NEXUSMINERALS

ASX ANNOUNCEMENT **14 September 2023**

Spodumene confirmed as Lithium Species at Merrimac LCT Project

Merrimac LCT Project Due Diligence Update

- ✓ **X-ray diffraction (XRD) analysis results have been received from 4 Merrimac rock chip samples which previously returned Li_2O grades of 2.85%, 1.28%, 1.11% and 1.00%**
- ✓ **XRD analysis is used to accurately inform lithium bearing minerals and has confirmed:**
  - ➢ **Spodumene dominant lithium bearing mineral**
- ✓ **Spodumene and petalite are critical hard rock lithium ore minerals offering both grade and metallurgical recoveries which surpass lithium micas**
- ✓ **Mapped spodumene bearing pegmatite dykes extend onto Nexus application tenement (see Exploration Zone highlighted in figure 2)**
- ✓ **Results build proof-of-concept evidence for LCT pegmatite fertility of the broader Wagga Omeo Zone (WOZ) across NSW and Victoria**

Critical Minerals Search

- ✓ **Nexus has secured a regional first movers advantage position of some 15,000km^2 of prospective exploration tenure within the WOZ**
- ✓ **Work underway to accurately map and classify intrusive bodies from existing geophysics**
- ✓ **Field mapping and sampling on track to commence in NSW in October - on completion of geophysical interpretation**
- ✓ **Regional scale geological approach hunting for large orebodies**

Nexus Minerals Limited (ASX: NXM) (Nexus or **the Company)** is pleased to announce X-ray diffraction (XRD) results from the Merrimac LCT project. Rock chip samples subject to XRD previously returned Li_2O grades of 2.85%, 1.28%, 1.11% and 1.00%. XRD analysis is used to accurately inform pegmatite mineralogy and dominant lithium bearing minerals and has confirmed spodumene is the dominant lithium bearing mineral with petalite secondary. This milestone is significant for both the due diligence review of this project and Nexus' broader exploration strategy of the Wagga Omeo Zone (WOZ) where Nexus has taken a regional belt-scale tenure position.

Nexus Managing Director Andy Tudor commented *"Identifying spodumene as the dominant lithium bearing minerals adds to the broader regional exploration potential. We are continuing to validate and build scientific support for Nexus' critical minerals strategy in New South Wales and Victoria, which has seen a significant project generation effort built from first principals geology. The exploration team is eager to commence fieldwork in NSW and build upon the Merrimac results. With the exploration effort continuing at the Wallbrook Gold Project, and preparations for the Bethanga porphyry copper drill program progressing - we continue to make significant progress across the exploration portfolio".*

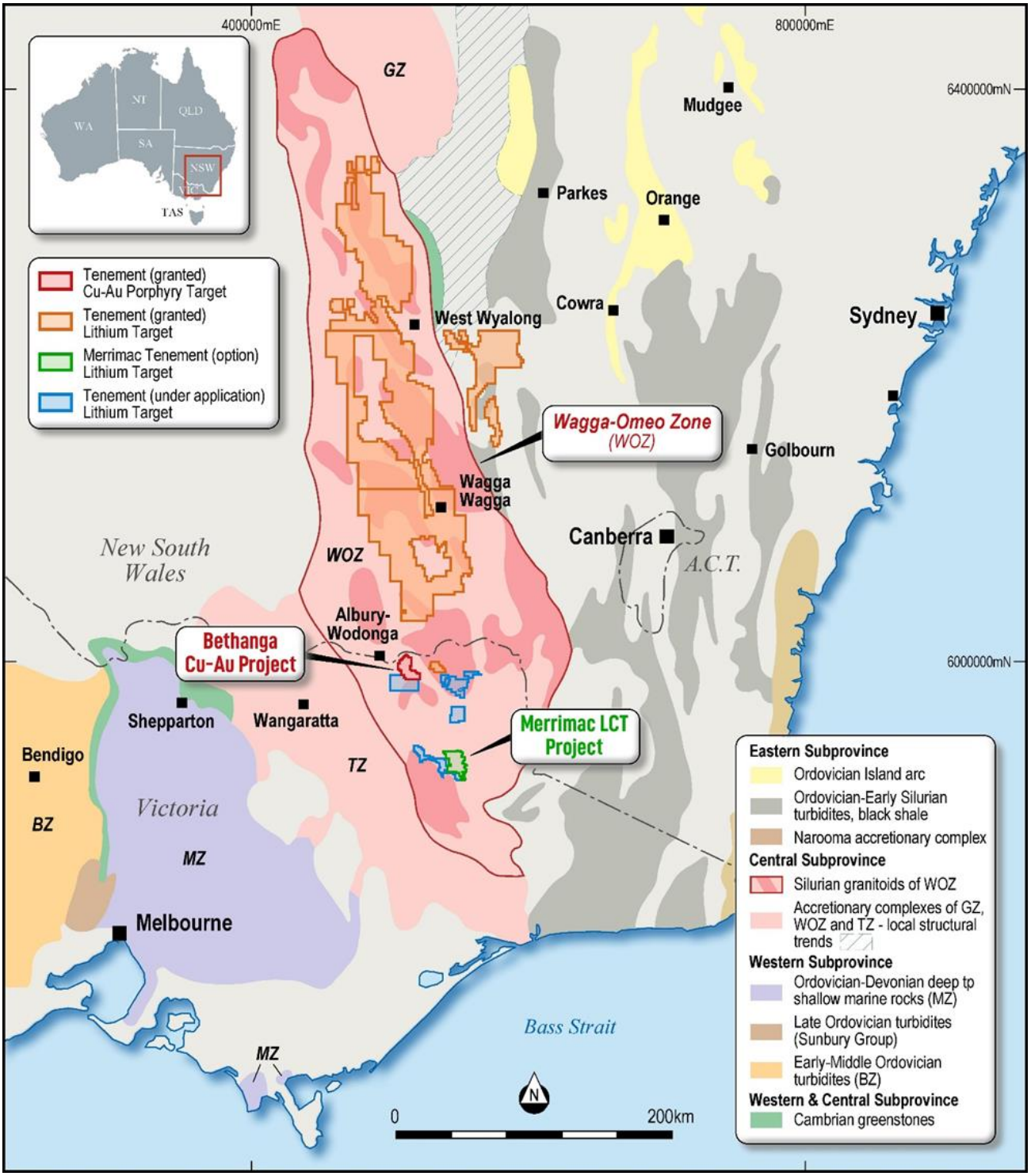

Figure 1: Nexus Critical Minerals Projects Location over Geology

Merrimac LCT Project Update

The Company has an option to acquire the Merrimac LCT Project and is undertaking due diligence exploration on the project prior to a decision to acquire (refer announcement 29 March 2023).

The initial field mapping and sampling campaign at the Merrimac Project successfully identified LCT pegmatites with anomalous and high-grade lithium assays up to 2.85% Li_2O (Table 1). These dykes were located in the southwestern portion of the Merrimac exploration licence (currently under option) over a potential 10km of prospective strike. The dykes extend further onto a Nexus exploration licence application, offering further project exploration opportunity.

Four of the high-grade lithium samples collected during the initial mapping campaign and returning Li_2O grades of 2.85%, 1.28%, 1.11% and 1.00% were submitted to the laboratory for XRD analysis. Samples were submitted form two areas of outcropping pegmatites up to 400 metres apart on the same strike trend (Figure 2 and Figure 3).

XRD analysis allows for the identification of the bulk mineral composition of a sample through analysis of the crystal structure. This technique is important to identify the key lithium bearing minerals in the pegmatite to understand future implications on economic viability, with spodumene and petalite being two important lithium ore minerals.

Both spodumene and petalite were identified as the lithium ore minerals in the Merrimac samples, with spodumene taking prevalence (Table 1). This analysis validates the previously reported Li_2O values, highlighting notable lithium is concentrated in favourable mineralogy with minimal amounts of other less favourable lithium hosting minerals such as micas.

Anomalous and high-grade lithium assays are now supported by strong mineralogy in addition to regional and project scale credentials including, a high degree of fractionation (as demonstrated in prior multi-element analysis), and presence of historic tin workings. Collectively this positions the project within the 'goldilocks zone' (Figure 4), the optimal distance from the interpreted source being the S-type Mt. Wills granite (Hines et al. 2023).

The full extent of the Merrimac pegmatite dykes remains to be determined. The exploration team is currently assessing the project in light of the recent exploration success and planning further work for the Victorian and NSW field season.

Mineral or Mineral Group	NMMC80	NMMC99	NMMC141	NMMC143
	Mass %			
Vermiculite	0	< 1	0	< 1
Clinochlore	< 1	1	1	1
Annite/Biotite/Phlogopite	3	4	2	6
Muscovite	1	3	1	1
Spodumene	**15**	**15**	**25**	**3**
Plagioclase	51	36	15	53
K-feldspar	4	5	4	3
Quartz	23	32	37	18
Tourmaline	1	2	1	1
Beryl	< 1	< 1	< 1	1
Amblygonite - montebrasite	0	0	1	1
Petalite	**1**	**1**	**13**	**12**
Li_2O %	**1.00**	**1.28**	**2.85**	**1.11**

Table 1: Merrimac LCT Project XRD results
(Corresponding Li_2O grades at bottom of table – refer to NXM ASX release 25/7/2023)

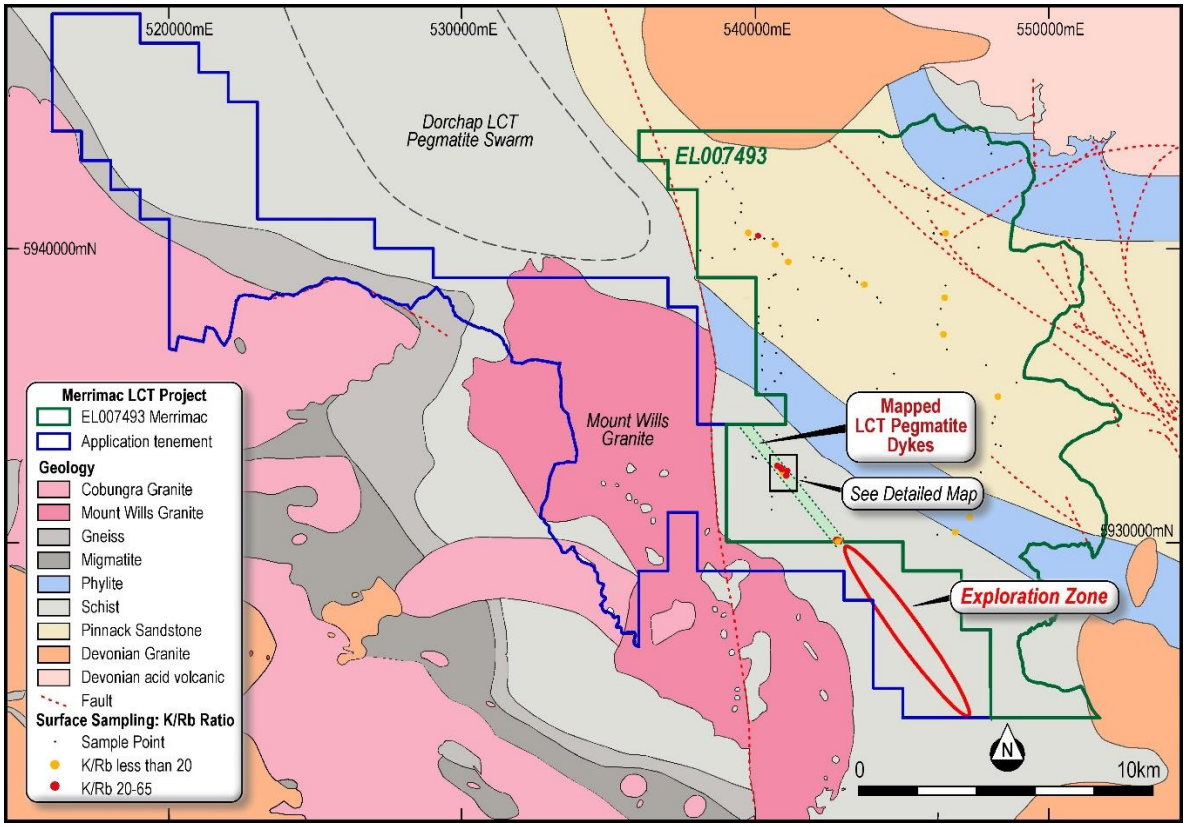

Figure 2: Merrimac LCT Project map

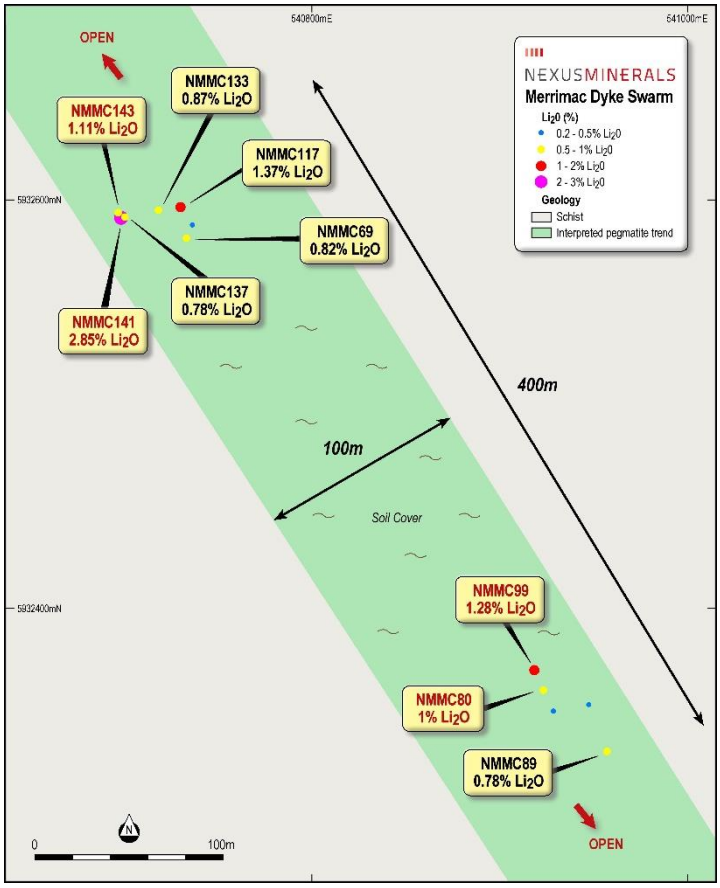

Figure 3: Merrimac LCT dykes rock chip assays – XRD samples in red text (detailed map from Figure 2)

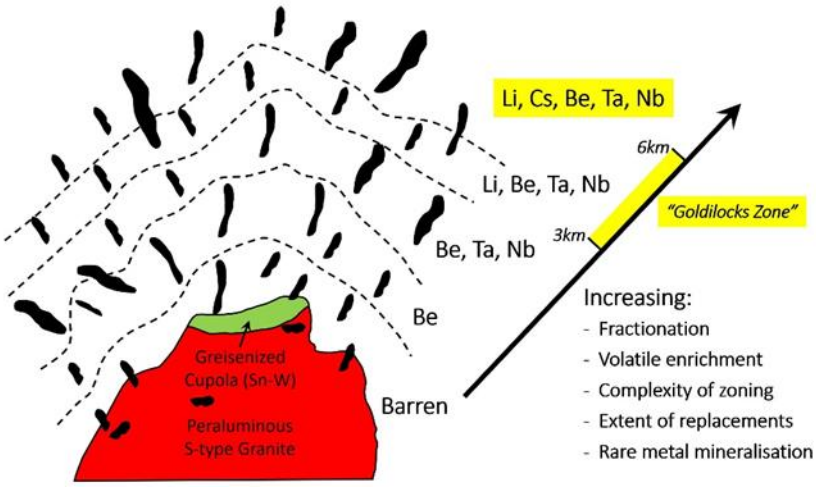

Figure 4: Detailed geochemical zoning of pegmatites from a fertile intrusive contact (From Steiner, 2019)

R&D Project

In co-ordination with current exploration, Nexus runs a research and development (R&D) program. This program aims to develop new scientific knowledge around automatic logging of drill chips / core imagery and the use of Portable X-ray fluorescence (pXRF) analysers. The program has potential to introduce cost and time efficiency gains in not only mineral exploration, but in a range of industries.

This announcement is authorised for release by Mr Andy Tudor, Managing Director, Nexus Minerals Limited.

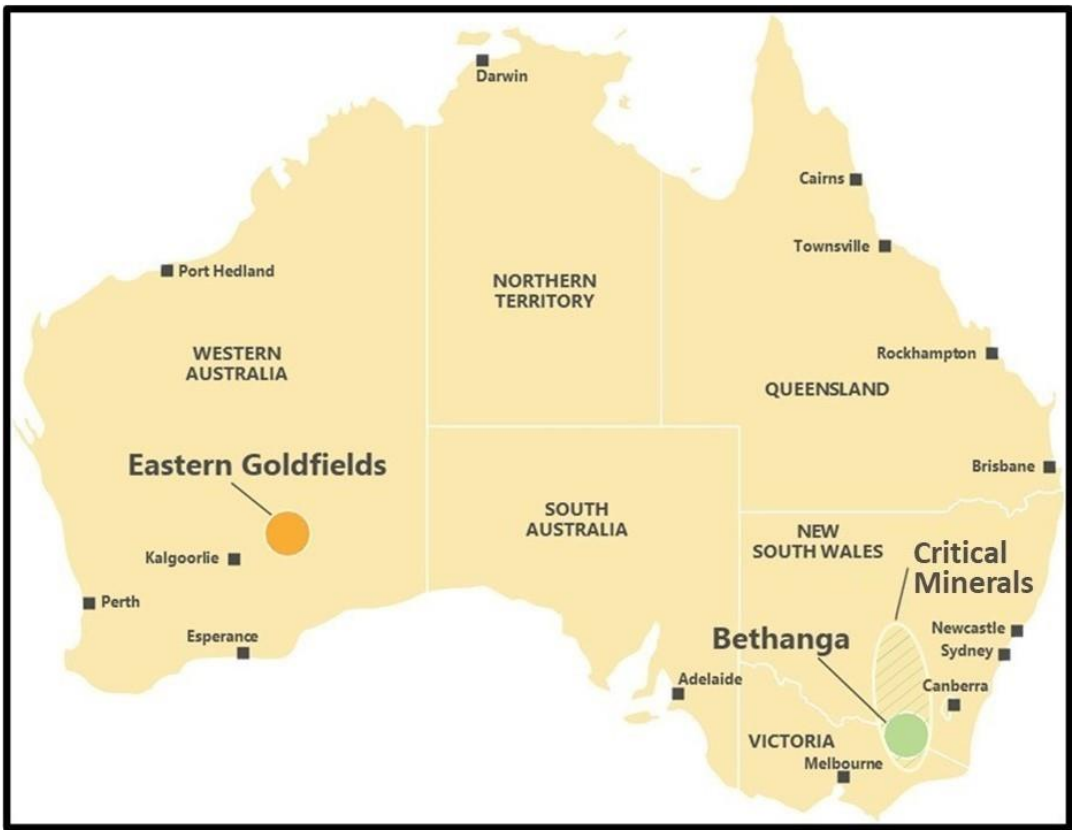

Figure 5: Nexus Project Locations, Australia

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About Nexus

Nexus principal activity is exploring for gold deposits on its highly prospective 204km^2 Wallbrook tenement package in the Eastern Goldfields of Western Australia. In addition to this, the company has expanded its existing project portfolio with the addition of the Bethanga Porphyry Copper-Gold project in Victoria, and its extensive Critical Mineral tenement exploration package of 15,000km^2 in north-eastern Victoria and NSW.

Nexus Minerals' tenement package at the Wallbrook Gold Project commences immediately to the north of Northern Star's multi-million ounce Carosue Dam mining operations, and current operating Karari and Whirling Dervish underground gold mines. Nexus holds a significant land package of highly prospective geological terrane within a major regional structural corridor and is exploring for gold deposits.

Nexus is actively investing in new exploration techniques to refine the targeting approach for their current and future tenements.

- Ends –

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ASX Code	**NXM**

The information in this release that relates to Exploration Results, Mineral Resources or Ore Reserves is based on, and fairly represents, information and supporting documentation, prepared, compiled or reviewed by Mr Andy Tudor, who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Tudor is the Managing Director and full-time employee of Nexus Minerals Limited. Mr Tudor has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Tudor consents to the inclusion in the release of the matters based on his information in the form and context in which it appears. The results are available to be viewed on the Company website www.nexus-minerals.com. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcements.

FORWARD LOOKING AND CAUTIONARY STATEMENTS. Some statements in this announcement regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "predict", "foresee", "proposed", "aim", "target", "opportunity", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this report are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So, there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.

Appendix A 14/09/2023

JORC Code, 2012 Edition – Table 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 (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	Grab samples were taken from outcrop using a geological hammer with 2-3kg collected from each sample position. The lab split a portion for X-ray diffraction (XRD) analysis. Geology and hand-held GPS points were recorded for each sample location.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	No drilling has been conducted.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	No drill samples have been collected.

Criteria	JORC Code explanation	Commentary
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* *The total length and percentage of the relevant intersections logged.*	Grab samples were logged with lithology, mineralogy, alteration, mineralisation, colour, weathering and other characteristics as observed. Location description was also recorded.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	No QAQC samples have been included as sampling is initially quantitative to identify prospective areas. Samples were collected evenly across the rock face to ensure representative analysis. Samples were collected into calico bags, which were then submitted to ALS laboratory in Adelaide.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*	Samples were analysed at an accredited laboratory (ALS) in Adelaide. Samples were analysed for lithium and multi-element suite. The analytical method included a lithium suite peroxide fusion including select additional elements, with ICP-MS finish. This method is considered appropriate for the material being assayed. The method provides a near total digestion of the material. Four samples were subject to X-ray diffraction (XRD) analysis. This is used to identify and quantify mineral composition. No other geophysical tools, spectrometers etc were used in this program.

Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Nexus included no QAQC samples as sampling is initially quantitative to identify prospective areas. Lab introduced QAQC was reviewed with no issues noted.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	All sampling was supervised by a qualified geologist.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	Sample locations were recorded with a handheld GPS. Accuracy is +/- 3m.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Sampling was undertaken as part of a geological mapping exercise and as such constrained to areas of outcrop and guided by the aim of informing a reasonable geological interpretation of the area. There was no regular sample spacing.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	Sampling was undertaken as part of a geological mapping exercise. Geological controls are not well understood at this stage of exploration.
Sample security	*The measures taken to ensure sample security.*	Samples were collected in sealed calico bags transported to the laboratory in Adelaide by courier.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	All sampling, logging, assaying and data handling techniques are considered to be industry best practice.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Sampling was undertaken on tenement EL007493. Nexus has an Option Agreement to acquire 100% of this tenement (refer to ASX: NXM 29/3/2023).
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The tenement has not been subject to prior exploration activities for lithium.
Geology	*Deposit type, geological setting and style of mineralisation.*	Geology is typical of LCT pegmatite hosted lithium mineralisation.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	No drilling has been undertaken.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for*	No data aggregation has been undertaken.

Criteria	JORC Code explanation	Commentary
	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.*	
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Not determinable from this sampling program.
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.*	Refer to the maps included in the text.
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.*	Clearly stated in body of release
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.*	No other exploration data to be reported.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Post full assessment of the recent mapping campaign, the exploration team will plan follow up exploration to commence once climate conditions are suitable.