

ASX ANNOUNCEMENT

18 February 2022

FIRST HOLE SUCCESSFULLY COMPLETED AT SOALARA'S RESOURCE ESTIMATION PROGRAMME

Cassius Mining Limited ("**Cassius**" or "**the Company**") (**ASX Code: CMD**), is pleased to report its first Diamond core hole has been successfully completed with good core recovery at Soalara on the Company's JORC Resource estimation programme¹ for its wholly owned Limestone asset in Madagascar.

The first hole (A3/CMDD001) was successfully completed on 14 Feb 2022, having been vertically cored in HQ size to its planned final depth of 100m, with the data as follows:

- Drill Collar with GPS Co-ordinates (UTM WGS 84 38K Zone): 370601m E, 7389501m S
- Elevation 108 m above sea level
- Hole vertical / -90°
- Final hole depth / length 100.00m

The Company importantly already holds two secure 40 year Mining (Exploitation) Licenses across the entire area of its two contiguous permits at Soalara, valid until 3 November 2055. The two Licenses cover a combined area of 18.75 km².

The Diamond core drilling programme is designed to quantify both the lateral and vertical continuity along with the purity of the Limestone sequence, as well as evaluating its geological, geomorphological and structural characteristics for suitability to potential future open pit mining.



Core Recovery by the Geological team at Soalara A3 - First Hole

¹ ASX 28 May 2021

The Soalara deposit includes a horizontal sequence of bedded Eocene limestones of 70-100m thickness, overburden free.

A preliminary review of the first hole core appears to confirm the significant limestone sequence summarised as follows:

- 0.0 – 25.00m limestone (calcite-clast dominant intramicrite)
- 25.00 – 30.60m limestone with interlayered clay and clayish limestone
- 30.60 – 33.76m limestone (calcite-clast dominant intramicrite)
- 33.76 – 37.76m clayish limestone
- 37.76 – 59.74m limestone (calcite-clast dominant intramicrite with some fossil-bearing biomicrite)
- 59.74 – 64.65m limestone with interlayered clay
- 64.65 – 100.00m limestone (calcite-clast dominant intramicrite with some fossil-bearing biomicrite)



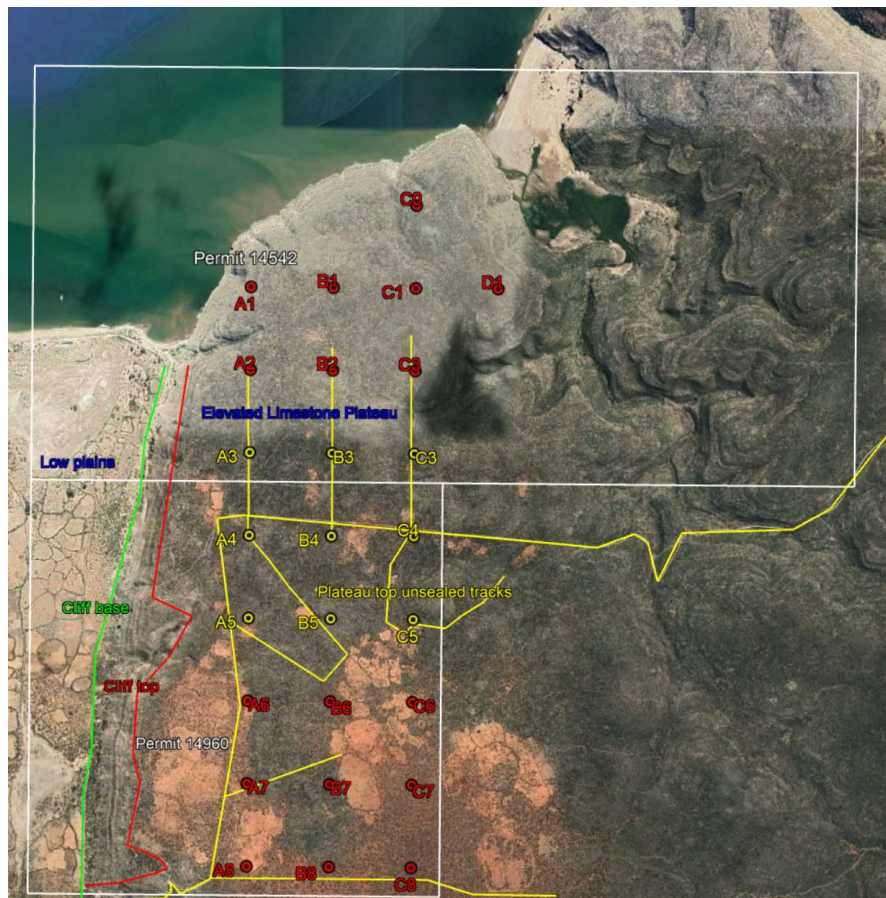
Upper Sequence Massive Limestone Core - Soalara A3

A suite of datasets will be conducted on all core from Phase 1 when complete, including geological and geotechnical logging, core photography, density measurements, core cutting and subsequent sampling. All core will then be prepared at Omnis laboratory in Madagascar before secure despatch to the certified SGS laboratories in Perth, West Australia for assay.



Cross section through Upper Sequence Massive Limestone core - Soalara A3

The project's Drill Collar grid spacing at 500m intervals is based on field observations that the limestone appears at surface on the plateau to be reasonably consistent laterally across both permits.



Coastal location of Soalara: Drilling Grid & Access Tracks

Forward Target

Cassius looks forward to a successful first phase, and thereafter to further phases should results remain positive at each stage, whilst targeting an overall objective of 26 vertical holes over time.

Cassius will keep shareholders updated via ASX announcements as progress is achieved.

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

FURTHER INFORMATION

James Arkoudis - Director

e: james@cassiusmining.com

Wayne Kernaghan - Director / Secretary

t: +61 407 233153, e: wayne@cassiusmining.com

Competent Person Statement

The information in this Report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Jannie Leeuwner – BSc (Hons) Pr.Sci.Nat. MGSSA and is a full-time employee of Vato Consulting LLC. Mr. Leeuwner is a registered Professional Natural Scientist (Pr.Sci.Nat. - 400155/13) with the South African Council for Natural Scientific Professional (SACNASP). Mr. Leeuwner has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and the activity being undertaken to qualify as a Competent Person as defined in the Note for Mining Oil & Gas Companies, June 2009, of the London Stock Exchange and the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr. Leeuwner consents to the inclusion of the information in this release in the form and context in which it appears.

Disclaimer

This ASX announcement has been prepared by Cassius. It should not be considered as an offer to subscribe for or purchase any securities in the company or as an inducement to make an offer or invitation with respect to those securities. No agreement to subscribe for securities in the company will be entered into on the basis of this announcement.

This announcement contains summary information about Cassius, its subsidiaries and their activities which is current as at the date of the announcement. The information in this announcement is of a general nature and does not purport to be complete nor does it contain all the information which a prospective investor may require in evaluating a possible investment in Cassius.

By its very nature exploration for minerals is a high-risk business and is not suitable for certain investors. Cassius securities are speculative. Potential investors should consult their stockbroker or financial advisor. There are a number of risks, both specific to Cassius and of a general nature which may affect the future operating and financial performance of Cassius and the value of an investment in Cassius including but not limited to economic conditions, stock market fluctuations, gold price movements, regional infrastructure, constraints, timing of approvals from relevant authorities, regulatory risks, operational risks and reliance on key personnel and foreign currency fluctuations.

Certain statements contained within this announcement, including information as to the future financial or operating performance of Cassius, are forward looking statements that:

- May include, among other things, statement regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources, and anticipated grades and recovery rates, production, prices, recovery costs, results capital expenditure, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;
- Are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Cassius, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and,
- Involve unknown and known risk and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward looking statements.

Cassius disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words "believe", "expect", "anticipate", "indicate", "contemplate", "target", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule", and similar expressions identify forward looking statements.

All forward looking statements made in this announcement are qualified by the foregoing cautionary statements. Investors are cautioned that forward looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward looking statements due to inherent uncertainty therein. No verification: Although all reasonable care has been undertaken to ensure that the facts and opinions given in this Announcement are accurate, the information provided in the Announcement has not been independently verified.

Ghana Office
HNO. 4, 9th Street,
Adjiringanor
Greater Accra, GHANA
P.O Box GP 17867
ACCRA

Madagascar Office
Lot II 99 ABA
Soavimasoaandro,
Antananarivo,
MADAGASCAR

Cassius Mining Limited
ACN 115 027 033

www.cassiusmining.com

Sydney Office
Suite 18 Level 4
3 Spring Street
Sydney NSW 2000
AUSTRALIA
P.O Box R383
Royal Exchange NSW 1225

APPENDIX A

JORC CODE 2012 EDITION TABLE 1

Section 1: Sampling Techniques and Data

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. - 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.	- HQ Diamond core cut and collected in dedicated core trays. QA/QC procedures applied with alternating standards and blanks inserted every 20 assay samples, and two duplicates inserted every 100 samples. - Core half cut and composite sampled every metre to ensure representivity. Sample every metre crushed, riffle split and pulverised (85% passing 75 µm) for assay. - Calcium Oxide (CaO) mineralisation and impurities assayed in SGS Labs, Perth, West Australia - Al₂O₃, SiO₂, Fe₂O₃, MgO, MnO, CaO, K₂O, TiO₂, Na₂O, P₂O₅, V₂O₅, and Cr₂O₃ by borate fusion followed by XRF. Loss on ignitions (LOI) determined separately by roasting approximately 1gm of sample at 1,000° C for 1 hour in a furnace. - Diamond core drilled to produce HQ core. Following above preparation to ensure representivity, a 100gm charge is submitted for assay for CaO and above impurities.
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).	Diamond core (HQ) drilled for geological / geomorphological / structural control using standard tube. Diamond core not oriented (vertical holes). Core also structurally logged with density measured.
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.	- Method of recording diamond core data is by paper logs transcribed to digital logs for upload to electronic database. - Optimised recovery through core bit selection and application of suitable drilling parameters. Continuous Diamond core collected, sampled over every metre for representative assay. - No known relationship exists between recovery and grade/purity. No obvious bias observed between grade/purity and sample size
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.	- Diamond core logged for geology, geomorphology and structure in a flat bedded environment to support future MRE. Lithology logged according to Folks limestone classification. - Logging quantitative. All core photographed wet. - All diamond core holes logged in their entirety.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	- All core half cut with one half submitted for analysis. Other half stored. - N/A - Sample prep at Omnis labs (Antananarivo) under controlled conditions. - QA/QC procedures adopted for all sub samples using standards and blanks, alternating every 20 samples. 2 duplicates inserted every 100 samples. With excess material from assay preparation being retained at Omnis labs for potential re-assay. - Sample size appropriate to give representative samples of CaO and impurity mineralisation.
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> <i>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.</i>	- Assays conducted at SGS labs in Perth, West Australia. Labs accredited with NATA for Limestone using XRF78S analysis method, which holds while transitioning to new SGS Globally Aligned XRF72LS analysis method in 2022. - Hand held XRF not used. - A range of alternating standards and blanks used every 20 samples which reflect grades/purity of mineralization. Duplicates inserted twice every 100 samples. External inter lab test may also be applied on some samples.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i>	- Diamond core intersections verified by independent consultants (Vato Consulting LLC). - N/A - SOPS for all stages of sampling and logging. Data captured and entered into a secure database off site and maintained by Vato Consulting LLC. - No adjustments to data.
Location of data points	<i>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.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i>	- Drill collar location recorded with handheld GPS, and further checked by DGPS with an accuracy of <1m. - UTM WGS 84 Zone 38K. - Quality and accuracy of topographic control <1m using DGPS.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i> <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <i>Whether sample compositing has been applied.</i>	- Data spacing nominally 500m x 500m for drill collars. - Data spacing sufficient for understanding controls on geological and grade/purity continuity due to the flat bedded nature of the Limestone, and the continuity of earlier results from spot sampling both laterally and across the full vertical section in adjacent exposed cliff faces. JORC compliant Exploration Target previously determined (SRK, 2016). No JORC compliant Mineral Resource estimated yet (the target of the current drilling programme). - Sample compositing applied over each individual metre of core, to produce a single sample representative for that metre.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i>	- Vertical holes. Orientation of sampling orthogonal to known flat bedding of Limestone deposit. No known bias present. - N/A.
Sample security	<i>The measures taken to ensure sample security.</i>	Samples retained onsite at secure Soalara Project prior to secure dispatch to Omnis labs in Antananarivo. 24 hr security present on site.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	Company / Vato Consulting LLC undertake a regular QA/ QC review of all data. To date no problems encountered with quality.

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.	- Two Exploitation (Mining) permits (14542 and 14960) granted to Soalara Calcaire SARLU by Ministère auprès de la présidence chargé des Mines et du Pétrole (MPMP) and Bureau du Cadastre Minier de Madagascar (BCMM) on 04 November 2015 for a period of 40 years (expiring 03 November 2055). Exclusive rights granted for exploitation of limestone (<i>calcaire</i>). Cassius fully owns Soalara Calcaire SARLU. Only agreements with 3 previous shareholders of Soalara Calcaire SARL. One shareholder paid in full with other two shareholders to receive the USD\$ 420,000 on first commercial shipment and a royalty. No known legal disputes relating to the property. Permits and Government admin fees in good standing. - Security of tenure considered acceptable. No known impediments to operating in the area. Two Mining (Exploitation) Licenses have secure tenure til expiry on 3 Nov 2055.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Historical exploration completed by Services des Mines des Madagascar (1928-1948), Service Géologique (pre1966), Madagascar Mineral Resources SARL (2005-09) and Gulf Industrials (2010-15). Limited to geological mapping, geological observations, rock-chip sampling and geochemical analysis.
Geology	Deposit type, geological setting and style of mineralisation.	Soalara project contains flat bedded limestone deposited in a tropical marine environment in the Eocene period. Prospective limestone forms a plateau exposed in a cliff face up to 90m thick, divided ~equally into an upper and lower sequence based on clay content and lithological variability. Mapping indicates upper more massive limestone conformably underlain by fossiliferous limestone.
Drill hole Information	- A summary of all information material to the understanding of the exploration results including a tabulation or summary 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.	- To date only one Diamond Core drill hole (A3) completed with Drill Collar data as stated in this report. Drilling ongoing. - N/A
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	- N/A – assay results not yet available - N/A

	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.	N/A
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').	- Vertical holes. Orthogonal to flat bedded Limestone. - Down hole lengths reported, equal to true Limestone width. - Down hole lengths reported, equal to true Limestone width.
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.	All relevant maps, sections and tabulations of hole collars provided in this report.
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.	All available exploration results included in this report in as much detail as available.
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.	All available exploration results included in the report in as much detail as available.
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.	- Additional diamond drilling planned in stages to target an extension of current Exploration Target to a potential JORC Resource for Limestone, to a total maximum of 26 vertical holes (each drilled to a maximum of 100m depth). - This and previous announcements contain plans and discussion of potential future extent of Limestone deposit. In order to attain a JORC resource estimate, an economic assessment will consider market and financial aspects of developing such a project.