ASX RELEASE
19 JULY 2019
ASX: JRL

FURTHER POSITIVE METALLURGICAL TEST RESULTS FROM McDERMITT

- **Leach recycling tests show excellent recoveries with lower acid consumption**
- **Attrition scrubbing shows promise for future beneficiation**

Jindalee Resources Limited ('Jindalee' or 'Company') is pleased to provide an update on the ongoing metallurgical tests on its 100% owned McDermitt Project, approximately 25km west of the town of McDermitt on the Nevada-Oregon border (Figures 1 and 2).

Jindalee has an ongoing program of metallurgical test work being undertaken by Hazen Research of Golden, Colorado. To date this work has demonstrated high lithium recoveries of >95% with short residence times using a conventional sulphuric acid leach at moderate temperatures and atmospheric pressure[1, 2]. The most recent tests tested two new aspects:

1. The potential to reduce acid consumption via recycling of the leachate, and

2. The potential for beneficiation of the run of mine ore via separation of a specific size fraction.

Figure 1 – Location of Jindalee's US Lithium Projects

The same composite sample of fresh rock across the high-grade zone encountered in hole MDD-004 was used in these most recent tests, (Figures 2 and 3, JORC Table 1).

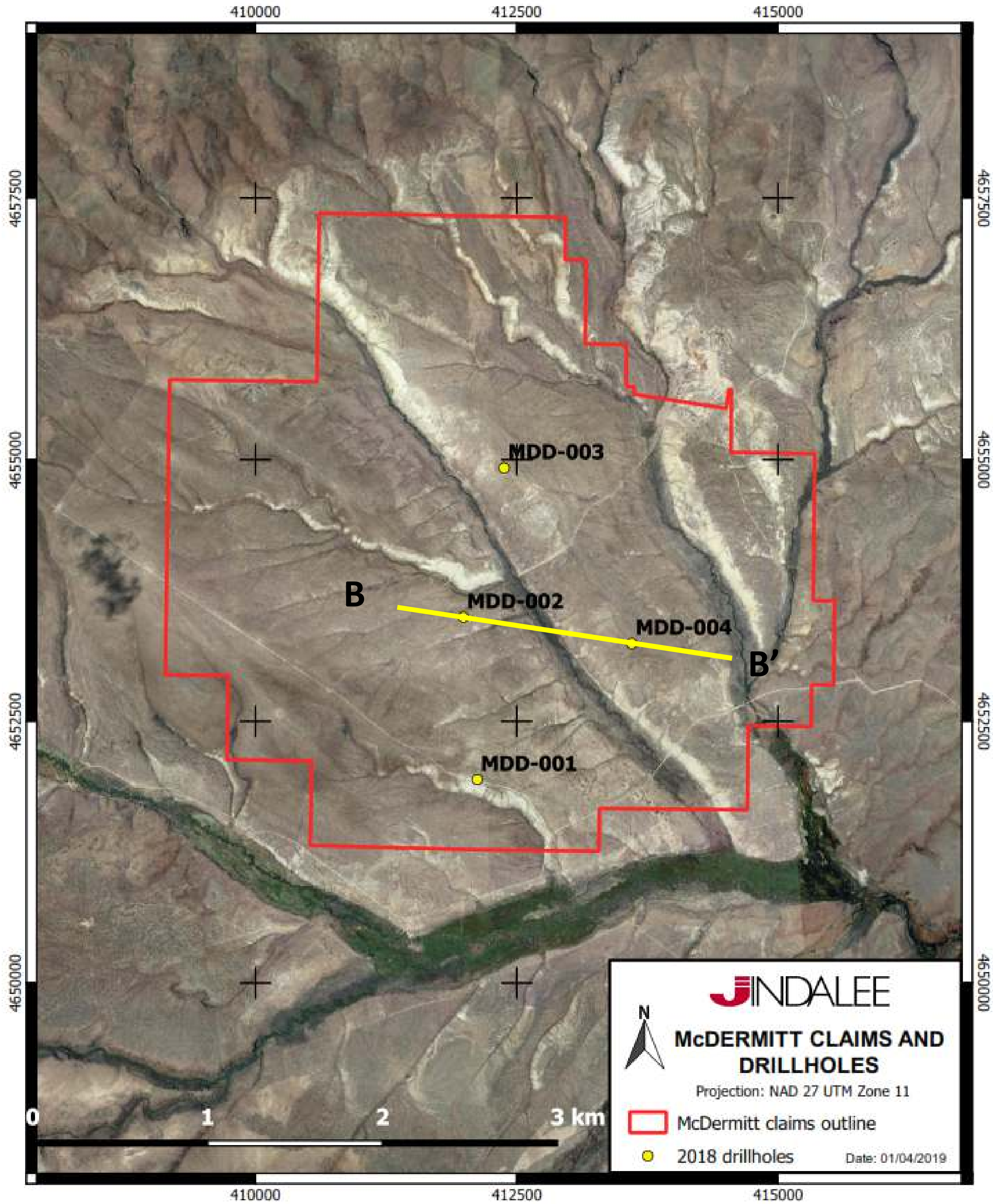

Figure 2 – McDermitt claims outline, showing the location of September 2018 drilling and the cross section portrayed in Figure 3.

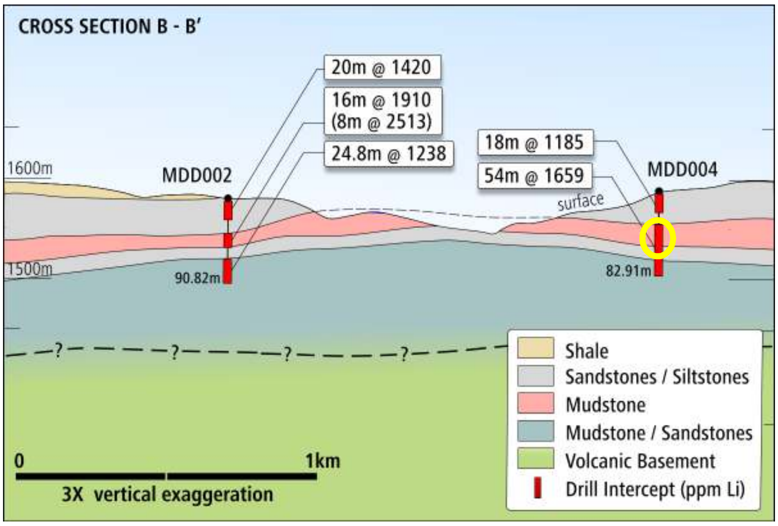

Figure 3 – Schematic cross section, showing significant intercepts and interpreted geology. The location of samples selected for leach test work is highlighted in yellow.

The recycled leachate experiments involved taking the leachate from an individual leaching experiment, adding additional acid to make it up to the original acid concentration and subsequently leaching a fresh batch of ore. Acid consumption for the second leaching experiment was 450kg H_2SO_4 per tonne of ore compared with the average acid consumption in previous experiments having lithium recoveries of >95% of 530 kg/tonne of ore[1,2]. This represents a saving of 15% on average acid consumption, or a saving of 11% on the previous best result of 506 kg acid per tonne of ore previously reported[2].

This result is very significant given that recent studies on similar lithium deposits in the US have identified sulphuric acid is a major cost component and that a combination of high lithium extraction rates with lower acid consumption results in a reduction of both capital and operating costs. For further details on the experimental conditions please refer to the appended JORC Table 1.

Attrition scrubbing tests on a portion of the same sample demonstrated that the minus 10µm fraction of the attritioned material assayed 0.34% Li and contained 78% of the lithium in about 50% of the weight (Figure 4). The implication of this work is that most of the lithium is contained within 50% of the run of mine ore and a simple industry standard process could be used to reject a large proportion of the ore at an early stage of any process. This also has considerable positive implications for any future project economics. Additional attrition scrubbing tests and ore characterisation work is underway to understand this better and potentially achieve even better outcomes. For further details on experimental conditions please refer to the appended JORC Table 1.

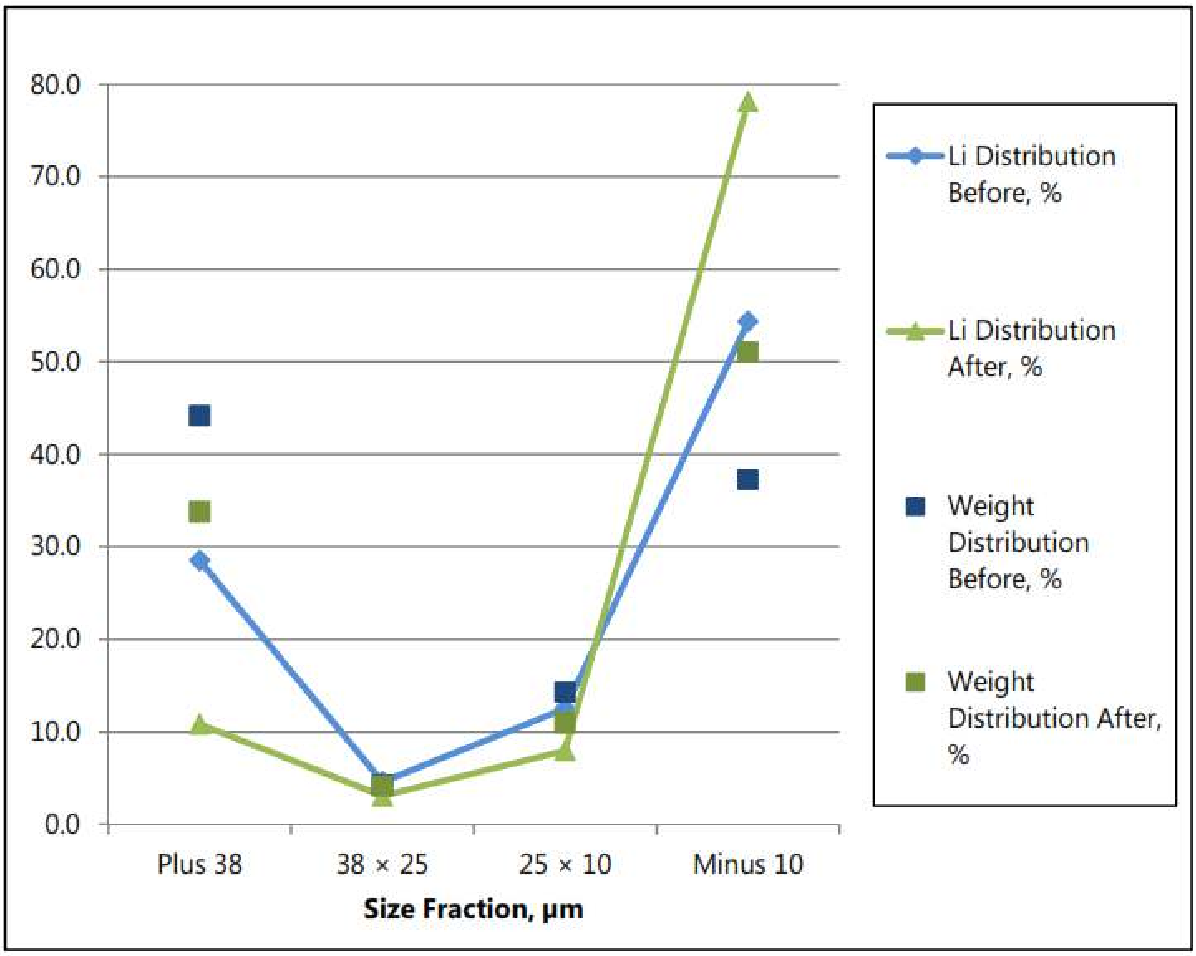

Figure 4 – Lithium distribution by size fraction before and after attrition scrubbing.

<u>Discussion</u>

The scale of the McDermitt project is considerable[3]. Jindalee's next goal is to demonstrate that high levels of Li extraction are possible using industry standard cost-effective techniques. Improvements to acid consumption levels and the potential for beneficiation to also improve any future project economics are both extremely positive steps. Metallurgical testing is continuing at Hazen Research and also at Minnesota Technical University. Further results will be published as they become available.

Jindalee will now undertake additional tests aimed at optimising the leach parameters and reducing sulphuric acid consumption, while producing a leachate amenable to subsequent processing. This testing will include beneficiation of the ore, removal of acid robbing phases such as carbonates, changes to the amounts and timing of heating and acid additions, and alternative leach pathways discussed in the published literature. The ultimate goal of these tests is to identify the key components of a flowsheet suitable for a large-scale operation in a potential future project development scenario.

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Why Lithium Sediments?

Lithium is highly sought after for a range of industrial uses, in particular energy storage where it is a vital component of most popular battery electrolytes and electrodes. A high charge and power to weight ratio makes Lithium ideal for applications where weight is a significant consideration (e.g. electric vehicles, mobile phones, hand tools, drones and robots).

Lithium is found in pegmatites, brines and sediments. Lithium bearing sediments at the Company's McDermitt Project have several positive characteristics including:

- Mineralisation is from or close to surface, flat-lying to shallowly dipping with low stripping ratios.
- Easy to drill, allowing for rapid exploration progress.
- Contained within soft rocks suggesting low cost mining.
- The economics of advanced sediment projects indicate the costs to produce lithium compounds used in battery manufacture are highly competitive.
- An adequate scale potential to support a long mine life.

Increasing domestic demand and energy security goals make the USA an ideal location for development of lithium projects:

- Growing local demand is currently satisfied overwhelmingly by imported material with the Silver Peak mine in Nevada owned by Albermarle (NYSE: ALB) the only operating production facility in the US.
- The USA is politically stable, with excellent infrastructure and a skilled labour force.
- Executive Order 'Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals' signed by President Trump on 20 December 2017 makes the development of Lithium projects in the USA a focus and priority for Federal agencies.
- The US Geological Survey included Lithium in its June 2018 list of minerals critical to the USA economic and national security.
- Jindalee's USA Lithium projects are located on 100% owned tenure, with no royalties.
- A domestic source of lithium would not be subject to the tariffs (currently 3.7% minimum).
- US Department of the Interior report June 2018 includes Lithium as critical to economic and national security.
- Bipartisan Bill 'American Minerals Security Act' introduced May 2019 to secure mineral resources and reduce reliance on foreign sources.

About Jindalee

Jindalee Resources Limited (ASX: JRL) is an exploration company with direct and indirect exposure to 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 March 2019 Jindalee held cash and marketable securities worth $3.4M, combining with the Company's tight capital structure (only 35M shares on issue) to provide a strong base for leverage into new opportunities.

Further information on the Company can be found at www.jindalee.net

Competent Persons Statement:

The information in this report that relates to Exploration Results and Metallurgy is based on information compiled by Mr Pip Darvall. Mr Darvall is an employee of the Company and a member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Darvall has sufficient experience, relevant to the styles of mineralisation and types of deposits under consideration, and to the activity which is being undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves.' Mr Darvall consents to the inclusion in the 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

1. JRL's ASX announcement 2 April 2019: "Excellent Metallurgical Test Results from McDermitt".
2. JRL's ASX announcement 19 June 2018: "US Lithium Project Update".
3. JRL's ASX announcement 20 November 2018: "Lithium Exploration Target at McDermitt".

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 in September 2018 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 interval tested is 28-40m in hole MDD-004, 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

Criteria	JORC Code explanation	Commentary
		loss was observed over the interval under investigation.
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 6 specific core samples the subject of this release were individually crushed to 70% passing less than 2mm, and 500g sub samples were riffle split off by ALS Laboratories, Reno. • Hazen Research of Golden, Colorado subsequently composited the six 500g samples and ground the composite to 100% passing 150 microns. • Individual riffle splits of the composite were tested by Hazen Research under a range of experimental conditions. With a 1kg split used for attritioning tests.
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 geochemically 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. • Metallurgical testing involved: 1. Leaching an agitated slurry of 35% solids at 40°C, with the resultant leachate 'made up' with additional sulphuric acid before being used to leach a second portion of the sample. Lithium concentration and sulphuric acid consumption were assayed throughout the process. 2. Assaying different size fractions for lithium before and after attrition scrubbing of a 600g split of the sample in a 1L Denver Attrition Scrubber at 43% solids for 15 minutes. • Metallurgical test work assays were conducted by Hazen Research in

Criteria	JORC Code explanation	Commentary
		their subsidiary laboratory. • Laboratory QAQC involves the use of internal lab standards, splits and replicates as part of in-house procedures. Hazen Laboratories 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. 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.* • *Whether sample compositing has been applied.*	• Spacing of drilling and associated sampling is adequate for first pass assessment of the areas and geological horizon(s) of interest. • No resource has been estimated and the information available is not currently adequate to do so. • 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 by a third-party freight company. • Metallurgical samples were sent by ALS Laboratories to Hazen.

Criteria	JORC Code explanation	Commentary
		• 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.*	• None undertaken.

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.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• At McDermitt, historic 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:* *1. easting and northing of the drill hole collar* *2. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *3. dip and azimuth of the hole* *4. down hole length and interception depth* *5. hole length.* • *If the exclusion of this information is justified on the basis that the*	• Please see table and figures in main body of text, including in previous releases referenced above.

Criteria	JORC Code explanation	Commentary
	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.	
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.
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*	• Further metallurgical test work will be undertaken to identify improved

Criteria	JORC Code explanation	Commentary
	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.*	options for lithium extraction and purification. • Additional drilling is currently underway to define extensions to known mineralisation and potentially support the estimation of a mineral resource.