

20 May 2022

## A Further 17.5 Metres of Visual Spodumene-Bearing Pegmatite Intersected at Mavis Lake in Step-Out Hole 14

Critical Resources Limited (ASX:CRR) ("Critical Resources" or the "Company"), is pleased to advise that following on from the outstanding results from step out hole 13, which contained 23.1m of visual spodumene (ASX Announcement 17 May 2022) it has again encountered thick visual spodumene in drill holes 14 and 15. Both holes are step out holes, targeting the Pegmatite 6 zone of mineralisation at the Company's 100% owned Mavis Lake Lithium Project in Ontario, Canada ("the Project").

## **Highlights**

#### **Hole 14:**

- 17.5 metres of ~18% silvery-white, fine to large spodumene laths hosted from 143.25 to 160.75 metres
  of pegmatite, including: 1, 2, 3
  - 0.4 metre interval of ~50% spodumene from 149.3 to 149.7 metres downhole
  - 1.2 metre interval of ~25% spodumene from 149.7 to 150.9 metres downhole
  - 4.25 metre interval of ~30% spodumene from 156.4 to 160.65 metres downhole

#### **Hole 15:**

- 9.7 metres of ~5% white-grey, fine to large spodumene laths hosted from 129.1 to 138.8 metres of pegmatite, including: 1,2,3
  - 1.6 metre interval of ~20% spodumene from 133-134.6 metres downhole
- 14 out of 15 holes have intersected spodumene-bearing pegmatite mineralisation
- Due to the current success of the inaugural 5,000m drill program, exploration works on 28 new targets have been identified, including 11 high priority targets (ASX Announcement 12 May 2022). Work has commenced to extend drilling to a ~10,000m program.
- Samples and core from completed drill holes have been sent for analysis and are expected in due course



Figure 1: ) Example of large white-grey spodumene laths intersected in core from MF22-73 (Hole 14).

<sup>1</sup>In relation to the disclosure of visual mineralisation, the Company cautions that visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analysis. Laboratory assay results are required to determine the widths and grade of the visible mineralisation reported in preliminary geological logging. The Company will update the market when laboratory analytical results become available.

<sup>3</sup>Descriptions of the mineral amounts seen and logged in the core are qualitative, visual estimates (they are listed in order of abundance of estimated combined percentages). Quantitative assays will be completed by Activation Labs in Dryden, Ontario.

<sup>&</sup>lt;sup>2</sup>The reported intersections are down hole measurements and are not necessarily true width



Critical Resources Managing Director Alex Biggs said: "It is extremely pleasing to see further significant intercepts along strike. These results follow on from our recent 23.1m interception in hole 13 and continues to re-enforce the potential prospectively at Mavis Lake. We are increasingly excited with what the rest of the drill program will uncover, and we look forward to updating our shareholders as this drill program continues".

Figure 2: Close up images of large silvery-white coloured spodumene crystals intercepted in Hole MF22-73 (Hole 14)



#### Hole MF22-73 (Hole 14)

#### A significant intersection of ~18% spodumene-bearing pegmatite over 17.5 metre width

MF22-73 was designed to test the down-dip extension of Pegmatite 6 and is located on strike with the spodumene-bearing pegmatites intersected in holes MF22-64 (Hole 05) and MF22-72 (Hole 13). The pegmatite hosts numerous significant zones of spodumene mineralisation bounded by zones of aplite. Spodumene crystals are typically silvery-white, fine to large, subhedral-euhedral laths.

Figure 3: White to silvery pegmatite hosts approximately 18% of medium to large, white grey, spodumene crystals intersected from 143.25 to 160.75 metres depth in Hole MF22-73 (Hole 14). Close ups illustrate significant spodumene mineralisation.





#### Hole MF22-74 (Hole 15)

Confirmed 125-metre extension in strike length of spodumene mineralisation at depth within Pegmatite 6 MF22-74 intersected 9.7 metres of ~5% spodumene-bearing pegmatite along Pegmatite 6. Less abundant spodumene mineralisation may be a result of the localized zonation nature of minerals within pegmatites. Significant spodumene mineralisation is proven throughout Pegmatite 6 from previous and current drill intercepts.

Figure 4: White to grey pegmatite hosts approximately 5% of fine to large, white grey, spodumene crystals intersected from 129.1 to 138.8 metres depth in Hole MF22-74 (Hole 15). Close ups illustrate significant spodumene mineralisation





Figure 5: Cross-section, looking west, of Pegmatite 6 (pink shape) with previous drill hole traces (grey) and recently drilled holes of MF22-73 and MF22-74 (note: measurement in metres)

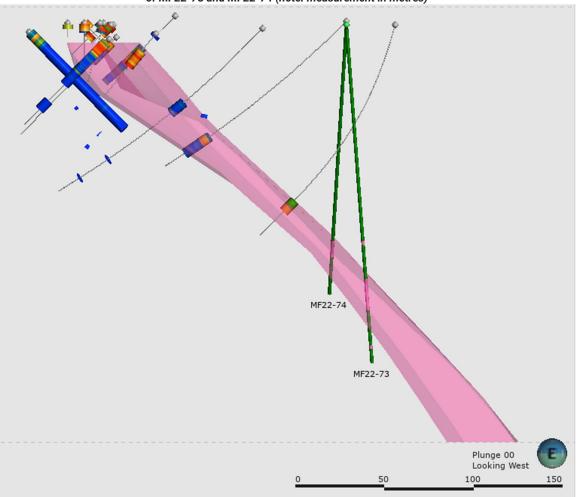




Figure 6: Long-section, looking north, of Pegmatite 6 (pink shape) and recently drilled holes of MF22-64, MF22-72, MF22-73, MF22-74 (note: measurement in metres).

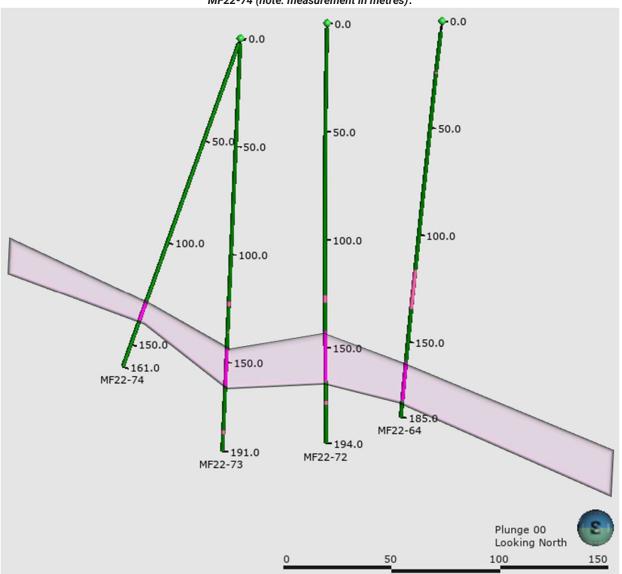
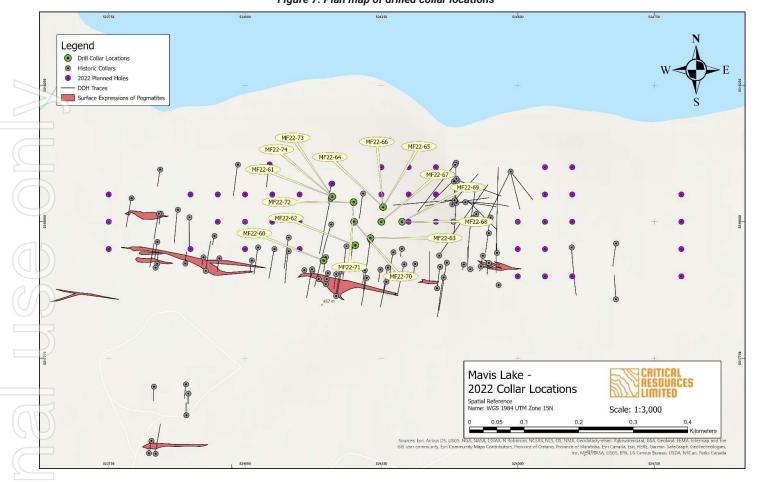




Figure 7: Plan map of drilled collar locations



#### **Mavis Lake Project Description**

The Mavis Lake Lithium Project is 19 kilometres east of the town of Dryden, Ontario. The Project is in close vicinity to the Trans-Canada highway and railway major transportation arteries linking larger cities such as Thunder Bay, Ontario, to the southeast and Winnipeg, Manitoba, to the west. The region boasts excellent infrastructure with hydro-power located a few kilometres to the south-west of the project. The region is a well-established lithium province with multiple projects located within the vicinity.

Previous drill programs have yielded high-grade Li<sub>2</sub>O intercepts including:

- 55.25m at 1.04% Li<sub>2</sub>O from 80.75m in drill hole MF18-53 and
- 26.30m at 1.70% Li<sub>2</sub>O from 111.9m inc. 7.70m at 2.97% Li<sub>2</sub>O from 130.5m in drill hole MF17-491.

These results present significant exploration potential, a summary of previous results can be seen in ASX announcement dated 25 October 2021. A future work program has been determined and is outlined in detail in ASX announcement dated 13 Dec 2021.



Figure 8: Sample of Mavis Lake intersections from 2017 and 2018 drilling campaign

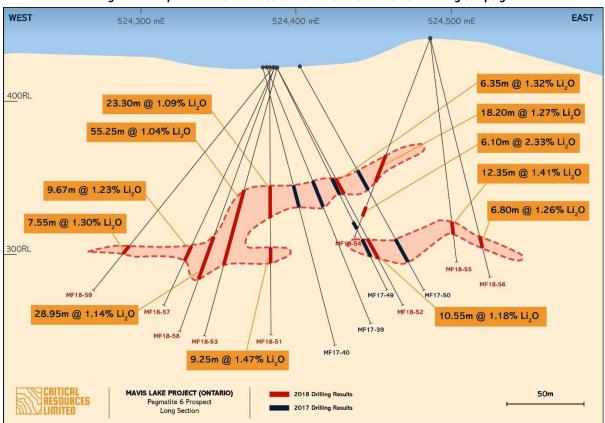


Figure 9: Mavis Lake project location





#### **Deposit Type and Exploration Thesis**

Previous exploration campaigns at Mavis Lake have confirmed the presence of lithium-bearing pegmatites.

The pegmatite occurrences at Mavis Lake are found within the correct zonation for lithium enrichment from the Ghost Lake Batholith, a fertile granite intrusion. The zonation of pegmatite occurrences can be seen in Figure 10.

The recently conducted airborne survey (see ASX announcement 01 February 2022) demonstrated the potential continuity of geological trends between Pegmatite 6 and Pegmatite 18. This potential continuity represents new areas of interest for the company that will be investigated via surface mapping and sampling with the aim of identifying new drill targets.

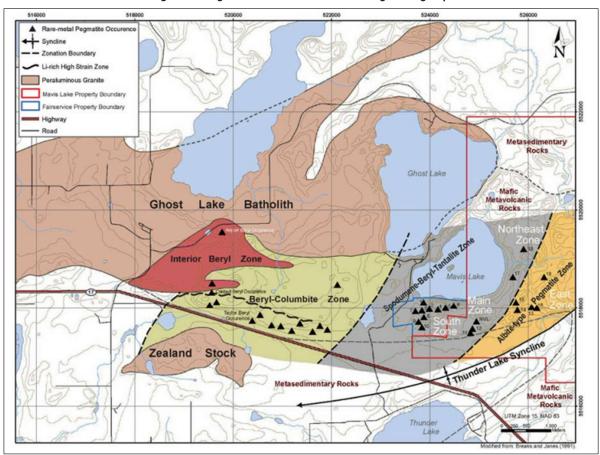


Figure 10: Regional zonation of Mavis Lake Pegmatite group

Sources: Demmeier and Mercier (2011), modified from Breaks and James (1991)

#### The Lithium Industry in Ontario

Canadian Government's C\$3.8 Billion Critical Minerals Strategy

Recently announced strategy by the Canadian government to boost domestic production of lithium, copper and other strategic minerals to help propel the country's efforts to become a key part of the global electric vehicle supply chain. The spending, announced during Canada's federal budget unveiling on 7 April 22, promises grants for mineral surveying, processing, and recycling, as well as tax credits for the development of new mines and subsidies for infrastructure.

#### Ontario's First-Ever Critical Mineral Strategy

In March of 2022 the government of Ontario announced their first-ever critical minerals strategy. The strategy aims to secure Ontario's position as a global leader of responsibly sourced critical minerals. To achieve this, collaboration is dependent between government, industry, Indigenous peoples, communities, and other stakeholders. Working together, this strategy will build a stronger, more resilient economy and revitalise local communities. The strategy is comprised of six pillars, or areas of government action, which will solidify Ontario's position as a global leader of responsibly sourced critical minerals. The pillars are; Enhancing geoscience information and supporting critical



minerals exploration, Growing Domestic processing and creating resilient supply chains, Improving Ontario's regulatory framework, Investing in innovation, research, and development, Building economic development opportunities with Indigenous partners, and Growing labour supply and developing a skilled labour force.

#### Tesla Battery Gear Manufacturing Plant Opens

Tesla has recently announced the opening of a battery gear manufacturing plant in Markham, Ontario demonstrating the significant opportunity for Ontario to become one of the world's leading lithium provinces. The facility will be the first branded Tesla Canada manufacturing facility in Canada. A significant amount of activity in the lithium exploration sector is currently occurring in Ontario. Due to the quality of lithium assets in the region, the fundamental drivers behind the lithium market and the intent of North American manufacturers to source lithium for battery manufacturing from localised supply-chains, it is an excellent time to be gaining a foothold in Ontario.

#### Thunder Bay Regional Lithium Refinery

Avalon Advanced Materials Inc (TSX:AVL) has recently announced the agreement of a binding letter of intent to develop a regional battery supply chain in Ontario and elsewhere. The first step of this development will be establishing a lithium refinery in Thunder Bay, Ontario, approximately 350km from the Mavis Lake Lithium Project. The plant aims for a production capacity of 20,000 tonnes per annum of lithium hydroxide and/or lithium carbonate. Sources of lithium concentrate will be initially from Avalon's Separation Rapids Lithium Project while other projects begin production.

This announcement has been approved for release by the Board of Directors.

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#### **EXPLORATION WORK - COMPETENT PERSONS STATEMENT**

The information in this ASX Announcement that relates to Exploration Results is based on information compiled by Troy Gallik (P. Geo), a Competent Person who is a Member of the Association of Professional Geoscientists of Ontario. Troy Gallik is a full-time employee of Critical Resources Ltd. Troy Gallik has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Troy Gallik consents to the inclusion in this ASX Announcement of the matters based on his information in the form and context in which it appears.

#### FORWARD LOOKING STATEMENTS

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the

Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.



Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### NO NEW INFORMATION

Except where explicitly stated, this announcement contains references to prior exploration results, all of which have been cross-referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements.

#### ABOUT CRITICAL RESOURCES LIMITED

Critical Resources is a base metals and lithium exploration and development focused company headquartered in Perth, Western Australia and is listed on the Australian Securities Exchange (ASX:CRR). The Company has recently been undergoing a structured process of change at the Director and Executive level. These changes mark the commencement of a renewed focus by the Company on providing shareholder value through the exploration, development and advancement of the Company's long held NSW assets, its newly acquired Lithium assets in Canada and also of its Copper assets in Oman.



# Appendix 1: JORC Table 1 – MF22-73 and MF22-74 Exploration Results

1.1 Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.)

Criteria	JORC-Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	<ul> <li>Oriented NQ core was cut in half using a diamond saw, with a half core sent for assay and half core retained.</li> <li>No other measurement tools other than directional survey tools have been used in the holes at this stage.</li> </ul>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.  Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., '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 (e.g., submarine	<ul> <li>Oriented core was placed V-rail and a consistent cut-line drawn along core to ensure cutting (halving) of representative samples</li> <li>Core sample interval was based in logged mineralisation</li> <li>Determination of mineralisation has been based on geological logging and photo analysis.</li> <li>Diamond Core drilling was used to obtain 3m length samples from the barrel which are then marked in one metre intervals based on the drillers core block measurement.</li> <li>Assay samples will be selected based on geological</li> </ul>
Drilling techniques	nodules) may warrant disclosure of detailed information.  Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).	logging boundaries or on the nominal metre marks.  • Samples will be dispatched to an accredited laboratory (ActLabs) in Dryden, Ontario, Canada for sample preparation and shipment to analysis  • NQ2 diamond double tube coring by Cyr EF-50 rig was used throughout the hole.  • Core orientation was carried out by the drilling contractor



Criteria	JORC-Code Explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Lithological logging, photography
		• Core samples were measured with a standard tape within the core trays. Length of core was then compared to the interval drilled, and any core loss was attributed to individua rock units based on the amount of fracturing, abrasion of core contacts, and the conservative judgment of the core logger.
		Results of core loss are discussed below.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	<ul> <li>Experienced driller contracted to carry out drilling.</li> <li>In broken ground the driller produced NQ core from short runs to maximise core recovery.</li> <li>Core was washed before placing in the core trays.</li> </ul>
		Core was visually assessed by professional geologists before cutting to ensure representative sampling.
	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.	• See "Aspects of the determination of mineralisation that are Material to the Public Report" above.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	<ul> <li>Core samples were not geotechnically logged.</li> <li>Core samples have been geologically logged to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	The core logging was qualitative in nature. All core was photographed
	The total length and percentage of the relevant intersections logged.	•100% •Total length of the MF22-73 was 191m
	reterant time seemons reggen.	• 100% of the relevant intersections were logged.
		•Total length of the MF22-74 was 161m
		• 100% of the relevant intersections were logged.
Sub-sampling	If core, whether cut or sawn and whether	No sampling completed at this stage
techniques and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	



Criteria	JORC-Code Explanation	Commentary		
	Whether sample sizes are appropriate to the grain size of the material being sampled.			
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	No assays have been conducted for this drill program. Techniques will be updated when assays are completed.		
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.			
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.			
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	No independent verification completed at this stage		
	The use of twinned holes.	No holes are twins of previous holes		
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Core measured, photographed and logged by geologists.     Digitally recorded plus back-up records.		
	Discuss any adjustment to assay data.	No assay data received at this stage		
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	• Drill collars recorded with Garmin GPS that has an accuracy in the order of ±3 metres for location. A registered surveyor will be contracted to accurately survey all drill collars at completed of drill program.		
	Specification of the grid system used.			
	Quality and adequacy of topographic control.	• WGS 1984 UTM Zone 15N		
	control.	No specific topography survey has been completed over the project area		
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Not relevant to current drilling.		
	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.	Not relevant to current drilling.		
	Whether sample compositing has been applied.	No sample compositing has been applied.		



Criteria	JORC-Code Explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The orientation of the mineralisation is unknown. The drilling program is aimed at determining orientation of the mineralisation.
D	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• It is uncertain whether sampling bias has been introduced, or whether the thickness drilled is a true thickness.
Sample security	The measures taken to ensure sample security.	• Core samples will be stored the Dryden core yard before delivery to ActLabsGroups in Dryden, Ontario for analysis.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Not undertaken at this stage

### 2 Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC-Code Explanation	Commentary		
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	<ul> <li>The Mavis Lake Lithium Project consists of 189 unpatented Single Cell Mining Claims and six separate surface leases which secure the surface rights of the land required for the Project footprint.</li> <li>All claims and leases are active and in good standing. The leases have a term of 21 years and are not set to expire until 2032, at which time they can be renewed for an additional 21 years if required.</li> </ul>		
	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.			
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• Previous exploration has been conduced by a number of parties including Lun-Echo Gold Mines Limited (1956), Selco Mining Corporation (1979-1980), Tantalum Mining Corporation of Canada Limited (1981-1982), Emerald Field Resources (2002), International Lithium Corp (2006-2021) and Pioneer Resources Limited/Essential Metals Limited (2018-2021).		



Criteria	JORC-Code Explanation	Commentary								
Geology	Deposit type, geological setting and style of mineralisation.	• The Fairser that are prosp					oned pe	gmatites		
Drill hole	A summary of all information material									
Information	to the understanding of the exploration	Hole ID	Easting	Northing	RL	Azimuth	Dip	То		
/	results including a tabulation of the following information for all Material	MF22-73	524160	5518042	447	330	-85	Depth 191		
	drill holes: easting and northing of the drill hole	MF22-74	524161	5518044	447	260	-70	161		
1	collar  elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	_								
)	dip and azimuth of the hole	_								
1	down hole length and interception depth									
	hole length.  If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	• Not relevant	•							
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	• Uncut								
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.									
	The assumptions used for any reporting of metal equivalent values should be clearly stated.									
		• None used								



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Criteria	JORC-Code Explanation	Commentary
Relationship between mineralisation widths and	These relationships are particularly important in the reporting of Exploration Results.	True width not currently known. All lengths are down-hole lengths and not true width.
intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	• The precise geometry is not currently known but is being tested by the planned drilling, with diamond drill hole azimuths designed to drill normal to the interpreted mineralised structure.
	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').	• Down-hole length reported, true width not known.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	The drilling is aimed at clarifying the structure of the mineralisation.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Representative reporting of all relevant grades is provided in tables to avoid misleading reporting of Exploration Results.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Overview of exploration data leading to selection of drill targets provided.</li> <li>There were no deleterious elements identified.</li> </ul>
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale stepout drilling).	Drill program of 49 holes for a total of 5,000m to confirm, infill and extend previous drilling conducted by various parties.