MINERALS LIMITED

ASX ANNOUNCEMENT
3 February 2020

Phase 2 Metallurgical Test Work Update

Highlights

- **Dense Media Cyclone (DMC) test work within Phase 2 delivers excellent lithia recovery results and supports selected Definitive Feasibility Study (DFS) flowsheet**
- **First optimisation test results indicate 55.7% Li_2O recovery into a concentrate grading 6.3% Li_2O**
- **DMC trials continue and are expected to provide improvements to lithia recovery**
- **DFS on target for completion Q1 2020**

AVZ Minerals Limited (ASX: AVZ, or "the Company") is pleased to provide an update on its Phase 2 metallurgical test work program at its Manono Lithium and Tin Project ("Manono Project") in the Democratic Republic of Congo.

AVZ's Managing Director, Mr Nigel Ferguson, said: "The progress of the Phase 2 metallurgical program is delivering exceptional results in terms of lithia recovery and supporting the selected DFS flowsheet.

"In particular and despite a significant disparity in fines losses associated with the crushing method used, the first of the optimisation tests returned an excellent result of 55.7% Li_2O recovery to a concentrate grading of 6.3% Li_2O.

This is an excellent result for the Manono Project because our Phase 2 optimisation work is essentially ensuring that our laboratory test work is scalable to a full size operation.

We continue our DMS optimisation work and ongoing trials are expected to yield greater recovery improvements.

Our Definitive Feasibility Study remains on target for release in Q1 this year, enabling the advancement of the Manono Project into production as quickly as possible on the back of securing the necessary financing."

AVZ Minerals Limited
Level 2, 8 Colin Street,
West Perth WA 6005
Australia

T: + 61 8 6117 9397
F: + 61 8 6118 2106
E: admin@avzminerals.com.au
W: www.avzminerals.com

ABN 81 125 176 703

Directors:
Non-Executive Chairman: John Clarke
Managing Director: Nigel Ferguson
Technical Director: Graeme Johnston
Non-Executive Director: Rhett Brans
Non-Executive Director: Hongliang Chen
Non-Executive Director: Peter Huljich

Market Cap
$132 M

ASX Code: AVZ

Scope of Test Work

This metallurgical update presents results from a testing program that aimed to:

- Test and confirm the 2-stage dense media separation (DMS) flowsheet;
- Test and confirm engineering and equipment design parameters; and
- Generate verification parameters for the process design criteria.

Phase 2 Metallurgical Testwork Components

Component	Description	Status
Feed Preparation	Crushing and Screening: i) Bulk crushing using industrial sized high-pressure grinding rolls (HPGR) from a 2 tonne sample representing a 5-10 year mine plan. An 80% passing crush size of 4.7 mm crush size was set by the outcomes of the phase 1 metallurgical testwork. ii) Large scale screening simulating process flowsheet essentially producing two fractions; a minus 0.5 mm ("fines") and greater than 0.5 mm ("coarse") stream for processing.	Complete Complete
Dense Media Separation	Performance testing employing 250 mm Dense Media Cyclone: i) Recovery optimisation and operating parameter establishment to verify process design; ii) Bulk processing targeting SC6% spodumene concentrate.	In Progress Pending
Heavy Mineral Separation	Gravity recovery of heavy (valuable) minerals from coarse and fine streams: i) Recovery of tin bearing cassiterite and tantalum from coarse spodumene (DMS) concentrates; ii) Recovery of tin and tantalum from minus 0.5 mm fines.	Pending Commenced
Process Opportunities	Value add opportunities for future processing at Manono including: i) Fines screening at 0.3 mm as opposed to the industry standard of 0.5 mm; ii) Froth flotation for the recovery of lithia from fines.	Complete In Progress
Vendor and Engineering	Engineering, Vendor and Tailings Characterisation	In Progress
Ore Variability	Heavy liquid separation tests used to assess ore variability, specifically grade-recovery relationships to assist mine planning.	Complete

Bulk sample feed preparation

A two tonne parcel of ore was crushed using high pressure grinding rolls ("HPGR") to replicate typical performance of industrial sized equipment. The HPGR generates more minus 0.5mm fines material than a typical laboratory crushing process which translates to losses in lithia to this stream when compared with typical control crush processes.

After HPGR crushing, sub-samples were screened at 0.3mm and 0.5mm to explore the recovery benefit of operating DMS cyclone unit with the finer feed down to 0.3mm. Additional sub-samples were used to conduct the first of several coarse lithia DMS recovery trials.

A reflux classifier was employed to separate deleterious mica from the balance of the bulk samples' coarse (>0.5mm) fraction prior to additional DMS testing, with the reflux results still pending. The minus 0.5mm fines were sent for heavy mineral and lithia flotation testwork.

Preliminary DMS Results

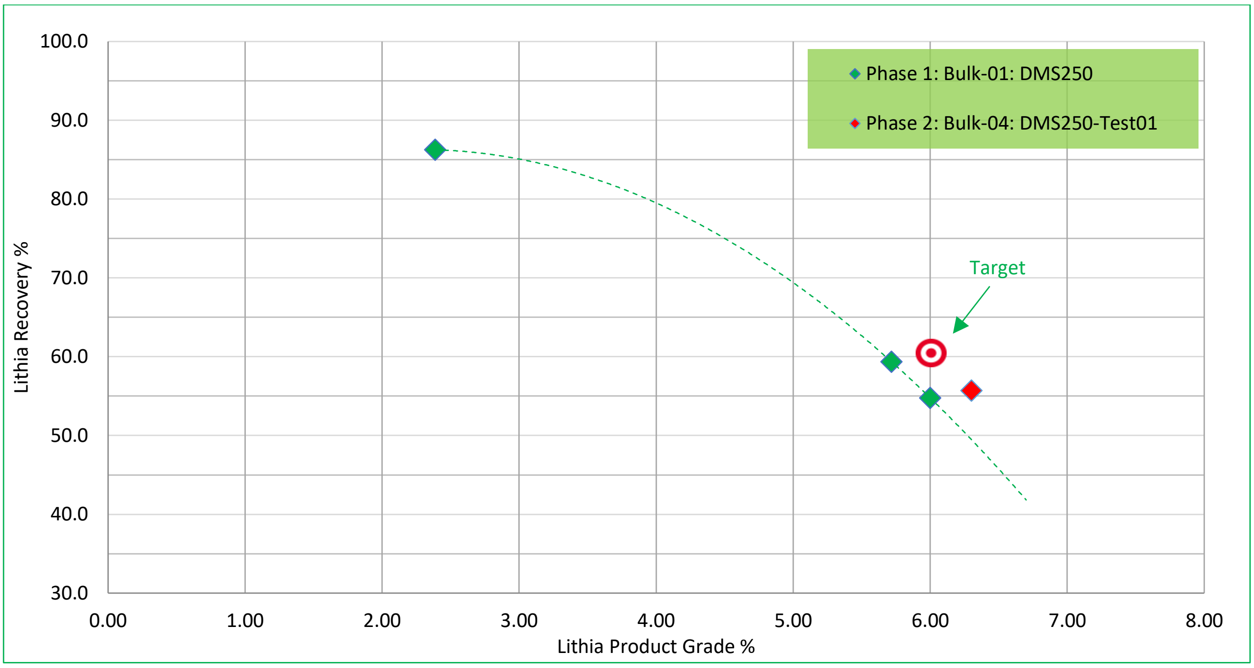
The quantification of crushed fines distribution and preliminary DMS results are presented in Table 1. The Phase 1 testwork DMS result is included for comparison. One optimisation trial had been performed using the 250mm dense media cyclone ("DMC") at the time of publishing.

Table 1 - Phase 2 Metallurgical Testwork 250 mm Preliminary Dense Media Cyclone Trial Results

Sample Description	Feed Preparation & Cyclone				Lithia Distribution		Grade	
	Crushing Method	Screen mm	No. Cyclone Stages	Fines Mass %	Fines %	Concentrate %	Li_2O %	Fe_2O_3 %
Phase 2: Bulk-04: DMS250-Test-01	HPGR	0.5	2	30.4	22.2	55.7	6.3	0.67
Phase 1: Bulk-01: DMS250	Lab Jaw	0.5	2	17.3	13.4	**59.6**	**5.8**	0.49
			3	17.3	13.4	**54.8**	**6.0**	0.49

Figure 1 presents Test-01 in relation to the phase 1 metallurgical testwork DMC performance curve. The chart illustrates clearly the effectiveness of the efficiency improvements, operating well above the baseline test, despite an increase in lithia losses to fines.

Figure 1 - Phase 2 Metallurgical Testwork 250 mm Preliminary Dense Media Cyclone Performance Curve



The results of the bulk crush and first optimisation DMC test indicated:

- HPGR generated approximately 13% more fines by mass when compared to the Phase 1 metallurgical test work, which adopted a laboratory Jaw Crusher. This translates to additional lithia losses to fines of circa 9%;
- Despite the significant disparity in fines losses associated with the HPGR crush method, the first of the optimisation tests returned an exceptional result of 55.7% Li_2O recovery into a concentrate grading of 6.3% Li_2O;
- Adjustment of the DMC operating conditions providing efficiency enhancement, has confirmed two stages of DMC separation can exceed expectations for spodumene product grades. The first of the optimisation tests has essentially verified the 2-stage DMC flowsheet selected for the DFS; and
- Further DMC trials are in progress and targeting recovery improvements. These will be reported as results become available.

It is important to note that these preliminary optimisation tests focused on lithia recovery and excluded the iron bearing mica removal process. Further iron reductions will be evident as the mica removal and heavy mineral recovery testwork progresses.

Process Opportunities

Table 2 presents the results from the comparative DMC tests which explored the option to reduce the DMC feed size from 0.5mm to 0.3mm.

Table 2 - Phase 2 Metallurgical Testwork Fine Screen Dense Media Cyclone Trial Results

Sample Description	Feed Preparation & Cyclone				Lithia Distribution		Grade	
	Crushing Method	Screen mm	No. Cyclone Stages	Fines % Mass	Fines %	Concentrate %	Li_2O %	Fe_2O_3 %
Phase 2: Bulk-04: DMS100-Test-01	HPGR	0.3	3	22.1	14.7	61.2	6.2	0.76
Phase 2: Bulk-04: DMS100-Test-02	HPGR	0.5	3	30.4	22.2	56.3	6.1	0.73

The results from the 100mm DMC work indicated:

- More than 7% additional Li_2O reports to the DMC circuit as a result of a reduction in the screen size from 0.5 mm to 0.3 mm (Test -01 vs Test -02);
- DMC efficiency fell away slightly as expected with decreasing particle size; however,
- A further 5% Li_2O overall recovery can be attained for similar product grades circa 6.1%. This represents a significant increase in overall recovery.

An economic assessment, balancing this recovery benefit against operating cost and operability is required to quantify this process improvement option, which will be undertaken post DFS.

Ore variability

Ten variability samples were selected for grade / recovery testwork adopting heavy liquid separation (HLS) procedures. The key selection criteria in this instance related to grade although care was taken to select material from a minimum 5m intervals to ensure alignment to a typical mining bench height. The variability component of the test program was designed to provide an indication of production yields for a given head grade which in turn supplies both throughput design bandwidths and metallurgical inputs for pit optimisation and mine design.

The ore variability component of the phase 2 metallurgical program is complete with results presented in Table 3.

Table 3 - Phase 2 Metallurgical Testwork Ore Variability

Variability Samples HLS Result	Head Sample		Separation SG 2.9				Separation SG 2.95			
	Grade		Recovery		Grade		Recovery		Grade	
	Li_2O %	Fe_2O_3 %	Mass %	Li_2O %	Li_2O %	Fe_2O_3 %	Mass %	Li_2O	Li_2O %	Fe_2O_3 %
VAR01	1.87	0.40	27.6	60.1	6.1	0.46	22.8	53.0	6.6	0.46
VAR02	1.26	0.32	16.7	54.5	6.4	0.50	13.8	47.9	6.8	0.51
VAR03	0.94	0.29	13.1	50.8	5.3	0.39	8.7	37.2	5.8	0.45
VAR04 (oxide)	1.22	0.33	18.0	56.6	6.1	0.33	14.3	48.5	6.6	0.33
VAR05 (oxide)	1.68	0.27	24.0	55.5	5.9	0.37	19.1	47.3	6.3	0.36
VAR06	1.69	0.38	25.7	62.6	6.2	0.46	20.8	54.0	6.6	0.46
VAR07	2.04	0.43	31.2	64.2	6.3	0.46	26.0	57.0	6.7	0.45
VAR08	1.31	0.42	19.8	60.5	5.8	0.51	14.8	49.3	6.3	0.53
VAR09	2.48	0.33	36.5	75.6	7.1	0.22	34.3	72.8	7.3	0.21
VAR10	1.58	0.41	22.9	69.3	6.7	0.44	19.4	62.2	7.1	0.43
Arithmetic Avg	1.61	0.36	23.6	61.0	6.2	0.42	19.4	52.9	6.6	0.42

The results from the HLS variability testwork indicated:

- For the 2.9 separation SG, HLS recoveries ranged from 50.8% to 75.6% yielding concentrates ranging from 5.8% to 7.1%;
- Recoveries followed a general trend, higher head grades equated to higher recoveries; and
- Iron in concentrates did not exceed penalty limits imposed by a SC6.0 target (<0.8% Fe_2O_3).

HLS test results are theoretical in nature and DMS processing results are realistic and are typically lower in recovery for equivalent head grades. It is important to note that downgrading from HLS to DMS testing will be applied in any mine to mill and economic models.

Looking Forward

In addition to ongoing DMC optimisation test work, the Phase 2 metallurgical program will continue to focus on:

- Heavy mineral recovery. The amenability of tin bearing cassiterite recovery will be focused on two size streams, named 'Coarse' and 'Fines' .
  - Coarse lithia concentrate generated from the DMS processes will be subjected to further high SG recovery devices for the recovery of high specific gravity, liberated cassiterite (tin bearing) minerals.
  - The fines fraction will be de-slimed and concentrated using conventional tabling techniques to assess liberation and recoverability of cassiterite.
- Froth flotation
  - Initial foundation testing has commenced on a broad suite of tests aimed at recovering litha from the fines fraction using a conventional flotation methodology.
- Perform all necessary engineering and vendor testing.

AVZ will update the market as further results become available.

This release was authorised by Nigel Ferguson, Managing Director of AVZ Minerals Limited.

For further information, visit www.avzminerals.com.au or contact:

Mr. Leonard Math
Company Secretary
AVZ Minerals Limited
Phone: +61 8 6117 9397
Email: admin@avzminerals.com.au

Media Enquiries:
Mr. Peter Harris
Peter Harris & Associates
Phone: +61 (0) 412 124 833

Competent Persons Statement

The information in this report that relates to metallurgical test work results is based on, and fairly represents information complied and reviewed by Mr Nigel Ferguson, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy and Member of the Australian Institute of Geoscientists. Mr Ferguson is a Director of AVZ Minerals Limited. Mr Ferguson 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 Resource and Ore Reserves”. Mr Ferguson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

JORC TABLE 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Metallurgical samples: Comminution testwork consisting UCS, Bond Indices, SMC and Impact testing were conducted on Comm 1, Comm 2 and Comm 3. Comm1 sample representing the upper zone ore and Comm 2 and Comm 3 representing middle and deeper sections in the ore zone. • These samples consisted of continuous intervals of full PQ core and include spodumene containing and waste intervals identified from core logging records. • Specifically Comm 1 sample consists of approximately 15m from Met01, Comm 2 sample approximately 15m from Met02 and Comm 3 sample approximately 15m from Met03. • Comm sample weights were each 115kg. • Metallurgical samples: Spodumene concentrate testwork to date has been conducted using a single bulk composite, Bulk01, 200kg mass. • This composite was prepared from sub-samples of crushed intervals of full PQ drill core. Each approximate 1m interval was crushed to 25mm with a sub-sample submitted for analysis and a further sub-sample collected for the composite. Th final Bulk01 composite sample contained low gade and high grade intervals as well as waste intervals from 4 of the 5 met holes to target a grade close to expected mining lithium grade. • Specifically Bulk01 contains sub-samples from intervals originating from Met01, Met02, Met,03 and Met04. • All met hole core intervals were shipped to Nagrom laboratories in Australia. From here core has been shipped to ALS laboratories, Australia. • HLS test results reported in this release were conducted on sub-samples of Bulk01 with a head grade of 1.58% Li_2O. • Head grades have a reporting accuracy of ±0.1%.
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).*	• The drilling was completed using diamond drilling rigs with PQ used from surface to sample through weathered to fresh-rock and HQ sized drill rods used after the top-of-fresh-rock had been intersected. Most holes are angled between 50° and 75°. All collars were surveyed after completion. All holes were downhole surveyed using a digital multi-shot camera at about 30 m intervals. Apart from drillholes MO17DD001, MO17DD002, MO18DD001 and MO18DD008, all cores were orientated.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Drill core recovery attained >99% in the pegmatite. • Based upon the high recovery, AVZ did not have to implement additional measures to improve sample recovery and the drill core is considered representative and fit for sampling. • For the vast majority of drilling completed, core recovery was near 100% and there is no sample bias due to preferential loss or gain of fine or coarse material.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Drillhole cores were logged by qualified geologists using a data-logger and the logs were then uploaded into Geobank which is a part of the Micromine software system. The cores were logged for geology and geotechnical properties (RQD & planar orientations). A complete copy of the data is held by an independent consultant. The parameters recorded in the logging are adequate to support appropriate Mineral Resource estimation. • All cores were logged, and logging was by qualitative (lithology) and quantitative (RQD and structural features) methods. All cores were also photographed both in dry and wet states, with the photographs stored in the database. • The entire length of all drillholes were logged for geological, mineralogical and geotechnical data.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Cores were cut longitudinally in half and sampled at a nominal 1 m length. • All the exploration drilling was carried out using diamond core drilling. • The sample preparation for drillhole core samples incorporates standard industry practice. The half-core samples were prepared at ALS Lubumbashi and the ALS sample preparation facility on site at Manono, with holes from MO18DD021 onwards being prepared at Manono. • At AVZ's onsite sample preparation facility the half-core samples of approximately 4-5 kg are oven dried, crushed to -2 mm with a 500 g sub-sample being split off. This 500 g sub-sample is then pulverised to produce a pulp with 85% passing -75um size fraction. A 120 g subsample is then split from this. The certified reference material, blank and duplicate samples are inserted at appropriate intervals and then the complete sample batch is couriered to Australia for analysis. • Standard sub-sampling procedures are utilised by ALS Lubumbashi and ALS Manono at all stages of sample preparation such that each sub-sample split is representative of the whole it was derived from. • Duplicate sampling was undertaken for the drilling programme. After half-core samples were crushed at the ALS Lubumbashi and ALS Manono preparatory facility, an AVZ geologist took a split of the crushed sample which was utilised as a field duplicate. The geologist placed the split into a pre-numbered bag which was then inserted into the sample stream. It was then processed further, along with all the other samples. The drilling produced PQ and HQ drill core, providing a representative sample of the pegmatite which is coarse-grained. Sampling was mostly at 1 m intervals, and the submitted half-core samples typically had a mass of 3-4 kg.

Criteria	JORC Code explanation	Commentary
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.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *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.*	• Diamond drillhole (core) samples were submitted to ALS Lubumbashi and ALS Manono (DRC) where they were crushed and pulverised to produce pulps. These pulps were couriered to Australia and analysed by ALS Laboratories in Perth, Western Australia using a sodium peroxide fusion of a 5g charge followed by digestion of the prill using dilute hydrochloric acid thence determination by AES or MS, i.e. methods ME-ICP89 and ME-MS91. Samples from the drilling completed in 2017 i.e. MO17DD001 and MO17DD002, were assayed for a suite of 24 elements that included Li, Sn, Ta & Nb. Samples from the drilling completed in 2018 were assayed for a suite of 12 elements; Li, Sn, Ta, Nb, Al, Si, K, Fe, Mg, P, Th and U, with Li reported as Li_2O, Al as Al_2O_3, Si as SiO_2, K as K_2O, Mg as MgO, Fe as Fe_2O_3 and P as P_2O_5. • Peroxide fusion results in the complete digestion of the sample into a molten flux. As fusion digestions are more aggressive than acid digestion methods, they are suitable for many refractory, difficult-to-dissolve minerals such as chromite, ilmenite, spinel, cassiterite and minerals of the tantalum-tungsten solid solution series. They also provide a more-complete digestion of some silicate mineral species and are considered to provide the most reliable determinations of lithium mineralisation. • Sodium peroxide fusion is a total digest and considered the preferred method of assaying pegmatite samples. • For the drilling, AVZ incorporated standard QAQC procedures to monitor the precision, accuracy and general reliability of all assay results from assays of drilling samples. As part of AVZ's sampling protocol, CRMs (standards), blanks and duplicates were inserted into the sampling stream. In addition, the laboratory (ALS Perth) incorporated its own internal QAQC procedures to monitor its assay results prior to release of results to AVZ. The Competent Person is satisfied that the results of the QAQC are acceptable and that the assay data from ALS is suitable for Mineral Resource estimation. • AVZ utilised Nagrom in Perth for external laboratory checks to compare results received from ALS Perth. The Competent Person is satisfied that the results from the umpire laboratory are acceptable and that the assay data from ALS is suitable for Mineral Resource estimation. • Geophysical instruments were not used in assessing the mineralisation.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• MSA observed the mineralisation in the majority of cores on site, although no check assaying was completed by MSA. • MSA observed and photographed several collar positions in the field, along with rigs that were drilling at the time of the site visit. • Twinned holes for the verification of historical drilling, were not required. Short vertical historical holes were drilled within the pit but are neither accessible nor included within the database used to define the Mineral Resource. • Drilling data is stored on site as both hard and soft copy. Drilling data is validated onsite before being sent to data management consultants in Perth where the data is further validated. When results are received they are loaded to the central database in Perth and shared with various stakeholders via the cloud. QC results are reviewed by both independent consultants and AVZ personnel at Manono. Hard copies of assay certificates are stored in AVZ's Perth offices. • AVZ has not adjusted any assay data.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The drillhole collars have been located by a registered surveyor using a Hi-Target V30 Trimble differential GPS with an accuracy of +/- 0.02 m. • All holes were downhole surveyed using a digital multi-shot camera at approximately 30 m intervals, except MET02 and MET03 which were drilled vertically. • AVZ provided high resolution topographic contours, surveyed at 50 cm elevation differences. . • For the purposes of geological modelling and estimation, the drillhole collars were projected onto this topographic surface. In most cases adjustments were within 1 m (in elevation). • Coordinates are relative to WGS 84 UTM Zone 35M.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Drillhole were completed on sections 100 m apart, and collars were 50 to 100 m apart on section where possible. In situations of difficult terrain, multiple holes were drilled from a single drill pad using differing angles for each drillhole. • In the Competent Person's opinion, the spacing is sufficient to establish geological and grade continuity consistent with Measured, Indicated and Inferred Mineral Resources. • Samples were composited to 1 m intervals, since it was the most occurring sample length.

Criteria	JORC Code explanation	Commentary
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.* • *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 drillhole orientation was designed to intersect the Roche Dure Pegmatite at, or nearly at, 90° to the plane of the pegmatite. • No material sampling bias exists due to drilling direction.
Sample security	• *The measures taken to ensure sample security.*	• When utilizing ALS Lubumbashi, chain of custody was maintained by AVZ personnel on-site to Lubumbashi. Samples were stored on-site until they were delivered by AVZ personnel in sealed bags to the laboratory at ALS in Lubumbashi. The ALS laboratory checked the received samples against the sample dispatch form and issued a reconciliation report. • At Lubumbashi, the prepared samples (pulps) were sealed in a box and delivered by DHL to ALS Perth. • ALS issued a reconciliation of each sample batch, actual received vs documented dispatch. • The ALS Manono site preparation facility was managed indepedently by ALS who supervised the sample preparation. Prepared samples were sealed in boxes and transported by air to ALS Lubumbashi and were accompanied by an AVZ employee, where export documentation and formalities were concluded. DHL couriered the samples to ALS in Perth.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The sampling techniques were reviewed by the Competent Person during the site visit. • The Competent Person considers that the exploration work conducted by AVZ was carried out using appropriate techniques for the style of mineralisation at Roche Dure, and that the resulting database is suitable for Mineral Resource estimation.

Section 2 Reporting of Exploration Results

(Criteria listed in the previous section also apply to this section.)

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.* • *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.*	• The Manono licence was awarded as Research Permit PR13359, issued on the 28th December 2016 to La Congolaise d'Exploitation Miniere SA (Cominiere). It is valid for 5 years. On the 2nd February 2017, AVZ formed a joint-venture (JV) with Cominiere and Dathomir Mining Resources SARL (Dathomir) to become the majority partner in a JV aiming to explore and develop the pegmatites contained within PR 13359. Ownership of the Manono Lithium Project is AVZ 60%, Cominiere 30% and Dathomir 10%. • All indigenous title is cleared and there are no other known historical or environmentally sensitive areas.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Within PR13359, exploration of relevance was undertaken by Gecamines which completed a programme of drilling between 1949 and 1951. The drilling consisted of 42 vertical holes drilled to a general depth of around 50 - 60 m. Drilling was carried out on 12 sections at irregular intervals ranging from 50 - 300 m, and over a strike length of some 1,100 m. Drill spacing on the sections varied from 50 - 100 m. The drilling occurred in the Roche Dure Pit only, targeting the fresh pegmatite in the Kitotolo sector of the project area. • The licence area has previously been mined for tin and tantalum through a series of open pits over a total length of approximately 10 km excavated by Zairetain SPRL. More than 60 Mt of material was mined from three major pits and several subsidiary pits focused on the weathered upper portions of the pegmatites. Ore was crushed and then upgraded through gravity separation to produce a concentrate of a reported 72% Sn. There are no reliable records available of tantalum or lithium recovery as tin was the primary mineral being recovered. • Apart from the mining excavations and the drilling programme, there has been very limited exploration work within the Manono region.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Project lies within the mid-Proterozoic Kibaran Belt - an intracratonic domain, stretching for over 1,000 km through Katanga and into southwest Uganda. The belt strikes predominantly SW-NE and is truncated by the N-S to NNW-SSE trending Western Rift system. The Kibaran Belt is comprised of a sedimentary and volcanic sequence that has been folded, metamorphosed and intruded by at least three separate phases of granite. The latest granite phase (900 to 950 million years ago) is assigned to the Katangan cycle and is associated with widespread vein and pegmatite mineralisation containing tin, tungsten, tantalum, niobium, lithium and beryllium. Deposits of this type occur as clusters and are widespread throughout the Kibaran terrain. In the DRC, the Katanga Tin Belt stretches over 500 km from near Kolwezi in the southwest to Kalemie in the northeast comprising numerous occurrences and deposits of which the Manono deposit is the largest. The geology of the Manono area is poorly documented and no reliable maps of local geology were observed. Recent mapping by AVZ has augmented the overview provided by Bassot and Morio (1989) and has led to the following description. The Manono Project pegmatites are hosted by a series of mica schists and by amphibolite in some locations. These host rocks have a steeply dipping penetrative foliation that appears to be parallel to bedding. There are numerous bodies of pegmatite, the largest of which have sub-horizontal to moderate dips, with dip direction being towards the southeast. The pegmatites post-date metamorphism, with all primary igneous textures intact. They cross-cut the host rocks but despite their large size, the contact deformation and metasomatism of the host rocks by the intrusion of the pegmatites seems minor. The absence of significant deformation of the schistosity of the host rocks implies that the pegmatites intruded brittle rocks. The pegmatites constitute a pegmatite swarm in which the largest pegmatites have an apparent en-echelon arrangement in a linear zone more than 12 km long. The pegmatites are exposed in two areas; Manono in the northeast, and Kitotolo in the southwest. These areas are separated by a 2.5 km section of alluvium-filled floodplain which contains Lake Lukushi. At least one large pegmatite extends beneath the floodplain. The pegmatites are members of the LCT-Rare Element group of pegmatites and within the pegmatite swarm there are LCT albite-spodumene pegmatites and LCT Complex (spodumene sub-type) pegmatites.

Criteria	JORC Code explanation	Commentary
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• See table in Appendix 1.
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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Exploration Results are not reported, therefore no data was aggregated for reporting purposes. • No equivalent values are used or reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Exploration Results are not reported. • There is no relationship between mineralisation width and grade. • The geometry of the mineralisation is reasonably well understood however the pegmatite is not of uniform thickness nor orientation. Consequently, most drilling intersections do not represent the exact true thickness of the intersected pegmatite, although intersections are reasonably close to true thickness in most cases.
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.*	• The relevant plans and sections are included in this document and in Appendix 2.
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.*	• Exploration Results are not reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• No other exploration data is available.

Criteria	JORC Code explanation	Commentary
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Diamond drill testing beneath the pit will be carried once the pit has been drained of water. • Further mining studies are planned.