ASX ANNOUNCEMENT **17 November 2022**

PEGMATITE SWARMS MAPPED AT CHENENE LITHIUM PROJECT

Cassius Mining Limited ("Cassius" or "the Company") (ASX Code: CMD) identifies multiple pegmatites during initial exploration[1] at Target 1 at the wholly owned Chenene Lithium Project in Tanzania.

HIGHLIGHTS:

- ***historic Lithium pegmatites confirmed at Dulu in the west part of Target 1 (in PL 11921)***
- ***additional pegmatites up to 970m long in gneiss outcrop at Dulu and Nemazi (Fig 1)***
- ***Lepidolite (Lithium-rich Mica) in Dulu pegmatites - Lithium source for battery applications***
- ***68 samples to be assayed - results expected late December***
- ***Exploration for pegmatites at Target 2 starts December in quartz-feldspar gneiss outcrop:***
  - ***rock-chip samples in q-f gneiss in adjacent license <3 km away assayed up to 5.2% Li2O[2]***

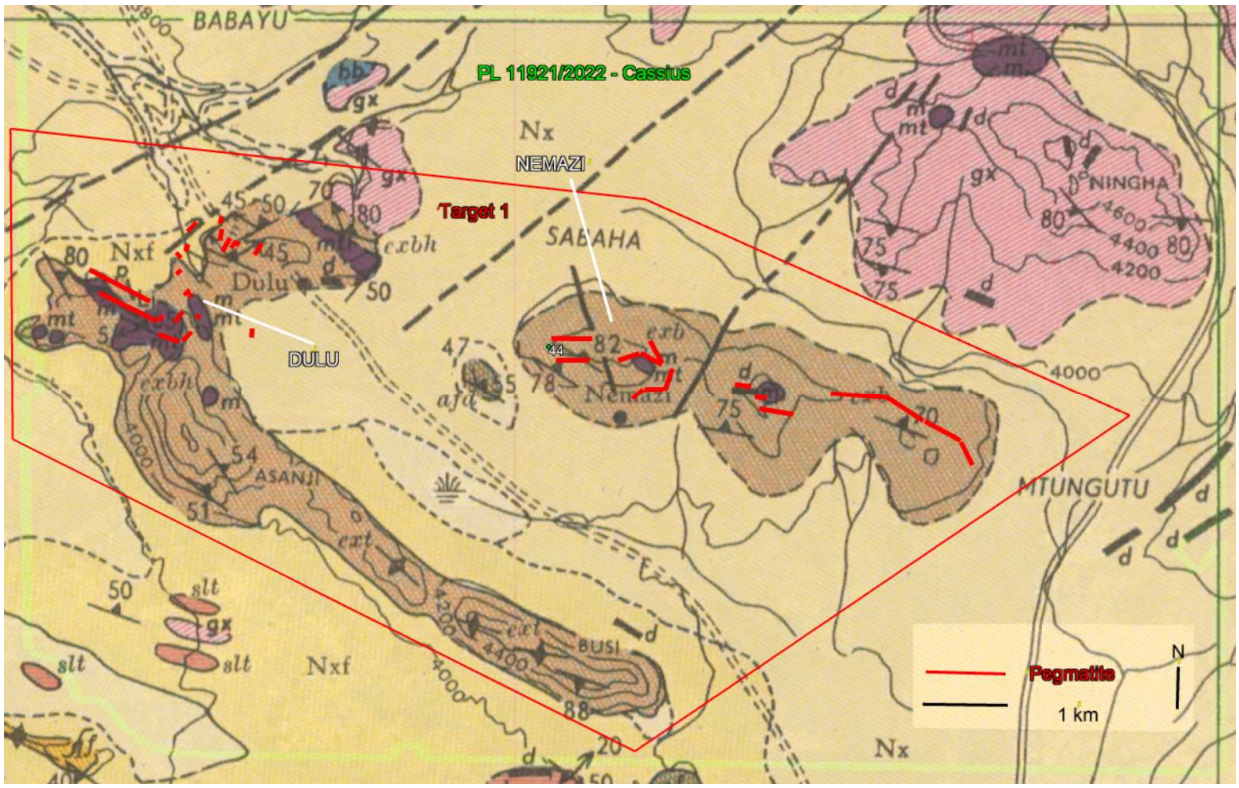

Fig 1 – Target 1 Pegmatite Swarms >7 kms in total length at Dulu and Nemazi
Dark brown unit is quartz-feldspar gneiss. Dark purple units are metamorphosed ultramafic rocks

[1] CMD – ASX "Exploration Begins at Chenene Lithium Project – 6 Sept 22
[2] Liontown "LTR" – ASX "Mohanga Lithium-Tantalum Project (Tanzania, East Africa) – Exploration Update" – 18 Dec 2015

Cassius Chairman James Arkoudis comments:

"The discovery of extensive pegmatites at our Chenene Lithium Project is extremely encouraging. The confirmed presence of lepidolite, a lithium-rich mica, at the gneiss-hosted Dulu pegmatites is cause for great optimism in the Target 1 assay results expected late December, as well as in the upcoming exploration in Target 2 in PL 11720 where the same geological units have been mapped. Lepidolite is emerging as an alternative to Spodumene, with lower processing costs to produce Lithium Hydroxide and Lithium Carbonate for battery applications. Both Lepidico and Pan Asia Metals have lepidolite as their Lithium source.[3][4]"

EXPLORATION

Cassius applied a series of ~400m spaced N-S traverse lines (**Fig 6**) across a ~50 km^2 target area, encompassing the outcrops of gneiss on the margins of the Chenene Hills within PL 11921. The low-lying areas covered by 'red soil' between outcrops were not sampled.

Substantial attention was given to the area close to Dulu village in the west of the license, close to the border with the Company's adjacent PL 11920, where historical Lithium pegmatite presence had been recorded. Lepidolite (pink coloured Lithium-rich Mica, **Fig 2**) was observed at the Dulu pegmatite. The field team recorded the pegmatite to be approximately 970m long with a ~3m surface width exposure. Strike of the intrusion was recorded at 97-110^{O}, dipping at 50-60^{O} to the south.

Fig 2 – Lepidolite (the pinkish mineral) at Dulu

Fig 3 – Coarse Pegmatite at Nemazi

The pegmatites mapped at Nemazi (**Fig 3,** gneiss outcrop east of Dulu) also show similar surface expression with a similar strike and dip, indicating potential subsurface continuity with Dulu (not confirmed).

Pegmatite distribution can be clearly seen to be concentrated in the exposed metamorphosed Gneiss outcrops on higher ground (**Fig 4**), however the potential exists that pegmatites are also present under surface cover at lower elevations. The elevated gneiss outcrops along the southern part of Target 1 have not yet been traversed and will be explored next.

[3] Pan Asia Metals -ASX PAM - "PAM Corporate Presentation" – 25 Oct 22
[4] Lepidico – ASX LPD - "Lepidico Corporate Update – IMARC, Sydney" – 2 Nov 22

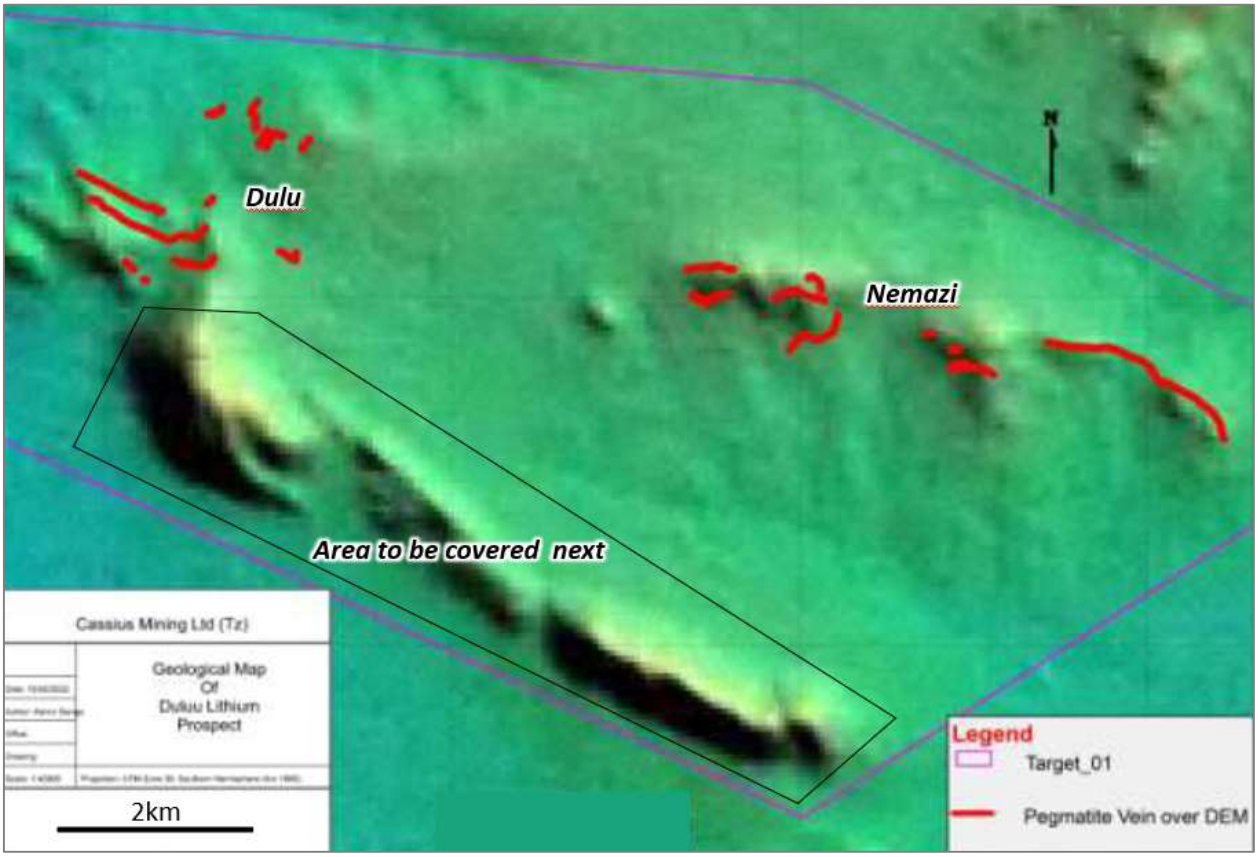

Fig 4 – Target 1 Digital Elevation Model DEM – Pegmatites identified to date restricted to outcrop in higher ground - potential for covered pegmatites in lower lying areas off the margins of the elevated outcrop

SAMPLING

The fieldwork to date has been on the northern part of the exposed gneiss outcrops at Target 1 and indicates 35 pegmatites to date with an indicative combined length of approximately 7km. A dominant WNW-ESE pegmatite trend was identified in Dulu and Nemazi, with lesser NNE-SSW cross cuts just north of Dulu.

Rock-chip samples were collected from locations within the pegmatites. Each being a composite sample comprised of several pieces of the rocks in the immediate vicinity, to give a ~2kg sample as representative as possible. There was an effort to collect fresh samples to avoid material potentially affected by the loss of Lithium over time. Where only surface oxidized material was present samples were 'cleaned' with a hammer to attempt to retain the freshest material.

Each sample was tagged in-field with its unique ID number and placed in its own sealed bag. Lab assays will assess grades of key elements, primarily targeting Lithium, related elements and Rare Earth Elements (REE's).

FURTHER WORK

While waiting for the results of the current batch of samples, further exploration is scheduled to resume in December to complete the traversing and sampling over the southern gneiss exposures at Target 1 before moving on to Target 2 in PL 11720, to the ESE of and contiguous with PL 11921. The Company is confident that the exploration in Target 2 will yield similar pegmatites, being within 2.5 km of the known spodumene-bearing pegmatites to the west in the adjacent license (***Fig 6***) which are considered to be part of the same regional pegmatite field.

As this initial sampling and mapping continues, and subject to assay results, the Company intends to start planning for initial trenching and detailed mapping to better determine the extent and composition of the pegmatites and their continuity, with a view to determining potential drill targets in 2023. Soil sampling across areas of no/limited exposure may be conducted to potentially indicate pegmatites present below the 'red soil' which conceals over half of the target area.

GEOLOGICAL SETTING

The project area falls close to the eastern edge of the Tanzanian Craton (**Fig 5**). The pegmatites are hosted within quartzite, mica schist, amphibole schist and quartz-feldspar gneiss rocks of the Dodoma formation within the 'Hombolo-Msangani belt'. The Company's four contiguous exploration licenses are within this belt. Metamorphosed igneous and sedimentary rocks form scattered outcrops within the NW-SE trending belt approximately 35 km long and 13 km wide. The rocks have a dominant WNW to NW strike but in places are isoclinally folded and conform generally with the foliations of the synorogenic granite. Shearing, where developed, parallels this trend. Minor cross fold axes trend N to NE. Both sets of folds were deformed by subsequent NW shearing. Pegmatites were emplaced prior to this shearing.

Lithium minerals spodumene and lepidolite are known to occur within pegmatites in the area, forming numerous clusters with pegmatites ranging in size from 40 to 970m long. Historical work by other parties has focused on the Hombolo target area south of the project area, with the Dulu and Nemazi pegmatites shown on government 1:125,000 scale geological maps, Dulu having a known Lithium occurrence.

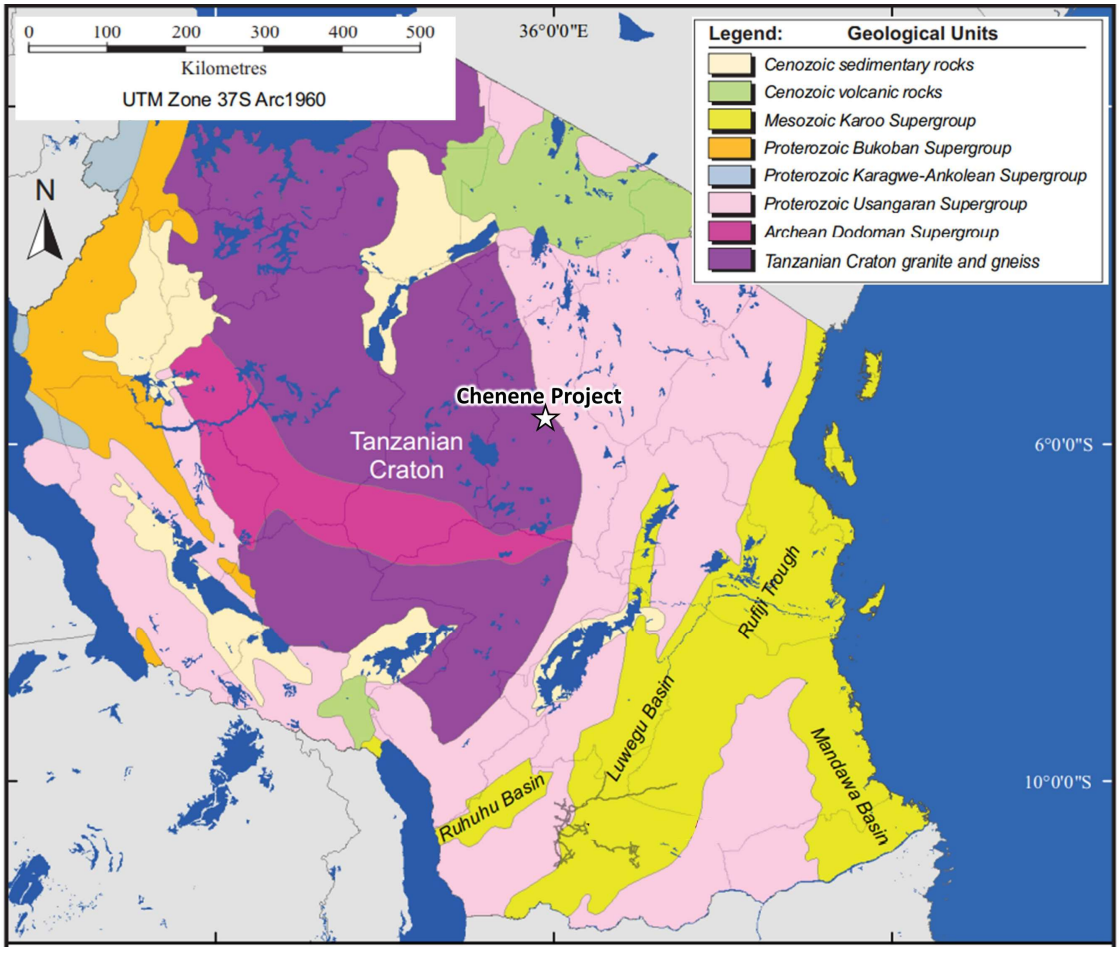

Fig 5: Geology of Tanzania and location of the Chenene Lithium Project

About the CHENENE LITHIUM PROJECT

The main topographic features of the area are the NW-trending Chenene Hills formed of synorogenic and sheared granite, within gently rolling plains formed primarily of eroded granitic soils.

A belt of several metamorphosed gneiss rocks outcrop along the margins of the granites within the Company's licenses, exposed intermittently above the granitic soil plains[5]. They generally conform to the foliations and shearing of the surrounding granite in a NW-SE orientation.

The Chenene Lithium Project area consists of four contiguous Lithium exploration licenses totalling ~300 km^2 in central Tanzania, ~40 kms N of Dodoma (capital city), accessible by major road and unaffected by the annual wet season further south.

Lithium-bearing pegmatites have previously been locally identified in this metamorphic belt at Dulu (within the Company's PL 11921 license), as well as in neighbouring areas to the Company's other licenses.

The Company is initially targeting two priority areas (**Fig 6**) across gneiss outcrops known to be host rocks of Lithium-bearing pegmatites within the wider area. Target 1 covers ~50 km^2 in PL 11921 and Target 2 covers ~15km^2 in PL 11720.

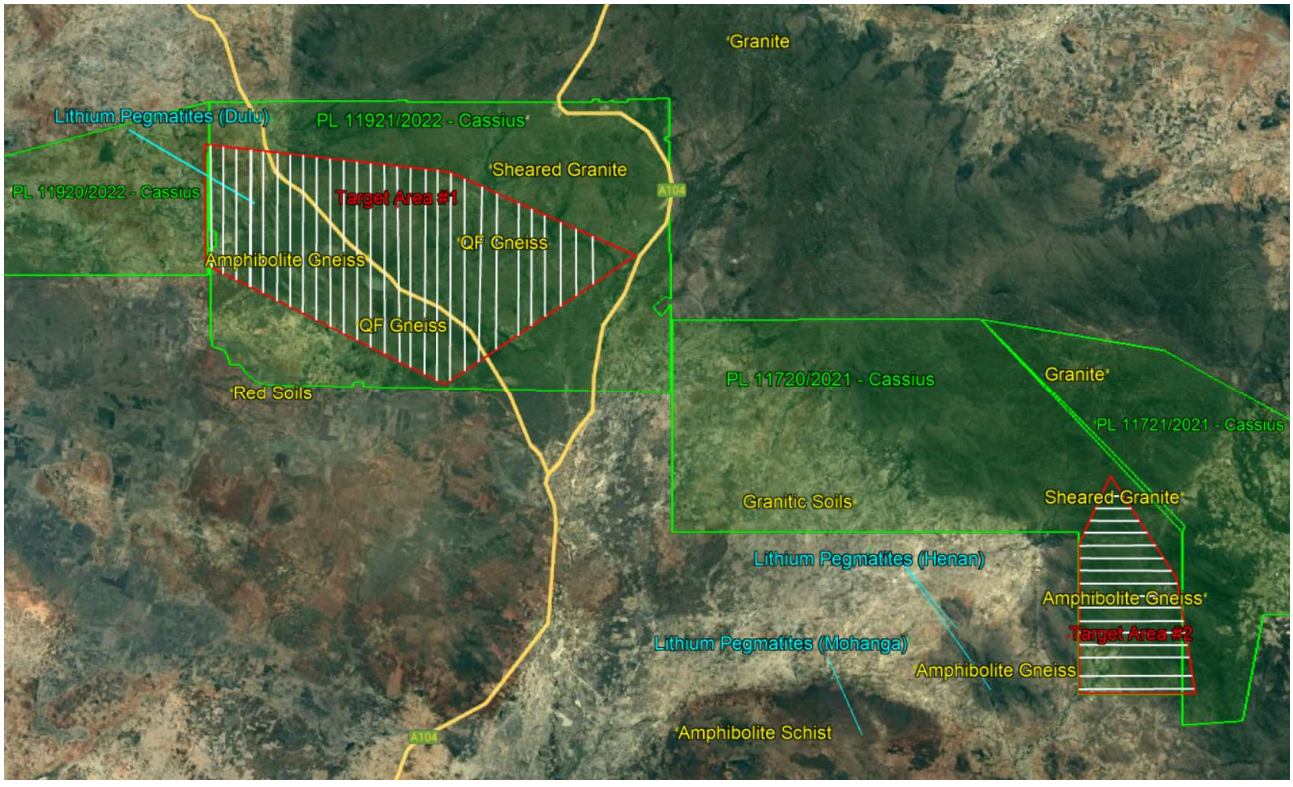

Fig 6 – Cassius PL's (green shaded) showing Targets 1 and 2 with N-S and E-W traverse lines respectively

[5] Tanzania Geological Survey

Competent Person Statement

Information in this "ASX Announcement" relating to Exploration Targets, Exploration Results and Mineral Resources has been reviewed by Mr. Andrew Pedley who is a member in good standing with the South African Council for Natural Scientific Professions (SACNASP). Mr. Pedley has sufficient experience that is relevant to the types of deposits being explored for and qualifies as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code 2012 Edition). Mr. Pedley consents to the inclusion in this document of the matters based on the information in the form and context in which it appears. The market announcement is based on, and fairly represents, information and supporting documentation prepared by the Competent Person. Mr. Pedley is not an employee of the Company; he is a Senior Associate with the MSA Group of Johannesburg who are providing consulting services to Cassius Mining Ltd.

This has been authorized and approved by the board for release.

FURTHER INFORMATION

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JORC Code, 2012 Edition – Table 1.

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
1.1 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.*	• Samples were all surface rock chip samples of ~2kg collected from outcrop or float. • Wherever possible samples were of fresh rock rather than oxidised material. Samples were "cleaned" with a smaller hammer / (chisel if needed) to remove the exposed surface • Efforts were made to collect samples representative of the rock in the immediate vicinity and furthermore most samples were composite samples, comprised of several smaller rock-chips from each site.
1.2 Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diametre, 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 was conducted

Criteria	JORC Code explanation	Commentary
1.3 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 Drilling was conducted
1.4 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.*	• The rock chip samples were recorded in an MS Excel datasheet, recording position, a rock code and a description of each.
1.5 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.*	• ~2 kg rock chip samples are in process of being sent to the laboratory without splitting or subdividing. • At the lab they will be crushed and pulverised. A full description of the laboratory sample preparation and analytical methods will be provided when the results of the samples are reported. • No duplicate samples were taken as rock-chip samples of this nature are expected to give variable results even if from the same location. • 2 kg is considered large enough to 'cater' for the relatively large grain size.
1.6 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.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory*	• A description of the analytical methods and quality control and assurance methods will be reported when results of the samples are reported.

Criteria	JORC Code explanation	Commentary
	checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
1.7 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.*	• This is the first sampling on the project so no verification sampling has been carried out, and no drilling has been carried out. • Data was logged onto paper sheets in the field then entered by the geologists into MSA Excel.
1.8 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.*	• Samples positions were recorded using a handheld Garmin GPS using ARC1960 UTM zone 37S expected to be accurate to within 4-5 metres in the X and Y.
1.9 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.*	• The rock samples were collected from pegmatite outcrops, where encountered, on/near the north-south traverse lines across the target area. The traverse lines were at 400m intervals and ~3 to 6 km in length. • On the pegmatites samples were taken where outcrop permitted. Each sample is a composite sample collected from several smaller rock chips different points at the same site (within a few metres of each other).
1.10 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.*	• The traverses were oriented approximately perpendicular to the pegmatites. • At each locality, the rock chip samples were collected without consideration of pegmatite orientation or structures as there was insufficient exposure to do so, the emphasis was on obtaining sufficient and representative material.
1.11 Sample security	• *The measures taken to ensure sample security.*	• Samples were taken by Company representative to the laboratory in Mwanza.
1.12 Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audit or review of sampling has yet been taken

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
2.1 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.*	• The Chenene Lithium Project is held by Cassius Mining (T) which is wholly owned by Cassius Mining Ltd. The 4 Prospecting Licenses (PL) are PL11720/2021 and 11721/2021 which both expire 4 October 2025, and 11920/2022 and 11921/2022 which both expire 13 May 2026. Annual rentals were paid in September 2022 and May 2022 respectively for each pair of PL's.
2.2 Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The only known previous work on the Cassius ground is the mapping conducted to record the information on Geological Survey of Tanzania 1:125,000 scale geology sheet 143 on which the outcrops and small number of pegmatites are marked • On adjacent properties just to the south of PL 11720/2021 previous explorer Liontown Resources carried out mapping and sampling of pegmatites in 2015-8 and recognized several large swarms of pegmatites. A total of 78 pegmatites were mapped, the largest being 100 m wide and 1-5 km in length. Spodumene and lepidolite was recorded and grab samples with a maximum of to 5.2% Li2O were reported.
2.3 Geology	• *Deposit type, geological setting and style of mineralisation.*	• The project area falls close to the eastern edge of the Tanzanian Craton. The pegmatites are hosted within quartzite, mica schist, amphibole schist and quartz-feldspar gneiss rocks of the Dodoma formation within the 'Hombolo-Msangani belt'. Metamorphosed igneous and sedimentary rocks form scattered outcrops within the NW-SE trending belt approximately 35 km long and 13 km wide. The rocks have a dominant WNW to NW strike but in places are isoclinally folded and conform generally with the foliations of the synorogenic granite. Shearing, where developed, parallels this trend. Minor cross fold axes trend N to NE. Both sets of folds were deformed by subsequent NW shearing. Pegmatites were emplaced prior to this shearing. • Lithium minerals including spodumene and lepidolite are known to occur within pegmatite intrusions in the area. The pegmatites are in numerous clusters with pegmatites ranging in size from 40 to 970m long. The known lithium minerals in the area indicate that the pegmatites may be of the LCT (lithium-cesium-tantalum type) which are globally the most

Criteria	JORC Code explanation	Commentary
		important hard-rock source of lithium and tantalum. • Historical work by other parties has focused on the Hombolo target area south of the project area but the Dulu and Nemazi pegmatites are shown on government 1:125,000 scale geological maps, Dulu having a known lithium occurrence.

2.4 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 meters) 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 was conducted

2.5 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.* • *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.*	• No exploration results are available yet to be reported.
2.6 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 (e.g., 'down hole length, true width not known').*	• No exploration results are available yet to be reported.

Criteria	JORC Code explanation	Commentary
2.7 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.*	• A map showing pegmatites sampled is shown in figure 1 of the announcement
2.8 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.*	• The rock samples were not aimed to be selective so should provide an indication of the average grade when the results are received.
2.9 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 material exploration or other data is reported as the work is early stage.
2.10 Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Receive the results of the laboratory analyses. • If the above is positive carry out detailed geological mapping, and possibly soil sampling and trenching. • After the above if results justify drilling would be recommended to test targets.