



30 October 2017

**AVZ Minerals  
Limited**

## Quarterly Report for the period ending 30 September 2017

ASX: AVZ

### HIGHLIGHTS

#### *Exploration at the Manono Lithium Project*

- Outstanding results received for initial drilling program, confirming the presence of large lithium, tin and tantalum mineralised pegmatite bodies over significant strike lengths.
- Drill program tested four of the six large pegmatites at the Manono Lithium Project - in all cases, thick intervals of pegmatite were intersected and spodumene was present within all the pegmatites.
- Results from diamond drill core include:
  - 250.9m\* @ 1.48% Li<sub>2</sub>O, 913ppm Sn (Carriere de L'Est Pegmatite)
  - 235.0m\* @ 1.66% Li<sub>2</sub>O, 1001ppm Sn (Roche Dure Pegmatite)
  - 202.8m\* @ 1.57% Li<sub>2</sub>O, 1078ppm Sn (Roche Dure Pegmatite)
  - 65.9m\* @ 1.51% Li<sub>2</sub>O (Tempete Pegmatite)
  - 45.7m\* @ 1.59% Li<sub>2</sub>O, 1230ppm Sn (Mpete Pegmatite)
- Carriere de L'Est Pegmatite has a length of about 5,500m and results suggest the thickness of the pegmatite may be up to 280m.
- Roche Dure Pegmatite is interpreted to be about 2,700m long (drill proven to 2,100m) with average true thickness of 200m in places. The pegmatite extends down-dip more than 250m and remains open.
- Contract entered into for 20,000m RC and diamond drill program to commence in Q4, 2017. Objective is to define initial JORC compliant mineral resources.
- Initial "mineral characterisation" investigations of the Roche Dure Pegmatite, support the potential for high value ore within the Roche Dure pegmatite. Roche Dure Pegmatite is essentially homogenous and spodumene confirmed as the lithium mineral species present within the pegmatite. The mean concentrations of "penalty" elements are low.

\*Down-hole length. Additional drilling is required to confirm the true-thickness of the pegmatites.

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## Corporate

- AVZ completed a \$13.02 million placement to strategic investor, Huayou Cobalt Group, to fund further drilling and initial metallurgical test-work at the Manono Lithium Project.
- AVZ raised an additional \$1.98 million, following receipt of shareholder approval in October 2017.

AVZ Minerals Limited (AVZ) is pleased to provide the following report on activities to be read in conjunction with the Appendix 5B for the quarter ending 30 September 2017.

### THE MANONO LITHIUM PROJECT

AVZ's interests in the Manono Lithium Project in the south of the Democratic Republic of Congo (DRC) (Figure 1) comprise:

- a 60% interest in PR 13359, which covers approximately 188km<sup>2</sup> and includes the historic Manono and Kitotolo Mines; and
- a 100% interest in licences PR4029 and PR4030 that surround PR13359 and provide an additional 242.25km<sup>2</sup> of prospective area.

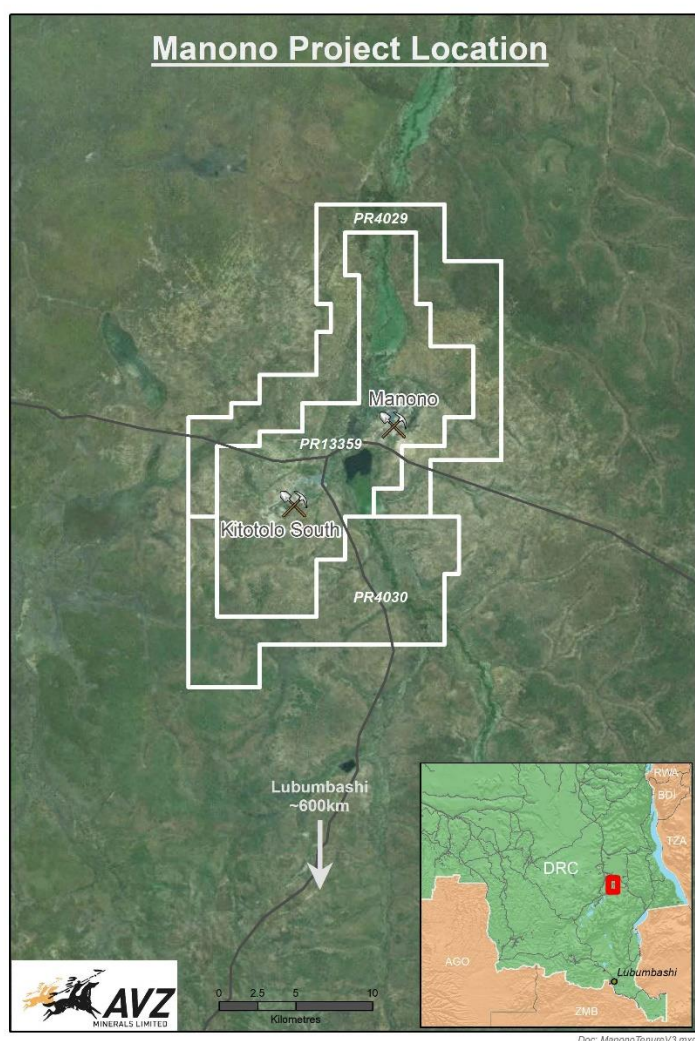


Figure 1. Location of the Manono Lithium Project licences in the Democratic Republic of Congo.

## Exploration Activities

AVZ completed an initial drill program in June 2017 to evaluate the potential of the Manono and Kitotolo pegmatites to contain economically significant lithium (Li) mineralisation. The program comprised seven diamond drill holes for 1,749m and tested four of the six large pegmatites at the Manono Project (Figure 2). In all cases, thick intervals of pegmatite were intersected and spodumene was present within all the pegmatites. Drill-holes MO17DD001 – MO17DD006 were completed in the Kitotolo Sector, and MO17DD007 completed in the Manono Sector. Drill-core samples were prepared in the DRC and submitted to ALS Global Perth for assay. Assays for the seven diamond drill holes were received during the September 2017 quarter.

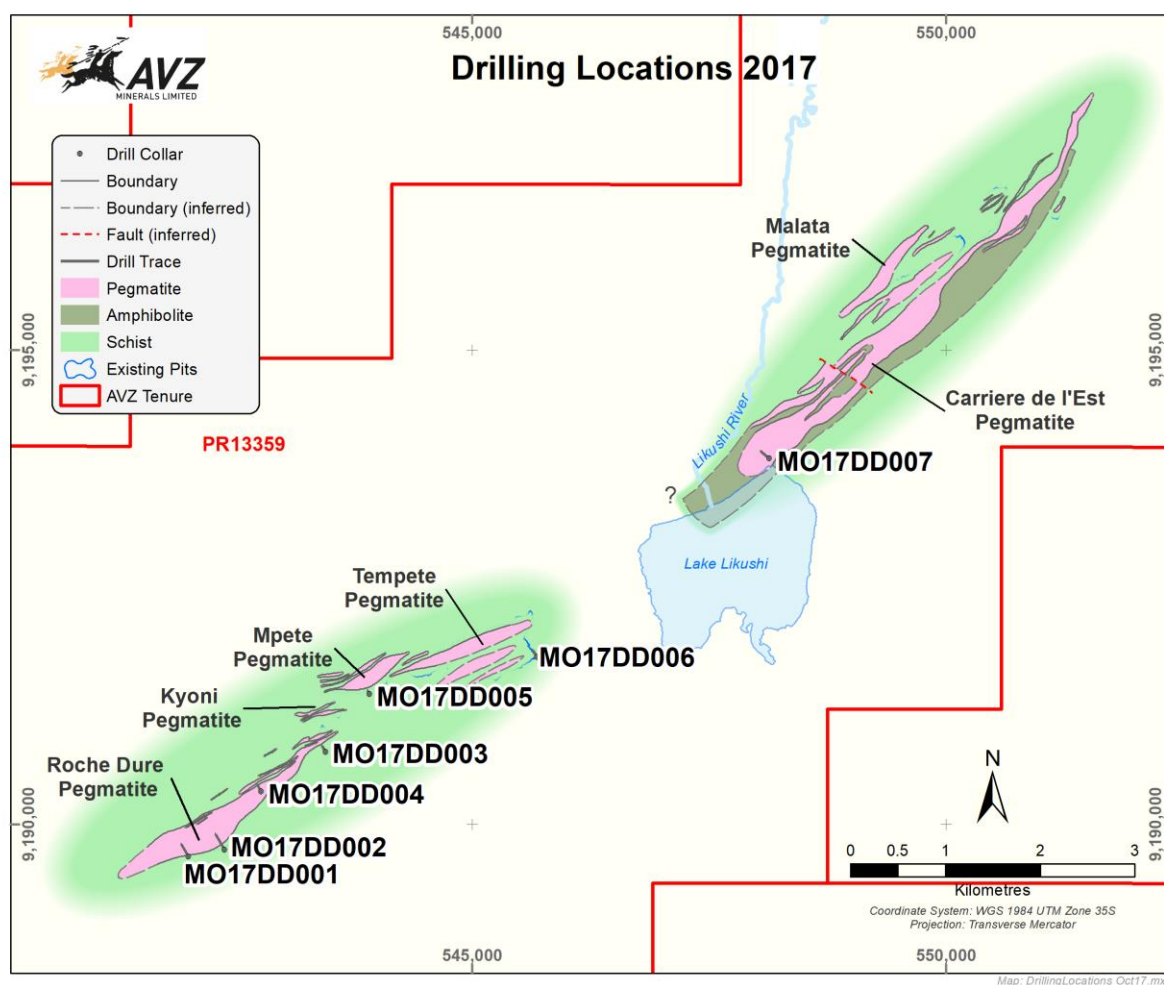


Figure 2: Manono Lithium Project Pegmatites (pink) and Recent Drill Hole Locations

Drill-holes MO17DD001 and MO17DD002 (some 400m north east of MO17DD001) tested the Roche Dure Pegmatite and returned 235.03m at 1.66%  $\text{Li}_2\text{O}$  and 1001 ppm Sn (MO17DD001) and 202.8m\* at 1.57%  $\text{Li}_2\text{O}$  and 1078ppm Sn (MO17DD002) (Figure 3).

Drill-holes MO17DD004 (some 1.5kms north east of MO17DD001) and MO17DD003 (some 2.1kms north east of MO17DD001) passed through the Roche Dure Pegmatite entirely within the weathered zone above fresh rock and did not return significant assays for lithium. However, drill-hole MO17DD004 established that the Roche-Dure Pegmatite is likely to have a true thickness of about 78m at its location. MO17DD003 confirmed the pegmatite has reduced dimensions near its north-eastern termination, with a thickness of about 18m at this location. In addition, it is likely that the unweathered down-dip continuation of the Roche Dure Pegmatite in the vicinity of these drill holes is also well mineralized.

Based on the work completed to date the Roche Dure Pegmatite has a proven length of at least 2,100m. Drill-holes MO17DD001 and MO17DD002 are centrally located within an 800m long interval in which the Roche Dure Pegmatite's average true thickness is interpreted to be 200m and drilling has proven the pegmatite extends down-dip more than 250m and remains open.

Secondary mineralisation in the form of tin and tantalum should not be discounted either. The exact nature of the Sn and Ta mineralisation will develop with further drilling, but early indications are that these could provide a significant economic benefit to the project.

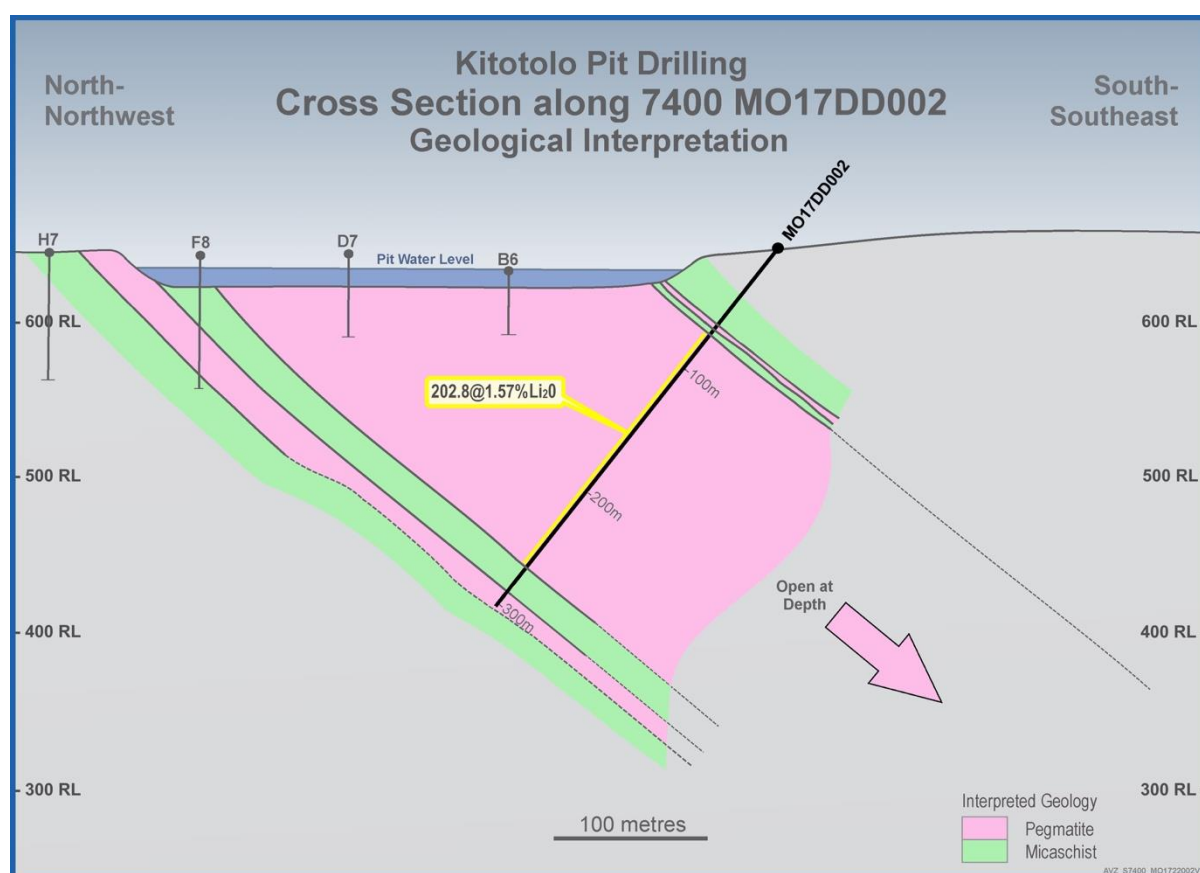


Figure 3: Cross section showing MO17DD002 intersecting the Roche Dure Pegmatite

Drill-hole MO17DD005 tested the Mpete Pegmatite, which has a strike length of at least 1km. The drill hole intersected 45.74m\* at 1.59% Li<sub>2</sub>O and 1230 ppm Sn and is potentially a large source of lithium mineralisation within the Kitotolo sector.

The Tempete Pegmatite, with a strike length 1.5km, is also potentially a large source of lithium mineralisation within the Kitotolo sector. Tempete was tested by drill-hole MO17DD006, intersecting 65.86m\* at 1.51% Li<sub>2</sub>O.

MO17DD007 was drilled to test the Carriere De L'est Pegmatite, the largest pegmatite in the Manono sector. Assay results from this hole confirmed the mineralisation distribution and tenor evident from the spodumene present in the drill-core, returning an intercept of 250.93m\* @ 1.48% Li<sub>2</sub>O and 913ppm Sn. Sampling commenced at 1.9m from which depth the pegmatite is unweathered. The thickness of intersected pegmatite and the geometric relationship between the location of the drill hole and mapped pegmatite boundaries suggests the thickness of the pegmatite may be 280m.

The Carrier de L'Est pegmatite is exposed for almost 1,000m towards the north-east from MO17DD007 with a total potential strike length of some 5,500m. Further additional potential strike is currently being investigated to the south-west of MO17DD007.

The drilling results demonstrate that four of the largest pegmatites at Manono contain a large proportion of spodumene and that in the unweathered, unaltered pegmatite the lithium mineralisation seems to have a typical grade of about 1.5% Li<sub>2</sub>O. Significant tin mineralisation is also present.

The lithium mineralisation has been leached and is greatly reduced in weathered pegmatites, even when remnants of spodumene have been preserved. In contrast, the tin mineralisation is comprised of the mineral cassiterite, which is highly resistant to weathering and is not leached from the weathered zone.

The depth of weathering varies significantly across the project area, with Top of Fresh Rock (TOFR) ranging from a few metres below surface down to about 70m below surface. In many cases, historical mining has stripped much of the weathered material, reducing the amount of low-grade mineralised pegmatites.

The results from AVZ's exploration to date have confirmed the immense size of the Manono Lithium Project. The Carriere de L'Est Pegmatite has the potential to be the largest lithium-rich pegmatite in the world with the Roche Dure Pegmatite coming in a close second.

### **Initial Characterisation Test Work**

In order to define a Mineral Resource for lithium in a pegmatite a precise knowledge of the mineral species within the pegmatite is required. In addition, it is important to understand the concentrations of deleterious elements within the pegmatite, particularly the concentrations of Iron, Phosphorus and Fluorine. These requirements led AVZ to undertake an initial mineral characterisation study for the Roche Dure pegmatite.

Drill-holes MO17DD001 and MO17DD002 passed through the full thickness of Roche Dure Pegmatite and mostly intersected fresh rock. From these drill intercepts a total of 444 samples of pegmatite were assayed for a broad suite of elements but not Fluorine, which requires specialised assay methods. Of the 444 samples of pegmatite, 426 samples were of fresh (i.e. unweathered) pegmatite and their assay results were interrogated to determine the mean concentration of iron (expressed as iron (iii) oxide, Fe<sub>2</sub>O<sub>3</sub>) and phosphorus (expressed as phosphorus (v) oxide, P<sub>2</sub>O<sub>5</sub>).

From the pulps of the 426 samples of fresh pegmatite, every fifth pulp sample was selected to be submitted for analysis of Fluorine (F) content, resulting in a total of 85 assays of pegmatite for F content. A single sample of greisen peripheral to the Roche Dure Pegmatite was also assayed for F content.

In addition, 11 of the pulps of fresh pegmatite samples, as well as the one sample of greisen peripheral to the Roche Dure Pegmatite, were selected for determination of mineralogy by Quantitative XRD analysis. The 11 pegmatite samples were selected to represent subtly different components of the Roche Dure Pegmatite and thus attain a more comprehensive assessment of the mineralogy of the entire pegmatite.

The Quantitative XRD determinations confirmed the impression gained through inspection of the drill-core that lithium mineralisation is comprised entirely of spodumene, although lepidolite (a lithium mica) was identified in the sample of greisen. Most of the pegmatite sampled in this initial characterisation work (from drill holes MO17DD001 and MO17DD002 in the Roche Dure pegmatite) consists of a mixture having the following approximate composition:

- 32% quartz,
- 30% albite feldspar,
- 5% microcline feldspar,
- 8% muscovite mica,
- 20% spodumene and
- 5% “amorphous material” (non-diffracting and thus unidentifiable material).

The low proportion of mica in the Roche Dure Pegmatite is favourable because it reduces the degree of mica-contamination during the production of spodumene concentrates.

Based on this initial characterisation work (from drill holes MO17DD001 and MO17DD002) at the Roche Dure Pegmatite, the following characteristics are evident:

- The lithium within the pegmatite is entirely (or almost entirely) contained within spodumene.
- The general composition of the pegmatite is restricted to a small number of minerals, i.e. a relatively simple composition.
- The pegmatite is a homogenous LCT Albite-spodumene pegmatite having a low mica content.
- The mean concentration of Li<sub>2</sub>O is high and accompanied by significant Sn.
- The mean concentrations of “penalty” elements (F, Fe<sub>2</sub>O<sub>3</sub> and P<sub>2</sub>O<sub>5</sub>) are low.

These characteristics enhance the potential to define a world-class lithium resource within the Roche Dure Pegmatite.

#### **Exploration Target**

Based on detailed prospect scale mapping, trenching and drill results and given the size and mineralised nature of the pegmatites at Manono, AVZ generated an exploration target of between 1Bt to 1.2Bt of 1.25% to 1.5% Li<sub>2</sub>O for the entire Manono Project, including between 300 and 400Mt of 1.25% to 1.5% Li<sub>2</sub>O for the Roche Dure Pegmatite alone. The potential quantity and grade of the exploration target as stated, is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

It is noted that outlying occurrences of pegmatite are also recorded about 5km north of Manono and also to the south, offering further potential.

#### **Work Planned Q4 - 2017**

AVZ intends to embark on a 40,000m drilling program commencing in Q4 2017. AVZ has recently entered into an agreement with Equity Drilling (Equity) for the completion of an initial 20,000m, with the objective of defining initial JORC compliant mineral resources at the Kitotolo and Manono sectors of the Project.

The drill program will be completed using three diamond and one Multipurpose drill rigs on the basis of approximately 5,000m of reverse circulation and 15,000m of diamond core drilling.

AVZ will initially target the Roche Dure pegmatite given the expected approximate thickness of up to 220m and a potential strike length of some 2,100m. Drill-holes MO17DD001 and MO17DD002 are approximately 400m apart through the thickest section of the pegmatite and this zone will receive initial drill testing on sectional lines 100m apart and drill holes 100m apart. Drilling will progress to the north and south along strike.

Additionally, drilling will be undertaken at the northern Manono sector, especially around Carriere de L'Est where MO17DD007 intersected significant mineralisation from surface. Drilling will be programmed on lines spaced 200m apart and with holes 100m along lines.

## **CORPORATE**

### **Capital Raising**

During the quarter, AVZ announced a \$15 million placement that included a \$13.02 million investment by Huayou International Mining (HONGKONG) Limited (Huayou) to acquire an 11% interest in AVZ. Huayou is a wholly-owned subsidiary of Zhejiang Huayou Cobalt Co., Ltd. (Huayou Cobalt). Huayou Cobalt is the largest cobalt chemicals producer at present in China and is listed on the Shanghai Stock Exchange. Huayou Cobalt is implementing a strategy to become a leader in the lithium battery sector.

The placement to Huayou comprised 186 million shares at an issue price of 7 cents per share, and 186 million attaching options exercisable at 10 cents and expiring 15 April 2019.

In addition, as part of the placement AVZ also raised a further \$1.98 million (in October 2017 following receipt of shareholder approval) from institutional and sophisticated investors by issuing 28,285,714 shares at an issue price of 7 cents per share, together with 28,285,714 attaching options exercisable at 10 cents and expiring 15 April 2019.

The placement funds will primarily be used for the planned drilling and initial metallurgical test-work programs at the Manono Lithium Project as well as ongoing corporate and administration costs.

During the quarter AVZ issued a total of 55,115,438 ordinary shares following the exercise of listed options (at 3 cents each). AVZ also issued 7,500,000 ordinary shares following the conversion of performance rights.

### **MOU with Shanghai Greatpower Industry Co Ltd**

In October 2017 AVZ signed a Memorandum of Understanding ("MOU") with Shanghai Greatpower Industry Co., Ltd. ("Greatpower") for potential investment in AVZ and off-take opportunities from the Manono Lithium Project.

The MOU with Greatpower aims to advance discussions towards formalising potential investment and off-take agreements. Discussions with additional groups are also on-going. AVZ has invited Greatpower and other interested parties to visit its operations in the DRC.

### **Board and Management Changes**

In August 2017 AVZ announced the appointment to the Board of Mr Hongliang Chen (as a nominee of Huayou) and Mr Guy Loando (as a nominee of AVZ's largest shareholder, Dathomir Resources sarl). Mr Gary Steinepreis resigned as a director and as company secretary. Mr Mathew O'Hara was appointed as company secretary.

### **Legal**

In March 2017 AVZ was served with a writ of summons filed in the Supreme Court of Western Australia by MMCS Strategic 1 (MMCS) seeking certain declarations regarding the granting and ownership of the Manono licence (MMCS Claim). MMCS is a shareholder of Manono Minerals S.A.R.L. (Manomin), which previously held an exploitation licence over the Manono Project. In July

2017 MMCS abandoned the MMCS Claim, and filed an amended claim (Amended Claim) seeking an order pursuant to the ASIC Act and the Corporations Act requiring AVZ to make announcements to the market to correct what MMCS claims were misleading or deceptive announcements (or announcements which were likely to mislead or deceive) made by AVZ concerning the Manono licence. AVZ firmly denies that any of its past announcements concerning the Manono licence were misleading or deceptive or likely to mislead or deceive, and AVZ will strenuously defend the claims made by MMCS under the Amended Claim.

For more information contact:

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### Competent Person's Statement – Exploration Results

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr. Peter Spitalny, a Competent Person whom is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Spitalny is a full-time employee of Hanree Holdings Pty Ltd. Mr Spitalny 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 Spitalny consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### Information required under ASX Listing Rule 5.3.3

List of current mining and exploration tenements (as at 30 September 2017):

Country / Project	Tenement	Interest	Status
DRC – Manono Project	PR 13359	60%	Granted
DRC – Manono Extension Project	PR 4029, PR 4030	100%	Granted
	PR 12206, PR 12436, PR 12449, PR 12450, PR 12454, PR 12459,	60%	Granted
DRC - Katanga Regional	PR 12461		



## Appendix 5B

### Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

**Name of entity**

AVZ Minerals Limited

**ABN**

81 125 176 703

**Quarter ended ("current quarter")**

30 September 2017

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers		
1.2 Payments for		
(a) exploration & evaluation	(884)	(884)
(b) development	-	-
(c) production	-	-
(d) staff costs	(156)	(156)
(e) administration and corporate costs	(260)	(260)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	18	18
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (net GST/FBT activity)	(6)	(6)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,288)</b>	<b>(1,288)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-

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<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>-</b>	<b>-</b>

<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	13,020	13,020
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	1,653	1,653
3.4 Transaction costs related to issues of shares, convertible notes or options	(31)	(31)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>14,642</b>	<b>14,642</b>

<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of period	1,180	1,180
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(1,288)	(1,288)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4 Net cash from / (used in) financing activities (item 3.10 above)	14,642	14,642
4.5 Effect of movement in exchange rates on cash held	-	-
<b>4.6 Cash and cash equivalents at end of period</b>	<b>14,534</b>	<b>14,534</b>

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<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1 Bank balances	14,534	1,180
5.2 Call deposits	-	-
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>14,534</b>	<b>1,180</b>

<b>6. Payments to directors of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1 Aggregate amount of payments to these parties included in item 1.2	156
6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

	<b>\$A'000</b>
Payment to directors and related entities – director fees and corporate services (excluding GST)	106.5
Payment to director related entity – technical services (excluding GST)	49.5

<b>7. Payments to related entities of the entity and their associates</b>	<b>Current quarter \$A'000</b>
7.1 Aggregate amount of payments to these parties included in item 1.2	-
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.303	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

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## Mining exploration entity and oil and gas exploration entity quarterly report

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

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9. <b>Estimated cash outflows for next quarter</b>	\$A'000
9.1 Exploration and evaluation	5,000
9.2 Development	-
9.3 Production	-
9.4 Staff costs	-
9.5 Administration and corporate costs	400
9.6 Other (provide details if material)	-
<b>9.7 Total estimated cash outflows</b>	<b>5,400</b>

10. <b>Changes in tenements (items 2.1(b) and 2.2(b) above)</b>	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	-	-	-	-
10.2 Interests in mining tenements and petroleum tenements acquired or increased	-	-	-	-

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