JINDALEE LITHIUM

ASX Code JLL
OTCQX JNDAF

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31 July 2024

Battery-Grade Lithium Carbonate produced from McDermitt

- **First production of Battery-Grade Lithium Carbonate (>99.5%) from test work completed at Hazen Research Inc. in collaboration with Fluor - lead engineer for the PFS underway at the McDermitt Lithium Project**
- **Production of Battery-Grade Lithium Carbonate marks a major milestone with all steps of the McDermitt flowsheet now validated**
- **Flowsheet for McDermitt is very similar to Lithium Americas' Thacker Pass Project currently under construction 30km to the south of McDermitt**
- **Results will support the PFS, due for release in Q4 CY 2024**

Jindalee Lithium Limited (**Jindalee**, the **Company**) is pleased to announce that battery-grade lithium carbonate has been successfully produced from ore from the McDermitt Lithium Project (the **Project**) (Figure 1). This marks an important milestone, with all steps of the processing flowsheet for the Project from ore beneficiation and leaching to purification and production of battery-grade lithium carbonate now validated (Figure 2).

These findings, together with other recently identified value optimisation opportunities, will be incorporated in the Pre-Feasibility Study (**PFS**) currently underway and due for completion Q4 2024.

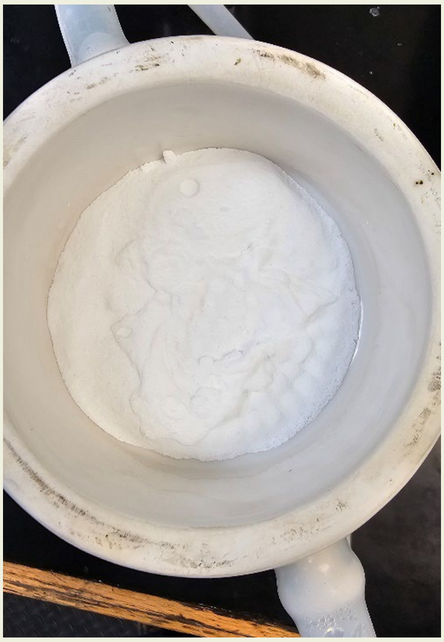

Fig 1 – McDermitt Lithium Carbonate

Jindalee's CEO Ian Rodger commented:

"The successful production of battery-grade lithium carbonate from McDermitt ore is a major milestone for Jindalee. This achievement substantially de-risks our processing flowsheet and demonstrates the potential for McDermitt to supply high-quality lithium chemicals to the expanding US battery value chain.

We have been greatly encouraged by the exceptional results we have achieved since commencing the PFS metallurgical test work program with Fluor and Hazen in mid-2023 and anticipate that these results will meaningfully support the outcomes of the McDermitt Lithium Project PFS which is now due for release in Q4 CY 2024."

Discussion

After investigating various alternatives, in March 2023 acid leaching with beneficiation (see Figure 2) was selected as the preferred flowsheet for the Project[2]. This decision followed a review of prior test work and high-level benchmarking of five comparator lithium projects by the global engineering, procurement, construction and maintenance company Fluor Corporation (**Fluor**), which indicated that acid leaching with beneficiation was expected to produce the best economic outcome for the Project. The resultant McDermitt flowsheet (Figure 2) is very similar to that utilised and extensively validated by Lithium Americas Corporation (TSX: LAC) at its Thacker Pass project, which is currently under construction and is also located in the McDermitt Caldera (~30km south of the McDermitt Lithium Project).

Fluor was subsequently appointed as lead engineer for the McDermitt PFS in June 2023[3], including managing an extensive bench scale metallurgical test work program at Hazen Research Inc. in Colorado, USA, aimed at validating the preferred flowsheet and providing data to inform the PFS (**PFS Test Work**). To date Jindalee has announced exceptional results from the McDermitt PFS Test Work including results from beneficiation test work in November 2023[4] and acid leaching in January 2024[5]. Respective highlights include:

- **Beneficiation:** Beneficiation of a composite sample of McDermitt ore using attrition scrubbing (250µm cut-size), recorded 92.0% Li recovery with 25.3% mass rejection, demonstrating the excellent potential to remove acid consuming material and increase the Lithium grade of leach feed[4].
- **Acid Leaching:** Excellent lithium (**Li**) extraction rates were achieved from sulphuric acid leaching of beneficiated McDermitt ore. Li extraction from composite samples averaged 93% (250µm) and 94% (75µm) using 500kg sulphuric acid per tonne of leach feed[5].

Subsequent to the acid leaching test work described above, an additional 300 kg composite sample (250 µm, comprising Units 4, 6, 8, and 10) was leached, yielding lithium in solution (leachate) for downstream test work (post-leach process steps – see Figure 2). The purification of the lithium-rich solution was successfully completed, resulting in the first production of battery-grade lithium carbonate, assaying 99.8% Li_2CO_3 with acceptable levels of deleterious elements in accordance with a typical third-party contract specification. This achievement significantly de-risks the Project by demonstrating the effectiveness of all process steps of the flowsheet at bench scale. Reaching this milestone provides strong validation of the flowsheet developed for McDermitt.

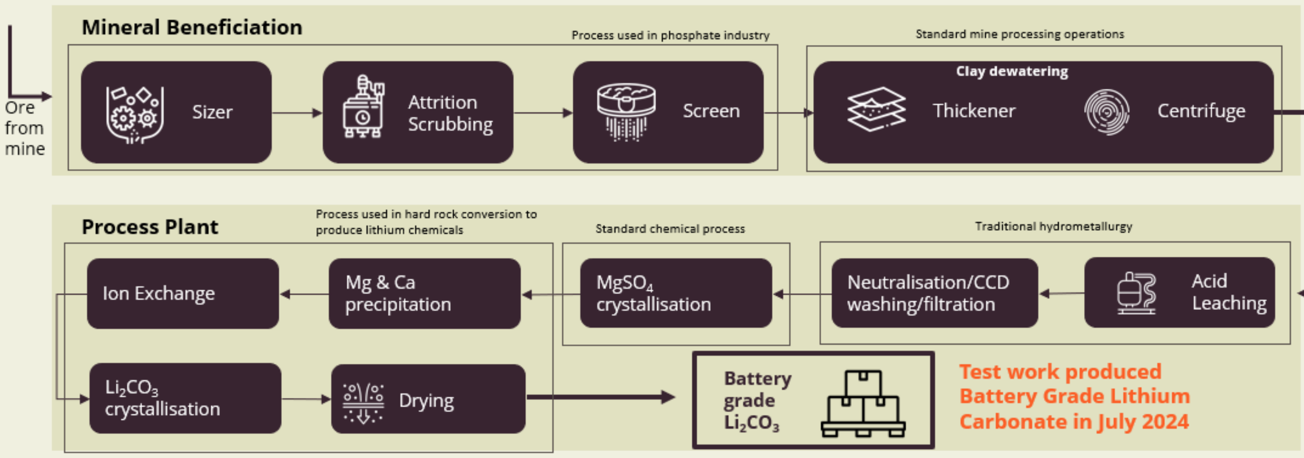

Fig 2 – McDermitt Flowsheet

Authorised for release by the Jindalee Board of Directors.

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References

1. Jindalee Lithium ASX announcement 27/02/2023: "Resource at McDermitt increases to 21.5 Mt LCE"
2. Jindalee Lithium ASX announcement 24/03/2023: "Preferred Lithium Extraction Process for McDermitt Project"
3. Jindalee Lithium ASX announcement 07/06/2023: "McDermitt Lithium Project PFS to Commence - Fluor Appointed Lead Engineer"
4. Jindalee Lithium ASX announcement 15/11/2023: "Exceptional Metallurgical Results from McDermitt"
5. Jindalee Lithium ASX announcement 18/01/2024: "More Exceptional Metallurgical Results from McDermitt"

About Jindalee

Jindalee Lithium Limited (ASX: JLL) is a pure-play US lithium company focussed on the development of the giant McDermitt Lithium Project (21.5 Mt LCE[1]), currently the largest lithium deposit in North America. Jindalee also provides shareholders with indirect exposure to lithium, gold, base and strategic metals, iron ore and magnesite in Australia through our holding in Dynamic Metals (ASX: DYM).

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 director and shareholder of, and consultant to, the Company and 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 being undertaken, 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 this report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any further new information or data that materially affects the information included in the original market announcements by Jindalee Lithium Limited referenced in this report and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. To the extent disclosed above, the Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Cut-off Grade (ppm Li)	Indicated Resource			Inferred Resource			Indicated and Inferred Resource		
	Tonnage (Mt)	Li Grade (ppm)	LCE (Mt)	Tonnage (Mt)	Li Grade (ppm)	LCE (Mt)	Tonnage (Mt)	Li Grade (ppm)	LCE (Mt)
1,000	1,470	1,420	11.1	1,540	1,270	10.4	3,000	1340	21.5

Table 1 – Summary of 2023 McDermitt Mineral Resource Estimate at the reporting cut-off of 1,000ppm[1]. Note: totals may vary due to rounding. *(Lithium carbonate equivalent (**LCE**) is calculated by taking the lithium value and multiplying by 5.323 to determine the molar equivalent in standard industry fashion).*

Forward-Looking Statements

This document may contain certain forward-looking statements. Forward-looking statements include but are not limited to statements concerning Jindalee Lithium Limited's (Jindalee's) current expectations, estimates and projections about the industry in which Jindalee operates, and beliefs and assumptions regarding Jindalee's future performance. When used in this document, the words such as "anticipate", "could", "plan", "estimate", "expects", "seeks", "intends", "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 are subject to known and unknown risks, uncertainties and other factors, some of which are beyond the control of Jindalee and no assurance can be given that actual results will be consistent with these forward-looking statements.

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 1.5m intervals or lithological and/or alteration boundaries. • Colluvium/overburden was not sampled. • All samples were placed into individually labelled, consecutively numbered sample bags. • Metallurgical test work samples were a composite sample of quarter core or coarse rejects from the previously conducted geochemical assaying and are believed to be representative of the interval under investigation. • The samples (approximately 700kg total) came from holes MDD004, MDD006, MDD012, MDD018, MDD023 and MDD026 with samples taken from Units 4, 6, 8 and 10 within the Indicated portion of conceptual Pit Shell 5 (nominal 0-20 years).
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 >90% 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.
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.

Criteria	JORC Code explanation	Commentary
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 samples were individually crushed to 70% passing less than 2mm, and 500g sub samples were riffle split off by ALS Laboratories in Reno, Nevada with the remaining samples (coarse residues) averaging approximately 1.7kg each. • Quarter core and the coarse residue samples from ALS Laboratories were forwarded to Hazen Research Inc. in Golden, Colorado (Hazen) where they were crushed to 100% passing 1.7mm before compositing to be used for the metallurgical testwork documented in this announcement. • A composite sample (comprising Units 4, 6, 8 and 10) was beneficiated to -250 micron cut size without any further grinding and was leached with sulphuric acid and the leachate subsequently purified to produce battery-grade lithium carbonate.
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 a range of other elements using 4-acid digest and peroxide fusion digest with the digested solution analysed by ICP-OES. • 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 locations were surveyed using a handheld Garmin GPS with an accuracy of +/- 3m horizontally, and +/- 5m vertically; hole positions were also checked against a Digital Elevation Model (DEM). • Locations are reported in metres NAD83 Zone11. • 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 assessment of the areas and geological horizon(s) of interest. • An Indicated and Inferred Mineral Resource has been estimated for the McDermitt Project (refer Jindalee's ASX announcement dated 27/02/2023 for further details). • Sample compositing was undertaken for metallurgical test work as described above.

Criteria	JORC Code explanation	Commentary
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 collected by qualified geological consultants engaged by Jindalee and stored on site in locked sample storage bins provided by ALS Laboratories, who then collected the bins and transported them to their facilities in either Reno or Elko, USA. • 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 was supervised by metallurgists employed by Hazen and reviewed by senior metallurgists and chemical engineers from Fluor Corporation.

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 and lode 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.

Criteria	JORC Code explanation	Commentary
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 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.*	• 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 weighted average above a 1000ppm Li cut-off, with a maximum of 10 feet (3.05m) internal 'waste' (where 'waste' is defined as intervals with less than 1000ppm Li) and a minimum downhole width of 20 feet (6.1m). • Conversion from Li ppm to Li_2O is achieved by multiplying by 2.153 and converting to %. • Lithium carbonate equivalent (LCE) is calculated by taking the Li value and multiplying by 5.323 to determine the molar equivalent in standard industry fashion.
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 extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the*	• Metallurgical testwork (previously announced) has indicated high lithium recoveries from leaching with sulphuric acid at moderate temperature and

Criteria	JORC Code explanation	Commentary
	main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	atmospheric pressure and that the mineralised material can be beneficiated using attrition scrubbing. • Further metallurgical test work is currently underway to identify improved options for lithium extraction ahead of a Pre-Feasibility Study (PFS) expected to be completed in Q4 2024. • Additional drilling is planned to define extensions to known mineralisation, upgrade the mineral resource estimate and obtain samples for further metallurgical testwork.