BEADELL
ASX:BDR

INTERIM ORE RESERVE AND MINERAL RESOURCE UPDATE
OPEN PIT RESERVE GRADE INCREASED BY 5%

Beadell Resources Limited (Beadell or Company) is pleased to announce an interim Ore Reserve and Mineral Resource update as at 30 June 2017, produced in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code).

KEY HIGHLIGHTS

- Open Pit Reserve grade increased by 5% to 1.77 g/t gold and total Ore Reserve grade increased by 5% to 1.83 g/t gold.
- Total Ore Reserves declined 3% after allowing for production to end of June 2017 and are 25.1 million tonnes @ 1.83 g/t gold for 1.47 million ounces.
- Urucum Open Pit Ore Reserves remained unchanged with 10.25 million tonnes @ 1.73 g/t gold for 568,000 ounces. Urucum will become the major mill ore source in the second half of 2018 following completion of the plant upgrade.
- Total Mineral Resources decreased 3% after allowing for production to end of June 2017 and are 63.5 million tonnes @ 1.82 g/t gold for 3.73 million ounces.
- This interim 30 June 2017 updated reserve and resource was completed to coincide with the Company's year-end budgeting and life of mine scheduling. Future annual updates will be completed as at June 30 each year.

The interim updated resource and reserve includes 58 holes for 12,073 meters of RC and diamond exploration and resource definition drilling completed in the first half of 2017 mostly in the Tap AB complex. The drilling predominantly targeted deeper sections on the Carbonate and AB Trough Lodes and resulted in the discovery of a new lode at Neo East (see ASX release 26 October 2017).

Subsequent to the cut-off date for the resource and reserve update, ongoing drilling has had continued success locating a new lode at Urso discovered in between the Tap AB and Tap C deposits. Exploration drilling will further accelerate over the coming months with a second RC rig in operation and recent refurbishment of the existing RC rig completed. Drilling is ongoing at Mutum and Torres and results are anticipated over the new year period.

TUCANO ORE RESERVES

Total Ore Reserves as at 30 June 2017 were 25.1 million tonnes @ 1.83 g/t gold for 1.47 million ounces compared to 28.2 million tonnes @ 1.74 g/t gold for 1.58 million ounces as at 31 December 2016. This is a decrease of 43,000 ounces (3%) after allowing for the first half of 2017 depletion of 59,000 ounces.

Total Open Pit Reserves are 18.5 million tonnes @ 1.77 g/t gold for 1,052,000 ounces. Open Pit Reserve grade has increased by 5%.

Total Stockpile Reserves are 3.6 million tonnes @ 0.66 g/t gold for 77,000 ounces.

Total Underground Reserves are unchanged at 2.9 million tonnes @ 3.61 g/t gold for 345,000 ounces.

TABLE 1: ORE RESERVE

As at 30 June 2017

BRAZIL	PROVED			PROBABLE			TOTAL ORE RESERVE			CUT-OFF
	Tonnes ('000)	Grade g/t	Ounces ('000)	Tonnes ('000)	Grade g/t	Ounces ('000)	Tonnes ('000)	Grade g/t	Ounces ('000)	g/t
Urucum Open Pit Oxide	374	1.21	15	180	1.18	7	554	1.20	21	0.70
Urucum East Open Pit Oxide	-	-	-	151	1.71	8	151	1.71	8	0.70
Tap AB Open Pit Oxide	2,384	2.16	166	2,024	1.76	115	4,408	1.98	280	0.60
Tap C Open Pit Oxide	362	1.08	13	191	0.99	6	553	1.05	19	0.60
Total Oxide	**3,120**	**1.92**	**193**	**2,545**	**1.66**	**136**	**5,666**	**1.80**	**329**	
Urucum Open Pit Primary	4,446	1.69	241	5,246	1.81	306	9,692	1.76	547	0.80
Urucum East Open Pit Fresh	-	-	-	16	1.50	1	16	1.50	1	0.70
Urucum Underground Primary	-	-	-	2,972	3.61	345	2,972	3.61	345	
Tap AB Open Pit Primary	1,274	2.00	82	1,188	1.72	66	2,462	1.86	147	0.80
Tap C Open Pit Primary	229	1.31	10	387	1.44	18	615	1.39	28	0.80
Total Primary	**5,949**	**1.74**	**333**	**9,808**	**2.33**	**735**	**15,757**	**2.11**	**1,068**	
Urucum Open Pit Total	4,820	1.65	256	5,425	1.79	312	10,245	1.73	568	
Urucum East Open Pit Total	-	-	-	167	1.69	9	167	1.69	9	
Urucum Underground Total	-	-	-	2,972	3.61	345	2,972	3.61	345	
Tap AB Open Pit Total	3,658	2.10	248	3,212	1.75	180	6,870	1.94	428	
Tap C Open Pit Total	591	1.17	22	577	1.29	24	1,168	1.23	46	
Total Oxide and Primary	**9,069**	**1.80**	**526**	**12,353**	**2.19**	**871**	**21,422**	**2.03**	**1,397**	
Open Pit Stockpile	1,985	0.66	42	-	-	-	1,985	0.66	42	0.50
Spent Ore Stockpile	1,311	0.61	26	-	-	-	1,311	0.61	26	0.50
ROM Expansion Stockpile	345	0.80	9	-	-	-	345	0.80	9	0.50
Total Stockpiles	3,642	0.66	77	-	-	-	3,642	0.66	77	0.50
TOTAL BRAZIL	**12,711**	**1.47**	**603**	**12,353**	**2.19**	**871**	**25,064**	**1.83**	**1,473**	

See Appendix 1 for JORC Code section criteria

MINERAL RESOURCES

The Company's Measured, Indicated and Inferred Mineral Resources as at 30 June 2017 were 63.5 million tonnes @ 1.82 g/t gold for 3.73 million ounces. This is a decrease of 135,000 ounces (3%) after allowing for the first half of 2017 depletion of 59,000 ounces.

Total Open Pit Resources are 35.4 million tonnes @ 1.61 g/t gold for 1,836,000 ounces.

Total Stockpile Resources are 5.2 million tonnes @ 0.59 g/t gold for 99,000 ounces. A total of 20,000 ounces from the stockpile were milled in the first half of 2017.

Total Underground Resources at Urucum and Tap AB are 16.4 million tonnes @ 2.75 g/t gold for 1,455,000 ounces, an increase of 65,000 ounces (5%).

TABLE 2: MINERAL RESOURCE

As at 30 June 2017

BRAZIL	MEASURED RESOURCES			INDICATED RESOURCES			INFERRED RESOURCES			TOTAL RESOURCES			CUT-OFF
	Tonnes ('000)	Grade g/t	Ounces ('000)	Tonnes ('000)	Grade g/t	Ounces ('000)	Tonnes ('000)	Grade g/t	Ounces ('000)	Tonnes ('000)	Grade g/t	Ounces ('000)	g/t
Urucum Open Pit Oxide	678	1.15	25	344	1.08	12	70	0.97	2	1,091	1.12	39	0.5
Urucum East Open Pit Oxide	-	-	-	200	1.88	12	9	1.58	0	209	1.87	13	0.5
Tap AB Open Pit Oxide	2,870	2.18	201	3,889	1.76	220	796	1.11	28	7,554	1.85	450	0.5
Tap C Open Pit Oxide	566	0.97	18	312	0.90	9	88	0.70	2	966	0.92	29	0.5
Duckhead Open Pit Oxide	89	4.24	12	140	1.74	8	60	1.56	3	289	2.47	23	1.0
Total Oxide	**4,202**	**1.90**	**256**	**4,885**	**1.66**	**261**	**1,022**	**1.10**	**36**	**10,109**	**1.70**	**553**	
Urucum Open Pit Primary	5,783	1.54	286	7,120	1.71	393	393	1.57	20	13,296	1.63	698	0.5
Urucum East Open Pit Fresh	-	-	-	211	1.45	10	84	0.94	3	295	1.30	12	0.5
Urucum Underground Primary	260	4.06	34	2,634	4.24	359	8,839	2.15	611	11,733	2.66	1,004	1.2
Tap AB Open Pit Primary	2,356	1.74	132	4,176	1.57	210	1,053	1.34	45	7,584	1.59	388	0.5
Tap AB Underground Primary*	22	1.49	1	1,025	2.30	76	3,653	3.19	375	4,700	2.99	452	1.2
Tap C Open Pit Primary	482	1.22	19	1,980	1.22	78	1,044	1.35	45	3,507	1.26	142	0.5
Duckhead Surface Primary	115	2.28	8	264	2.26	19	262	1.81	15	641	2.08	43	1.0
Total Primary	**9,018**	**1.66**	**480**	**17,409**	**2.04**	**1,144**	**15,329**	**2.26**	**1,114**	**41,756**	**2.04**	**2,738**	
Urucum Open Pit Total	6,460	1.50	311	7,464	1.69	404	463	1.48	22	14,387	1.59	737	0.5
Urucum East Open Pit Total	-	-	-	411	1.66	22	92	1.00	3	503	1.54	25	0.5
Urucum Underground Total	260	4.06	34	2,634	4.24	359	8,839	2.15	611	11,733	2.66	1,004	1.2
Tap AB Open Pit Total	5,225	1.98	333	8,065	1.66	430	1,849	1.24	74	15,139	1.72	837	0.5
Tap AB Underground Total*	22	1.49	1	1,025	2.30	76	3,653	3.19	375	4,700	2.99	452	1.2
Tap C Open Pit Total	1,048	1.09	37	2,292	1.18	87	1,133	1.30	47	4,473	1.19	171	0.5
Duckhead Open Pit Total	205	3.14	21	404	2.08	27	322	1.76	18	930	2.20	66	1.0
Total Oxide and Primary	**13,220**	**1.73**	**736**	**22,293**	**1.96**	**1,405**	**16,351**	**2.19**	**1,150**	**51,865**	**1.97**	**3,291**	
Open Pit Stockpile	1,985	0.66	42	-	-	-	-	-	-	1,985	0.66	42	0.5
Spent Ore Stockpile	1,311	0.61	26	-	-	-	-	-	-	1,311	0.61	26	0.5
ROM Expansion Stockpile	345	0.80	9	-	-	-	-	-	-	345	0.80	9	0.5
Marginal Ore Stockpiles	1,586	0.44	22	-	-	-	-	-	-	1,586	0.44	22	0.3
Total Stockpiles	**5,228**	**0.59**	**99**	-	-	-	-	-	-	**5,228**	**0.59**	**99**	
Tartaruga	-	-	-	-	-	-	**6,451**	**1.63**	**337**	**6,451**	**1.63**	**337**	**0.5**
TOTAL BRAZIL	**18,448**	**1.41**	**835**	**22,293**	**1.96**	**1,405**	**22,802**	**2.03**	**1,487**	**63,544**	**1.82**	**3,727**	

* The June 2017 Tap AB UG Resource includes 173kt @ 4.68g/t of Inferred Oxide in the Inferred Fresh Category.

ABOUT BEADELL

Beadell owns and operates the Tucano gold mine in Amapá State, in the north of Brazil. Tucano sits within an extensive land package of 2,500km^2 of highly prospective, under explored greenstone belt.

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COMPETENT PERSONS STATEMENT

The information in this report relating to Open Pit Ore Reserves is based on information compiled by Mr Nigel Arthur Spicer who is a member of the Australasian Institute of Mining and Metallurgy and who has sufficient experience which is relevant to the styles 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Spicer is a consultant who is employed by Minesure Pty Ltd and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating to Underground Ore Reserves is based on information compiled by Mr Frank Greblo who is a member of the Australasian Institute of Mining and Metallurgy and who has sufficient experience which is relevant to the styles 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Greblo is a consultant and a full time employee of AMC Consultants Pty Ltd and consents to the inclusion in this announcement of the matters based on his information, in the form and context in which they appear.

The information in this report relating to Mineral Resources has been approved by Mr Paul Tan who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the various styles of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Tan is a full time employee of the Beadell Resources Ltd and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating to Urucum Underground, Tap AB Underground, Tap C open pit and Duckhead Open pit Mineral Resources is based on information compiled by Mr Marcelo Batelochi who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient exploration experience which is relevant to the various styles of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Batelochi is a consultant and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating to Urucum open pit and Tap AB open pit Mineral Resources is based on information compiled by Mr Brian Wolfe who is a member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the various styles of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Wolfe is a consultant and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

FORWARD LOOKING STATEMENTS

These materials include forward looking statements. Forward looking statements inherently involve subjective judgement and analysis and are subject to significant uncertainties, risks and contingencies, many of which are outside the control of, and may be unknown to, the company.

Actual results and developments may vary materially from that expressed in these materials. The types of uncertainties which are relevant to the company may include, but are not limited to, commodity prices, political uncertainty, changes to the regulatory framework which applies to the business of the company and general economic conditions. Given these uncertainties, readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, the company undertakes any obligation to publicly update or revise any of the forward looking statements, changes in events, conditions or circumstances on which any such statement is based.

APPENDIX 1
JORC CODE, 2012 EDITION – TABLE 1 REPORT TEMPLATE

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections)

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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for*	Across the main Tucano Trend which includes the Tap AB, Tap C and Urucum deposits, 13,926 Reverse Circulation (RC) holes have been drilled for 519,444m and 1,361 Diamond Drill Holes (DD) holes for 219,110 m. RC drilling was largely excluded from the Urucum North Underground resource estimate ,due to its higher level position in the deposit. Beadell drill hole collar locations were picked up by site-based authorized surveyors using a Total Station Leica 407. Downhole surveying was measured by the drilling contractors using a Maxibore II Downhole Survey Instrument for Diamond holes. Shallow RC holes were picked up at the rig's rod string using Total Station. In late 2013, the survey tool was changed to a Reflex Gyro instrument. Samples were sent to SGS Geosol in Belo Horizonte for analysis. Certified standards were inserted every 20th sample by Beadell to assess the accuracy and methodology of the laboratory. Field duplicates were inserted every 20th sample of diamond core to assess the repeatability and variability of the gold mineralisation. A blank standard was inserted at the start of every batch of approximately 150 samples. In addition the contract labs SGS Geosol also carried out their own internal standards and lab duplicates for each lot. Results of the QAQC sampling were assessed on a batch by batch basis and were considered acceptable. 1m RC samples were obtained by an adjustable cone splitter attached to the base of the cyclone (1.5kg – 6.0kg) and were utilised for both lithology logging and assaying. Diamond core was used for structural, geotechnical and density measurements as well as lithology logging and assaying. Core was orientated using a Reflex ACT III tool. HQ2 diameter diamond coring has been used through the

Criteria	JORC Code explanation	Commentary
	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 (e.g. submarine nodules) may warrant disclosure of detailed information.	less competent, near surface oxide material and later changed to NQ2 with the commencement of more competent oxide or fresh rock. The core has predominantly been sampled at 1m intervals, with some sampling on geological intervals (0.6m – 1.4m). Density measurements were done for both oxide and fresh whole core with the oxide being weighed before and after drying to determine wet SG, dry SG and moisture content. At the mine exploration sample preparation facility, core samples are dried at 105C, crushed to -8mm then to -2mm and split to 0.9-1kg before being pulverised to 1mm. This sample is quarter cut to between 200-400g before being pulverised to 95% passing 105µm. The final pulp is quartered again to achieve a sample of 100 - 200g and is sent to SGS laboratories in Belo Horizonte for fire assay. At the same preparation facility RC 1m samples are dried at 140C, crushed to -2mm (if aggregated) and riffle split to 1kg. The 1 kg sample is then pulverised to 1mm and quarter cut to between 200 and 400g. This sample is then pulverised to 95% passing 105µm and quarter cut to a 100-200g sample to send to SGS.
Drilling techniques	• *Drill type (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.).*	A 5.5'' diameter face sampling hammer was used for RC drilling. Diamond drilling in the resource area comprises HQ, HQ2, NQ and NQ2 sized core. Core orientations were completed using a Reflex Act III RD/NQ orientation tool.
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 core recovery was logged and recorded in the database, with no significant core loss issues occurring in the mineralised zones. The diamond drilling contract included penalty rates for poor core recovery to encourage drillers to maximise sample recovery. Average core recovery is 99% for the mineralised zones. Coreyard staff measure and record the recovery of the core shortly after it is received. This information is later used to adjust the drill contractor payment invoice. Diamond core was reconstructed on racks for orientation and marking. Depths are checked and measured against those marked by the drilling contractors on core blocks. RC samples were visually checked for recovery, moisture and contamination. The drilling contractor utilised a cyclone and cone splitter to provide uniform sample size. The cone splitter was cleaned at the end of every 3m rod and the cyclone cleaned at the completion of every hole. Sample recoveries for diamond and RC holes were high within the mineralised zones. No significant bias is expected.
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*	Lithology, alteration, veining, mineralisation, structure (foliation, bedding etc.), weathering, resistance (knife scratch test), recovery, RQD, density were all logged for the diamond core using Logchief software and saved in a SQL (Datashed) database. Whole core photographs were taken

Criteria	JORC Code explanation	Commentary
	metallurgical studies.	and all half-core was retained in a core yard for future reference. Lithology, alteration, veining, mineralisation and weathering were logged from the RC chips and stored in a SQL (Datashed) database. Chips from selected holes were also placed in chip trays and stored in a designated building at site for future reference.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*	All logging is qualitative except for density, recovery and RQD. All core photography has been completed shortly after being received at the core yard and always prior to cutting.
	• *The total length and percentage of the relevant intersections logged.*	All drill holes are logged in full.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	All core was cut in half onsite with a core saw or with a chisel in the case of clay/soft oxide. Half core samples for analysis were all collected from the same side. Where field duplicates are taken, the other half of the core is used as the duplicate sample. At the on-site sample preparation facility the half core sample is dried, crushed to -8mm, then to -2mm and split to approximately 1kg for pulverisation.
	• *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*	The RC drilling utilised a cyclone and cone splitter to produce samples in the 1kg to 6kg range. Once collected the sample is dried, crushed to -2mm and split at the site sample preparation lab down to approximately 1kg prior to pulverisation.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	The 1 kg sample is then pulverised to 1mm and quarter cut to between 200 and 400g. This sample is then pulverised to 95% passing 105µm and quarter cut to a 100-200g sample to send to SGS.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	Beadell has inserted its own QAQC samples within every batch as follows; Certified standards were inserted at every 25th sample and blanks at the start of every batch to assess the accuracy of the external laboratory (SGS), and field duplicates were inserted every 20th sample for diamond core to assess the repeatability and variability of the gold mineralisation. In addition the contract labs SGS Geosol and ACME also carried out their own internal standards, lab duplicates for each lot. The results of the field duplicates show an acceptable level of repeatability of gold analysis.
	• *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.*	Screen fire analysis was completed on several intersections where visible gold was observed in order to negate a coarse gold bias in the fire assay result.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Sample sizes (1kg to 6kg) at are considered to be a sufficient size to accurately represent the gold mineralisation based on the mineralisation style, the width and continuity of the intersections and the sampling methodology. Field duplicates of diamond core have routinely been collected to ensure monitoring of the sub-sampling quality. Acceptable precision and accuracy is noted in the field duplicates albeit the majority of these were outside the very

Criteria	JORC Code explanation	Commentary
		high grade zones.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	All gold assaying completed by external laboratories (SGS in Belo Horizonte and ACME laboratories) and using a 30g charge for fire assay analysis with an AAS finish. This technique is industry standard for gold and considered appropriate. Geophysical tools not used. Beadell has inserted its own QAQC samples within every batch as follows; Certified standards inserted at every 25th sample and blanks at the start of every batch to assess the accuracy of the external laboratory (SGS Geosol), and field duplicates were inserted every 20th sample in diamond core to assess the repeatability and variability of the gold mineralisation. In addition the contract labs SGS Geosol and ACME also carried out their own internal standards, lab duplicates for each lot. Each analysis batch (approx. 150 samples) is checked to ensure that the standards fall within the accepted levels of standard deviation. Where any standard assay exceeds 3 standard deviations or where more than one standard falls between 2 and 3 standard deviations, the entire batch is resubmitted for analysis.
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.*	The high grade intersections of core at Urucum have been observed by various visiting geological consultants. Very high grade intersections occur associated with pyrrhotite where visible gold is occasionally present. Twinned diamond holes have been undertaken at Urucum and at Tap AB. All geological logging information is entered directly into Logchief and synchronised with the Datashed database. Other field data (e.g. sampling sheets, downhole surveys etc.) are entered into excel spreadsheets formatted for Datashed importation. Lab assay reports are directly imported into Datashed along with all QAQC data and metadata. Data importation was done by Maxwell Geoservices staff under contract by Beadell Resources. In 2014 data entry into the Datashed Brazilian database commenced with geology site personnel. All data loading procedures have been documented by Maxwell Geoservices. Maxwell Geoservices has reported QAQC for the major deposits over a 5 year period as at 19th Oct 2017. Data below the detection limit is defined with a negative value, e.g. <0.01 = -0.01.
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.*	Beadell drill hole collar locations were picked up by site-based authorized surveyors using Total Station Leica 407, calibrated to a base station (expected accuracy of 20mm). Downhole surveying was measured by the drilling contractors using a Maxibore II Downhole Survey Instrument for diamond holes. Shallow RC holes were

Criteria	JORC Code explanation	Commentary
		picked up at the collar and 2 points on the rod string using Total Station (for dip and azimuth). 13 deeper RC holes were re-entered and downhole surveyed using Maxibore II. Maxibore II surveys were completed every 3m down the drill hole and the entire survey re-run after every 100m of drilling to check drill hole deviation and repeatability between surveys.
	• *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	The grid system is SAD 69 Zone 22N. Beadell Brasil Ltda Survey Staff generate high resolution, digital terrain model (DTM) from a Riegl VZ-1000 scanner. Scans are done on a weekly basis.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	The underground resources have been drilled up to a maximum 700 vertical metres below surface on a nominal 50 m x 50 m drill pattern, however due to unavoidable hole deviation in deeper holes the spacing is variable. Deeper inferred resources are at approximately 100 x 100 m spacing. Holes are generally angled either east or west to intersect the orebody. The data spacing and distribution is sufficient to demonstrate spatial and grade continuity of the mineralised domains to support the definition of Inferred, Indicated and Measured Mineral resources under the 2012 JORC code. Drill hole samples have been composited to a nominal 1 m interval.
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 majority of drilling is orientated with a 60 – 70 degree dip east west, which generally intersects the mineralisation at a reasonably high angle of intersection. Diamond drilling at Urucum has been from both east and west directions which is orthogonal to the consistent north-south strike of the mineralisation. Detailed structural logging of recent diamond drilling has been used to wireframe model the mineralisation.
Sample security	• *The measures taken to ensure sample security.*	Samples are securely sealed and stored onsite, until delivery to Macapa via the company contracted driver, who then also delivers the samples directly to airline's cargo dispatch facility for delivery to Belo Horizonte. Sample submission forms are sent with the samples to the laboratory and the laboratory emails a confirmation that the samples have been received along with a job number for tracking purposes.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	Geology audits and site visit were completed in 2012 and 2015 by independent consultants to review sampling procedures and QAQC practices. This visit concluded the sampling to be at an industry standard, and of sufficient quality to carry out a Mineral Resource Estimation.

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.*	All deposits with the exception of Duckhead and Urucum East are located on the 851.676/1992 mining concession centrally located within the northern state of Amapa, Brazil. The mining concession is owned by Beadell Brasil Ltda. The deposits are located on granted mining concessions which are regulated by Brazilian mining and environmental law. Duckhead is located on mining concession lease 858.079/14. Urucum East is located on MVR joint venture tenement 850.865/1987. Under an agreement with MVR in 2017, Beadell now owns a 100% interest in this property.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Beadell Brasil Ltda acknowledges the previous operator MPBA for the discovery of all deposits at Tucano.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The deposit setting is an orogenic, structurally controlled gold mineralising system hosted in Paleoproterozoic rocks. At Urucum, Tap C and Tap AB mineralisation occurs over a 7 km strike length and is associated with the subparallel intersection of a north-south shear zone and a BIF (Banded Iron Formation) unit which also hosts significant quantities of friable iron ore. Mineralisation at Duckhead is controlled by the intersection of steep east-west striking shear zones with a banded iron formation lithological contact to form steeply west plunging high grade shoots. The texture and mineralogy along the shear zone indicates high-temperature hydrothermal alteration, particularly silicification and sulfidation, bearing auriferous pyrite. Deep weathering is present in a majority of the deposits with high grade mineralisation extending right to the surface through a layer of colluvium several metres thick. The Urucum underground resource covers a strike length of approximately 800 metres down to a depth of approximately 500 metres below the open pit reserve showing a gold endowment of over 1,000 ounces per vertical metre. The lodes form continuous subparallel ore shoots hosted within an approximately 100 m wide Banded Iron Formation (BIF). Three main ore lode horizons have been defined by the drilling and are named Lode 1, Lode 2 and Lode 300 with each lode dipping sub-vertically and generally separated by 20-30 m. The average true horizontal width of each lode is 6 m. Continuous high grade shallowly plunging ore lodes are developed along mineralised shear zone hosts. The geometry and plunge of the ore shoots is interpreted to be controlled by gently plunging F2 fold hinges and more steeply dipping fault intersections. Gold mineralisation at Urucum is predominantly

Criteria	JORC Code explanation	Commentary
		stratabound to specific sheared lithological units within the BIF and is characterised by strong disseminated and shear fabric pyrrhotite sulphide. The strong association between gold and pyrrhotite results in a highly visual ore in fresh rock that is easily discernible from un-mineralised BIF and other waste rock.
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	Drill hole information has not been included because it is not Material to the resource and Reserve update. Individual drill hole results have been released in previous announcements.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Drill hole information has not been included because it is not Material to the resource and Reserve update. Individual drill hole results have been released in previous announcements.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true*	Drill hole information has not been included because it is not Material to the resource and Reserve update. Individual drill hole results have been released in previous announcements.

Criteria	JORC Code explanation	Commentary
	width not known').	
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.*	Drill hole information has not been included because it is not Material to the resource and Reserve update. Individual drill hole results have been released in previous announcements.
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.*	Drill hole information has not been included because it is not Material to the resource and Reserve update. Individual drill hole results have been released in previous announcements.
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.*	Other exploration information has not been included because it is not Material to the resource and Reserve update. Other exploration information has been released in previous announcements.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	All deposits remain open at depth. Resource extension drilling is currently in progress to locate and define extensions along strike to the Tap AB deposit. Recently there has been early stage success with the discovery of gold mineralisation at the Urso and Torres targets north and south of Tap AB respectively.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	The database was checked against the original raw data with respect to drill collar locations and down-hole surveys, and final drill hole depths. All data with respect to sample intervals (overlaps and duplicate records) has been verified. No issues were identified with the data.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Mr Tan is a member of The Australian Institute of Mining and Metallurgy and is a Competent Person who has visited this site on numerous occasions. In the opinion of the competent person, the drilling, sampling and mining practices used on site are of a high industry standard. Mr Wolfe, Principal Geologist and Director of International

Criteria	JORC Code explanation	Commentary
		Resolutions Pty Ltd, is a member of The Australian Institute of Geoscientists , is a Competent Person and has visited the Tucano Mine Site for a total of 3 days between 30 July and 1 August 2015. Mt Batelochi is a consultant Geologist for MB Soluções em Geologia e Mineração Ltda and is a Competent Person and has visited the Tucano Mine Site on numerous occasions.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	For both the Tap AB, Tap C, Urucum and Duckhead deposits, sectional interpretation of the geology was undertaken. Key lithological units were digitised by snapping to drill hole and then wire-framed into solids. This 3D lithological model was then used to identify major structures and help guide the plan and sectional interpretation of the gold mineralisation. The Tap C open pit model was estimated in 2015 and has been revised in 2016 taking into account new drilling information and an updated geological model. No mining occurred at Tap C during 2016 and 2017. Changes to the model affect the C3W and C3N areas of the Tap C deposit. These areas were modelled separately and then inserted into the 2015 model thereby overwriting the previous estimated blocks within these areas. The Duckhead geological model was completely rebuilt in 2016 using 10m spaced sectional interpretation and covered all known gold occurrences in the area. No further mining occurred at Duckhead in 2017. Detailed structural analysis of orientated core was used to aid in the structural interpretation of the Urucum underground lodes. This varied from previous interpretations where a larger envelope was modelled as part of the Urucum open pit resource estimate. The change to wire framing a tightly constrained lode as opposed to a broad through going envelope is considered to have had a significant effect on the mineral resource estimate transitioning from an open pit resource model to an underground lode estimate. The mineralisation at Urucum, while structurally emplaced, does tend to be stratabound being hosted within specific lithologies and along lithological contacts. Geology was used to guide the interpretation and orientation of the lode geometries. All Ordinary Kriged estimates have been constrained within hard boundaries defined by the manually interpreted and digitised gold mineralisation solids. Geological domains used to constrain the Multiple Indicator Kriged (MIK) grade estimation relating to the open pit resource estimation at Tap AB and Urucum were generated using a Categorical Indicator Kriging (CIK) approach based on a lower cut-off grade of 0.3g/t Au and a probability threshold of between 31-35%. Wireframes were generated from the probability estimates and were validated by visual inspection, volumetric assessment and statistical investigation. Domains were generated in this manner based on orientation plan interpretation. Lithological and weathering models and 3-D geometry of

Criteria	JORC Code explanation	Commentary
		mineralised structures. One minor domain within colluvium has been interpreted by section and has also been generated and coded to the block model however has not been used to constrain the grade estimate as grade continuity crosses lithological boundaries in places. In all models, the pegmatite intrusions, which are generally barren of mineralisation, have been used to deplete the mineralisation volume. All drill hole data with assayed gold grades have been used for the generation of the CIK mineralisation constraint. Data was composited to a 3m down hole length prior to undertaking the estimates. Individual mineralised structures have been interpreted on a sectional and plan basis and these have been used to guide the overall CIK orientations to ensure correct continuity and volume of mineralisation constraints. Utilisation of a CIK approach to generate the estimation domains includes a small percentage of below cut-off composites into the estimate. Assessing the amount of sub-grade material forms one of the criteria in assessing the selection of an appropriate probability grade shell. The shell is designed to reflect the broad continuity of both the overall geology and the grade continuity of the mineralised structures within the host metasediments.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	Gold mineralisation at Tap AB occurs over a 2.5 km strike length. The deposit contains both steep dipping to vertical and flat west dipping lodes. Width of mineralisation ranges from 2m to 30m. The Tap AB deposit is characterised by a deep weathering trough up to 300m deep with a sharp transition between oxide and fresh. Tap C lodes cover a strike length of 2 km and encompasses the C1, C3 and Gap mining areas. Lodes are predominantly sub-vertical and N-S striking but become moderately east dipping thin the northern part of C3. Typical lode widths are around 6m. Gold mineralisation at Urucum is over a 2.4 km strike length and is associated with the subparallel intersection of a north-south shear zone and a BIF (Banded Iron Formation). Gold mineralisation at Tap AB is over a 2.2 km strike length and is also associated with the subparallel intersection of a north-south shear zone and a BIF (Banded Iron Formation). The Urucum underground resource covers the northernmost end of the Urucum orebody in an area of approximately 1000 m strike by 600 m depth below the open pit Reserve. Three main ore lode horizons have been defined by the drilling and are named Lode 1, Lode 2 and Lode 300 with each lode dipping 80 degrees to the east and generally separated by 20-30 m. Individual lodes have an average true horizontal width of 6 m. Sulphide content ranges from 5% to 10% and is predominantly pyrrhotite.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	For the purpose of the 30th June 2017 Resource and Reserve updates, the upper sections of the Tap AB and Urucum deposit which were amenable to open pit mining have been modelled using Multiple Indicator Kriging (MIK). The lower parts of the deposit (underground component) were estimated using Ordinary Kriging (OK) within tightly constrained mineralised envelopes. For both the Underground estimations at Tap AB and at the south end of Urucum, a 0.5g/t nominal lower cut was used to undertake the wireframing. This was increased to 1.4g/t to define lodes in the Urucum North Underground OK model for the Underground Pre-Feasibility Study. **Tap AB & Urucum Open Pit MIK Models** The Mineral Resource estimate was generated via MIK with indirect lognormal change of support to emulate mining selectivity. Additionally, one domain within colluvium which is unsuited to grade estimation via MIK has been estimated by Ordinary Kriging as were several minor flat lying orebodies. Mineralised domain interpretation was completed as described above and approximates a 0.3g/t Au lower cut-off. The interpretation was coded to the drill hole database and 3m length composites were generated within the mineralisation boundaries. A series of indicator transforms were applied to the composites as determined by statistical evaluation and indicator semi-variograms were modelled for each cut-off. The semi-variograms were input in preparation for kriging of the indicator transformed data. Soft boundaries were applied to the kriging. A search neighbourhood was applied parallel to the strike and dip with radii of 50m, 50m and 15m in the strike, down dip and across strike directions respectively. Composite counts for the estimates were set at a minimum of 24 and a maximum of 32. In the case of the domain estimated by OK, a composite count of between 6 and 8 was applied. Any blocks not estimated in the first estimation pass were estimated in either a second or third pass with expanded search neighbourhoods and relaxed composite limits to allow the domains to be fully estimated. Extrapolation of the drill hole composite data is generally limited to approximately 50m down dip. Change of support via the indirect lognormal method has been applied to the indicator kriging results to emulate selectivity at the mining stage. Previous resource estimates have been via the Ordinary Kriging method making a direct comparison to the MIK difficult. Model reconciliation against past production indicates good performance of the model. The final grade tonnage curves have been compared to the global support correction using the Gaussian Discrete Model. The parent block size is 9mE x 20mN x 8mRL, with sub-celling to 3mE x 5mN x 4mRL for domain volume resolution. The parent block size was chosen based on estimation methodology and is a compromise based on the variable drill spacing over the dimensions of the deposit. The search ellipse was oriented with axes rotated parallel

Criteria	JORC Code explanation	Commentary
		to the mineralised bodies as previously described. Search ellipse dimensions were chosen based on the variogram orientation and overall ranges and also to encompass several drill holes up and down dip and several lines of drilling along strike. The geological model had defined domains for the oxide, transitional and primary mineralisation in addition to geological and structural zones. These domains were used as a guide when generating the grade shells to select sample populations for variography and estimation Top cutting of grades is not relevant in the context of MIK methodology and has only been considered in the case of the grade variogram used to calculate the change of support variance reduction coefficient. In the case of the OK estimates for Urucum grade has not been capped on the basis that no extreme outliers to the data were deemed present that would exert undue bias on the grade estimates. In the case of the OK estimates for Tap AB estimate the grade has been capped to values between 9 g/t Au and 20g/t Au depending on estimation domain. Validation of the block model included global comparison of the whole block model domain grades (etype) to the declustered input data and swath (profile) plots showing northing, easting and elevation comparisons. Visual validation of grade trends and metal distribution was carried out. Reconciliation of the recent production data against the model at the appropriate cut-offs indicates acceptable model performance. **Tap C Open Pit OK Model.** The 2015 resource Tap C model Ordinary Kriged estimations were modelled separately and imported into sub-blocked Surpac models. Blocks at parent cell resolution were defined and ordinary kriging was undertaken to estimate gold block grades within the individual lode wireframes. The estimated parent block centroids were then imported into a Surpac subblocked model with the same parent cell size and a reduced subcell size to maintain resolution of the gold estimate against the lode boundaries. For the Tap C estimation a 2m composite was used. Parent and subcell block dimensions employed were as follows; Parent Cell Model: 8m x 20m x 4m (x,y,z) Sub Cell Model: 2m x 5m x 2m (x,y,z) Block Au (g/t) grades are estimated by Ordinary Kriging (OK) performed using parent cells and samples within hard boundaries using the variography of Lodes grouped by variogram sectors. The key parameters of the estimation are chosen after several tests. A critical parameter is the number of composites to be used for the estimates and the best number for each sector. The choice was guided by optimising the slope of regression.

Criteria	JORC Code explanation	Commentary
		Kriging took place in three successive runs, the search radii are related to the semi-variogram ranges and the third run using an increasingly larger neighbourhood to fill in the blocks not estimated within the lode wireframes. The search ellipses are generally orientated in the same direction as the variogram's anisotropic axes. Typically, the search ellipse is divided in eight octants, and an optimum number of four data points per octant is sought (i.e. 32 data points in total). In the first run, a minimum of four data points (in total) is required for the block to be estimated. This condition is relaxed to one in subsequent runs. - 1st Neighbourhood represents the distance of 70 - 80 % of Sill, the distance of the main inflection of the semi-variogram, minimum number of samples 4, Maximum 32, octants search and a minimum of 2 drill holes to estimate a block. Blocks estimated in this search strategy were considered as MEASURED; - 2nd Neighbourhood represents the distance of 100% of Sill, minimum number of samples 2, maximum 16, octant search and a minimum of 2 drill holes to estimate a block. Restrictions were applied to the search radius for high grade values. Blocks estimated in this search strategy were considered as INDICATED; - 3rd Neighbourhood represents the search ellipsoid to estimate remain blocks, sectors North and South: U = 720; V = 240; W = 80; minimum of 1 Sample, maximum of 4. Restrictions were applied to the search radius for high grade values. Blocks estimated in this search strategy were considered as INFERRED. The 2017 revision of the Tap C model for the C3W and C3N areas was undertaken using Ordinary Kriging. Blocks were estimated directly within a Surpac sub-cell model using revised lode wire frames modelled to a nominal 0.3g/t cut off. A composite length of 2m was used. A number of lodes of similar orientation were grouped obtain a reasonable number of composites to undertake variography however estimations were carried out for individual lodes using only composites contained only within those lodes. Barren pegmatite sills cutting the lodes in the in the C3W and C3N areas were manually wire framed in order to be excluded during the compositing process. Later the pegmatite solids would be used to code zero grade to blocks within the model. The parent cell and sub-cell dimensions of the 2017 model remained the same as the 2015. Wireframes were filled in the first pass estimate to the ranges of the respective variograms for each lode group. A second pass with an expanded range was run to fill the mineralised wireframes and define the remaining inferred. In the C3N area multiple lodes are moderately dipping to the east, a search ellipsoid was orientated -50 degrees to the east with dimensions of 112m x 59m x 58m. In the C3W area lodes are flat west dipping, a search ellipsoid was orientated -10 degrees to the west with dimensions of 79m x 66m x 29m. A minimum of 3 samples and a maximum of 15 samples was used to estimate each block.

Criteria	JORC Code explanation	Commentary
		The revised areas of C3W and C3N were largely drilled out to a grade control spacing with limited drilling at depth. A classification based on average sample distance to the estimated block was used define the resource categories being; Measured; Average sample distance <20m Indicated; Average sample distance 20-50m Inferred; Average sample distance >50m. **Tap AB & Urucum Underground OK Models** For the 30 June 2017 resource estimate, the Urucum Open Pit and Underground resource has remained unchanged as there has been no mining or new drilling since 31st Dec 2016. The 31 Dec 2016 Tap AB Underground resource model was re-reported below the 30th June 2017 optimised pit shell for the 30th June 2017 Tap AB Underground Resource. The Tap AB underground model was estimated using 21 tightly constrained gold lode wireframes applying a 0.5g/t lower cut to undertake the wire framing. The Tap AB Underground database was cut off at the same date as the 31 Dec 3016 Tap AB MIK Open Pit Estimate. Model extents, parent cell size, lithological and weathering wireframes were also the same for both models, consequently, the density estimation for the Tap AB MIK Open Pit Model was also used in the Tap AB OK Underground Model. For both Urucum and Tap AB, blocks at parent cell resolution were defined and ordinary kriging was undertaken to estimate gold block grades within the individual lode wireframes using Isatis. The estimated parent block centroids were then imported into a Surpac sub-blocked model with the same parent cell size and a reduced subcell size to maintain resolution of the gold estimate against the lode boundaries. For the Tap AB and Urucum South Underground OK models, a 3m composite was used. For the Urucum North Underground model, a 1m composite was used. Parent and sub cell block dimensions employed for the Tap AB and Urucum block models are detailed below. **Urucum North Underground (PFS Model);** Parent Cell: 8m x 20m x 20m (x,y,z) Sub Cell: 1m x 5m x 2.5m (x,y,z) **Urucum South Underground;** Parent Cell : 9x x 20m x 8m (x,y,z) Sub Cell: 1.125m x 5m x 2m (x,y,z) **Tap AB Underground;** Parent Cell; 9x x 20m x 8m (x,y,z)

Criteria	JORC Code explanation	Commentary

Sub Cell: 1.125m x 5m x 2m (x,y,z)

Tap AB Underground Model

The semi-variograms were created for 6 groups combining the lode data. These were based on the geological and statistical affinities (distribution, mean and standard deviation) of the lodes.

A multi-search ordinary kriging strategy involved a three neighbourhood octant search, radii related to 80% of the variogram sill and the orientation of the individual lodes considered. A total of 21 lodes were estimated. These were separated by oxide and fresh domains if the volumetric percentage of the lesser had greater than 20% of the blocks. Estimation was undertaken using only composites within the lode wireframes and using the wireframe as a hard boundary. The following search neighbourhoods were used in the estimation;

1st Neighbourhood; Constraints of 3 consecutive empty octants, a minimum of 4 samples and 3 drill holes within the search area were applied to undertake the ordinary kriging estimation. A maximum search related to Azimuth 10NW-15NE; Dip 45-90 to N quadrants and a plunge of 10 N. Radii of 25-65m x 45-65m x 10-300m respectively were employed based on visual inspection of the semi-variogram and also several runs testing the search ellipsoid for adherence to the Nearest Neighbour Estimate and Swath Plots;

2nd Neighbourhood; A minimum number of 4 samples with a constraint of 4 consecutive empty octants within the search area was applied (2 drill hole minimum). A search ellipsoid of 50-130m x 90-130m x 20-60m was used following same orientation as the 1st Neighbourhood.

3rd Neighbourhood; A search range of 1000x1000x100m was employed to populate remaining blocks within the lode wireframe and a minimum of 2 samples was required to perform the estimation

Various top cuts were applied depending on the statistical distribution of gold within each lode or domain for each deposit. The top cut is a rounded value based on the tail of the Au log histogram and is generally around 98.5-99% of the grade distribution.

A summary estimation of domains, corresponding lodes and top cuts for the Tap AB Underground Resource is detailed below.

LODE	Top Cut	Azimuth	Dip	Var Group	Split OX/FR
lode10	9	10	-50	LODE10	Yes
lode11a	9	0	85	LODE6_11	No
lode11b	9	0	90	LODE6_11	No
lode12a	7	0	-85	LODE12	Yes
lode12b	No	10	-75	LODE12	No

Criteria	JORC Code explanation	Commentary				
		lode12c	5	0	-85	LODE12	No
		lode12d	15	0	85	LODE12	Yes
		lode14a	20	0	90	LODE14	No
		lode14b	80	15	-85	LODE14	Yes
		lode1a	3	-10	-85	LODE1_3_5	No
		lode1b	No	10	90	LODE1_3_5	Yes
		lode1c	7	10	-60	DIP45W	Yes
		lode3	20	5	90	LODE1_3_5	Yes
		lode4	18	0	90	LODE4	Yes
		lode5	25	0	90	LODE1_3_5	Yes
		lode6	9	-10	90	LODE6_11	Yes
		lode9a	10	0	-45	DIP45W	Yes
		lode9b	3	15	-45	DIP45W	Yes
		mlodes2a	8	0	-80	MLODES	Yes
		mlodes2b	8	5	90	MLODES	Yes
		mlodes2c	8	0	90	MLODES	Yes

Urucum North Underground (PFS) Model

At Urucum North Underground a 3 neighbourhood octant search was considered.

1st Neighbourhood; Constraints of 3 consecutive empty octants, a minimum of 4 samples and 2 drill holes within the search area were applied to undertake the ordinary kriging estimation.

A maximum search related to Azimuth 0N; Dip 80NE and plunge10N was used. Radii of 80m x50m x20m respectively were employed based on visual inspection of the semi-variogram and also several runs testing the search ellipsoid with number of estimated blocks, adherence to the Nearest Neighbour Estimate and Swath Plots;

2nd Neighbourhood; A minimum number of 4 samples with a constraint of 4 consecutive empty octants within the search area were applied (2 drill hole minimum). A search ellipsoid of 160m x100mx20m was used following same orientation as the 1st Neighbourhood.

3rd Neighbourhood; A search range of 1000m x 1000m x 100m was employed to populate remaining blocks within the lode wireframe and a minimum of 2 samples was required to perform the estimation

All lodes at were constrained within the tightly constrained wireframes defining gold mineralization using a 1.4g/t envelope.

At Urucum North Underground various top cuts were applied depending on the statistical distribution of gold within each lode or domain for each deposit. The top cut is a rounded value based on the tail of the Au log histogram and is generally around 98.5-99% of the grade distribution. A summary of top cuts applied is shown below;

South Lode 1	top cut 40 g/t
Central Lode 1	top cut 25 g/t
Minor Lode 1	top cut 25 g/t

Criteria	JORC Code explanation	Commentary

Lode 2	Uncut
Lode 300	Uncut
Minor Lodes	8-25 g/t

Urucum South Underground Model

At Urucum South Underground a 3 neighbourhood octant search was considered. Searches were based on the orientation of individual lodes being estimated.

1st Neighbourhood; Constraints of a minimum number of 4 samples, a maximum of 32, 8 sectors and a minimum of 3 drill holes around a 120° Spaced, 3D continuity were used in the estimation. The search ellipsoid employed was 35m x 30m x15 m.

2nd Neighbourhood; Constraints of a minimum of 4 samples, a maximum of 32, and 3 empty consecutive sectors (2 drill holes around a 120° spaced, 2D continuity) were used in the estimation. The search ellipsoid employed was 70m x 60m x30 m.

3rd Neighbourhood: A minimum of 1 sample, a maximum of 4 and a search ellipsoid of 500m x 500m x 100m (enough to estimate all blocks inside lodes) was employed.

At Urucum South Underground various top cuts were applied depending on the statistical distribution of gold within each domain for each deposit. The top cut is a rounded value based on the tail of the Au log histogram and is generally around 98.5-99% of the grade distribution. In general, top cuts ranged up to 20g/t with some of the minor lodes being left uncut.

At Tap AB Underground a 3 neighbourhood octant search was considered.

1st Neighbourhood:

A minimum of 4 samples and a maximum 4 composites per hole were used within the search area to undertake the ordinary kriged estimation. An additional constraint of 2 empty consecutive sectors (3 drill holes around a 120° spaced, 3D continuity) was used. The search ellipsoid employed was 35m x55m x10m. For Colluvium the search ellipsoid used was 30m x30m x 30m.

2nd Neighbourhood:

A minimum of 4 samples and a maximum 4 composite per hole were used within the search area to undertake the ordinary kriged estimation. An additional constraint of 3 empty consecutive sectors (2 drill holes around 120° spaced, 2D continuity) was used. The search ellipsoid employed was 70m x 110m x 20m and for colluvium search ellipsoid was 30m x 30m x30m.

3rd Neighbourhood:

Criteria	JORC Code explanation	Commentary
		A minimum of 1 sample and a search ellipsoid of 500m x 500m x 100m was employed to fill the remaining blocks within the wireframe. At Tap AB Underground, various top cuts were applied depending on the statistical distribution of gold within each lode or domain. The top cut is a rounded value based on the tail of the Au log histogram and is generally around 98.5-99% of the grade distribution. Most lodes had a top cut of less than 35g/t however the high grade 407 shoot (Tap AB2 Trough Lode) had a top cut of 98g/t applied. Tucano gold lode mineralisation contains considerable magnetite by-product associated with the BIF which forms a high quality and high grade concentrate when passed through the magnetic separation plant. Currently the magnetic separation plant at Tucano is on care and maintenance, while mostly oxide gold ores are being processed. However, future processing of Tucano fresh rock ore is likely to yield a high quality iron concentrate by-product. For the purposes of the gold resource and subsequent pre-feasibility study, no economic value will be attributed to the iron concentrate.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages were calculated using dry density.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	For Ordinary Kriged (OK) and Multiple Indicator Kriged (MIK) estimates a nominal 0.3g/t lower cut-off was used to interpret the boundaries of the lode mineralisation. For the OK models this increased to 0.5g/t below the limits of an open pit resource. In the case of the Urucum North Underground Resource used in the 2016 PFS, a lower assay cut off of 1.4 g/t was used to guide the wireframing the constraining lode envelopes. For the 30th June 2017 Resource statement, a 0.5g/t Au cut-off grade was used to report all Surface Mineral Resources in the main Tucano trend. The Duckhead deposit, which is a satellite resource, has been reported at a cut-off of 1g/t. All Underground Mineral Resources were reported at a cut-off of 1.2g/t.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may*	For the purpose of the 30th June 2017 Mineral Resources at Urucum, the following reporting constraints were used; The Urucum North Underground Ordinary Kriged Model has been reported for lodes below the 30 June 2017 pit design and north of the 99300mN Northing, representing the southernmost limit of the Urucum North Underground Model. Resources relating to the Urucum North Pre-Feasibility Study publicly reported at a cut-off of 1.6g/t are a subset of the total Urucum North Underground Resource reported at 1.2g/t.

Criteria	JORC Code explanation	Commentary
	not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The Urucum North underground scoping study defined several alternative underground mining methods. These were considered in the application of the lode wire framing and classification to ensure a minimum true horizontal width x grade was achieved. The Urucum South Underground Ordinary Kriged model has been reported below the Urucum $US1500 optimised pit shell and south of the 99300mN at a cut-off of 1.2g/t. Surface Resources reported from the Urucum Multiple Indicator Kriged (MIK) model have been reported north of 99300mN, within the Urucum reserve pit design and south of the 99300mN within the $US1,500 Urucum Optimised Pit Shell. Minor colluvium mineralisation occurring north of 99300mN and between the reserve pit design and US$1500 optimised pit shell has been included in the Urucum North Open Pit Resource. For the purpose of the 30th June 2017 Mineral Resources at Tap AB, the following reporting constraints were used; Tap AB Underground; reported below the $US1,500 optimised pit shell at a 1.2g/t cut-off. Minor oxide resources occurring below the $US1,500 optimized pit shell have been included with the Tap AB Underground Sulphide Resource. The Tap AB Open Pit Resource; reported entirely within the $US1,500 optimised pit shell at a cut-off of 0.5g/t. All pit designs and optimised pit shells used to constrain the Tap AB and Urucum resources were derived from optimisation work carried out on the Multiple Indicator Kriged (MIK) models for these deposits. The MIK models incorporate a degree of external dilution owing to the method of generation. Mining recovery factors are not considered. The OK resource estimates represent an undiluted resource model with no external dilution or mining recovery factors applied. The addition of dilution was applied by AMC as part of the Pre-feasibility study to determine mineable SMU blocks for the Urucum North Underground Project.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an*	Extensive metallurgical test work has been completed at Urucum by previous owners and Beadell during the DFS. Studies confirmed the free milling nature of the primary mineralisation and recoveries of 90% expected. In October 2016, 10 metallurgical samples (cut diamond drill core) were sent to SGS Geosol in Belo Horizonte for the purpose of determining the leaching kinetics at 3 grind sizes; 53µm, 75µm and 105µm. The results of the leaching tests at the 3 grind sizes showed a range of 88.9% to 96.1% for the extraction of gold after 24hrs of leaching at a 75um grind. An expansion of the CIL circuit is currently underway and

Criteria	JORC Code explanation	Commentary
	explanation of the basis of the metallurgical assumptions made.	on completion is expected to achieve a consistent grind size of 75um and an increased recovery of 93%.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfield project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	Both the mine and the processing facility have full environmental licensing in place for the open pit operation. An underground development of the Urucum orebody is considered to involve only limited additional environmental studies and regulatory permit addendums. Open pit mining is currently underway at Tap AB.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	All stratigraphic lithological domains were manually interpreted in cross-section and the built into inter-locking wireframes without gaps or overlaps. Cross-cutting late stage pegmatite dykes and sills were manually interpreted and wire framed. These were then used cut into the older lithological units and also to overprint the gold grade model with zero grade. An extensive database of fresh rock density measurements has been recorded at Tucano and has been used to estimate the density via OK estimation into the resource models. All modelled tonnages are estimated on a dry basis.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	**Tap AB & Urucum Open Pit MIK Models** Resource has been classified as Measured, Indicated and Inferred as per the guidelines of the 2012 JORC Code. The Mineral Resource classification of Measured is based on high confidence in the geological and grade continuity, together with sufficient drilling density to allow grade control to be carried out. The Mineral Resource classification of Indicated is based on good confidence in the geological and grade continuity, together with a drilling spacing of approximately 20 m x 20 m to 20 x 40m. Blocks not assigned a category of Measured or Indicated have been assigned a category of Inferred and the relative confidence in these resources may be considered low. The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ

Criteria	JORC Code explanation	Commentary
		mineralisation. The validation of the block model shows good correlation of the input data to the estimated grades. The Mineral Resource estimate appropriately reflects the view of the Competent Person. **Tap AB & Urucum Underground Resource OK Models** At Urucum North underground slope of regression was used to classify the resource into the following categories; Inferred = 0 – 0.5, Indicated = 0.5 – 0.85, Measured = 0.85 – 1.0. Lode 2 used Inferred 0 – 0.35, Indicated 0.35 –0 85, Measured 0.85 – 1.0. Several lodes were manually adjusted from Measured and Indicated to an Inferred classification on the basis of lower geological confidence and minimum true width x gram meter requirements. Urucum North Resources in the 1.2 -1.6g/t range were considered to be Inferred in the 30th June 2017 resource estimate. At Urucum South and at Tap AB Underground resources were manually adjusted to an Inferred classification on the basis of lower geological confidence and early stage of economic evaluation.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Pit MIK Mineral Resource Estimate at Tap AB and Urucum reflects work completed by International Resource Solutions, a consultant to Beadell. The Estimate has been internally reviewed by Beadell, and as such, the competent person is not aware of any external reviews or audits to date. For the Tap AB and Urucum underground models, swath plots were used for comparison of the kriged grade, sample mean grade, declustered mean, nearest neighbourhood grade and resource classification. A check of the resource classification was done using swath plots of the slope of regression. In all cases a reasonable correlation between samples and model blocks was observed in the measured and indicated categories. The gold lodes were reviewed against the database used in the estimation to visually check the estimation on a section by section basis. AMC consulting completed peer reviews of the Urucum North Underground Resource estimate as part of the Underground Pre-feasibility study.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion*	**Tap AB & Urucum Pit MIK Models** While the Mineral Resource Estimate has not been subject to assessment of accuracy and confidence using any geostatistical or probabilistic approach, the relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as Measured, Indicated and Inferred as per the guidelines of the 2012 JORC Code. A description of the basis of that classification is provided above. Factors that could affect the accuracy of the estimate

Criteria	JORC Code explanation	Commentary
	of the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	include selection of the constraining indicator grade shell and assumptions of mineralisation continuity, particularly in areas of thinly spread data. Drill hole pattern spacing is a major input factor to the accuracy and confidence level with a reduction in both as less drill holes become available within the estimation neighbourhood. The statement relates to global estimates of tonnes and grade with depletion for mining applied as at 30th June 2017. Reconciliation of available production data to the MIK models has been undertaken and results indicate an acceptable performance of the MIK models. **The Tap & Urucum Underground Resource OK Models** The Urucum underground resource model has been tightly constrained to the high grade lodes, representing a changed approach to the previous open pit resource estimate which encapsulated a large through going envelope along the entire length of the lode shear zone. The previous open pit resource estimate is considered to have incurred a high degree of smoothing as a result of the large envelope being used with Ordinary Kriging. The current underground resource model is considered to be a more accurate estimate of the high grade lode mineralisation. The statement relates to global estimates of tonnes and grade with depletion for mining applied as at 30th June 2017.

Section 4 Part 1 Estimation and Reporting of Tucano Open Pit Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Multiple Indicator Kriged (MIK) Resource models were estimated for the Urucum and Tap AB deposits. Tap C and Urucum East resources were estimated using Ordinary Kriging (OK) techniques. Ore Reserves are the material reported as a sub-set of the Mineral Resource, that which can be extracted from the mine and processed with an economically acceptable outcome. Reported Mineral Resources are inclusive of Ore Reserves.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Mr. Nigel Spicer is a Member of The Australian Institute of Mining and Metallurgy and is a Competent Person who has visited this site on several occasions. In the opinion of the Competent Person, the mining practices used on site are of a high industry standard. The last Tucano mine site visit undertaken was in February 2017.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	The Tucano project has been operating for 5 years. Factors used to estimate the Ore Reserves are based on a combination of actual historical data, forecast estimates and test work undertaken as part of the 2011 project

Criteria	JORC Code explanation	Commentary
	• *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	Definitive Feasibility Study (DFS).
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	For the purpose of the pit optimisation, cut-off grades were calculated using the following formula; Cut-off Grade Formula= Processing costs_(inclusive of additional ore mining costs) (Gold Price-Selling Cost)* (1-Royalty)*Processing Recovery The Cut off Grade (COG) for Urucum and Urucum East is estimated to be 0.7g/t Au and for Tap AB and Tap C is estimated to be 0.6g/t Au.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	Whittle pit optimisation software was used to generate the final pit shells and these formed the basis of the final pit designs used to derive the Ore Reserves. Mining is undertaken using conventional excavate load and haul open pit techniques. Mining of the oxidised material is predominantly free dig with drilling and blasting being required for the harder transitional and fresh rock. Geotechnical design parameters were originally derived as part of the 2011 DFS. These have been reviewed in light of actual mining exposures over that last four years by Mr. Peter O'Bryan of Peter O'Bryan and Associates who visited the project in May 2015. His opinion was that the parameters were still applicable. Pit designs have been undertaken in accordance with the recommended parameters. Measured and Indicated Mineral Resource material blocks were assigned revenue values to drive the pit optimisation shell. Inferred Mineral Resource material blocks were classified as waste for pit optimisation purposes. The mining model for Tap AB and Urucum used a 15% mining dilution in oxide material and 20% in fresh material to generate the diluted gold grades. A 10% mining loss was applied to the block tonnage of mineralised material. Mining dilution for Tap C was included in the re-blocked resource model with 10% allowance for ore loss. At the bottom of the pits a minimum mining width of 10m was allowed as being suitable for 40t all-wheel drive (AWD) articulated dump trucks and 60t sized excavators. In the upper levels, for example when undertaking a cut back on an existing pit, a minimum mining width of 10m was allowed. Inferred Resources were treated as waste for the estimation of Ore Reserves. The reporting of the Ore Reserves was done within the

Criteria	JORC Code explanation	Commentary
		latest detailed pit design based on a Whittle optimised pit shells using the cost parameters detailed under “Costs” section.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?*	Ore will be processed using conventional Carbon-in leach methodology through an existing processing plant. The process is well established and has been tested to be appropriate for the type of mineralisation. The plant has been operating effectively five years. Deleterious elements are known to occur in trace amounts at some locations in the form of "preg robbing" graphitic schist. This material does not exist within any part of the existing pit designs. The gold recoveries for this Ore Reserve were based on actual recoveries of oxide ore from the existing processing plant which has been processing similar types of ore for five years. Metallurgical recoveries for fresh ore are based on the test work undertaken during the compilation of the project 2011 DFS and also the results of actually processing small parcels of fresh ore. The ores at the Tucano have high metallurgical recoveries. All ores are free milling and the metallurgical recovery has been estimated at 93% for all ore types.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	The waste rock characteristics at Tucano have been evaluated via kinetic testing and indicated no adverse impacts. Tailings dams with a high percentage of sulphide material will remain in a saturated state post mining operations. Identified waste rock with ARD potential will be encapsulated in the waste dumps by non ARD potential oxide material that has a high clay content. The only area pertaining to this is at the Urucum pit. The same rock types which present at Duckhead were the subject of the above mentioned testing and no adverse conditions were the result of this study for these rock types. The Duckhead mineralisation is predominantly oxide in nature. All statutory approvals are in place.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The Tucano mine site is an established mining operation with an operating process plant including single stage crushing, Semi autogenous grinding (SAG) facility, Carbon in Leach (CIL) circuit and a conventional elution circuit with electro-winning plating with final site production of dore bars. The process plant surface foot print is fully established, including a ROM pad and three tailings storage facilities that are expanded yearly for future capacity. The Administration facility, mobile maintenance shop areas are fully established. This includes facilities for administration, support services, engineering, geology, mine planning and mining maintenance and preparations. The mobile maintenance workshop facility is sized and tooled for the fleet type and size, including wash bays, fueling and services bays. The mine site road infrastructure is fully established to

Criteria	JORC Code explanation	Commentary
		access the current mining areas and this is expanded as required to access new open pit areas. The process plant power is sourced from diesel powered generator sets. The remaining facilities are supplied from the State power grid. Negotiations are nearing completion to change the plant power supply to wholly State power in the near future. Mining operations commenced at Duckhead in August 2012 with existing infrastructure and workforce in place to mine the deposit. Mining at Urucum, Tap C, Tap D and Tap AB have been in operation since mid-2000. The mine site has camp facilities for 100 occupants, mostly senior staff. The workforce lives in three local towns that are within a 30- 40 minute commute by bus each way. The company provides bus transportation for the workforce.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	The operating costs for the 3.6 Mt/y plant throughput, as used for this Ore Reserve, were calculated based on the actual unit cost realised in 2016 and budgeted costs for 2017 calculated in Brazilian Real (BRL). The operating costs are based on an exchange rate of US$1.0 = BRL$3.25. The exchange rate was not escalated for costs due to the predominance of opex costs denominated in BRL not affected by US$ exchange rate changes. The gold selling price of US$1200/oz and the exchange rate of US$1.0:BRL$3.25 was designated by Beadell Resources Ltd (BRL). The quality of the Dore bars is not subject to penalty charges. An allowance of 2.0% has been allowed for State and community royalties. Mining costs were estimated using current contract mining costs, escalated for Rise and Fall in accordance with the Mining Contract. At Duckhead operating cost assumptions are based on actual mining, processing and general & administration costs as derived from the main operation. There are no deleterious elements to be considered. Transport charges are contract values. Gold refining charges are contract values.
($Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Gold revenue for the Whittle pit optimisations was US$1,200 per troy ounce gold. A 2.0% royalty charge was deducted from this base revenue as selling costs. A US$ 0.98 per troy ounce charge was used for selling and refining charges. Ore Reserves have been reported from within open pit designs based on a revenue of US$1,200 at an exchange rate of US$1.0 = BRL3.25.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the*	Gold is a readily tradeable commodity subject to well known market conditions.

Criteria	JORC Code explanation	Commentary
	basis for these forecasts. • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	Whittle optimisation estimated the NPV for the optimum pit shells using a 5% discount rate. No allowance was made for inflation. All open pits were optimised and designed individually and have not yet been subject to a combined detailed production schedule for life of mine to produce a detailed NPV financial model.
Social	• *The status of agreements with key stakeholders and matters leading to social license to operate.*	All necessary agreements are in place.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the Reserve is contingent.*	All necessary legal and statutory approvals are in place for the Tucano operation.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Measured Mineral Resources within the final pit designs that were flagged as ore, above the cut-off grade, in the Resource block model were classified as Proved Ore Reserves. Indicated Mineral Resources within the final pit designs that were flagged as ore, above the cut-off grade, in the Resource block model were classified as Probable Ore Reserves. In the opinion of the Competent Person the estimation process undertaken represents a reasonable estimate of the Ore Reserves.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	No external audits of Mineral Resources or Ore Reserves have been undertaken.
Discussion of relative accuracy/	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure*	The reserve derived from the Tap AB 30th June 2017 MIK model has been reconciled for the period July to September 2017 and exhibits a close correlation within an expected level of variation.

Criteria	JORC Code explanation	Commentary
confidence	*deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the Reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	
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Section 4 Part 2 Estimation and Reporting of Urucum Underground Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The Urucum North UG Resource (PFS), based on Measured, Indicated and Inferred Mineral Resources totals 4.76 Mt @ 3.76 g/t (575,000 Oz), based on a cut-off grade of 1.6 g/t Au and constrained below open pit design (des_uru_nth_march_a2016.dxf – dated 11th March 2016) and north of 99300 mN. The Measured and Indicated Mineral Resource used to convert to Probable Ore Reserves totals 2.84 Mt @ 4.27 g/t (389,000 Oz). This Measured and Indicated Mineral Resource converts to: 2.97 Mt @ 3.61 g/t (345,000 Oz) of Probable Ore Reserves.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken*	The Competent Person visited Urucum North site in November 2015.

Criteria	JORC Code explanation	Commentary
	indicate why this is the case.	
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	The Urucum UG Pre-Feasibility Study was completed in 2016.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	The cut-off grade for estimation of underground Ore Reserves is 1.6 g/t Au. This cut-off grade was based on an incremental mining and processing cost of US$50/t, metallurgical recovery of 90% and a gold price of US1,120/oz. AMC has undertaken sufficient design, scheduling and costing work to test the effect of increasing the COG above 1.6 g/t Au. This work indicates that the low grade stopes (between 1.6 and 2.0 g/t Au add value to the overall project economics, partially because of already expensed "fixed costs" and already costed development that is required to access higher grade stopes
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* *The mining dilution factors used.* *The mining recovery factors used.* *Any minimum mining widths used.* *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*	Two mining methods have been adopted for the study, namely Benching and Up-Hole retreat. Sill pillars will be recovered using the Up-Hole retreat method. All 3 methods are considered to be standard underground methods and are commonly employed in underground mines in Australia and elsewhere. The underground Ore Reserves cover a strike length of 800 m and are planned to be accessed from 2 trucking declines. Ore will be mucked from stopes using Load Haul Dump (LHD) units. Ore will be trucked to surface using underground articulated trucks. Geotechnical parameters have been applied based on geotechnical studies based on diamond drill-holes specifically logged for geotechnical purposes. Stope shapes were generated using Mineable Shape Optimizer (MSO) module from Datamine Studio mine planning package. The MSO programme ensures that each stope generated has a grade greater than the 1.6 g/t COG. Stopes are based on a height of 20 m (inclusive of ore development) and 25 m along strike. A 0.5 m dilution skin was assumed for the HW and FW side of the stopes making the total dilution 1.0 m in width. Ore losses for the Benching method were assumed to be 8%. Ore losses for the Up-Hole retreat method were assumed to

Criteria	JORC Code explanation	Commentary
	The infrastructure requirements of the selected mining methods.	be 14%. Ore losses for the recovery the sill pillars, were assumed to be 35%. Sufficient scheduling was undertaken as part of the PFS to determine the preferred extraction sequence. Sufficient economic modelling was undertaken as part of the PFS to determine that the underground mine would be economic. During the above process, Inferred Mineral Resources were excluded from mine schedules and economic valuations to validate the economic viability of the Ore Reserves.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the Ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?*	A 3.5 Mtpa processing facility currently exists at Tucano. A processing recovery of 90% has been assumed in the PFS. Recoveries are based on various metallurgical studies of the Tucano ore supported by actual recovery data from current mining and processing of the Urucum orebody in the open pit.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Urucum Underground is located on an active and fully permitted mining concession. Permitting is required to develop an underground mine on the mining concession which currently is for the open pit. Sufficient sites for waste rock dumps exist at the site. Sufficient tailings storage facilities exist for production up to and including Year 2018. Beadell plans to build additional storage capacity for production beyond Year 2018 in future years as required.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Access to site is well established as open pit mining operations commenced in 2012. This access comprises sealed road from the port town of Macapá towards Porto Grande, unsealed road from Porto Grande to Pedra Branca do Amapari, unsealed road from Pedra Branca do Amapari to site developed specifically for the project. The journey from Macapá takes approximately 4 hours by car during the dry season and up to 6 hours during the wet season. Power and water supplies exist at the site.

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		PFS assumes a long term power cost of US$0.12/kWhr. Although this cost has not yet been secured, all correspondence with relative authorities indicates this cost to be accurate. Workshops, messing facilities and offices already exist and service the Tucano open pits. Additional workshops, change rooms and offices are planned for the underground project.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private.*	Capital infrastructure cost estimates have been based on budget quotations from suppliers and quotations sourced by AMC for Urucum UG as well as for other projects. Labour rates have been based on 2014 rates sourced by Beadell Resources. Operating cost estimates were developed by AMC from first principles, assuming contractor mining with the contractor leasing the mobile equipment fleet. A 10% contractor margin has been included in the costs. Benchmarked costs and productivities were also used in the cost model. Processing and General and Admin costs forecasted at US$17/t have been assumed in the PFS. 2% Royalty costs included in the cash flows and economic assessment.
$Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	A gold price of US$1120 has been used as the revenue basis.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	Gold is an internationally sought commodity.
Economic	*The inputs to the economic analysis to produce the net present value*	Financial modelling of the Urucum UG project, prepared by AMC Consultants Pty Ltd using inputs consistent with the Ore

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	(NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	Reserve estimate, indicates the project is economically viable with a positive Net Present Value (NPV). The NPV is the discounted earnings before interest, tax, depreciation and amortisation. A 5% discount rate has been used in NPV calculations. Sensitivities indicate that the gold price needs to fall to around US$950/Oz before the project delivers a zero NPV value.
Social	*The status of agreements with key stakeholders and matters leading to social license to operate.*	Beadell has an open pit workforce in the order of 500 personnel with workplace agreements and a long history of local community and government support. The development of an underground operation will require an additional workforce, however is considered to be an accretive satellite type expansion of the open pit operation that will be well supported by local municipalities and state governments due to the job opportunities and royalties it would provide.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the Reserve is contingent.*	The Urucum Underground Ore Reserve is located entirely on Beadell's 100% owned active mining concession 851.676/92 which also contains the Tucano Gold plant which will be used to process the Urucum underground ore in the future. This mining concession has all current permitting in place for open pit mining and processing and will need to be amended to include underground mining in the mining concession.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	The Ore Reserves consist of 100% Probable Ore Reserves with 9% of Probable Ore Reserves derived from Measured Mineral resources. The Competent Person is satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The Ore Reserve estimate is a maiden estimate for this deposit. No external review or audit of the Ore Reserve has been undertaken.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the*	• The confidence in the Ore Reserve is reflected by the classifications shown above. • A more accurate estimate (Proven Ore Reserve) is likely once underground ore development is in place, leading to a more accurate assessment of ore grades, tonnages and

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	Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the Reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	geotechnical conditions. • Urucum UG cost estimates are considered to be not better than +25% based on the accuracy of the PFS. The confidence of these estimates will improve as feasibility study work and contractor discussions/negotiations get underway.