ASX RELEASE
ASX: JRL
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JINDALEE Resources Limited

ENCOURAGING METALLURGICAL TEST RESULTS FROM McDERMITT

- **Testwork confirms significant increase in lithium head grade via screening**
- **Leaching with HCl achieves 98% lithium extraction in 30 minutes, suggesting this may be a viable alternative process route for McDermitt ore**
- **Further test work is underway to optimise metallurgical processes**

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

To date metallurgical testwork undertaken on McDermitt mineralisation has focussed on leaching using sulphuric acid (H_2SO_4), which has demonstrated that up to 97% of lithium (Li) can be leached within 2 hours at moderate temperature and atmospheric pressure[1].

In January 2020 Jindalee advised that a sample from McDermitt had been shipped to Perth to trial alternative processing routes, including leaching with hydrochloric acid (HCl)[2]. Initial results from this work, which was conducted by SGS Lakefield (SGS), demonstrate that leaching with HCl can achieve recoveries of 97.9% Li within 30 minutes at ambient pressure and 106°C, suggesting that leaching with HCl may be a viable alternative to using H_2SO_4. Leaching with HCl may also result in production of saleable by-products; however further work is needed to support this concept.

Furthermore, analysis of particle size distribution of the sample as part of this testwork confirmed that most of the lithium occurs in the fine fraction, with material sized <0.038mm representing 58.5% of the mass but containing 80.4% of the lithium. The <0.038mm fraction assayed 0.31% Li whilst the entire sample assayed 0.212% Li, representing a 46% increase in Li grade reporting to the fine fraction (refer Figure 3).

This result is highly encouraging and suggests that beneficiation of McDermitt ore via screening has the potential to result in a significant increase in head grade as well as a reduction in the volume of material being leached, with positive implications for both operating costs and capital costs of the project.

Clearly the results of this recent testwork reinforce the potential to upgrade the ore via screening but also demonstrate that leaching with HCl may represent a viable alternative processing route, with further investigation of this concept warranted.

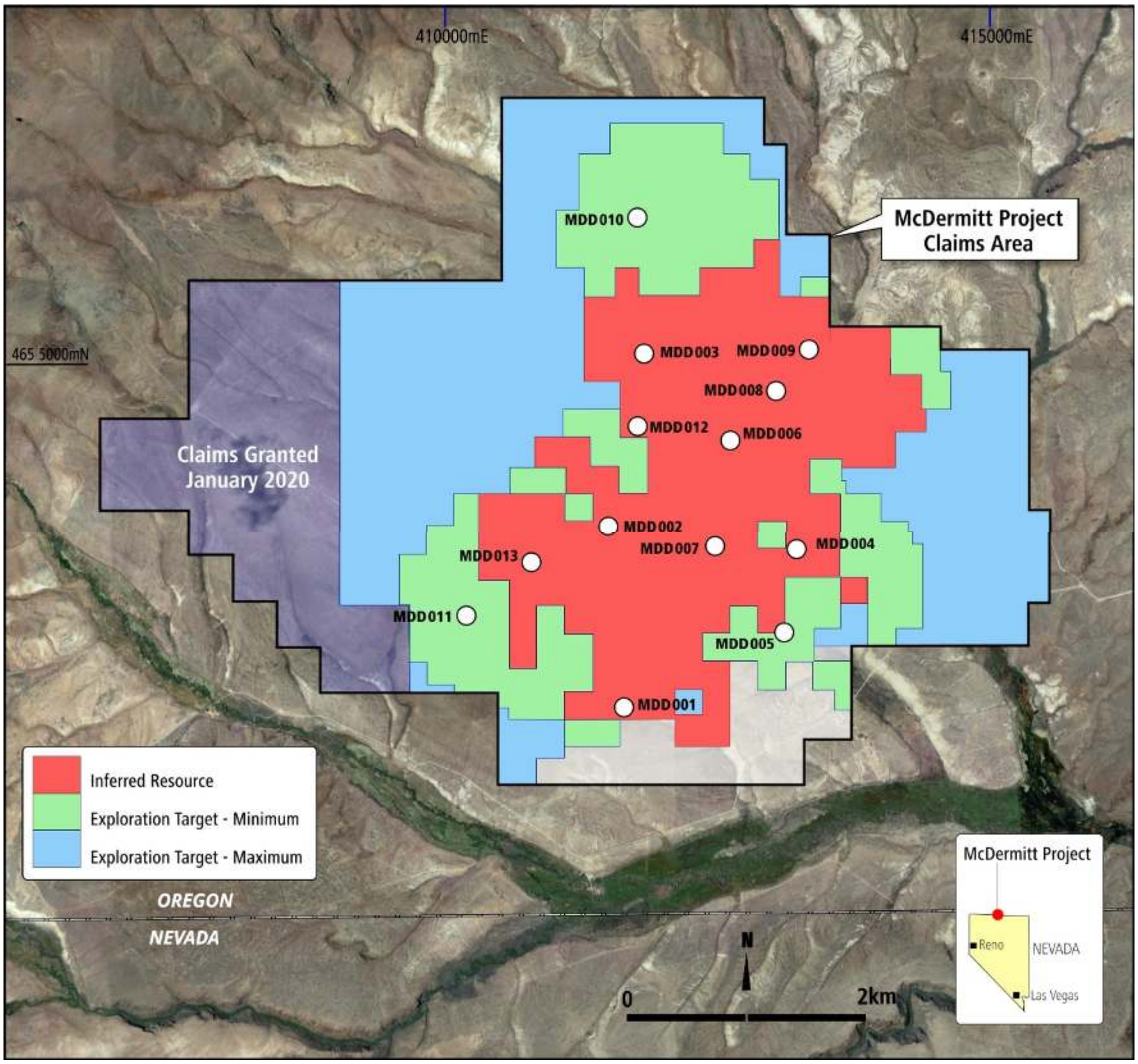

Figure 2 – Location of McDermitt Drill Holes, Resource and Exploration Target[3]

Discussion

Approximately 11kg of coarse residues from crushed core from hole MDD-008 were shipped to Perth and composited for the metallurgical testwork. This interval was selected because it is located in a relatively shallow part of the McDermitt resource[3] and represents material likely to encountered early in any future mining operation (refer Figure 2), and it was estimated to approximate the average grade of the McDermitt resource (2,000ppm Li)[3].

Individual 2m coarse residue samples were composited on arrival at a Perth laboratory, the composite sample assayed and then approximately 2kg provided to SGS for testing.

At SGS the head sample was assayed for Li and a suite of impurity elements; this sample recorded a Li value of 0.212%. A sub-sample was then screened to determine particle size distribution and the various size fractions weighed and analysed, with the results for Li tabulated in Figure 3.

Size, (mm)	MASS				Li			
	(g)	(%)	Cum % Pass	Cum % Ret	Assay (%)	% dist	Cum (%)	Cum % dist
+1.70	11	3.1	96.9	3.1	0.04	0.6	0.04	0.6
+1.18	22	5.9	91.0	9.0	0.06	1.6	0.06	2.2
+0.85	14	3.7	87.3	12.7	0.07	1.2	0.06	3.4
+0.600	10	2.6	84.7	15.3	0.09	1.0	0.07	4.4
+0.425	11	3.0	81.7	18.3	0.12	1.5	0.07	5.9
+0.300	9	2.5	79.2	20.8	0.11	1.2	0.08	7.2
+0.150	23	6.1	73.1	26.9	0.14	3.7	0.09	10.9
+0.106	13	3.6	69.5	30.5	0.14	2.3	0.10	13.2
+0.075	14	3.9	65.7	34.3	0.15	2.5	0.10	15.8
+0.053	15	4.2	61.5	38.5	0.13	2.4	0.11	18.2
+0.038	11	3.0	58.5	41.5	0.11	1.5	0.11	19.6
-0.038	217	58.5	0.0	100.0	0.31	80.4	0.23	100.0
Calc'd Head	371	100.0			0.23	100.0		
Assay Head	378				0.21			

Figure 3 – Particle Size Distribution & Lithium Assays

A further sub-sample was slurried with 20% w/w HCL in a leach vessel and a pulp density of approximately 35% solids (v/v) attained. The leach vessel was operated at ambient pressure and approximately 106°C (the boiling point of HCl 20%) for up to 8 hours to study the kinetics of the reaction.

The testwork recorded very high leach rates with 97.9% of the lithium extracted after 30 minutes and 98.7% extracted after 60 minutes, suggesting that a leaching residence time of 30 minutes (once the leaching temperature reaches 106°C) may be viable. Estimated acid consumption was relatively high, and further work on removal of acid consuming minerals (eg: carbonate) and recycling of acid is currently planned.

For further details on experimental conditions please refer to the appended JORC Table 1.

Summary

The recent testwork undertaken by SGS has confirmed that beneficiation of McDermitt ore via screening has the potential to result in a significant increase in head grade as well as a reduction in the volume of material being leached, with positive implications for both operating costs and capital costs of the project.

Furthermore, this testwork has demonstrated that leaching with HCl may represent a viable alternative processing route, with further investigation of this concept warranted before selection of the flowsheet for a future development scenario at McDermitt is considered.

Jindalee has previously advised that a separate metallurgical testwork program has been developed in conjunction with US based consultants and samples shipped to a metallurgical laboratory in Colorado[2]. A total of 44kg of representative samples from holes MDD-006 and MDD-012 (adjacent to hole MDD-008) have been received by the laboratory and will be tested to evaluate the potential to (i) upgrade the ore by screening, and (ii) reduce acid consumption by removing carbonate prior to leaching with H_2SO_4 (refer to Figure 2 for the location of these holes).

Further results will be reported as they become available.

Authorised 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 March 2020 Jindalee held cash and marketable securities worth $1.7M, which combined with the Company's tight capital structure (only 38.5M 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. Mr Dudfield is a consultant to the Company and is a member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Dudfield has sufficient experience, relevant to the styles of mineralisation and types of deposits under consideration, and to the activity which he is 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 Dudfield 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
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 28 April 2020: "Quarterly Activities Report".
3. JRL's ASX announcement 19 November 2019: "Maiden Lithium Resource 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 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 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 7 specific core samples the subject of this release were from 46-60m in hole MDD-008 and 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 1.5kg each. • ALS Laboratories, Perth subsequently fine crushed the coarse residue samples, rotary split off 50-100g sub-samples with these sub-samples ground to 100% passing 150 microns before compositing for assay. • Approximately 2kg of the composited crushed coarse residue samples were transferred to SGS Lakefield in Perth 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. ALS Laboratories in Perth subsequently assayed the pulverised composite sub-sample using identical techniques to those above. • SGS Lakefield in Perth analysed all samples using a combination of 4-acid digest (for Li, Al, K, Ca, Mg, Fe, Cr & Si) and peroxide fusion (for Na, Mn, Ba, As, Mo, Ti, Sr, P, Rb & Zr) with the digested solution analysed by ICP-OES. • Metallurgical testing involved particle size analysis and acid leaching on splits of the 2kg head sample. Particle size analysis used screen sizes from +1.70mm to -0.038mm with 12 size fractions analysed for Li and 11 other elements. Acid leaching involved agitating the split with 20% w/w HCl to attain a pulp density of 35% solids and leaching at ambient pressure and 106°C, with samples of the slurry decanted

Criteria	JORC Code explanation	Commentary
		at 30minute intervals to test extraction of lithium (and other elements) over time. • Metallurgical test work assays were conducted by SGS Lakefield in Perth. • Laboratory QAQC involves the use of internal lab standards, splits and replicates as part of in-house procedures. SGS Lakefield 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 SGS Lakefield is received and stored electronically. To date no .pdf certificates have been received for the assays completed by SGS Lakefield.
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. • An Inferred Mineral Resource has been estimated for the McDermitt Project (refer Jindalee's ASX announcement dated 19/11/2019 for further details). • 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.

Criteria	JORC Code explanation	Commentary
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 Perth to SGS Lakefield Perth. • 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 SGS Lakefield was supervised 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.
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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in*	• Please see table and figures in main body of text, including in previous releases referenced above.

Criteria	JORC Code explanation	Commentary
	metres) of the drill hole collar ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *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.*	
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	• *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*	• 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.

Criteria	JORC Code explanation	Commentary
exploration data	*method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• 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.