ASX ANNOUNCEMENT

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Metallurgical Test Work Update on Roche Dure Resource Samples

Phase 1 metallurgical characterisation testing essentially complete as Phase 2 confirmatory test work gets underway.

HIGHLIGHTS:

- Dense Media Separation (DMS) test work supports the Heavy Liquid Separation (HLS) test work and has demonstrated that the finest crush size of 3.35mm produces better lithia grades and recoveries compared to the coarser crush sizes tested.
- Comparative laboratory scale HLS and DMS test work, completed on 5.6 mm and 3.35 mm crush sizes, provides greater than a 6.0% Spodumene Concentrate (SC) product with low iron and mica.
- Sighter scale-up tests using a 250mm cyclone fitted industrial size DMS pilot plant confirm confidence in laboratory scale equipment and procedures.

Test Description	Recovery	Grade		
	Li_2O %	Li_2O %	Fe_2O_3 %	Mica %
HLS: 3.35mm	70.4	6.6	0.40	-
DMS100: 3.35mm @2.95 SG	60.9	6.3	0.44	1.7
HLS: 5.6mm	65.9	6.2	0.36	-
DMS100: 5.6mm @2.95 SG (avg)	60.3	5.8	0.48	2.4
DMS250: 5.6mm @2.95 SG	59.6	5.8	0.49	-

- Analyses of DMS concentrates confirm iron and mica concentrations that are within chemical grade lithium concentrate limits.
- Preliminary HPGR test work completed indicating the material has similar comminution characteristics and rock strengths to other well-known lithium pegmatite ores.
- Amenability tests for tin were conducted to confirm HLS test observations. Results are pending.

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AVZ's Managing Director, Nigel Ferguson said: "We are continuing to see really encouraging results from the metallurgical test work that has been undertaken so far.

"In the DMS100 test, a 5.56mm crush produced a Li_2O recovery of 59% at a SC grade of 6.1% while at a finer 3.35mm crush, the results were even better, delivering a Li_2O recovery of 66% at a SC grade of 5.8%.

"Lithia recoveries were approximately 2% lower in the DMS250 test work at 5.8% grade and 4% lower recovery at 6% grade. Li_2O at 5.8% shows 60% recovery and 6.1% grade with 55% recovery. This suggests there is an opportunity to improve DMS250 performance by optimising test parameters in the Phase 2 confirmatory programme based on equipment performance.

"Initial test work performed on coarse, lithia concentrates returned a tin recovery of approximately 32% creating a 4.7% SnO_2 rougher concentrate. Increasing tin grade via cleaning without significant tin loss is likely given the degree of SnO_2 liberation observed. HLS test work has also demonstrated that tin is reasonably well liberated in undersize fractions <0.5mm. Lithia also appears to be well liberated in the finer size fractions and the planned tabling test work will ascertain the extent of possible tin recovery from this fine material. There will be an opportunity to recover a tin rich stream from the lithia concentrate stream with simple gravity separation techniques employed.

"Additional lithia recovery optimisation may be gained through an opportunity to feed a coarser product to the HPGR or pre-screening prior to crushing by HPGR.

"To optimise DMS lithia recovery when targeting a coarser 5.56mm DMS feedstock, a 2-size fraction DMS circuit may be beneficial. This will be tested in Phase 2 along with examining a 0.3mm DMS cut-off size instead of 0.5mm cut-off size.

"Further optimization of the larger DMS250 industrial scale test will be completed in the next round of work.

"Finally, we have not investigated, as yet, any further downstream treatment to increase purity of grade such as optical sorting, magnetic separation or other methodologies."

AVZ Minerals Limited (ASX: AVZ) is pleased to advise it has essentially completed the comprehensive 'Phase One' metallurgical test work programme designed to increase confidence levels in the Manono Lithium and Tin Project ("Manono Project") in the Democratic Republic of Congo's ("DRC") Tanganyika Province.

Bulk Sample Selection:

Table 1 summarises the composite head grades for the 200kg Phase 1 Bulk Sample prepared using core intervals from four metallurgical test PQ diamond drill holes (refer ASX release 5 August 2019).

Table 1 - Average sample analysis results for the Bulk Metallurgical test work sample

Li_2O (%)	SnO_2 (%)	Ta_2O_5 (%)	Fe_2O_3 (%)
1.579	0.154	0.005	0.340

Scope of Test work

The Phase 1 metallurgical test work scope was focused on characterisation and recovery of Lithia via:

- Conventional laboratory Heavy Liquid Separation ("HLS") techniques;
- Laboratory scale, 100 mm Dense Medium Cyclone ("DMS100"); and
- Industrial scale, 250 mm Dense Medium Cyclone ("DMS250").

HLS test results are theoretical in nature and Dense Media Separation ("DMS") processing results are typically lower in recovery for equivalent grades. The DMS100 testing proposed to ascertain the extent of downgrading from HLS to DMS testing. In addition to laboratory scale testing, the industrial size DMS250 was operated to confirm the scalability from laboratory DMS100 to an industrial scale unit. Efforts to optimise the industrial unit's performance will form a major part of the proposed Phase 2 test work programme.

The DMS samples were subjected to a Mica separation process to assess the impact on product grades and recovery. A reflux classifier was employed to 'float' deleterious mica from the crushed feed sample prior to DMS testing. It was noted that the removal of between 3% and 7% mica by mass from the spodumene concentrate did not materially affect the overall lithia grade in the concentrate.

The amenability for tin bearing cassiterite recovery focused on two size streams namely, fractions finer than 0.5 mm ("fines") and greater than 0.5 mm ("coarse"). Coarse lithia concentrates generated from the DMS processes were subjected to an additional DMS stage to recover high specific gravity, liberated cassiterite minerals. The fines fraction was then de-slimed and subjected to graded Wilfley Table separation to assess liberation and recoverability of cassiterite.

In addition to the Lithia and Cassiterite characterisation, a detailed comminution programme was conducted on spatially selected PQ core which included a preliminary simulation test for High Pressure Grinding Rolls ("HPGR").

Test Results Update

DMS testing on the Phase 1 bulk sample has now been completed with results providing excellent comparative data to the initial HLS results (refer ASX release 13 August 2019).

In order to scale the HLS results, the DMS100 testing focused on 5.6 mm and 3.35 mm crush sizes. Testing was performed with and without the mica removal, reflux classification process to ascertain the impact on product grade and recovery.

The results for the HLS and DMS test suites are reported in *Table 2*.

Table 2 - Phase 1 HLS and DMS Beneficiation Results on Roche Dure Bulk Sample

Test Description	Recovery		Grade		
	Li_2O %	SnO_2 %	Li_2O %	Fe_2O_3 %	Mica %
HLS: 10mm	61.7	48.1	5.8	0.40	-
HLS: 5.6mm	65.9	49.1	6.2	0.36	-
HLS: 3.35mm	70.4	50.9	6.6	0.40	-
DMS100: 3.35mm @2.95 SG + Reflux	62.8	45.2	6.0	0.44	1.7
DMS100: 5.6mm @2.95 SG	59.8	35.6	5.8	0.50	2.7
DMS100: 5.6mm @2.95 SG + Reflux	60.9	43.1	5.9	0.45	2.1
DMS250: 5.6mm @ 2.95 SG	59.6	48.2	5.8	0.49	-

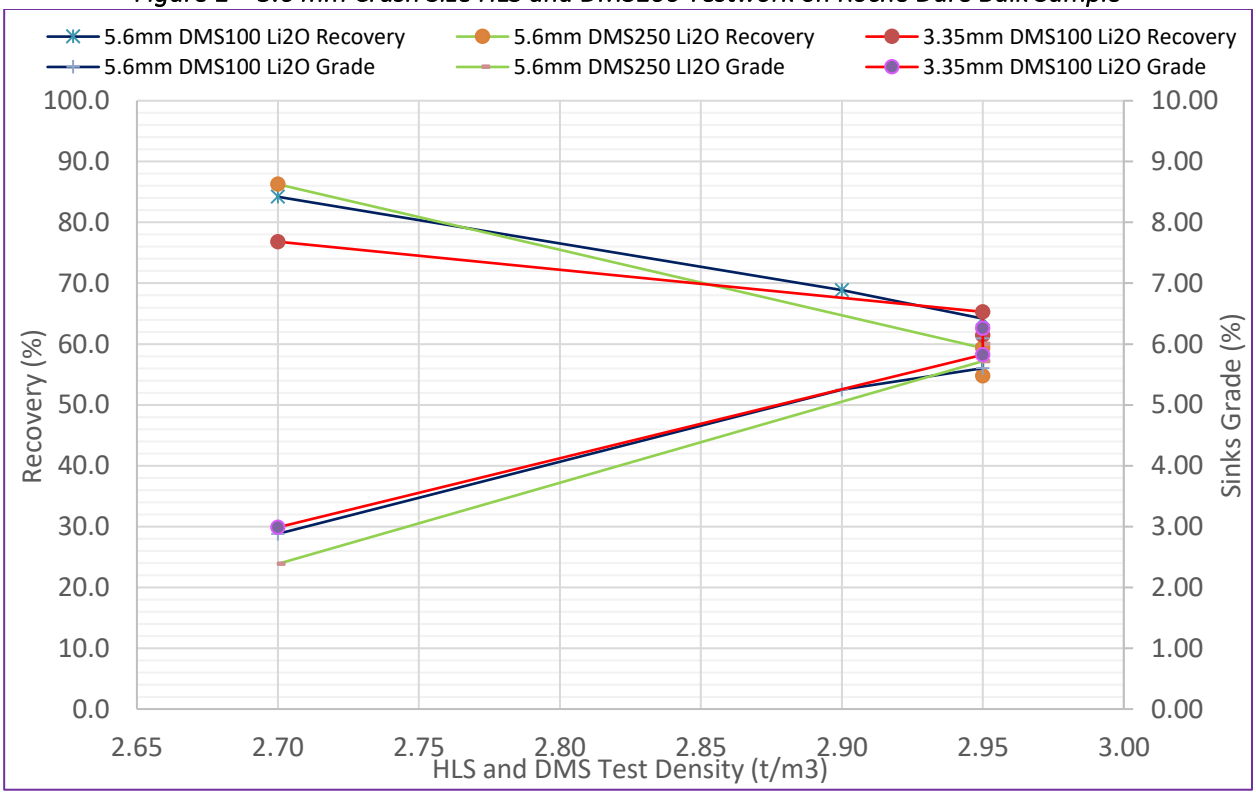
The Roche Dure ore is considered sufficiently low in mica to conceivably present as a problem mineral in the final product specification. However, the reflux classification process proved successful in reducing both mica volumes and iron grades in the final concentrate to well below acceptable levels.

Analyses of DMS concentrates confirm iron (Fe_2O_3) concentrations that are within chemical lithium concentrate grade limits, but outside higher value ceramic grade limits. Mineralogical investigations to ascertain the source of the iron continue and may provide direction whether further reduction in product iron concentration is possible and ceramic grade limits can be met.

Testing to recover the coarse tin from DMS concentrates awaits assays. AVZ will provide an update to the market as these results come to hand.

Diagrammatically, the lithia results for the 5.6 mm and 3.35 mm crush sizes are represented in Figure 1.

Figure 1 – 5.6 mm Crush Size HLS and DMS100 Testwork on Roche Dure Bulk Sample



HPGR testing was performed on a 300 kg sample to complement the comminution test work completed on Roche Dure ore. The results provided have similar comminution characteristics and rock strengths to other well-known lithium pegmatite ores.

Looking Forward

The results of the Phase 1 programme will allow GR Engineering Services ("GRES") to rapidly advance the Definitive Feasibility Study ("DFS") which is expected to be completed in Q1 2020.

Options exist to optimise the concentrate grade and recovery with the Phase 2 metallurgical programme devised to support the optimal process scale and flowsheet selection.

In addition to metallurgical optimisation, the Phase 2 metallurgical programme proposes to:

- Verify Phase 1 process flowsheet and design parameters;
- Optimise the industrial size 'DMS250' operation to maximise recovery;
- Examine ore variability and its effects on economic performance;
- Generate representative Spodumene concentrates for marketing assessment and value adding test programmes;
- Perform all necessary Engineering and Vendor testing and
- Provide typical spodumene concentrates for further Lithium Carbonate and Lithium Hydroxide feasibility studies.

AVZ will provide an update to the market as the analyses become available.

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

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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.