ASX ANNOUNCEMENT
22 August 2023

BBX recovers precious metals from hole TED 020

BBX Minerals Limited (ASX: BBX) ("BBX" or the "Company") is pleased to announce initial results for recovery tests on a sample from hole TED 020 (see appendix 1), Três Estados. following bioleaching pilot plant test work conducted by EcoBiome Metals, LLC (**EcoBiome**).

The Ecobiome bioleaching pilot plant in Texas operated for 216 hours, from the 05th to the 14th of June 2023, using a 50Kg sample from drill hole TED 020 (ASX Announcement 27 June 2023, Impressive results from successful bioleaching Pilot Plant test unlocks PGM potential at BBX Minerals Limited). EcoBiome´s proprietary technology and EcoBiome Cultured Gold and PGM microbes demonstrated the suitability of the bioleaching method on the BBX mineralised rock. Some refractory minerals containing locked precious metals cannot be successfully treated by conventional hydromet or pyromet processes. EcoBiome has demonstrated the efficiency of an improved bioleach process for the recovery of PGM`s.

The material treated at Ecobiome's leaching plant in Texas was analysed at ALS Canada and the residual mass after treatment sent for further studies at the BBX Laboratory in Catalão, Goiás, Brazil. The objective was to initiate the development of a processing route for the production of metals, commencing on the following fronts:

- Physical separation of metals by chemical and metallurgical means
- Direct cyanidation
- Concentration by desliming and reverse flotation of silicates (in progress)

Andre J Douchane, CEO, commented: "We are highly encouraged by the recovery results to date and will continue to evaluate and fine tune several alternative methods to recover the precious metals from the bioleach solids. When we began working with the leached solids, we also tested the filtered solution and found it to be barren. In addition to continuing to work on the process we also intend to initiate bio-assaying of the Tres Estado's resource in the fourth quarter with the goal of having a partial re-estimation of the current resource.".

Initial test work results:

The product from the bioleaching of the TED 20 sample at Ecobiome was analysed at Catalão by conventional lead fire assay with an AA finish. The results were very close to those reported by ALS Canada (below):

BBX Catalão results

Sample ID	Au	Pd	Pt
TED 020 Head 1	0.68	17.83	-
TED 020 Head 2	0.75	15.89	0.13
TED 020 Head 3	0.69	16.37	0.05
AVERAGE HEAD	0.71	16.70	0.01

TED 020 - ALS Assay (ppm)			
Sample ID	Au	Pd	Pt
TED 020 - 196h	0.62	15.90	-

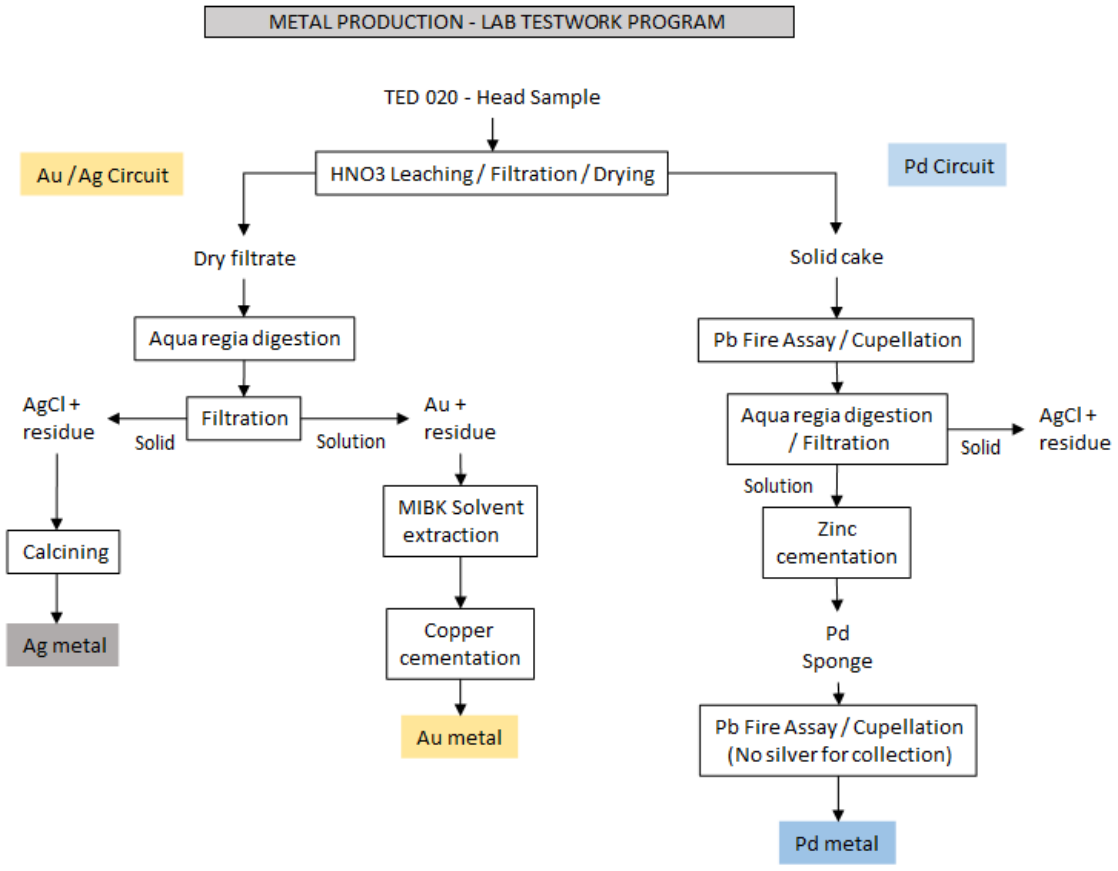
Physical separation of the metal:

The sample was dissolved in nitric acid, the pulp filtered using 20 micrometre filter paper and the fractions dried and analysed. The results are shown in the table below:

HNO3 Leaching Assay results (ppm)			
Sample ID	Au	Pd	Pt
Cake	0.28	18.41	-
Dry filtrate	2.82	0.28	-
Calculated head	0.67	15.60	-

The results indicate that gold is concentrated in the aqueous phase and palladium in the solid phase. Although not conclusive at this stage, it is possible that gold is present in the aqueous phase due to its very fine granulometry (below 20 micrometers). Palladium remained insoluble in the solid phase retained on the filter paper.

The fractions were then treated to produce the respective metals, as per the following flowchart:



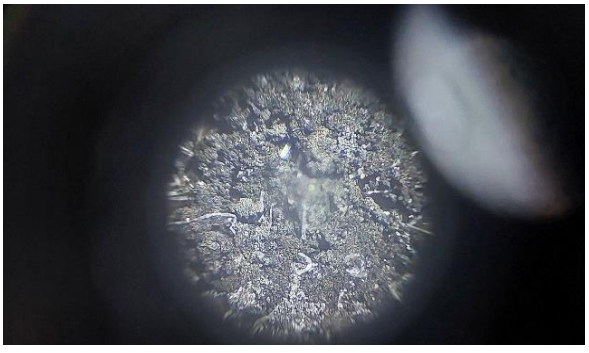
Illustrative images from the laboratory tests:

AgCl on lab filter paper

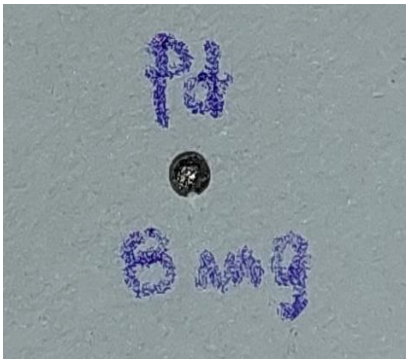
Ag metal under the microscope: 2.1mg (40x)

Au in MIBK Solvent Extraction

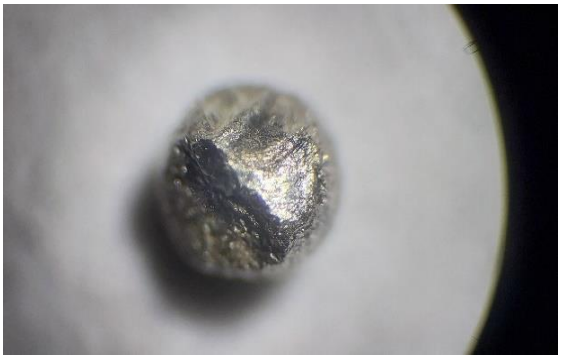
Pd sponge



Pd Sponge under the microscope (100x)



Pd metal: 8mg

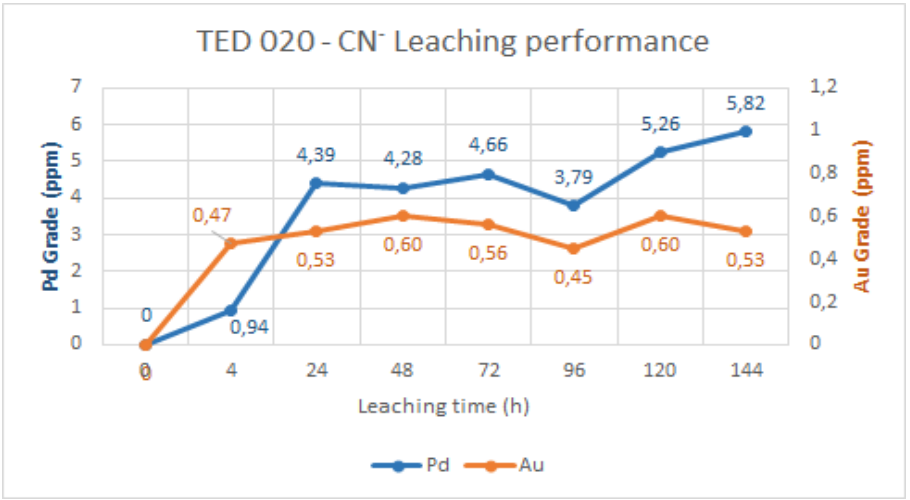


Pd metal (8mg) under the microscope (40x)

Cyanide leaching:

Part of the sample was leached in a 2g/l sodium cyanide solution for 144 hours. Assays of the resultant solutions after filtration of the pulp are shown in the table and graph below:

CN^- Leaching time (h)	Ore grade (ppm)		Metal recovery (%)	
	Au	Pd	Au	Pd
4	0.47	0.94	66.51	5.63
24	0.53	4.39	75.00	26.29
48	0.60	4.28	84.91	25.63
72	0.56	4.66	79.25	27.91
96	0.45	3.79	63.68	22.70
120	0.60	5.26	84.91	31.50
144	0.53	5.82	75.00	34.86



The results show a rapid increase gold in recovery in the first 24 hours and a stabilization after 48 hours. Palladium shows a rapid increase in the first 24 hours and a slow increase continuing until 144 hours. To improve the palladium reaction kinetics addition of lead nitrate or similar additive will be investigated.

Andre J Douchane, CEO, commented:

These results are intended for pilot plant test work purposes only and may not be indicative of the overall Três Estados mineralisation.

This announcement has been authorised for release by the Board of Directors.

For more information:

André Douchane
Chief Executive Officer
adouchane@bbxminerals.com

About BBX Minerals Ltd:

BBX Minerals Limited 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 BBX 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. BBX's key assets are the Três Estados and Ema gold-PGM projects and the REE projects at Ema, Ema East and Apui. The company has 718 km² of exploration tenements within the Colider Group and adjacent sediments, a prospective geological environment for gold, PGM, base metal and iREE deposits.

BBX 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. BBX 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 exploration results is based on information compiled by Mr. Antonio de Castro, BSc (Hons), MAusIMM, CREA, who acts as BBX´s Senior Consulting Geologist through the consultancy firm, ADC Geologia Ltda. Mr. de Castro has sufficient experience which is relevant to the type of deposit under consideration and to the reporting of exploration results and analytical and

metallurgical test work 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. Castro consents to the report being issued in the form and context in which it appears.

CREA/RJ:02526-6D
AusIMM:230624

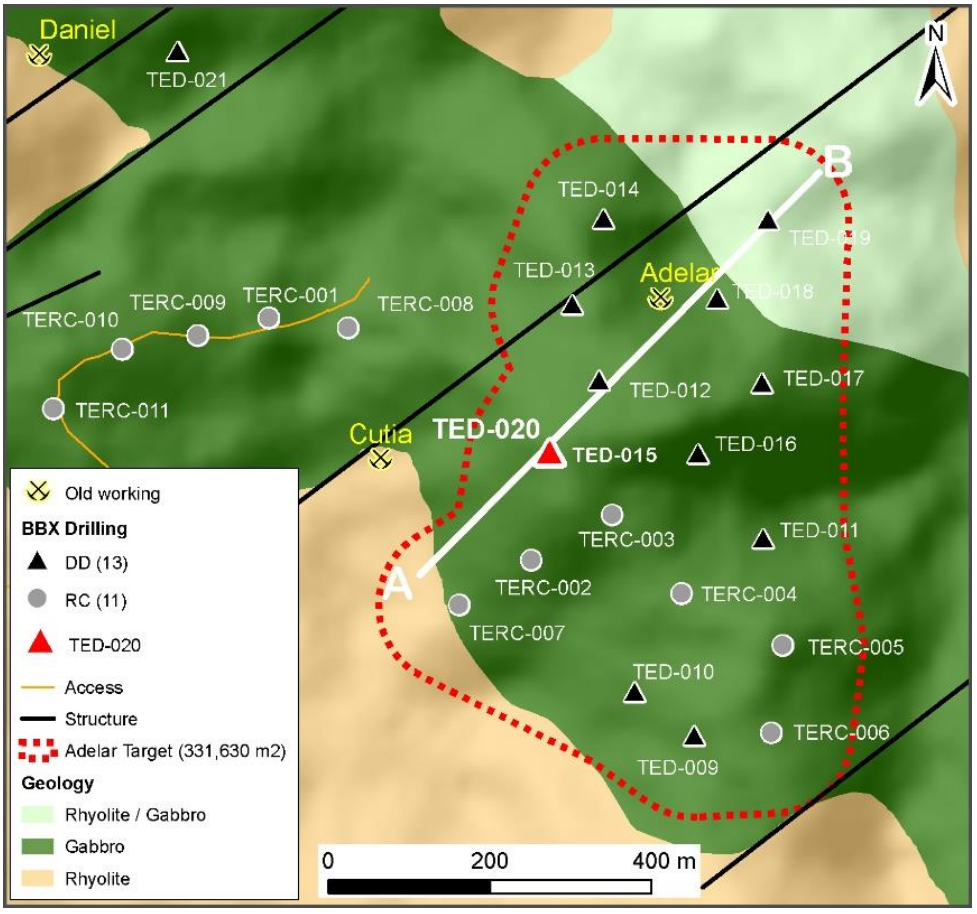
Appendices

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), RC and DD drilling

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 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 BBX´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 BBX 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 BBX´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.
Drilling Techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter,	• 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

Item	JORC code explanation	Comments
	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).	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. • Logging is qualitative in nature.
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	• 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#

Item	JORC code explanation	Comments
	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.	• The <3mm rejects and the 250-300 grams pulverised sample were returned to BBX for storage. • The composite sample was generated using 1.1kg of coarse rejects from each 2m 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) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established	• Samples were assayed for gold, platinum and palladium at ALS in Kamloops, BC, Canada. • Subsequent assays were conducted by BBX at its laboratory facility in Catalão. Goiás, Brazil, by routine fire assay • Cyanide leaching was conducted at Catalão
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.
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.	• 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.

Item	JORC code explanation	Comments
	• Quality and adequacy of topographic control.	
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 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 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.
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 BBX´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 and Metallurgical (Bioleach) 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 BBX 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
	  • hole length.
	• If the exclusion of this information is justified on the basis that the information is not Material and this
		• 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
	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 Três 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, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• Drillhole locations and diagrams are presented in this announcement.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high	• Not applicable

Criteria	JORC code explanation	Commentary
	grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
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.	• Proceed with bioleach tests on composite samples and metal recovery tests. • Define a bioleach analytical procedure for use on each diamond hole to revise the current MRE, based on the new results.