

ASX Announcement 26 November 2018

# SIGNIFICANT PALLADIUM, GOLD AND PLATINUM VALUES YIELDED FROM ONGOING METALLURGICAL TESTS AT EMA. DRILL HOLE MINERALISATION FURTHER EXTENDED ON BOTH TENEMENT AREAS.

# Highlights:

- Fire assay of slag without a collector from an additional metallurgical test from EMD -011 from 2-6 metres yields104.58g/t Pd and 9.11g/t Pt. Resmelt of the slag with a collector extracts **79.78g/t Au**, **534.40g/t Ag**, **35.23g/t Pd and 10.25g/t Pt**
- Extraction result of 83.11g/t Au and 174.77g/t Ag in EMD-011 from 22-24 metres confirms depth continuation of saprolite mineralisation.
- First extraction results from TERC-002 yield 56.27g/t Au from 46-48 metres
- Extraction result from EMD-011 of 16.82g/t from 6-10 metres provides further confirmation of near surface mineralisation

Brazilian gold explorer BBX Minerals (ASX: BBX or "the Company") is pleased to announce results of ongoing metallurgical testing from RC and diamond drill samples from the Company's Três Estados and Ema prospects, respectively, as part of its pilot testing programme (refer announcements dated 14 March 2018, 30 April 2018, 4 June 2018, 20 August 2018 and 1 October 2018).

Following the successful extraction of 7.28g/t palladium from Ema diamond drill hole EMD-008 (10-14m) and 3.03g/t palladium from EMD-010 (4-8 m) (see media release of 1 October 2018) an additional smelt without a collector metal was conducted on a 5kg sample from the EMD-011 2-6m interval (see media release of 1 October 2018). The resulting slag was assayed by standard fire assay with an AA finish, yielding significant levels of palladium (see table 1, back-calculated to the original sample weight). The slag was then refused with a copper collector, approximately three-quarters of the collector bar treated by electrolysis and 77g of anodic mud recovered. A 50g aliquot of the anodic mud was fire assayed with a gravimetric finish, yielding gold, silver and PGM buttons after partition (figs. 1,2,3, table 1). The PGM button was subsequently dissolved and read on the AA to obtain grades for Pd and Pt. Refinement of this process is continuing in parallel with ongoing development of BBX's existing extraction methods.

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

Hole	Interval	Au (g/t)	Ag (g/t)	Pt (g/t)	Pd (g/t)	Comments
		12.95		9.11	104.58	Fire assay (FA) of initial slag, AA finish
EMD- 011	2-6m	79.51	534.40			FA of anodic mud, 2 <sup>nd</sup> smelt, grav. finish (Au, Ag buttons)
011		0.27		10.25	35.23	FA of anodic mud, 2 <sup>nd</sup> smelt, AA finish (PGM button)

Table 1. Fire assay results of slag from fusion without collector metal followed by extraction in second smelt



Fig. 1. Gold button recovered from copper collector

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



Fig. 2. Silver button recovered from copper collector

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



Fig. 3. Pd, Pt-rich button recovered from copper collector

The results obtained indicate that the initial smelt unlocked only a portion of the gold, reflected in the significantly higher gold levels recovered into the collector in the resmelt, whilst in the case of Pd, extraction into the collector was incomplete. A third smelt has been performed on the slag from the second smelt and the collector bar will be parted by electrolysis in an endeavor to recover additional precious metals. The successful extraction of PGM's by pyrometallurgical techniques follows previously obtained hydrometallurgical extraction results on Três Estados dolerite of 62.32g/t Pt and 36.72g/t Pd (see media release of 1 June 2017).

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

In parallel, the Company has continued its programme of metallurgical testing of drill hole samples, using the same process as that reported on 1 October 2018 for Três Estados and Ema RC and diamond drill holes. 18 tests (36 smelts) were conducted on 5kg samples from two metre intervals from Três Estados RC hole TERC-002, 003, 006 and 007 (see fig 1 and appendix) and Ema diamond hole EMD-011 (see fig. 2 and appendix), using the same flux components as utilised in previous drill hole testing. Down-hole locations of these extraction results and for tests reported in media releases of 30 April 2018, 14 June 2018, 20 August 2018, and 1 October 2018 are shown in the appendix. As the style and controls of mineralisation are currently not fully understood no extrapolation of extraction grades or correlation between drill holes can be inferred.

TERC-002 is located approximately100 metres from TERC-003 and 007 (see fig 3) while EMD-011 is located in the region of old garimpeiro workings at Ema where BBX previously conducted channel sampling (see announcement dated 28 November 2017).

The Ema diamond hole samples were sourced from both fresh and weathered quartz-porphyry; fine-tuning of the flux mix for this rock type is ongoing.

After collection, the RC samples were sealed and transported directly to the Nomos laboratory in Rio de Janeiro for preparation and subsequently to the nearby Marcelo facility for treatment. The diamond drill samples were transported initially to SGS in Belo Horizonte for preparation and subsequently to Nomos for splitting. For all samples except EMD-011 22-24m, 5kg of each pulverised sample was riffle split and smelted with a specific flux and a copper collector to form a copper-rich bar. One quarter of each bar was dissolved in nitric acid and silver chloride precipitated from the solution by the addition of sodium chloride. The resultant precipitate and the gold-rich undissolved residue were fused to form metallic buttons which were analysed by fire assay using a gravimetric finish. The other three quarters of each copper bar have been retained for additional testwork. The process was repeated on the slag for each fusion which was ground, re-fused and a second copper bar produced. For sample EMD-011, 2-6m, a 5kg riffle-split sample was smelted without a collector, the slag fire-assayed and resmelted with a copper collector. Three-quarters of the collector bar was treated by electrolysis yielding an anodic mud which was treated as described above for the residue after nitric acid dissolution, forming gold, silver and PGM-rich buttons (figs. 1,2,3).

In many cases where two collector smelts were carried out the precious metals were recovered dominantly in the second smelt due to incomplete collection in the first smelt. The complex precious metals association is broken down in the first smelt, releasing the bulk of the precious metals into the slag to enable recovery into the collector metal in the second smelt.

Hole no.	Depth (m)			Flux	A.u. ( ~ / t)	$\Lambda = (a/b)$	Beektyme	Comments
Hole IIO.	From	То	1	FIUX	Au (g/t)	Ag (g/t)	Rock type	Comments
			Rock		0.16	1.51		
	28	30	Slag	Α	4.37	5.35	Fresh dolerite	
			Total		4.53	6.86		
			Rock		0.19	34.01		
TERC-002	30	32	Slag	Α	0.46	5.52	Fresh dolerite	
			Total		0.65	39.53		
			Rock		0.05	0.71		
	32	34	Slag	Α	1.63	18.92	Fresh dolerite	
			Total		1.68	19.63		

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

		r	_		1			1
			Rock		0.99	25.78		
	34	36	Slag	A	1.12	6.93	Fresh dolerite	
			Total		2.11	32.71		
	20	20	Rock	^	0.32	8.49 7.22	Freeb delerite	
	38	39	Slag Total	A	0.13 <b>0.45</b>	15.71	Fresh dolerite	
			Rock		0.91	20.92		
	41	42	Slag	А	0.65	105.46	Fresh dolerite	
		72	Total	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.56	126.38	The shi dolerite	
			Rock		0.31	47.26		
	44	46	Slag	Α	3.17	8.02	Fresh dolerite	
			Total		3.48	55.28		
			Rock		0.46	1.69		
	46	48	Slag	Α	55.81	11.86	Fresh dolerite	
			Total		56.27	13.55		
			Rock		5.45			
	20	22	Slag	Α	1.93		Fresh dolerite	No silver result
			Total		7.38			
								Result of
			Rock		25.47			additional test on
	24	26	Slag	Α	1.26		Fresh dolerite	same interval
		_	Total		26.73			(announced 30
<b>TERC 003</b>								April 2018)
			Rock		5.33			
	30	32	Slag A	2.20		Fresh dolerite	No silver result	
		30 32	Total	A	7.53		T lesit dolente	NO SIVELLESUI
			Total		7.55			
	32		Rock Slag A	1.68				
		32 34		Α	5.48		Fresh dolerite	No silver result
			Total		7.18			
			Rock		1.10			
TERC-006	32	33	Slag	A	0.80		Fresh dolerite	No silver result
			Total		1.90			
			Deek		0.76	1 40		
	16	18	Rock Slag	^	0.76 0.73	1.43 73.95	Fresh dolerite	
	10	10	Total	A	1.49	73.95 74.95	Flesh dolente	
TERC-007			Total		1.45	74.55		
			Rock		0.61	0.20		
	28	30	Slag	А	3.26	25.01	Fresh dolerite	
	-		Total		3.87	25.21		
							+	
			Rock		2.12	16.81	Qtz-porphyry	
	6	10	Slag	Α	14.61	3.45	saprolite	
			Total		16.73	20.26	Sapronte	
					04.44	400.00		
EMD-011	22	0.1	24 Rock Slag		81.11	168.39	Qtz-porphyry	
		22 24		A	2.00	10.38	saprolite	
			Total		83.11	178.77		
			Rock		0.66	77.98		
	56	58	Slag	А	0.80	6.91	Fresh qtz-	
	50	50	Total		1.46	84.19	porphyry	
			10101			0-1110		

Table 2. Results of metallurgical test results on Três Estados RC holes and Ema diamond holes

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

TERC-002	224798	9198224	-90	0	172	50.0
TERC-003	224892	9198272	-90	0	170	50.0
TERC-006	225095	9188008	-90	0	218	33.0
TERC-007	224704	9198167	-90	0	154	42.0
EMD-011	184190	9174406	-90	0	136	60.0

Table 3. Drill hole locations (WGS 84 UTM zone 21S)

# **Trial Mining Application**

Inuma Arqueologia have commenced the archaeological study on BBX's Ema and Três Estados tenements as requested by IPHAN (national heritage agency). BBX expects to present a final report to IPHAN by late-December 2018.

Additionally, at the request of IPHAN, BBX has engaged Trevisan Florestal to review and ensure compliance with the forestry reserve requirements on its Três Estados tenement. BBX expects this review to be completed by mid-December 2018.

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

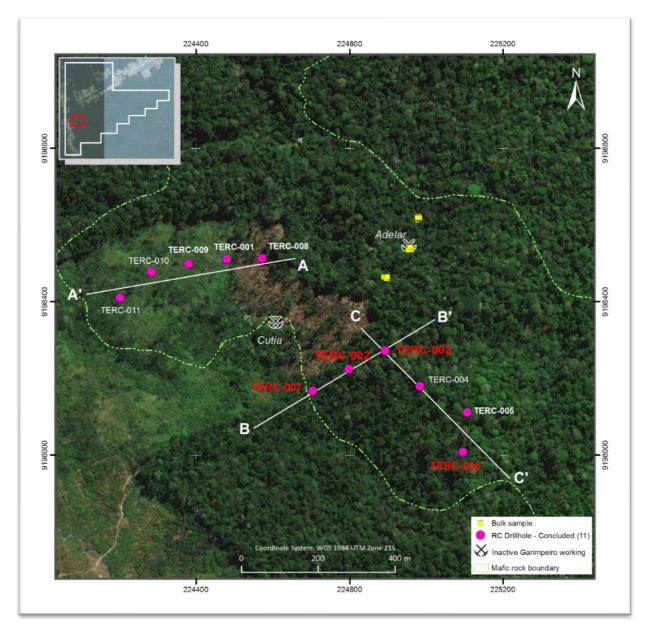


Fig. 4. Três Estados RC drill hole location map, showing cross-section locations (see appendix 1)

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



Fig. 5. Ema drill hole location map showing cross-section locations (see appendix 2).

# **Assay Methodology**

BBX continues to work on the refinement of a practical and repeatable analytical method suitable for assaying large volumes of routine drill samples (refer announcements dated 31 July 2018) that can reliably reproduce the levels of precious metals currently being extracted from drill holes through BBX's proprietary smelling methodology. Until an assay method/protocol is finalised BBX will continue to conduct metallurgical test work on drill holes and release the results when available.

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

# For more information:

Jeff McKenzie CEO BBX Minerals Ltd +64 22 3421271 Jeff.McKenzie@bbxminerals.com.au

# **Cautionary Statement**

BBX Minerals advises that the announced results are metallurgical test results from 2 and 4 metre intervals from the Três Estados and Ema drill holes TERC-002, TERC-003, TERC-006, TERC-007, and EMD-011. The results may not represent the total metal values in the samples, but rather physically extractable gold based on the various extraction/recovery methods currently being tested, and cannot be considered as assay results applicable for ore reserve or mineral resource estimation purposes (see BBX's response to ASX dated 22 and 28<sup>t</sup> August 2017 and announcements dated 9 January 2018, 14 March 2018, 30 April 2018, 14 June 2018, 20 August 2018 and 1 October 2018)

# **Competent Person Statement**

The information in this report that relates to gold mineralization in the Apui region in Brazil is based on information compiled by Mr. Antonio de Castro, BSc (Hons), MAusIMM, CREA, who acts as BBX's full-time Senior Consulting Geologist through the consultancy firm, ADC Geologia Ltda. Mr. de Castro has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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

## About BBX Minerals Ltd

BBX Minerals Limited (ASX: BBX) is a mineral exploration and mining company listed on the Australian Securities Exchange. Its major 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 and copper deposits.

BBX's key assets are the Juma East, Três Estados and Ema Gold Projects in the Apuí region, Amazonas State. The company has 58.1km<sup>2</sup> of exploration tenements within the Colider Group, a prospective geological environment for epithermal gold and Cu-Au porphyry deposits. The region is under-explored and has the potential to provide BBX with a pipeline of high-growth, greenfields gold discoveries.

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

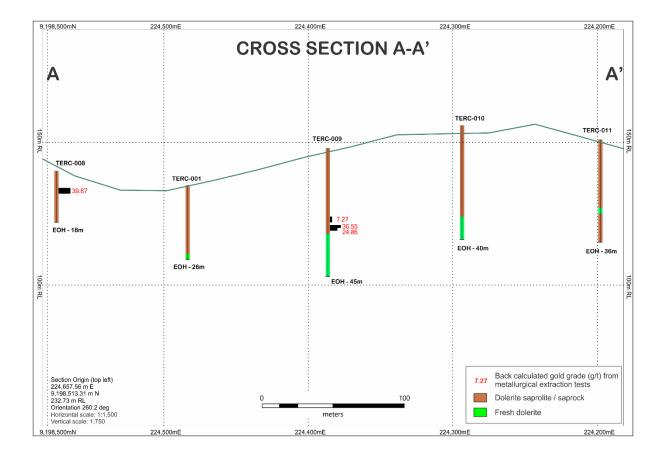
Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153 **Brazillian Office** Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

## Appendix 1.

Três Estados cross-sections showing location and extraction results from metallurgical test samples (for cross-section locations, see figs. 1) (note vertical exaggeration of 2:1). Results for all tested intervals are shown.



BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

#### Issued Capital

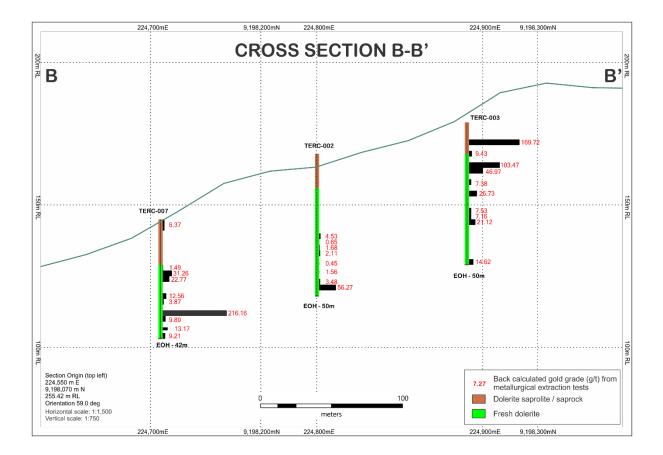
million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



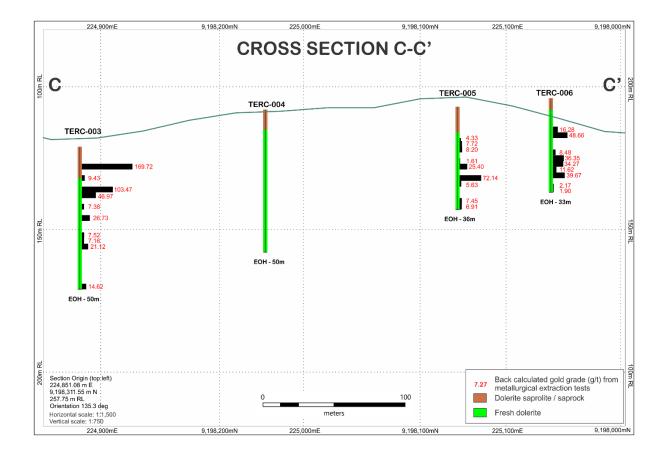
Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

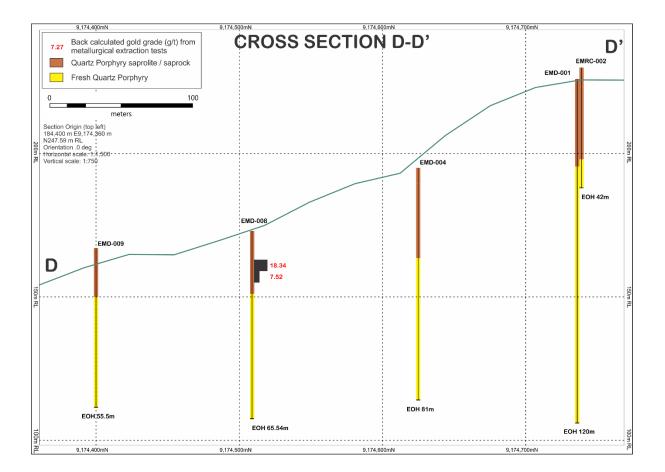
#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

# Appendix 2.

Ema cross-sections showing location and extraction results from metallurgical test samples (for cross-section locations, see fig. 2) (note vertical exaggeration of 2:1). Results for all tested intervals are shown.



BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

### Issued Capital

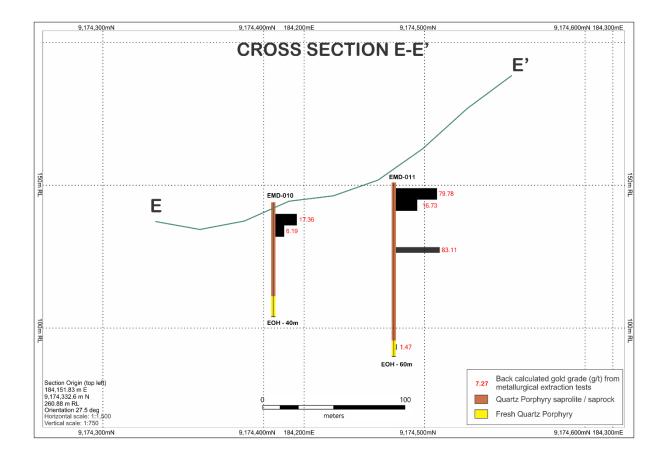
million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700



Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

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

Criteria	JORC Code	Commentary
	Explanation	
Sampling Techniques	<ul> <li>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.</li> </ul>	<ul> <li>This announcement refers to partial metallurgical test results for Três Estados RC holes TERC-002, 003, 006 and 007 and Ema diamond holes EMD-011</li> <li>RC samples were collected at onemetre intervals via a vertically mounted cyclone.</li> <li>Each sample was riffle split to generate two samples, one of 1kg retained in the company files and one of 0.5kg for analytical purposes. The remainder was combined to form a two metre composite for metallurgical testwork</li> <li>Diamond core was cut and sampled at one metre intervals, with half core retained in BBX's core storage facility</li> </ul>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<ul> <li>Sample representivity was ensured by combining 100% of the sample rejects to form a 2m composite sample which was ground in a ball mill and a 5kg sample riffle split for metallurgical testwork. Where sufficient sample was available for a 1m interval a 5kg sample was riffle split and testwork conducted on a single 1m interval.</li> </ul>
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where "industry standard " work has been done this would re relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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</li> </ul>	<ul> <li>RC drill holes were sampled at onemetre intervals and split at the rig to generate 0.5kg and 1kg samples prior to compositing at 2m intervals.</li> <li>Diamond drill samples were submitted to the SGS laboratory in Belo Horizonte for crushing and pulverisation and subsequently air freighted to the Nomos laboratory in Rio de Janeiro. 300g of each 1m sample was riffle split and retained for future analysis. Where sufficient pulverised reject was available over a 4m interval to generate 5kg of material a bulk sample was prepared for metallurgical testing by</li> </ul>

TABLE 1 – Section 1: Sampling Techniques and Data – RC and
diamond drilling (metallurgical testwork)

BBX Minerals Ltd.
ASX: BBX
www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro **Directors** Jeff McKenzie Michael Schmulian Will Dix

	commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	<ul> <li>combining four 1m samples and riffle splitting to obtain a 5kg sample.</li> <li>Sample recovery for both RC and diamond drilling varied between 50% and 60% in the weathered zone and 80 -100% in fresh rock.</li> </ul>
Criteria	-	-
Drilling Techniques	<ul> <li>Drill types (e.g. core. reverse circulation. open hole hammer. rotary air blast. auger. Bangka. sonic etc ) and details (e.g. 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).</li> </ul>	<ul> <li>RC drilling was undertaken by Unidrilling Serviços de Sondagem de Solos Eireli utilizing a VG-100 RC rig, a MWM 4 cylinder Chicago Pneumatic compressor, 200PSI and 750CFM, with capacity to 60m depth with 3 ½" hammer.</li> <li>Diamond drilling was conducted using an EDG S11 mobile rig supplied by Energold Ltd. Drilling diameter was NQ in the upper portion of the hole, reducing to BQ in fresh rock after casing of the upper portion. Core was not oriented.</li> </ul>
Drill Sample Recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assayed.</li> </ul>	<ul> <li>RC sample recovery was logged on site by the supervising geologist. The holes were predominantly wet with up to 30% moisture and extremely wet close at the water table immediately above the fresh rock interface.</li> <li>Diamond recovery was logged by the on-site geologist as part of the routine core logging process</li> </ul>
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	Drilling was conducted slowly in the soil profile to maximize recovery and ensure sample representivity.
	<ul> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine /course material.</li> </ul>	The poor recovery experienced in the weathered zone could have introduced a sampling bias.
Logging	<ul> <li>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.</li> </ul>	<ul> <li>RC chips and drill core were geologically logged using predefined lithological, mineralogical and physical characteristic (colour, weathering etc) logging codes. RC logging was completed on one metre intervals at the rig by the geologist. RC chips were collected in trays for each interval and stored in the company's site office. Drill core was logged in the company's core storage facility in Apui</li> </ul>

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

# Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro **Directors** Jeff McKenzie Michael Schmulian Will Dix

Sub- Sampling Techniques and Sampling Procedures	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean. channel. etc) photography.</li> <li>The total length and percentages of the relevant intersections logged.</li> <li>If core. whether cut or sawn and whether quarter. half or all core taken.</li> <li>If non-core. whether riffled. tube sampled. rotary split etc and whether sample wet or dry.</li> </ul>	<ul> <li>Logging was predominantly qualitative in nature.</li> <li>100% of the recovered intervals were geologically logged.</li> <li>N/A</li> <li>RC samples were collected from the interval at the drill rig through a cyclone. Most of the samples in the weathering profile were wet due to the high water table level but dry when drilling below the water table in fresh rock.</li> </ul>
	<ul> <li>For all sample types. the nature. quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>RC sample preparation was conducted at the Nomos laboratory, Rio de Janeiro. Brazil. Samples were dried, milled in a ball mill dedicated to BBX samples to 95% minus 150 mesh. This methodology is considered appropriate for metallurgical testwork.</li> <li>Diamond core sample preparation was conducted by SGS in Belo Horizonte, involving crushing and pulverising 100% of each sample to -150 mesh</li> </ul>
	<ul> <li>Quality control procedures adopted for all sub – sampling stages to maximise "representivity" of samples.</li> <li>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</li> </ul>	<ul> <li>No sub-sampling was carried out</li> <li>No repeat tests were conducted on the samples reported in this announcement</li> </ul>
Quality of Assay Data and Laboratory Tests	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> <li>The nature quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	<ul> <li>The sample sizes collected are appropriate for metallurgical testwork.</li> <li>The extraction methodology used comprised: fusion with a copper collector, dissolution of the collector in nitric acid or by electrolysis, precipitation of a silver-rich precipitate from the solution, fusion of the precipitate and the undissolved residue into metallic buttons, assaying of the buttons by dissolution with nitric acid to form an AgCl precipitate which is fused into a silver button and weighed,</li> </ul>

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

## **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro **Directors** Jeff McKenzie Michael Schmulian Will Dix

<ul> <li>For geophysical tools. spectrometers. hand held XRF instruments. etc. the parameters used in determining the analysis including instrument make and model. reading times. calibrations factors applied</li> </ul>	<ul> <li>and cupellation of the undissolved residue with lead to form a gold button which is weighed, and the grade back calculated to the original sample weight of 5kg. In the case of sample EMD-001 2-6m an initial smelt was conducted without a collector metal before proceeding with the method described above. A PGM-rich button was also precipitated which was subsequently dissolved and read on the AA.</li> <li>This process is regarded as appropriate for metallurgical extraction tests</li> <li>Prior to commencing the fusions the furnace was completely re-lined with a new aluminium refractory cement liner. The furnace is dedicated to conducting BBX fusions. As the extraction methodology is still in the developmental phase it may represent only a partial recovery method for gold and other precious metals.</li> <li>No geophysical tools or electronic device was used in the generation of sample results</li> </ul>
<ul> <li>and their derivation etc.</li> <li>Nature of quality control procedures adopted (e.g. standards. blanks. duplicates. external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>The standard quality control procedures for routine assays of 25 to 50 grams are not applicable to 5kg bulk metallurgical tests. As these are initial metallurgical tests utilising a method still under development there is no statistical basis on which to establish an acceptable level of accuracy and precision. No commercial certified standards are available for this type of material where the nature of the mineralisation has yet to be established. The results obtained by extracting physical precious metals from bulk samples give an indicative value of how much metal may be extracted using BBX's current extraction process technology, which remains under development. No external laboratory checks have been conducted as the</li> </ul>

Issued Capital

million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro **Directors** Jeff McKenzie Michael Schmulian Will Dix

Verification of	<ul> <li>The verification of significant</li> </ul>	<ul> <li>methodology, which is regarded as proprietary has yet to be finalised.</li> <li>The results in this announcement are for indicative metallurgical testwork and do not purport to be in any way representative of an entire geological unit or body. This work is being conducted as a precursor to commencing small-scale trial mining and pilot-scale treatment.</li> <li>The results presented were not</li> </ul>
Sampling and Assaying	intersections by either independent or alternative company personnel.	verified by independent or alternative company personnel.
	<ul> <li>The use of twinned holes</li> <li>Documentation of primary data. data entry procedures. data verification. data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>No twinned holes were used</li> <li>Geological data is logged into Excel spreadsheets at the drill rig for transfer into the drill hole database. Microsoft Access is used for database storage and management and incorporates numerous data validation and integrity checks. All assay data is imported directly into the Microsoft Access database.</li> </ul>
	<ul> <li>Discuss any adjustment to assays</li> </ul>	No adjustments were made.
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 Mine Resource estimation	<ul> <li>Drill collar locations were surveyed by GPS, at an estimated accuracy of 2m.</li> </ul>
	<ul> <li>Specification of grid system used</li> </ul>	UTM WGS84 zone 21S.
	<ul> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Topographic control is achieved via the use of government topographic maps. in association with GPS and Digital Terrain Maps (DTM's).</li> </ul>
Data Spacing and Distribution	Data spacing for reporting of Exploration results.	intervals from one drill hole in a 13- hole programme
	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 classification applied.	The data spacing and distribution is not sufficient to establish any degree of geological and grade continuity appropriate for Mineral Resource and Ore Reserve estimation procedures.
	Whether sample compositing has been applied.	<ul> <li>Samples are 1m intervals and 2m and 4m composites; no subsequent compositing was applied</li> </ul>

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

## Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

Orientation of Data in relation to Geological Structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which is known. considering the deposit type.</li> </ul>	<ul> <li>The orientation of the sampling achieves unbiased sampling considering the deposit type.</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>No structural control of mineralisation has been observed.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>The RC samples were air-freighted in sealed bags directly to the Nomos laboratory in Rio de Janeiro for milling, and subsequently to the Marcelo da Silva Pinto ME facility for smelting.</li> <li>Diamond core samples were air- freighted to the SGS laboratory in Belo Horizonte and subsequently to the Nomos laboratory for compositing.</li> </ul>
Audit or Reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No audits or external reviews of techniques have been conducted.</li> </ul>

# Section 2: Reporting of Exploration Results (metallurgical testwork) – RC and diamond drilling

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 Três Estados and Ema leases are 100% owned by BBX with no issues in respect to native title interests, historical sites, wilderness or national park and environmental settings.
	• The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area	<ul> <li>The company is not aware of any impediment to obtain a licence to operate in the area</li> </ul>
Exploration done by Other Parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties</li> </ul>	<ul> <li>No exploration by other parties has been conducted in the region</li> </ul>

BBX Minerals Ltd. ASX: BBX www.bbxminerals.com.au

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

Geology	<ul> <li>Deposit type. geological setting and style of mineralisation</li> </ul>	The geological setting of the area reported in this announcement is that of hydrothermally altered mafic and felsic intrusives and extrusives 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	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes         <ul> <li>Easting and northing of the drill hole collar</li> <li>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.</li> <li>Dip and azimuth of the hole</li> <li>Down hole length and interception depth</li> <li>Hole length</li> </ul> </li> </ul>	<ul> <li>Location details of all drill holes covered in this announcement are included in the body of the announcement (table 3).</li> </ul>
	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and that this exclusion does not detract from the understanding of the report. the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>No exclusion of information has occurred.</li> </ul>
Data aggregation methods	<ul> <li>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.</li> </ul>	<ul> <li>No data weighting or aggregation was carried out</li> </ul>
Data aggregation methods	<ul> <li>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 shown in detail.</li> </ul>	<ul> <li>Not applicable – results reported refer to 1m intervals and 2m and 4m composites.</li> </ul>
Data aggregation methods	The assumptions used for any reporting of metal equivalent values should be clearly stated.	<ul> <li>No metal equivalents were reported</li> </ul>

Issued Capital million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

Relationship between mineralization widths and intercepted lengths	<ul> <li>These relationships are particularly important in reporting of Exploration Results.</li> <li>If the geometry of the mineralization with respect to the drill hole angle is known. its nature should be reported.</li> <li>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').</li> </ul>	The results reported cannot be used to define mineralisation widths or geometry
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include. but not limited to plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>Maps and sections showing the drill hole locations are included in this announcement.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	The Company believes the ASX announcement provides a balanced report of the results of metallurgical tests still in development conducted on selected 1m intervals and 2m and 4m composite samples from drill holes TERC-002,003,006 and 007 and EMD-011.
Other substantive exploration data	<ul> <li>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.</li> </ul>	Airborne geophysical results and ground IP results were presented in previous announcements and are not referred to in this announcement.
Further Work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large- scale step-out drilling).	<ul> <li>Key work is to develop in house and/or at a commercial laboratory a reliable analytical method for this complex style of mineralisation and recommence diamond drilling over the mafic intrusives and quartz-porphyry.</li> <li>In parallel, metallurgical pilot plant testwork is continuing to define a commercially viable extraction technique</li> </ul>

Issued Capital million shares 396,617,369 million options 4,750,000 Registered Office 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### Brazillian Office

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700

• Diagrams clearly highlighting the	<ul> <li>Maps showing the extent of</li> </ul>
areas of possible extensions.	the soil anomalies and the
including the main geological	mafic intrusives and quartz
interpretations and future drilling	porphyry within the area
areas. provided this information is	drilled at Três Estados and
not commercially sensitive.	Ema are presented.

Issued Capital

million shares 396,617,369 million options 4,750,000 **Registered Office** 68 Aberdeen Street Northbridge WA 6003

T. +61 8 6955 2955 F. +61 8 6210 1153

#### **Brazillian Office**

Av Jornalista Riccardo Marinho 360 Ed Cosmopolitan Sala Barra da Tijuca Rio de Janeiro

T. +55 21 2439 5700