than assumptions, with varying precision and accuracy.

The following table lists all density determinations applied at the project:

<table>
<tr><th>Year</th><th>Data Type</th><th>Sample Count</th><th>Company</th><th>Description/ Comments</th></tr>
<tr><td>2010</td><td>Archimedes Method - HQ Core</td><td>97</td><td>Spectro Laboratory</td><td>Assumed unwrapped</td></tr>
</table>
</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary

2015	Archimedes Method - PQ Core	26	Bureau Veritas	Wrapped
2015	Pycnometry - RC Samples	200	Bureau Veritas	No porosity factor
2016	Archimedes Method – Half PQ Core	200	Bureau Veritas	Wrapped
2016	Pycnometry – PQ or HQ Half Core	100	Bureau Veritas	To determine porosity factor – samples measured with wrapped Archimedes Method prior to crushing and pycnometry
2018	Archimedes Method - HQ half core	13	Bureau Veritas	Wrapped
2019	Archimedes Method - PQ whole core or quarter core	486	AVL - SG Station	Wrapped, with check measurements unwrapped on 193 of the samples
2020	Down-hole Compensated Density Log Survey	16,766	Surtech Systems	10 cm readings over 1,674.8 metres on 18 holes
2021	XSG data from Minalyze XRF Scanning	467	Minalyze	1m composite SG measurements collected from portions of 15 core holes

Criteria	JORC Code Explanation	Commentary
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences	The Archimedes method (SG = Weight in Air/(Weight in Air – Weight in Water)) was used for direct core measurements; all 725 of the latest measurements have been done using sealed core, the previous 97 measurements were not wrapped. Downhole Compensated Density Logs (gamma-gamma survey) are calibrated (compensated) to account for rock porosity (voids) and fluids down hole.

Criteria	JORC Code Explanation	Commentary
	between rock and alteration zones within the deposit.	XSG data, being calibrated to wrapped Archimedes SG determinations, also account for voids. Sample selection for all of the bulk density determinations covered all bedrock units and all oxidation states.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The average regression-derived bulk density values by domain for all classified Mineral Resource at the Australian Vanadium Project are:

Domain	Ox. State	Bulk Density
10 (High Grade)	Low Magnetics (Oxide)	3.51
10 (High Grade)	Moderate Magnetics (Transition)	3.70
10 (High Grade)	High Magnetics (Fresh)	4.02
2 - 5; 9 (Low Grade Bedrock)	Oxide	2.41
2 - 5; 9 (Low Grade Bedrock)	Transition	2.72
2 - 5; 9 (Low Grade Bedrock)	Fresh	3.16
20 - 25 (Gabbro Waste)	Oxide	2.31
20 - 25 (Gabbro Waste)	Transition	2.45
20 - 25 (Gabbro Waste)	Fresh	2.68
6 - 8 (Transported Low Grade)	Oxide	2.53
27 (Transported Waste)	Oxide	2.16

All values are in t/m3.

Regressions used to determine bulk density based on iron content are as follows:

SG Lith Type	Block Model Domains	Oxidation State	2021 Regression Formula
HG10	10	Low Magnetics (Oxide)	bd_reg_21_sep = 0.0459 x Fe_2O_3 + 0.7228
		Moderate Magnetics (Trans)	bd_reg_21_sep = 0.0439 x Fe_2O_3 + 0.9306

Criteria	JORC Code Explanation	Commentary
		<table><tr><td></td><td></td><td>High Magnetics (Fresh)</td><td>bd_reg_21_sep = 0.0358 x Fe_2O_3 + 1.6157</td></tr><tr><td>**Low Grade And Gabbro Waste**</td><td>1 - 5, 9 and 20 - 25</td><td>Oxide</td><td>bd_reg_21_sep = 0.0079 x Fe_2O_3 + 2.1326</td></tr><tr><td></td><td></td><td>Transition</td><td>bd_reg_21_sep = 0.0136 x Fe_2O_3 + 2.2381</td></tr><tr><td></td><td></td><td>Fresh</td><td>bd_reg_21_sep = 0.0156 x Fe_2O_3 + 2.5945</td></tr><tr><td>**Barren Transp. Cover**</td><td>27</td><td>Oxide</td><td>Assign bd_reg_21_sep value: 2.16</td></tr><tr><td>**Transp. Low Grade**</td><td>6 - 8</td><td>Oxide</td><td>bd_reg_21_sep = 0.0122 x Fe_2O_3 + 2.0255</td></tr></table> The final bulk density used for reporting of the Australian Vanadium Project Mineral Resource is based on the regression as it provides a more reliable local estimated bulk density.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification for the Australian Vanadium Project Mineral Resource estimate is based upon continuity of geology, mineralisation and grade, consideration of drill hole and density data spacing and quality, variography and estimation statistics (number of samples used and estimation pass). The current vanadium Mineral Resource classification is considered valid for the global resource and applicable for the nominated grade cut-offs. The base metals Mineral Resource classification is based on the following criteria: Indicated material – in HG10 domain, within a pit optimisation, and below the base of the sulphide destruction surface (ie, fresh rock) where the vanadium Mineral Resource is classified Indicated. Inferred material – in HG10 domain, beneath the pit optimisations (where the optimisation is drill limited at depth), and below the base of the sulphide destruction surface, where the vanadium Mineral Resource is classified (Inferred or better).
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values,	At the Australian Vanadium Project, the central portion of the deposit is well drilled for a vanadium deposit, having a drill hole spacing from a nominal 80 m to 100 m x 25 m to 30 m in northing and easting in the zone of closest drilling, to 140 m x 25 m to 30 m in northing and easting throughout the rest of the Indicated Resource area. The lower confidence areas of the deposit have drill hole spacings ranging up to 500 m x 25 m to 30 m in northing and easting directions.

Criteria	JORC Code Explanation	Commentary
	quality, quantity and distribution of the data).	The estimate has partially been classified as Measured Mineral Resource in an area restricted to the oxide, transition and fresh portion of the high-grade domain where the drill hole spacings are less than 80 to 100m in northing, and 25 to 30m in the easting (Fault Blocks 15 and 20). Indicated Mineral Resource material is generally restricted to the oxide, transition and fresh of the high grade and low grade in the areas of drilling that are spaced at 100 to 150m in the northing, and 25 to 30m in the easting (portions of fault blocks 20, 30, 40, 50 and 60). Inferred Mineral Resource has been restricted to any other material within the interpreted mineralisation wireframe volumes and limited by constraining wireframes down-dip (all fault blocks, 10 to 70). The background waste domain estimate has not been classified, due to very low possibility of economic extraction and limited data.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	Geologica Pty Ltd, Gemma Lee and Trepanier Pty Ltd believe that the classification appropriately reflects their confidence in the grade estimates and robustness of the interpretations.
Audits or Reviews	The results of any audits or reviews of Mineral Resource estimates.	The current Mineral Resource estimate has not been audited.
Discussion of Relative Accuracy/ Confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	The resource classification represents the relative confidence in the resource estimate as determined by the Competent Persons. Issues contributing to or detracting from that confidence are discussed above. No quantitative approach has been conducted to determine the relative accuracy of the resource estimate. The Ordinary Kriged estimate is considered to be a global estimate with no further adjustments for Selective Mining Unit (SMU) dimensions. Accurate mining scenarios are yet to be determined by mining studies. No production data is available for comparison to the estimate. The local accuracy of the resource is adequate for the expected use of the model in the mining studies. Infill drilling will be required to further raise the level of resource classification in areas not yet in the Measured category.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	These levels of confidence and accuracy relate to the global estimates of grade and tonnes for the deposit.

Criteria	JORC Code Explanation	Commentary
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	There has been no production from the Australian Vanadium Project deposit to date.