

Maiden Lithium Program at Cooletha Confirms Spodumene Mineralisation

Highlights

- Maiden campaign successfully completed at Cooletha Project in the Pilbara, Western Australia
- Highly encouraging mineralisation identified:
 - Visible spodumene sites discovered on E45/4990
 - Manganese mineralisation identified on E45/5228
- Reconnaissance has covered approximately 15% of the pegmatite prospective region
- First batch of 94 rock samples from Cooletha submitted to laboratory with results expected in 6-8 weeks
- Reconnaissance sampling and mapping continues at Cooletha
- Further samples in transit and expected to be submitted to Labwest next week
- At Rankin Dome, upcoming drill program reviewed and landowner engagement has been undertaken
- Planned drilling programs to consist of Reverse Circulation (RC), aircore and auger drilling targeting several REE anomalous areas within the large Rankin Dome Project area

Australian Critical Minerals (ASX:ACM, “ACM” or “the Company”) is pleased to announce its maiden exploration program has been successfully completed at its Cooletha Lithium Project in the Pilbara region, Western Australia. ACM is a newly listed explorer focused on developing high-value lithium and rare earth projects in Western Australia.

Managing Director, Dean de Largie said,

“We are delighted to have completed our maiden exploration campaign at the Cooletha Lithium Project so quickly after our IPO was finalised in July this year. We are very encouraged by the visible spodumene identified during this program and whilst we wait for the results of the first batch of rock samples within 6-8 weeks, reconnaissance sampling will continue. Having only covered 15% of the prospective pegmatite region so far, we are excited about the potential for exploration success.

We are also eagerly anticipating the commencement of our first drilling program at Rankin Dome which will target anomalous rare earth prospects. Final approvals and landowner access to allow this program to begin are imminent.”

Cooletha Lithium Project, Pilbara

The Cooletha Lithium Project, ACM's flagship lithium project, has over 100km² of lithium prospectivity with outcropping pegmatite swarms in the Pilbara lithium district. The Project is located south of significant discoveries at Pilbara Minerals' (ASX:PLS) Pilgangoora Lithium Project (223Mt @ 1.25% Li₂O), Mineral Resources' (ASX:MIN) Wodgina Lithium Project (259Mt @ 1.17% Li₂O), and Global Lithium Resources' (ASX:GL1) Archer Lithium Deposit at Marble Bar (18Mt @ 1% Li₂O) (Figure 1).

The Cooletha Project also sits 30km south of the Tambourah Lithium Project owned by Trek Metals (**ASX:TKM**), which has commenced its maiden 3,800m drill campaign following up on rock chip results up to 3.02% Li₂O.

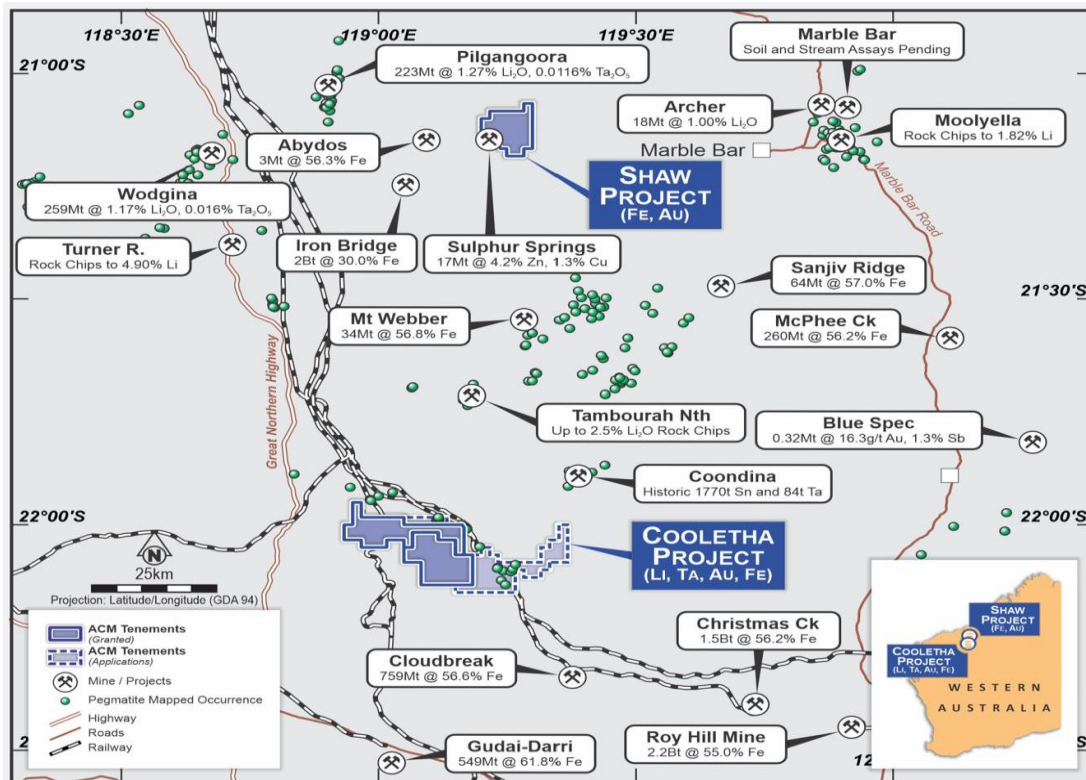


Figure 1 – The location of the Cooletha Lithium Project in the Pilbara region, Western Australia.

Since listing in early July, ACM has engaged Geolithic Pty Ltd, a specialist remote exploration consultancy to provide initial reconnaissance sampling and mapping over the Cooletha Project (Figure 2).



Figure 2 – Remote exploration equipment and personnel provided by Geolithic and Allied Rock Pty Ltd on the eastern side of the Cooletha tenement

Initial work has focused on the most accessible regions of the Project in the north-west and south-east of the tenement (Figure 3).

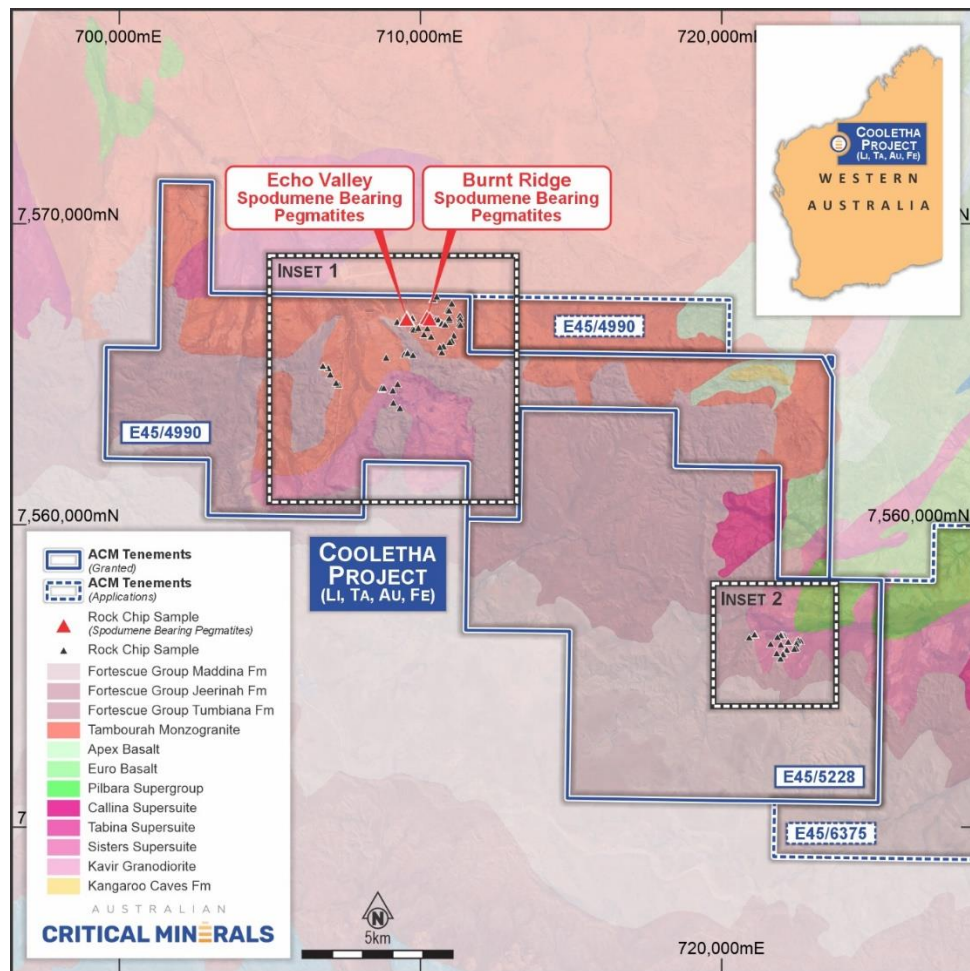


Figure 3 – Initial sampling focus area of NW and SE regions of Coolletha

Several spodumene pegmatites have been identified and sampled through this initial phase. They are in the NW sector of the Coolletha Project on E45/4990. The pegmatites outcrop as dykes and sills of very coarse-grained orthoclase-quartz pegmatite with a crystal size up to 30cm. They are hosted within the Tambourah Monzogranite. The spodumene sites have been designated as Echo Valley and Burnt Ridge and will form the sites of more intense sampling going forward (Figures 4,5,6).



Figure 4 – Echo Valley Spodumene Pegmatite



Figure 5 – Burnt Ridge Spodumene Pegmatite



Figure 6 – Burnt Ridge Spodumene Pegmatite

The Echo Valley and Burnt Ridge sites are approximately 1km apart and are both west of the prospective pegmatite regions identified during ACM's pre-IPO due diligence (Figure 7). Further sampling is planned within the northern region extending the sampled area west and east of these two sites.

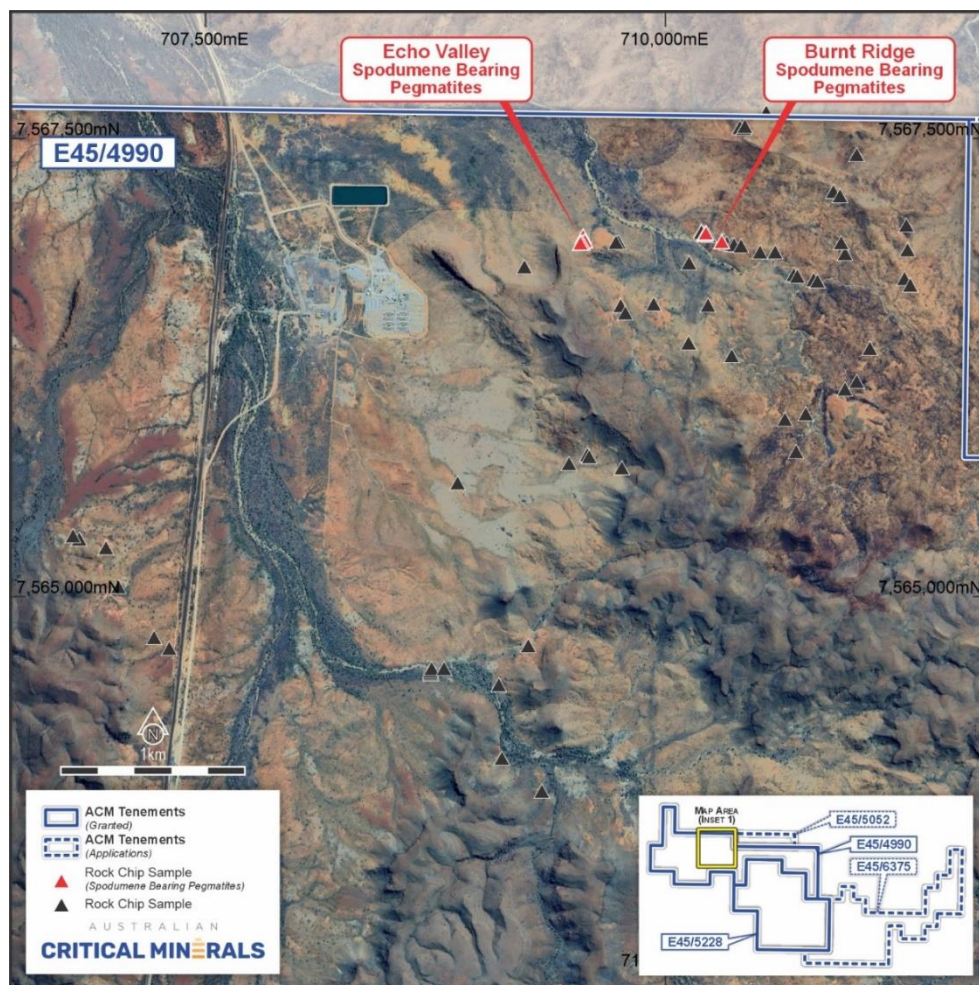


Figure 7– Location of Echo Valley and Burnt Ridge

In the southeast of Cooletha on E45/5228, reconnaissance sampling has occurred across approximately 10km², with 23 samples from this area (Figure 8). Pegmatitic rocks extend several kilometers north of the sampled area and presents substantial opportunity to extend the currently sampled area.

Manganese shales associated with the basal Fortesque Group unconformity have been identified and provide an additional valuable exploration target to the Cooletha Project. The manganiferous shales are 1m to 3m thick with the two samples collected 1km apart. Several kilometers to the east just outside of the tenement boundary a thin manganiferous shallow dipping bed was identified during ACM's pre-IPO reconnaissance. It is thus anticipated that the manganese shale unit may be widespread in this region. The basal manganese shale unit will be further sampled along the convoluted unconformity contact to determine the extent of the preserved sections and to prepare an exploration program focused on this opportunity (Figure 9).

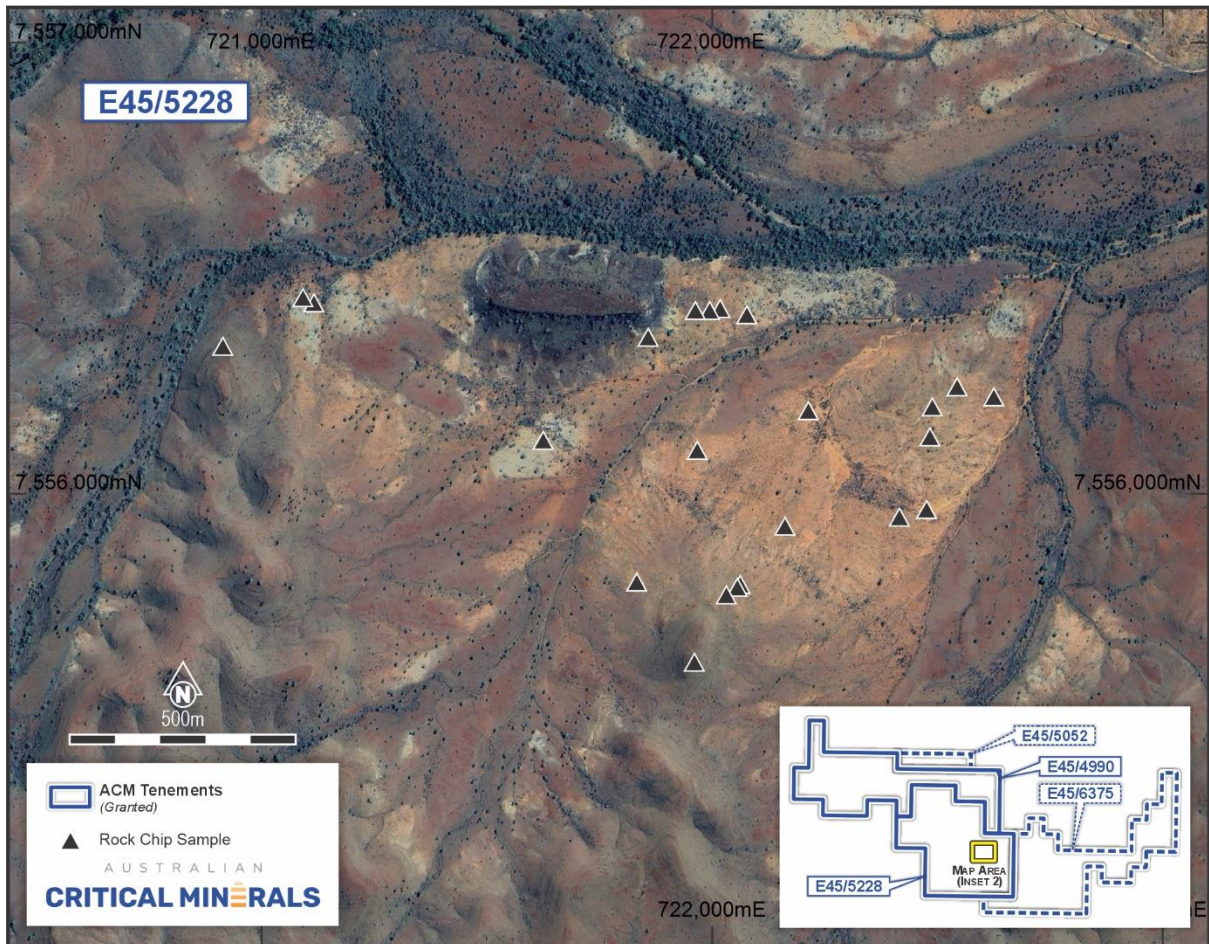


Figure 8 – Southwest pegmatites are interspersed with mesas of CIDs



Figure 9 – Significant hematite-rich channel iron deposit ridges overlying basal unconformity hosting manganese rich shales

Rankin Dome, Southern Cross

The Rankin Dome Project, prospective for Rare Earth Elements, is located in Youami Terrane near Southern Cross, an established mining centre. The Project is held in a JV with Kula Gold Ltd (**ASX: KGD**) for ACM to earn 51% interest.

ACM has completed a positive review of an upcoming drill program planned at Rankin Dome and has undertaken landowner engagement. The planned drilling programs will incorporate Reverse Circulation (RC), aircore and auger drilling to best suit the geomorphology of the various anomalous areas within the large Rankin Dome Project. There will be a further update on the Rankin Dome drilling program as planning towards commencing this campaign progresses.

This release has been approved by the Board of Australian Critical Minerals Limited.

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About Australian Critical Minerals

Australian Critical Minerals is an exploration company focused on developing a quality portfolio of critical minerals projects in Western Australia. The key projects are Cooletha (Pilbara) Lithium Project and Rankin Dome (Southern Cross) Rare Earth Project.

Battery metals, including rare earths and lithium are fundamental in the clean energy transition to net zero transmissions. ACM intends to play a pivotal role in delivering the processed minerals needed for a clean energy future.

ACM has established a highly experienced management team with a proven track record of exploration and corporate success in the mining industry.

Reference to Previous Announcements

Investors can refer to the Company's Prospectus for further disclosure on information in this Announcement and all of the Company's Projects.

Competent Persons Statement

The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr. Dean de Largie. Mr. de Largie is the Managing Director of Australian Critical Minerals Limited and is a Fellow of the Australian Institute of Geoscientists and has sufficient experience relevant to the styles of mineralisation under consideration and to the activity being reported 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. de Largie has verified the data disclosed in this release and consent to the inclusion in this release of the matters based on the information in the form and context in which it appears.

Forward Statement

This news release contains “forward-looking information” within the meaning of applicable securities laws. Generally, any statements that are not historical facts may contain forward-looking information, and forward looking information can be identified by the use of forward-looking terminology such as “plans”, “expects” or “does not expect”, “is expected”, “budget” “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or “does not anticipate”, or “believes”, or variations of such words and phrases or indicates that certain actions, events or results “may”, “could”, “would”, “might” or “will be” taken, “occur” or “be achieved.” Forward-looking information is based on certain factors and assumptions management believes to be reasonable at the time such statements are made, including but not limited to, continued exploration activities, commodity prices, the estimation of initial and sustaining capital requirements, the estimation of labour costs, the estimation of mineral reserves and resources, assumptions with respect to currency fluctuations, the timing and amount of future exploration and development expenditures, receipt of required regulatory approvals, the availability of necessary financing for the project, permitting and such other assumptions and factors as set out herein.

Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to: risks related to changes in commodity prices; sources and cost of power and water for the Project; the estimation of initial capital requirements; the lack of historical operations; the estimation of labour costs; general global markets and economic conditions; risks associated with exploration of mineral deposits; the estimation of initial targeted mineral resource tonnage and grade for the project; risks associated with uninsurable risks arising during the course of exploration; risks associated with currency fluctuations; environmental risks; competition faced in securing experienced personnel; access to adequate infrastructure to support exploration activities; risks associated with changes in the mining regulatory regime governing the Company and the Project; completion of the environmental assessment process; risks related to regulatory and permitting delays; risks related to potential conflicts of interest; the reliance on key personnel; financing, capitalisation and liquidity risks including the risk that the financing necessary to fund continued exploration and development activities at the project may not be available on satisfactory terms, or at all; the risk of potential dilution through the issuance of additional common shares of the Company; the risk of litigation.

Although the Company has attempted to identify important factors that cause results not to be as anticipated, estimated or intended, there can be no assurance that such forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. Forward looking information is made as of the date of this announcement and the Company does not undertake to update or revise any forward-looking information this is included herein, except in accordance with applicable securities laws.

Visual Exploration Results

The Company discloses the following information in relation to visual exploration results in this announcement;

Figure 4

Very coarse grained, massive, pegmatitic with pale green-yellow elongate crystals, visually field-identified as a spodumene bearing orthoclase-quartz pegmatite sill outcrop. Precise mineralogy percentages not recorded

Figures 5&6 Coarse grained, crystalline, pegmatitic, massive textured rock with elongate pale cream-grey constituents, visually field-identified as a spodumene bearing orthoclase-quartz pegmatite dyke. Precise mineralogy percentages not recorded

The assay results for the collected rock chip samples are expected in six weeks but may take up to 8 weeks and there is no certainty that the identified pegmatite outcrop samples will result in Li grades/concentrations of any economic importance

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Samples are of rock and are generally of 4 or 6 fist sized pieces per sample. Rock sample are taken by hammer and chisel of rock outcrop. Samples were localized and care was taken to achieve a representative sample of each site. Samples were placed in a numbered calico sample bag. Secured in Polyweave sacks and delivered for assay by ACM personnel. Samples were taken of individual rock units are considered representative of the rock unit at that location.

Criteria	JORC Code explanation	Commentary
	information.	
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<ul style="list-style-type: none"> N/A
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> N/A
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Surface rock chip samples have been logged in the field at the time the samples have been collected by an appropriately experienced geologist.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Surface rock samples have been collected in manner to reflect the general geology of the particular outcrop being sampled and is considered appropriate for the reconnaissance stage of exploration. Samples have been collected over a wide region and field duplicates at this stage of reconnaissance are not considered appropriate. Sample weights were between 1kg and 2 kg generally and considered appropriate for the grain size
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> No results have been reported

Criteria	JORC Code explanation	Commentary
	<p>analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <ul style="list-style-type: none"> 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. 	
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> N/A
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Surface samples located with hand-holds GPS which is adequate for this stage of exploration. Location data was recorded using UTM coordinates in the GDA94 zone 50 grid
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No mineral resource has been estimated as current program is at an early reconnaissance stage
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> N/A
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Samples have remained in the custody of authorized company personnel or consultants. Samples were secured in cable tied poly-weave sacks locked in ACM vehicles or facilities and remained in ACM custody from site to delivery to assay laboratory

Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> N/A

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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Exploration licences 45/4490 and E45/5228 are held by a wholly subsidiary of Australian Critical Minerals Ltd.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> No previous work by other parties on the subject matter of this announcement
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> No deposit has been identified
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No drilling has been performed
Data aggregation methods	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No results have been reported

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> 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'). 	<ul style="list-style-type: none"> N/A
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Appropriate diagrams have been included in the report body.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> N/A
Other substantive exploration data	<ul style="list-style-type: none"> 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 style="list-style-type: none"> Geological observations noted in announcement
Further work	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Further reconnaissance mapping and surface sampling is planned over the tenement areas