



## Quarterly Activities Report for the period ended 30 September 2018

### Highlights

- Manono Scoping Study confirms potential for a world-class, high margin, long life mining project
- AVZ intends to proceed to a Definitive Feasibility Study (DFS) to be completed in Q2 2019, which will consider the potential for tin by-product credits
- Maiden Mineral Resource estimate of 259.9Mt grading 1.63% Li<sub>2</sub>O (spodumene), confirming Manono's potential to become a world leader in the global lithium market
- AVZ received further high-grade lithium results from a resource drilling program at the Manono Lithium Project in Democratic Republic of Congo which were not included in the Company's maiden Mineral Resource announced in August 2018
- Updated Mineral Resource Estimate for Manono expected to be complete by the end of 2018
- Scoping Study for 5Mtpa and 10Mtpa scenarios progressing

### Corporate

- Graeme Johnston appointed as Technical Director.

### ASX ANNOUNCEMENT

31 October 2018

#### AVZ Minerals Limited

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#### Directors

Managing Director: Nigel Ferguson  
Technical Director: Graeme Johnston  
Non-Executive Director: Rhett Brans  
Non-Executive Director: Honliang Chen  
Non-Executive Director: Guy Loando

#### Issued Capital

1,888 M Ordinary Shares

#### Market Cap

\$136 M

ASX Code: AVZ

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AVZ Minerals Ltd (ASX: AVZ) is pleased to provide the following report on its activities for the quarter ended 30 September 2018.

## MANONO LITHIUM PROJECT, DRC

### *Scoping Study*

Subsequent to quarter end, AVZ released results from its Manono Lithium Project Scoping Study undertaken by CPC Project Design Pty Ltd (CPC) in conjunction with Alan Dickson & Associates (ADA).

Highlights of the study included:

- Case 1 of 2 Million tonnes per annum (Mtpa) pre-tax, pre-royalties NPV<sub>10</sub> of approximately US\$1.6 Billion (Bn) (AVZ's 60% share is approximately US\$0.93Bn) with an estimated IRR greater than 90%.
- Scope for annual production of approximately 440,000 tonnes per annum (tpa) at a minimum of 5.8% Li<sub>2</sub>O concentrate from Case 1 throughput of 2Mtpa of pegmatite ore with low strip ratio of 0.7:1.
- F.O.B. Operating costs to Dar-es-Salaam estimated at approximately US\$355 per tonne (t) of concentrate.
- Metallurgical test work indicates recoveries in excess of 80% are achievable.
- Capex estimated for Case 1 throughput at approximately US\$150 to \$160 Million (accurate to ±35% and includes US\$36M contingency).
- Study for Case 2 for 5Mtpa and Case 3 for 10Mtpa in progress and will be completed as soon as practicable.

The Study confirmed Manono as the largest undeveloped hard rock lithium project globally in terms of grade, mine life and expandability and demonstrated its potential for excellent economic outcomes. AVZ expects that the project economics can be further improved, especially regarding transport, processing, power costs and recovery of tin as a by-product.

The Scoping Study did not analyse the potential for tin by-product credits once metallurgical test work is completed, however it is expected that these credits will be included in a Definitive Feasibility Study, which AVZ intends to commence immediately.

More detail on the Scoping Study can be found in the ASX Announcement dated 9 October 2018.

### *Positive Preliminary Metallurgical Test Work*

Initial metallurgical test work was completed on coarse assay reject material from holes MO17DD001 and MO17DD002. The simple spodumene mineralogy of the Roche Dure pegmatite responds well to a range of industry standard concentration techniques.

Initial "mineral characterisation" investigations of the Roche Dure Pegmatite, support the potential for high value mineralisation 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 with 0.1% F, 0.3% P<sub>2</sub>O<sub>5</sub> and 0.4% Fe<sub>2</sub>O<sub>3</sub> and should allow the Manono concentrate to trade at a premium to other products on the market.



*Rock Chip Sample collected showing white spodumene (the large, long prism to right of the blue pen) in a quartz feldspar matrix*

The initial metallurgical test work demonstrates the Roche Dure prospect at the Manono Lithium Project can produce up to **6.3% Li<sub>2</sub>O DMS concentrate** (+3.35mm) using standard metallurgical laboratory test standards.

The concentrate specification shows the material is suitable for supply of a chemical grade concentrate to the growing lithium battery market.

An upgrade in specification is possible through further metallurgical test work. Metallurgical test work drilling is now underway combined with completion of the resource drilling. This metallurgical test work will be undertaken as part of the Definitive Feasibility Study and should be finalised in Q2/2019.

#### *Maiden Mineral Resource*

AVZ Minerals announced a maiden Mineral Resource for the Manono Project in August 2018 of 259.9Mt grading 1.63% Li<sub>2</sub>O. This confirmed Manono's potential to become a world leader in the global lithium market.

The initial Mineral Resource included assay data from only 31 drill holes on 980m of strike length and geological data from 42 drill holes to enable interpretation of a geological model. All drill holes except two, MO17DD001 and MO17DD002, were completed in 2018. AVZ completed a total of 13,576m of diamond core, mainly PQ (3,129m) and HQ (10,447m) in size, at the Roche Dure pegmatite.

The Mineral Resource is reported in Table 1 at a cut-off grade of 0.5% Li<sub>2</sub>O and areas have been classified as Measured, Indicated or Inferred Resources in accordance with the guidelines of the JORC Code (2012).

Fresh Pegmatite Category	Tonnes	Li <sub>2</sub> O	Sn	Ta <sub>2</sub> O <sub>5</sub>	Fe <sub>2</sub> O <sub>3</sub>	SG
	(Millions)	%	ppm	ppm	%	
Measured	43.0	1.71	871	42	0.96	2.73
Indicated	104.7	1.64	844	43	0.85	2.73
Inferred	112.2	1.60	834	43	0.88	2.73
<b>Total</b>	<b>259.9</b>	<b>1.63</b>	<b>844</b>	<b>43</b>	<b>0.88</b>	<b>2.73</b>

Table 1: Manono Roche Dure – Mineral Resource at a 0.5% Li<sub>2</sub>O cut-off

The overall Roche Dure Mineral Resource comprised 4.25 million tonnes of lithium oxide (Li<sub>2</sub>O), 219kt of tin as cassiterite grading 844ppm Sn and 11.2kt of tantalum grading 43ppm Ta<sub>2</sub>O<sub>5</sub>.

Ongoing drilling has indicated potential for the Manono Mineral Resource to increase, given that assay data from only an approximate 50% of the total strike length at Roche Dure was included in this statement. AVZ has planned further drilling to test the Mpete and Tempete pegmatites at Kitotolo Sector just north of Roche Dure and the Carrier de L'Est pegmatite at Manono sector.

Further details on the maiden Mineral Resource are in the ASX announcement dated 2 August 2018.

#### Drilling Results

AVZ's mineral resource drilling program continued throughout the quarter, with results defining mineralised pegmatite at Roche Dure over a strike length of more than 800m.

Highlights of results reported during and post the quarter included:

- MO18DD018 intersected 283.20m\* @ 1.69% Li<sub>2</sub>O and 905ppm Sn from 75.00m down-hole
- MO18DD019 intersected 69.00m\* @ 1.38% Li<sub>2</sub>O and 1205ppm Sn from 148.00m down-hole
- MO18DD020 intersected 155.75m\* @ 1.41% Li<sub>2</sub>O and 816ppm Sn from 133m down-hole
- MO18DD024 intersected 83.87m\* @ 1.06% Li<sub>2</sub>O & 1261ppm Sn from 65.17m down-hole
- MO18DD027 intersected 198.32m\* @ 1.72% Li<sub>2</sub>O and 872ppm Sn from 68.0m down-hole
- MO18DD031 intersected 236.86m\* @ 1.56% Li<sub>2</sub>O and 799ppm Sn from 71.46m down-hole
- MO18DD035 intersected 286.75m\* @ 1.74% Li<sub>2</sub>O & 822ppm Sn from 54.55m down-hole
- MO18DD036 intersected 236.47m\* @ 1.70% Li<sub>2</sub>O & 422ppm Sn from 154.00m down-hole
- MO18DD037 intersected 325.17m\* @ 1.33% Li<sub>2</sub>O & 596ppm Sn from 78.14m down-hole
- MO18DD041 intersected 336.81m\* @ 1.31% Li<sub>2</sub>O & 551ppm Sn from 88.30m down-hole
- MO18DD043 intersected 259.3m\* @ 1.76% Li<sub>2</sub>O & 1015ppm Sn from 41.00m down-hole
- MO18DD044 intersected 273.45m\* @ 1.73% Li<sub>2</sub>O & 953ppm Sn from 50.55m down-hole
- MO18DD045 intersected 185.30m\* @ 1.78% Li<sub>2</sub>O & 358ppm Sn from 413.10m down-hole
- MO18DD049 intersected 119.1m\* @ 1.43% Li<sub>2</sub>O & 1091ppm Sn from 12.10m down-hole

- MO18DD050 intersected 350.95m\* @ 1.44% Li<sub>2</sub>O & 376ppm Sn from 146.3m down-hole
- MO18DD052 intersected 157.31m\* @ 1.76% Li<sub>2</sub>O & 1175ppm Sn from 99.13m down-hole
- MO18DD054 intersected 205.04m\* @ 1.63% Li<sub>2</sub>O & 1173ppm Sn from 35.2m down-hole

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

Latest drilling has identified additional high-grade lithium and tin mineralisation, pointing to further resource growth on the Company's maiden Mineral Resource announced in early August 2018.

Pegmatite intervals in more recent infill holes showed zones of lower lithium grade in more oxidised and weathered material but drilling also continued to demonstrate substantial thicknesses of higher-grade material ranging in depth from just under the weathered zones to deeper in the deposit. Again, there appears to be no zonation in the pegmatite intersected based on the results from eight new holes reported by AVZ on 19 September 2018.

AVZ's infill drilling is expected to be completed late in November, with an update to the Mineral Resource Estimate for Manono due before the end of the year.



*Core samples of MO18DD050 showing existence of spodumene and tin with interval downhole from 281m to 282m reporting 4.28% Li<sub>2</sub>O & 103ppm Sn*

## CORPORATE

### *Management changes*

During the quarter, AVZ appointed Graeme Johnston as its Technical Director. He had been AVZ's Project Manager at Manono since May 2017.

Mr Johnston is a geologist with more than 30 years' experience operating Australia, the Middle East, Romania, Malaysia and recently the DRC.

Leonard Math was appointed Joint Company Secretary in July. Later in the quarter, the Company accepted the resignation of Mathew O'Hara as Joint Company Secretary, and Mr Math assumed full responsibility of the Company Secretary role.

For further information, visit [www.avzminerals.com.au](http://www.avzminerals.com.au) or contact:

**Mr. Leonard Math**  
**Company Secretary**  
**AVZ Minerals Limited**  
**Phone: +61 8 6117 9397**  
**Email: [admin@avzminerals.com.au](mailto:admin@avzminerals.com.au)**

***Competent Person's Statement***

*The information in this report that relates to geology and the exploration results is based on information compiled by Mr. Michael Cronwright, a Competent Person whom is a fellow of The Geological Society of South Africa and Pr. Sci. Nat. (Geological Sciences) registered with the South African Council for Natural Professions. Mr. Cronwright is a full-time employee of The MSA Group Pty Ltd. Mr Cronwright 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. Cronwright consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to the Mineral Resource estimate is based on information compiled by Mr Anton Geldenhuys (BSc Hons, MEng) who is a geologist with 17 years' experience in exploration and mining as well as Mineral Resource evaluation and reporting. He is a Principal Mineral Resource Consultant for The MSA Group (an independent consulting company), is a member in good standing with the South African Council for Natural Scientific Professions (SACNASP) and is a Member of the Geological Society of South Africa (GSSA). Mr Geldenhuys has the appropriate relevant qualifications and experience to be considered a Competent Person for the activity being undertaken as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

**Information required under ASX Listing Rule 5.3.3**

List of current mining and exploration tenements (as at 30 September 2018):

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

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Map: ManonoProjectOverviewV3.mxd

## 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 2018

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	(7,655)	(7,655)
(b) development	-	-
(c) production	-	-
(d) staff costs	(375)	(375)
(e) administration and corporate costs	(358)	(358)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	53	53
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)	(68)	(68)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(8,403)</b>	<b>(8,403)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	(341)	(341)
(b) tenements	-	-
(c) investments <sup>1</sup>	(1,059)	(1,059)
(d) other non-current assets	-	-

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

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements	-	-
	(c) investments	-	-
	(d) other non-current assets	7	7
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</b>	<b>Net cash from / (used in) investing activities</b>	<b>(1,393)</b>	<b>(1,393)</b>

1. Advance payment of US\$750,000 to Cominiere SPRL, as part of acquisition cost.

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
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</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>-</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	16,337	16,337
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(8,403)	(8,403)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1,393)	(1,393)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held		
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>6,541</b>	<b>6,541</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	6,541	16,337
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>6,541</b>	<b>16,337</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	283
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)	90
Payment to director related entity – technical services (excluding GST)	193

<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 2.3	-
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	3,000
9.2 Development	-
9.3 Production	-
9.4 Staff costs	350
9.5 Administration and corporate costs	350
9.6 Other	-
<b>9.7 Total estimated cash outflows</b>	<b>3,700</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	PR 12206 PR 12459 PR 12461 (DRC)	Direct Interest	60%	Nil
10.2 Interests in mining tenements and petroleum tenements acquired or increased	-	-	-	-

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:

  
(Company secretary)

Date: 30 October 2018

Print name: Leonard Math

**Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.