



### Strong progress with Kathleen Valley Definitive Feasibility Study as ongoing work identifies further key project enhancements

#### *DFS on track for completion in Q4 2021*

##### KEY POINTS

Mine planning and metallurgical test work programs have defined several key criteria with the potential to improve future operability and economic returns for the Kathleen Valley Lithium-Tantalum Project. These include:

- **An increase in the Indicated category of the previously announced Mineral Resource Estimate (MRE), with additional tonnage now available for conversion to Ore Reserves;**
- **Early sustaining capital savings and ore grade improvements in the first 10 years of production;**
- **Simplification of the process plant flowsheet such that the plant crushing equipment required is reduced while significantly increasing throughput capacity and facilitating the potential for future expansion; and**
- **Optimisation test work which indicates continued strong lithium recovery at a coarser grind size.**

Liontown Resources Limited (ASX: LTR; “Liontown” or “Company”) is pleased to advise that it has identified a number of additional project improvements and enhancements at its 100%-owned **Kathleen Valley Lithium-Tantalum Project** in Western Australia as part of the ongoing Definitive Feasibility Study (DFS), which remains on track for completion in Q4 2021.

The principal focus of the DFS is to build on the Pre-Feasibility Study (PFS) completed in October 2020 (see ASX release dated 9th October 2020) which also identified opportunities to enhance the financial returns from the Project.

The newly-identified improvements include an increase in the Indicated category of the Mineral Resource, sustaining capital savings and simplification of the process flowsheet to facilitate throughput increases and future growth.

Liontown Managing Director David Richards said the strong progress being achieved across multiple fronts with the DFS continued to position Kathleen Valley as a premier new-generation global lithium project.

“We are continuing to see excellent progress, with ongoing work reinforcing Kathleen Valley’s attributes as a high-grade, large-scale, long-life lithium project in a Tier-1 location.

“Kathleen Valley is ideally placed to be a key player in the global energy transformation, which is gaining momentum as major auto-makers and players in the lithium-ion battery supply chain continue to ramp-up their commitments to help reduce the global carbon footprint.”

### Kathleen Valley Definitive Feasibility Study (DFS) Update

Activities either recently completed or underway as part of the DFS include:

- A review of Environmental Social Governance (ESG-E) policies and their application to the Project.
- A Mineral Resource Estimate (MRE) update.
- Mine scheduling and geotechnical modelling which should result in improved economics.
- Process flowsheet enhancements.
- Detailed metallurgical test work with a focus on proving up recoveries across the ore body.
- Successful hydrological drilling.

### Environmental Social Governance (ESG-E)

A corporate review of Liontown's ESG policies and how they apply to the Kathleen Valley Project is being undertaken with a focus on returning a positive financial outcome while:

- Minimising carbon emissions, water usage and land disturbance;
- Ensuring the Traditional Owners and other local stake holders are actively involved with the planning and future operations; and
- Ensuring corporate governance is consistent with industry best practices.

The Company is reviewing a number of internationally recognised benchmarking standards which can be applied to ensure transparent assessment and reporting in line with the ESG guidelines.

### Mineral Resource Update

Assay results from a geotechnical drilling program completed in November 2020 (see ASX release dated 11th January 2021) have been used to prepare an updated Mineral Resource Estimate (MRE).

The updated MRE and previous MRE were prepared by independent specialist resource and mining consulting group Optiro Pty Ltd (Optiro) and are summarised in **Table 1**.

**Table 1: Kathleen Valley Project – Mineral Resource Estimate**

Date of Mineral Resource	Cut-off grade Li <sub>2</sub> O %	Resource category	Million tonnes	Li <sub>2</sub> O % Equiv.	Li <sub>2</sub> O %	Ta <sub>2</sub> O <sub>5</sub> ppm
March 2021	0.55	Measured	20	1.44	1.32	145
		Indicated	109	1.48	1.37	130
		Inferred	27	1.36	1.27	113
	Total		156	1.46	1.35	129
May 2020	0.55	Measured	20	1.44	1.32	145
		Indicated	105	1.48	1.37	129
		Inferred	32	1.37	1.30	115
	Total		156	1.46	1.35	128

## Notes:

- Reported above a  $\text{Li}_2\text{O}$  cut-off grade of 0.55%.
- Tonnages and grades have been rounded to reflect the relative uncertainty of the estimate. Inconsistencies in the totals are due to rounding.
- Li equivalency based on overall recoveries of 50% and 76% respectively for  $\text{Ta}_2\text{O}_5$  and  $\text{Li}_2\text{O}$  based on metallurgical testwork and commodity pricing of US\$69.9/lb for 30%  $\text{Ta}_2\text{O}_5$  concentrate and \$739/t for 6%  $\text{Li}_2\text{O}$  as advised by Liontown.
- Li equivalency based on the following formula:  

$$\text{Li}_2\text{O}_{(\text{eq})} = \text{Li}_2\text{O} + [\text{Ta}_2\text{O}_5 \text{ grade} \times (\text{Ta}_2\text{O}_5 \text{ price} / \text{Li}_2\text{O price} / \text{Li}_2\text{O conc grade}) \times (\text{Ta}_2\text{O}_5 \text{ recovery} / \text{Li}_2\text{O recovery}) \times 2,204 / 10,000]$$
- Liontown's testwork and pre-feasibility studies have shown reasonable prospects for eventual economic extraction and recovery of both lithium and tantalum.

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).

Incorporating the additional drill data has resulted in the Indicated tonnage within the MRE increasing by 4 million tonnes and the Inferred Resource decreasing by a comparable amount. An increased Indicated tonnage should enable a higher conversion of Resource to Reserve as part of the ongoing DFS and mine planning activities.

### Mine Planning and Geotechnical Review

The mining consultant group Snowden has been engaged to refine the mine schedule for a combined underground and open pit mining operation at Kathleen Valley. This review was based on the Ore Reserve of 70.8Mt @ 1.4%  $\text{Li}_2\text{O}$  and 140ppm  $\text{Ta}_2\text{O}_5$  completed in the October 2020 PFS.

Interim results indicate:

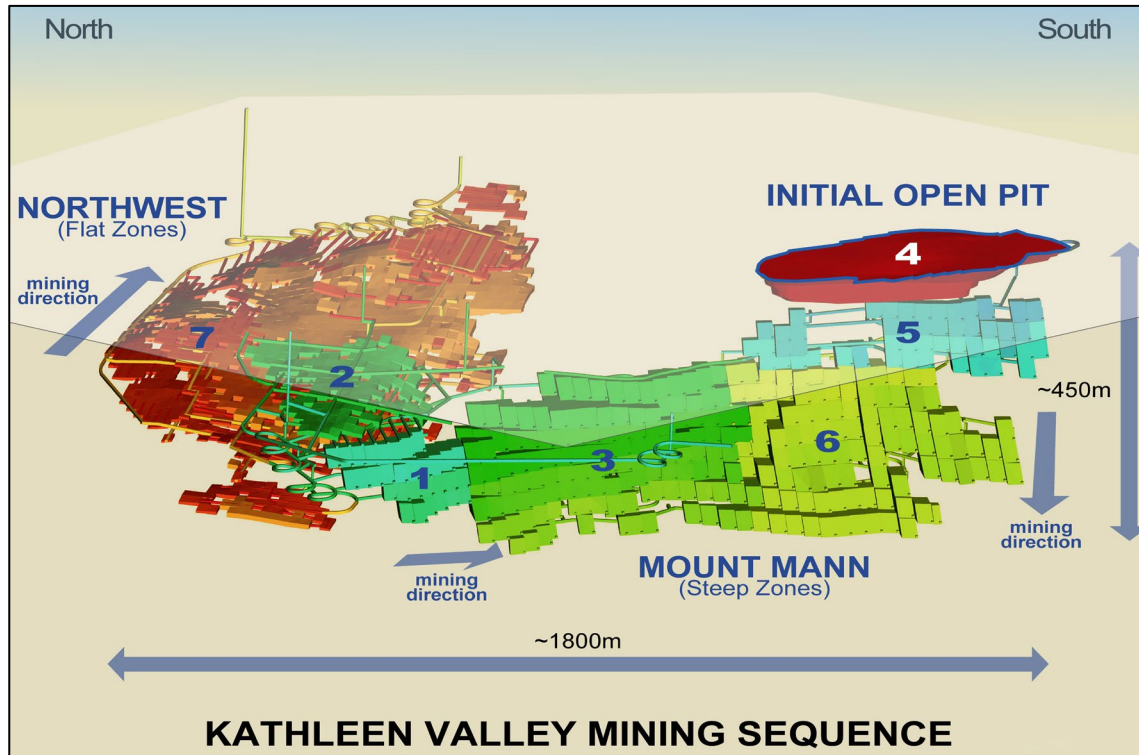
- The underground mine can be divided into six zones (**Figure 1**) with initial scheduling indicating that the grade can be increased in the initial 10 years.
- The open pit mine envisaged by the PFS can be significantly reduced and capital re-deployed to early underground development activities.
- Geotechnical studies and recent drilling confirm the excellent ground conditions of the Kathleen Valley deposit and its amenability to underground mining. Recent work includes:
  - Acoustic modelling which has validated the geotechnical parameters assumed by the PFS; and
  - A redesign of the underground box cut which will now be smaller and more cost effective.
- Benchmarking by Snowden indicates comparatively high tonnes per vertical metre for the planned underground development, highlighting the deposit's suitability for underground mining (**see Table 2**).

**Table 2: Comparative Tonnes/Vertical Metre – West Australian Underground Operations**

Underground Operation	Ore Tonnes / Vertical m	Main Mining level (m below surface)
Typical Au mine (Western Australia)*	15,000-43,000	400 - 600m
Typical Ni/ Cu Mine (Western Australia)*	34,000-100,000	300 - 400m
Kathleen Valley (Current Schedule)**	100,000-206,000 (NW)	200 - 400m
	38,000-150,000 (MM)	200 - 300m

\* Benchmarking data provided based on Snowden review. Higher tonnes/vertical meter indicates capacity of mine to deliver higher production rates

\*\*Based on Mount Mann (MM) & Northwest (NW) mining zones.



**Figure 1: 3D image of the Kathleen Valley lithium deposit showing Mine development sequencing, i.e.**

1. Develop high grade ore in Mt Mann NW
2. Develop high grade ore in NW flat stopes
3. Develop central Mt Mann
4. Develop open pit stage 1
5. Develop upper Mt Mann SE
6. Develop lower Mt Mann SE
7. Develop NW flat stopes

*Note: Regions 1-3 and 4-6 developed concurrently*

As part the DFS work, Snowden will also prepare an updated Ore Reserve based on the recently upgraded Mineral Resource Estimate referred to above.

### Process and Metallurgical Test Work Update

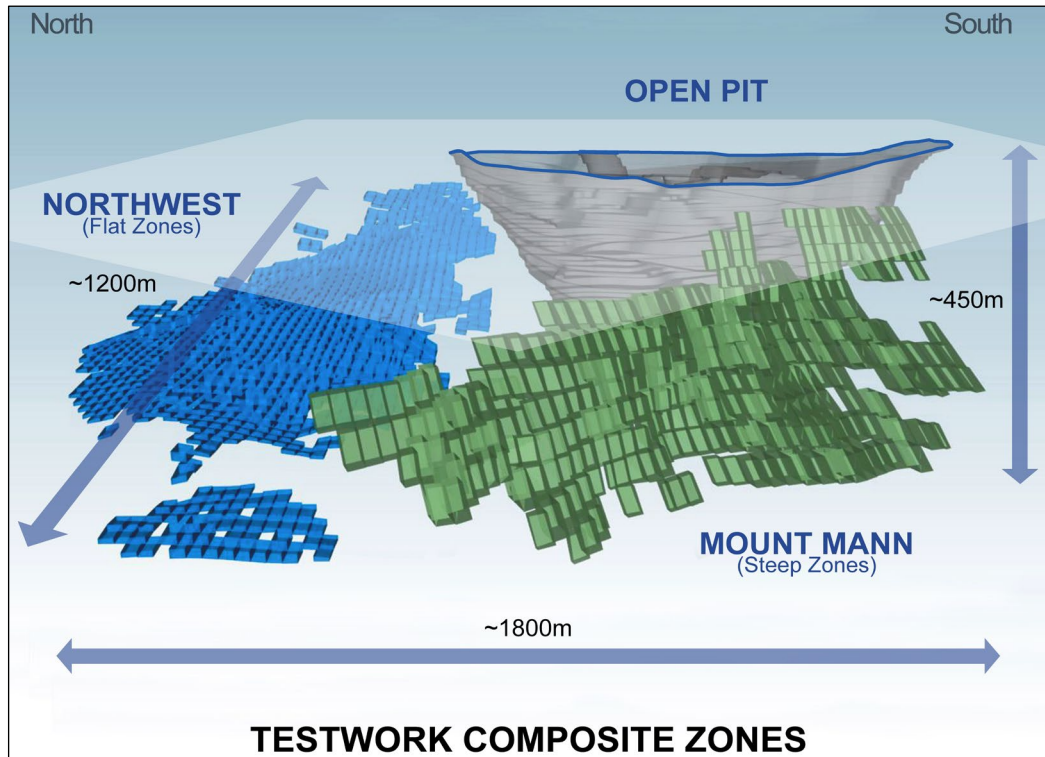
ALS (Perth) has commenced a new DFS-focused test work program which is being supervised by Lycopodium Minerals.

The latest test work is based on the revised mine schedule such that it has a time-based focus with composite samples collected from three distinct zones – Mount Mann, North West and the Open Pit (**Figure 2**). Approximately 60% of the current Reserve is sourced from underground zones.

The initial focus of the ongoing test work program has been to determine:

- Comminution power requirements;
- Optimal grind size and desliming process for maximum overall circuit recovery; and
- Testing of multiple variability samples across the ore body.

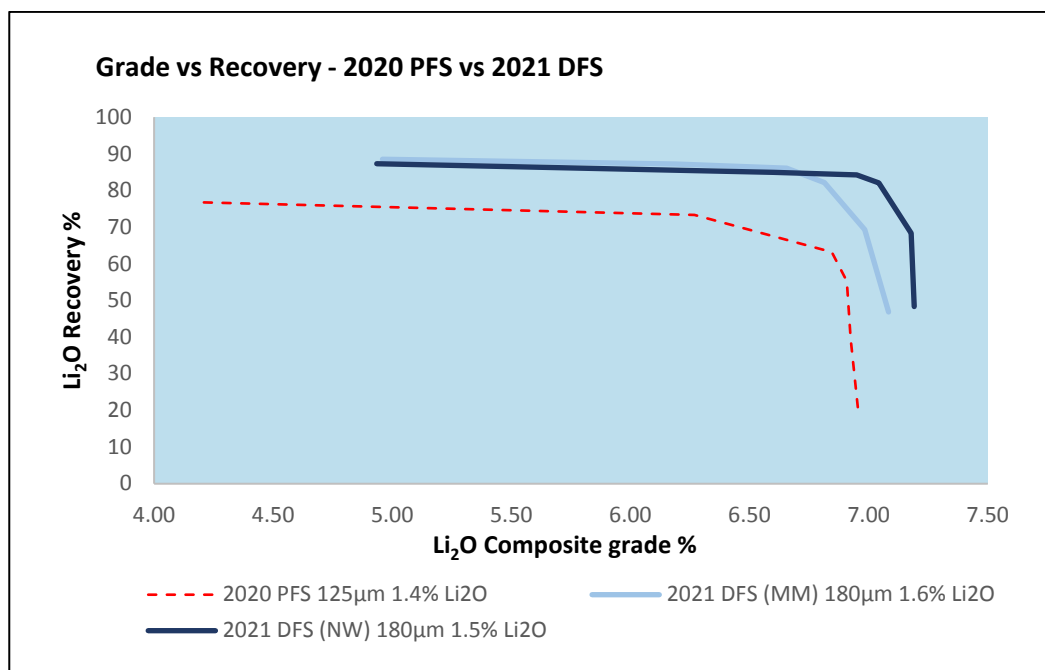




**Figure 2: Identified test work zones in-line with expected mining sequence**

Preliminary outcomes from this test work include:

- Crushing Work Index tests that show an average value of 6.3 kWh/t from 11 tests verses the PFS calculated value of 12.5 kWh/t.
- Ball Work Index tests that show an average value of 16.4 kWh/t compared to the PFS value of 15.8 kWh/t.
- SMC test work in 2020 showed a competency (A x b) value of 55.8. Recent test work has shown an average value across 11 tests of 65.8. A higher (A x b) value indicates softer material, hence easier SAG milling.
- Improvements in overall circuit recoveries at a coarser grind size than used in the PFS test work (**Figure 3**); i.e., A  $P_{80}$  grind size of 180 $\mu$ m, verses 125 $\mu$ m used in the 2020 PFS, has been determined as the design basis grind size for ongoing test work (subject to any implications in the extensive variability testing about to commence). A coarser grind will lower plant power requirements, reduce mill size plus importantly reduce losses of Li<sub>2</sub>O to tails via the slimes circuit and reduce the sub 50 $\mu$ m material produced in the final concentrate.



**Figure 3: Grade recovery curves 2021 DFS Mount Mann (MM) & North West (NW) versus 2020 PFS data**

Test work is continuing and is the critical path for completion of the DFS. The recovery basis for the 2021 DFS is yet to be defined.

Outside of the current test work:

- Process flowsheet improvements have confirmed the ability to eliminate the major complexity of fine crushing/screening that has proven to be an operational challenge for peer operations and will enable a logical break between crushing and the milling-flotation circuits in line with conventional practice.
- A pilot program on a 2-3 tonne composited sample is scheduled to commence in mid-2021 which will generate approximately 0.5 tonne of 6% Li<sub>2</sub>O spodumene concentrate and enable Liontown to provide samples to potential partners and/or off-take customers. Approximately 20% of the concentrate (~100kg) will be reserved for downstream processing test work, including producing samples of lithium hydroxide, lithium carbonate and lithium sulphate.

### Hydrology

Exploratory drilling completed last year confirmed the potential for the Kathleen Valley leases to contain groundwater suitable for processing of spodumene ore.

Two production water bores have subsequently been drilled with a third in progress. Pump testing is scheduled for late April 2021; however, initial airlift measurements indicate high water yields (i.e., >10l/s)

## Summary of JORC 2012 Table 1

In accordance with ASX Listing Rule 5.8.1, Liontown confirms the following in respect of the updated MRE:

### ***Geology and Mineralisation Interpretation***

Twenty mineralised pegmatites were modelled 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 300 - 400m. The two pegmatites are up to 35 m thick and have average thicknesses of 9m and 11m.

At Kathleen's Corner, 18 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 300m to 400m below surface to form a single, thick (35 m to 75 m) mineralised body that extends for another 600 – 700m down dip.

Mineralisation interpretation was based on geological logging (identification of pegmatite with spodumene) and assay data (>0.4% Li<sub>2</sub>O).

### ***Drilling Techniques***

Drill holes within the resource model were reverse circulation (RC) drill holes drilled with a 5.5" diameter face sampling hammer and NQ2/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 the Nagrom and ALS laboratories in Perth, WA.

### ***Mineral Resource Classification***

The Mineral Resource has been classified on the basis of confidence in geological and grade continuity and considering the quality of the sampling and assay data, data density and confidence in the estimation of Li<sub>2</sub>O and Ta<sub>2</sub>O<sub>5</sub> content (from the kriging metrics).

In general, the pegmatites where drill spacing is up to 50m by 50m 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  $\text{Li}_2\text{O}$  % and  $\text{Ta}_2\text{O}_5$  ppm were estimated using ordinary kriging (OK) with an appropriate top-cut applied to  $\text{Ta}_2\text{O}_5$ . 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%  $\text{Li}_2\text{O}$  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, which is in a well-established mining region and close to existing transport, energy and camp infrastructure, appears suitable for open pit and underground mining.

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 as per 2020 PFS and open pit and underground JORC reserve estimates.

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.

### ***Metallurgical Factors***

Two programs of metallurgical test work have been conducted in 2019 & 2020 respectively. In 2019 a Pre-feasibility (PFS) level test work program was conducted at ALS in Perth to provide sufficient test data to develop the process design criteria for the Project. Outputs from the test work included a confirmed flowsheet (DMS – Flotation) and spodumene grade / recovery relationships.

Further metallurgical test work as part of an upgraded PFS in 2020 also undertaken by ALS (Perth) included:

- The impact of change in lithium head grade on overall recovery.
- Further investigation of Whole Ore Float (WOF) and a decision to change the flowsheet to WOF.
- Investigation of tantalum recovery by magnetic separation and gravity upgrade.

Outputs from the 2020 test work included a confirmed WOF flowsheet for the 2020 PFS with the WOF spodumene grade / recovery relationships tested to a PFS level and an indicative recovery/ grade value established for a tantalum by-product.



This announcement has been authorised for release by the Board.



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### Competent Person Statement

*The Information in this report that relates to Exploration Results is based on and fairly represents information and supporting documentation prepared by Mr David Richards, who is a Competent Person and a member of the Australasian Institute of Geoscientists (AIG). Mr Richards is a full-time employee of the company. Mr Richards has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities being 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'. Mr Richards consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this report which relates to Mineral Resources for the Kathleen Valley deposit 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 metallurgical test work for the Kathleen Valley Project has been reviewed by Mr Aidan Ryan who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Ryan is an employee of Lycopodium Minerals Pty Ltd and has sufficient experience relevant to the style of processing response and type of deposit under consideration, and to the activities 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'. Mr Ryan consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.*

*The Information in this report that relates to Ore Reserves, Production Target and Pre-Feasibility Study (PFS) for the Kathleen Valley Project is extracted from the ASX announcement "Updated Kathleen Valley Pre-Feasibility Study delivers substantial increase in NPV to A\$1.1 billion and mine life to ~40 years" released on 9 October 2020 which is available on [www.ltresources.com.au](http://www.ltresources.com.au)*

*The Information in this report that relates to the Downstream Scoping Study (DSS) is extracted from the ASX announcement "Downstream Scoping Study: Kathleen Valley Lithium-Tantalum Project" released on 22 October 2020 which is available on [www.ltresources.com.au](http://www.ltresources.com.au)*

*The Company confirms that all the material assumptions underpinning the production targets and forecast financial information derived from the production targets in the announcements of 9 October 2020 and 22 October 2020 continue to apply and have not materially changed.*

### Forward Looking Statements

*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.*

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

The table below summaries the assessment and reporting criteria used for the Kathleen's Corner and Mt Mann deposits, 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	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Sub-surface samples have been collected by reverse circulation (RC) and diamond core drilling techniques (see below).</li> <li>Drillholes are oriented perpendicular to the interpreted strike of the mineralised trend except where limited access necessitates otherwise.</li> </ul>
	<p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> <li>RC samples are collected by the metre from the drill rig cyclone as two 1 m cone split samples in calico bags and a bulk sample in plastic mining bags.</li> <li>The 1 m samples from the cyclone are retained for check analysis. Only samples of pegmatite and adjacent wall rock (~4 m) are collected for assay.</li> <li>Diamond core has been sampled in intervals of ~1 m (up to 2.0 m 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>
<b>Drilling techniques</b>	<i>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).</i>	<ul style="list-style-type: none"> <li>Drilling techniques used at Kathleen Valley comprise: <ul style="list-style-type: none"> <li>Reverse Circulation (RC/5.5") with a face sampling hammer</li> <li>NQ2, HQ and PQ Diamond Core, standard tube to a depth of ~650 m.</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>
<b>Drill sample recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	<ul style="list-style-type: none"> <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>
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	<ul style="list-style-type: none"> <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>
	<i>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.</i>	<ul style="list-style-type: none"> <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>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>All RC drillholes are logged on 1 m intervals and the following observations recorded: <ul style="list-style-type: none"> <li>Recovery, quality (i.e. degree of contamination), wet/dry, hardness, colour, grain size, texture, mineralogy, lithology, structure type and intensity, pegmatite and vein type and %, lithium mineralogy and %, alteration assemblage, UV fluorescence.</li> </ul> </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>
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<ul style="list-style-type: none"> <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>
	<i>The total length and percentage of the relevant intersections logged.</i>	<ul style="list-style-type: none"> <li>Drillholes are logged in their entirety.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	<ul style="list-style-type: none"> <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 all quarter core samples using the Archimedes method.</li> </ul>
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	<ul style="list-style-type: none"> <li>RC samples are collected as rotary split samples. Samples are typically dry.</li> </ul>
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	<ul style="list-style-type: none"> <li>Sample preparation follows industry best practice standards and is conducted by internationally recognised laboratories; i.e. <ul style="list-style-type: none"> <li>Oven drying, jaw crushing and pulverising so that 80% passes -75 microns.</li> </ul> </li> </ul>
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<ul style="list-style-type: none"> <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>
	<i>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.</i>	<ul style="list-style-type: none"> <li>Measures taken include: <ul style="list-style-type: none"> <li>regular cleaning of cyclones and sampling equipment to prevent contamination</li> <li>industry standard insertion of standards, blanks and duplicate samples.</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> </ul>
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<ul style="list-style-type: none"> <li>Sample size is considered appropriate and is in-line with industry standards.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<ul style="list-style-type: none"> <li>Initial assaying (2017) completed by ALS Perth. Subsequent assaying (2018 onwards) completed by Nagrom laboratories Perth.</li> <li>Both laboratories use industry standard procedures for rare metals such as Li and Ta. Analytical techniques are total.</li> </ul>
	<i>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.</i>	<ul style="list-style-type: none"> <li>None used.</li> </ul>
	<i>Nature of quality control procedures adopted (eg standards, blanks,</i>	<ul style="list-style-type: none"> <li>Duplicates and blanks submitted approximately every 20 samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i>	<ul style="list-style-type: none"> <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>
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	<ul style="list-style-type: none"> <li>Internal review by alternate company personnel.</li> </ul>
	<i>The use of twinned holes.</i>	<ul style="list-style-type: none"> <li>11 diamond holes have been drilled as twins or in close proximity to existing RC drillholes. Results compare well with the original RC drillholes.</li> </ul>
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	<ul style="list-style-type: none"> <li>Drilling and logging data are 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>
	<i>Discuss any adjustment to assay data.</i>	<ul style="list-style-type: none"> <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>
<b>Location of data points</b>	<i>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.</i>	<ul style="list-style-type: none"> <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 +/-2 cm while elevations are measured to within +/-10 cm.</li> <li>All RC drillholes have been surveyed by a multi-shot digital downhole camera provided by the drilling contractor.</li> <li>All diamond drillholes have been surveyed with a REFLEX EZI-SHOT (1001) magnetic single shot camera.</li> </ul>
	<i>Specification of the grid system used.</i>	<ul style="list-style-type: none"> <li>GDA 94 Zone 51.</li> </ul>
	<i>Quality and adequacy of topographic control.</i>	<ul style="list-style-type: none"> <li>Initial collar elevations are based on regional topographic dataset.</li> <li>Drillhole collars are surveyed post drilling with DGPS (see above).</li> <li>Further topographic data (20 cm contours) has been provided for the Project by a LIDAR flown by Fugro.</li> </ul>
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	<ul style="list-style-type: none"> <li>Drillhole spacing varies due to initial drill programs 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.</li> </ul>
	<i>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.</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>
	<i>Whether sample compositing has been applied.</i>	<ul style="list-style-type: none"> <li>None undertaken.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<ul style="list-style-type: none"> <li>Drilling is typically oriented perpendicular to the interpreted strike of mineralisation.</li> </ul>
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this</i>	<ul style="list-style-type: none"> <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>

Criteria	JORC Code explanation	Commentary
	<i>should be assessed and reported if material.</i>	
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	<ul style="list-style-type: none"> <li>Sample security is not considered to be a significant risk given the location of the deposit and bulk-nature of mineralisation.</li> <li>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.</li> <li>Company geologist supervises all sampling and subsequent storage in field. The same geologist arranges delivery of samples to Nagrom laboratories in Perth via courier.</li> </ul>
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	<ul style="list-style-type: none"> <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>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>The Kathleen Valley Project is located ~680 km NE of Perth and ~45 km NNW of Leinster in Western Australia. The Project comprises four granted mining leases - MLs 36/264, 265, 459, 460, one Exploration License (EL) - E36/879 and one mining lease application (MLA) – M36/696.</li> <li>The granted 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: <ul style="list-style-type: none"> <li>Bullion and Non-Bullion Royalty Agreement of a 2% Gross Production Royalty affecting M36/264-265 and 459-460.</li> </ul> </li> <li>The EL and MLA are 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 a number of agreements with the Tjiwarl which provide protocols for field activities by the Company.</li> <li>LRL (Aust) Pty Ltd has received Section 18 consent to drill on MLs 36/264, 265, 459, 460.</li> </ul>
	<i>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.</i>	<ul style="list-style-type: none"> <li>All tenements are in good standing.</li> </ul>
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<ul style="list-style-type: none"> <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,</li> </ul>



Criteria	JORC Code explanation	Commentary																																																		
		<p>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.</p> <ul style="list-style-type: none"><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 style="list-style-type: none"><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	<p>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</p> <ul style="list-style-type: none"><li>easting and northing of the drillhole collar</li><li>elevation or RL (elevation above sea level in metres) of the drillhole collar</li><li>dip and azimuth of the hole</li><li>down hole length and interception depth</li><li>hole length.</li></ul>	<ul style="list-style-type: none"><li>When reporting Exploration Results, see figures and appendices in accompanying report.</li><li>When reporting Mineral Resource estimate, diagrams in the announcement show the location of and distribution of drillholes in relation to the Mineral Resource.</li></ul>																																																		
Data aggregation methods	<p>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.</p>	<ul style="list-style-type: none"><li>Li<sub>2</sub>O intercepts calculated using 0.4% cut off with a maximum 2 m internal dilution typically applied except where drillhole logging (e.g., continuous pegmatite) and assays indicate wider dilution is warranted as overall grade is high enough to allow mining to take entire geological unit.</li><li>Higher grade intervals calculated using 1.5% Li<sub>2</sub>O cut off. No upper cuts applied.</li><li>Ta<sub>2</sub>O<sub>5</sub> values only quoted when lithium intersections reported.</li><li>Metal equivalents have been used on the following basis:-<ul style="list-style-type: none"><li>Li (equiv %) = Tantalum grade % * (\$/t Tantalum/ \$/tonne Lithium) * (% Tantalum recovery / % Lithium recovery)</li></ul></li></ul> <table><tr><th colspan="3">Inputs</th><th colspan="2">Outputs</th></tr><tr><td>Tantalite (Ta<sub>2</sub>O<sub>5</sub>) \$/lb</td><td>69.9 (B2)</td><td>US\$</td><td></td><td></td></tr><tr><td>Spodumene \$/tonne</td><td>739 (B3)</td><td>US\$</td><td></td><td></td></tr><tr><td>Tantalite recovery</td><td>50% (B4)</td><td>Per LTR testwork</td><td>Ta<sub>2</sub>O<sub>5</sub> Li<sub>2</sub>O Equiv=</td><td>0.107 (F4)</td></tr><tr><td>Spodumene Recovery</td><td>76% (B5)</td><td>Per LTR testwork</td><td></td><td></td></tr><tr><td>Ta<sub>2</sub>O<sub>5</sub> Grade</td><td>30% (B6)</td><td></td><td>Equiv Li<sub>2</sub>O grade =</td><td>1.5</td></tr><tr><td>Li<sub>2</sub>O Grade</td><td>6% (B7)</td><td></td><td>(Li<sub>2</sub>O% +Ta<sub>2</sub>O<sub>5</sub>)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Grade Ta<sub>2</sub>O<sub>5</sub> in resource</td><td>130ppm (B9)</td><td>(per resource)</td><td></td><td></td></tr><tr><td>Grade Li<sub>2</sub>O in resource</td><td>1.35% (B10)</td><td>(per resource)</td><td></td><td></td></tr></table> <p>As an equation:-</p> <ul style="list-style-type: none"><li>F4=B9*((B2)/(B3/B7))*(B4/B5)*2204*0.0001</li><li>Equiv Li<sub>2</sub>O grade (Li<sub>2</sub>O% + Ta<sub>2</sub>O<sub>5</sub>%) = F4/(100+B10)</li></ul>	Inputs			Outputs		Tantalite (Ta <sub>2</sub> O <sub>5</sub> ) \$/lb	69.9 (B2)	US\$			Spodumene \$/tonne	739 (B3)	US\$			Tantalite recovery	50% (B4)	Per LTR testwork	Ta <sub>2</sub> O <sub>5</sub> Li <sub>2</sub> O Equiv=	0.107 (F4)	Spodumene Recovery	76% (B5)	Per LTR testwork			Ta <sub>2</sub> O <sub>5</sub> Grade	30% (B6)		Equiv Li <sub>2</sub> O grade =	1.5	Li <sub>2</sub> O Grade	6% (B7)		(Li <sub>2</sub> O% +Ta <sub>2</sub> O <sub>5</sub> )							Grade Ta <sub>2</sub> O <sub>5</sub> in resource	130ppm (B9)	(per resource)			Grade Li <sub>2</sub> O in resource	1.35% (B10)	(per resource)		
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Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<i>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').</i>	<ul style="list-style-type: none"> <li>Drillholes intersected mineralisation at near perpendicular to the dip orientation of the host lithologies and mineralisation.</li> <li>Estimates of true widths provided at end of Appendices attached to ASX announcements which list drillhole statistics.</li> </ul>
<b>Diagrams</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Relevant diagrams have been included within the announcement.</li> </ul>
<b>Balanced reporting</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>All recent exploration results reported and tabulated.</li> </ul>
<b>Other substantive exploration data</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Where relevant, this information has been included or referred to elsewhere in this Table.</li> </ul>
<b>Further work</b>	<i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	<ul style="list-style-type: none"> <li>2020/ 21 Definitive Feasibility Study (DFS).</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Drillhole data was extracted directly from the Company's drillhole database, which includes internal data validation protocols.</li> <li>Data was further validated by Optiro Pty Ltd (Optiro) upon receipt, and prior to use in the estimation.</li> </ul>
	<i>Data validation procedures used.</i>	<ul style="list-style-type: none"> <li>Validation of the data was confirmed using mining software (Datamine) validation protocols, and visually in plan and section views.</li> </ul>
<b>Site visits</b>	<i>Comment on any site visits undertaken by the Competent Persons and the outcome of those visits.</i>	<ul style="list-style-type: none"> <li>Liontown personnel Mr. Richards and Mr. Day have visited the site on numerous occasions to supervise the drilling programs.</li> <li>Ms. Wild (Principal Geologist and Director of Wildfire Resources Pty Ltd) and Mrs. Standing (Optiro) have visited the site on separate occasions during resource definition drilling programs 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>
	<i>Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit.</i>	<ul style="list-style-type: none"> <li>The confidence in the geological interpretation is reflected by the assigned resource classification.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Geological interpretation</b>	<i>Nature of the data used and of any assumptions made.</i>	<ul style="list-style-type: none"> <li>Both assay and geological data were used for the 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 drillholes and sections is good.</li> </ul>
	<i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i>	<ul style="list-style-type: none"> <li>No alternative interpretations were considered.</li> <li>Any alternative interpretations are unlikely to significantly affect the Mineral Resource estimate.</li> </ul>
	<i>The use of geology in guiding and controlling Mineral Resource estimation.</i>	<ul style="list-style-type: none"> <li>Geological logging (including spodumene crystal orientation from the diamond core) has been used for interpretation of the pegmatites.</li> </ul>
	<i>The factors affecting continuity both of grade and geology.</i>	<ul style="list-style-type: none"> <li>The mineralisation is contained within pegmatite veins that are readily distinguished from the surrounding rocks.</li> <li>Sectional interpretation and wireframing indicates good continuity of the interpreted pegmatite veins both on-section and between sections.</li> <li>The confidence in the grade and geological continuity is reflected by the assigned resource classification.</li> </ul>
<b>Dimensions</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Twenty lithium mineralised pegmatites have been identified at the Kathleen Valley Project which extend from surface to a depth of 640 m.</li> <li>At Mt Mann, two steeply-dipping (-70° west) pegmatites have been drilled over a strike length of 1,200 m and to a vertical depth of around 300m to 400 m. The two pegmatites are up to 35 m thick and have average thicknesses of 9 m and 11 m.</li> <li>At Kathleen's Corner, 18 sub-horizontal pegmatites have been drilled over an area of 1,800 m by 1,300 m. These pegmatites outcrop in the northeast and are up to 40 m thick with an average thickness of 8 m. The pegmatites coalesce and merge with the Mt Mann pegmatites at approximately 300 m to 400 m below surface to form a single, thick (35 m to 75 m) mineralised body that extends for a further 600 m to 700 m down-dip.</li> </ul>
<b>Estimation and modelling techniques</b>	<i>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.</i>	<ul style="list-style-type: none"> <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> <li>Caesium (Cs), potassium (K), niobium (Nb), rubidium (Rb), phosphorus (P) and tin (Sn) block grades were estimated using ordinary kriging (OK). These additional variables were included for analysis of the mineralisation and fractionation trends of the pegmatite, from the K/Cs, K/Rb and Nb/Ta ratios.</li> <li>The nominal spacing of the drillholes is 50 m by 50 m. The along section spacing ranges from 30 m to 100 m and on-section spacing ranges from generally 30 m to 60 m.</li> <li>Almost 90% of the assay data within the lithium mineralised pegmatites is from samples of 1 m intervals, 1.5% is from sample of &gt;1 m (to a maximum of 2 m) and almost 9% is from intervals of less than 1 m. The data was composited to 1 m downhole intervals for analysis and grade estimation.</li> <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 variogram analyses to have an along strike range of 145 m to</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>230 m and a down-dip (or across strike) range of 110 m to 230 m.</p> <ul style="list-style-type: none"> <li>Ta<sub>2</sub>O<sub>5</sub> mineralisation continuity was interpreted from variogram analyses to have an along strike range of 58 m to 150 m and a down-dip (or across strike) range of 47 m to 170 m.</li> <li>A maximum extrapolation distance of 50 m was applied along strike and down dip extrapolation was generally 30 m.</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 four times the second search and the second and third searches had reduced sample numbers required for estimation.</li> <li>Within the lithium mineralised pegmatites almost 84% of the total Li<sub>2</sub>O block grades were estimated in the first search pass, 14% within the second search pass and 2% estimated in the third search pass.</li> <li>Within the pegmatites 76% of the Ta<sub>2</sub>O<sub>5</sub> block grades were estimated in the first pass, 23% in the second pass and 1% in the third pass.</li> <li>The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the declustered drillhole data and by northing, easting and elevation slice.</li> </ul>
	<i>Description of how the geological interpretation was used to control the resource estimates.</i>	<ul style="list-style-type: none"> <li>Geological interpretations were completed on sections which were wireframed to create a 3D interpretation of the mineralised pegmatites.</li> <li>The interpretation of mineralisation was 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>
	<i>Discussion of basis for using or not using grade cutting or capping.</i>	<ul style="list-style-type: none"> <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).</li> <li>Cs, K, Rb, P and Sn have low coefficients of variation and Nb has a moderate coefficient of variation (1.4). A small number of high-grade outliers are present in the Cs, Nb, Rb, P and Sn data and grades were capped.</li> <li>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>
	<i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i>	<ul style="list-style-type: none"> <li>The Mineral Resource was first estimated for the Kathleen's Valley Lithium Project in August 2018. The Mineral Resource, comprising 21 Mt at an average grade of 1.4% Li<sub>2</sub>O and 170 ppm Ta<sub>2</sub>O<sub>5</sub>, was reported above a cut-off grade of 0.5% Li<sub>2</sub>O.</li> <li>Additional drilling was undertaken during 2019 and the resource was updated in July 2019. The July 2019 Mineral Resource, comprising 74.9 Mt at an average grade of 1.3% Li<sub>2</sub>O and 140 ppm Ta<sub>2</sub>O<sub>5</sub>, was reported above a Li<sub>2</sub>O cut-off grade of 0.5% for open pit potential (above 200 mRL) and 0.7% for underground potential (below 200 mRL).</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Additional drilling was undertaken in 2019 and 2020 and the resource was updated in February 2020. The February 2020 Mineral Resource, comprising 139 Mt at an average grade of 1.33% Li<sub>2</sub>O and 140 ppm Ta<sub>2</sub>O<sub>5</sub>, was reported above a cut-off grade of 0.55% Li<sub>2</sub>O.</li> <li>Since the February 2020 Mineral Resource was estimated data from an additional 16 RC holes (for a total of 6,616 m) and 28 DD holes (for a total of 9,682 m) have been incorporated into the resource database. The resource tonnage increased from 139 Mt in February 2020 to 156 Mt in May 2020, while the average grade has increased from 1.33% Li<sub>2</sub>O to 1.35% Li<sub>2</sub>O. The Ta<sub>2</sub>O<sub>5</sub> grade has decreased from 140 ppm to 130 ppm.</li> <li>Since the May 2020 Mineral Resource was estimated data from an additional 10 reverse circulation (RC) holes (for a total of 1,018 m) and 6 diamond core (DD) holes (for a total of 1,311.78 m) have been incorporated into the resource database. Three of the diamond drillholes were within the Mineral Resource area and the other drillholes are outside the resource area and were designed purely for geotechnical and water exploration studies. The total resource tonnage and average LiO<sub>2</sub> and Ta<sub>2</sub>O<sub>5</sub> grades have not changed. The Indicated tonnage increased by 4% (from 105 to 109 Mt) and the Inferred Resource tonnage decreased by 13% (from 32 to 27 Mt). The average LiO<sub>2</sub> and Ta<sub>2</sub>O<sub>5</sub> grades of the Indicated and Inferred Resources have not changed.</li> <li>No production has occurred.</li> </ul>
	<i>The assumptions made regarding recovery of by-products.</i>	<ul style="list-style-type: none"> <li>An Investigation of tantalum recovery by magnetic separation and gravity upgrade to produce a tantalum by-product was undertaken in 2020. Using stage recoveries, the overall Ta<sub>2</sub>O<sub>5</sub> reporting to concentrate has been estimated as 56% to a grade of 15.3% based on testwork. A mineralogical review indicates potential to produce a 30% Ta<sub>2</sub>O<sub>5</sub> concentrate at an offsite upgrade facility.</li> <li>Further work on tantalum recovery is anticipated as part of the planned DFS.</li> </ul>
	<i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i>	<ul style="list-style-type: none"> <li>Deleterious elements were not included in the Mineral Resource estimate.</li> <li>Liontown does not routinely assay drill samples for iron, the main deleterious element, due to: <ul style="list-style-type: none"> <li>contamination from drill bits and rods during drilling operations; and</li> <li>contamination during sample preparation from crushing and milling equipment.</li> </ul> </li> <li>Assaying of blank, silica only material inserted as part of QAQC protocols indicates that contamination from sample preparation adds 0.1% to 1% Fe<sub>2</sub>O<sub>3</sub> to the sample.</li> <li>Analysis of data indicates the iron content in the pegmatites averages &lt;0.5%.</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 environmental factor.</li> </ul>
	<i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i>	<ul style="list-style-type: none"> <li>Grade estimation was into parent blocks of 10 mE by 10 mN by 3 mRL.</li> <li>Snowden Consulting Pty Ltd (who are undertaking mining studies for Liontown) advised that mining is likely to be undertaken using a block size of 10 mE by 10 mN on 3 m benches.</li> <li>This block dimension was confirmed by kriging</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>neighbourhood analysis and reflects the variability of the deposit as defined by the current drill spacing and mineralisation continuity determined from variogram analysis.</p> <ul style="list-style-type: none"> <li>Sub-cells to a minimum dimension of 2.5 mE by 2.5 mN by 0.5 mRL were used to represent volume.</li> </ul>
	<i>Any assumptions behind modelling of selective mining units.</i>	<ul style="list-style-type: none"> <li>Selective mining units were not modelled.</li> </ul>
	<i>Any assumptions about correlation between variables.</i>	<ul style="list-style-type: none"> <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> <li>Correlation coefficients for Cs, K, Nb, Rb, P and Sn within the pegmatites indicate that they are not correlated, except for K and Rb which have a high positive correlation (0.87). All variables were analysed and estimated independently.</li> </ul>
	<i>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</i>	<ul style="list-style-type: none"> <li>No production has taken place and thus no reconciliation data is available.</li> </ul>
<b>Moisture</b>	<i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	<ul style="list-style-type: none"> <li>Tonnages have been estimated on a dry basis.</li> </ul>
<b>Cut-off parameters</b>	<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	<ul style="list-style-type: none"> <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 elsewhere in Australia.</li> </ul>
<b>Mining factors or assumptions</b>	<i>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.</i>	<ul style="list-style-type: none"> <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 in close proximity 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>
<b>Metallurgical factors or assumptions</b>	<i>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.</i>	<p><b>2019 Pre-feasibility study</b></p> <ul style="list-style-type: none"> <li>A Pre-feasibility level test work program was conducted at ALS in Perth to provide sufficient test data to develop the process design criteria for the Project. A total of 81 samples from across the three main areas (Mt Mann, Kathleen Corner and Kathleen Valley North) were selected for the Pre-feasibility 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 test work has been undertaken at this time.</li> <li>Key aspects of the metallurgical test work included the following: <ul style="list-style-type: none"> <li>head assay</li> <li>SMC testing on five comminution samples</li> <li>size by size assay</li> <li>crushing and wet screening at three sizes</li> <li>heavy liquid separation (HLS) at three crush and screen sizes</li> <li>Dense media separation (DMS) of a bulk sample</li> </ul> </li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>○ bond ball work index on DMS middling's</li> <li>○ magnetic separation to remove ferrous materials</li> <li>○ rougher flotation to examine collector choice, residence time, desliming and conditioning</li> <li>○ cleaner flotation to examine residence time and number of stages</li> <li>○ thickening of flotation and slime tailings (in progress)</li> <li>○ filtration of concentrate</li> <li>○ rheology of tailings.</li> </ul> <ul style="list-style-type: none"> <li>• Key results from the test work indicated that: <ul style="list-style-type: none"> <li>○ Samples were moderately competent with comminution results similar to other pegmatites.</li> <li>○ Size by size and 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.</li> <li>○ DMS testing showed a saleable concentrate with a grade of more than 6% Li<sub>2</sub>O could be produced together with a low-grade coarse tail.</li> <li>○ Grind optimisation of the flotation feed indicated a primary grind of 125 microns gave the best recovery and was 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 a concentrate with a grade of more than 6% Li<sub>2</sub>O could be produced together.</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 the tailings had low viscosity at the proposed tailings density.</li> </ul> </li> <li>• The metallurgical process consisted of three-stage comminution including high-pressure grinding rolls (HPGR), Dense Medium Separation (DMS) followed by flotation.</li> <li>• The feed composite used in the DFS test work consisted of diamond drill core and was compiled based on the mine plan for the study. The feed composite was deliberately diluted/blended with 10% iron-rich gabbro which hosts the mineralised pegmatites.</li> <li>• The DFS test work did not include any iron removal ahead of DMS separation and only low intensity magnetic separation or iron removal ahead of flotation. A combined concentrate with a grade of 6.1% Li<sub>2</sub>O containing 1.42% Fe<sub>2</sub>O<sub>3</sub> was produced from the DFS composite sample.</li> </ul> <p><b>2020 Metallurgical Test work</b></p> <p>The 2019 test work program was focused on developing preliminary design data for a flowsheet incorporating Dense Media Separation (DMS) of a coarse feed followed by flotation of the DMS middling's and fines. Several areas were further investigated post the DFS program in 2020 and included:</p> <ul style="list-style-type: none"> <li>• The impact of change in lithium head grade on overall recovery.</li> <li>• Further investigation of Whole Ore Float (WOF)</li> <li>• Investigation of tantalum recovery by magnetic separation and gravity upgrade to produce a tantalum by-product.</li> </ul> <p>The 2020 program investigated these areas as part of the 2020 Pre-feasibility study.</p>

Criteria	JORC Code explanation	Commentary
		<p>The source of the grade variation samples were the intercepts remaining from the original drill program in 2019. The drillhole intercepts were sorted by lithium grade (based on geological assays) and grouped into the following grade targets: 1.0%, 1.1% 1.2%, 1.3%, 1.4%, 1.7% 2.0%.</p> <p>WOF was tested on all the grade samples. The same flotation regime was used as tested in the DFS at a grind size P80 of 125 µm.</p> <p>The DMS-Flotation route was tested for all the grade samples under the same conditions as for the 2019 DFS.</p> <p>Outcomes:-</p> <ul style="list-style-type: none"> <li>➤ Higher grade material for both processing options has a higher recovery which supports the strategy of targeting high grade zones using underground mining and optimised open-pit shells;</li> <li>➤ WOF has the potential to produce a higher grade SC6.0 and improved performance with a greater degree of control.</li> </ul> <p>Following the outcomes of the test work a decision was made to base the 2020 DFS on a WOF flowsheet per ASX release dated 9<sup>th</sup> June 2020.</p> <p>An Investigation of tantalum recovery by magnetic separation and gravity upgrade to produce a tantalum by-product was undertaken. A sample of DFS composite was used for the test work as it provided a control against other treatment routes already tested.</p> <p>The sample was ground to a P80 passing size of 125 µm like all the flotation feed samples. The ground sample was then treated through a laboratory WHIMS separator followed by gravity separation. Following the gravity concentration of the primary magnetic separation magnetics, the remaining tails was subjected to sequential magnetic separation.</p> <p>Outcomes:-</p> <ul style="list-style-type: none"> <li>➤ Using stage recoveries, the overall Ta<sub>2</sub>O<sub>5</sub> reporting to concentrate has been estimated as 56% to a grade of 15.3% based on test work. A mineralogical review indicates potential to produce a 25 to 30% Ta<sub>2</sub>O<sub>5</sub> concentrate at an offsite upgrade facility; and</li> <li>➤ Magnetic and gravity separation used to recover tantalum also reduces iron levels in the potential flotation feed by up to 55%.</li> </ul> <p>As both the WOF and Ta<sub>2</sub>O<sub>5</sub> flowsheets have considerable scope for further optimisation, this will form part of the DFS upgrade test work program to be completed in 2021.</p> <p>Test work remains ongoing as part of the DFS.</p>
<b>Environmental factors or assumptions</b>	<i>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.</i>	<ul style="list-style-type: none"> <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>

Criteria	JORC Code explanation	Commentary
<b>Bulk density</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>Bulk density was measured for 3,873 core samples (including 3,083 samples of pegmatite) from diamond holes using Archimedes measurements.</li> <li>The density data overall ranges from 1.74 to 4.38 t/m<sup>3</sup> and the density data within the pegmatites has a range of 1.74 to 4.14 t/m<sup>3</sup>. Outliers have been screened out of average density applied to resource model by Optiro.</li> <li>A bulk density of 2.71 t/m<sup>3</sup> was applied to the pegmatite with spodumene mineralisation within the oxidised horizons and a value of 2.74 t/m<sup>3</sup> was applied to the fresh pegmatite with spodumene mineralisation for tonnage estimation.</li> <li>A lower density, of 2.51 t/m<sup>3</sup>, was applied for areas of fresh pegmatite that was interpreted to contain petalite mineralisation.</li> <li>For the pegmatite material that is external to the lithium mineralisation, a density of 2.64 t/m<sup>3</sup> was applied within the oxidised horizons and 2.66 t/m<sup>3</sup> was applied to the fresh pegmatite.</li> <li>Most (99.5%) of the mineralised pegmatite is within the fresh material.</li> </ul>
<b>Classification</b>	<i>The basis for the classification of the Mineral Resources into varying confidence categories.</i>	<ul style="list-style-type: none"> <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 drillholes 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 60 m by 100 m 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 60 m by 100 m, 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>
	<i>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).</i>	<ul style="list-style-type: none"> <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>
	<i>Whether the result appropriately reflects the Competent Person's view of the deposit</i>	<ul style="list-style-type: none"> <li>The assigned classification of Measured, Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.</li> </ul>
<b>Audits or reviews</b>	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	<ul style="list-style-type: none"> <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>
<b>Discussion of relative accuracy/ confidence</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>The assigned classification of Measured, Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.</li> </ul>
	<i>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</i>	<ul style="list-style-type: none"> <li>The confidence levels reflect potential production tonnages on a quarterly basis, assuming open pit mining.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>should include assumptions made and the procedures used.</i>	
	<i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>	<ul style="list-style-type: none"><li>• No production has occurred from the deposit.</li></ul>

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#### Section 4 - Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<p>The mineral Resource Estimate used as a basis for the conversion to the Ore Reserve was provided on the 11th May 2020 with Christine Standing, employee of Optiro, as the Competent Person.</p> <p>The total Mineral Resource of 156Mt at 1.4% Li<sub>2</sub>O includes: -</p> <ul style="list-style-type: none"> <li>20 Mt of Measured at 1.3% Li<sub>2</sub>O and 140ppm Ta<sub>2</sub>O<sub>5</sub>,</li> <li>105 Mt of Indicated at 1.4% Li<sub>2</sub>O and 130ppm Ta<sub>2</sub>O<sub>5</sub> and;</li> <li>32 Mt of Inferred at 1.3% Li<sub>2</sub>O and 110ppm Ta<sub>2</sub>O<sub>5</sub>.</li> </ul> <p>The Mineral Resources are reported inclusive of the Ore Reserve.</p>	As for Open Pit.
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<p>The Open Pit Competent Person, Mr Jake Fitzsimons, visited the proposed Project site on 28th September 2019. The following observations were made:</p> <ul style="list-style-type: none"> <li>The site is accessed directly from the Goldfields Highway.</li> <li>The site is dominated by Mt Mann which rises approximately 50 m above the surrounding terrain, and Jones Creek dry watercourse which passes through the northern half of the mining area flowing from east to west.</li> <li>Existing access between the North and South deposits is across Jones Creek via a 10 m wide concrete ford with opportunity to widen to 12-15 m without disturbing any trees.</li> <li>Pegmatite outcrop exists across the site.</li> <li>Drilling core examined on site was hard and very competent in both the gabbro hanging wall rock and pegmatite ore zones.</li> </ul>	<p>The underground Competent Person, Mr Ben Wilson has not visited the site, based on the visit by Mr Jake Fitzsimons detailed above who is a coworker at Orelogy. The data collected on the site visit by Mr O'Bryan &amp; Mr Fitzsimons has been shared with Mr Wilson.</p> <p>Peter O'Bryan of Peter O'Bryan and Associates, visited the site on 28th September 2019.</p>
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert</li> </ul>	<p>An initial pre-feasibility study was completed in 2019 and was updated in 2020, based on the provision of an updated Mineral Resource in May 2020. The 2020 PFS forms the basis of most of the assumptions for reporting an Ore Reserve.</p> <p>The 2020 PFS report was compiled by Lycopodium on behalf of Liontown with input from: -</p>	The 2020 PFS forms the basis of the assumptions for reporting an Ore Reserve.



Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
	<p><i>Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></p>	<ul style="list-style-type: none"> <li>• Optiro (geology)</li> <li>• Orelogy Consulting (mine planning)</li> <li>• Lycopodium (metallurgical testwork, process design and non-process infrastructure)</li> <li>• MBS Environmental (environmental)</li> <li>• Knight Piesold (tailings storage, hydrology and hydrogeology)</li> <li>• Liontown (financial analysis)</li> </ul> <p>Orelogy undertook the mining component of this PFS, and in the course of the study, produced optimisations, designs, schedules and a cost model.</p> <p>Modifying factors considered in the open pit mine planning process included mining dilution and ore loss, slope design criteria and practical mining considerations.</p> <p>The activities and findings of all other disciplines are summarized in the 2020 PFS document, including details of other modifying factors such as processing recoveries, costs, revenue factors, environmental and heritage considerations, etc.</p> <p>Overall, the result of the open pit and underground mine plans demonstrate that the Kathleen Valley Lithium Project is technically achievable and economically viable at the forecast spodumene price.</p>	<p>Modifying factors considered in the underground mine planning process included mining method selection, minimum mining width, mining dilution and ore loss, geotechnical stope stability criteria, pillar and filling requirements, and practical mining considerations, for example, materials handling, ventilation and dewatering.</p>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>• <i>The basis of the cut-off grade(s) or quality parameters applied.</i></li> </ul>	<p>The Ore Reserves are reported at a 0.7 - 0.75% Li<sub>2</sub>O cut-off grade depending on the timing with 0.75% used in the early open pit mining phase and 0.7% used for the final open pit phase. This cut-off is above the theoretical economic cut-off of 0.35% Li<sub>2</sub>O and has been adopted as the grade tonnage curve shows very little material below this grade.</p>	<p>The Ore Reserves are reported as material contained within stope designs done at cut off grades of 1.2 &amp; 1.5% Li<sub>2</sub>O cut-off grade based on flat or vertical zones within the deposit.</p> <p>This cut-off has been adopted in the context of the prevailing market conditions and surrounding open pit Ore Reserve. The cut-off is above the theoretical underground economic cut-off of 0.95% Li<sub>2</sub>O as the grade tonnage curve shows very little material below this grade.</p> <p>A development cut-off grade of 0.8% Li<sub>2</sub>O has been used. This cut-off grade represents the grade at which additional haulage</p>

Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
			and treatment costs are exceeded by the value of the ore recovered during processing.
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></li> <li><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li><i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></li> <li><i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li><i>The mining dilution factors used.</i></li> <li><i>The mining recovery factors used.</i></li> <li><i>Any minimum mining widths used.</i></li> <li><i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> </ul>	<p>The open pit and underground Ore Reserves are underpinned by a mine plans that deliver pegmatites for processing on site to produce SC6.0 for export via the Geraldton port.</p> <p>The mine planning activities included open pit and underground optimisation, final and interim stage designs, mine scheduling and cost estimation.</p> <p>The mine plans indicated that the combined Ore Reserve derived from the Mineral Resource Estimate can easily meet the processing feed requirements for the 2.0 Mtpa production target with a mine life of approximately 40 years.</p> <p>A conventional open pit mining method using excavators and rigid dump trucks was selected as the preferred mining method. Experienced mining contractors will undertake all aspects of the mining operation. Supervision, grade control and planning will be undertaken by an Owner's team. All material will be blasted. Bulk waste will be blasted on 12 m benches and the ore zones will be blasted on 6 m benches and mined in two or three flitches for greater selectivity (depending on the point in the mine schedule) with ore delivered to blend fingers on the ROM pad.</p> <p>Open pit geotechnical guidance was provided by Peter O'Bryan and Assoc. with an allowance for ramps on the footwall and geotechnical berms on the hanging walls.</p> <p>Oxidation is shallow from 5-20 m in depth with slope angles of ~50° on the hanging wall and ~37 ° on the footwall. Overall slope angles in fresh material were ~57 ° on the hanging wall and ~45 ° on the footwall. As the Kathleen Valley orebody dips at substantially less than wall angle constraints, the pit shells are optimally shallower than these angles to the south-west.</p>	<p>As for Open Pit.</p> <p>Detailed mine designs were undertaken in the Deswik.CAD mining software package, incorporating all available geotechnical and practical considerations.</p> <p>The Kathleen Valley gabbros and spodumene-bearing pegmatites are massive, and rock mass quality is consistently very good, allowing the consideration of mass mining methods in the steeper and wider orebodies. Underground operations are expected to be carried out in essentially dry ground. The deepest mining planned is at ~440m below surface.</p> <p>The underground mining area consists of two main mining areas, the Mt Mann steeply dipping ore domains, located underneath and to the south-west of the open pit, and the North-West Lodes, flat dipping overlaid lodes ("the Flats"), located to the north-west of the open pit.</p> <p>Due to the significant variation in dip and orebody width across the mining areas, three different mining methods have been selected. The steeply dipping Mt Mann orebodies will be mined by transverse retreat open stoping, with Cemented Paste Backfill (CPB). In the North-West Lodes area, where the orebody width is greater than 10m, longitudinal retreat open stoping with CPB will be employed. In narrower areas of the North-West Lodes, Room and Pillar Mining, without filling, will be employed.</p> <p>Within these mining methods, several different variations will be employed, in order to meet geotechnical stability guidelines while maximising productivity. These variations are summarised in the table below:</p>

Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground								
	<ul style="list-style-type: none"><li><i>The infrastructure requirements of the selected mining methods.</i></li></ul>	<p>An allowance for Grade Control drilling was made based on a dedicated RC drilling program at 24 m vertical intervals.</p> <p>The May 2020 Datamine Mineral Resource model (kv_or_apr2020.dm) was used as a basis for the conversion to an Ore Reserve.</p> <p>To establish mineable quantities, a number of open pit optimisations were completed on the Resource model after applying ore loss and dilution to the edges of the mineralisation. The base case optimisations considered Measured and Indicated materials only, excluded the Jones Creek watercourse and applied pricing, recoveries and other modifying factors. All other optimizations include Measured, Indicated and Inferred after it was shown that the Inferred material had no impact on shell size.</p> <p>The shell selection was based on the business objectives of maximising the discounted cash flow whilst providing sufficient mine life.</p> <p>Options investigated evolved as both Underground and open pit options were simultaneously progressed, with the approach by <i>Orelogy</i> as follows:-</p> <ul style="list-style-type: none"><li>Development of an optimised open pit schedule at a 0.75% Li<sub>2</sub>O Cut-off grade for Stages 1 and 2 for the early mining phase and 0.7% Li<sub>2</sub>O Cut-off grade for the final three stages. The open pit schedule was manipulated by delaying stages or stretching over longer time periods.</li><li>Assessment of flat and vertical Underground ore bodies separately at cut off grades of 0.95%, 1.2% and 1.5% Li<sub>2</sub>O respectively and sequenced Underground ore in conjunction with the open pit schedule to maximise project returns</li></ul> <p>Schedules from Underground and open pit were combined to produce an optimised overall project mine plan</p>	Mining Area	Orebody Dip	Mining Method	Orebody Width	Stope Length x Width	Stope Height	Pillar Dimensions		
			Mt Mann	Steep to moderately steep	Transverse Retreat Open Stoping	<25m	30m x 30m	Single lift 30m	Stopes to be filled to avoid requirement for pillars		
						<25m	30m x 30m	Single lift 30m			
						>25m	30m x 45m	Double lift 60m			
			North-West Lodes	Shallow	Longitudinal Retreat Open Stoping	10m-30m	20m x 25m	10m - 30m	5m x 6.25m 6m x 7m		
					Room and Pillar	5m-7m	20m x 25m	7m			
						7m-10m	20m x 25m	10m			
			<p>These mining methods are considered appropriate, as they provide a good balance of economic recovery of the resource, cost minimisation, and safety.</p> <p>The Mt Mann mining sequence is bottom up within each stoping panel, generally four stopes high. The overall sequence is top down. Stopes will be mined in a primary-secondary sequence. The lower 15m of the bottom stope of each panel will be filled with a higher strength CPB (8% rather than the standard 4%), to maintain geotechnical stability when the lower panel is mined underneath. Stopes will be mined from footwall to hangingwall, to avoid undercutting previously filled CPB stopes. Where practicable, in the secondary stopes, rock filling has been utilized to minimize waste haulage to surface.</p> <p>In the North-West Lodes, the mining sequence for the open stopes is similarly bottom up, with CPB used to maintain geotechnical stability. The Room and Pillar stopes will also be mined bottom up, but will not be filled.</p> <p>The use of fill in the open stopes avoids the need for pillars between stopes to maintain stope stability. Given the width of the orebody, appropriately sized pillars would significantly reduce the extraction percentage, and hence the economic viability of the orebodies. Stopes are sequenced to manage the open voids underground and maintain geotechnical stability.</p> <p>Access to the mine, for personnel, equipment and ore haulage, will be via a main surface portal to the south-west of the pit, and an in-pit portal, as the pit progresses.</p>								

Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
		<p>For the open pit, the model was diluted in a two-step process:</p> <ul style="list-style-type: none"> <li>Regularisation to a SMU size of 5 m x 5 m x 2 m for the material within the 0.6 revenue factor shell for phase 1 mining</li> <li>Regularisation to a SMU size of 5m x 5m x 3m for the material outside the 0.6 revenue factor shell for phase 2 mining.</li> <li>Secondary edge dilution was applied to the edges of the ore zones to account for the steeply dipping Mt Mann mineralisation.</li> </ul> <p>The resulting mining model reported:</p> <ul style="list-style-type: none"> <li>2.6% dilution and 6% ore loss for the 2 m flitch height in Stage 1 and Stage 2 at 0.75% Li<sub>2</sub>O cut-off grade.</li> <li>3.2% dilution and 6% ore loss for the 3 m flitch height in the other 3 stages at 0.7% cut-off grade.</li> </ul> <p>No additional mining recovery factors were applied.</p> <p>The final pit and stages were designed with 40 m minimum mining width between cutbacks and 25 m at the base of the pit.</p> <p>Only Measured and Indicated material were used in reporting of Ore Reserves. Inferred material was treated as waste in the Stage 1 and 2 pits. The LOM schedule included a total of 840kt of Inferred material with the later pit stages.</p>	<p>Open stope designs were based upon a design Hydraulic Radius of 10.0m, derived using empirical methods by Peter O'Bryan, of Peter O'Bryan and Associates. Sub-level intervals and hence stope heights were selected to maintain stable hydraulic radii, balanced with what would be achievable by production drilling with an acceptable level of accuracy.</p> <p>Room and pillar designs were also derived using empirical methods by Peter O'Bryan, of Peter O'Bryan and Associates. Two different pillar sizes were recommended based on orebody width, as detailed in the previous table.</p> <p>Mining dilution has been modelled with design dilution, CPB dilution and development dilution.</p> <p>Design dilution: During the generation of stope shapes, a dilution skin of 0.5m was added to the footwall and hanging-wall of all stopes. This was applied geometrically.</p> <p>CPB dilution: Mining of secondary stopes underneath and next to CPB will likely result in some dilution of ore. This has been estimated at 0.3m from the walls of the stope and 0.5m from the back. This volume of paste was added to the stope tonnage on a per-stope basis at zero grade (pure dilution).</p> <p>Development dilution: similarly, where part of an ore development heading protrudes beyond the orebody contact, the ore grade of the volume mine is lowered accordingly. No additional tonnage allowance for overbreak has been made.</p> <p>Indicative ring designs were undertaken for representative stopes from each mine area, and the three dilution factors estimated based on the geometry of the design.</p> <p>The capacity of the paste plant is limited by the volume of tailings produced by the processing plant. Mining has been scheduled to ensure the maximum filling capacity of 584,000m<sup>3</sup> per year is not exceeded.</p> <p>Mining recoveries of 95% were applied to all open stopes, and 90% for all room and pillar stopes, to account for ore within the stope shape that could not be extracted. This occurs primarily due to geometry issues of bidders navigating around</p>





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		<p>External infrastructure requirements for the project are minimised due to the project's location in the Goldfields area of Western Australia. The Goldfields highway and 132 kV TransAlta overhead electrical power line are located within 1 km of the site. A borehole has been proposed for water supply, and typical site facilities such as camp accommodation and facilities, sewerage plant, processing plant, maintenance facilities, and tailings storage will be</p>	<p>90-degree corners and being unable to fully reclaim all blasted ground.</p> <p>Due to the requirement to leave behind ore pillars in the Room and Pillar stopes, mining recovery is further reduced from operational mining recovery, to 84% for the 5m-7m wide stopes, and 82% for the 7m-10m wide stopes.</p> <p>Mining recoveries of 100% were applied to all development, with the expectation that development headings could be bogged clean.</p> <p>The minimum mining width used depended on the mining area and method. These widths are shown in the Mining Method table above. However, the absolute minimum mining width for the project is 5 m, which comprises a 4 m orebody width and 0.5 m of dilution in both hanging-wall and footwall.</p> <p>Inferred material was optimised, designed and scheduled. Stopes have been classified on a dominant resource category basis, where the dominant resource category for the stope is reported as the resource category for the entire stope. Proven and Probable Reserve categories have an average of 3% Inferred material and 2% waste material that is included in the stope shapes. This is judged reasonable dilution of the Ore Reserve. Stopes that have a dominant resource category of Inferred are not reported as part of the Ore Reserves, and similarly have an average of 5% Indicated Resources and 5% waste material contained within the Inferred stope shapes.</p> <p>The base case schedule for the PFS includes Inferred material as well and Measured and Indicated material. However, this Inferred material has been scheduled as much as possible at the end of the underground mine life, and as such does not have a material effect on the technical and economic viability of the project. The majority of the Inferred material has been included in the base case schedule on the basis that it is contiguous with the surrounding Indicated mineralisation, and forms part of the overall extraction sequence for that area of the deposit.</p> <p>As for Open Pit.</p>



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		required. The underground access portal will be constructed in a box-cut adjacent to the plant ROM pad. Other surface facilities will include a paste fill plant, power/water reticulation, ventilation fans to support underground mining activities, a ROM pad, haul roads, areas for Contractor built/supplied workshops and other Contractor facilities. Lithium concentrate can be transported via the Goldfields Highway to the Port of Geraldton, for shipment overseas.	
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li><i>Any assumptions or allowances made for deleterious elements.</i></li> <li><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul> <p>Environmental</p>	<p>Two distinct phases of testwork were conducted for the Kathleen Valley Project in both 2019 and 2020. The Initial work resulted in the development of a DMS-Flotation flowsheet which was revised in June 2020 to a Whole Ore Flotation flowsheet.</p> <p>In 2019 a total of 81 intercepts from across the three main areas (Mount Mann, Kathleen Corner and North) were selected for the pre-feasibility study. These samples include a spatial spread, grade range and depth. A master composite was created for testing.</p> <p>A grade- recovery relationship was defined from testwork utilizing a WOF flowsheet.</p> <p>During 2020 further work was undertaken in order:</p> <ul style="list-style-type: none"> <li>To develop and test a WOF flowsheet;</li> <li>To establish grade-recovery curves for both DMS and WOF flowsheets at a range of composite grades to enable direct comparisons between each; and</li> <li>Test and develop of preliminary flowsheets to support the extraction of tantalum.</li> </ul> <p>Following the outcomes of the testwork a decision was made to base the 2020 PFS on a WOF flowsheet per ASX release dated 9th June 2020</p> <p>The process has been tested at pre-feasibility level in the laboratory and further work is ongoing.</p>	As for Open Pit.



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	<ul style="list-style-type: none"> <li><i>The status of studies of potential environmental impacts</i></li> </ul>	<p>Refer to main body of announcement and JORC table Section3.</p> <p>Geochemical characterisation of waste rock has been completed with representative samples (70 fresh rock, 24 oxide and transitional waste and 4 low grade ore samples) assessed for potential for saline, neutral or acid and metalliferous drainage (AMD) as well as other general geochemical properties. Several minor pockets of potentially acid forming (PAF) material was identified to be present in the dolerite gabbro and contact zone waste rock materials of the Mt Mann mine area.</p> <p>Provided parcels of PAF material originating from the dolerite gabbro and contact zone mine wastes are managed appropriately, there is a low risk of fresh waste rock adversely impacting groundwater and surface water quality via seepage or run-off from rainfall.</p> <p>Characterisation of tailings generated by metallurgical test work has been completed. Samples were assessed for potential of saline, neutral or acid and metalliferous drainage (AMD) as well as other general geochemical and some physical properties. Results indicate tailings are unlikely to pose risk to the environment and as such do not require specialized storage facilities</p>	
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>	<p>The Project is well served by existing infrastructure with the Goldfields Highway which runs adjacent to the Project. There is a 132 kV powerline (5 km to the West) and the goldfields gas pipeline (11 km to the East) to provide mains power or a site-based power station.</p> <p>The process plant and waste stockpiles can be constructed on existing mining licenses.</p> <p>Preliminary modelling and site-based pumping trials provides confidence that sufficient available bore water of good</p>	As for Open Pit.



Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
		<p>quality is available from within the Liontown tenements and regional sources.</p> <p>A desktop study confirms that the concentrate can be trucked on sealed roads from site to the port of Geraldton where an environmental license would be required to export the SC6.0 – due to the benign nature of the product, approval is unlikely to be withheld.</p> <p>The study assumes a camp will be constructed on a exploration license that is subject currently to conversion to a mining license application.</p> <p>The current tenements and labour supply is not considered unusual due to its location within driving distance of Kalgoorlie and the region is serviced by regular charter flights to Mt Keith and Leinster from Perth.</p>	
<b>Costs</b>	<ul style="list-style-type: none"> <li><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li><i>The methodology used to estimate operating costs.</i></li> <li><i>Allowances made for the content of deleterious elements.</i></li> <li><i>The source of exchange rates used in the study.</i></li> <li><i>Derivation of transportation charges.</i></li> <li><i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li><i>The allowances made for royalties payable, both Government and private</i></li> </ul>	<p>The capital cost estimate has been based on a mechanical equipment list with budget pricing for major equipment together with recent database rates for bulks such as concrete and steel. Electrical and earthworks were estimated separately.</p> <p>Operating cost estimates were based on budget quotes for consumables and a benchmarked salary schedule. Other costs have been supplied by Liontown and from Lycopodium database.</p> <p>A sequential magnetic separation and gravity circuit has been included in the process flowsheet to concentrate tantalum and also remove iron which is considered deleterious in the final concentrate.</p> <p>Forecast exchange rates for USD: AUD were sourced from a third party providing long term forecasts with a range of 0.65 to 0.80 (excluding outliers). Liontown has assumed 0.72 as its life of mine exchange rate.</p>	As for Open Pit.



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		<p>Haulage and ship loading costs were provided by an established haulage company that currently provides stevedoring services at the port of Geraldton. Port costs were obtained from the Port of Geraldton. Estimated shipping costs were used to determine CIF costs to potential off-takers.</p> <p>The following government royalties and private royalties have been included in the financial analysis as detailed below:</p> <ul style="list-style-type: none"> <li>• WA state Royalty - 5% gross sales</li> <li>• Third Party private royalties - 3% gross sales and A\$0.50/t ore mined and milled for material sourced from within Mining leases M36/460 &amp; M36/459</li> </ul> <p>No third party royalties apply for ore sourced from exploration license E36/879 (Mining license application M36/696).</p>	
<b>Revenue factors</b>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li>• <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<p>Spodumene pricing was based on forecast estimates provided by Roskill as discussed in the main body of this announcement.</p> <p>Roskill has provided annual forecast pricing through to 2040 on a real, US\$/dmt CIF China basis for “Arm’s Length”. Arm’s Length prices are where no related party relationship exists between the mining company and the customer.</p> <p>At this stage, future production from Kathleen Valley remains 100% uncommitted in order to maintain maximum flexibility and independence over funding and development options. For the purposes of the PFS, it has been assumed that Liontown will sell 100% of its production on arm’s length terms to unrelated parties on a yearly basis.</p> <p>The Roskill forecast pricing results in an average price of US\$769/dmt CIF China for the period 2025 - 2040 (noting that while the PFS extends beyond Roskill’s 2040 forecasts,</p>	As for Open Pit.





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		<p>Liontown has assumed it reasonable to use the 2040 price of CIF US\$825/t as the basis from 2041 - 2064).</p> <p>Liontown has adjusted Roskill's CIF China prices to an FOB Geraldton price by deducting US\$30 per tonne to reflect the estimated costs of shipping to China from Australia as the ultimate destination of SC6.0 produced from the Kathleen Valley Project is not known at this stage.</p> <p>Other revenue factors were:</p> <ul style="list-style-type: none"> <li>• An exchange rate of 0.72 USD/AUD</li> <li>• In country transport and port charges of A\$65/wmt conc.</li> <li>• Export shipping costs of A\$41.67/wmt conc (US\$30/dmt)</li> <li>• State royalty of 5% and private royalties of 3% gross sales and a A\$0.50 per tonne mined and milled for material sourced from within Mining leases M36/460 &amp; M36/459</li> <li>• No third party royalties apply for ore sourced from exploration license E36/879 (Mining license application M36/696)</li> </ul> <p>Liontown has again utilised the services of Roskill for its price forecast assumptions for tantalum concentrate (30 Non-Class 7 Specification) as applied in the PFS.</p> <p>Roskill has provided a forecast price through to 2040 on a real, US\$/lb CIF China basis for "Arm's Length" pricing.</p> <p>Like SC6.0, at this stage future tantalum concentrate production from Kathleen Valley remains 100% uncommitted in order to maintain maximum flexibility over funding and development options. For the purposes of the PFS, it has been assumed that Liontown will sell 100% of its production on arm's length terms to unrelated parties on a yearly basis.</p> <p>Roskill provided an average price of US\$70/lb CIF China for 2025 to 2040. Liontown has adjusted Roskill's CIF China prices to an FOB Fremantle price by deducting US\$0.1 per</p>	



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		<p>pound to reflect the estimated costs of shipping to China from Australia as the ultimate destination of tantalum concentrate produced from the Kathleen Valley Project is not known at this stage. This results in an average price of US\$69.9/lb FOB Fremantle.</p> <p>Noting that while the PFS extends beyond Roskill's 2040 forecasts, Liontown has assumed it reasonable to use the 2040 price of CIF US\$65/lb as the basis from 2041 to 2064.</p> <p>Other Tantalum revenue factors were:</p> <ul style="list-style-type: none"> <li>• An exchange rate of 0.72 USD/AUD</li> <li>• In country transport charges of A\$194/dmt conc.</li> <li>• Shipping costs of US\$0.1/lb conc.</li> <li>• State royalty of 5% and private royalties of 3% gross sales and a A\$0.50 per tonne mined and milled for material sourced from with Mining leases M36/460 &amp; M36/459.</li> <li>• No third-party royalties apply for ore sourced from exploration license E36/879 (Mining license application M36/696)</li> </ul> <p>No penalties for contaminants were assumed or considered applicable for either Spodumene or Tantalum products.</p>	
<b>Market assessment</b>	<ul style="list-style-type: none"> <li>• <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>• <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li>• <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>• <i>For industrial minerals the customer specification,</i></li> </ul>	<p>Demand for lithium is forecast to increase significantly over the next decade driven using lithium ion batteries in automotive applications. Whilst there is a current oversupply of SC6.0 largely because of new mine capacity in Australia, it is expected that reduction in mine output from mines in Australia in 2021-2023 may initiate a phase of rebalancing. With continued strong demand and consumption growth, a supply deficit is expected to occur in the mid-2020's.</p> <p>Tantalum is used in high performance capacitors, superalloys and other applications consumed widely in aerospace, military and consumer electronics.</p>	As for Open Pit.



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	<p><i>testing and acceptance requirements prior to a supply contract.</i></p>	<p>Tantalum is a critical material for high performance applications, but global production is relatively small and limited to a few key regions and producers.</p> <p>With ongoing electrification of homes and vehicles, tantalum should play an increasingly important role from ensuring safety in autonomous vehicles to maintaining performance in the next generation of electrical devices and communications technology. While capacitors will remain the largest application (accounting for around 36% of the 2.4kt Ta of estimated demand in 2019), the largest growth will come from chemical applications and tantalum mill products.</p> <p>Supply-side disruptions have traditionally had the biggest impact on concentrate price trends in recent years, including the introduction of the Dodd-Frank Act in 2010, the fire at AMG's Brazilian Mibra operation in 2017, and more recently, variance in Australian by-product supply.</p> <p>A customer and competitor analysis was not undertaken however market windows for the product have been considered with pricing forecasts also provided by Roskill.</p>	
<b>Economic</b>	<ul style="list-style-type: none"> <li><i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li><i>NPV ranges and sensitivity to variations in the significant assumptions and inputs</i></li> </ul>	<p>An 8% real discount rate (using industry standard assumptions in calculating a WACC) has been utilised to determine the NPV for the Kathleen Valley Project.</p> <p>A range of sensitivities to significant assumptions and inputs has been provided in the body of this announcement including spodumene prices, exchange rates, metallurgical recoveries, lithium grade, capex and opex.</p>	As for Open Pit.
<b>Social</b>	<ul style="list-style-type: none"> <li><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<p>The Tjiwarl People are Traditional Owners of the area that actively overlays the Project. The Project area is largely located on granted mining leases and Liontown has signed a Heritage Agreement with the Tjiwarl People relating to exploration activities.</p>	As for Open Pit.



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		<p>Liontown has signed a Negotiation Protocol with the Tjiwarl People in respect to completing a mining agreement for the Project.</p> <p>Discussions are currently ongoing in terms of negotiating a project specific <i>Mining Cooperation Agreement</i> for the Project with the Tjiwarl.</p>	
<b>Other</b>	<ul style="list-style-type: none"> <li><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li><i>Any identified material naturally occurring risks.</i></li> <li><i>The status of material legal agreements and marketing arrangements.</i></li> <li><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<p>There are no obvious or likely naturally occurring risks that have been identified or which may negatively impact the Project or Project area.</p> <p>Liontown is a 100% owner of the deposit and has not entered into any arrangements regarding future off take arrangements.</p> <p>All statutory government agreements permits and approvals commensurate to the status of the Project are current and in good order.</p> <p>A mining license application has been submitted on the 16/6/20 to convert part of exploration tenement E36/879 (mining lease application # M36/696) on which a portion of the underground reserve and likely solar farm plus accommodation camp will be sited.</p> <p>Timeframes for Agreements relevant to the 2020 PFS were handled appropriately and have not put the Project at risk.</p> <p>Agreement timeframes in respect to the Project will be handled with similar accord so as not to put the future studies and Project development at risk also.</p>	As for Open Pit.
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li><i>Whether the result appropriately reflects the</i></li> </ul>	<p>Proved Ore Reserves were determined from Measured Resource material and Probable Ore Reserves were determined from Indicated Resource material as per the guidelines.</p>	<p>Proved Ore Reserves were determined from Measured Resource material and Probable Ore Reserves were determined from Indicated Resource material as per the guidelines. Small percentages of Inferred material (3% on average) and waste material (2% on average) were included in dominantly classified</p>



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	<p><i>Competent Person's view of the deposit.</i></p> <ul style="list-style-type: none"> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<p>These results reflect the Competent Person/s view of the deposit. Probable Ore was derived from Indicated material only.</p>	<p>Proved and Probable stope shapes. Dominantly classified Inferred stope shapes were not included in Ore Reserves.</p> <p>These results reflect the Competent Person/s view of the deposit. Probable Ore was derived from Indicated material only, not Measured material.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<p>The Ore Reserve estimate has been peer reviewed internally by Orelogy Consulting Pty Ltd.</p>	<p>As for Open Pit.</p>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>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.</i></li> <li><i>Accuracy and confidence discussions should extend to</i></li> </ul>	<p>The Mineral Resource, and hence the associated Ore Reserve, relate to global estimates.</p> <p>The Ore Reserve estimate is an outcome of the 2020 Mining Pre-Feasibility Study with geological, mining, metallurgical, processing, engineering, marketing and financial considerations to allow for the cost of finance and tax. Engineering and cost estimations have been completed to a +/-25% level of accuracy, consistent with a study of this nature.</p> <p>Liontown's financial model estimated a post-tax NPV<sub>8%</sub> of approx. <b>A\$1.12B, and IRR of 37%</b>, which demonstrates that the Project is economic at forecast prices.</p> <p>Sensitivity analysis undertaken during the open pit and underground optimisation demonstrates that:</p> <ul style="list-style-type: none"> <li>Overall open pit size is insensitive to costs or slope changes and mildly sensitive to price and recovery.</li> <li>Open pit ore tonnes recoverable are moderately sensitive to dilution, ore loss and recovery and slightly sensitive to costs or slope angles.</li> <li>Discounted cash flow for the Project is highly sensitive to parameters that directly affect revenue (i.e. commodity prices, recovery and exchange rate) and far less so to other parameters.</li> </ul> <p>The low sensitivity to cost variations provide reasonable confidence in the Ore Reserve estimate. However, there is no</p>	<p>As for Open Pit.</p> <p>The Ore Reserve estimate is an outcome of the 2020 Mining Pre-Feasibility Study with geological, mining, metallurgical, processing, engineering, marketing and financial considerations to allow for the cost of finance and tax. Engineering and cost estimations have been completed to a +/-25% level of accuracy, consistent with a study of this nature.</p> <p>Liontown's financial model estimated a post-tax NPV<sub>8%</sub> of approx. <b>A\$1.12B, and IRR of 37%</b>, which demonstrates that the Project is economic at forecast prices.</p> <p>Sensitivity analysis undertaken during the underground optimisation demonstrates that the chosen inventory is:</p> <ul style="list-style-type: none"> <li>is relatively insensitive to costs or dilution changes and mildly sensitive to price and recovery.</li> <li>Discounted cash flow for the Project is highly sensitive to parameters that directly affect revenue (i.e. commodity prices, recovery and exchange rate) and far less so to other parameters.</li> </ul> <p>The low sensitivity to cost variations provide reasonable confidence in the Ore Reserve estimate. However, there is no guarantee that the price assumption, while reasonable, will be achieved.</p>





Criteria	JORC Code explanation	Commentary – Open Pit	Commentary - Underground
	<p><i>specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></p> <ul style="list-style-type: none"> <li><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<p>guarantee that the price assumption, while reasonable, will be achieved.</p>	