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ASX ANNOUNCEMENT

LITHIUM AUSTRALIA DISCOVERS LITHIUM PEGMATITES AT MEDCALF, WESTERN AUSTRALIA

HIGHLIGHTS

- **Lithium (spodumene) pegmatite swarms identified at Medcalf lithium prospect**
- **Rock chip assays containing spodumene from 3.1% Li_2O up to 7.1% Li_2O**
- **Discovery, together with nearby Mt Day prospect, adds to potential of Lithium Australia's Lake Johnson Lithium Project**

INTRODUCTION

Lithium Australia NL (ASX: LIT) has identified lithium pegmatite swarms at Medcalf, part of the Lake Johnson Project (Figure 1) in the highly lithium-prospective Yilgarn Block which hosts major lithium deposits at Earl Grey (Kidman Resources and SQM) Mt Marion (NeoMetals, Gangfeng and Mineral Resources) and Mt Cattlin (Galaxy). All of these deposits, including Medcalf and Lithium Australia's nearby Mt Day prospect, have similar geological features. The pegmatites emanate from nearby fertile granites and are injected into adjacent greenstones.

The lithium pegmatites of the Yilgarn Block are attracting investment from some of the world's largest lithium companies.

MEDCALF DISCOVERY

An initial geological reconnaissance programme was conducted after interpretation of aerial photographs highlighted the potential for multiple pegmatites in 2017. Outcropping pegmatites were identified at Medcalf during subsequent field inspections in April 2018.

Recent geological mapping, and sampling confirmed some of these pegmatites as LCT (lithium, caesium, tantalum) types. Pegmatite swarms containing spodumene mineralisation outcrop in a zone of some 100 metres by 50 metres in area, within a larger area of pegmatites of 250m wide by 500 metres long. Initial rock-chip samples are prospective with grades ranging from 3.07% Li_2O up to 4.78% Li_2O and one spodumene only specimen sample grading 7.15% Li_2O (refer Table 1, Appendices 1 and 2).

Field inspection identified a pegmatite swarm centred upon the highest hill in the area, where at least five pegmatites were located, and all containing spodumene (refer Figure 2 below). The prospect area has moderate to low topographic relief and potential exists for additional pegmatites under cover.

The main target area visited contains pegmatites presenting as a dyke swarm comprised of numerous pegmatites in a zone about 250m wide and at least 500m long (Figure 2). The outcrops of individual pegmatites range from about 2m to 10m in width and 50m to 150m in length.

The pegmatites appear to dip at moderate to steep angles towards the southwest, and appear to have true-thicknesses of about 5m and are relatively close together with only a few metres separating individual pegmatites.

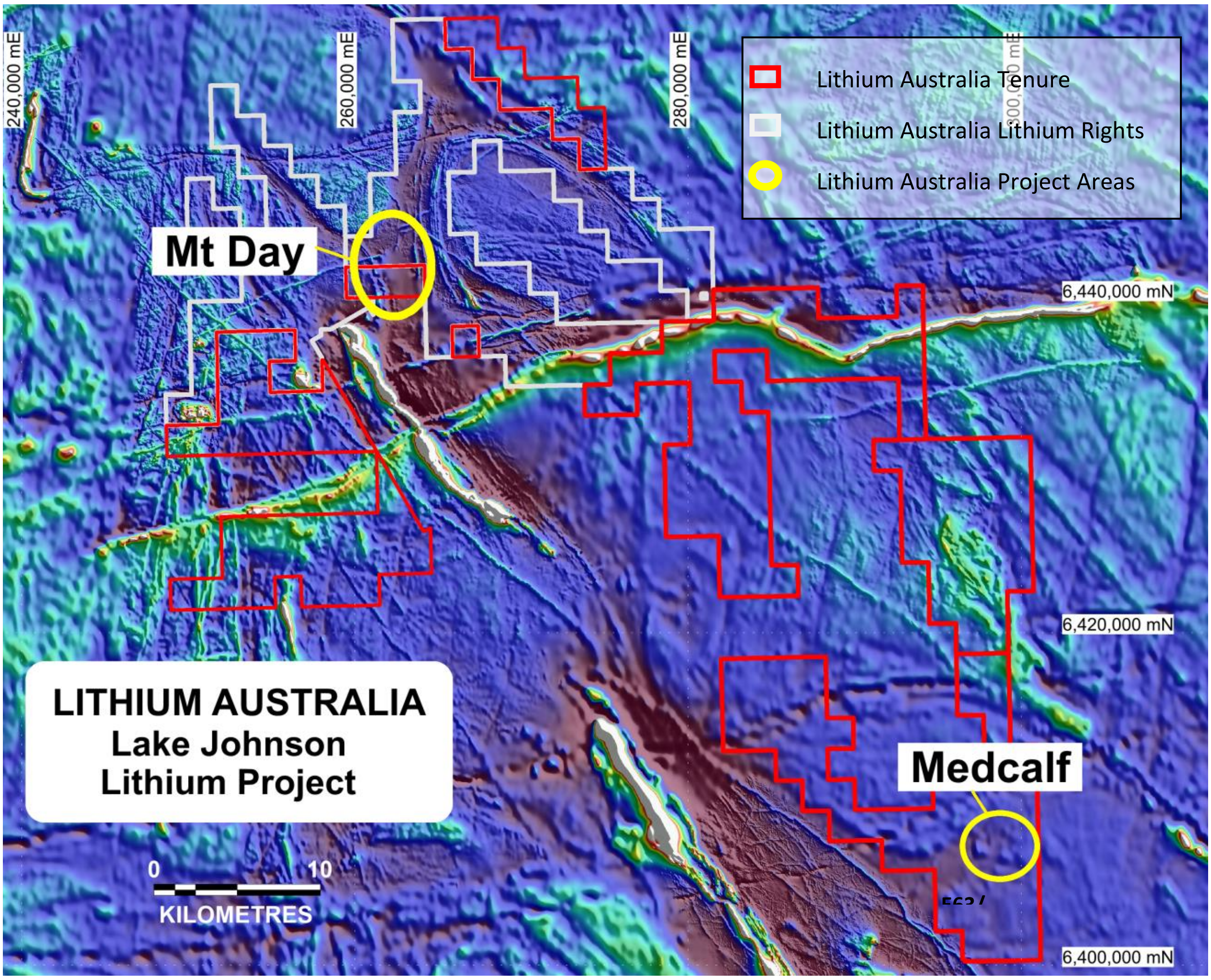

Figure 1: LIT's Lake Johnson tenement package underlain by regional magnetic data

REGIONAL EXPLORATION POTENTIAL

The Medcalf Lithium project (E63/1809, held 100% by LIT) is located in the southeast part of the Lake Johnson Project in the southern Yilgarn region of Western Australia about 460 kilometres east of Perth, Western Australia (Figure 1). Medcalf is some 45 kilometres south-east of LIT's existing Mt Day Lithium Prospect area (refer ASX release 27 January 2017) and is approximately 120 kilometres east-south-east of the Earl Gray lithium deposit being developed by Kidman Resources (ASK: KDR) in a joint venture with Sociedad Químicay Minera de Chile S.A. (SQM).

The regional geological setting, and proximity of the pegmatites to a gneiss complex comprised of migmatite, gneiss and several distinct granite plutons, is an important factor contributing to the emplacement of LCT pegmatites. Brittle failure zones in the greenstones adjacent to granites are excellent target zones and the greenstones between Medcalf and Mt Day may well host further LCT pegmatite occurrences, as may other parts of the greenstone sequence adjacent to granites. LIT has most of the sequence covered by exploration licences (both granted and applications) and an access rights agreement with Lefroy Exploration (ASX:LEX) (refer ASX release 18 October 2016).

RESULTS

Geological mapping and reconnaissance rock chip sampling was conducted over pegmatites in the Medcalf prospect area as shown in Figure 2 below:

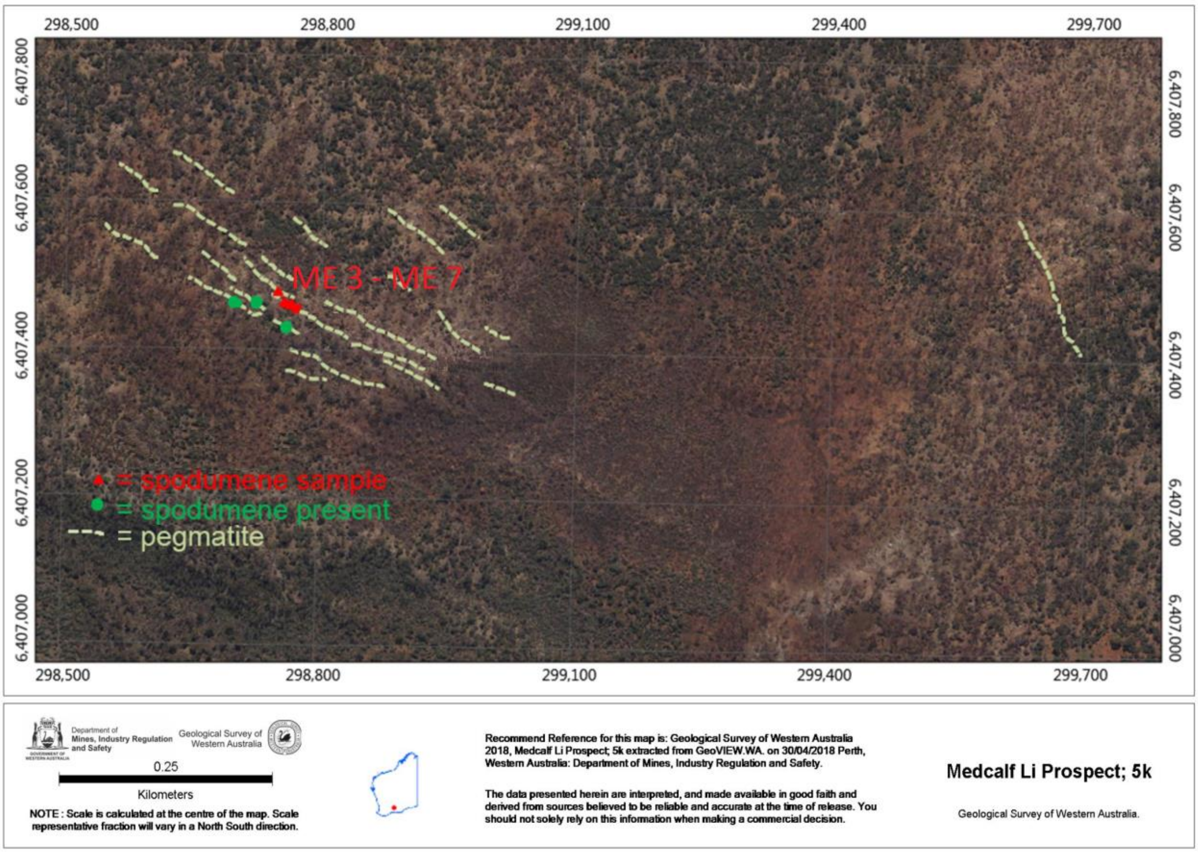

Figure 2: Area of outcrop of pegmatite swarm at Medcalf, showing sample locations.

Figure 3, at right, shows an example of outcropping pegmatite at the Medcalf Lithium prospect area.

Alignment and layering of spodumene crystals indicating directional growth during formation of the pegmatites are evident in this outcrop.

The image also shows the location of one of the reconnaissance rock chip samples – ME6 – which returned an assay of 3.13% Li_2O.

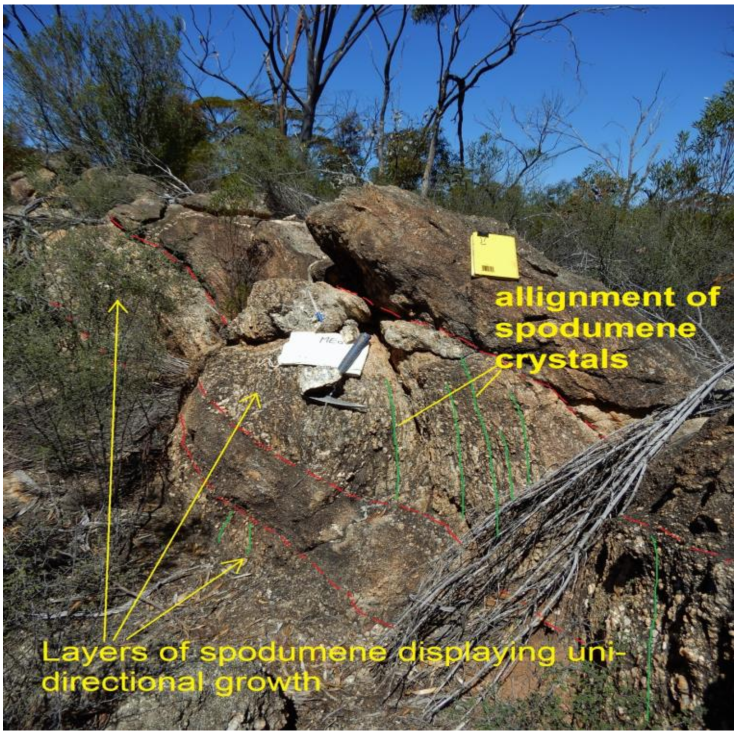

Figure 3: Outcropping spodumene pegmatite (sample ME6)

Lithium values from rock chip samples ranged from below detection level for rock samples containing no spodumene, from 3.07 % Li_2O up to 4.78 % Li_2O in spodumene bearing rock chip samples and for one specimen sample, comprised solely of spodumene, a grade of 7.15% Li_2O was recorded.

Results from selected spodumene bearing rock chip samples are shown below in Table 1.

Sample I.D.	Li_20 %	Easting (mE)	Northing (mN)	Grid*	Sample description
ME3	4.17	298764	6407465	MGA-94, z51	weathered spodumene-qtz(-feldspar) rock
ME4	4.78	298765	6407463	MGA-94, z51	weathered spodumene-qtz(-feldspar) rock
ME5	7.15	298765	6407463	MGA-94, z51	fragments of slightly weathered spodumene
ME6	3.13	298773	6407458	MGA-94, z51	unidirectional growth qtz-spodumene
ME7	3.07	298765	6407470	MGA-94, z51	qtz-spodumene rock
**MGA: Map Grid of Australia, for use in Australia between longitudes 120°E and 126°E*					

Table 1: Selected rock chip samples from Medcalf lithium prospect. Note: - results are presented as indicative only. Field Duplicates or Certified Reference Materials were not submitted with the samples due to the preliminary reconnaissance nature of the programme. Laboratory QAQC was completed, comprising laboratory standards and repeats.

While the results in Table 1 are preliminary results from non-representative rock chip sampling, the results are very promising, as they come from first pass reconnaissance work in an area previously not known to contain lithium bearing pegmatites. These encouraging results warrant follow-up and more detailed work, comprising further geological mapping and a soil sampling programme is being planned.

Managing Director of Lithium Australia, Adrian Griffin, commented:

"The occurrence of LCT pegmatites adjacent to granites at Medcalf has regional geological significance. The pegmatites occur in the same greenstone sequence that abuts the same granite complex at Lithium Australia's Mt Day prospect, 45 km to the north-east. Both locations have significant lithium mineralisation and there is good potential for locating further LCT pegmatites below cover, within the Lake Johnson Project area."

Adrian Griffin - **Managing Director**
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About Lithium Australia NL

Lithium Australia aspires to 'close the loop' on the energy-metal cycle. Its disruptive extraction processes are designed to convert *all* lithium silicates to lithium chemicals, from which advanced components for the battery industry can be created. By uniting resources and the best available technology, Lithium Australia seeks to establish a vertically integrated lithium processing business.

MEDIA CONTACTS

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Kevin Skinner, Field Public Relations 08 8234 9555 | 0414 822 631

Competent Persons Statement:

The information contained in the report that relates to Exploration Results together with any related assessments and interpretations is based on information compiled by Mr Peter Spitalny on behalf of Mr Adrian Griffin, Managing Director of Lithium Australia NL. Mr Spitalny is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient relevant to the styles of mineralisation under consideration and to the activity which he has undertaken to qualify as a Competent Person. Mr Griffin is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation under consideration and to the activity being reported to qualify as a Competent Person as defined under the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Griffin consents to the inclusion in the report of the matters based on Mr Spitalny's data in the form and context in which it appears. The Company is not aware of any new information or data that materially affects the information in this report and such information is based on the information compiled on behalf of the company Managing Director Mr Griffin.

APPENDIX 1: Medcalf Lithium Prospect rock-chip sample assay results.

Sample ID.	Li (ppm)	Li2O (%)*1	Rb (ppm)	Cs (ppm)	Ta (ppm)	Be (ppm)
MB1	<10	< 0.01	3106	42	1	2
ME1	50	0.01	5705	71	72	19
ME2	1760	0.38	6761	97	45	30
ME3	19350	4.17	392	8	85	70
ME4	22180	4.78	604	13	94	25
ME5	33210	7.15	220	8	27	12
ME6	14520	3.13	916	19	61	117
ME7	14250	3.07	499	30	57	1057
ME7 REPEAT*3	14500	3.12	504	33	61	1085
Analytical Method	ICP*2	ICP*2	ICP*2	ICP*2	ICP*2	ICP*2

*1 Calculated from stated assay results.

*2 Peroxide Fusion Digest in zirconium crucibles with ICP finish, by Nagrom Analytical (Kelmscott WA).

*3 Laboratory repeat

Note: Field Duplicates or Certified Reference Materials were not submitted with the samples due to the preliminary reconnaissance nature of the program. Results are presented as indicative only. Laboratory QAQC was completed comprising laboratory reference standards and 1 x repeat sample.

APPENDIX2: Medcalf Lithium Prospect rock-chip sample descriptions and locations.

Sample ID.	Sample Description	Easting (mE)	Northing (mN)	Grid*
MB1	monomineralic microcline	299672	6407479	MGA-94, z51
ME1	monomineralic microcline	299925	6407396	MGA-94, z51
ME2	monomineralic microcline	298777	6407449	MGA-94, z51
ME3	weathered spodumene-qtz(-feldspar) rock	298764	6407465	MGA-94, z51
ME4	weathered spodumene-qtz(-feldspar) rock	298765	6407463	MGA-94, z51
ME5	fragments of slightly weathered spodumene	298765	6407463	MGA-94, z51
ME6	unidirectional growth qtz-spodumene	298773	6407458	MGA-94, z51
ME7	qtz-spodumene rock	298765	6407470	MGA-94, z51

*MGA: Map Grid of Australia, for use in Australia between longitudes 120°E and 126°E

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

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.*	• <u>Specimen rock-chip samples</u>. Samples collected were around 1-3kg of spodumene-rich rock from pegmatite outcrops. • Samples were selected in order to ascertain the degree of lithium enrichment in the different pegmatites and enable geochemical characterisation of individual pegmatites. As such, the samples are representative of the lithium mineralisation within the lithium-rich zones of the pegmatites but do not represent the composition of the entire pegmatite. The distribution of lithium minerals in pegmatites may be within distinct zones which can be treated selectively. As such, it is appropriate to assess the lithium content of the lithium zones in isolation of the remainder of the pegmatite. • A total of 7 samples were collected by LIT's experienced field geologist and consultant geologist and sent to Nagrom Laboratories (Perth) for analyses. • Laboratory QAQC duplicates and blanks were not inserted in the batch of preliminary rock-chip samples. • 1 x sample was repeated as party of internal laboratory QAQC (i.e. a second assay from the same pulverised sample).

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).*	• Not applicable
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.*	• Not applicable
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.*	• Rock-chip samples are not logged, however basic topography, environment, sample nature and geological, mineralogical and petrographic details are recorded.
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.*	• Not applicable, no drill core. • All rock-chip samples were dry. • Laboratory standards, splits and repeats were used for quality control. One field duplicate sample was taken. No Certified Reference Material standards were submitted as part of the sample batch as the samples are preliminary reconnaissance in nature. • The sample type and method was of acceptable standard for first pass pegmatite mapping and represents standard industry practice at this stage of investigation.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Sample preparation is integral to the analysis process as it ensures a representative sample is presented for assay. The preparation process includes sorting, drying, crushing, splitting and pulverising. • Rock Chip samples and soil samples were assayed by Nagrom Laboratories for multi-elements using

		Peroxide Fusion and ICP analyses for Li, Rb, Cs, Be, Bi and Ta, with XRF analyses for Al, As, Ba, Ca, Cl, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, Pb, Sb, Si, Sn, S, Sr, Ti, V, Zn and Zr. • Laboratory standards, splits and repeats were used for quality control.
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.*	• Sample results have been checked by company personnel (Senior Geologist) and a consultant geologist. • Assays to be reported as Excel xls files and secure pdf files. • Data entry carried out by field personnel thus minimizing transcription or other errors. Careful field documentation procedures and rigorous database validation ensure that field and assay data are merged accurately. • No adjustments are made to assay data.
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.*	• Sample locations picked up with hand held Garmin *GPSmap 62sc,* with approximately 3-5m accuracy, which is sufficient for first pass pegmatite mapping. • All locations recorded in MGA 94 Zone 51. • Topographic locations interpreted from GPS pickups (barometric altimeter) and field observations. Adequate for first pass pegmatite mapping.
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.*	• Rock-chip samples were selected by the geologist to assist with identification of the nature of the mineralisation present at each location. No set sample spacing was used and samples were taken based upon geological variation at the location.

		• Sample compositing was not applied.
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.*	• Surface samples of "points" only. Does not provide orientation, width information. Associated structural measurements and interpretation by geologist can assist in understanding geological context.
Sample security	• *The measures taken to ensure sample security.*	• Samples were securely packaged when transported to ensure safe arrival at assay facility.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• None necessary at this stage of the exploration.

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.*	· The results reported in this announcement is of investigation of pegmatites within granted tenement E63/1809, 100% held by Lithium Australia NL. The Medcalf Lithium Prospect is located about 450km east of Perth in WA. · Tenement E63/1809 is in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	· Prior Li/Ta exploration carried out by Amax Australia Ltd 1980-1981. Some exploration for gold and nickel also completed (Asarco; 1966-1970, Central Pacific; 1970-1972, Australasian Gold Mines; 1992-1998, Bullion Minerals; 2000-2002, Monarch Resources; 2002-

		2004 and White Cliff Minerals 2009-2016) but not relevant to Lithium Australia's investigation of lithium mineralisation.
Geology	• *Deposit type, geological setting and style of mineralisation.*	· Pegmatites intruded mostly mafic rocks but also some intercalated felsic rocks. There are a large number of pegmatites, most of which are gently dipping. · Pegmatites within the tenements include LCT-Complex pegmatites that contain spodumene in association with quartz and feldspars.
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.*	• Not applicable
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.*	• Not applicable, rock chip sample results reported as individual surface samples.
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*	• Not applicable, rock chip sample results reported as individual surface samples.

	width not known').	
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.*	• Not Applicable: not drilling results
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.*	• Results of assays for Li, Rb, Cs, Ta and Be of all samples reported in Appendix 1
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.*	• All meaningful & material exploration data has been reported
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.*	• At the time of reporting, the results were still being evaluated but it is envisaged that in the short term further mapping and sampling is warranted to investigate potential additional lithium pegmatites. In the longer term, drilling to test extensions at depth will be required.