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Jindalee Resources Limited

MORE POSITIVE METALLURGICAL RESULTS FROM McDERMITT

- **Attrition scrubbing increases lithium grades by 60%**
- **Leaching confirms high lithium extraction rates from beneficiated samples with reduced acid consumption**
- **Additional work to further optimise metallurgical processes is underway**

Jindalee Resources Limited ('Jindalee' or 'Company') is pleased to provide the following update on metallurgical testwork conducted on samples from its 100% owned McDermitt lithium deposit, located in the USA. (Figures 1 and 2).

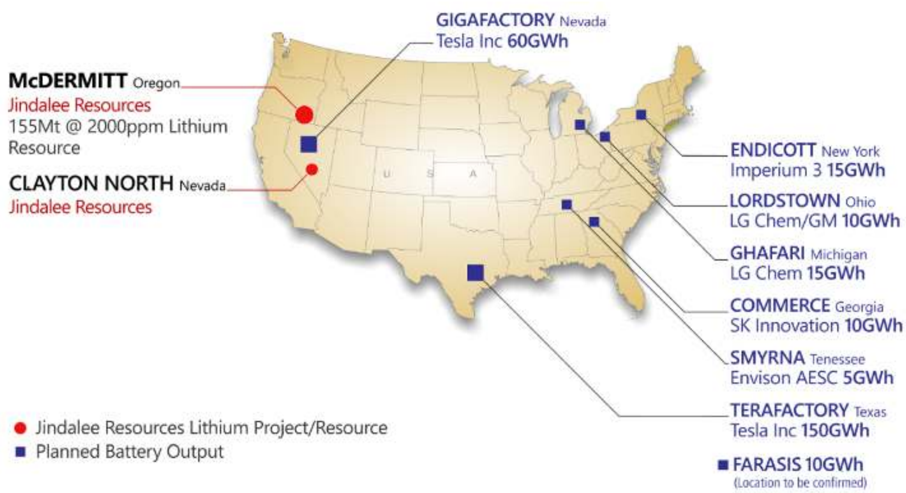

Figure 1 – Location of Jindalee's US Lithium Projects

Results from leach testwork undertaken on bulk (non-beneficiated) samples in 2019 indicated lithium recoveries of >95% with short residence times using sulphuric acid (H_2SO_4) leach at moderate temperatures and atmospheric pressure, with potential to reduce acid consumption via recycling of the leachate[1].

In August 2020 Jindalee announced that beneficiation of McDermitt ore via attrition scrubbing at 20% solids had increased the lithium content in the <0.01mm fraction by more than 50% (from 0.22% to 0.34%) and had reduced carbonate and analcime (both acid consuming minerals)[2].

The latest attrition scrubbing testwork, designed to produce a beneficiated sample for leaching experiments, increased the lithium content in the <0.01mm fraction by 60.9% (from 0.23% to 0.37%). Furthermore, initial leaching experiments on beneficiated samples demonstrated lithium extraction rates of 94-97% with 26% less acid consumed per lithium unit than for previous similar experiments on non-beneficiated ore. The testwork also indicated that the residue remaining after leaching is relatively benign, comprising quartz, feldspar and gypsum.

Experiments to further optimise lithium recoveries and reduce acid consumption are continuing.

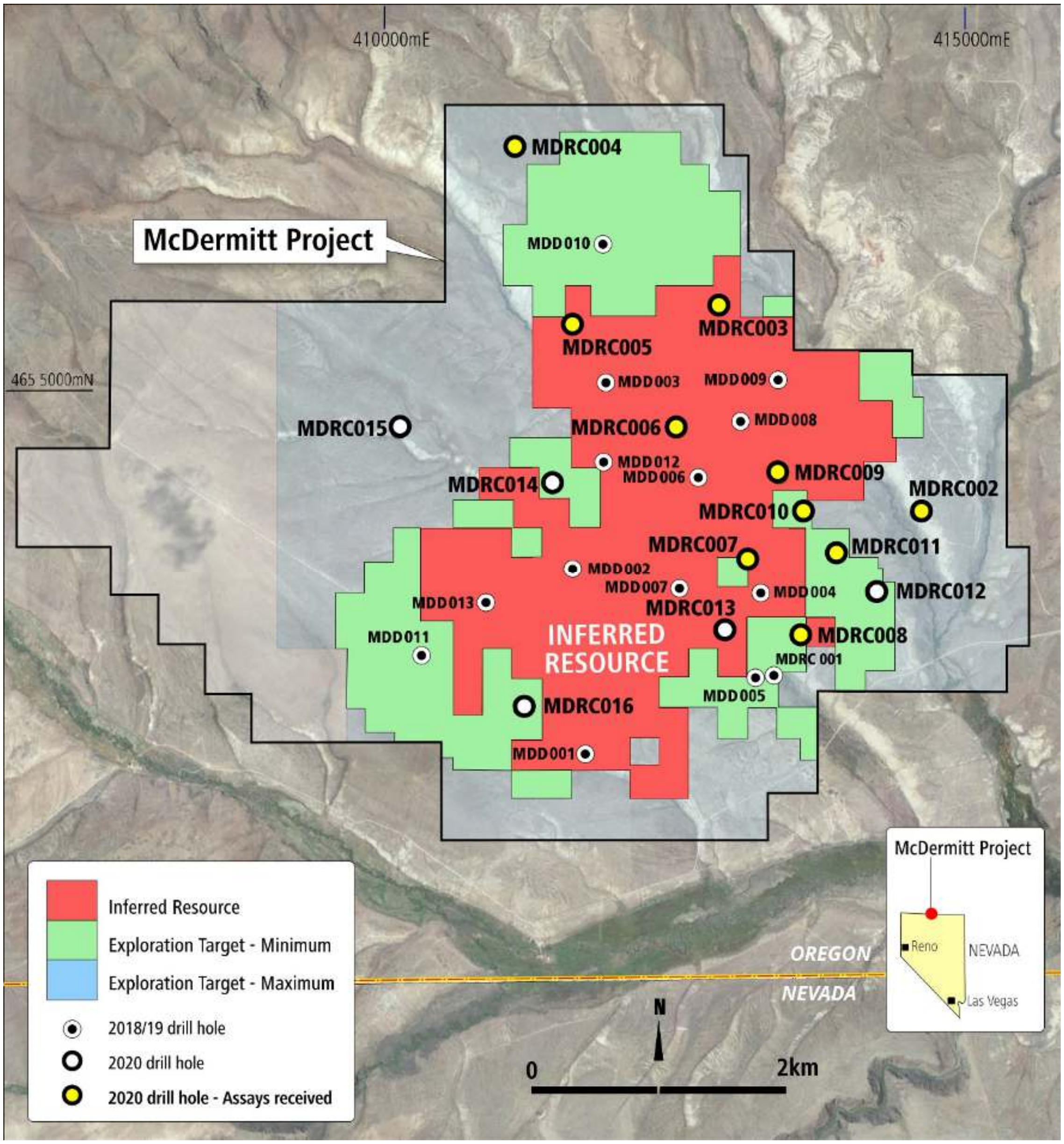

Figure 2 – Location of McDermitt Drill Holes, Resource and Exploration Target[3]

Discussion

Approximately 44kg of coarse residues from crushed core from holes MDD-006 and MDD-012 were shipped to Hazen Research Inc., a highly regarded metallurgical laboratory in Colorado (refer to Figure 2 for the location of these holes). These holes were selected because they are located in a relatively shallow part of the McDermitt resource[3] and therefore represent portions of the deposit likely to encountered early in any future mining operation.

The samples were composited to create a master or head sample for the metallurgical testwork. The head sample was assayed for lithium (Li) and several impurity elements; this assayed 0.23% Li using 4 acid digestion and 6.84% carbonate (CO_3). The sample was also analysed using X-Ray Diffraction (XRD) to identify the mineral constituents, which were dominated by feldspars (44%) with lesser amounts of quartz (13%), calcite (14%), analcime (11%) and smectite clays (17%). This also showed that lithium is almost exclusively associated with smectites.

Attrition scrubbing was conducted on a sub-sample (4033-27) at 30% solids for 30 minutes. This work resulted in approximately 75% of the lithium in the feed (46.5% of the initial sample by weight) reporting to the <0.010mm fraction, representing a 60.9% uplift in grade, from 0.23% to 0.37% (Figure 3).

Weight Distribution of Sample after Attrition Scrubbing at 30% Solids for 30min (Experiment 4033-27)

Size Fraction, µm	Weight		Li, wt%
	g	%	
Plus 20	660.2	35.7	na
20 × 10	329.7	17.8	na
Minus 10	860.6	46.5	0.37
Calculated head	1,851	100	0.23

na - not analzyed

Figure 3 – Summary of Attrition Scrubbing Results

Splits from the beneficiated sample (4033-27) were then slurried, heated to 50°C, H_2SO_4 added and the samples agitated for 90 minutes. The samples were then filtered and re-slurried in wash from the previous cycle and the process repeated, with the reaction slurry filtered, the residue washed and samples analysed for a suite of elements. Liquid samples also analysed for free acid. For further details on experimental conditions please refer to the appended JORC Table 1.

Results were very encouraging with lithium extraction rates of 94-97% and the pregnant liquor solution (PLS) produced having low free acid. Acid consumption in these experiments averaged 148kg H_2SO_4/kg Li leached, compared with approximately 200kg H_2SO_4/kg Li leached for comparable testwork on non-beneficiated ore from McDermitt[1] (or 26% less acid consumed per lithium unit leached). The testwork has also indicated that the mineral composition of the residue remaining after leaching is relatively benign, comprising quartz (17.9%), feldspar (49.5%) and gypsum (32.6%) (Figure 4).

Semiquantitative XRD results of Head, Minus 10µm fractions and Leach Residue

Phase ID	55346-26	4031-83 minus 10µm (by wet screening)	4033-27 minus 10µm (by elutriation column)	3951-149-1 Residue after leaching the 4033-27 minus 10µm
	Weight %			
Quartz	13	10	8	17.9
K-Feldspar	34	28	26	43.6
Plagioclase	10	4	9	5.9
Calcite	14	9	7	nd
Magnetite	1	nd	nd	nd
Analcime	11	4	2	nd
Smectite	17	45	48	nd
Gypsum	nd	nd	nd	32.6
	100	100	100	100

Figure 4 – Summary of XRD Analysis Results

McDermitt Drilling Assays - Update

Assay laboratories in the United States are experiencing significant delays due to the uplift of exploration activity and ongoing complications related to COVID-19, with results from the final five drill holes completed at McDermitt in December 2020[5] now expected mid-March 2021.

Authorised for release by the Board of Jindalee Resources Limited.

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About Jindalee

Jindalee Resources Limited (ASX: JRL) is an exploration company with direct and indirect exposure to lithium, gold, base and strategic metals, iron ore, uranium and magnesite through projects generated by the Company's technical team. Jindalee has a track record of rewarding shareholders, including priority entitlements to several successful IPO's and payment of a special dividend.

Jindalee's strategy is to acquire prospective ground, add value through low cost exploration and, where appropriate, either introduce partners to assist in funding further progress, or fund this activity via a dedicated company in which Jindalee retains a significant interest. At 31 December 2020 Jindalee held cash and marketable securities worth $4M[4], which combined with the Company's tight capital structure (only 44.8M shares on issue) provide a strong base for advancing projects currently held by Jindalee and leveraging into new opportunities.

Competent Persons Statement:

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Lindsay Dudfield and Mrs Karen Wellman. Mr Dudfield is a consultant to the Company and a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mrs Wellman is an employee of the Company and a Member of the Australasian Institute of Mining and Metallurgy. Both Mr Dudfield and Mrs Wellman have sufficient experience relevant to the styles of mineralisation and types of deposits under consideration, and to the activity being undertaken, to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves.' Mr Dudfield and Mrs Wellman consent to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Forward-Looking Statements:

This document may include forward-looking statements. Forward-looking statements include but are not limited to statements concerning Jindalee Resources Limited's (Jindalee) planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should", and similar expressions are forward-looking statements. Although Jindalee believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

References

Additional details including JORC 2012 reporting tables, where applicable, can be found in the following releases lodged with ASX and referenced in this announcement:

1. JRL's ASX announcement 19 July 2019: "Further Positive Metallurgical Test Results from McDermitt".
2. JRL's ASX announcement 17 August 2020: "More Metallurgical Test Results from McDermitt".
3. JRL's ASX announcement 19 November 2019: "Maiden Lithium Resource at McDermitt".
4. JRL's ASX announcement 28 January 2021: "Quarterly Activities & Cashflow Report".
5. JRL's ASX announcement 1 February 2021: "McDermitt Lithium Project – First Assay Results".

Annexure A:
JORC Code, 2012 Edition – Table 1
Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	• Diamond drilling was used to collect HQ triple tube (HQ3 63.5mm) diameter core. • Core was cut, and quarter core sampled on 2m intervals, except at the beginning and ends of holes which was controlled by the commencement and end of coring. • All samples were placed into individually labelled, consecutively numbered sample bags. • Metallurgical test work samples were a composite sample of coarse rejects from the previously conducted geochemical assaying and are believed to be representative of the interval under investigation. • The samples tested were 30-44m in hole MDD-006 and 40-76m in hole MDD-012, both below the base of oxidation.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Diamond drilling was used to collect HQ3 (63.5mm) diameter core. • Core holes were drilled vertically, and core was not oriented.
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.*	• Core blocks inserted by the drilling company indicated the length of a run and the amount of recovered core in feet. The site geologist converted this to metres and core recovery was recorded on the sampling sheet. Core recovery was the primary focus for the drill contractor and was typically 100% in the zones of interest. • Core recovery was recorded by the site geologist, and 1m downhole depths marked prior to geological logging and sampling • No relationship between recovery and grade was observed, no core loss was observed over the interval under investigation.

Criteria	JORC Code explanation	Commentary
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.*	• Qualitative lithological descriptions were recorded by the field geologist once core had been presented and depths marked. Correlation of this information to the field mapping and stratigraphic sections described in the immediate area is ongoing to build a comprehensive picture of the geology over the project area. • Photos (wet and dry) were taken of all core trays for later review.
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.*	• Core was cut, and quarter core sampled over 2m intervals. • The 25 core samples the subject of this release were from 30-44m in hole MDD-006 and 40-76m in hole MDD-012. The samples were individually crushed to 70% passing less than 2mm, and 500g sub samples were riffle split off by ALS Laboratories, Reno, with the remaining samples (coarse residues) averaging approximately 1.7kg each. • The coarse residue samples were forwarded to Hazen Research Inc. in Golden, Colorado (Hazen) where they were crushed to 100% passing 1.7mm before compositing to make a master or head sample (total weight ~44kg) to be used for the metallurgical testwork documented in this announcement.
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Samples were originally assayed by ALS Laboratories in Reno, Nevada via a 4-acid digest of a 0.25g sample split with a 48 element ICP-MS finish as previously reported. • Hazen analysed the head sample for Li and CO_3 using 4-acid digest and peroxide fusion digest with the digested solution analysed by ICP-OES. Hazen also analysed the head sample via X-Ray Diffraction (XRD) to identify the mineral constituents. • Metallurgical testing involved attrition scrubbing at 30% solids for 30 minutes on a 1.85kg split of the 44kg head sample, screening the attrition product at 0.020mm, and using an elutriation column to collect -0.010 mm material by settling and decantation according to Stroke's law. Samples of the feed and 0.010 mm solids were analysed for Li using 4-acid digest/ICP (Experiment 4033-27). • Sub-samples (~125g) of the -0.010mm fraction material generated from Experiment 4033-27 were then mixed with stage 2 PLS from the

Criteria	JORC Code explanation	Commentary
		previous cycle, heated to ~50°C, H_2SO_4 added and the sample agitated for 1.5 hours. The slurry was then vacuum filtered and a small sample of the leach residue dried and analysed. The remaining wet slurry was then re-slurried in stage 2 wash from the previous cycle, heated to 50°C, H_2SO_4 added and the sample agitated for 1.5 hours. The reaction slurry was then vacuum filtered and the residue washed. Samples were analysed by ICP-OES for a suite of elements and liquid samples analysed for free acid. The mineral composition of head sample, the beneficiated samples and the residue remaining after leaching sample 4033-27 were also analysed using XRD (see table and figures in main body of text). • Metallurgical test work assays were conducted by Hazen Research Inc. in Golden, Colorado. • Laboratory QAQC involves the use of internal lab standards, splits and replicates as part of in-house procedures. Hazen participates in numerous external umpire assessments to maintain high levels of QAQC in relation to their peers.
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.*	• Assay results were verified by more than one Jindalee geologist. • Data from Hazen is received and stored electronically. To date no .pdf certificates have been received for the assays completed by Hazen.
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.*	• Drill hole collar locations were surveyed using a handheld Garmin GPS with an accuracy of +/- 3m horizontally, and +/- 5m vertically. • Locations are reported in metres in UTM Zone 11. • Downhole surveys were undertaken at approximately 30m intervals downhole and at the end of hole. The maximum variation from vertical observed was 1.7°, typically <0.5°, with a survey accuracy of +/- 0.1°.
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.*	• Spacing of drilling and associated sampling is adequate for first pass assessment of the areas and geological horizon(s) of interest. • An Inferred Mineral Resource has been estimated for the McDermitt Project (refer Jindalee's ASX announcement dated 19/11/2019 for further details).

Criteria	JORC Code explanation	Commentary
	• *Whether sample compositing has been applied.*	• Sample compositing was undertaken for metallurgical test work as described above.
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.*	• Vertical drill holes were appropriate for assessing the flat lying units of interest. Downhole lengths reported are therefore the same as true widths.
Sample security	• *The measures taken to ensure sample security.*	• Samples were boxed, palletised and sealed by Jindalee personnel, and delivered to ALS Laboratories Reno by a third-party freight company. • Metallurgical samples were sent from ALS Laboratories in Reno, Nevada to Hazen Research Inc. in Golden, Colorado, USA. • All samples were received as expected by the laboratories with no missing or mis-labelled samples.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The testwork undertaken by Hazen Research Inc. was supervised by Victoria Londono (geologist) and Ben Kronholm (metallurgist), both Hazen employees, and reviewed by Dr Yatendra Sharma MRACI MAusIMM, an independent consulting chemist and metallurgist.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding 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.*	• Samples reported are all from land managed by the US Bureau of Land Management, with the mineral rights held under placer claims owned 100% by HiTech Minerals Inc., a wholly owned US based subsidiary of Jindalee Resources Limited. • No joint ventures or royalty interests are applicable.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• At McDermitt, historic uranium exploration by Chevron first identified the presence of lithium. No data from historic work undertaken within the McDermitt Project area has been obtained.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Lithium is hosted in flat-lying, lacustrine sediments deposited within the Tertiary aged McDermitt caldera.
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.*	• Please see table and figures in main body of text, including in previous releases referenced above.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.*	• Significant intercepts are presented as a simple average above a 1000ppm Li cut-off, with a maximum of 4m internal 'Waste' (where 'waste' is defined as intervals with less than 1000ppm Li). • Conversion from Li ppm to Li_2O is achieved by multiplying by 2.153 and converting to % • Length weighted averages are presented where less than a 2m interval was sampled at the commencement or completion of a hole.
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 (eg 'down hole length, true width not known').*	• Vertical drill holes were appropriate for assessing the flat lying units of interest. Downhole lengths reported are therefore the same as true widths.

Criteria	JORC Code explanation	Commentary
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See main body of announcement.
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.*	• Only selected metallurgical test results relevant to this release have been 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.*	• Field mapping across the project area, aerial photography and description of stratigraphic sections exposed in several escarpments allows for correlation of the geology between drill holes. • Metallurgical test work is reported herein. Other data published is from previous releases and references to these have been provided.
Further work	• *The nature and scale of planned further work (eg 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.*	• Further metallurgical test work will be undertaken to identify improved options for lithium extraction. • Additional drilling is planned to define extensions to known mineralisation and potentially upgrade the mineral resource estimate.