**ASX ANNOUNCEMENT** **31 March 2016**
**ASX Code: BDR**

# POSITIVE URUCUM UNDERGROUND PRE-FEASIBILITY STUDY

Beadell Resources Limited ("**Beadell**" or "the **Company**") is pleased to release positive results from the Pre-Feasibility Study ("PFS") of its Urucum North underground project ("Urucum UG"), which is part of the 100% owned Tucano Gold Mine, located in North Eastern Brazil. The PFS was compiled by AMC Consultants Pty Ltd.

## Key Highlights

| | |
|---|---|
| • Underground Probable Ore Reserve | 2.97 million tonnes @ 3.61 g/t for 344,500 ounces |
| • Total recovered ounces | 310,000 ounces |
| • Cash Costs | US$714 per ounce |
| • AISC | US$825 per ounce |
| • Initial Life of Mine ("LOM") | 7 - 8 years |
| • Gross revenue | US$347 million |
| • Pre-production capital (Capex and Opex) | US$18.1 million |
| • LOM Sustaining Capex | US$34.3 million |
| • Pre-tax $NPV_{5\%}$ | US$49 million |
| • Payback period | 4 years |
| • Pre-tax IRR | 30% |
| • PFS study accuracy | ±25% |

The Company is very encouraged by the Urucum UG PFS results. Urucum UG is the only deposit on the Tucano mining lease that has been targeted for an underground resource. The results provide a pathway to future underground development and a roadmap for future deep drilling along the whole Tucano trend. All Tucano mineralisation remains open at depth.

The stated results of the PFS are based on the Measured and Indicated Mineral Resources re-estimated to take into account a re-optimisation and re-design of the Urucum North open pit.

Future deeper drilling will be aimed at upgrading the Inferred Mineral Resources (1.93 million tonnes @ 3.01 g/t for 186,000 ounces) to Measured and Indicated Mineral Resources and ultimately conversion to Ore Reserves, as well as continuing to explore the mineralisation at depth.

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The updated Urucum UG Mineral Resource totals 4.76 million tonnes @ 3.76 g/t for 575,000 ounces across all resource categories. Ongoing infill drilling has increased confidence of the distribution of high grades in the upper lodes. Additional drilling is planned to continue defining this developing high grade trend.

The Company believes there is good potential to further expand the Urucum UG Mineral Resource proximal to areas of capital development contemplated by the PFS. A number of these target areas will be tested during the 2016 drilling campaign.

## Next Steps

The 2015 year end resource/reserve statement for the Tucano project will be released shortly. Following this, the Company will complete a revised life of mine plan for Tucano, based on optimisations that are aimed at maximising cashflow and profit rather than gold production and throughput. The results of these optimisations will shape the open pit mine plan going forward at Tucano, which in turn, will drive the timing of the next steps in scheduling potential Urucum UG development.

Included in the PFS pre-production capital is an amount of approximately US$6 million of pre-production development expenditure which, dependent upon the timing of any underground development and future mine plan in the Urucum North open pit, may not need to be spent in its entirety, or at all. Any saving realised here positively impacts the NPV. The PFS also includes a contingency of US$13 million in operating costs, which will be more accurately estimated and firmed up, during the Definitive Feasibility Study (DFS) stage.

Simon Jackson, CEO and Managing Director said “We are pleased that the initial PFS results show a positive NPV and strong return and indicate that underground development at Urucum North is feasible. There are many moving parts in play at Tucano as the new management team completely reconstructs an open pit mine plan going forward coupled with a review of the optimum throughput for the Tucano mill as we move towards 2017. The result of the PFS will feed into those calculations, provide us with timing of the DFS study and ultimately lead to a potential underground development decision.”

## Sensitivities

NPV and IRR sensitivities to gold price (US$1,000 – US$1,400 per ounce) for Urucum UG, based on the Underground Ore Reserves, are indicated in Figure 1.

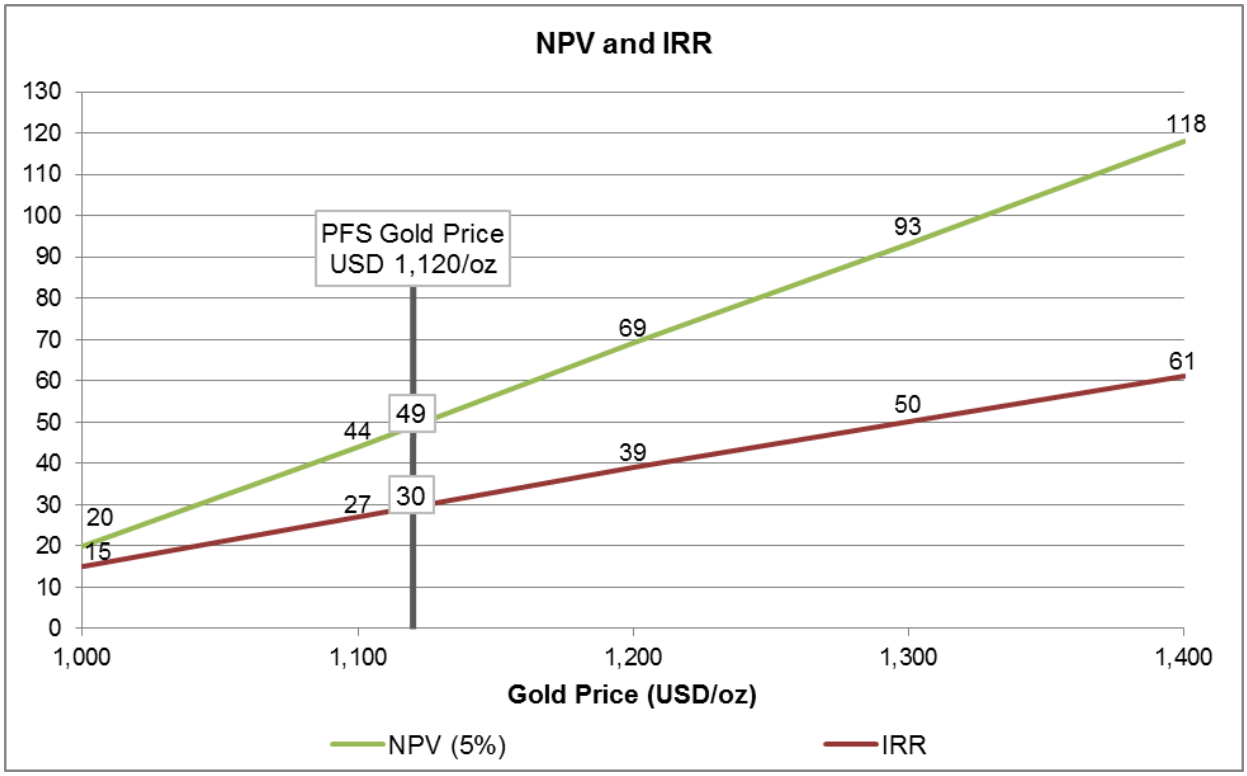


Figure 1. Urucum UG NPV & IRR with Varying Gold Price

## Significant Assumptions used in PFS

The PFS initially considered the location of all Measured, Indicated and Inferred resources above cut-off as mineral inventory to determine the overall mine layout and development. Only Measured and Indicated resources are included in the design and schedule and have been reported here as the Probable Reserve. Key assumptions used in the PFS are;

- Twin decline development from a single portal (refer Figure 2);
- North and South exhaust rises;
- Two long hole open stoping mining methods proposed (uphole retreat mining in upper northern levels and downhole benching in the remainder);
- Cut-off grade of 1.6 g/t used for estimating mining inventories;
- Mining inventory based on Measured and Indicated resources only;
- Metallurgical recovery of 90%;
- Gold price of US$1,120 per ounce;
- Brazilian Real/US$ exchange rate of 3.8:1;
- Government royalties 2%; and
- Assumes contract mining with associated equipment lease amortisation.

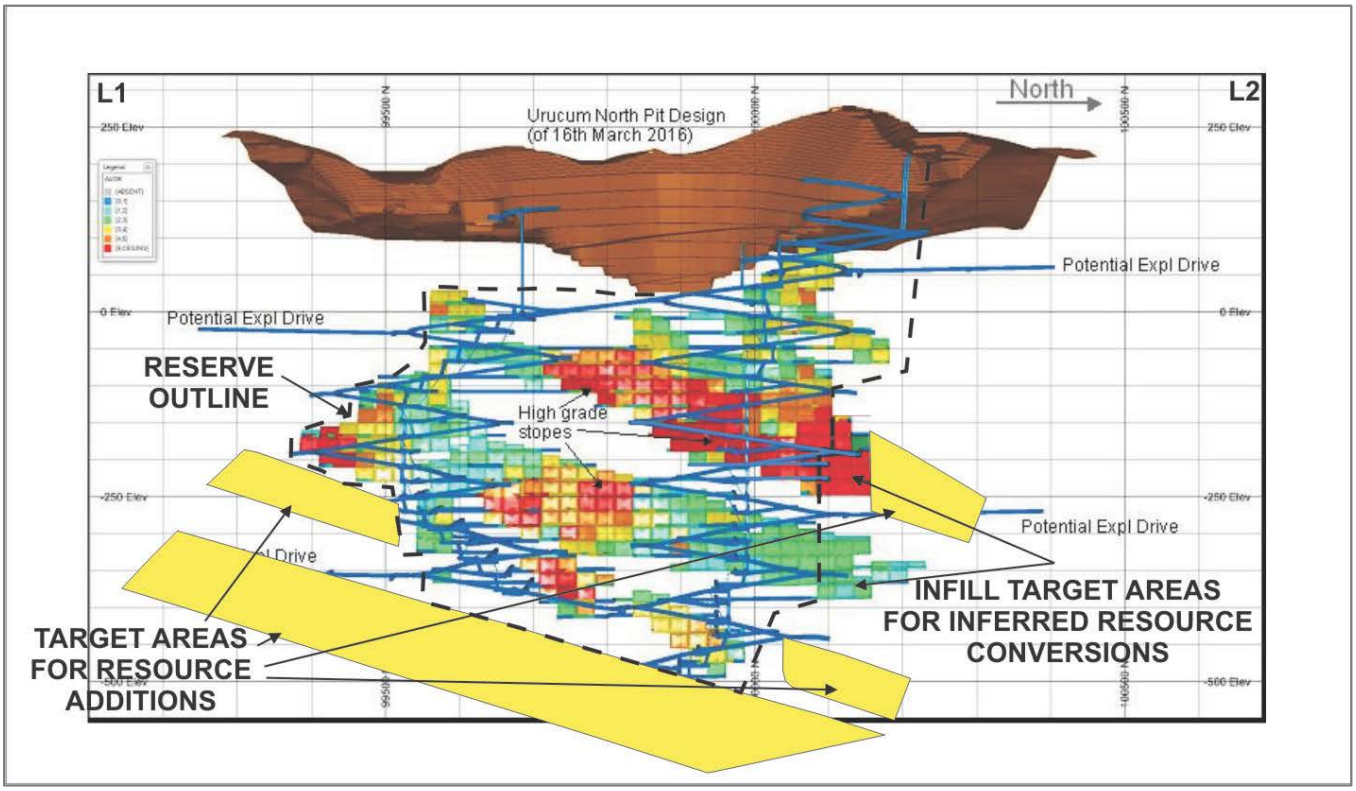


Figure 2. Urucum UG Long-Projection Showing PFS Stopes and Underground Development

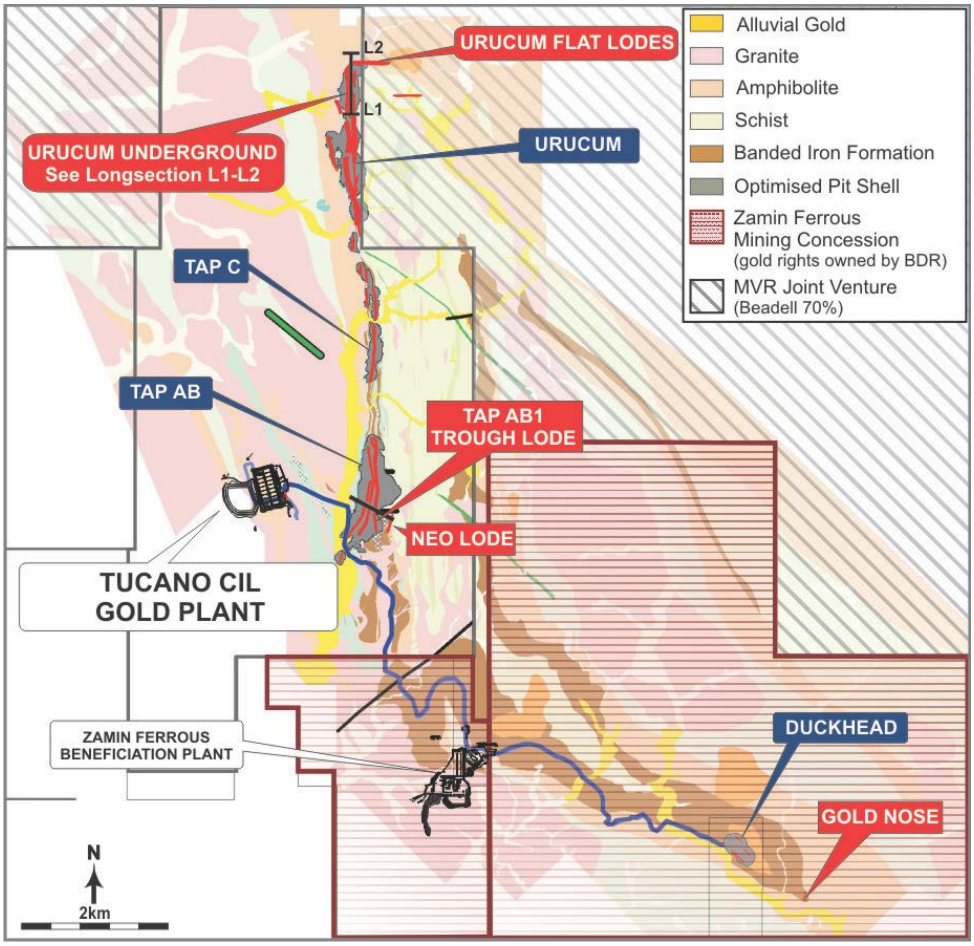


Figure 3. Mining concession plan

### Table 1: Ore Reserves

The following table summarises the Urucum UG Ore Reserves, estimated as part of the PFS.

| Brazil | Proved Ore Reserves | | | Probable Ore Reserves | | | Total Ore Reserves | | | Cut off |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Tonnes ('000) | Grade g/t Au | Ounces ('000) | g/t Au |
| Urucum Underground | - | - | - | 2,972 | 3.61 | 345 | 2,972 | 3.61 | 345 | 1.60 |

See Appendix 1 for JORC Code section criteria

### Table 2: Mineral Resources

The following table summarises the Urucum UG resources that have been used in the PFS. These resources are limited to the PFS study area that falls below the Urucum North open pit design, recently re-optimised and re-designed (March 2016 - see Figure 1) and do not include additional resources that occur in the southern half of the 2 km long Urucum mineralisation, due to limited drilling coverage in this area and will be released in the annual resource and reserve update to be reported shortly.

The Urucum UG Mineral Resource, as presented on 17 September 2015, has been re-estimated, taking into account the re-optimisation and re-design of the Urucum North open pit. Details of the re-estimated mineral resource are presented in Table 2 below and Appendix 1.

| Brazil | Measured | | | Indicated | | | Inferred | | | Total | | | Lower |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Tonnes ('000) | Grade g/t Au | Ounces ('000) | Cut off g/t |
| Urucum Underground | 258 | 4.09 | 34 | 2,578 | 4.28 | 355 | 1,925 | 3.01 | 186 | 4.76 | 3.76 | 575 | 1.6 |

See Appendix 1 for JORC Code section criteria

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### Competency Statement

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 is based on information compiled by Mr Marcelo Batelochi who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient mineral resource estimation 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.

### 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.* | The deposit was drilled with Reverse Circulation (RC) 148 holes for 7,817m and Diamond Drill Holes (DD) 161 holes for 52,061m. RC drilling was largely excluded from the underground resource estimate due to its higher level position in the deposit.<br>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 DD 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 for use in the drill string. |
| | • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | 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.<br><br>Results of the QAQC sampling were assessed on a batch by batch basis and were considered acceptable.<br><br>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. HQ diameter diamond coring has been used through the less competent, near surface oxide material and later changed to NQ with the commencement of more competent oxide or fresh rock. The core has been 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. |
| | • *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 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.* | 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 quartered 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.<br>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. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***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 and NQ sized core. Core orientations were completed using a Reflex Act II RD/NQ orientation tool. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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 includes penalty rates for poor core recovery to encourage drillers to maximise sample recovery. Average core recovery is 99% for the mineralised zones.<br><br>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.<br><br>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.<br><br>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 metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | 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 an SQL (Datashed) database. Whole core photographs were taken 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 Datashed. Chips from selected holes were also placed in chip trays and stored in a designated building at site for future reference.<br><br>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.<br><br>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 (HQ & NQ) 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. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *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.<br><br>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. |
| | • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | Beadell has inserted its own QAQC samples within every batch as follows; Certified standards and blanks were inserted at every 25th sample to assess the accuracy and methodology of the external laboratory (SGS), and field duplicates were inserted every 20th sample 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.<br><br>The results of the field duplicates show an acceptable level of repeatability of gold analysis.<br><br>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. |
| | • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | |
| | • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* | 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. |
| | • *Whether sample sizes are appropriate to the grain size of the material being sampled.* | 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 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.* | 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. |
| | • *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.* | Geophysical tools not used. |
| | • *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* | Beadell has inserted its own QAQC samples within every batch as follows; Certified standards and blanks were inserted at every 25th sample to assess the accuracy and methodology of the external laboratory (SGS Geosol), and field duplicates were inserted every 20th sample 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.<br><br>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 |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *established.* | 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.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *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.<br><br>Twinned diamond holes have been undertaken at Urucum.<br><br>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.<br><br>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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | 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).<br><br>Downhole surveying was measured by the drilling contractors using a Maxibore II Downhole Survey Instrument for DD holes. Shallow RC holes were picked up at the collar and 2 points on the rod string using Total Station, 13 deeper RC holes were re-entered using a Rede Diamond Rig and Downhole Surveyed using Maxibore II. Maxibore II surveys were completed every 3m down the drill hole.<br><br>The grid system is SAD 69 Zone 22N.<br><br>Beadell Brasil Ltda Survey Staff generate a monthly digital terrain model (DTM) from Total Station surface pickups of the deposit. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *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.<br><br>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.<br><br>Drill hole samples have been composited to a nominal 1 m interval for the resource calculation. |
| ***Orientation of data in relation*** | • *Whether the orientation of sampling achieves unbiased sampling of* | The majority of drilling is orientated with a 60 – 70 degree dip east west, which generally intercepts the mineralisation at a |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***to geological structure*** | *possible structures and the extent to which this is known, considering the deposit type.*<br><br>• *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.* | reasonable high angle of intersection.<br><br>Diamond drilling has been drilled at Urucum from both east and west directed which is orthogonal to the consistent north-south strike of the mineralisation. Detailed structural logging of recent diamond drilling has been used to carefully wireframe the dip of 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 airlines 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.*<br><br>• *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.* | Urucum is 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.<br><br>Urucum is located on granted mining concessions which are regulated by normal Brazilian mining and environmental law. |
| ***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 the Urucum deposit. |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | The Urucum orebody is an orogenic structurally controlled gold mineralising system hosted in Paleoproterozoic rocks.<br><br>Gold mineralisation at Urucum occurs over a 2 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 host significant quantities of friable iron ore. The texture and mineralogy along the shear zone indicates high-temperature hydrothermal alteration and sulfidation.<br><br>The Urucum underground resource covers a strike length of approximately 800 m down to a depth of approximately 500 m 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 |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | 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 subvertically and generally separated by 20-30 m (Figure 2). The average true horizontal width of each lode is 6 m.<br><br>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.<br><br>Gold mineralisation at Urucum is predominantly 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 unmineralised waste. |
| ***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:*<br>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *hole length.*<br>• *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.*<br>• *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.*<br>• *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*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is* | 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 |
|---|---|---|
| ***lengths*** | *known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').* | |
| ***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).*<br>• *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. The timing of Infill and extension drilling at Urucum underground will be determined at completion of the Urucum Underground prefeasibility study. |

### *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.*<br>• *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.<br>All data with respect to sample intervals (overlaps and duplicate records) has been verified.<br>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.*<br>• *If no site visits have been undertaken indicate why this is the case.* | Mr Batelochi 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. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Geological interpretation*** | • *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | 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 wireframed as part of the Urucum open pit resource estimate. The change to wireframing a tightly constrained lode as opposed to wireframing a broad through going envelope is considered to have had a significant effect on the mineral resource estimate going from an open pit resource model to an underground lode estimate.<br><br>The mineralisation at Urucum, while structurally emplaced, does tend to be stratabound being hosted in specific lithologies and along lithological contacts. Geology was used to guide the interpretation and orientation of the lode geometries. |
| ***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 Urucum is over a 2 km strike length and is 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<br><br>Individual lodes have an average true horizontal width of 6 m. Sulphide content ranges from 5% to 10% and is predominantly pyrrhotite. |
| ***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.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the* | Urucum has been modelled separately and imported into sub-blocked Surpac models. Blocks of 8m x 20m x 20m (x,y,z) were defined and ordinary kriging was used to estimate gold block grades within individual lode wireframes. The estimated block centroids were then imported into a Surpac subblocked model with the same parent cell size and a subcell size of 1 x 5 x 2.5m (x,y,x) to maintain resolution of the gold estimate against the lode boundaries.<br><br>At Urucum Underground a 3 neighbourhood octant searches were considered.<br><br>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.<br>A maximum search related to Azimuth 0N; Dip 80NE and plunge10N was used, Radii of 80x50x20m respectively were employed based on visual inspection of the semivariogram and also several runs testing the search ellipsoid with number of estimated blocks, adherence to the Nearest Neighbour Estimate and Swath Plots;<br><br>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 160x100x20m was used following same orientation as the 1st Neighbourhood.<br><br>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<br><br>All lodes at were constrained within the tightly constrained |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | wireframes defining gold mineralization using a 1.4g/tenvelope.<br><br>At Urucum 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;<br><br>South Lode 1 top cut 40 g/t<br>Central Lode 1 top cut 25 g/t<br>Minor Lode 1 top cut 25 g/t<br>Lode 2 Uncut<br>Lode 300 Uncut<br>Minor Lodes 8-25 g/t<br><br>The Urucum gold lode mineralisation contains considerable magnetite by-product associated with the BIF which forms a high quality and high grade concentrate when milled through the magnetic separation plant.<br><br>Currently the magnetic separation plant at Tucano is on care and maintenance, while mostly oxide gold ores are being processed however future processing of Urucum underground fresh rock ore is likely to yield a significantly valuable 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.* | A lower cut off of 1.4 g/t was used to wireframe the lode envelopes. |
| ***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 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 underground scoping study defined several alternative underground mining methods. These were considered in the application of the lode wireframing and classification to ensure a minimum true horizontal width x grade was achieved.<br><br>The resource estimate represents an undiluted resource model with no external dilution being added. The addition of dilution was done by AMC as part of the Pre-feasibility study to determine mineable SMU blocks. |
| ***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* | Extensive metallurgical test work has been completed at Urucum by previous owners and Beadell during the DFS. All studies confirm the free milling nature of the primary mineralisation and recoveries of 90% are expected. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | |
| ***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.<br><br>The Urucum open pit is currently being mined. |
| ***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.*<br>• *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.*<br>• *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 interlocking wireframes without leaving gaps or overlaps. Cross-cutting late stage pegmatites dykes and sill were manually interpreted and wireframed, These were then used cut into the older lithological units and also to overprint the gold grade model.<br><br>An extensive database of fresh rock density measurements have been recorded at Urucum and have been used to estimate the density in the resource model. . |
| ***Classification*** | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *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).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | 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 classified lodes were manually adjusted to non-resource unclassified on the basis of lower geological confidence and minimum true width x gram meter requirements. |
| ***Audits or reviews*** | • *The results of any audits or reviews of Mineral Resource estimates.* | Urucum swath plots were used for comparison of the kriged grade, sample mean grade, delcustered 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 of |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | samples and model blocks was observed in the measured and indicated categories.<br><br>The gold lodes were reviewed against the database used in the estimation to check the estimation on a section by section basis.<br><br>AMC consulting have completed peer reviews of the resource estimate as part of the Urucum 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 of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *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.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | 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 new underground resource model is considered to be a more accurate estimate of the high grade lode mineralisation. |

## *Section 4 Estimation and Reporting of 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.*<br>*Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.* | The current Urucum UG resource, based on Measured, Indicated and Inferred Mineral Resources totals 4.76 Mt @ 3.76 g/t (575,000 Oz), based on a cutoff 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.<br>The Measured and Indicated Mineral Resource used to convert to Probable Ore Reserves totals 2.84 Mt @ 4.27 g/t (389,000 Oz).<br>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.*<br>*If no site visits have been undertaken indicate why this is the case.* | The Competent Person visited Urucum North site in November 2015. |
| ***Study status*** | *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*<br>*The Code requires that a study to at least Pre-Feasibility Study level has* | The Urucum UG Pre-Feasibility Study is in its final stages and is expected to be finalised in early April 2016. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *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.* | |
| ***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.<br>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.<br>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).*<br>*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.*<br>*The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.*<br>*The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*<br>*The mining dilution factors used.*<br>*The mining recovery factors used.*<br>*Any minimum mining widths used.*<br>*The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*<br>*The infrastructure requirements of the selected mining methods.* | 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.<br>All 3 methods are considered to be standard underground methods and are commonly employed in underground mines in Australia and elsewhere.<br>The underground Ore Reserves cover a strike length of 800 m and are planned to be accessed from 2 trucking declines.<br>Ore will be mucked from stopes using Load Haul Dump (LHD) units.<br>Ore will be trucked to surface using underground articulated trucks.<br>Geotechnical parameters have been applied based on geotechnical studies based on diamond drill-holes specifically logged for geotechnical purposes.<br>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.<br>Stopes are based on a height of 20 m (inclusive of ore development) and 25 m along strike.<br>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.<br>Ore losses for the Benching method were assumed to be 8%.<br>Ore losses for the Up-Hole retreat method were assumed to be 14%.<br>Ore losses for the recovery the sill pillars, were assumed to be 35%.<br>Sufficient scheduling was undertaken as part of the PFS to determine the preferred extraction sequence.<br>Sufficient economic modelling was undertaken as part of the PFS to determine that the underground mine would be economic.<br>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*** | *The metallurgical process proposed* | A 3.5 Mtpa processing facility currently exists at Tucano. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***factors or assumptions*** | *and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature.*<br>*The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*<br>*Any assumptions or allowances made for deleterious elements.*<br>*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.*<br>*For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?* | 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 open pit.<br>Sufficient sites for waste rock dumps exist at the site.<br>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 Macapa 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 Macapa takes approximately 4 hours by car during the dry season and up to 6 hours during the wet season.<br>Power and water supplies exist at the site.<br>PFS assumes a power cost of US$0.08/kWHr. Although this cost has not yet been secured, all correspondence with relative authorities indicates this cost to be accurate.<br>Workshops, messing facilities and offices already exist and service the Tucano open pits.<br>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.*<br>*The methodology used to estimate operating costs.*<br>*Allowances made for the content of deleterious elements.*<br>*The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.*<br>*The source of exchange rates used in* | 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.<br>Labour rates have been based on 2014 rates sourced by Beadell Resources.<br>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. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *the study.*<br>*Derivation of transportation charges.*<br>*The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*<br>*The allowances made for royalties payable, both Government and private.* | Processing and General and Admin costs forecasted at US$17/t have been assumed in the PFS.<br>2% Royalty costs included in the cashflows and economic assessment. |
| ***$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.*<br>*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.*<br>*A customer and competitor analysis along with the identification of likely market windows for the product.*<br>*Price and volume forecasts and the basis for these forecasts.*<br>*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 (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*<br>*NPV ranges and sensitivity to variations in the significant assumptions and inputs.* | Financial modelling of the Urucum UG project, prepared by AMC Consultants Pty Ltd using inputs consistent with the Ore 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. An 8% discount rate has been used in NPV calculations.<br>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:*<br>*Any identified material naturally occurring risks.*<br>*The status of material legal agreements and marketing arrangements.*<br>*The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and* | The Urucum Underground ore reserve is located entirely on Beadells 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. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *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.* | |
| ***Classification*** | *The basis for the classification of the Ore Reserves into varying confidence categories.*<br>*Whether the result appropriately reflects the Competent Person's view of the deposit.*<br>*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.<br>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 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.*<br>*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.*<br>*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.*<br>*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.* | • The confidence in the Ore Reserve is reflected by the classifications shown above.<br>• 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 geotechnical conditions.<br>• 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. |