



ASX: LTR 13th February 2020

# Kathleen Valley Lithium Resource hits 139Mt @ 1.3% Li<sub>2</sub>O as latest drilling success underpins 86% increase

Continued resource growth confirms Kathleen Valley as a Tier-1 lithium deposit

#### **HIGHLIGHTS**

- Measured, Indicated and Inferred Mineral Resource Estimate (MRE) for Liontown's 100%-owned Kathleen Valley Lithium-Tantalum Project in WA:
  - 139Mt @ 1.3% Li<sub>2</sub>O and 140ppm Ta<sub>2</sub>O<sub>5</sub> (reported above a cut-off grade of 0.55% Li<sub>2</sub>O).
  - Containing 1.8Mt of Li<sub>2</sub>O or 4.5Mt of lithium carbonate equivalent (LCE) and 43Mlbs of Ta<sub>2</sub>O<sub>5</sub>.
- The updated MRE represents an 86% increase from the MRE of 74.9Mt @ 1.3% Li<sub>2</sub>O and 140ppm Ta<sub>2</sub>O<sub>5</sub> released in July 2019 and a 556% increase in tonnes from the maiden MRE of 21.2Mt @ 1.4% Li<sub>2</sub>O and 166ppm Ta<sub>2</sub>O<sub>5</sub> released in September 2018.
- 58% of the updated Mineral Resource is classified as Measured or Indicated.
- This interim MRE update is a precursor to a MRE scheduled for completion in March 2020 which will ultimately underpin a Definitive Feasibility Study (DFS).
- Drilling is ongoing to increase the confidence of the March 2020 MRE and maximise the proportion of material that can be converted to Ore Reserves as part of the DFS.
- The Mineral Resource remains open both along strike and at depth and there is potential for further growth once all results are received from the ongoing drilling programme, which is scheduled for completion at the end of February 2020.
- The MRE is located on granted Mining Leases in an established, well-serviced mining district, close to existing transport, power and camp infrastructure.

Liontown Resources Limited (ASX: LTR – "Liontown" or "the Company") is pleased to advise that it continues to build momentum towards its objective of developing a high-quality, long-life lithium-tantalum mining operation in Western Australia with the announcement of a further substantial increase in the Mineral Resource for its 100%-owned **Kathleen Valley Lithium Project**, located 670km north-east of Perth (*Figure 1*).



The Measured, Indicated and Inferred Mineral Resource, which was prepared by independent specialist resource and mining consulting group Optiro Pty Ltd ("Optiro"), comprises 139Mt at an average grade of 1.3% Li<sub>2</sub>O and 140ppm Ta<sub>2</sub>O<sub>5</sub> and is set out in Table 1. Liontown is investigating both open pit and underground mining methods. The Company has selected a cut-off grade of 0.55% Li<sub>2</sub>O for resource reporting, which strikes a balance between the potential open pit and underground expected cut-off grades.

Table 1: Kathleen Valley Mineral Resource as at February 2020

Resource category	Million tonnes	Li₂O %	Ta₂O₅ ppm
Measured	19	1.3	150
Indicated	61	1.3	140
Inferred	59	1.3	130
Total	139	1.3	140

Notes: • Reported above a Li<sub>2</sub>O cut-off grade of 0.55%.

The MRE is reported and classified in accordance with the guidelines of the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code; 2012).

The updated MRE represents an increase of 86% compared with the Mineral Resource announced in July 2019. The updated MRE now comprises 1.8Mt of contained lithium oxide and 43Mlbs of contained tantalite.

Using the benchmark Lithium Carbonate Equivalent (LCE) measure, the resource contains 4.5Mt of LCE, underlining its position as one of the few new, significant lithium projects of scale (*Figure 2*) currently being progressed towards development in Australia over the next 2-3 years.

The decision to prepare an interim MRE update followed a review of data from the ongoing drilling programme which indicated that a previously announced resource extension Exploration Target of 25-50Mt at 1.2-1.5% Li<sub>2</sub>O would be materially exceeded. This target was in addition to July 2019 MRE and indicated a potential increase of 33-66% in the deposit size (see ASX Announcement dated 5<sup>th</sup> February 2020 for full explanation assumptions used to estimate target ranges).

In-fill drilling and drilling to define the margins of the mineralised system is continuing at Kathleen Valley with up to five drill rigs operating. This drilling is designed to increase the percentage of Measured and Indicated material, which could potentially be converted to Ore Reserves, and also further expand the resource – which remains open along strike and at depth.

Drilling is scheduled to be completed by the end of February 2020 with the subsequent data used to prepare a MRE scheduled for completion in March 2020, which will form the basis for a Definitive Feasibility Study (DFS).

The next MRE will include both open pit and underground resources which are anticipated to provide the best outcome for the DFS by providing the opportunity to bring forward the mining of higher grade mineralisation.

Commenting on the latest Resource update, Liontown's Managing Director, Mr David Richards, said:

"Once again, Kathleen Valley has delivered for Liontown shareholders. With the recent results from extensional drilling, it became apparent that we were on track to materially exceed our published Exploration Target. In light of this, we have decided to publish this interim resource update, which clearly demonstrates that Kathleen Valley is a Tier-1 lithium-tantalum deposit.

Tonnages and grades have been rounded to reflect the relative precision of the estimate.

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"In the space of two significant resource updates, we have now delivered a more than sixfold increase from our maiden Mineral Resource while maintaining a high average lithium and tantalum grade.

"Importantly, this is not the end of the story in terms of the growth of this deposit. Resource extension drilling is continuing around the clock with five rigs operating and will continue until the end of this month. Once all the data from the remaining drilling has been collated, we will estimate a final Mineral Resource next month that will form the basis of our Definitive Feasibility Study."

"Based on the success of our drilling, we are increasingly confident that the DFS will encapsulate both a high-grade underground mine in parallel with an open pit, establishing the foundations for a new long-life, high-quality Australia lithium-tantalum mining operation."

#### Geology

The Kathleen Valley Lithium Project is located on the western edge of the Norseman-Wiluna Belt within the Archaean Yilgarn Craton, approximately 400km north of Kalgoorlie. The lithium mineralisation is hosted within spodumene-bearing pegmatites, which are part of a series of LCT-type rare metal pegmatites that intrude mafic and sedimentary rocks in the region.

Nineteen mineralised pegmatites have been identified at the Kathleen Valley Project hosted by two, outcropping, NW/SE trending pegmatite swarms (*Figure 3*) – a shallowly-dipping, north-eastern swarm (Kathleen's Corner), which contains approximately 90% of the pegmatites, and a steeper dipping south-western swarm (Mt Mann). The two swarms are interpreted to merge at depth to form a single, thick, moderately dipping mineralised body which remains open down-dip and along strike (*Figure 4*).

#### **Mineral Resource**

A number of drilling programmes have been undertaken since early 2017 and the database used to define the lithium-tantalum mineralisation at Kathleen Valley comprises 330 Reverse Circulation (RC) drill holes for a total of 53,746m and 74 diamond core drill holes for a total of 16,273m. The drill section spacing ranges from 30m to 100m, with drill holes spaced at 25m to 60m on section.

A full listing of drill-hole statistics is provided in Liontown's ASX Announcement dated 5<sup>th</sup> February 2020, which is available on the Company's website.

The resource model for the Kathleen Valley deposit was constructed using a parent block size of 10mE by 10mN on 3m benches, and the parent blocks were allowed to sub-cell down to 2.5mE by 2.5mN by 0.5mRL to more accurately represent the geometry and volumes of the mineralised pegmatites.

Lithium oxide ( $\text{Li}_2\text{O}$ ) % and tantalum pentoxide ( $\text{Ta}_2\text{O}_5$ ) ppm block grades were estimated using ordinary kriging techniques, with an appropriate top-cut applied to the  $\text{Ta}_2\text{O}_5$  data. Bulk densities were measured from NQ, HQ and PQ diamond core with 2.71t/m³ applied to the pegmatite within the oxidised and weathered horizons and 2.73t/m³ applied to the fresh pegmatite.

The Mineral Resource has been classified on the basis of confidence in geological and grade continuity and taking into account the quality of the sampling and assay data, data density and confidence in the estimation of  $\text{Li}_2\text{O}$  and  $\text{Ta}_2\text{O}_5$  content (from the kriging metrics).

Liontown is investigating both open pit and underground mining methods. The Company has selected a cut-off grade of 0.55%  $\text{Li}_2\text{O}$  for resource reporting, which strikes a balance between the potential open pit and underground expected cut-off grades. This cut-off grade is commensurate with cut-off grades applied for the reporting of lithium Mineral Resources hosted in spodumene-rich pegmatites elsewhere in Australia.

The deposit is located in a well-established mining region and in close proximity to existing transport, energy and camp infrastructure. It is considered that the classified portion of the deposit has reasonable prospects for eventual economic extraction.



The Mineral Resource has been reported above a range of Li<sub>2</sub>O cut-off grades in *Table 2*.

Table 2: Mineral resource reported by Li<sub>2</sub>O % cut-off grades

Cut-off Li₂O %	Million tonnes	Li₂O %	Ta₂O₅ ppm
0.3	139	1.33	139
0.4	139	1.33	139
0.5	139	1.33	139
0.55	139	1.33	140
0.6	138	1.33	140
0.7	136	1.34	140
0.8	133	1.36	141
0.9	127	1.38	141
1.0	117	1.42	142

### **Summary of JORC 2012 Table 1**

A summary of JORC Table 1 (included as Appendix 2) is provided below for compliance with the Mineral Resource and in-line with requirements of ASX listing rule 5.8.1.

#### Geology and Mineralisation Interpretation

Nineteen mineralised pegmatites were interpreted at the Kathleen Valley Project.

At Mt Mann, two steeply-dipping (-70° west) pegmatites have been drilled over a strike length of 1,200m and to a vertical depth of 480m. The two pegmatites are up to 35 m thick and have average thicknesses of 9m and 16m.

At Kathleen's Corner, 17 sub-horizontal pegmatites have been drilled over an area of 1,800m by 1,300m. These pegmatites outcrop in the northeast, are up to 40m thick with an average thickness of 8m and extend down-dip for 850m to 950m, where they merge with Mt Mann pegmatites 250m to 300m below surface to form a single, thick (35 m to 75 m) mineralised body.

The merged pegmatite zone is interpreted to extend down-dip to include spodumene-mineralised intersections from recent drilling that have not yet been assayed. Assays from these intersections will be incorporated into the March 2020 MRE update.

Mineralisation interpretation was based on a combination of geology logging (identification of pegmatite with spodumene) and assay data. A nominal grade of  $0.4\%\ \text{Li}_2\text{O}$  was used for definition of the mineralised pegmatites.

#### **Drilling Techniques**

Drill holes within the resource model were reverse circulation (RC) drill holes drilled with a 5.5" diameter face sampling hammer and NQ/HQ/PQ, standard tube, diamond core holes.

#### Sampling Techniques

RC samples were collected by the metre from the cyclone as two 1m split samples in calico bags and a bulk sample in plastic mining bags.

Diamond core samples have been typically collected in intervals of 1m where possible, otherwise as intervals as close as possible to 1m based on geological boundaries.



#### Sampling Analyses

All samples were analysed for rare metals including Li and Ta by standard industry techniques at ALS and Nagrom laboratory in Perth, WA.

#### Mineral Resource Classification

The Mineral Resource has been classified on the basis of confidence in geological and grade continuity and taking into account the quality of the sampling and assay data, data density and confidence in the estimation of  $Li_2O$  and  $Ta_2O_5$  content (from the kriging metrics).

In general, the pegmatites that have been tested by the 50m by 50m spaced drill holes have high confidence in the geological interpretation and, having higher estimation quality, were classified as Measured.

Areas where the drill spacing is up to 60m by 100m that have good confidence in the geological interpretation and where the majority of block grades were estimated within the first search (but where the estimation quality is lower than the Measured areas) were classified as Indicated.

Areas where the drill spacing is up to 60m by 100m, that have good confidence in the geological interpretation and where the majority of block grades were estimated in the second and third search passes or in areas of grade extrapolation have been classified as Inferred.

#### Estimation Methodology

Block grades for  $Li_2O\%$  and  $Ta_2O_5$  ppm were estimated using ordinary kriging (OK) with an appropriate top-cut applied to  $Ta_2O_5$ . Variogram analyses were undertaken to determine the grade continuity and the kriging estimation parameters used for the OK.

#### Cut-off Grade

Liontown has selected a cut-off grade of 0.55% Li<sub>2</sub>O for resource reporting, which reflects a balance between the potential open pit and underground resources and their expected different cut-off grades. This cut-off grade is commensurate with cut-off grades applied for the reporting of lithium Mineral Resources hosted in spodumene-rich pegmatites elsewhere in Australia.

#### Mining Factors

The mineralisation at Kathleen Valley is hosted by multiple, outcropping pegmatites which are initially largely shallowly dipping before steepening at depth where they merge to form a single thick coherent body. The deposit would be suitable for open pit and underground mining.

The deposit is located in a well-established mining region and in close proximity to existing transport, energy and camp infrastructure.

#### Metallurgical Factors

A total of 81 composited drill core samples were collected from across the three main areas (Mount Mann, Kathleen Corner and North) for the PFS metallurgical test work programme. These samples include a range of grades and depths.

The metallurgical process proposed consisted of three-stage comminution including high-pressure grinding rolls (HPGR), dense medium separation followed by flotation. This is a similar circuit to that used in several hard rock lithium mines currently operating in Western Australia. The process has been tested at PFS level in the laboratory and the overall metallurgical recovery estimated from the flowsheet testing was 76% into a spodumene concentrate grading 6.1% Li<sub>2</sub>O and chemical grade specifications are achievable.

Optimisation of the overall flow sheet is ongoing as is test work to check the variability of the deposit and to develop a flow sheet for the tantalum.



This announcement has been authorised for release by the Board.

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#### **Competent Person Statement**

The information in this report which relates to Mineral Resources for the Kathleen Corner's and Mt Mann deposits is based upon and fairly represents information compiled by Mrs Christine Standing who is a Member of the Australian Institute of Geoscientists and a Member of the Australasian Institute of Mining and Metallurgy. Mrs Standing is an employee of Optiro Pty Ltd and has sufficient experience relevant to the style of mineralisation, the type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mrs Standing consents to the inclusion in the report of a summary based upon her information in the form and context in which it appears.

The Information in this report that relates to Ore Reserves and Pre-Feasibility Study (PFS) for the Kathleen Valley Project is extracted from the ASX announcements "Kathleen Valley Pre-Feasibility Study confirms potential for robust new long-life open pit lithium mine in WA" released on 2<sup>nd</sup> December 2019 which is available on <a href="https://www.ltresources.com.au">www.ltresources.com.au</a>.

#### **Forward Looking Statement**

This announcement contains forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.



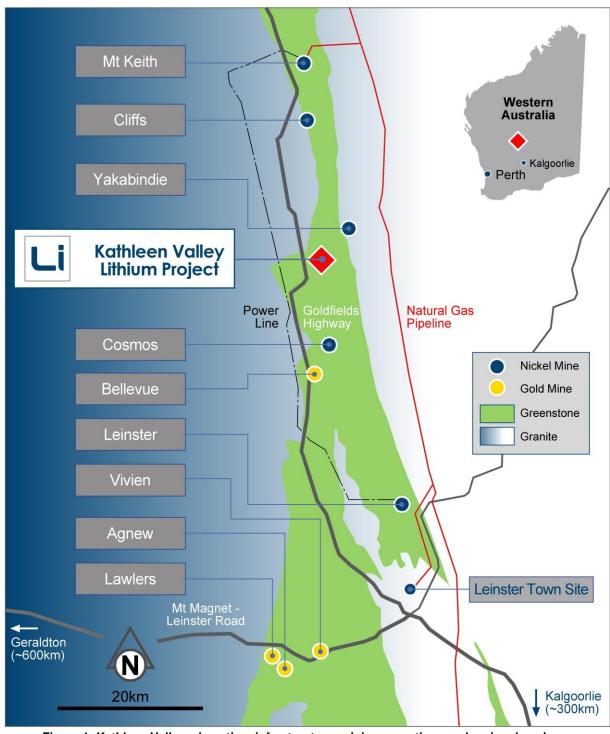


Figure 1: Kathleen Valley – Location, infrastructure, mining operations and regional geology.



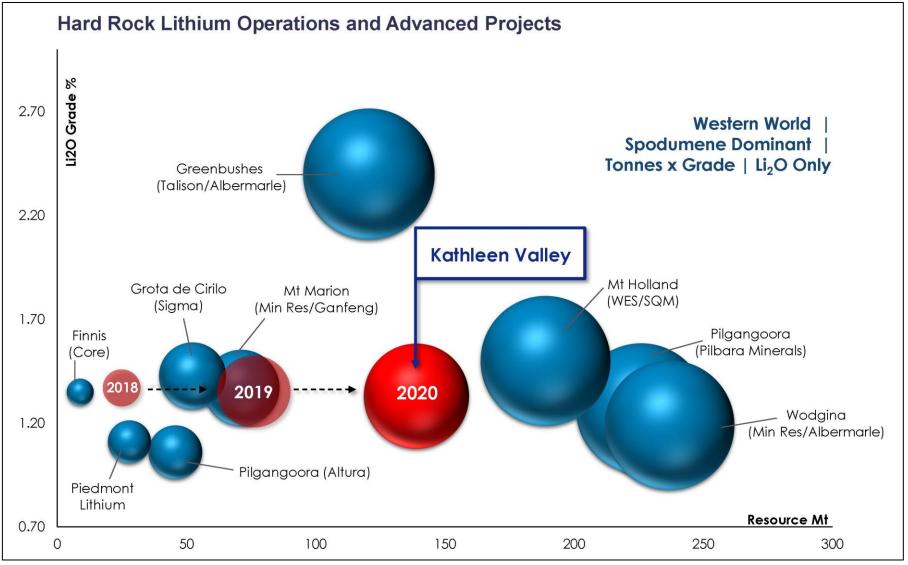


Figure 2: Kathleen Valley – Comparison with other significant lithium deposits (see Appendix 1 for peer comparison information including resource classifications)



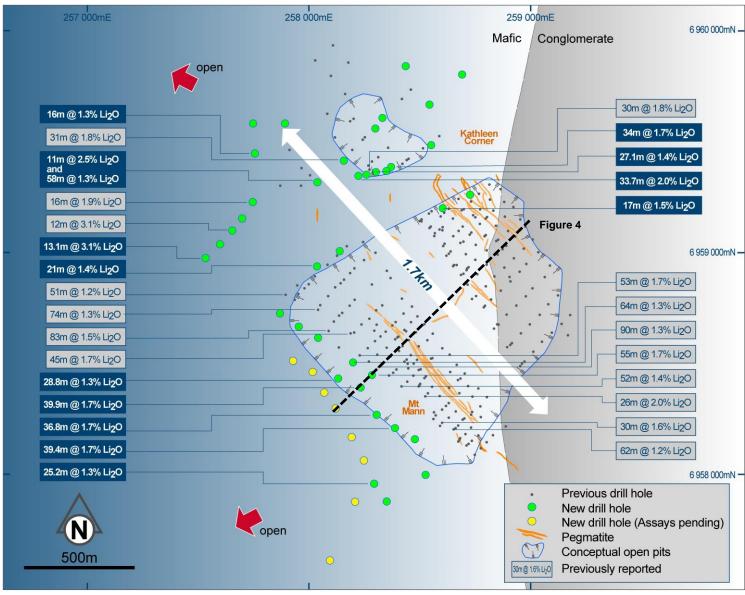


Figure 3: Kathleen Valley - Drill hole plan showing better intersections from ongoing and previous drill hole programs.



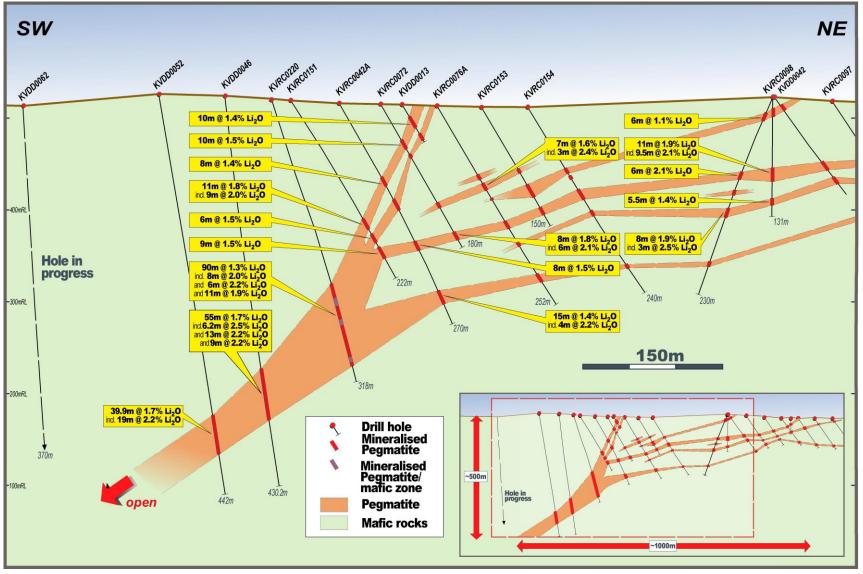


Figure 4: Kathleen Valley – Drill section through Kathleen Valley Lithium Deposit showing mineralised pegmatites and better lithium intersections (see Figure 3 for drill section location)



**Appendix 1: Peer Comparison Information – Mineral Resource Estimates** 

Company	Project	Stage	Measured Mt	Indicated Mt	Inferred Mt	Global MRE Mt	MRE Grade	Information Source
Liontown Resources	Kathleen Valley	Development	19	61	59	139	1.33	ASX Announcement, 13 Feb 2020- https://www.ltresources.com.au
Pilbara Minerals	Pilgangoora	Operating	22.8	112.8	90.4	226	1.3	ASX Announcement, 17 Sept 2018 - <a href="http://www.pilbaraminerals.com.au/site/PDF/2235_0/PilgangooraR_eserveandResourceUpgrade">http://www.pilbaraminerals.com.au/site/PDF/2235_0/PilgangooraR_eserveandResourceUpgrade</a>
Wesfarmers / SQM	Mt Holland	Development	66	106	17	189	1.5	ASX Announcement, 19 March 2018 - https://wcsecure.weblink.com.au/pdf/KDR/01963105.pdf
Talison / Albermarle	Greenbushes	Operating	0.6	117.9	2.1	120.6	2.4	NI 43-101 Technical Report 2012 - <a href="http://www.goldendragoncapital.com/greenbushes-lithium-mine/">http://www.goldendragoncapital.com/greenbushes-lithium-mine/</a>
Piedmont Lithium	Piedmont	Development	0	13.9	14.0	27.9	1.11	ASX Announcement, 25 June 2019- https://d1io3yog0oux5.cloudfront.net/_aee37ed4f1b7c04614dea0 a7b549e5c2/piedmontlithium/db/336/2543/pdf/190625+- +Resource+Update_Final.pdf
Sigma Lithium	Grota de Cirilo	Development	26.31	19.43	6.64	52.38	1.43	Investor Presentation, January 2020: <a href="http://www.sigmalithiumresources.com/wp-content/uploads/2020.01.14-Sigma-Marketing-Presentation.pdf">http://www.sigmalithiumresources.com/wp-content/uploads/2020.01.14-Sigma-Marketing-Presentation.pdf</a>
Mineral Resources / Jiangxi Ganfeng	Mt Marion	Operating	0	22.70	48.7	71.3	1.37	ASX Announcement, 28th October: <a href="https://www.neometals.com.au/reports/2018-10-31-1697-">https://www.neometals.com.au/reports/2018-10-31-1697-</a> <a href="https://www.neometals.com">https://www.neometals.com</a>



#### Appendix 2: Kathleen Valley – JORC Code 2012 Table 1 Criteria)

The table below summaries the assessment and reporting criteria used for the Kathleen Valley Lithium Project Mineral Resource estimate and reflects the guidelines in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

Section 1 Sampling Techniques and Data

Criteria	mpling Techniques and Data  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.	<ul> <li>Sub-surface samples have been collected by reverse circulation (RC) and diamond core drilling techniques (see below).</li> <li>Drill holes are oriented perpendicular to the interpreted strike of the mineralised trend except where limited access necessitates otherwise.</li> </ul>
	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.	<ul> <li>RC samples are collected by the metre from the drill rig cyclone as two 1m cone split samples in calico bags and a bulk sample in plastic mining bags.</li> <li>The 1m samples from the cyclone are retained for check analysis. Only samples of pegmatite and adjacent wall rock (up to 4m) are collected for assay.</li> <li>Diamond core has been sampled in intervals of ~1m (up to 1.6m within the main project area) where possible, otherwise intervals less than 1 m have been selected based on geological boundaries. Geological boundaries have not been crossed by sample intervals.</li> </ul>
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).	<ul> <li>Drilling techniques used at Kathleen Valley comprise:         <ul> <li>Reverse Circulation (RC/5.5") with a face sampling hammer</li> <li>NQ2 Diamond Core, standard tube to a depth of ~300-600m.</li> <li>HQ Diamond Core, standard tube to a depth of ~200-250m.</li> <li>PQ Diamond Core, standard tube to a depth of ~200m.</li> <li>Diamond core holes drilled directly from surface or from bottom of RC pre-collars. Core orientation was provided by an ACT REFLEX (ACT II RD) tool.</li> </ul> </li> </ul>
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	<ul> <li>Sample recoveries are estimated for RC by correlating sample heights in the plastic bag to estimate a recovery for each metre.</li> <li>For diamond core the recovery is measured and recorded for every metre.</li> </ul>
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	<ul> <li>RC drill collars are sealed to prevent sample loss and holes are normally drilled dry to prevent poor recoveries and contamination caused by water ingress. Wet intervals are noted in case of unusual results.</li> <li>For diamond core loss, core blocks have been inserted in sections where core loss has occurred. This has then been written on the block and recorded during the logging process and with detailed photography of dry and wet core.</li> </ul>



Criteria	JORC Code explanation	Commentary
Criteria	·	·
	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.	<ul> <li>It has been demonstrated that no relationship exists between sample recovery and grade. No grade bias was observed with sample size variation.</li> </ul>
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.	<ul> <li>All RC drillholes are logged on 1 m intervals and the following observations recorded:</li> <li>Recovery, quality (i.e. degree of contamination), wet/dry, hardness, colour, grainsize, texture, mineralogy, lithology, structure type and intensity, pegmatite and vein type and %, lithium mineralogy and %, alteration assemblage, UV fluorescence.</li> <li>Diamond core is logged in its entirety as per detailed geological description listed above. Geotechnical logging has been completed for the entire hole.</li> </ul>
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	<ul> <li>Logging is quantitative, based on visual field estimates.</li> <li>Diamond core is photographed post metre marking, for the entire length of the hole, two trays at a time, wet and dry.</li> </ul>
	The total length and percentage of the relevant intersections logged.	Drill holes are logged in their entirety.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	<ul> <li>The core has been cut in half and then quartered for sample purposes. Half core used for metallurgical studies with the remaining quarter stored as a library sample.</li> <li>Density measurements have been taken on quarter core samples using the Archimedes method.</li> </ul>
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC samples are collected as rotary split samples.     Samples are typically dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	<ul> <li>Sample preparation follows industry best practice standards and is conducted by internationally recognised laboratories; i.e.</li> <li>Oven drying, jaw crushing and pulverising so that 80% passes -75 microns.</li> </ul>
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	<ul> <li>Duplicates and blanks submitted approximately every 1 in 20 samples.</li> <li>Standards are submitted every 20 samples or at least once per hole.</li> <li>Cross laboratory checks and blind checks have been used at a rate of 5%.</li> </ul>
	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	<ul> <li>Measures taken include:         <ul> <li>regular cleaning of cyclones and sampling equipment to prevent contamination</li> <li>insertion of blanks, duplicate samples and industry-certified standards.</li> </ul> </li> <li>Analysis of duplicates (field, laboratory and umpire) was completed and no issues identified with sampling representatively.</li> <li>Analysis of results from blanks and standards indicates no issues with contamination (or sample mix-ups) and a high level of accuracy.</li> <li>Sample size is considered appropriate and is in-line</li> </ul>
Quality of assay data	of the material being sampled.  The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	<ul> <li>with industry standards.</li> <li>Initial assaying (2017) completed by ALS Perth.</li> <li>Subsequent assaying (2018 onwards) completed by Nagrom laboratories Perth.</li> <li>Both laboratories use industry standard procedures</li> </ul>



Criteria	JORC Code explanation	Commentary
and laboratory		for rare metals such as Li and Ta. Analytical
tests		techniques are 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.	None used.
	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.	<ul> <li>Duplicates and blanks submitted approximately every 20 samples.</li> <li>Standards are submitted every 20 samples or at least once per hole.</li> <li>Cross laboratory checks and blind checks have been used at a rate of 5%.</li> <li>Analysis of reference blanks, standards and duplicate samples show the data to be of acceptable accuracy and precision for the Mineral Resource estimation and classification applied.</li> </ul>
Verification of	The verification of significant intersections by either independent or alternative company personnel.	Internal review by alternate company personnel.
sampling and assaying	The use of twinned holes.	11 diamond holes have been drilled as twins or in close proximity to existing RC drill holes. Results compare well with the original RC drill holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<ul> <li>Drilling and logging data is entered directly into Microsoft Excel spreadsheets onsite while drilling is ongoing. Data is then entered into Access Database and validated before being processed by industry standard software packages such as MapInfo and Micromine.</li> <li>Representative chip samples are collected for later reference.</li> </ul>
	Discuss any adjustment to assay data.	<ul> <li>Li% is converted to Li<sub>2</sub>O% by multiplying by 2.15, Ta ppm is converted to Ta<sub>2</sub>O<sub>5</sub> ppm by multiplying by 1.22.</li> </ul>
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	<ul> <li>All drill collars and geochemical samples are initially located using a handheld GPS.</li> <li>Drill collars are subsequently surveyed accurately by a licensed surveyor using DGPS techniques. Eastings and northings are measured to within +/-2cm while elevations are measured to within +/-10cm.</li> <li>All RC drill holes have been surveyed by a multishot digital downhole camera provided by the drilling contractor.</li> <li>All diamond drill holes have been surveyed with a REFLEX EZI-SHOT (1001) magnetic single shot camera.</li> </ul>
	Specification of the grid system used.	• GDA 94 Zone 51.
	Quality and adequacy of topographic control.	<ul> <li>Initial collar elevations are based on regional topographic dataset.</li> <li>Drill hole collars are surveyed post drilling with DGPS (see above).</li> <li>Further topographic data (20cm contours) has been provided for the Project by a LIDAR flown by Fugro.</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Varies due to initial drill programmes largely designed to test the down-dip potential of mineralised outcrops. The drill section spacing is 40 m to 100 m and on-section spacing is generally 30 m to 60 m.



Criteria	JORC Code explanation	Commentary
	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.	The data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation and classification applied.
	Whether sample compositing has been applied.	None undertaken.
Orientation of data in relation to	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Drilling is typically oriented perpendicular to the interpreted strike of mineralisation except where limited access necessitates otherwise.
geological structure	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.	<ul> <li>Drilling orientation intersects the mineralisation at appropriate angles so as to be mostly unbiased and suitable for resource estimation of the major pegmatite bodies.</li> </ul>
Sample security	The measures taken to ensure sample security.	Sample security is not considered to be a significant risk given the location of the deposit and bulknature of mineralisation.      Nevertheless, the use of recognised transport providers, sample dispatch procedures directly from the field to the laboratory, and the large number of samples are considered sufficient to ensure appropriate sample security.      Company geologist supervises all sampling and subsequent storage in field. The same geologist arranges delivery of samples to Nagrom laboratories in Perth via courier.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Independent, expert competent person reviews have been completed by Ms. Wild of Wildfire Resources Pty Ltd and Mrs. Standing of Optiro Limited on the resource drilling, sampling protocols and data.</li> <li>This included a laboratory visit to Nagrom by Ms. Wild.</li> <li>Results indicate sampling and QAQC procedures are in-line with industry standards.</li> </ul>

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.	<ul> <li>The Kathleen Valley Project is located ~670km NE of Perth and ~45km NNW of Leinster in Western Australia. The Project comprises four granted mining leases - MLs 36/264, 265, 459, 460 and one Exploration License - E36/879.</li> <li>The mining leases (MLs) and rights to pegmatite hosted rare-metal mineralisation were acquired from Ramelius Resources Limited via a Sales Agreement completed in 2016. The MLs have been transferred to LRL (Aust) Pty Ltd, a wholly owned subsidiary of Liontown Resources Limited (Liontown).</li> <li>Ramelius acquired 100% of the Kathleen Valley Project MLs in June 2014 from Xstrata Nickel Operations Pty Ltd (Xstrata). Xstrata retains rights to any nickel discovered over the land package via an Offtake and Clawback Agreement.</li> <li>The Gold Rights were acquired from Ramelius via a Sales Agreement completed in June 2019.</li> <li>LRL (Aust) Pty Ltd has assumed the following Agreement:</li> </ul>



AJA. I		
Criteria	JORC Code explanation	Commentary
		<ul> <li>Bullion and Non-Bullion Royalty Agreement of a 2% Gross Production Royalty affecting M36/264-265 and 459-460.</li> <li>The EL is in the name of Liontown Resources Limited with no third-party obligations apart from statutory requirements.</li> <li>The tenements are covered by the Tjiwarl Determined Native Title Claim (WC11/7). Liontown has signed an Access Agreement with the NT group which largely applies to E36/879.</li> <li>LRL (Aust) Pty Ltd has received Section 18 consent</li> </ul>
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a	to drill on certain areas with M36/459 and M36/460.  • All tenements are in good standing.
Exploration done by other parties	licence to operate in the area.  Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Multiple phases of exploration have previously been completed for gold and nickel. This has not been reviewed in detail due to Liontown's focus on rare metal pegmatites.</li> <li>There has been limited sporadic prospecting for Li, Ta and Sn, principally by Jubilee Mines (subsequently taken over by Xstrata). Work comprised geological mapping, broad spaced soil sample lines and rock chip sampling of the pegmatites. Details of the methods and procedures used have not been documented.</li> <li>There has been no previous drill testing of the Li and Ta prospective pegmatites prior to Liontown acquiring the Project.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Project is located on the western edge of the Norseman- Wiluna Belt within the Archaean Yilgarn Craton.</li> <li>The Kathleen Valley Project contains a series of quartz-feldspar-muscovite-spodumene pegmatites hosted in mafic rocks related to the Kathleen Valley Gabbro or the Mt Goode Basalts.</li> <li>The pegmatites are LCT type lithium bearing-pegmatites.</li> </ul>
Drillhole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:  • easting and northing of the drillhole collar  • elevation or RL (elevation above sea level in metres) of the drillhole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length.	Exploration results are not being reported for the Mineral Resources area.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	<ul> <li>Exploration results are not being reported for the Mineral Resources area.</li> <li>Metal equivalents have not been used.</li> </ul>
Relationship between mineralisation widths and	If the geometry of the mineralisation with respect to the drillhole 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 (e.g. 'down hole length, true width not known').	<ul> <li>Drill holes intersected mineralisation at near perpendicular to the dip orientation of the host lithologies and mineralisation.</li> <li>Exploration results are not being reported for the Mineral Resources area.</li> </ul>

ASX: LTR



Criteria	JORC Code explanation	Commentary
intercept lengths		
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 drillhole collar locations and appropriate sectional views.	Relevant diagrams have been included within the 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.	Exploration results are not being reported for the Mineral Resources area.
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.	Where relevant, this information has been included or referred to elsewhere in this Table.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	<ul> <li>Further drilling to expand and improve confidence in the Mineral Resource.</li> <li>Option studies to define parameters for Definitive Feasibility Study (DFS).</li> <li>Update Mineral Resource with additional drilling data for the DFS.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	<ul> <li>Drill hole data was extracted directly from the Company's drill hole database, which includes internal data validation protocols.</li> <li>Data was further validated by Optiro upon receipt, and prior to use in the estimation.</li> </ul>
	Data validation procedures used.	Validation of the data was confirmed using mining software (Datamine) validation protocols, and visually in plan and section views.
Site visits	Comment on any site visits undertaken by the Competent Persons and the outcome of those visits.	<ul> <li>Liontown personnel Mr. Richards and Mr. Day have visited the site on numerous occasions to supervise the drilling programmes.</li> <li>Ms. Wild (Principal Geologist and Director of Wildfire Resources Pty Ltd) and Mrs. Standing (Optiro Pty Ltd) have visited the site on separate occasions during resource definition drilling programmes to review sampling procedures.</li> <li>Ms. Wild reported that, in general, site practices were quite good, core quality was excellent and RC sample quality was moderate.</li> <li>Mrs. Standing has confirmed site practices are appropriate and satisfactory for the preparation of a Mineral Resource Estimate.</li> </ul>
Geological interpretation	Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit.  Nature of the data used and of any assumptions made.	<ul> <li>The confidence in the geological interpretation is reflected by the assigned resource classification.</li> <li>Both assay and geological data were used for the</li> </ul>
	mude.	<ul> <li>mineralisation interpretation.</li> <li>The lithium mineralisation is defined by a nominal 0.4% Li<sub>2</sub>O cut-off grade.</li> <li>Continuity between drill holes and sections is good.</li> </ul>



ASX: I		
Criteria	JORC Code explanation	Commentary
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	<ul> <li>No alternative interpretations were considered.</li> <li>Any alternative interpretations are unlikely to significantly affect the Mineral Resource estimate.</li> </ul>
	The use of geology in guiding and controlling Mineral Resource estimation.	<ul> <li>Geological logging (including spodumene crystal orientation from the diamond core) has been used for interpretation of the pegmatites.</li> </ul>
	The factors affecting continuity both of grade and geology.	The mineralisation is contained within pegmatite veins that are readily distinguished from the surrounding rocks.
		Sectional interpretation and wire framing indicates good continuity of the interpreted pegmatite veins both on-section and between sections.  The confidence in the grade and prolonical.
	The extent and any inhibit of the Mineral December	The confidence in the grade and geological continuity is reflected by the assigned resource classification.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>Nineteen mineralised pegmatites have been identified at the Kathleen Valley Project which extend from surface to a depth of 480m.</li> </ul>
	iower illinis of the Milleral Resource.	• At Mt Mann, two steeply-dipping (-70° west) pegmatites have been drilled over a strike length of 1,200m and to a vertical depth of 480m. The two pegmatites are up to 35m thick and have average thicknesses of 9m and 16m. At Kathleen's Corner, 17 sub-horizontal pegmatites have been drilled over an area of 1,800m by 1,300m. These pegmatites outcrop in the northeast, are up to 40m thick with an average thickness of 8m and extend
		down-dip for 850m to 950m, where they merge with Mt Mann pegmatites at approximately 250m to 300m below surface to form a single, thick (35m to 75m) mineralised body.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	<ul> <li>Data analysis and estimation was undertaken using Snowden Supervisor and Datamine software.</li> <li>Lithium oxide (Li<sub>2</sub>O) % and tantalum pentoxide (Ta<sub>2</sub>O<sub>5</sub>) ppm block grades were estimated using ordinary kriging (OK). Optiro considers OK to be an appropriate estimation technique for this type of mineralisation.</li> </ul>
		<ul> <li>The nominal spacing of the drill holes is 50m by 50m.</li> <li>The along section spacing ranges from 30m to 100m and on-section spacing ranges from generally 30m to 60m.</li> </ul>
		Almost 93% of the assay data for within the mineralised pegmatites is from samples of 1m intervals, 1% is from sample of >1m (to a maximum of 1.6m) and 6% is from intervals of less than 1m. The data was composited to 1m downhole intervals for analysis and grade estimation.
		<ul> <li>Variogram analysis was undertaken to determine the kriging estimation parameters used for OK estimation of Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub>.</li> <li>Li<sub>2</sub>O mineralisation continuity was interpreted from</li> </ul>
		variogram analyses to have an along strike range of 50m to 168m and a down-dip (or across strike) range of 48m to 100m.  • Ta <sub>2</sub> O <sub>5</sub> mineralisation continuity was interpreted
		from variogram analyses to have an along strike range of 50m to 117m and a down-dip (or across strike) range of 100m to 142m.



ASX:		
Criteria	JORC Code explanation	Commentary
		<ul> <li>A maximum extrapolation distance of 50m was applied along strike. Down dip extrapolation was generally 30m, however, the geological interpretation (and thus grade extrapolation) of the feeder zone (below Mt Mann) was extended by 30m depth and up to 150m down dip to include intersections with visible spodumene mineralisation (that have not yet been assayed) and where assay data confirmed along strike extensions of this deeper mineralisation.</li> <li>Kriging neighbourhood analysis was performed in order to determine the block size, sample numbers and discretisation levels.</li> <li>Three estimation passes were used for Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub>; the first search was based upon the variogram ranges; the second search was two times the initial search and the third search was up to seven times the second search and second and third searches had reduced sample numbers required for estimation.</li> <li>Almost 87% of the total Li<sub>2</sub>O block grades were estimated in the first search pass, 12% within the second search pass and only 1% estimated in the third search pass. A few blocks (0.6%) were not estimated within three of the pegmatites and the average estimated block grade for each domain was assigned to these blocks. Blocks with assigned grades comprise 0.002% of the total resource model.</li> <li>The majority of Ta<sub>2</sub>O<sub>5</sub> block grades (almost 91%) were estimated in the first pass, 8% in the second pass and 0.3% in the third pass.</li> <li>The Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> estimated block model grades were visually validated against the input drill hole data and comparisons were carried out against the declustered drillhole data and by northing, easting</li> </ul>
	Description of how the geological interpretation was used to control the resource estimates.	<ul> <li>and elevation slice.</li> <li>Geological interpretations were completed on sections which were wire framed to create a 3D interpretation of the mineralised pegmatites.</li> <li>The interpretation of mineralisation was by Liontown based on geological logging and Li<sub>2</sub>O content. A nominal grade of 0.4% Li<sub>2</sub>O was used to define the mineralisation within the interpreted pegmatites.</li> <li>The mineralised domain is considered geologically robust in the context of the resource classification applied to the estimate.</li> </ul>
	Discussion of basis for using or not using grade cutting or capping.	<ul> <li>Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> have low coefficients of variation (CV). Some higher-grade outliers were noted and the Ta<sub>2</sub>O<sub>5</sub> grades were capped (top-cut). The top- cut level was determined using a combination of top-cut analysis tools, including grade histograms, log probability plots and the CV.</li> </ul>
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The Mineral Resource was first estimated for the Kathleen's Valley Lithium Project in August 2018 and was updated in July 2019. The July 2019 Mineral Resource comprising 74.9 Mt at an average grade of 1.3% Li₂O and 140 ppm Ta₂O₅ was



Criteria	IORC Code evaluation	Commentary
Criteria	JORC Code explanation	Commentary
		reported above a Li <sub>2</sub> O cut-off grade of 0.5% for open pit potential (above 200mRL) and 0.7% for underground potential (below 200 mRL).  • Since the July 2019 Mineral Resource was estimated an additional 33 reverse circulation holes, for a total of 13,051m (including 10 precollars) and 22 diamond core holes (for a total of 4,523m) have been drilled. These have extended the mineralisation at Mt Mann at depth (from 390m in 2019 to 480m in 2020) and at Kathleen's Corner to the northwest by 700m.  • The resource tonnage has increased from 74.9Mt in 2019 to 139Mt in 2020 and the average grade of the resource of 1.3% Li <sub>2</sub> O and 140 ppm Ta <sub>2</sub> O <sub>5</sub> is the same for both resource estimates.  • In addition, the cut-off grade used for Mineral Resource reporting have been changed to reflect the combination of potential mining methods.
	The second secon	No production has occurred.
	The assumptions made regarding recovery of by- products.	<ul> <li>No assumptions have been applied for the recovery of by-products.</li> <li>Metallurgical test work is ongoing to determine the recoveries that could be expected.</li> </ul>
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	<ul> <li>Deleterious elements were not considered for the Mineral Resource estimate.</li> <li>Metallurgical test work is in progress. Results to date indicate low levels of Fe within the interpreted mineralised pegmatite domains.</li> <li>Sulphur assays have been determined for more than 27,000 host rock samples – results indicate that acid mine drainage will not be a significant</li> </ul>
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	<ul> <li>environmental factor.</li> <li>Grade estimation was into parent blocks of 10mE by 10mN by 3.0mRL.</li> <li>Block dimensions were selected from kriging neighbourhood analysis and reflect the variability of the deposit as defined by the current drill spacing.</li> <li>Sub-cells to a minimum dimension of 2.5mE by 2.5mN by 0.5mRL were used to represent volume.</li> </ul>
	Any assumptions behind modelling of selective mining units.	Selective mining units were not modelled.
	Any assumptions about correlation between variables.	<ul> <li>Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> are not correlated. Both Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> were estimated independently.</li> </ul>
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	<ul> <li>No production has taken place and thus no reconciliation data is available.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>A cut-off grade of 0.55% Li<sub>2</sub>O has been selected to represent the portion of the resource that may be considered for eventual economic extraction by a combination of open pit and underground mining methods.</li> <li>This cut-off grade has been selected by Liontown Resources in consultation with Optiro based on current experience and in-line with cut-off grades applied for reporting of Mineral Resources of lithium hosted in spodumene bearing pegmatites</li> </ul>



Criteria	JORC Code explanation	Commentary
		elsewhere in Australia.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous.	<ul> <li>The mineralisation at Kathleen Valley extends from surface and would be suitable for open pit mining. High grade mineralisation is present at depth and would be suitable for underground mining.</li> <li>The Kathleen Valley Lithium Project is located in a well-established mining region and in close proximity to existing close to existing transport, energy and camp infrastructure.</li> <li>On the basis of these assumptions, it is considered that there are no mining factors which are likely to affect the assumption that the deposit has reasonable prospects for eventual economic extraction.</li> </ul>
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.	A Pre-feasibility level test work programme was conducted at ALS in Perth to provide sufficient test data to develop the process design criteria for the project. A total of 81 intercepts from across the three main areas (Mt Mann, Kathleen Corner and Kathleen Valley North) were selected for the Prefeasibility Study. A master composite was created for testing from these samples which are representative of the whole deposit and include a range of grades and depths. No variability testing has been undertaken at this time.  Key aspects of the metallurgical test work included the following:  head assay  SMC testing on five comminution samples  size by size assay  crushing and wet screening at three sizes  heavy liquid separation (HLS) at three crush and screen sizes Dense media separation of a bulk sample  bond ball work index on DMS middlings  magnetic separation to remove ferrous materials  rougher flotation to examine collector choice, residence time, desliming and conditioning  cleaner flotation to examine residence time and number of stages  thickening of flotation and slime tailings (in progress)  filtration of concentrate  rheology of tailings.  Key results from the test-work indicated that:  Samples were moderately competent, with comminution results similar to other pegmatites.  Wet screening data indicated that there was a trade-off in crush size and screen size with liberation. A finer crush size increased liberation in the HLS stage but increased fines production. A crush size of 6 mm was selected.  DMS testing indicated that a saleable concentrate with a grade of more than 6% Li2O could be produced together with a low-grade coarse tail.  Grind optimisation of the flotation feed



ASX: LIK		
Criteria	JORC Code explanation	Commentary
		<ul> <li>indicated that a primary grind of 125 microns gave the best recovery and was thus selected for subsequent test work.</li> <li>Rougher flotation test work indicated that a modified oleic acid collector gave the best flotation performance.</li> <li>Batch cleaner flotation results indicated that a concentrate with a grade of more than 6% Li2O could be produced.</li> <li>Concentrate filtration test work, currently being finalised, has indicated that vacuum filtration will be adequate for dewatering.</li> <li>Rheology test work indicated that the tailings have low viscosity at the proposed tailings density.</li> <li>The overall metallurgical recovery estimated from the flowsheet testing was 76% based on a combination of dense media testing and batch flotation. The proposed metallurgical process is used in several lithium projects currently operating in Western Australia. The process has been tested at Pre-feasibility level in the laboratory and further work is planned during the DFS.</li> </ul>
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation.	<ul> <li>Baseline flora and fauna studies have been completed and it is considered unlikely, given current knowledge that impacts on conservation significant flora, fauna and ecological communities will result from development of the project.</li> <li>Further baseline studies are scheduled during the DFS.</li> </ul>
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	<ul> <li>Bulk density was measured for 2,665 core samples (including 1,988 samples of pegmatite) from diamond holes using Archimedes measurements.</li> <li>The density data for the pegmatites has a range of 2.12 to 3.46t/m³.</li> <li>A bulk density of 2.71t/m³ was assigned to the oxide and transitional mineralised pegmatite and 2.73t/m³ was assigned to the fresh mineralised pegmatite.</li> </ul>
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	<ul> <li>Mineral Resources have been classified as Measured, Indicated or Inferred.</li> <li>In general, the pegmatites that have been tested by the 50 m by 50 m spaced drill holes have high confidence in the geological interpretation and, having higher estimation quality, were classified as Measured.</li> <li>Areas where the drill spacing is up to 60m by 10m that have good confidence in the geological interpretation and where the majority of block grades were estimated within the first search (but where the estimation quality is lower than the Measured areas) were classified as Indicated.</li> <li>Areas where the drill spacing is up to 60m by 100m, that have good confidence in the geological interpretation and where the majority of block grades were estimated in the second and third search passes or in areas of grade extrapolation have been classified as Inferred.</li> </ul>



Criteria	JORC Code explanation	Commentary
	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	<ul> <li>The Mineral Resource has been classified on the basis of confidence in geological and grade continuity and taking into account the quality of the sampling and assay data, data density and confidence in estimation of Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> content (from the kriging metrics).</li> </ul>
	Whether the result appropriately reflects the Competent Person's view of the deposit	<ul> <li>The assigned classification of Measured, Indicated and Inferred reflects the Competent Persons' assessment of the accuracy and confidence levels in the Mineral Resource estimate.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The Mineral Resource has been reviewed internally as part of normal validation processes by Optiro.</li> <li>No external audit or review of the current Mineral Resource has been conducted.</li> </ul>
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person.	The assigned classification of Measured, Indicated and Inferred reflects the Competent Persons' assessment of the accuracy and confidence levels in the Mineral Resource estimate.
conjuctice	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The confidence levels reflect potential production tonnages on a quarterly basis, assuming open pit mining.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has occurred from the deposit.