ASX ANNOUNCEMENT **04 MARCH 2020**

HIGH-GRADE INDICATED RESOURCE DOUBLES AT THE AUSTRALIAN VANADIUM PROJECT

Total Resource rises to 208 Million Tonnes (Mt). Combined Measured and Indicated Resource increases to 35.2Mt at 1.11% V_2O_5, potentially supporting a longer mine life.

KEY POINTS

- **Indicated Resource of the distinct high-grade magnetite zone increased by 115% to 25.1Mt at 1.10% vanadium pentoxide (V_2O_5)**[1]

- **Total Mineral Resource increased by 9.5% to 208.2Mt at 0.74% V_2O_5** consisting of**:**
    - Measured: 10.1Mt at 1.14% V_2O_5,
    - Indicated: 69.6Mt at 0.72% V_2O_5, and
    - Inferred: 128.5Mt at 0.73% V_2O_5.

- **Updated high-grade portion now 87.9Mt at 1.06% V_2O_5 comprising:**
    - Measured: 10.1Mt at 1.14% V_2O_5,
    - Indicated: 25.1Mt at 1.10% V_2O_5, and
    - Inferred: 52.7Mt at 1.04% V_2O_5.

- Successful conversion of 13Mt of existing high-grade Mineral Resources from Inferred to Indicated category strongly supports ongoing **optimisation studies to extend life of mine.**

- Detailed magnetic susceptibility analysis outlines **opportunity for improved vanadium recovery.**

- Prospective project financiers and joint venture partners seeking a **de-risked and large resource base.**

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce an updated Mineral Resource for The Australian Vanadium Project ("the Project") near Meekatharra in Western Australia (Figure 1). The revised estimate has been conducted following a series of drill programmes through 2018 and 2019.

[1] Based on contained V_2O_5 metal. All increases mentioned in this announcement are based on contained metal increases.

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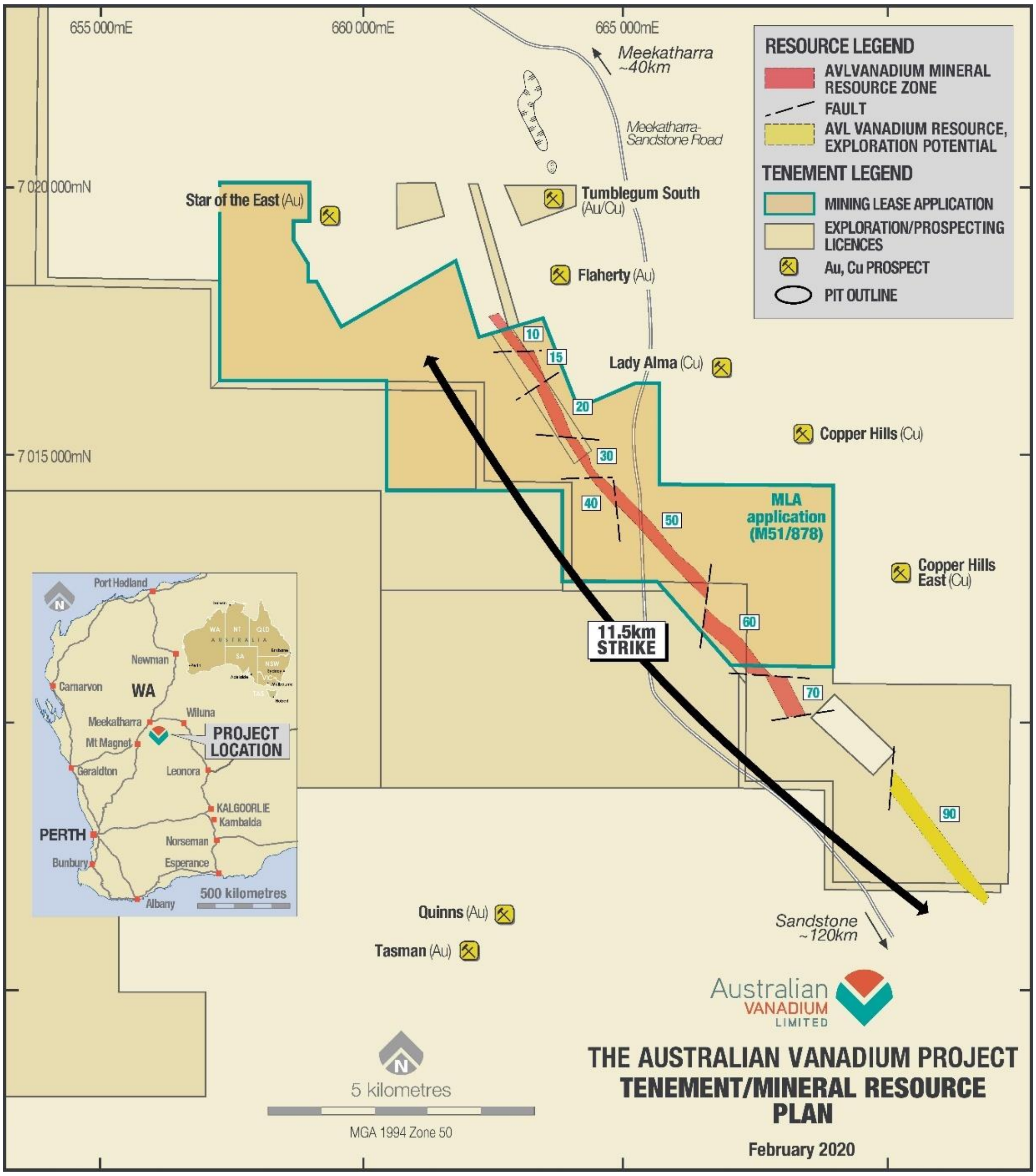

Figure 1 **- The Australian Vanadium Project Site Location**

The updated Measured, Indicated and Inferred Mineral Resource is contained within a massive magnetite high-grade (HG) horizon and overlying lower grade (LG) disseminated magnetite horizons for a total of 208.2 million tonnes (Mt) at 0.74% V_2O_5. This updated figure includes a 115% increase in the HG portion to the Indicated Mineral Resource from the previous resource update in November 2018[2]. Table 1 includes a detailed updated Mineral Resource table and Appendix 2 includes a table of the Mineral Resource broken down by the fault block.

[2] See ASX announcement dated 28 November 2018, '*Gabanintha Resource Update*'

Managing Director, Vincent Algar commented, "In discussions with potential funding and joint venture partners, a de-risked and large resource base has been a key requisite. This updated Resource is the result of focused additional drilling and increased understanding of the geological setting. The new Indicated Resources successfully targeted known higher magnetic areas which will benefit the mine planning, adding flexibility to the schedule. Flexibility will ensure feed and concentrate specifications are optimal for The Australian Vanadium Project's process, enabling the recovery of high purity vanadium products. The increase in tonnages, both in Indicated and total Resources provides the Company with a globally significant Project comparable to the operating producers Largo Resources and Bushveld Minerals."

The revised Mineral Resource estimate includes a geologically distinct, massive vanadium-bearing magnetite high-grade zone which is the focus of current economic studies. The Measured, Indicated and Inferred Mineral Resource estimate for this massive magnetite high-grade portion (HG10 in Table 1) is 87.9 Mt at 1.06% V_2O_5, which includes 10.1Mt at 1.14% V_2O_5 in the Measured category, 25.1Mt at 1.10% V_2O_5 in the Indicated category and 52.7Mt at 1.04% V_2O_5 in the Inferred category.

The Indicated portion of the Mineral Resource in the high-grade (HG) zone has increased by 13Mt, rising to 25.1Mt at 1.10% V_2O_5. This increase is related to the conversion from Inferred Resources by new drilling, supporting the high degree of geological and grade continuity at the Project. The majority of Indicated category tonnage increase is from the southern strike blocks 50 and 60 (previously blocks 16 and 8), being:

- Block 50 – 6.7 Mt of Indicated Resource @ 1.10% V_2O_5.
- Block 60 – 5.1 Mt of Indicated Resource @ 1.18% V_2O_5.

The southern blocks were drilled out to the Indicated category in December 2019 and results reported in January 2020[3]. The drilling intersected some significant widths of grade above 1.25% V_2O_5 within the HG domain. This higher grade approaches the concentrate grade specification and when considered with the reduced weathering and expected higher recovery, may assist with production performance early in the mine life. Work by the Company on relative magnetism has identified that block 50 and 60 contain significant proportions of shallow, highly magnetic material.

Overall the total Mineral Resource has increased by 24.6Mt (9.5%), as a result of infill and deeper drilling within the deposit. The deposit remains open at depth and if required in the future, there is

[3] See ASX announcement dated 4 February 2020, *'Shallow High-Grade Vanadium Intersections from Southern Infill Drilling'*

potential to convert further Inferred Resources located along the Company's 11.5km of strike length (see Figure 1) to the Measured and Indicated categories.

MINERAL RESOURCE SUMMARY

The below table shows the Global Mineral Resource reported as in-situ vanadium pentoxide (V_2O_5) by geological domain (HG, combined low-grad (LG) and combined Transported) for all fault blocks at the Project. The distribution of the Mineral Resource by fault block and category is shown in Figure 2 (showing Total Magnetic Intensity (TMI) with new and existing drilling overlain and the HG Mineral Resource by category for each fault block). During this Mineral Resource update, fault blocks were assigned new numbers from low in the north to high in the south, to simplify the numbering scheme. The new fault block numbers versus the old fault block numbers are shown in Figure 3.

Table 1 **- Resource Table by Zone**

2020 Feb	**Category**	**Mt**	**V_2O_5 %**	**Fe %**	**TiO_2 %**	**SiO_2 %**	**Al_2O_3 %**	**LOI %**
HG	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	25.1	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal	**87.9**	**1.06**	**44.7**	**12.2**	**9.2**	**6.8**	**3.2**
LG 2-5	Indicated	44.5	0.51	25.0	6.8	27.4	17.0	7.9
	Inferred	60.3	0.48	25.2	6.5	28.5	15.3	6.7
	Subtotal	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Trans 6-8	Inferred	15.6	0.65	28.4	7.7	24.9	15.4	7.9
	Subtotal	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Subtotal	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**

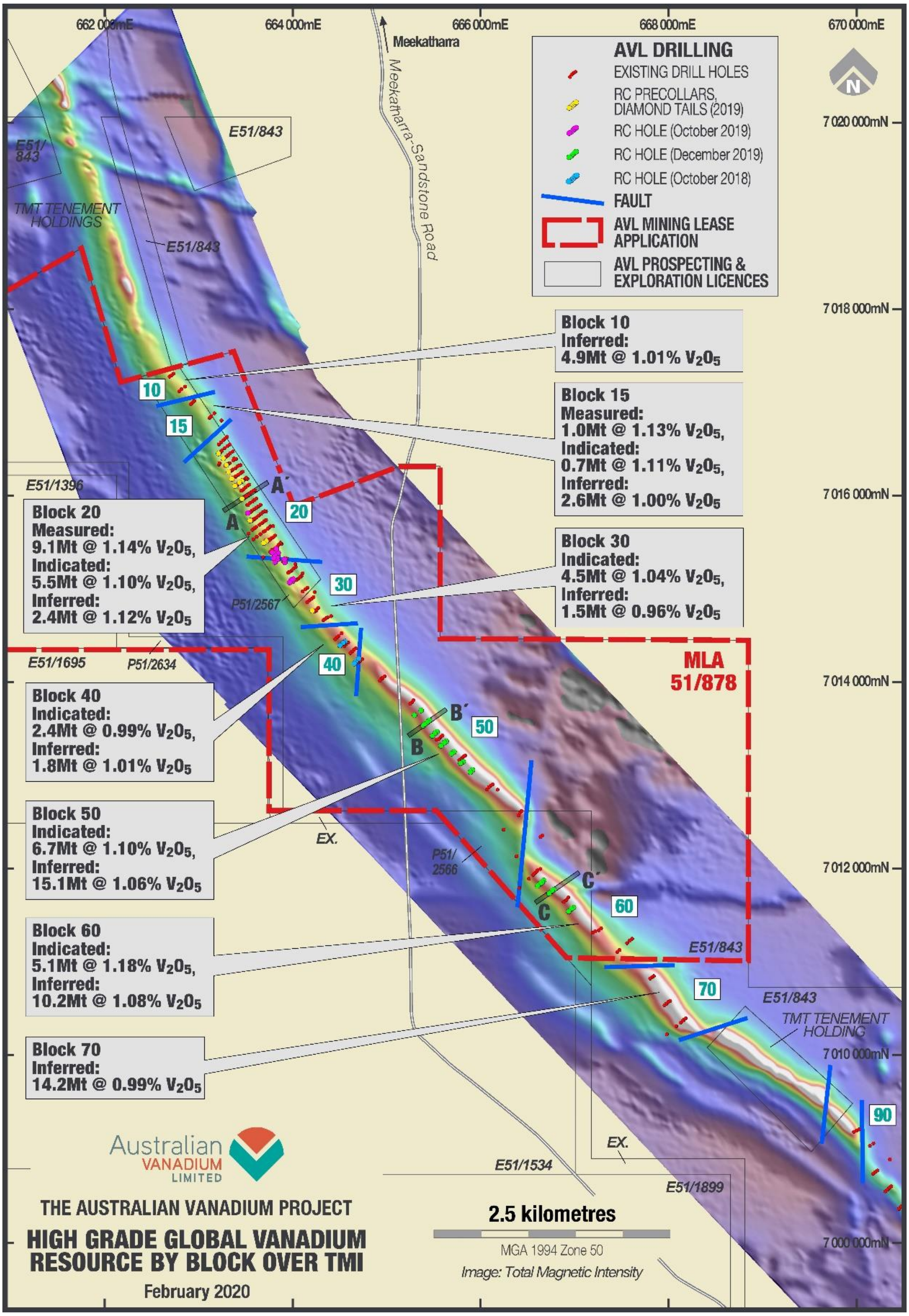

Figure 2 - TMI of the Project showing fault blocks and February 2020 high-grade Mineral Resource and cross section locations

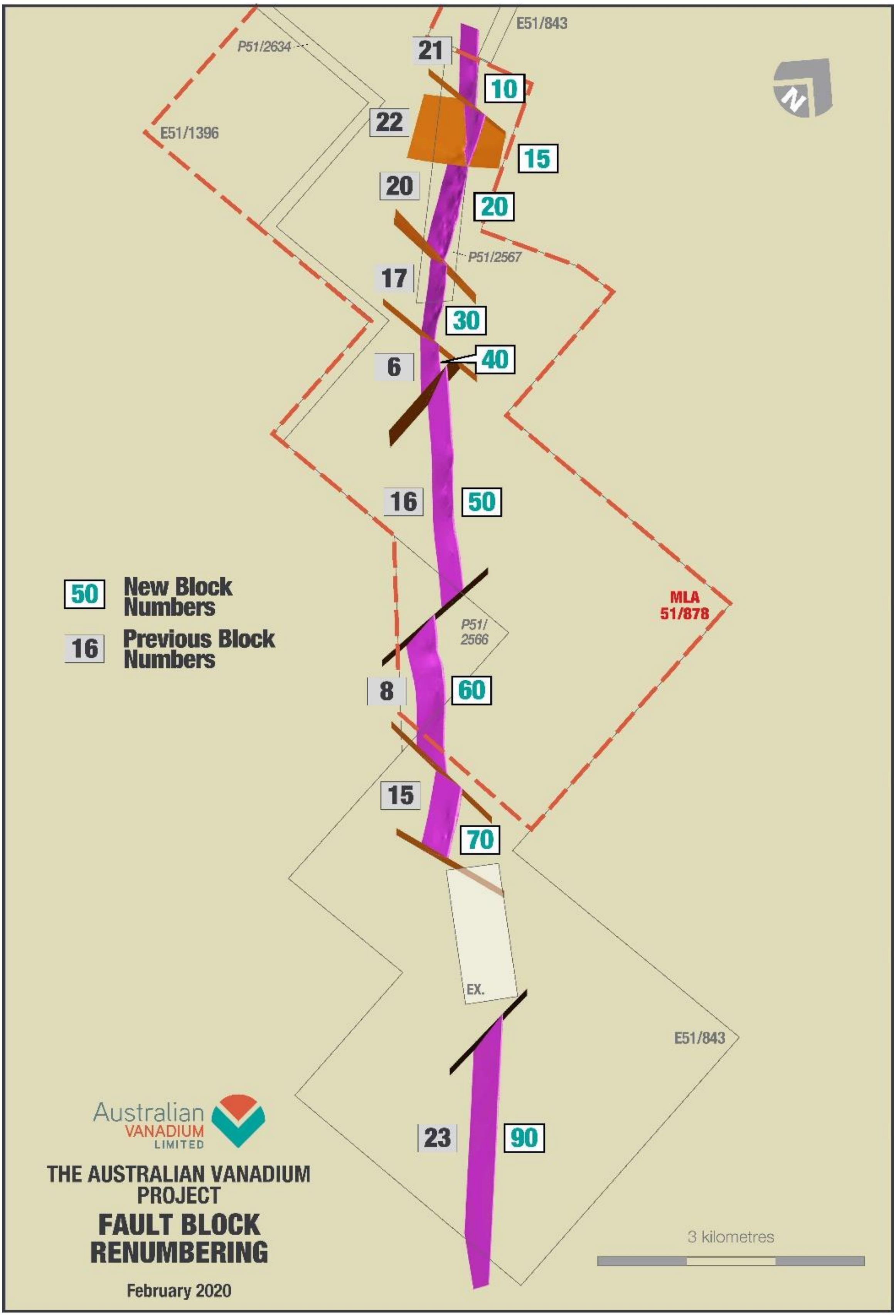

Figure 3 - **Fault Blocks at the Project showing new number system**

Local grid view - MGA north towards top right corner

NEW DATA IN MINERAL RESOURCE UPDATE

Oxidation Zone Re-Interpretation

The previous November 2018 Resource model contained hard coded surfaces to separate the oxide, transitional and fresh material for geo-metallurgical support. The interpretation was facilitated using geological logging, element assays, core photos, magnetic susceptibility logs, loss on ignition (LOI) and SATMAGAN[4] data. While these boundaries will stay for comparison, magnetic susceptibility is now added to the resource estimation as a graduated quantification of the degree of weathering; an improvement on using hard boundaries.

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

- Comparisons between different instruments used over the years.
- Volume calibrations for pulp compared to RC bag measurements.
- New data collected during the recent drill campaigns with robust field QAQC.

The oxidation of magnetite to martite (hematite) causes a decrease in magsus. While the actual instrument reading is 'noisy' the overall tenor of the result in natural log terms is reliable, allowing an estimated smoothed value to approximate the weathering of the magnetite. The estimation of magsus is shown in local grid long section view in Figure 4, which also shows the Resource Category and V_2O_5 grade for the HG domain.

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

[4] SATMAGAN (Saturation Magnetic Analyser) is a laboratory method to determine the proportion of magnetic iron oxide (Fe_3O_4) present

Bulk Density Assignment

There is no material change required to the regressions used for the bulk density in the November 2018 Mineral Resource update. Clear correlations of bulk density versus Fe_2O_3 were chosen as the most appropriate estimation methods of bulk density for the different parts of the oxidation profile. Details of the revised density assignment based on 313 bulk density measurements are outlined in Appendix 4, JORC Table 1, Section 3.

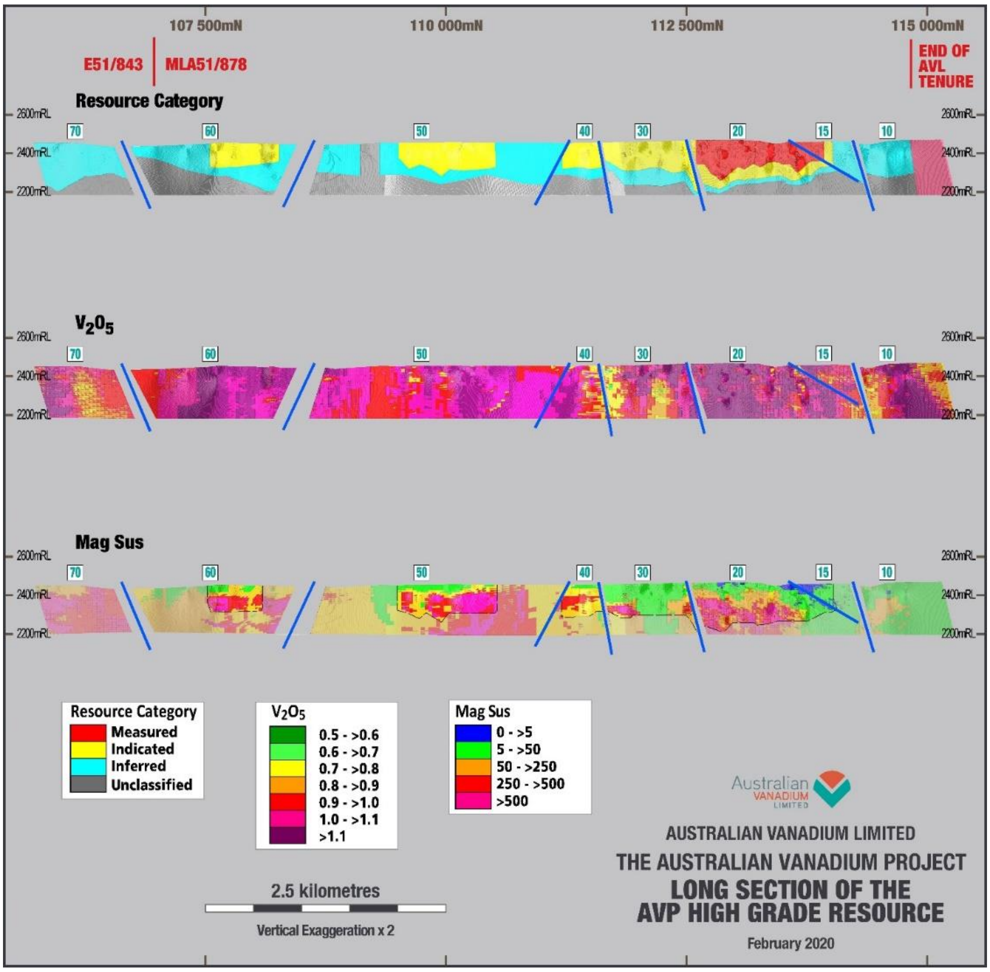

Figure 4 **- Long section view showing the HC domain Mineral Resource category plus V_2O_5 and magnetic susceptibility estimations (with 2x vertical exaggeration)**

Drilling and Geological Interpretation

Reverse circulation (RC) drilling completed in 2018 in fault block 40 (previously fault block 6) has been included in the updated geological model for this Mineral Resource. Six RC holes were drilled on two sections to achieve 140m spaced infill lines for 474m of drilling. The first section in the middle of the fault block returned expected results in the location and tenor of the HG and LG domains. The southern section, close to the structure dividing fault block 40 from fault block 50 to the south, intersected HG in the deepest hole, but not in the two shallower holes. The new information has enabled a new fault model of the termination of fault block 40, increasing the accuracy of the geological model. This section in fault block 40 was at the southern limit of the fault block and does not materially impact previous studies.

14 RC precollar and PQ diamond tail drill holes for 1,429m of RC and 624.5m of PQ diamond core completed during early 2019 have tested northern fault blocks 20 and 30 (previously 20 and 17 respectively) at depth. The drill holes were designed to collect fresh and transitional high-grade pilot study metallurgy sample. The holes also provide further drill data for this resource update through geological logging and submission of RC and PQ quarter core samples for assay analysis. The high-grade intersection of the holes average 60 metres down dip from existing drill holes on select 80 m spaced drill lines in fault blocks 20 and 30. The diamond tails intersect the HG zone at the interface of the previous resource classification where it changed from Indicated to Inferred category. Results from this phase of drilling[5] have been incorporated into the Mineral Resource update. Section 113250 mN in Figure 5 below shows a type section with one of the 2019 diamond tails in fault block 20. The location of this section is shown on Figure 2, denoted by A – A'.

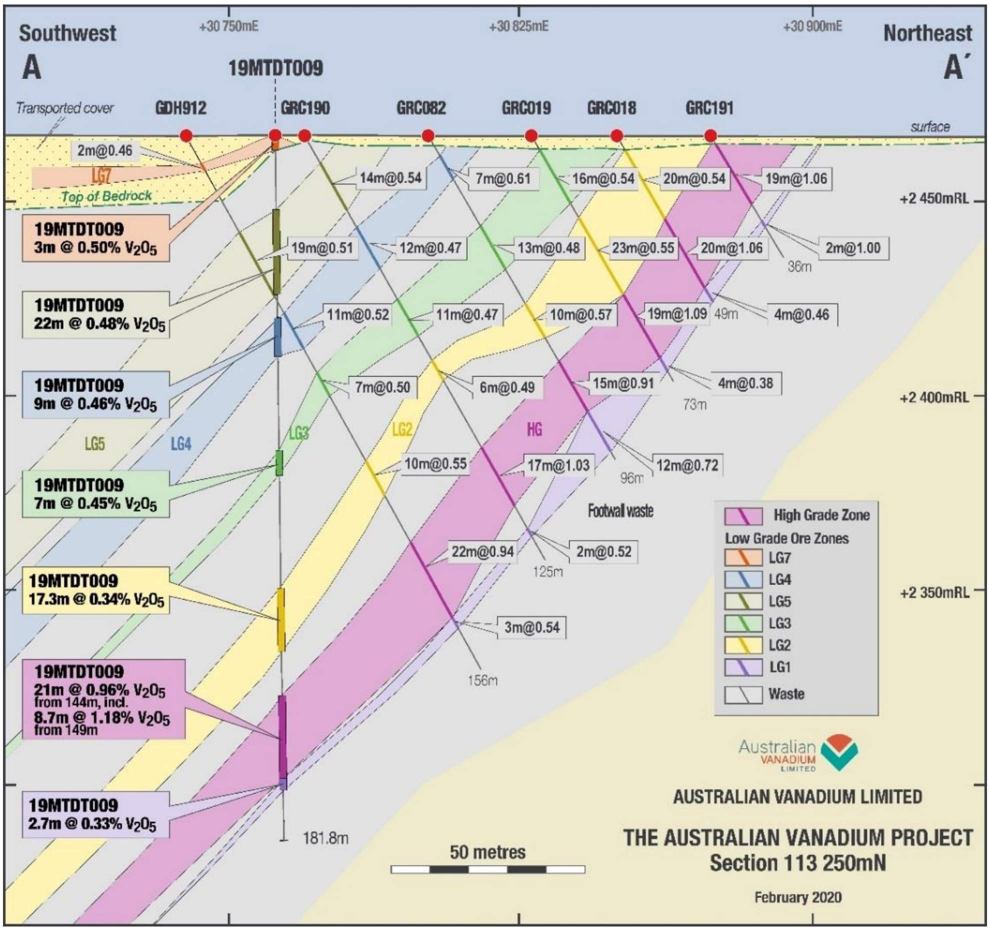

Figure 5 **- Local grid section 113250 mN in Block 20**

[5] See ASX announcement dated 18 July 2019 *'Vanadium Drilling Results Support DFS'*

13 RC holes were drilled in October 2019 for 1,225m in fault blocks 20 and 30 (previously fault blocks 20 and 17 respectively). The holes infill the area around the fault that separates the two blocks at about 40m by 40m centres and followed up 2019 PQ diamond tail holes that failed due to core loss or intersecting small structures. The drilling confirmed undisturbed continuation of fault block 20 through to the main fault zone. Three holes drilled to replace failed diamond tails confirmed thinning and weathering of the HG in fault block 30 and continuity of the HG with good grade and thickness in fault block 20.

30 RC holes for 2,236m drilled in the southern blocks (fault block 50 and 60, previously 16 and 8 respectively) at the Project during December 2019 increased the drill density from about 400m spaced lines to at least 140m spaced lines (with some lines closer together where historic drill lines were bracketed by new drill lines). The drill spacing on lines is at 30m centres. The additional data has enabled geological modelling and estimation of four hanging wall low-grade domains (LG2, LG3, LG4 and LG5) compared to previous interpretations which had only the HG zone and the LG2 domain. There is also higher confidence in the extent and thickness of the HG zone. The new drilling has defined HG with internal zones of grade consistently greater than 1.25% V_2O_5, as reported in the drill results release dated 4 February 2020 ("Shallow High-Grade Vanadium Intersections from Southern Infill Drilling"). Figure 6 and Figure 7 below show two type sections from the drilling in fault block 50 and 60. The location of these sections is shown on Figure 2, denoted by B – B' and C – C' respectively.

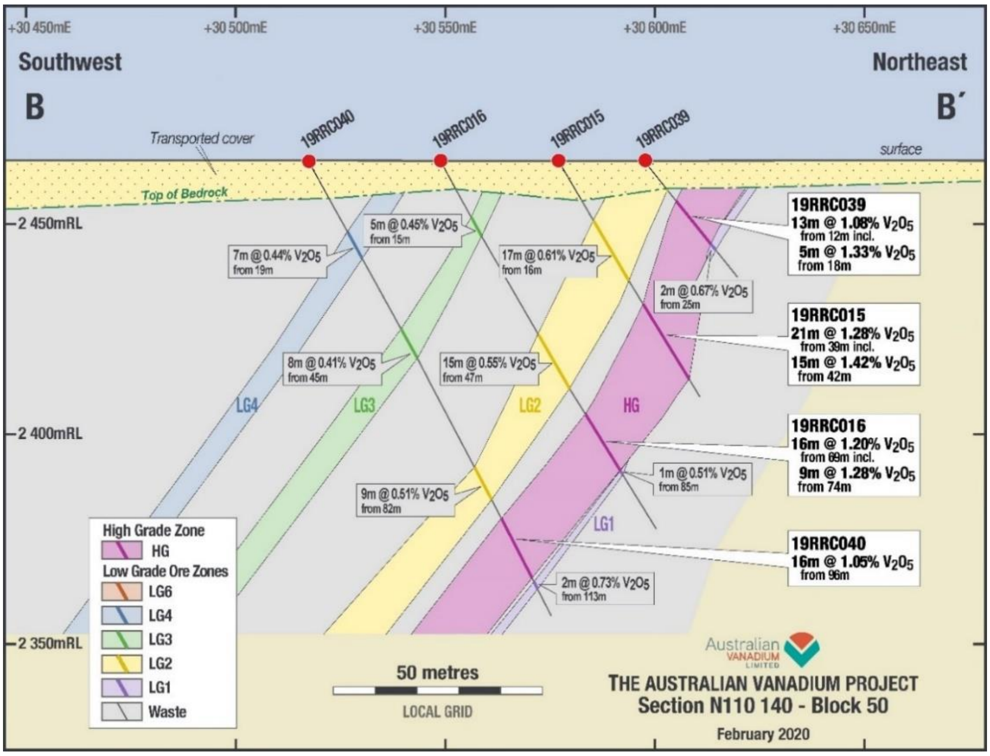

Figure 6 **- Local grid section 110140 mN in Block 50**

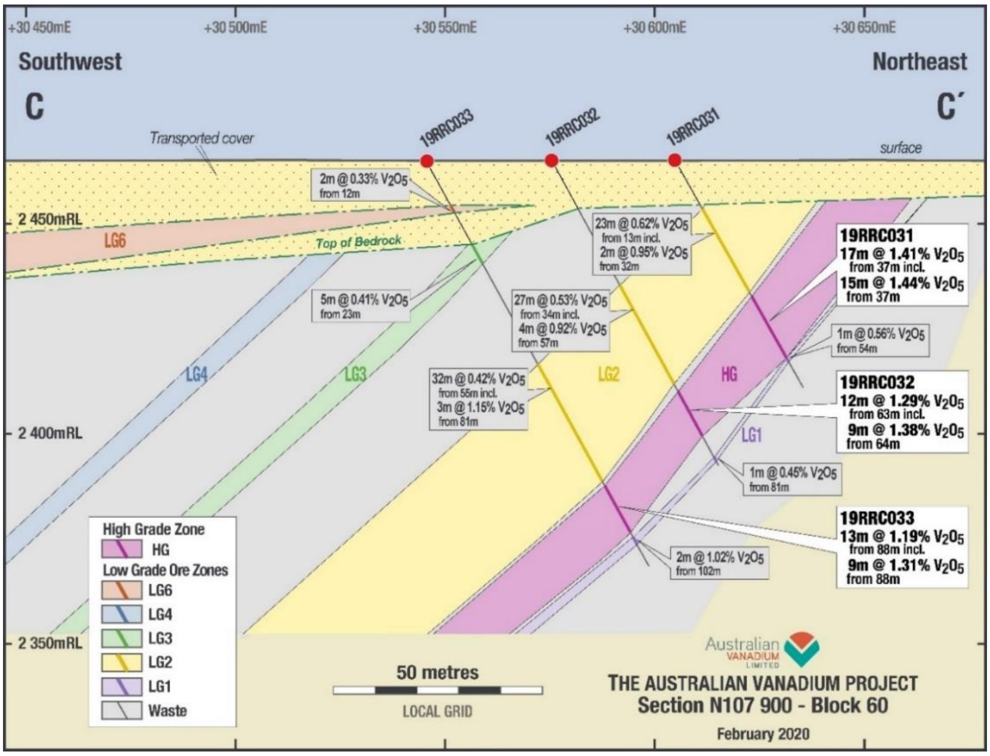

***Figure 7* - Local grid section 110140 mN in Block 60**

Conversion to Local Grid

This Mineral Resource update has been created in a local grid, based on a rotation of the deposit 40 degrees clockwise. The result is a local grid where the deposit strikes north – south, and drilling is oriented east - west. Benefits of working in a local grid are that the blocks created in the block model for the estimation are parallel to the strike of the geology which translates to a more accurate estimation with less edge effects.

The cross sections and long sections presented in this release are shown with local grid co-ordinates, which can be related back to the MGA grid by referring to the section denotations (A – A', B – B' and C – C') in Figure 2.

Comparison with November 2018 Mineral Resource Estimation

The updated Mineral Resource has had a significant impact on the overall tonnage and amount of material in Indicated category due to the focus on converting Inferred Resources to Indicated Resources through infill drilling. The drilling in the southern blocks 50 and 60 resulted in:

- 11.8 million tonnes being converted to Indicated Resources in those areas
- Closer drill spacing increasing the level of understanding and interpretation of the HG and LG zonation, especially in block 60.

- Reinterpretation moving material to LG zone 2 from the HG10 zone.

These were the dominant factors in reducing the overall HG tonnage in the resource from 96.7Mt at 1.00 % V_2O_5 to 87.9Mt at 1.04% V_2O_5. The total contained V_2O_5 drops by 3% compared to the 9% tonnage, where the difference in metal is moved into LG zone 2.

The principal differences in methodology between the November 2018 Mineral Resource and the current February 2020 estimation are listed below:

- Drill data is incorporated from three phases of resource RC drilling and 1 phase of PQ diamond metallurgical drilling, for a total of 49 RC holes for 3,394m of drilling, plus 14 RC precollar and diamond tail PQ holes for 1,429 m of RC and 624.5m of core.
- Improved consistency of the LG domains based on reinterpretation of geochemical marker horizons.
- Addition of LG1 that is a low-grade zone in the footwall to the HG domain.
- Further modeling of the transported domains (LG6, LG7 and LG8) in areas of increased drill data density.
- The Mineral Resource is spatially oriented in a local grid to improve block orientation relative to the strike of the deposit.
- Magsus has been included in the estimation to allow a graduated continuum of oxidation of the rock to remove hard boundaries for oxidation delineations and improve the predicted recovery of V_2O_5.

Table 2 below outlines this Mineral Resource compared to previous Mineral Resources estimated for the Project.

Table 2 - **Comparison Table 2018, 2017 and 2015 Mineral Resource Estimates by Resource Category**

	Cat	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
Total 2020 (February)	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Subtotal	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**
Total 2018 (November)	Measured	10.2	1.11	42.7	12.6	10.2	8.0	3.9
	Indicated	40.7	0.66	30.3	8.3	22.5	14.8	7.1
	Inferred	132.7	0.77	34.8	9.2	18.5	11.5	5.1
	Subtotal	**183.6**	**0.76**	**34.3**	**9.2**	**18.9**	**12.1**	**5.5**
Total 2018 (July)	Measured	10.1	1.11	42.7	12.6	10.3	8.0	4.0
	Indicated	24.0	0.63	27.9	8.0	24.2	16.0	7.7
	Inferred	141.4	0.77	35.0	9.2	18.5	11.5	5.2
	Subtotal	**175.5**	**0.77**	**34.5**	**9.3**	**18.8**	**11.9**	**5.5**
Total 2017	Measured	10.2	1.06	41.6	12.0	11.6	8.6	4.2
	Indicated	25.4	0.62	27.7	7.9	24.9	15.8	7.5
	Inferred	144.1	0.75	34.4	9.0	19.2	11.7	5.2
	Subtotal	**179.6**	**0.75**	**33.8**	**9.0**	**19.6**	**12.1**	**5.4**
Total 2015	Measured	7.0	1.09	43	12	10	8	3.4
	Indicated	17.8	0.68	28	8	23	16	7.7
	Inferred	66.7	0.83	37	10	17	11	4.1
	Subtotal	**91.4**	**0.82**	**35**	**10**	**18**	**11**	**4.8**

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 4).

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 boundary).
- Four disseminated magnetite low-grade domains (split on oxide, transition and fresh boundary).
- 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 – location diagram), 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 sections in Figures 5 - 7). The TMI geophysical image shows clearly the trace of the high-grade massive magnetite zone, as well as the location of the faults (Figure 2). 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[1]. (Australian Vanadium Project 0.76% V_2O_5 overall[6], Windimurra 0.48% V_2O_5 and Barrambie 0.63% V_2O_5[7]). 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.

[6] 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 2018.

[7] 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 Figures 5 - 7.

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.

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 (previously 16 and 8 respectively) 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 HG 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 (previously 17 and 6 respectively) 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 (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 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 testwork. 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 sample but have not been sampled for assay analysis as they have been sampled as whole core for a metallurgy pilot study programme.

RC drilling samples were collected at one metre intervals and passed through a cone splitter to obtain a nominal 2-5kg sample at an approximate 10% split ratio. These split samples were collected in pre-numbered calico sample bags. The sample was dried, crushed and pulverised to produce a sub sample (~200g) for laboratory analysis using XRF and total LOI by thermo-gravimetric analysis. 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 thermo-gravimetric 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 programmes, they have been industry recognized and certified and their laboratory procedures all appear to be in line with industry standards and appropriate for iron ore deposits.

Samples are dried at 105°C in gas fired ovens for 18-24 hours before RC samples are 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.

No further SATMAGAN analysis was done during 2019, as it was confirmed through in-house studies that magnetic susceptibility is a reliable proxy for SATMAGAN, both measuring the amount of magnetic iron species present. The amount of magnetic iron present is directly proportional to the degree of rock freshness.

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 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, mag sus 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 40 mN, 8 mE and 10 mRL 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.

The current estimate uses only bulk density measurements which include 313 bulk density samples from the diamond core as determined by the Archimedes method. A total 313 bulk density measurements were used to calculate average densities. Samples were subdivided according to their position in relation to the ore zones and the oxidation surface. Correlation charts were created for each element, with a very strong positive correlation defined for bulk density and Fe_2O_3 content. From this analysis a regression was assigned based on the Fe_2O_3 grade of each block dependent on oxide code.

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, 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 80 mN to 100 mN. Indicated Mineral Resource 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. 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. Details of the cut-off grades and resource estimation parameters are shown in Appendix 4 at the end of this report.

Mining and Metallurgical Methods and Parameters

Mine optimisation studies have commenced to incorporate the new Indicated resources into a mine plan. The pre-feasibility study completed in November 2018 indicated open pit mining would be an appropriate mode of extraction through the fault blocks that have Indicated and Measured Resources defined and reported reserves on that basis.

Metallurgical pilot study work was completed during 2019 on the basal high-grade massive magnetite mineralisation. Pilot scale crushing, milling and beneficiation (CMB) testwork 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 testwork completed in Q1, 2020. 2T of high-quality concentrate, generated in the pilot CMB plant, is currently with Metso and undergoing pilot scale palletisation.

For further information, please contact:

Vincent Algar, Managing Director +61 8 9321 5594

This announcement has been approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.

COMPETENT PERSON STATEMENT – EXPLORATION RESULTS AND TARGETS

The information in this report that relates to Exploration Results and Exploration Targets is based on and fairly represents information and supporting documentation prepared by Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Davis is a shareholder of Australian Vanadium Limited. Mr Davis is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Davis consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

COMPETENT PERSON STATEMENT — MINERAL RESOURCE ESTIMATION

The information in this announcement that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr 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.

COMPETENT PERSON STATEMENT — ORE RESERVES

The scientific and technical information in this announcement that relates to ore reserves estimates for the Project is based on information compiled by Mr Roselt Croeser, an independent consultant to AVL. Mr Croeser is a member of the Australasian Institute of Mining and Metallurgy. Mr Croeser has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a competent person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Croeser consents to the inclusion in the announcement of the matters related to the ore reserve estimate in the form and context in which it appears.

APPENDIX 1

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

2020 Feb	**Category**	**Mt**	**V_2O_5 %**	**Fe %**	**TiO_2 %**	**SiO_2 %**	**Al_2O_3 %**	**LOI %**
HG	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	25.1	1.10	45.4	12.5	8.5	6.5	2.9
	Inferred	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Subtotal	**87.9**	**1.06**	**44.7**	**12.2**	**9.2**	**6.8**	**3.2**
LG 2-5	Indicated	44.5	0.51	25.0	6.8	27.4	17.0	7.9
	Inferred	60.3	0.48	25.2	6.5	28.5	15.3	6.7
	Subtotal	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Trans 6-8	Inferred	15.6	0.65	28.4	7.7	24.9	15.4	7.9
	Subtotal	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total	Measured	10.1	1.14	43.9	13.0	9.2	7.5	3.7
	Indicated	69.6	0.72	32.4	8.9	20.6	13.2	6.1
	Inferred	128.5	0.73	33.5	8.8	20.2	11.9	5.4
	Subtotal	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**

APPENDIX 2

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

	Block #	Cat	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
HG 10	15	Measured	1.0	1.13	42.6	13.1	9.4	8.6	4.7
	20		9.1	1.14	44.0	13.0	9.2	7.4	3.6
		Subtotal	**10.1**	**1.14**	**43.9**	**13.0**	**9.2**	**7.5**	**3.7**
	15	Indicated	0.7	1.11	41.3	12.9	10.9	9.4	5.1
	20		5.5	1.10	45.2	12.5	9.0	6.7	3.2
	25		0.2	1.09	46.7	12.4	7.8	5.9	2.3
	30		4.5	1.04	44.4	11.5	10.9	6.6	2.8
	40		2.4	0.99	45.2	12.5	8.1	6.3	2.5
	50		6.7	1.10	47.3	13.3	5.9	5.7	2.5
	60		5.1	1.18	45.0	11.9	10.0	6.9	3.3
		Subtotal	**25.1**	**1.10**	**45.5**	**12.4**	**8.7**	**6.5**	**2.9**
	10	Inferred	4.9	1.01	42.3	11.6	11.9	7.4	4.0
	15		2.6	1.00	39.8	12.6	12.5	10.3	5.8
	20		2.4	1.12	45.2	12.6	9.0	6.9	3.6
	25		0.02	1.15	49.7	12.7	5.9	5.5	1.8
	30		1.5	0.96	42.7	11.0	12.4	7.4	3.2
	40		1.8	1.01	44.9	11.6	10.2	6.5	2.4
	50		15.1	1.06	44.8	12.0	9.1	7.1	2.4
	60		10.2	1.08	46.1	12.4	7.6	6.1	3.1
	70		14.2	0.99	44.9	11.3	9.3	6.3	3.8
		Subtotal	52.7	1.04	44.6	11.9	9.4	6.9	3.3
	Sum	**HG Total**	**87.9**	**1.06**	**44.8**	**12.1**	**9.2**	**6.8**	**3.2**
LG 2-5	15	Indicated	2.6	0.52	25.0	7.1	26.5	17.6	9.2
	20		20.4	0.51	24.4	7.1	27.6	17.6	8.2
	25		0.3	0.50	26.7	6.8	28.3	15.4	7.1
	30		7.2	0.51	26.2	6.9	26.8	17.6	8.3
	40		2.3	0.46	26.1	6.3	27.1	16.5	7.9
	50		6.3	0.48	25.2	6.2	28.0	14.9	6.8
	60		5.3	0.54	25.3	6.7	27.2	16.7	7.2
		Subtotal	**44.5**	**0.51**	**25.0**	**6.8**	**27.4**	**17.0**	**7.9**
	10	Inferred	5.2	0.44	25.5	6.4	27.2	17.4	9.7
	15		5.3	0.46	26.5	6.8	26.3	16.5	8.9
	20		3.6	0.50	24.8	7.1	27.6	16.8	7.9
	25		0.0	0.47	25.3	6.5	30.0	12.7	5.9

	Block #	Cat	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %	LOI %
	30		4.9	0.52	26.5	7.1	27.1	17.1	7.8
	40		2.1	0.44	26.0	6.2	27.8	15.2	7.3
	50		16.5	0.50	26.5	6.7	27.5	13.9	6.4
	60		12.7	0.52	25.3	6.6	28.3	15.1	6.2
	70		9.9	0.41	21.2	5.4	33.4	15.0	3.7
		Subtotal	**60.3**	**0.48**	**25.2**	**6.5**	**28.5**	**15.3**	**6.7**
	Sum	**LG Total**	**104.8**	**0.49**	**25.1**	**6.6**	**28.0**	**16.1**	**7.2**
Transported 6-8	10	Inferred	0.6	0.47	27.2	5.7	26.2	16.4	10.1
	15		0.4	0.44	22.4	5.8	28.2	16.9	12.3
	20		4.4	0.57	21.1	7.7	28.9	20.4	9.8
	25		0.2	0.56	16.6	10.8	30.5	22.3	10.0
	30		0.6	0.58	24.5	8.5	28.3	17.6	8.0
	40		0.2	0.43	21.4	6.8	26.4	15.5	8.0
	50		1.1	0.52	25.4	6.5	30.7	14.8	6.8
	60		6.1	0.76	33.1	8.2	21.6	12.6	6.9
	70		2.1	0.72	36.4	7.8	20.4	11.2	5.8
	Sum	**Transported Total**	**15.6**	**0.65**	**28.4**	**7.7**	**24.9**	**15.4**	**7.9**
Total		Measured	10.1	1.1	43.9	13.0	9.2	7.5	3.7
		Indicated	69.6	0.72	32.4	8.84	20.7	13.2	6.1
		Inferred	128.5	0.73	33.5	8.84	20.2	11.9	5.4
		Grand Total	**208.2**	**0.74**	**33.6**	**9.0**	**19.8**	**12.1**	**5.6**

APPENDIX 3

Intercept details for Mineral Resource Update[8]

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
18GEDH001	RCDT	663199.1	7016333.3	465.6	200.1	-81	241	7	2	9	0.34
18GEDH002	RCDT	663507.5	7015602.3	465.9	200.1	-79	240	6	8	56	0.47
18GEDH002	RCDT	663507.5	7015602.3	465.9	200.1	-79	240	7	0	8	0.53
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	1	201.5	2.8	0.36
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	2	158.7	7.1	0.52
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	3	139	4	0.41
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	4	118	2.9	0.44
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	5	98	2	0.49
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	6	8	7	0.55
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	7	0	8	0.65
18GEDH003	RCDT	663661.1	7015345.8	464.5	216.2	-60	50	10	168.5	18.6	1.10
18GERC002	RC	664002.5	7015246.2	465.6	48.0	-60	50	1	23	2	0.67
18GERC002	RC	664002.5	7015246.2	465.6	48.0	-60	50	10	8	12	0.98
18GERC003	RC	663981.3	7015230.1	465.6	78.0	-60	50	1	50	7	0.61
18GERC003	RC	663981.3	7015230.1	465.6	78.0	-60	50	2	25	2	0.39
18GERC003	RC	663981.3	7015230.1	465.6	78.0	-60	50	3	5	9	0.48
18GERC003	RC	663981.3	7015230.1	465.6	78.0	-60	50	9	19	3	0.37
18GERC003	RC	663981.3	7015230.1	465.6	78.0	-60	50	10	38	12	1.16
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	1	89	2	0.60
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	2	58	12	0.52
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	3	30	8	0.55
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	4	2	20	0.46
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	9	49	2	0.41
18GERC004	RC	663958.8	7015212.3	465.4	108.0	-60	50	10	75	7	1.12
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	1	104	1	0.68
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	2	77	5	0.45
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	3	46	6	0.60
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	4	10	33	0.47
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	5	2	4	0.52
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	9	67	5	0.36
18GERC005 A	RC	663940.0	7015197.9	465.2	138.0	-60	51	10	96	8	1.22

[8] New drilling only, other intervals are included in previous ASX announcements

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	1	138	1	0.52
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	2	109	6	0.57
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	3	74	7	0.57
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	4	26	32	0.40
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	5	15	8	0.47
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	9	99	4	0.54
18GERC005B	RC	663924.7	7015186.5	465.1	162.0	-70	51	10	125	11	1.05
18GERC006	RC	664126.4	7015028.3	464.9	54.0	-60	50	1	39	5	0.68
18GERC006	RC	664126.4	7015028.3	464.9	54.0	-60	50	2	15	3	0.73
18GERC006	RC	664126.4	7015028.3	464.9	54.0	-60	50	9	4	10	0.48
18GERC006	RC	664126.4	7015028.3	464.9	54.0	-60	50	10	24	12	1.07
18GERC007	RC	664102.6	7015009.2	464.8	90.0	-60	50	1	70	3	0.82
18GERC007	RC	664102.6	7015009.2	464.8	90.0	-60	50	2	46	6	0.67
18GERC007	RC	664102.6	7015009.2	464.8	90.0	-60	50	3	4	7	0.52
18GERC007	RC	664102.6	7015009.2	464.8	90.0	-60	50	9	29	13	0.50
18GERC007	RC	664102.6	7015009.2	464.8	90.0	-60	50	10	55	15	1.15
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	1	94	4	0.75
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	2	72	9	0.44
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	3	34	9	0.42
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	4	8	16	0.43
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	9	58	9	0.55
18GERC008	RC	664077.8	7014988.0	464.6	102.0	-60	50	10	84	10	0.95
18GERC009	RC	664245.1	7014811.2	463.0	54.0	-60	50	1	31	4	1.01
18GERC009	RC	664245.1	7014811.2	463.0	54.0	-60	50	2	8	4	0.76
18GERC009	RC	664245.1	7014811.2	463.0	54.0	-60	50	9	3	4	0.44
18GERC009	RC	664245.1	7014811.2	463.0	54.0	-60	50	10	17	9	1.05
18GERC010	RC	664222.7	7014791.6	462.9	78.0	-60	50	1	61	1	0.98
18GERC010	RC	664222.7	7014791.6	462.9	78.0	-60	50	2	37	4	0.91
18GERC010	RC	664222.7	7014791.6	462.9	78.0	-60	50	3	15	9	0.54
18GERC010	RC	664222.7	7014791.6	462.9	78.0	-60	50	9	31	4	0.13
18GERC010	RC	664222.7	7014791.6	462.9	78.0	-60	50	10	47	10	1.22
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	1	105	1	0.35
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	2	76	2	0.32
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	3	48	7	0.43
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	4	22	13	0.52

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	5	3	7	0.28
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	9	62	4	0.50
18GERC011	RC	664199.1	7014771.0	462.8	114.0	-60	50	10	81	17	1.14
18GERC012	RC	664562.6	7014444.8	463.2	48.0	-61	51	1	33	7	0.56
18GERC012	RC	664562.6	7014444.8	463.2	48.0	-61	51	2	9	4	0.72
18GERC012	RC	664562.6	7014444.8	463.2	48.0	-61	51	10	14	14	0.99
18GERC013	RC	664539.3	7014426.0	463.1	78.0	-60	50	1	51	1	0.74
18GERC013	RC	664539.3	7014426.0	463.1	78.0	-60	50	2	14	25	0.45
18GERC013	RC	664539.3	7014426.0	463.1	78.0	-60	50	7	10	4	0.67
18GERC013	RC	664539.3	7014426.0	463.1	78.0	-60	50	10	45	5	1.13
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	1	80	3	0.69
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	2	42	19	0.47
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	3	28	5	0.51
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	4	18	6	0.53
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	7	11	2	0.51
18GERC014	RC	664518.1	7014408.0	463.1	96.0	-60	50	10	71	7	1.06
18GERC015	RC	664710.8	7014264.6	463.3	48.0	-61	50	3	47	1	0.59
18GERC015	RC	664710.8	7014264.6	463.3	48.0	-61	50	4	26	7	0.44
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	1	94	2	0.54
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	2	74	3	0.49
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	3	62	7	0.36
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	4	45	7	0.38
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	5	15	2	0.49
18GERC016	RC	664668.9	7014223.6	463.5	102.0	-61	50	10	88	4	1.16
18GERC017	RC	664686.8	7014241.0	463.5	102.0	-60	50	2	58	4	0.52
18GERC017	RC	664686.8	7014241.0	463.5	102.0	-60	50	3	43	13	0.49
18GERC017	RC	664686.8	7014241.0	463.5	102.0	-60	50	4	20	7	0.46
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	1	132.21	3.95	0.66
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	2	114.57	1.83	0.58
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	3	45	7	0.61
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	4	4	15	0.45
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	9	82	1	0.56
19MTDT001	RCDT	664218.8	7014781.9	462.8	141.4	-90	0	10	120.99	11.56	0.95
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	1	157	2	0.50
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	2	122	2.8	1.19
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	3	46	14	0.45
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	4	4	15	0.49
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	7	0	4	0.46
19MTDT002	RCDT	664011.4	7015111.7	466.2	170.0	-90	0	9	83	20	0.56
19MTDT003	RCDT	663706.1	7015517.8	468.9	157.8	-90	0	2	125.25	13.5	0.59
19MTDT003	RCDT	663706.1	7015517.8	468.9	157.8	-90	0	3	82	12	0.47

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19MTDT003	RCDT	663706.1	7015517.8	468.9	157.8	-90	0	4	18	48	0.41
19MTDT003	RCDT	663706.1	7015517.8	468.9	157.8	-90	0	5	11	6	0.43
19MTDT003	RCDT	663706.1	7015517.8	468.9	157.8	-90	0	10	140.35	13.59	1.03
19MTDT004	RCDT	663728.6	7015536.2	468.9	171.3	-90	0	1	126	1	0.51
19MTDT004	RCDT	663728.6	7015536.2	468.9	171.3	-90	0	2	87	16.3	0.52
19MTDT004	RCDT	663728.6	7015536.2	468.9	171.3	-90	0	3	49	12	0.46
19MTDT004	RCDT	663728.6	7015536.2	468.9	171.3	-90	0	4	0	21	0.48
19MTDT004	RCDT	663728.6	7015536.2	468.9	171.3	-90	0	10	109	17	1.17
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	1	168	3	0.83
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	2	133	11	0.63
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	3	99	5	0.46
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	4	55	21	0.41
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	5	20	11	0.51
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	7	0	3	0.50
19MTDT005	RCDT	663555.3	7015754.5	468.0	181.9	-90	0	10	146	21	1.24
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	2	135	10	0.46
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	3	113	3	0.49
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	4	75	15	0.41
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	5	30	10	0.50
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	6	6	18	0.44
19MTDT006	RCDT	663588.2	7015677.7	469.6	195.5	-90	0	7	0	6	0.90
19MTDT007	RCDT	663528.3	7015833.7	466.6	170.7	-90	0	2	111	10	0.51
19MTDT007	RCDT	663528.3	7015833.7	466.6	170.7	-90	0	3	85	6	0.41
19MTDT007	RCDT	663528.3	7015833.7	466.6	170.7	-90	0	4	29	33	0.55
19MTDT007	RCDT	663528.3	7015833.7	466.6	170.7	-90	0	5	9	8	0.54
19MTDT007	RCDT	663528.3	7015833.7	466.6	170.7	-90	0	10	152	2	1.49
19MTDT008	RCDT	663502.9	7015909.8	466.5	211.2	-90	0	2	129	13	0.68
19MTDT008	RCDT	663502.9	7015909.8	466.5	211.2	-90	0	3	76	10	0.57
19MTDT008	RCDT	663502.9	7015909.8	466.5	211.2	-90	0	4	21	38	0.44
19MTDT008	RCDT	663502.9	7015909.8	466.5	211.2	-90	0	7	0	9	0.57
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	1	165.65	2.7	0.33
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	2	116	17.33	0.34
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	3	81	7	0.46
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	4	47	9	0.46
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	5	19	22	0.48
19MTDT009	RCDT	663467.2	7015988.1	466.9	181.8	-90	0	10	144	20.99	0.96
19MTDT010	RCDT	663436.3	7016059.7	466.0	155.1	-90	0	2	107	10	0.49
19MTDT010	RCDT	663436.3	7016059.7	466.0	155.1	-90	0	3	80	6	0.47
19MTDT010	RCDT	663436.3	7016059.7	466.0	155.1	-90	0	4	46	19	0.45
19MTDT010	RCDT	663436.3	7016059.7	466.0	155.1	-90	0	5	26	15	0.49
19MTDT010	RCDT	663436.3	7016059.7	466.0	155.1	-90	0	7	0	14	0.57

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19MTDT011	RCDT	663394.7	7016125.7	465.2	145.8	-90	0	2	91	10	0.47
19MTDT011	RCDT	663394.7	7016125.7	465.2	145.8	-90	0	3	63	8	0.48
19MTDT011	RCDT	663394.7	7016125.7	465.2	145.8	-90	0	7	31	13	0.52
19MTDT011	RCDT	663394.7	7016125.7	465.2	145.8	-90	0	8	9	5	0.44
19MTDT011	RCDT	663394.7	7016125.7	465.2	145.8	-90	0	10	118.97	22.35	0.88
19MTDT012	RCDT	663361.1	7016203.3	465.2	148.4	-90	0	2	106	13.4	0.49
19MTDT012	RCDT	663361.1	7016203.3	465.2	148.4	-90	0	3	70	13	0.43
19MTDT012	RCDT	663361.1	7016203.3	465.2	148.4	-90	0	4	25	30	0.43
19MTDT012	RCDT	663361.1	7016203.3	465.2	148.4	-90	0	7	4	18	0.39
19MTDT012	RCDT	663361.1	7016203.3	465.2	148.4	-90	0	10	127.19	17.03	0.92
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	1	175.55	0.35	0.49
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	2	111.78	12.34	0.52
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	3	82	8	0.48
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	4	24	36	0.45
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	7	5	4	0.44
19MTDT013	RCDT	663325.9	7016274.5	465.4	175.9	-89	95	10	142.95	25.85	0.96
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	1	159.67	1	0.49
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	2	106	17.42	0.49
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	3	59	9	0.50
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	4	23	22	0.45
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	5	11	7	0.48
19MTDT014	RCDT	663301.8	7016350.2	465.7	165.7	-89	193	10	132.88	25.99	1.01
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	1	115	1	0.69
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	2	55	13	0.56
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	3	37	10	0.40
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	4	10	24	0.54
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	7	3	6	0.47
19MTDT015	RCDT	663265.7	7016420.5	465.7	123.5	-90	0	10	101	14	1.27
19MTDT016	RCDT	663465.1	7016181.3	465.8	54.8	-90	0	1	44	1	0.96
19MTDT016	RCDT	663465.1	7016181.3	465.8	54.8	-90	0	2	17	3.8	0.91
19MTDT016	RCDT	663465.1	7016181.3	465.8	54.8	-90	0	7	9	8	0.61
19MTDT016	RCDT	663465.1	7016181.3	465.8	54.8	-90	0	8	0	7	0.51
19MTDT016	RCDT	663465.1	7016181.3	465.8	54.8	-90	0	10	21	15.8	1.26
19MTDT017	RCDT	663442.0	7016160.6	465.5	95.6	-89	197	2	43	14	0.53
19MTDT017	RCDT	663442.0	7016160.6	465.5	95.6	-89	197	3	22	14	0.70
19MTDT017	RCDT	663442.0	7016160.6	465.5	95.6	-89	197	7	17	5	0.61
19MTDT017	RCDT	663442.0	7016160.6	465.5	95.6	-89	197	8	1	7	0.49
19MTDT017	RCDT	663442.0	7016160.6	465.5	95.6	-89	197	10	61	22	1.04
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	2	116	2	1.09
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	3	106	4	0.46
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	4	18	50	0.51

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	5	6	2	0.56
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	7	1	5	0.46
19MTDT018	RCDT	663212.9	7016473.4	465.9	139.6	-90	0	10	121	14.4	1.21
19RRC001	RC	663827.9	7015444.2	466.5	57.0	-60	52	1	49	2	0.64
19RRC001	RC	663827.9	7015444.2	466.5	57.0	-60	52	2	22	7	0.71
19RRC001	RC	663827.9	7015444.2	466.5	57.0	-60	52	3	4	1	0.56
19RRC001	RC	663827.9	7015444.2	466.5	57.0	-60	52	7	0	3	0.64
19RRC001	RC	663827.9	7015444.2	466.5	57.0	-60	52	10	38	11	1.12
19RRC002	RC	663806.0	7015412.7	466.3	79.0	-58	49	1	74	2	0.64
19RRC002	RC	663806.0	7015412.7	466.3	79.0	-58	49	2	50	4	0.48
19RRC002	RC	663806.0	7015412.7	466.3	79.0	-58	49	3	32	14	0.56
19RRC002	RC	663806.0	7015412.7	466.3	79.0	-58	49	4	2	7	0.57
19RRC002	RC	663806.0	7015412.7	466.3	79.0	-58	49	10	57	17	1.23
19RRC003	RC	663843.4	7015398.5	466.4	49.0	-59	52	1	35	2	0.57
19RRC003	RC	663843.4	7015398.5	466.4	49.0	-59	52	2	14	3	0.52
19RRC003	RC	663843.4	7015398.5	466.4	49.0	-59	52	3	4	3	0.71
19RRC003	RC	663843.4	7015398.5	466.4	49.0	-59	52	10	22	12	1.21
19RRC004	RC	663810.4	7015377.0	466.1	79.0	-61	49	1	76	1	0.90
19RRC004	RC	663810.4	7015377.0	466.1	79.0	-61	49	2	48	6	0.68
19RRC004	RC	663810.4	7015377.0	466.1	79.0	-61	49	3	13	15	0.42
19RRC004	RC	663810.4	7015377.0	466.1	79.0	-61	49	7	1	1	0.44
19RRC004	RC	663810.4	7015377.0	466.1	79.0	-61	49	10	58	17	1.14
19RRC005	RC	663805.6	7015350.9	465.9	91.0	-59	47	2	70	3	0.43
19RRC005	RC	663805.6	7015350.9	465.9	91.0	-59	47	3	55	4	0.31
19RRC005	RC	663805.6	7015350.9	465.9	91.0	-59	47	4	24	4	0.41
19RRC005	RC	663805.6	7015350.9	465.9	91.0	-59	47	5	9	6	0.56
19RRC005	RC	663805.6	7015350.9	465.9	91.0	-59	47	10	83	3	0.64
19RRC006	RC	663857.8	7015356.8	466.3	67.0	-58	51	2	32	11	0.45
19RRC006	RC	663857.8	7015356.8	466.3	67.0	-58	51	3	10	10	0.50
19RRC006	RC	663857.8	7015356.8	466.3	67.0	-58	51	10	55	1	0.72
19RRC007	RC	663839.0	7015342.3	466.1	100.0	-59	51	2	62	3	0.46
19RRC007	RC	663839.0	7015342.3	466.1	100.0	-59	51	3	37	8	0.49
19RRC007	RC	663839.0	7015342.3	466.1	100.0	-59	51	4	2	17	0.49
19RRC007	RC	663839.0	7015342.3	466.1	100.0	-59	51	10	84	10	1.10
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	2	105	4	0.71
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	3	83	3	0.50
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	4	45	19	0.44
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	5	29	4	0.52
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	9	98	5	0.45
19RRC008	RC	663815.8	7015309.6	465.7	145.0	-59	53	10	124	11	1.10
19RRC009	RC	663919.5	7015344.7	466.4	55.0	-59	48	1	37	3	0.98

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19RRC009	RC	663919.5	7015344.7	466.4	55.0	-59	48	2	1	1	0.82
19RRC009	RC	663919.5	7015344.7	466.4	55.0	-59	48	10	26	7	1.21
19RRC010	RC	663918.8	7015303.0	465.9	72.0	-60	52	1	70	1	0.59
19RRC010	RC	663918.8	7015303.0	465.9	72.0	-60	52	2	36	4	0.57
19RRC010	RC	663918.8	7015303.0	465.9	72.0	-60	52	3	4	7	0.34
19RRC010	RC	663918.8	7015303.0	465.9	72.0	-60	52	9	30	1	0.61
19RRC010	RC	663918.8	7015303.0	465.9	72.0	-60	52	10	54	14	1.05
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	1	135	2	0.76
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	2	122	2	0.61
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	3	72	6	0.44
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	4	39	7	0.45
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	5	7	10	0.46
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	7	0	3	0.67
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	9	93	13	0.51
19RRC011	RC	663975.7	7015083.4	466.0	146.0	-60	52	10	125	4	0.92
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	1	148	3	0.65
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	2	95	10	0.62
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	3	72	4	0.43
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	4	25	25	0.48
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	5	5	7	0.43
19RRC012	RC	663530.6	7015835.6	466.7	157.0	-79	47	10	125	20	1.04
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	1	111	1	0.78
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	2	96	2	0.91
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	3	48	11	0.54
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	4	7	20	0.42
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	7	0	2	0.49
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	9	69	14	0.49
19RRC013	RC	664000.0	7015100.0	466.3	128.0	-65	82	10	101	4	0.68
19RRC014	RC	665358.6	7013698.0	464.5	71.0	-59	48	1	63	1	0.42
19RRC014	RC	665358.6	7013698.0	464.5	71.0	-59	48	2	25	20	0.50
19RRC014	RC	665358.6	7013698.0	464.5	71.0	-59	48	6	11	2	0.41
19RRC014	RC	665358.6	7013698.0	464.5	71.0	-59	48	10	45	18	1.14
19RRC015	RC	665447.5	7013589.7	464.5	65.0	-60	52	2	16	17	0.61
19RRC015	RC	665447.5	7013589.7	464.5	65.0	-60	52	10	39	21	1.28
19RRC016	RC	665425.7	7013571.4	464.5	101.0	-61	48	1	85	1	0.51
19RRC016	RC	665425.7	7013571.4	464.5	101.0	-61	48	2	47	15	0.55
19RRC016	RC	665425.7	7013571.4	464.5	101.0	-61	48	3	15	5	0.45
19RRC016	RC	665425.7	7013571.4	464.5	101.0	-61	48	10	69	16	1.20
19RRC017	RC	665334.6	7013678.2	464.4	95.0	-61	51	1	84	1	0.62
19RRC017	RC	665334.6	7013678.2	464.4	95.0	-61	51	2	41	11	0.60
19RRC017	RC	665334.6	7013678.2	464.4	95.0	-61	51	3	12	8	0.35

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19RRC017	RC	665334.6	7013678.2	464.4	95.0	-61	51	6	9	2	0.36
19RRC017	RC	665334.6	7013678.2	464.4	95.0	-61	51	10	73	9	1.19
19RRC018	RC	665541.1	7013485.0	464.8	53.0	-61	53	1	50	1	0.92
19RRC018	RC	665541.1	7013485.0	464.8	53.0	-61	53	2	8	13	0.56
19RRC018	RC	665541.1	7013485.0	464.8	53.0	-61	53	10	33	13	1.31
19RRC019	RC	665517.8	7013465.8	464.7	83.0	-61	48	1	67	1	0.58
19RRC019	RC	665517.8	7013465.8	464.7	83.0	-61	48	2	35	11	0.59
19RRC019	RC	665517.8	7013465.8	464.7	83.0	-61	48	3	8	4	0.42
19RRC019	RC	665517.8	7013465.8	464.7	83.0	-61	48	10	60	7	0.83
19RRC020	RC	665631.7	7013378.1	464.9	53.0	-60	50	1	50	1	0.75
19RRC020	RC	665631.7	7013378.1	464.9	53.0	-60	50	2	25	2	0.72
19RRC020	RC	665631.7	7013378.1	464.9	53.0	-60	50	3	8	2	0.58
19RRC020	RC	665631.7	7013378.1	464.9	53.0	-60	50	10	33	9	1.21
19RRC021	RC	665608.4	7013358.9	464.9	86.0	-60	49	1	77	1	0.40
19RRC021	RC	665608.4	7013358.9	464.9	86.0	-60	49	2	51	5	0.46
19RRC021	RC	665608.4	7013358.9	464.9	86.0	-60	49	3	27	3	0.42
19RRC021	RC	665608.4	7013358.9	464.9	86.0	-60	49	4	9	5	0.42
19RRC021	RC	665608.4	7013358.9	464.9	86.0	-60	49	10	64	13	1.13
19RRC022	RC	665721.2	7013270.3	465.1	53.0	-60	48	1	43	1	0.43
19RRC022	RC	665721.2	7013270.3	465.1	53.0	-60	48	2	29	6	0.29
19RRC022	RC	665721.2	7013270.3	465.1	53.0	-60	48	10	40	3	1.00
19RRC023	RC	665698.1	7013251.2	464.9	74.0	-60	49	1	68	1	0.40
19RRC023	RC	665698.1	7013251.2	464.9	74.0	-60	49	2	41	13	0.50
19RRC023	RC	665698.1	7013251.2	464.9	74.0	-60	49	3	20	2	0.31
19RRC023	RC	665698.1	7013251.2	464.9	74.0	-60	49	10	58	9	1.15
19RRC024	RC	665814.9	7013166.5	465.1	53.0	-61	50	1	44	3	0.60
19RRC024	RC	665814.9	7013166.5	465.1	53.0	-61	50	2	12	6	0.53
19RRC024	RC	665814.9	7013166.5	465.1	53.0	-61	50	10	22	22	1.09
19RRC025	RC	665791.7	7013147.3	465.0	71.0	-60	50	1	65	1	0.39
19RRC025	RC	665791.7	7013147.3	465.0	71.0	-60	50	2	47	8	0.47
19RRC025	RC	665791.7	7013147.3	465.0	71.0	-60	50	3	27	12	0.46
19RRC025	RC	665791.7	7013147.3	465.0	71.0	-60	50	4	12	6	0.44
19RRC025	RC	665791.7	7013147.3	465.0	71.0	-60	50	10	55	10	1.21
19RRC026	RC	665918.8	7013070.8	465.1	47.0	-61	50	1	38	1	0.73
19RRC026	RC	665918.8	7013070.8	465.1	47.0	-61	50	2	9	7	0.62
19RRC026	RC	665918.8	7013070.8	465.1	47.0	-61	50	10	20	18	1.24
19RRC027	RC	665895.4	7013051.5	465.0	77.0	-61	51	2	37	3	0.12
19RRC027	RC	665895.4	7013051.5	465.0	77.0	-61	51	3	23	4	0.12
19RRC027	RC	665895.4	7013051.5	465.0	77.0	-61	51	10	51	6	0.84
19RRC029	RC	666663.0	7011865.0	465.0	53.0	-61	49	1	43	1	0.37
19RRC029	RC	666663.0	7011865.0	465.0	53.0	-61	49	2	20	4	0.56

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19RRC029	RC	666663.0	7011865.0	465.0	53.0	-61	49	6	12	4	0.78
19RRC029	RC	666663.0	7011865.0	465.0	53.0	-61	49	10	24	19	1.14
19RRC030	RC	666642.2	7011847.6	465.0	65.0	-60	48	1	58	1	0.65
19RRC030	RC	666642.2	7011847.6	465.0	65.0	-60	48	2	18	27	0.52
19RRC030	RC	666642.2	7011847.6	465.0	65.0	-60	48	6	13	5	1.00
19RRC030	RC	666642.2	7011847.6	465.0	65.0	-60	48	10	45	13	1.14
19RRC031	RC	666787.6	7011786.8	465.0	62.0	-60	50	1	54	1	0.56
19RRC031	RC	666787.6	7011786.8	465.0	62.0	-60	50	2	13	23	0.62
19RRC031	RC	666787.6	7011786.8	465.0	62.0	-60	50	10	37	17	1.41
19RRC032	RC	666765.1	7011767.7	465.0	83.0	-60	52	1	81	1	0.45
19RRC032	RC	666765.1	7011767.7	465.0	83.0	-60	52	2	34	27	0.53
19RRC032	RC	666765.1	7011767.7	465.0	83.0	-60	52	10	63	12	1.29
19RRC033	RC	666742.3	7011748.5	464.9	110.0	-61	51	1	102	2	1.02
19RRC033	RC	666742.3	7011748.5	464.9	110.0	-61	51	2	55	32	0.47
19RRC033	RC	666742.3	7011748.5	464.9	110.0	-61	51	3	23	5	0.41
19RRC033	RC	666742.3	7011748.5	464.9	110.0	-61	51	6	12	2	0.33
19RRC033	RC	666742.3	7011748.5	464.9	110.0	-61	51	10	88	13	1.19
19RRC034	RC	666997.7	7011591.3	465.0	59.0	-61	50	2	11	1	0.67
19RRC034	RC	666997.7	7011591.3	465.0	59.0	-61	50	10	36	13	1.33
19RRC035	RC	666974.5	7011572.3	465.0	95.0	-61	51	1	85	6	0.58
19RRC035	RC	666974.5	7011572.3	465.0	95.0	-61	51	2	33	14	0.57
19RRC035	RC	666974.5	7011572.3	465.0	95.0	-61	51	10	69	16	1.22
19RRC036	RC	666951.4	7011553.2	464.8	119.0	-61	51	1	113	1	0.46
19RRC036	RC	666951.4	7011553.2	464.8	119.0	-61	51	2	63	21	0.48
19RRC036	RC	666951.4	7011553.2	464.8	119.0	-61	51	3	24	7	0.39
19RRC036	RC	666951.4	7011553.2	464.8	119.0	-61	51	6	11	1	0.56
19RRC036	RC	666951.4	7011553.2	464.8	119.0	-61	51	10	98	15	1.14
19RRC037	RC	665374.0	7013711.9	464.6	59.0	-50	49	1	37	1	0.32
19RRC037	RC	665374.0	7013711.9	464.6	59.0	-50	49	2	13	4	0.02
19RRC037	RC	665374.0	7013711.9	464.6	59.0	-50	49	10	25	12	1.00
19RRC038	RC	665312.4	7013659.2	464.4	119.0	-60	50	1	106	7	0.64
19RRC038	RC	665312.4	7013659.2	464.4	119.0	-60	50	2	69	24	0.51
19RRC038	RC	665312.4	7013659.2	464.4	119.0	-60	50	3	40	10	0.33
19RRC038	RC	665312.4	7013659.2	464.4	119.0	-60	50	4	28	3	0.38
19RRC038	RC	665312.4	7013659.2	464.4	119.0	-60	50	10	97	9	1.20
19RRC039	RC	665463.0	7013602.5	464.7	35.0	-50	50	1	25	2	0.67
19RRC039	RC	665463.0	7013602.5	464.7	35.0	-50	50	2	8	1	1.13
19RRC039	RC	665463.0	7013602.5	464.7	35.0	-50	50	10	12	13	1.08
19RRC040	RC	665402.0	7013551.6	464.5	122.0	-61	51	1	113	2	0.73
19RRC040	RC	665402.0	7013551.6	464.5	122.0	-61	51	2	82	9	0.51
19RRC040	RC	665402.0	7013551.6	464.5	122.0	-61	51	3	45	8	0.41

Hole ID	Hole Type	NAT East	NAT North	NAT RL	Max Depth	Dip	NAT Azi	InRes	Depth From	Interval	V_2O_5 pct
19RRC040	RC	665402.0	7013551.6	464.5	122.0	-61	51	4	19	7	0.44
19RRC040	RC	665402.0	7013551.6	464.5	122.0	-61	51	10	96	16	1.05
19RRC041	RC	665493.7	7013445.6	464.6	110.0	-60	51	1	97	3	0.36
19RRC041	RC	665493.7	7013445.6	464.6	110.0	-60	51	2	64	9	0.49
19RRC041	RC	665493.7	7013445.6	464.6	110.0	-60	51	3	39	4	0.38
19RRC041	RC	665493.7	7013445.6	464.6	110.0	-60	51	4	17	4	0.46
19RRC041	RC	665493.7	7013445.6	464.6	110.0	-60	51	10	83	14	1.09
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	1	107	1	0.44
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	2	72	4	0.46
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	3	56	10	0.48
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	4	36	5	0.36
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	5	16	7	0.35
19RRC042	RC	665585.3	7013339.3	464.8	116.0	-62	50	10	100	3	1.18
19RRC043	RC	666617.2	7011827.2	464.9	95.0	-60	50	1	83	5	0.73
19RRC043	RC	666617.2	7011827.2	464.9	95.0	-60	50	2	43	24	0.52
19RRC043	RC	666617.2	7011827.2	464.9	95.0	-60	50	6	14	16	1.06
19RRC043	RC	666617.2	7011827.2	464.9	95.0	-60	50	10	71	12	1.13

APPENDIX 4

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

Section 1 - Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The Australian Vanadium Project deposit was sampled using diamond core and reverse circulation (RC) percussion drilling from surface. During 2019 43 RC holes were drilled; 30 RC holes were drilled for 2,236m in the December 2019 drilling on blocks 16 and 8, and 13 RC holes for 1,224m drilled 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 are drilled down-dip into the high-grade zone. These were complimented by an additional 18 PQ diamond drill tails on RC pre-collars, drilling vertically. The down dip holes are measured by hand-held XRF at 50 cm intervals to inform metallurgy characterisation but will not form part of any resource estimation update unless certified laboratory analysis is completed on a cut portion of the drill core. 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 Mineral Resource estimation (November 2018), a total of 250 RC holes and 20 diamond holes (6 of which are diamond tails) were drilled into the deposit. 59 of the 251 holes were either too far north or east of the main mineralisation trend or excised due to being on another tenancy. One section in the southern part of the deposit (holes GRC0156, GRC0074, GRC0037 and GRC0038) was blocked out and excluded from the resource due to what appeared to be an intrusion which affected the mineralised zones in this area. Of the remaining 191 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 20,058m of RC and 3,299.27m of DDH over 245 holes at the date of the most recent resource estimate. The initial 17 RC drill holes were drilled by Intermin Resources NL (IRC) in 1998. These holes were not used in the 2015 and 2017 estimates due to very long unequal sample lengths and a different grade profile from subsequent drilling. 31 RC 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 2018. This drilling includes 20 diamond holes (6 of which are diamond tails) and 76 RC holes, for a total of 20,974m drilled. All of the drilling sampled both high and low-grade material and were sampled for assaying of a typical iron ore suite, including vanadium and titanium plus base metals and sulphur.
	Include reference to measures taken to ensure sample representivity and the	PQ core from diamond tails was ¼ cored and sent for assay. The remaining core went to make up the pilot plant metallurgical sample. The down dip 2019 PQ core has not been sampled. Handheld XRF machines being used to take ½ metre measurements on the core have been calibrated using pulps from previous drilling by the Company, for which there are known head assays. 2018 HQ diamond core was half-core sampled at regular

Criteria	JORC Code Explanation	Commentary
	appropriate calibration of any measurement tools or systems used.	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 2.5-3kg sample at an approximate 10% split ratio. These split samples were collected in pre-numbered calico sample bags. The sample was dried, crushed and pulverised to produce a sub sample (~200g) for laboratory analysis using XRF and total LOI by thermo-gravimetric analysis. Diamond core was drilled predominantly at HQ size for the earlier drilling (2009) and entirely HQ for the 2018 programme with the 2015 and 2019 drilling at PQ3 size. Field duplicates, standards and blanks have been inserted into the sampling stream at a rate of nominally 1:20 for blanks, 1:20 for standards (including internal laboratory), 1:40 for field duplicates, 1:20 for laboratory checks and 1:74 for umpire assays. For this 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. Six of the diamond holes have RC pre-collars (GDH911, GDH913 & GDH916, 18GEDH001, 002 and 003), otherwise all holes are drilled from surface. No core orientation data has been recorded in the database. 17 RC holes were drilled during the 2018 programme and three HQ diamond tails were drilled on RC pre-collars for resource and geotechnical purposes. The core was not orientated but all diamond holes were logged by OTV and ATV televiewer. Six RC holes from the 2018 campaign are not used in the resource estimate due to results pending at the time of the latest update, and two diamond holes drilled during 2018 were not used as they are for geotechnical purposes and do not intersect the mineralised zones. During 2019 a further 12 PQ diamond holes have been drilled down-dip on the high-grade zone for metallurgical sample but have not been sampled for assay analysis as they have been sampled for a metallurgy pilot study programme. As such they do not form part of any resource estimation. An addition 18 PQ diamond tails on RC pre-collars have been drilled vertically, of which 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.

Criteria	JORC Code Explanation	Commentary
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond core recovery is measured when the core is recovered from the drill string. The length of core in the tray is compared with the expected drilled length and is recorded in the database. For the 2019, 2018 and 2015 drilling, RC chip sample recovery was judged by how much of the sample was returned from the cone splitter. This was recorded as good, fair, poor or no sample. The older drilling programmes used a different splitter, but still compared and recorded how much sample was returned for the drilled intervals. All of the RC sample bags (non-split portion) from the 2018 programme were weighed as an additional check on recovery. An experienced AVL geologist was present during drilling and any issues noticed were immediately rectified. No significant sample recovery issues were encountered in the RC or PQ drilling in 2015. No significant sample recovery issues were encountered in the RC or PQ drilling in 2019 except where core loss occurred in three holes intersecting high grade ore. This involved holes 19MTDT012 between 142.9m and 143.3m; 19MTDT013 from 149m to 149.6m, 151m to 151.4m and 159.5m to 160m; as well as 19MTDT016 between 29.5m and 30.7m down hole. In each case the interval lost was included as zero grade for all elements for the estimation of the total mineralised intercept.
	Measures taken to maximize sample recovery and ensure representative nature of the samples.	Core depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers. Recovered core was measured and compared against driller's blocks. 2019 diamond core samples had a coarse split created at the laboratory that was also analysed to evaluate laboratory splitting of the sample. RC chip samples were actively monitored by the geologist whilst drilling. Field duplicates have been taken at a frequency between every 30th and every 50th metre in every RC drill campaign. All 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. Geologica Pty Ltd is satisfied that the RC holes have taken a sufficiently representative sample of the mineralisation and minimal loss of fines has occurred in the RC drilling resulting in minimal sample bias.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	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. Minimal structural measurements were recorded (bedding to core angle measurements) but have not yet been saved to the database.

Criteria	JORC Code Explanation	Commentary
	Mineral Resource estimation, mining studies and metallurgical studies.	The logging was completed on site by the responsible geologist. All of the drilling was logged onto paper and was transferred to a SQL Server 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 OTV/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.
	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	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.

Criteria	JORC Code Explanation	Commentary
and Sample Preparation		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.
	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.	To ensure the samples collected are representative of the in-situ material, a 140mm diameter RC hammer was used to collect one metre samples and either HQ or PQ3 sized core was taken from the diamond holes. Given that the mineralisation at the Australian Vanadium Project is either massive or disseminated magnetite/martite hosted vanadium, which shows good consistency in interpretation between sections and occurs as percentage values in the samples, Geologica Pty Ltd considers the sample sizes to be representative. Core is not split for duplicates, but RC samples are split at the collection stage to get representative (2.5-3kg) 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	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.

Criteria	JORC Code Explanation	Commentary
	material being sampled.	
Quality of Assay Data and Laboratory Tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All samples for the Australian Vanadium Project were assayed for the full iron ore suite by XRF (24 elements) and for total LOI by thermo-gravimetric technique. The method used is designed to measure the total amount of each element in the sample. Some 2015 and 2018 RC samples in the oxide profile were also selected for SATMAGAN analysis that is a measure of the amount of total iron that is present as magnetite (or other magnetic iron spinel phases, such as maghemite or kenomagnetite). SATMAGAN analysis was conducted at Bureau Veritas (BV) Laboratory during 2018. Although the laboratories changed over time for different drilling programmes, the laboratory procedures all appear to be in line with industry standards and appropriate for iron ore deposits, and the commercial laboratories have been industry recognized and certified Samples are dried at 105˚C in gas fired ovens for 18-24 hours before RC samples being split 50:50. One portion is retained for future testing, while the other is then crushed and pulverised. Sub-samples are collected to produce a 66g sample that is used to produce a fused bead for XRF based analysing and reporting. Certified and non-certified Reference Material standards, field duplicates and umpire laboratory analysis are used for quality control. The standards inserted by AVL during the 2015 drill campaign were designed to test the V_2O_5 grades around 1.94%, 0.95% and 0.47%. The internal laboratory standards used have varied grade ranges but do cover these three grades as well. During 2018 and 2019, three Certified Reference Materials (CRMs) were used by AVL as field standards. These covered the V_2O_5 grade ranges around 0.327%, 0.790% and 1.233%. These CRMs are also certified for other relevant major element and oxide values, including Fe, TiO_2, Al_2O_3, SiO_2, Co, Ni and Cu (amongst others). Most of the laboratory standards used show an apparent underestimation of V_2O_5, with the results plotting below the expected value lines, however the results generally fall within ± 5-10% ranges of the expected values. The other elements show no obvious material bias. Standards used by AVL during 2015 generally showed good precision, falling within 3-5% of the mean value in any batch. The standards were not certified but compared with the internal laboratory standards (certified) they appear to show good accuracy as well. Field duplicate results from the 2015 drilling all fall within 10% of their original values. The BV laboratory XRF machine calibrations are checked once per shift using calibration beads made using exact weights and they performed repeat analyses of sample pulps at a rate of 1:20 (5% of all samples). The lab repeats compare very closely with the original analysis for all elements. 2019 PQ diamond core has been assayed, and studies on all results for QAQC sample performance is in progress. Geologica considers that the nature, quality and appropriateness of the assaying and laboratory procedures is at acceptable industry standards.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis	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

Criteria	JORC Code Explanation	Commentary
	including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	metre). During 2018 and 2019 RC and diamond core has been measured using a KT-10 magnetic susceptibility metre, at 1 x 10^{-3} ssi unit. In addition to the 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.
	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. Resource consultants from Trepanier have visited the company core storage facility in Bayswater and reviewed the core trays for select diamond holes.
	The use of twinned holes.	Two diamond 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.

Criteria	JORC Code Explanation	Commentary
	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.	The 2019 drill holes have been set out using a real-time Kinematic (RTK) GPS or DGPS system. At completion of drilling the collar positions were picked up by a professional surveyor with the RTK system. For the 2018 drilling, all collars were set out using a handheld GPS. After drilling they were surveyed using a Trimble RTK GPS system. The base station accuracy on site was improved during the 2015 survey campaign and a global accuracy improvement was applied to all 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 where necessary. 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.
	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 this latest Mineral Resource update (February 2020). The grid is a 40 degree rotation in the clockwise direction from the MGA north.

Criteria	JORC Code Explanation	Commentary
	Quality and adequacy of topographic control.	High resolution Digital Elevation Data was captured by Arvista for the Company in June 2018 over the MLA51/878 tenement area using fixed wing aircraft, with survey captured at 12 cm GSD using an UltraCam camera system operated by Aerometrex. The data has been used to create a high-resolution Digital Elevation Model on a grid spacing of 5m x 5m, which is within 20 cm of all surveyed drill collar heights, once the database collar positions were corrected for the improved ground control survey, that was also used in this topography survey. The vertical accuracy that could be achieved with the 12 cm GSD is +/- 0.10 m and the horizontal accuracy is +/- 0.24m. 0.5m contour data has also been generated over the mining lease application. High quality orthophotography was also acquired during the survey at 12cm per pixel for the full lease area, and visual examination of the imagery shows excellent alignment with the drill collar positions. The November 2018 Mineral Resource used this surface for topographic control within the Mining Lease Application area (MLA51/878). For the entire 2017 and July 2018 Mineral Resource estimates, and the November 2018 Mineral Resource estimate outside the MLA area, high resolution Digital Elevation Data was supplied by Landgate. The northern two thirds of the elevation data is derived from ADS80 imagery flown September 2014. The data has a spacing of 5M and is the 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 were already calibrated against the new ground control. 2019 drill collar locations all have RTK pick up by professional surveyors, using the improved ground control point.
Data Spacing and Distribution	Data spacing for reporting of Exploration Results.	2019 RC drilling in Fault Block 50 and 60 (previously 16 and 8 respectively) 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 HG 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 (previously 17 and 6 respectively) 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 (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.

Criteria	JORC Code Explanation	Commentary
	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 45º to 50º magnetic to the west, with the holes dipping approximately 60º to the east. The drill fences are arranged along the average strike of the high-grade mineralised horizon, which strikes approximately 310º to 315º magnetic south of a line at 7015000mN and approximately 330º magnetic north of that line. The mineralisation is interpreted to be moderate to steeply dipping, approximately tabular, with stratiform bedding striking approximately north-south and dipping to the west. The drilling is exclusively conducted perpendicular to the strike of the main mineralisation trend and dipping 60° to the east, producing approximate true thickness sample intervals through the mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The orientation of drilling with respect to mineralisation is not expected to introduce any sampling bias. 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

Criteria	JORC Code Explanation	Commentary
		samples and any discrepancies reported and corrected.
Audits or Reviews	The results of any audits or reviews of sampling techniques and data.	A review of the sampling techniques and data was completed by Mining Assets Pty Ltd (MASS) and Schwann Consulting Pty Ltd (Schwann) in 2008 and by CSA in 2011. Neither found any material error. AMC also reviewed the data in the course of preparing a Mineral Resource estimate in 2015. The database has been audited and rebuilt by AVL and MRG in 2015. In 2017 geological data was revised after missing lithological data was sourced. Geologica Pty Ltd concludes that the data integrity and consistency of the 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.	Exploration Prospects are located wholly within Lease P51/2567, P51/2566 and E 51/843. The tenements are 100% owned by Australian Vanadium Ltd. The tenements lie within the Yugunga Nya Native Title Claim (WC1999/046). A Heritage survey was undertaken prior to commencing drilling which only located isolated artefacts but no archaeological sites *per se.* Mining Lease Application MLA51/878 covering most of E 51/843 and the vanadium project is currently under consideration by the Department of Mines and Petroleum. 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 copper and gold exploration on the AVL Gabanintha tenements.
	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 tenement is 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 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. 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	All drill results relevant to the mineral resource updates were disclosed at the time of the resource publication. All new 2018 and 2019 drill hole collar information relating to this resource update are shown in Appendix 3.

Criteria	JORC Code Explanation	Commentary
	level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.	
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.
	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 2,4,5,6 and 7 and Appendix 3 of this release.
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 this announcement.
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	All meaningful & material exploration data has been reported

Criteria	JORC Code Explanation	Commentary
	substances.	
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 resource infill drilling is under consideration for the remaining 5 km of mineralisation that is currently drilled at broad spacing.
	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 decision as to the necessity for further exploration at the Australian Vanadium Project is pending completion of mining technical studies on this resource update. Figures 1 and 2 in this report show areas of possible resource extension.

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 onto paper and has been transferred to a digital form and loaded into a Microsoft SQL Server relational drill hole database using DataShed™ 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 all previous Mineral Resource estimates for the project.
	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 were/are 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. 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. The mineralisation is hosted within altered gabbros 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.

Criteria	JORC Code Explanation	Commentary
	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. The 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 would be 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 continuityand grade continuity. • 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. • 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 kilometer 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 approximately 200m below surface. Mineralisation is currently open along strike and at depth.

Criteria	JORC Code Explanation	Commentary
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. SurpacTM 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, magsus 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 Cr2O3 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.
	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 December 2018. No mining has occurred to date at the Australian Vanadium Project, so there are no production records. Addition 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.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).	Estimates were undertaken for Fe2O3, SiO2, TiO2, 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% = Fe2O3/1.4297). Estimates were also undertaken for Cr2O3 which is a potential deleterious element. The estimated Cr2O3% grades were converted to Cr ppm grades (Cr ppm = (Cr2O3*10000)/1.4615).

Criteria	JORC Code Explanation	Commentary
	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 data to drill hole data, and use of reconciliation data if available.	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. • 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.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td>Mining Factors or Assumptions</td><td>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.</td><td>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.
AVL has assumed, based on initial concept study work and the nearby presence of a similar project (Windimurra mine site), that the Australian Vanadium Project deposit is amenable to open-pit mining methods.
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.
This Mineral Resource will be the basis for new optimisation studies during the remainder of Q1 (2020) for a mine plan incorporating the additional Indicated resources.</td></tr>
<tr><td>Metallurgical Factors or Assumptions</td><td>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.</td><td>Metallurgical studies have 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”.
<table>
<tr><th>Metallurgical Sample</th><th>Drill hole Origin</th><th>From (m)</th><th>To (m)</th><th>Interval (m)</th><th>Mass (kg)</th></tr>
<tr><td>1 Fr</td><td>GDH903</td><td>191</td><td>199</td><td>8</td><td>33</td></tr>
<tr><td>2 Fr</td><td>GDH903</td><td>199</td><td>209</td><td>10</td><td>47</td></tr>
<tr><td>3 Fr</td><td>GDH903</td><td>209</td><td>215.2</td><td>6.2</td><td>25</td></tr>
<tr><td>4 Fr</td><td>GDH911</td><td>98.9</td><td>105.5</td><td>6.6</td><td>59</td></tr>
<tr><td>5 Fr</td><td>GDH911</td><td>108</td><td>113.2</td><td>5.2</td><td>54</td></tr>
<tr><td>6 Fr</td><td>GDH912</td><td>124</td><td>129</td><td>5</td><td>52</td></tr>
<tr><td>7 Fr</td><td>GDH912</td><td>129</td><td>134.2</td><td>5.2</td><td>54</td></tr>
<tr><td>8 Fr</td><td>GDH912</td><td>134.3</td><td>141</td><td>6.7</td><td>69</td></tr>
<tr><td>9 Fr</td><td>GDH914</td><td>108</td><td>114</td><td>6</td><td>58</td></tr>
<tr><td>10 Fr</td><td>GDH914</td><td>114</td><td>121</td><td>7</td><td>75</td></tr>
<tr><td>11 Tr</td><td>GDH902</td><td>98</td><td>105.8</td><td>7.8</td><td>34</td></tr>
<tr><td>12 Tr</td><td>GDH902</td><td>105.8</td><td>111.1</td><td>5.3</td><td>31</td></tr>
<tr><td>13 Tr</td><td>GDH902</td><td>111.1</td><td>117.1</td><td>6</td><td>27</td></tr>
<tr><td>14 Tr</td><td>GDH911</td><td>105.5</td><td>108</td><td>2.5</td><td>27</td></tr>
<tr><td>15 Tr</td><td>GDH913</td><td>127.9</td><td>133.2</td><td>5.3</td><td>26</td></tr>
<tr><td>16 Tr</td><td>GDH913</td><td>133.2</td><td>140</td><td>6.8</td><td>47</td></tr>
<tr><td>17 Tr</td><td>GDH913</td><td>140</td><td>145.2</td><td>5.2</td><td>45</td></tr>
<tr><td>18 Tr</td><td>GDH916</td><td>132</td><td>139</td><td>7</td><td>32</td></tr>
<tr><td>19 Tr</td><td>GDH916</td><td>139</td><td>151.3</td><td>12.3</td><td>101</td></tr>
<tr><td>20 Ox</td><td>GDH901</td><td>38</td><td>45</td><td>7</td><td>29</td></tr>
<tr><td>21 Ox</td><td>GDH901</td><td>45</td><td>54</td><td>9</td><td>44</td></tr>
<tr><td>22 Ox</td><td>GDH915</td><td>12</td><td>18</td><td>6</td><td>44</td></tr>
<tr><td>23 Ox</td><td>GDH915</td><td>18</td><td>23</td><td>5</td><td>35</td></tr>
<tr><td>24 Ox</td><td>GDH917</td><td>14.1</td><td>21.1</td><td>7</td><td>44</td></tr>
</table>

The comminution test work has included SMC, Bond ball mill work index and Bond abrasion index testing.</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary
		Bench-scale magnetic separation test work has included Davis tube testing (1500 gauss) and a customised two stage separation using a hand held rare earth magnetic rod (2600 gauss at surface). 21 element XRF and LOI analysis has been carried out on the magnetic and non-magnetic products and selected magnetic concentrates underwent QXRD to determine the contained minerals and or QEMScan analysis to gain an understanding of the mineral associations, grains size, locking and liberation.
		Some preliminary sulphide concentrate recovery testing has been undertaken on selected 25kg fresh samples and a 90kg fresh composite sample. These samples were ground to a P_{80} of 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 sulphide flotation testwork. The flotation testing has been carried out at benchscale using a scheme of typical sulphide flotation reagents. Rougher, scavenger and cleaner flotation has been tested with one concentrate (test BC 4113/2) reground prior to cleaning. The preliminary metallurgical investigation has demonstrated: - The oxide, transitional and fresh materials are similar in comminution behavior and exhibit a moderate rock competency and ball milling energy demand. - The abrasiveness is considered low to moderate. - A positive and predictable response to magnetic separation can be demonstrated from the fresh and transitional material within the high-grade domain. The majority of vanadium exists within magnetic minerals which when separated at a grind size P_{80} of approximately 106 µm, generates a consistently high V_2O_5 grade, low silica and alumina grade concentrate. - Oxidised material responds to magnetic separation, albeit at lower vanadium recovery and concentrate quality. At this stage of metallurgical understanding a primary mill grinding to P_{80} 106 µm and application of magnetic drum separation is considered a reasonable flowsheet concept to produce a vanadium rich concentrate (approximately 1.4% V_2O_5) from material classified as oxide, transitional and fresh within the high-grade domain. Preliminary benchscale roast leach testwork has been undertaken using magnetic concentrate from metallurgical sample Fr 2. Vanadium leach extractions of 79 to 86% have been determined in roasting for 110 minutes at approximately 1050°C testing a range of sodium carbonate addition rates (3 to 6%). Given the indicated quality of the concentrate and the preliminary benchscale roast leach testwork results, it is assumed that production of a saleable V_2O_5 product would be achieved via a traditional roast, leach and ammonium meta vanadate (AMV) flowsheet path. Similar flowsheets were applied in the treatment of magnetic concentrate in Xstrata's Windimurra refinery flowsheet in Western Australia and at Largo Resources Maracas vanadium project in Bahia, Brazil. Pilot study work was completed during 2019. Pilot scale crushing, milling and beneficiation (CMB) testwork 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 testwork completed in Q1, 2020. 2T of high quality concentrate, generated in the pilot CMB plant, is currently with Metso and undergoing pilot scale palletisation.

Criteria	JORC Code Explanation	Commentary
Environmental Factors or Assumptions	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.	Environmental studies are currently being undertaken for Feasibility and approvals work.
Bulk Density	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.	Bulk density determinations (using the Archimedes' method) were made on samples from 15 diamond drill holes. Bulk density data from 313 direct core measurements were used to determine average densities for each of the mineralisation and oxide/transition/fresh domains. Bulk Density was estimated for HG, LG, Alluvial and waste material in Core taken to represent the main lithological units.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	The water immersion method was used for direct core measurements; all 231 of the latest measurements have been done using sealed core, the previous 97 measurements were not wrapped. AMC's observation of the core indicates that observable porosity was not likely to be high for most of the core at the deposit.

Criteria	JORC Code Explanation	Commentary
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The average bulk density values for at the Australian Vanadium Project are: **Domain** / **Oxidation State** / **Bulk Density** 10 (high grade) / Oxide / 3.39 10 (high grade) / Transition / 3.71 10 (high grade) / Fresh / 3.67 2-8 (low grade) / Oxide / 2.13 2-8 (low grade) / Transition / 2.20 2-8 (low grade) / Fresh / 2.62 Alluvial / Oxide / 2.63 (waste) / Oxide / 2.02 (waste) / Fresh / 2.45 All values are in t/m^3. Regressions used to determine bulk density based on iron content are as follows: • Oxide: BD = (0.0344 x Fe_2O_3 %) + 0.9707 • Transition: BD = (0.0472 x Fe_2O_3 %) + 0.3701 • Fresh: BD = (0.0325 x Fe_2O_3 %) + 1.4716 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 classification is considered valid for the global resource and applicable for the nominated grade cut-offs.
	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, quality, quantity and distribution of the data).	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. 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. The estimate has partially been classified as Measured Mineral Resource in an area restricted to the fresh portion of the high-grade domain where the drill hole spacings are less than 80 to 100m in northing (Fault Blocks 20 and 30). Indicated Mineral Resource material is generally restricted to the oxide high grade and oxide and fresh low grade in the same area of relatively closely spaced drilling plus areas of infill drilling in Fault Blocks 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. 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 and Trepanier Pty Ltd believe that the classification appropriately reflects their confidence in the grade estimates and robustness of the interpretations.

Criteria	JORC Code Explanation	Commentary
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. Further investigation into bulk density determination and infill drilling will be required to further raise the level of resource classification.
	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.
	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.