ASX ANNOUNCEMENT

30 January 2024

FINAL TRÊS ESTADOS BIOLEACH REPORT

Brazilian Critical Minerals Limited (ASX: BCM) ("BCM" or the "Company") is pleased to announce that the final report on the bioleach pilot plant campaign conducted during 2023 at the EcoBiome facility in Woodlands, Texas has been reviewed and signed off by independent consultants, GE21 Consultaria Mineral Ltda (GE21). GE21 conducted a full review of the background, methodology and results of the test programme prior to sign-off.

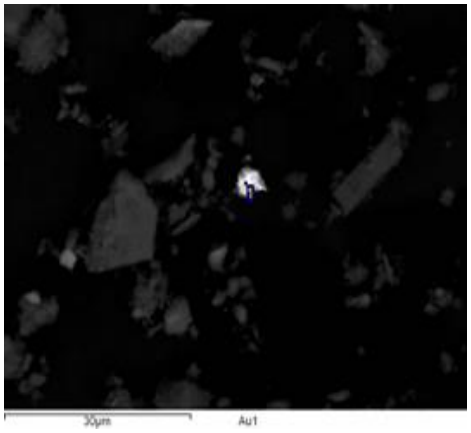
Ecobiome test results previously released, ASX Announcement 27 June 2023, clearly show the applicability of the EcoBiome leach technology to the extraction of precious metals from Três Estados mineralised material – 15.90g/t Pd and 0.62g/t Au extracted by bioleaching from TED020.

Highlights

- **Ecobiome leach material containing 15.90g/t Pd and 0.62g/t sent to Brazil for further pilot plant testing.**
- **Subsequent pilot plant work recovered 94% of the palladium by cyanidation after 87 hours of leach time and 98% of the gold was recovered after 40 hours of cyanide leach time.**
- **Individual precious metals precipitated from solution.**

The plant was set up with three reactors in parallel, two larger reactors (280 litres) and a third smaller reactor (75 litres) as a control reactor. The purpose of the reactors was to promote the contact between rock and microbes for the extraction of gold and Platinum Group Metals (PGMs) by microbial action.

The treated sample from EcoBiome was sent for complementary testing at the BCM laboratory in Brazil. Chemical analyses carried out by regular fire assay confirmed the results reported by ALS Metallurgy, Kamloops, BC. Results from a sample submitted to the Technological Characterisation Laboratory of the University of São Paulo (LCT – USP) for SEM analysis are shown in figures 1-1(a) and (b) and figures 1-2(a) and (b).



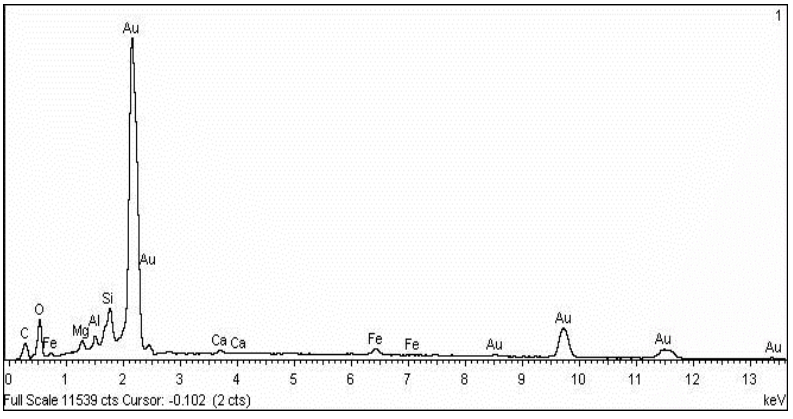
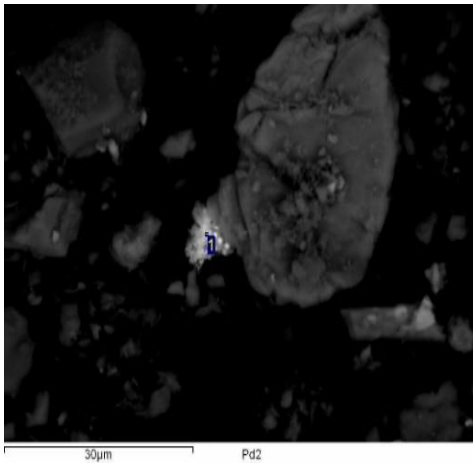


Figure 1-1(a): Au Image - scale 30 microns *2-1(b): SEM Au spectrum*



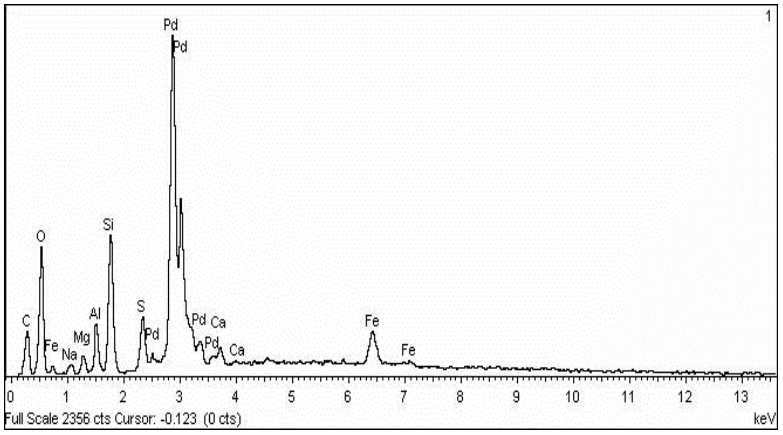
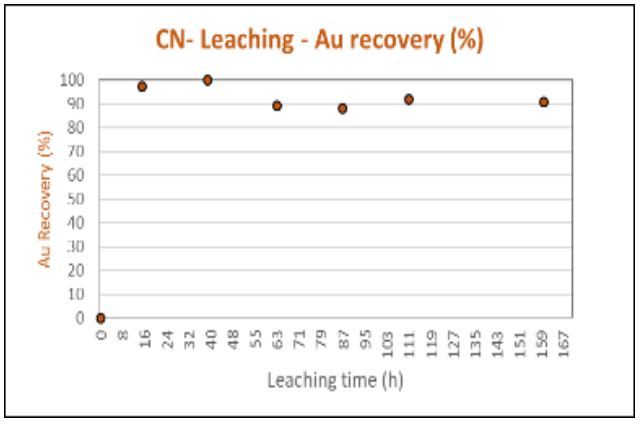


Figure 1-2 (a): Pd Image - scale 30 microns *2-2 (b): SEM Pd spectrum*

SEM analysis confirmed the presence of gold and palladium in metallic form in the sample and confirmed their presence as very fine particles. The metals appear in the images as white dots in contrast to the dark grey phases representing the minerals in the sample, on a black background. The diameter of the gold and palladium grains are approximately 4 and 7 micrometers, respectively.

A 10kg sample of the treated ore subjected to leaching with sodium cyanide showed excellent recoveries, reaching values above 90% for both Au and Pd (figures 2 and 3).



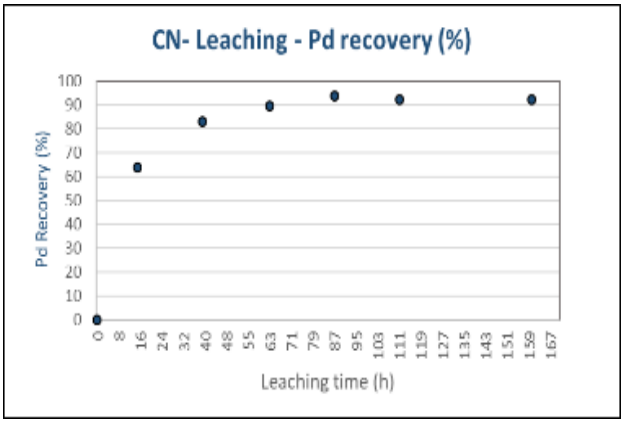


Figure 2: CN^- leaching Au recovery *Figure 3: CN^- leaching Pd recovery*

Gold was recovered after around 40 hours of cyanidation, while peak palladium recovery was reached after around 87 hours. The individual metals were subsequently extracted from the pregnant cyanide solution containing gold and palladium in the BBX laboratory in Brazil (figures 4, 5, 6, 7 and 8).

Figure 4: Au-Pd Alloy

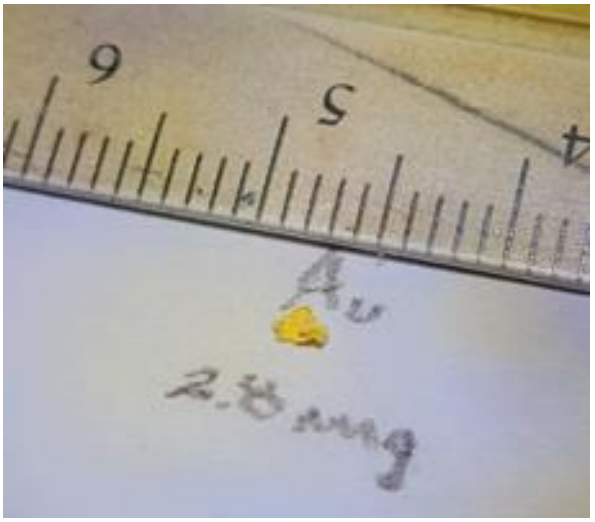


Figure 5: Au sponge

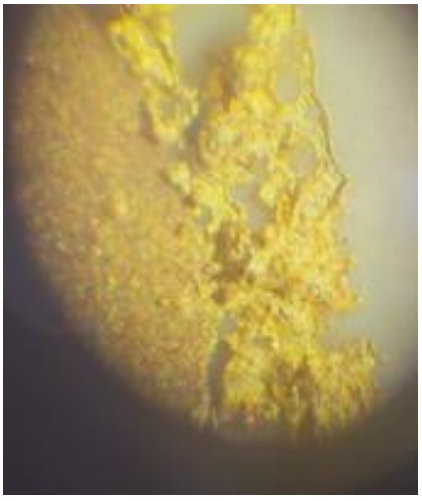


Figure 6: Au sponge 40x

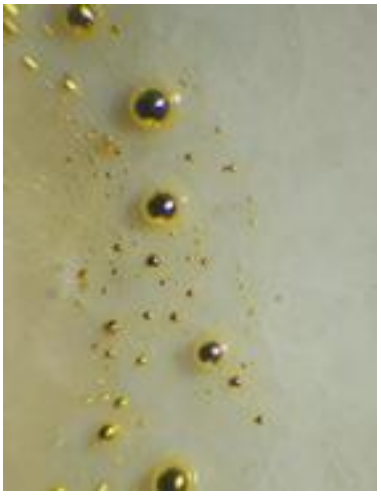


Figure 7: Au metal 40x

Figure 8: Pd metal

Future work

All the necessary laboratory equipment and infrastructure for conducting bioleach assaying and pilot plant testing has been acquired and is in-process with assembly, with expected commissioning within the next several weeks in the Catalão laboratory. The equipment includes nine 35 litre reactors for conducting the bioleach assays and a larger pilot plant reactor. The finalisation of the importation of the required materials from EcoBiome in Texas is currently in progress with commencement of routine assaying of Três Estados drill holes scheduled for late January 2024.

About Brazilian Critical Minerals Ltd

BCM is a unique mineral exploration and mineral processing technology company listed on the Australian Securities Exchange. Its major exploration focus is Brazil, mainly in the southern Amazon, a region BCM believes is vastly underexplored with high potential for the discovery of world class gold-PGM, base metal and Ionic Adsorbed Clay (IAC) Rare Earth Element deposits. BCM's key assets are the Três Estados and Ema gold-PGM projects and the iREE projects at Ema, Ema East and Apui. The company has 718km² of exploration tenements within the Colider Group and adjacent sediments, a prospective geological environment for gold, PGM, base metal and iREE deposits.

BCM is also developing an environmentally friendly and sustainable beneficiation process to extract precious metals using a unique bio leach process. This leading-edge process, that extracts precious metals naturally, is being developed initially for the primary purpose of economically extracting Platinum Group metals from the Três Estados mineral deposit. It is expected that such technology will be transferable and relevant to many other PGM projects. BCM believes that this processing technology is critical in the environmentally timely PGM space and supports a societal need to move towards a carbon neutral economy.

Competent Person Statement

The information in this report that relates to metallurgical test results is based on information compiled by Mr. Edmar Medeiros, BCM Technical Manager, in conjunction with Paulo Roberto Bergmann Moreira, FAusIMM (Competent Person) of the consultancy firm, GE21 Consultaria Mineral Ltda. Mr. Bergman has sufficient experience which is relevant to the type of deposit under consideration and to the reporting of analytical and metallurgical test work results to qualify as a competent person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Bergman consents to this release being issued in the form and context in which it appears.

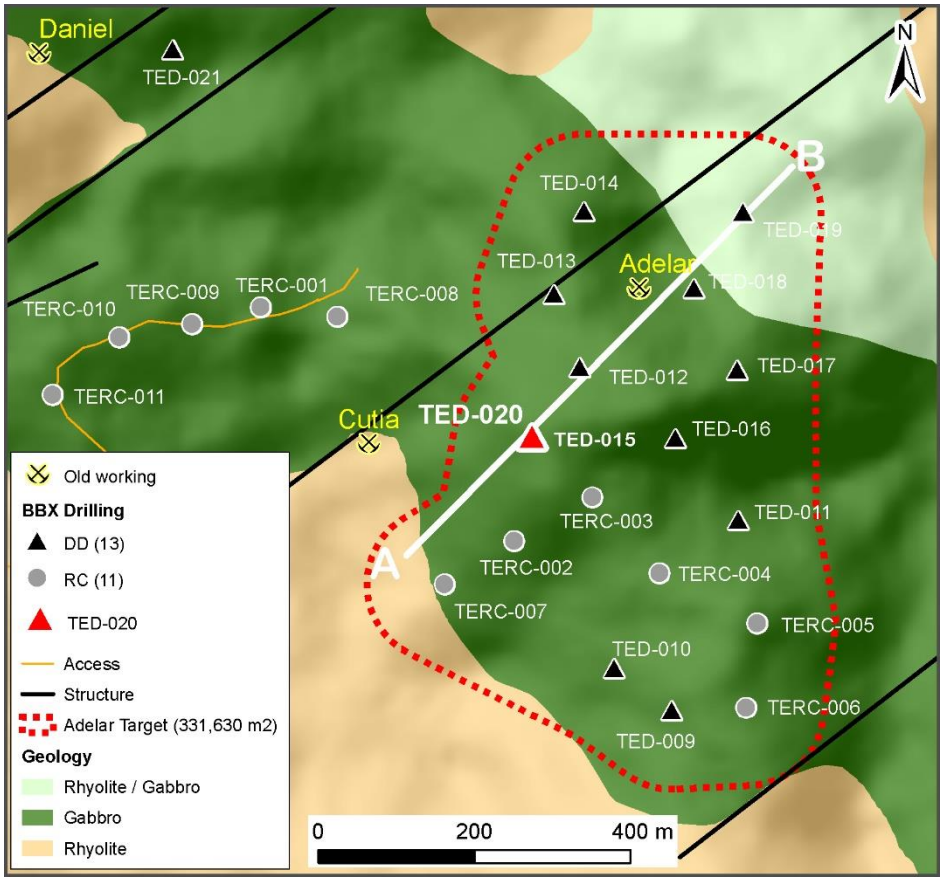
Appendices

Appendix 1: TED 020 location

Hole ID	East	North	RL (m)	Azimuth	DIP	Depth (m)	Tenement	Method
TED020	224819.00	9198355.00	183.00	0	-90	91.80	880.080/2008	DD

*TED 020 is a twin hole of TED015, drilled for metallurgical test work purposes.

Appendix 2: Três Estados drill collar location



Appendix 3

The following Table and Sections are provided to ensure compliance with JORC Code (2012 Edition).

JORC (2012) Table 1 – Section 1: Sampling Techniques and Data for Metallurgical (Bioleach), TED 020

Item	JORC code explanation	Comments
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 representativity 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.	• Assay and metallurgical results are for a composite sample after bioleaching, from the entire 91.8m of hole TED 020, from the diamond drilling completed during 2021. • Diamond core was cut and sampled at intervals, generally of 1m to 2m, with half core retained in BCM´s core storage facility and the other half sent to SGS for preparation. Sample representativity was ensured by close supervision of the drilling and sampling process by a BCM geologist or field technician. Core recoveries were logged and recorded in the database. To date overall recoveries for the diamond holes were >98% and there were no core loss issue or significant sample recovery problems. • Diamond core was half split and sampled typically at 2m intervals, although sampling was adjusted to geological contacts, and hence sample length ranged from 1m - 3m. Samples were placed in plastic sample bags and immediately sealed with cable ties. Half core was retained on site in Apui for future reference. • The diamond drill samples were submitted to the SGS laboratory in Vespasiano, greater Belo Horizonte for crushing and pulverisation and subsequently freighted to the BCM´s laboratory in Catalão, Goiás. The 50kg composite was pulverized in Catalão to 100% minus 150 mesh, then homogenized to generate the composite airfreighted to Ecobiome.

Item	JORC code explanation	Comments
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).	• The diamond drilling was conducted using an EDG S11 mobile rig supplied by Energold Ltd. Drilling diameter was all in NTW which is equivalent to NQ. Core was not oriented, and it was not directionally surveyed.
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.	• Diamond recovery was logged by the on-site geologist by carefully comparing the length of core recovered with the length of the drilling run, as part of the routine core logging process • Drilling was conducted slowly in the soil profile to maximize recovery and ensure sample representativity. The upper section of the hole was cased. • No relationship was perceived between sample recovery and assay results.
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.	• Detail geological logging of the DD drilling has been conducted by an experienced geologist to a high level of detail recording various qualitative parameters such as rock type, mineralogy, colour, texture and oxidation. • The DD core was geologically logged using predefined lithological, mineralogical, and physical characteristics (colour, weathering, fracture density and type, etc). Logging was predominantly qualitative in nature. • 100% of the recovered intervals were geologically logged. • All diamond core has been photographed, prior to cutting, wet and dry. • Geological logging for the RC drilling has been completed by an experienced geologist to a high level of detail. • Logging is qualitative in nature.

Item	JORC code explanation	Comments
Sub-Sampling Techniques and Sampling Procedures	• 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 representativity 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.	• Diamond core was half core sampled, at all times sampling the same side of the core, with the exception of the ¼ core submitted for whole rock analysis. • Sample preparation for the DD drilling was conducted at SGS Vespasiano (greater Belo Horizonte) comprising oven drying, crushing of entire sample to 75% < 3mm followed by rotary splitting and pulverisation of 250 to 300 grams at 95% minus 150# • The <3mm rejects and the 250-300 grams pulverised sample were returned to BCM for storage. • The composite sample was generated using the coarse rejects from each weighted sample interval.
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 checks)	• Samples were assayed for gold, platinum and palladium at ALS in Kamloops, BC, Canada. Untreated samples were also assayed.

Item	JORC code explanation	Comments
	and whether acceptable levels of accuracy (ie lack of bias) and precision have been established	
Verification of Sampling and Assaying	• The verification of significant intersections by either independent or alternative company personnel. • 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.	• Geological data was logged into paper and transferred to Excel spreadsheets at end of the day and then transfer into the drill hole database. Microsoft Access is used for database storage and management and incorporates numerous data validation and data validation and integrity checks. All assay data is imported directly into the Microsoft Access database. • The TED015 twin hole, TED020 was drilled for metallurgical purposes.
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.	• The UTM WGS84 zone 21S grid datum is used for current reporting. The drill holes collar coordinates for the holes reported are currently controlled by hand-held GPS.
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.	• Drilling in this target is typically with holes 200m apart, over the mapped unit in targets a few kilometres apart. • This announcement refers to assays of samples from bioleach pilot plant test work.
Orientation of Data in relation to	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to	• The location and orientation of the RC and DD drilling in the Três Estados project is appropriate given the strike and morphology of the mapped and gabbro units.

Item	JORC code explanation	Comments
Geological Structure	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.	
Sample security	• The measures taken to ensure sample security.	• The DD pulps and the coarse rejects as received from SGS, in sealed plastic bags, were kept in a locked room until shipped to BCM´s laboratory facility in Catalão. The rejects from the entire TED 020 drill hole were used to generate the 50kg composite sample, which was airfreighted to Woodlands, Texas, USA. The Company has no reason to believe that sample security poses a material risk to the integrity of the assay data.
Audit or Reviews	• The results of any audits or reviews of sampling techniques and data.	• The sampling techniques and data have been reviewed by the Competent Person and are found to be of industry standard.

JORC (2012) Table 1 - Section 2: Reporting of Exploration Results

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.	• The Três Estados lease is 100% owned by BCM with no issues in respect to native title interests, historical sites, wilderness or national park and environmental settings. • The company is not aware of any impediment to obtain a licence to operate in the area.
Exploration done by Other Parties	• Acknowledgment and appraisal of exploration by other parties.	• No exploration by other parties has been conducted in the region.
Geology	• Deposit type, geological setting and style of mineralisation.	• The geological setting of the area reported in this announcement is that of hydrothermally altered mafic intrusives within Proterozoic volcanic and volcanoclastic rocks. The precise nature of this unusual style of igneous rock-hosted precious metal mineralisation is currently unknown.

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
		• Drillhole locations and diagrams are presented in this announcement.
		• All drill-holes are vertical. The cores were not oriented and did not have a down-hole survey.
		• Details are tabulated in the announcement.

Criteria	JORC code explanation	Commentary
	• 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.	
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 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 metal equivalent values have been reported.
Relationship between mineralization widths and intercepted 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').	• These results are intended for pilot plant test work purposes only and may not be indicative of the overall Tres Estados mineralisation.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include,	• Drillhole locations and diagrams are presented in this announcement.

Criteria	JORC code explanation	Commentary
	but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
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.	• Not applicable
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 significant exploration data has been acquired by the Company.
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.	• Continue to submit individual samples for bioleaching tests until the process is deemed fully optimized and suitable to facilitate the delivery of a Mineral Resource Estimate (MRE).