ASX ANNOUNCEMENT **7 April 2015**
ASX Code: BDR

MINERAL RESOURCE AND ORE RESERVE UPDATE

Beadell Resources Limited ("**Beadell**" or "the **Company**") is pleased to announce an annual Mineral Resource and Ore Reserve update as at 31 December 2014, produced in accordance with the 2012 Edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserves (the JORC Code).

Key Highlights

- Total mineral resources as at 31 December 2014 are 100.1 million tonnes @ 1.67 g/t gold for 5.4 million ounces, an 8% increase from 31 December 2013.
- A total of 572,000 resource ounces (+12%) were added and 171,000 ounces (-3%) were depleted by mill feed at Tucano. Significant additions to the Tucano resources and reserves were sourced from near surface oxide discoveries at Mirante, Tap C3, Tap C3N, Gap, MTL and Urucum West (see figure 3).
- Tucano overall ore reserves as at 31 December 2014 are 25.7 million tonnes @ 1.57 g/t gold for 1.3 million ounces including open pit reserves of 20.6 million tonnes @ 1.77 g/t gold for 1.2 million ounces.
- The primary cause of the reduction in gold reserves by 367,000 ounces (-22%) is due to the complete removal of previously anticipated iron ore revenue removing 313,000 ounces (-19%) and **reduced gold price assumptions from US$1,200 to US$1,050,** depletion by mill feed of 171,000 ounces (-10%) and additions of 117,000 ounces (+7%) (see figure 1).
- **The new Tucano reserve includes a robust 6-year open pit mine plan at significantly increased margins due to the reduced open pit strip ratio from 12.7:1 to 7.5:1, a 41% improvement and increased grade from 1.58 g/t to 1.77 g/t, a 12% improvement (see figures 1 and 2 and table 1).**
- The Urucum open pit (see figure 3) has been optimised shallower to allow previously reported deeper open pit reserves, now excluded, to be accessed from underground. These reserves will be reinstated as underground reserves subject to the pending prefeasibility study.
- Duckhead stage 3 open pit cutback has been included in the current ore reserve statement with a highly profitable 0.14 million tonnes @ 6.80 g/t for 31,000 ounces of gold.

Beadell's Managing Director Peter Bowler commented: "This updated resource and reserve statement is very pleasing as it highlights the long-term viability of our Tucano Operation. The profitability of our current 6-year mine plan has been significantly enhanced by reducing the strip ratio by 41% and increasing the gold grade by 12% compared with the previous reserve statement. In addition, our aggressive drilling program involving the use of six rigs will ensure additions to our resource and reserve base throughout 2015. Having such a robust and long life open pit reserve, coupled with highly likely additions from shallow oxides and shallow underground gold mining, puts the Company in a strong position."

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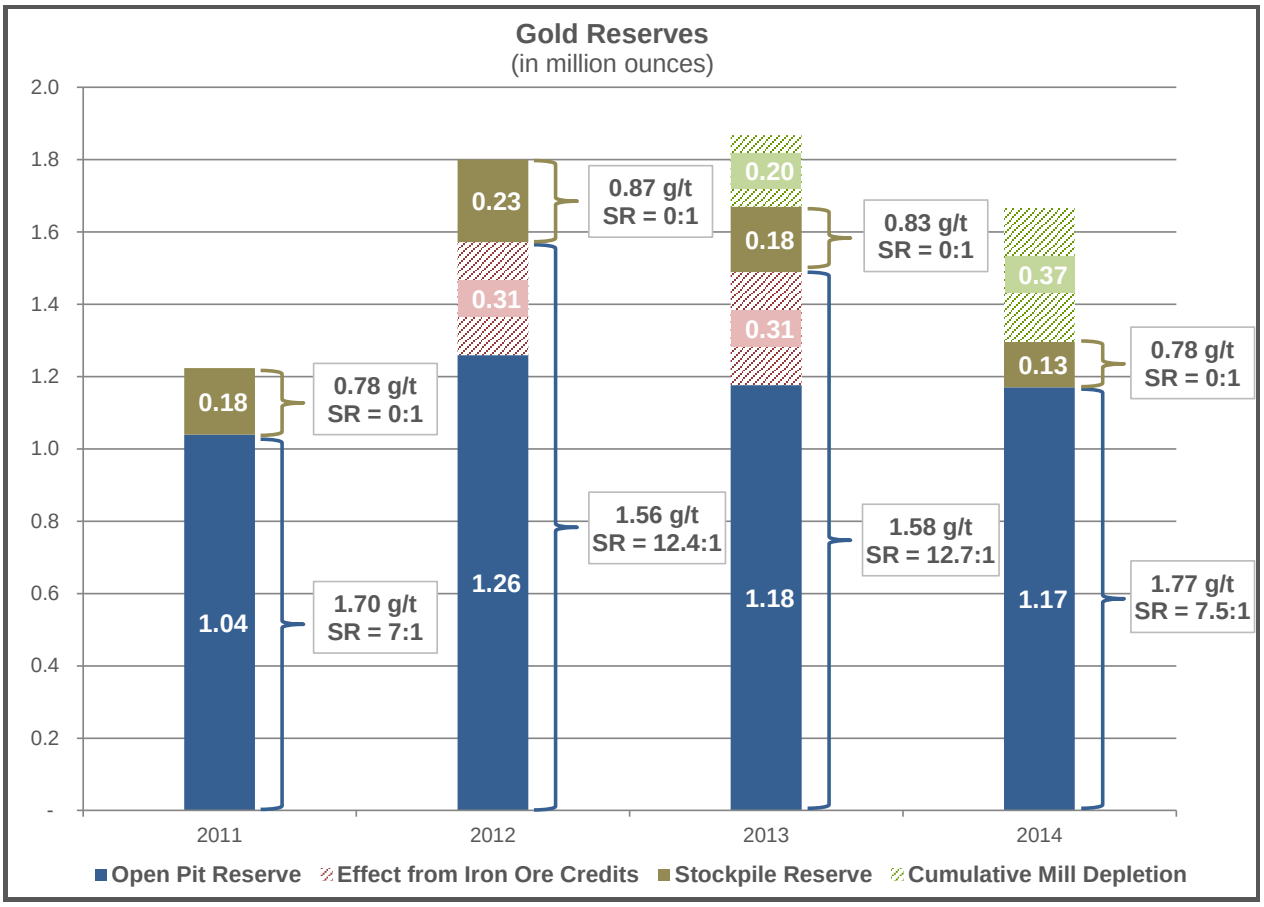

Figure 1. Tucano Reserve changes from 2011 to 2014

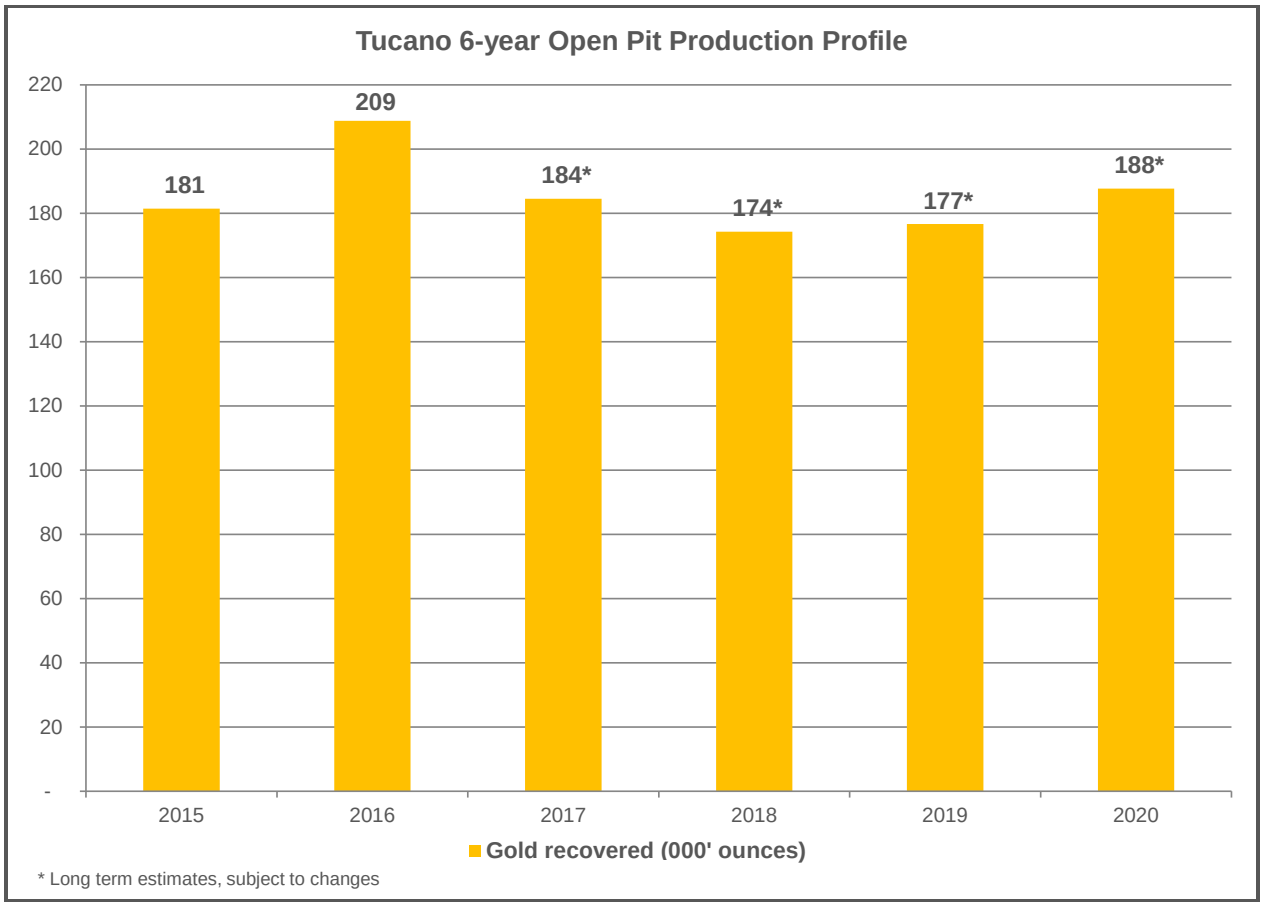

Figure 2. Tucano Open Pit Life of Mine production schedule

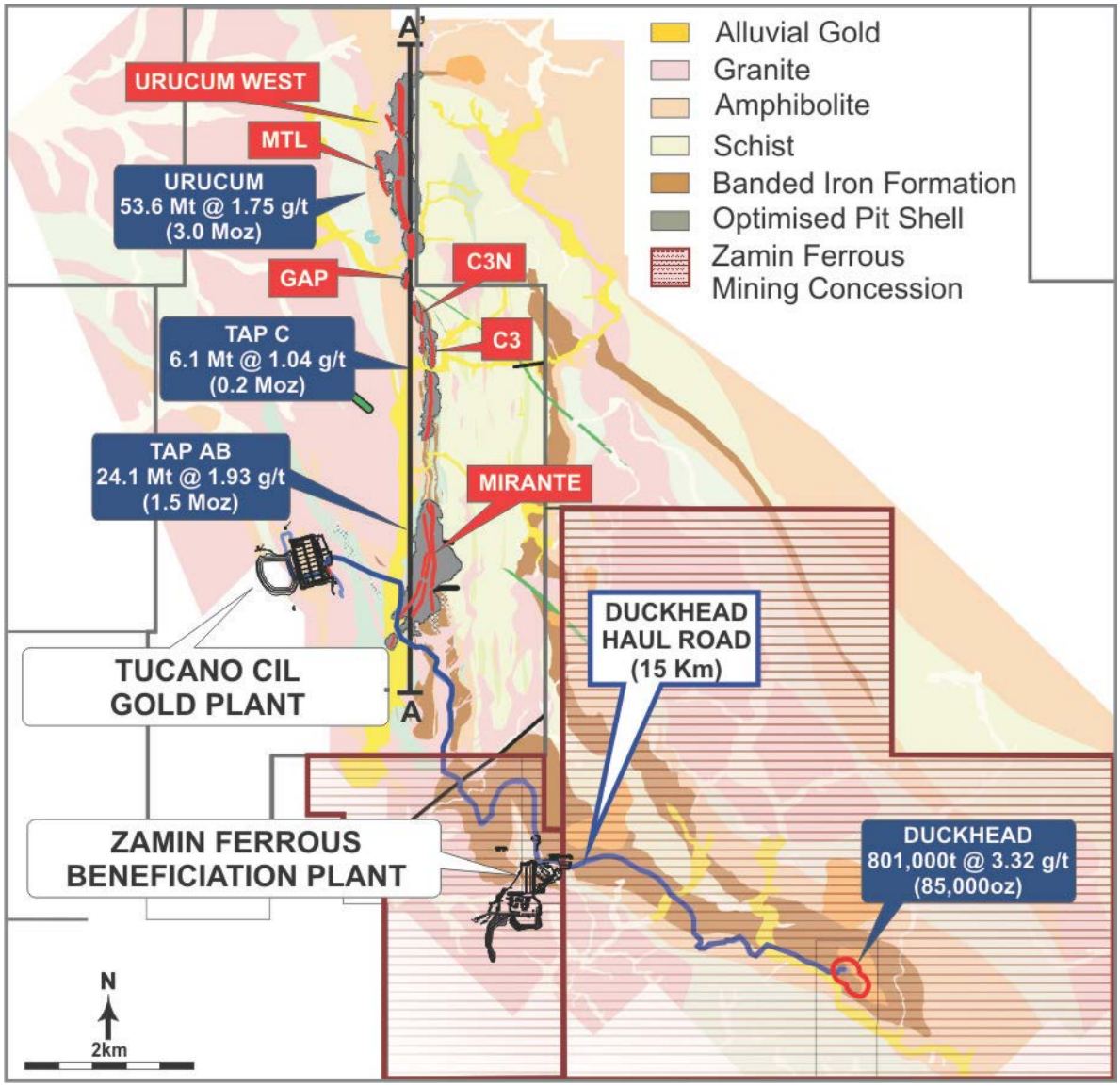

Figure 3. Mining concession plan

Physicals	As at 31 December 2014			As at 31 December 2013			Variation (%)		
	Open pit	Stockpile	Total	Open pit	Stockpile	Total	Open pit	Stockpile	Total
Total material – Pit and surface stockpiles (million tonnes)	**175.0**	5.2	**180.2**	401.0	6.8	407.8	-56.4%	-23.5%	-55.8%
Strip Ratio – (tonnes waste / tonnes gold)	**7.5**	-	**6.0**	12.7	-	10.3	-40.9%	-	-41.7%
Ore (million tonnes)	**21.0**	5.2	**26.2**	29.3	6.8	36.1	-28.3%	-23.5%	-27.4%
Gold Grade (g/t)	**1.77**	0.78	**1.57**	1.58	0.83	1.44	12.0%	-6.0%	9.0%
Contained gold (000' ounces)	**1,172**	129	**1,301**	1,487	181	1,668	-21.2%	-28.7%	-22.0%

Table 1. Key Results of the Ore Reserve

Summaries of gold mineral resource and ore reserves as at 31 December 2014, produced in accordance with the 2012 Edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserves (the JORC Code) are presented in the tables 2 and 3 below respectively.

In 2014, mineral resources and ore reserves were depleted by processing of 4.3 million tonnes @ 1.24 g/t for 171,000 ounces.

Tucano Mineral Resources

The Company's mineral resources as at 31 December 2014 are 100.1 million tonnes @ 1.67 g/t gold for 5.4 million ounces. A total of 572,000 ounces (+11.5%) were added at Tucano and 171,000 ounces (-3.4%) were depleted by milling resulting in a net addition of 401,000 ounces (+8.1%) of gold ore resources after depletion in 2014.

Table 2: Gold Resources
As at 31 December 2014:

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 Total Oxide*	1,599	1.14	59	1,979	1.04	66	729	0.78	18	4,307	1.04	143	0.4
Tap AB Oxide	2,781	1.72	154	3,322	1.64	175	950	1.04	32	7,053	1.59	360	0.4
Tap C Oxide	976	0.93	29	590	0.75	14	331	0.59	6	1,897	0.82	50	0.4
Tap D Oxide	62	1.25	2	896	0.88	25	263	1.50	13	1,221	1.03	41	0.4
Duckhead Oxide	69	13.68	30	51	1.94	3	80	1.49	4	200	5.81	37	1.0
Total Oxide	5,487	1.55	274	6,838	1.29	283	2,353	0.96	73	14,678	1.34	631	
Urucum Total Primary*	7,516	1.56	376	20,518	1.85	1,223	21,271	1.87	1,275	49,305	1.81	2,875	0.4
Tap AB Primary	1,168	1.64	62	6,167	1.96	388	9,674	2.20	684	17,009	2.07	1,134	0.4
Tap C Primary	543	1.16	20	2,286	1.13	83	1,387	1.15	51	4,216	1.14	154	0.4
Tap D Primary	62	1.11	2	595	0.87	17	660	1.06	23	1,317	0.98	41	0.4
Duckhead Primary	234	3.28	25	85	2.79	8	282	1.76	16	601	2.49	48	1.0
Total Primary	9289	1.54	460	29,651	1.80	1,719	33,274	1.92	2,049	72,448	1.83	4,252	
Urucum Total*	9,115	1.48	435	22,497	1.78	1,289	22,000	1.83	1,293	53,612	1.75	3,018	0.4
Tap AB Total	3,949	1.70	216	9,489	1.85	563	10,624	2.10	716	24,062	1.93	1,494	0.4
Tap C Total	1,519	1.01	49	2,876	1.05	97	1,718	1.04	57	6,113	1.04	204	0.4
Tap D Total	124	1.18	4	1,491	0.88	42	923	1.19	36	2,538	1.01	82	0.4
Duckhead Total	303	5.64	55	136	2.47	11	362	1.70	20	801	3.32	85	1.0
Total Oxide and Primary	15,010	1.57	759	36,489	1.71	2,002	35,627	1.85	2,122	87,126	1.74	4,883	
High Grade Stockpile	130	0.99	4	-	-	-	-	-	-	130	0.99	4	0.5
Low Grade Stockpile	1,049	0.66	22	-	-	-	-	-	-	1,049	0.66	22	0.5
Spent Ore Stockpile	3,971	0.81	103	-	-	-	-	-	-	3,971	0.81	103	0.5
Marginal Ore Stockpiles	1,342	0.45	19	-	-	-	-	-	-	1,342	0.45	19	0.3
Total Stockpiles	6,492	0.71	148	-	-	-	-	-	-	6,492	0.71	148	
Tartaruga	-	-	-	-	-	-	6,451	1.63	337	6,452	1.63	337	0.5
Total Brazil	**21,502**	**1.31**	**907**	**36,489**	**1.71**	**2,002**	**42,078**	**1.82**	**2,459**	**100,070**	**1.67**	**5,368**	

See Appendix 1 for JORC Code section criteria

In 2014, the following resource changes occurred;

- At Urucum, 285,000 ounces (+10%) were added and 32,000 ounces (-1%) were depleted by mining resulting in a net addition of 253,000 ounces (+9%) of gold resources after mining depletion in 2014. The increased resource at Urucum is a result of near surface discoveries at MTL and Urucum West and positive results from Urucum Underground. Total resources at Urucum are 53.6 million tonnes @ 1.75 g/t gold for 3,018,000 ounces (previous 61.8 million tonnes @ 1.39 g/t for 2,765,000 ounces) (see figure 3).
- At Tap AB, 229,000 ounces (+18%) were added and 31,000 ounces (-2%) were depleted by mining resulting in a net addition of 198,000 ounces (+15%) of gold resource after mining depletion in 2014. The increased resource at Tap AB is a result of near surface oxide discoveries at Mirante and additions to the Trough Lode resource in Tap AB2. Total resources at Tap AB are 24.1 million tonnes @ 1.93 g/t gold for 1,494,000 ounces (previous 26.1 million tonnes @ 1.54 g/t for 1,296,000 ounces) (see figure 3).
- At Tap C, 34,000 ounces (+18%) were added and 21,000 ounces (-11.0%) were depleted by mining resulting in a net addition of 13,000 ounces (+7%) of gold resources after mining depletion in 2014. The increased resource at Tap AB is a result of near surface oxide discoveries at Tap C3, Tap C3N and Gap. Total resources at Tap C are 6.1 million tonnes @ 1.04 g/t gold for 204,000 ounces (previously 5.4 million tonnes @ 1.09 g/t for 191,000 ounces) (see figure 3).

- At Duckhead, 27,000 ounces (+29%) were added and 35,000 ounces (-38%) were depleted by mining, resulting in a net reduction of 8,000 ounces (-9%) of gold resources after mining depletion in 2014. Resource extensions to the Main Lode were the main source of resource addition before depletion. Total resources at Duckhead are 0.8 million tonnes @ 3.32 g/t gold for 85,000 ounces (previously 0.8 million tonnes @ 3.62 g/t for 93,000 ounces).

Tucano Ore Reserves

Tucano ore reserves as at 31 December 2014 are 25.7 million tonnes @ 1.57 g/t gold for 1.3 million ounces including open pit reserves of 20.6 million tonnes @ 1.77 g/t gold for 1.2 million ounces. Total ore reserves before depletion decreased by 196,000 ounces (-12%) and 171,000 ounces (-10%) were depleted by milling resulting in a net reduction of 367,000 ounces (-22%) of gold reserves after depletion in 2014. The reduction in gold reserves is due to the removal of iron ore revenue and a reduction in the gold price assumption to US$1,050 from US$1,200 in 2013. The updated 1.3 million ounces Tucano reserve has a robust 6-year open pit mine life at a significantly increased profitability and reduced open pit strip ratio of 7:5:1 from 12.7:1 in 2013.

Table 3: Gold Reserves
As at 31 December 2014

Brazil	Proved Reserve			Probable Reserve			Total Mineral Inventory			Cut off g/t
	Tonnes ('000)	Grade g/t Au	Ounces ('000)	Tonnes ('000)	Grade g/t Au	Ounces ('000)	Tonnes ('000)	Grade g/t Au	Ounces ('000)	
Urucum Oxide	1,340	1.20	52	1,017	1.12	37	2,357	1.17	88	0.59
Tap AB Oxide	1,917	2.03	125	1,140	2.48	91	3,057	2.20	216	0.53
Tap C Oxide	661	1.10	23	217	1.00	7	877	1.07	30	0.55
Tap D Oxide	32	1.47	2	0	2.46	-	32	1.48	2	0.50
Duckhead Oxide	25	25.80	20	2	1.69	-	27	23.91	20	1.00
Total Oxide	3,974	1.74	222	2,375	1.76	134	6,349	1.74	356	
Urucum Primary	5,127	1.60	263	5,428	1.79	312	10,556	1.70	575	0.60
Tap AB Primary	868	1.83	51	1,896	2.35	143	2,763	2.19	194	0.53
Tap C Primary	329	1.40	15	438	1.55	22	767	1.49	37	0.61
Tap D Primary	4	1.61	0	0	0.81	-	4	1.53	0	0.50
Duckhead Primary	114	2.85	10	1	1.91	-	115	2.84	10	1.00
Total Primary	6,442	1.64	339	7,764	1.91	477	14,205	1.79	816	
Urucum Total	6,467	1.51	315	6,445	1.68	349	12,912	1.60	664	0.60
Tap AB Total	2,785	1.97	176	3,035	2.40	234	5,820	2.19	410	0.53
Tap C Total	989	1.20	38	655	1.37	29	1,644	1.27	67	0.58
Tap D Total	35	1.49	2	1	1.31	-	36	1.48	2	0.50
Duckhead Total	138	6.92	31	3	1.77	-	141	6.80	31	1.00
Total Oxide and Primary	10,416	1.67	561	10,139	1.88	612	20,555	1.77	1,172	
High Grade Stockpile	130	0.99	4	-	-	-	130	0.99	4	0.50
Low Grade Stockpile	1,049	0.66	22	-	-	-	1,049	0.66	22	0.50
Spent Ore Stockpile	3,971	0.81	103	-	-	-	3,971	0.81	103	0.50
Marginal Ore Stockpile	-	-	-	-	-	-	-	-	-	
Total Stockpiles	5,150	0.78	129	-	-	-	5,150	0.78	129	
Tartaruga	-	-	-	-	-	-	-	-	-	-
Total Brazil	15,566	1.38	690	10,139	1.88	612	25,705	1.57	1,301	0.59

See Appendix 1 for JORC Code section criteria

In 2014 the following reserve changes occurred;

- At Urucum, 228,000 ounces (-25%) were reduced and 32,000 ounces (-3%) were depleted by mining resulting in a net reduction of 260,000 ounces (-28%) of gold reserve in 2014. The Urucum open pit was optimised shallower to allow previous deeper open pit reserves (now removed) to be accessed from underground in the future (subject to Urucum Underground Prefeasibility). The reduced Urucum reserve is anticipated to be reinstated at completion of the Urucum underground prefeasibility. Significant additional reserves were discovered at MTL and Urucum West lodes now optimised into the Urucum

open pit (see figure 3). Total ore reserves at Urucum are 12.9 million tonnes @ 1.60 g/t gold for 664,000 ounces (previous 19.1 million tonnes @ 1.51g/t for 924,000 ounces).

- At Tap AB, 33,000 ounces (-7%) were reduced and 31,000 ounces (-7%) were depleted by mining resulting in a net reduction of 64,000 ounces (-14%) of gold reserve in 2014. The Tap AB open pit was optimised smaller as a result of the removal of iron ore and gold price assumption changes from US$1,200 to US$1,050; however, was offset by an increase in grade, lowering of strip ratio and discovery of the Mirante Lode at Tap AB2. Total ore reserves at Tap AB are 5.8 million tonnes @ 2.19 g/t gold for 410,000 ounces (previous 9.1 million tonnes @ 1.62 g/t for 474,000 ounces) (see figure 3).
- At Tap C, 54,000 ounces (+159%) were added and 21,000 ounces (-62%) were depleted by mining resulting in a net addition of 33,000 ounces (+97%) of gold reserve after mining depletion in 2014. The increased reserve at Tap C is a result of near surface oxide discoveries at Tap C3, Tap C3N and Gap. Total ore reserves at Tap C are 1.6 million tonnes @ 1.27 g/t gold for 67,000 ounces (previous 0.8 million tonnes @ 1.28 g/t for 34,000 ounces) (see figure 3).
- At Duckhead, 11,000 ounces (+20%) were added and 35,000 ounces (-64%) were depleted by mining resulting in a net reduction of 24,000 ounces (-44%) of gold reserve after mining depletion in 2014. Reserve additions are from the stage 3 cutback at Duckhead as a result of drill extensions to the Main Lode. A highly profitable stage 3 open pit cutback will be commenced in 2015 with an ore reserve of 0.14 million tonnes @ 6.80 g/t gold for 31,000 ounces (previous 0.27 million tonnes @ 6.43 g/t for 55,000 ounces).

Competency Statement

The information in this report relating to Mineral Resource and Open Pit Ore Reserves is based on information compiled by Mr Robert Watkins 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 Watkins is an Executive Director of Beadell Resources 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 Open Pit Ore Reserves is based on information compiled by Mr Sjoerd Rein Duim 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 Duim is a consultant who is employed by SRK Consulting and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Mr Duim is responsible for the Tucano pit optimisations for Tap AB, Tap C and Urucum and final reporting of the pit design inventories for Tap AB, TapC, Urucum and Duckhead.

The information in this report relating to Mineral Resources is based on information compiled by Mr Paul Tan 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 Tan is a full time employee of the Beadell Group and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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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.*	The deposits were drilled with Reverse Circulation (RC), Diamond Drill Holes (DD) and Auger Holes (AUG). 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, 13 deeper RC holes were re-entered at Duckhead using a diamond rig and downhole surveyed using Maxibore II. Maxibore II surveys were completed every 3m down the drill hole. In late 2013, the survey tool was changed to a Reflex Gyro instrument for use in the RC drill string. 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. Beadell laboratory duplicates were also completed approximately every 20th sample to assess the repeatability of the result using ACME Laboratories. A blank standard was inserted at the start of every batch of approximately 150 samples. In addition the contract labs SGS Geosol and ACME 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. 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

Criteria	JORC Code explanation	Commentary
	• *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.*	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 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. 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. All lab duplicates samples of the same interval were sent to ACME laboratories for analysis as a lab check.
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. Auger holes account for around 3% of the total drilling metres with holes ranging from 1- 15m (average 4.7m). A 3 person operated, motor driven auger with a cylindrical cutting tube is used to obtain a core sample of the colluvium material.
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.*	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. 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.

Criteria	JORC Code explanation	Commentary
	• *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.*	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.*	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.
	• *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 (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.
	• *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 and blanks were inserted at every 25th sample to assess the accuracy and methodology of the external

Criteria	JORC Code explanation	Commentary
		laboratory (SGS), and field duplicates were inserted every 20th sample to assess the repeatability and variability of the gold mineralisation. At Duckhead field duplicates were taken for diamond core but not for RC. Laboratory duplicates (sample preparation split) were completed every 20th sample to assess repeatability of the result using ACME labs. In addition the contract labs SGS Geosol and ACME also carried out their own internal standards, lab duplicates for each lot.
	• *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.*	The results of the field duplicates show an acceptable level of repeatability of gold analysis. Wet oxide intervals were wrapped in plastic shortly after being received to preserve oxide sample moisture and integrity prior to density & moisture measurement.
	• *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 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*	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

Criteria	JORC Code explanation	Commentary
	of accuracy (i.e. lack of bias) and precision have been established.	mineralisation. At Duckhead field duplicates were taken for diamond core but not for RC. Laboratory duplicates (sample preparation split) were completed every 20th sample to assess repeatability of the result using ACME labs. 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 Duckhead have been observed by various visiting geological consultants (e.g. Cube consulting). Very high grade intersections occur in highly weathered saprolite and no visible gold present. No hole twinning was undertaken at Duckhead. 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. 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 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

Criteria	JORC Code explanation	Commentary
		surveys were completed every 3m down the drill hole.
	• *Specification of the grid system used.*	The grid system is SAD 69 Zone 22N.
	• *Quality and adequacy of topographic control.*	Beadell Brasil Ltda Survey Staff generate a monthly digital terrain model (DTM) from Total Station surface pickups of the Duckhead deposit.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	The resources have been drilled up to 700 vertical metres below surface on a nominal 40 m x 20 m drill pattern with infill drilling (ongoing) down to a 20 x 20 m pattern. Deeper inferred resources are at approximately 100 x 100 m spacing. In the main Tucano trend of Tap AB, Tap C and Urucum, holes are angled either either east or west to intersect the orebody.
	• *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.*	At Duckhead, the nominal drill hole spacing is 5m (NE) by 10m (NW) in both the Main Lode Area and Hangingwalll Lode Area. At Tucano the grade control spacing is typically 5m (E) by 10m (N).
	• *Whether sample compositing has been applied.*	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 2 m intervals for the resource calculation at Tap AB, Tap C, Urucum and Duckhead.
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.*	The majority of drilling is orientated with a 60 degree dip, which is roughly perpendicular to both the strike and dip of the mineralisation; therefore ensuring intercepts are close to true-width. Sectional interpretation of 5m spaced holes on 10m spaced lines shows generally very uniform mineralised zones both along strike and down dip. The drill orientation is as close to normal to this body as possible and therefore the drill hole to mineralisation is not considered to have introduced a sampling bias.
	• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	
Sample security	• *The measures taken to ensure sample security.*	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

Criteria	JORC Code explanation	Commentary
		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.*	A site visit was completed in 2012 (Cube Consulting) to review sampling procedures and grade control 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.*	Tap AB, Tap C and Urucum lie in 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 Duckhead prospect resides in tenement 852.730/1993. The registered holder of this tenement is Anglo Ferrous Amapá Mineração Ltda, however Beadell Brasil Ltda has mineral rights to extract gold resources under a Joint Operators Agreement with Anglo Ferrous Amapa Mineração Ltda. Beadell Brasil Ltda operates the gold processing plant in mining concession 851.676/1992. . The Tap AB, Tap C, Urucum and Duckhead prospects are 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 Duckhead deposit.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Gold mineralisation at Urucum, Tap C and Tap AB 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 host significant quantities of friable iron ore. Mineralisation at Duckhead is controlled by the interpreted 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

Criteria	JORC Code explanation	Commentary
		majority of the deposits with high grade mineralisation extending right to the surface through a layer of colluvium several metres thick.
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 width not known').*	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.
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*	Drill hole information has not been included because it is not Material to the resource and reserve update. Individual drill hole results have

Criteria	JORC Code explanation	Commentary
	hole collar locations and appropriate sectional views.	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. In particular at Duckhead numerous outlying intersections will require follow up drilling including further drilling towards the anomalous eastern fold hinge zone. Urucum Deeps drilling is in progress.

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 has been (overlaps and duplicate records) have 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.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	At Duckhead detailed mapping of the lithological units and bounding major shears, fault splays and breccia zones shows a very close correlation to the 3D wireframe gold model in orientation, morphology

Criteria	JORC Code explanation	Commentary
	• *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.*	and location. Interpreted wireframe mineralised contacts have been repeatedly investigated in the pits following ore markout and have also been rechecked with periodic earth-saw lines and check sampling. This check sampling has correlated well with the angled RC grade control grades. Digitising of the mineralized lodes at Tucano is done using grade, lithology and pit mapping to ensure the robustness of the geological interpretation.
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, Tap C and Tap AB 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 host significant quantities of friable iron ore. Higher grades are associated with the more intensely hydrothermally altered rocks, particularly within the BIF unit. Deep oxidation has produced near-surface saprolitic mineral deposits overlying the primary sulphide mineralization. Additional oxide gold occurs in an overlying colluvium layer up to 10 metres thick. Primary mineralization consists of a series of sulphide-bearing lenses which strike north and north-northwest, and dip 60 to 80₀ east except for the western zone in Tap AB1 pit which dips shallowly 25-45° north west and recently identified shallow west dipping lodes on the west side of the Urucum deposit. Individual lenses achieve a thickness of between 5m and 33m. Sulphide content ranges from 5% to 10% and is mostly pyrrhotite and pyrite. The vast majority of the Duckhead resource occurs within the Duckhead Pit area. Two much smaller satellite deposits named Goosebumps and Fold Nose are situated 400m east and 600m southeast of the Duckhead pit. The Duckhead pit deposit is 260m long with a known vertical extent of 180m from surface (open at depth) and widths ranging from 5 to 20m. It comprises 3 principle lodes plunging steeply to the south west and an overlying blanket of colluvium mineralization. Duckhead model extents were 2500m in y direction, 2000m in the x direction and 550m in the z direction.
Estimation and modelling	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade*	Tap AB, Tap C and Urucum models have been modelled separately in Isatis and imported into sub-blocked Surpac models. Blocks of 8m

Criteria	JORC Code explanation	Commentary
techniques	*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.*	x 20m x 4m (x,y,z) were defined and ordinary kriging was used to estimate gold block grades within individual lode wireframes at Tap AB, Tap C and Urucum. The estimated block centroids were then imported into a Surpac subblocked model with the same parent cell size and a subcell size of 2x5x2m to maintain resolution of the gold estimate against the lode boundaries. At Duckhead, Ordinary Kriging was used to calculate the gold grade of the deposit using a 5m (x), 10m (y) and 2m (z) parent block size using Isatis. The model was subsequently imported into a Surpac subblocked model of subcell size 0.625m (x), 2.5m (y) and 1.0m (z) to improve the resolution of the grade estimation against the lode contacts. 45 degrees anticlockwise rotation was applied to the model to fit the overall strike of the gold mineralization. At Tap AB, Tap C, Urucum and Duckhead, 3 neighbourhood octant searches were considered. 1st Neighbourhood; At Tap C, constraints of 2 consecutive empty octants, a minimum of 6 samples and 3 drill holes within the search area was applied. At Tap AB and Urucum blocks were estimated by at least 2 drill holes and the minimum number of samples needed to undertake the kriging estimation. At Duckhead blocks were estimated by at least 3 drill holes and the minimum number of samples needed to undertake the kriging estimation. A maximum search of 40x50x8m was employed. 2nd Neighbourhood; At Tap C a minimum number of 4 samples with a constraint of 4 consecutive empty octants within the search was applied (2 drill hole minimum). At Tap AB, Urucum and Duckhead blocks were estimated by a minimum of 2 and a maximum of 16 samples. At least 2 drill holes were required within the search area. A maximum search of 70x90x20m was employed. 3rd Neighbourhood; A search range of 500x500x50m was employed to populate remaining blocks within the lode wire and a minimum of 2 samples required to perform the estimation All estimations at Tucano were constrained within the following tightly constrained wireframes defining gold mineralization using a 0.3g/t envelope. Deeper parts of the Urucum deposit have had the cut-off

Criteria	JORC Code explanation	Commentary
		for the gold mineralised envelope increased to 0.5g/t Au. Due to the extreme grades at the Duckhead deposit, nested gold grade envelopes were used to constrain the estimation in the 3 principal lodes; Main Lode >60g/t, >2g/t and > 0.3g/t. Hangingwall Lode, >2g/t and > 0.3g/t Wing Lode >2g/t and > 0.3g/t An upper cut of 4000g/t was applied to grades within the >60g/t envelope. For Tap AB, Tap C and 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. Oxidation, colluvium and resistance surfaces were modelled for each deposit. At Tap AB, Tap C Urucum, geological domains were estimated into the block model using lithology coding within the database. At Duckhead, key lithological groups were modelled as solids using Minesight's Implicit Modeler.
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.*	At Duckhead the resource was calculated using a lower cut-off of 1g/t. Tap AB, Tap C, Tap D and Urucum resources are reported above a 0.4 g/t gold lower cut-off grade. Tartaruga is reported above a 0.5 g/t gold lower cut-off grade Marginal Ore Stockpiles with a lower cut-off of 0.3 g/t were included as part of the mineral resources but not the ore reserves.
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*	Owing to the extremely high gold grades at Duckhead, it is normal practice to take an additional margin (10-15% dilution) of waste around the mineralization to avoid leaving ore on irregular contacts of the lode and ensure that recovery of the resource is as close to 100% as possible.

Criteria	JORC Code explanation	Commentary
	reported with an explanation of the basis of the mining assumptions made.	
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 explanation of the basis of the metallurgical assumptions made.*	Metallurgical test work at Duckhead indicates recoveries of around 95% for oxide and 92% for sulphide ores for average grade of 5g/t. The metallurgy performance and recovery estimates used have been validated by actual mill production in 2013 and 2014. The Tucano open pits at Urucum, Tap AB and Tap C all have proven metallurgical recoveries.
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. The Duckhead mine has been operational for 3 years and the Tucano Process facility for 2 years.
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.*	Geological modelling at Tap AB, Tap C and Urucum were undertaken using nearest neighbour estimation within the block model using a 4m coded lithological composites. Lithology coding runs were done in order from oldest to youngest. Cross cutting, late stage pegmatite dykes were modelled using Minesight Implicit Modeller and used to overprint both the geological and gold grade model. The Duckhead geological model was built by numerically coding lithologies in the database and building solid wireframes of each unit using implicit computer modelling in Minesight software. Owing the friable nature of the oxide material and poor representation of reliable dry oxide SG measurements, global averages were assigned based geological unit if the population of density measurements was deemed insufficient. In the case of friable banded iron (itabirite) and colluvium, a selection of bulk density test pits were used to establish dry density average for this material. Where bulk density sample information is sufficient (e.g. in the case of fresh rock), the block model densities have been estimated using nearest neighbour technique and constrained within lithological,

Criteria	JORC Code explanation	Commentary
		hardness and oxidation domains. The following densities were established and assigned to their respective domains where insufficient point data was available for estimation; Colluvium 1.85t/m3, Quartz Biotite Schist 1.56t/m3 (oxide) and 2.79 (fresh), Banded Iron Formation 2.08t/m3 (oxide) and 3.3t/m3 (fresh), Carbonate & Hydrothermal Altered Zone 1.53 t/m3 (oxide) and 3.09 t/m3 (fresh).
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.*	The first neighbourhood search of the estimation was used to define the Measured category and the second neighbourhood the Indicated category of the resource. Blocks not meeting the Measured or Indicated criteria were assigned Inferred resource classification within the limits of the lode wireframes.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	For Tap AB, Tap C and 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 samples and model blocks was observed in the measured and indicated categories. The deposits were reviewed against the database used in the estimation to check the estimation on a section by section basis. Detailed visual comparisons and reporting between the new and previous resource models by elevation was undertaken to determine the influence of infill grade control drilling in key sections of the pit.
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*	The approach for the estimation follows the same methodology used by Cube consulting for the maiden resource estimate for Duckhead. Hard domain grade envelopes of 0.3g/t and 2g/t to constrain both the compositing and grade estimation. Owing to improved drill definition of extreme grades in the lower half of the principal main lode, it was also possible to define a narrow >60g/t envelope as a continuous tabular body situated wholly within the >2g/t envelope. The rationale behind this was to limit the amount of sideways influence of these

Criteria	JORC Code explanation	Commentary
	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.*	grades within the >2g/t envelope. An upper cut of 4,000g/t was selected to achieve an overall estimate Au grade of 148g/t for the >60g/t envelope. The Top cut applied to the >2g/t envelope for Main Lode was 40g/t. Tap AB, Tap C, Urucum and Duckhead have all been partially mined and depleted in 2014. Reconciled production compared to reserve shows that the resource estimates are materially in line with mill reconciled production with Duckhead showing a strong positive reconciliation throughout 2014 and the life of mine.

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.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Tap AB, Tap C and Urucum Mineral Resource models were regularized to a mining model cell size of 2mx5mx4m, representing the Selective Mining Unit (SMU). The SMU blocks were coded with mining costs, processing costs and mining parameters for the purpose of pit optimisation in Whittle. Cut-off grades were coded into the mining model for pit design inventory reporting. . The Mineral Resources at Duckhead are reported above a 1.0g/t Au cut-off. The Duckhead Mineral Resource model was reported within the existing pit design and after applying mining factors, a subsequent financial assessment of the pit cutback was undertaken. 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 Sjoerd Rein Duim 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 mining practices used on site are of a high industry standard. The last Tucano mine site visit undertaken was in December 2013, prior to the change from owner operator to contractor mining. .

Criteria	JORC Code explanation	Commentary
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.*	At Tucano, the pit optimisations were based on Definitive Feasibility Study (DFS) geotechnical slope recommendations, which included allowances for the placement of geotechnical berms. Haulroad placement was addressed during the pit design stage. Mining has been ongoing at the Tucano operation since the re-start of operation in May 2011. The Duckhead gold mine is within an existing iron ore mining operation area (ZAMIN), where mining parameters, mining and processing costs and processing performance are well known.
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
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. The geotechnical recommendations assume drained or partially drained slope conditions that include pit dewatering. Measured and Indicated Mineral Resource material blocks were assigned revenue value 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, C and Urucum used a 0% mining dilution and a 0% mining loss to generate the diluted gold grades. The SMU block size if 15 m x 12 m x 4 m is considered to be a fully diluted minimum mining width estimate. For Duckhead a 10% dilution for oxide and 15% dilution for fresh material was used to generate the diluted gold grades. Mining loss for Duckhead was 0%. Revenue from iron mineralisation has been excluded from the open pit optimisation due to the low iron ore prices and fact that the magnetic separation plant has been put on care and maintenance. High grade iron ore will continue to be stockpiled. The Proved and Probable Ore Reserve are based on pit designs as

Criteria	JORC Code explanation	Commentary
		described above. The Duckhead mine is a satellite of an existing mining operation and as such, mining parameters and costs are well known and have been applied accordingly to the Duckhead Ore Reserve estimation. The Duckhead mining method is conventional open pit with hydraulic excavators and trucks. Mining costs are based on actual costs within the existing operation. The majority of the Ore Reserve that lies within oxide material requires no blasting. Oxide ore zones are broad and dig cleanly. Fresh and transitional material requires drilling and blasting. The reporting of the Ore Reserves was done within the latest detailed pit design based on a Whittle optimised pit shells using the cost parameters detailed under “Costs” section. Geotechnical parameters have been derived from an independent consultant review. Knowledge of the material being mined in this location is extensive, within the existing mining operation. Minimum mining width at Duckhead is 10m for 35 tonne payload all terrain trucks and 64 tonne excavators.
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?*	The gold recoveries for this Ore Reserve were based on test work data trends for 80% passing sizes of approximately 115 microns for the initial 3.5 years and 100 microns thereafter. The Tucano Ore Reserve gold recoveries are based on the DFS and the empirical results from the past 2 years of mining and processing operations. The Duckhead ore will be processed using conventional Carbon-in-leach methodology. The facility that will process the Duckhead ore has been operating for 2 years and a considerable quantity of Duckhead ore has previously been processed with no issues. Metallurgical test work for the Duckhead ore comprised leach characteristic and metal recovery with cyanide. Plus grind size relationship with recovery. The ores at the Tucano are free milling with very high metallurgical recoveries. The metallurgical recovery for the average grade of

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		Duckhead ores are 95% and 92%, for oxide and sulphide ore, respectively. The ore at Tap AB, Tap C and Urucum are also free milling. For the processing recovery in the Ore Reserve estimate the following parameters were used. Oxide > 1.0 g/t = 92.5% Oxide < 1.0 g/t = 90.0% Primary = 90%
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 as present at Duckhead was 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 autogeneous grinding (SAG) facility, Carbon in Leach (CIL) circuit and a conventional elusion circuit with electro-winining plating with final site product of dore bars. The process plant surface foot print is fully established, including a ROM pad and three tailings storage facilites 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 shop facility is sized and tooled for the fleet type and size, including wash base, fuelling and services bays. The mine site road infrastructure is fully established to access the current mining areas and are expanded as required to access new

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		open pit areas. The process plant power is from diesel Generator sets (Genset) with the remaining facilities supplied from the State power grid. Mining operations commenced at Duckhead in August 2012 with existing infrastructure and workforce in place to mine the deposit. Mining at Urucum, Tap C 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 4.5 Mt/y throughput, used for this Ore Reserve, were calculated based on the actual unit cost in 2014 and budgeted costs in 2015 calculated in Real and methodology outlined in the Tucano Definitive Feasibility Study for the 3 Mt/y plant but adjusted as fixed and variable costs for the higher throughput. The operating costs are based on 2015 budget input costs calculated at an exchange rate of US$1.0 = BRL$2.5. The exchange rate was not escalated for costs due to the predominance of opex costs denominated in Reis not affected by US$ exchange rate changes. Mining costs were estimated for a contract mining scenario, guided by actual 2014 figures. Capex for sustaining operations was estimated via the DFS and 2015 budget estimates. No capital is required for the Duckhead satellite open pit. At Duckhead operating cost assumptions are based on actual mining, processing and general & administration costs are derived from the main operation. There are no deleterious elements to be considered Duckhead is not a long life mine and metal price is closely linked to spot gold price. This approach was also used for exchange rates. Transport charges are contract values.

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		Gold refining charges are contract values. Allowance for all applicable royalties have been included in Whittle optimisations and financial evaluations
($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.*	Base gold revenue for the whittle pit optimisations was US$1,000 per troy ounce gold. A 2% royalty charge was deducted from this base revenue as selling costs. A US$ 19.70 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 $U1,050 at an exchange rate of US$1.0 = BRL3.0.
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.*	Revenue from iron ore has not been included due to low iron ore prices and the fact the Magnetic Separation plant has been put onto care and maintenance.
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.*	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.*	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*	All necessary legal and statutory approvals are in place for the Tucano operation and also that of the Duckhead deposit.

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	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.* • *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 mining SMU 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 mining SMU block model were classified as Probable 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 were 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.* • *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.*	Tap AB, Tap C, Urucum and Duckhead have all been partially mined and depleted during 2014. In 2014, reconciled production ounces were 7% higher than the depleted Ore Reserve for all combined mine sources. Over the Life of Mine (LOM), Duckhead pit production has continued to outperform successive Ore Reserve models through mine production to mill reconciliations.