



ASX ANNOUNCEMENT  
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4 September 2012

**OPEN PIT GOLD RESERVE INCREASES 45 % TO 1.80 MOZ**

**GOLD RESOURCE INCREASES 12 % TO 5.14 MOZ**

**Highlights**

- Beadell is pleased to release a Gold Ore Reserve update produced in accordance with the Australasian Code for Reporting of Mineral Resources and Ore Reserves, December 2004 (the JORC Code). The Ore Reserve has increased by **45 % to 40.7 Mt @ 1.38 g/t gold for 1.80 million troy ounces (Moz)** contained gold at the company's 100 % owned Tucano Gold Mine in Brazil.
- Open pit Ore Reserve of **32.6 Mt @ 1.50 g/t gold for 1.58 Moz** contained gold. Stockpile Ore Reserve of **8.1 Mt @ 0.87 g/t gold for 0.23 Moz** contained gold.
- Total Mineral Resources produced in accordance with the Australasian Code for Reporting of Mineral Resources and Ore Reserves, December 2004 (the JORC Code), have increased by **531,000 oz to 114.1 Mt @ 1.40 g/t gold for 5.14 Moz** contained gold.
- As a result of successful execution of Iron Ore Agreements with Anglo Ferrous, the open pit Ore Reserve now includes the economic benefit of iron ore. In respect of the Joint Operating Agreement the reduced strip ratio as a result of the cost recovery for iron ore that was previously classified as waste has significantly driven the open pits deeper at Tap AB and Tap C. In respect of the Iron Concentrate Agreement whereby iron ore concentrate sold from the magnetic separation plant as a result of extraction of iron ore from the gold ore has resulted in an iron ore credit being attributed to all deposits based on metallurgical testwork. This has also positively affected the reserve calculations.
- Further additions to Tucano resources and reserves are also assured from the Duckhead Agreement where Beadell is currently drilling out the very high grade Duckhead satellite open pit deposit only 8 km from the Tucano plant.
- Beadell plans to drill in excess of 50,000 m of RC drilling per year over at least the next three years using its 100 % owned T685 Schramm drill rig to continue to grow resources and reserves.
- An underground scoping study will be completed on the Urucum Deeps project targeting a future incremental contribution from the high grade resource beneath the 1.0 Moz reserve in the Urucum open pit.

Beadell's Managing Director, Peter Bowler commented "This past year has been all about increasing open pit reserves and we have achieved this in spades. Our team have achieved an outstanding result by increasing open pit reserves by 45 % whilst simultaneously laying the platform for substantial open pit and underground reserves to be added over the coming year. Our new RC drill rig is performing well and will be instrumental in ensuring more substantial increases in our resource and reserve position. Duckhead, the very high grade gold ore body, only 8 km southeast of our CIL gold plant, is emerging as a real game changer for Beadell. This ore body will not only bolster our reserve position over the coming months but also have a dramatic effect on our gold production profile within a relatively short time frame. With the completion of the CIL gold plant imminent, we can now look forward to an exciting future as Beadell transforms into a long life, low cost gold producer with scale for the benefit of all stakeholders and shareholders."

### Tucano Ore Reserve

The Tucano Ore Reserve totalling **40.7 Mt @ 1.38 g/t gold for 1.80 Moz** contained gold comprises an Open pit Ore Reserve of **32.6 Mt @ 1.50 g/t gold for 1.58 Moz** contained gold sourced from three open pits, Urucum, Tap AB and Tap C along the 7 km long Tucano trend as at 30 June 2012 (Table 1). Physical parameters for the reserve are presented in Table 2 and Appendix 1.

Tucano	Proven Reserve			Probable Reserve			Total Mineral Inventory			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
Urucum Oxide	1,157	1.20	45	3,698	0.98	117	4,855	1.04	162	0.57
Tap AB Oxide	2,346	2.15	162	2,753	1.53	135	5,099	1.82	298	0.54
Tap C Oxide				2,008	1.21	78	2,008	1.21	78	0.59
<b>Total Oxide</b>	<b>3,503</b>	<b>1.84</b>	<b>207</b>	<b>8,458</b>	<b>1.21</b>	<b>330</b>	<b>11,962</b>	<b>1.40</b>	<b>537</b>	<b>0.56</b>
Urucum Primary	1,019	2.04	67	14,728	1.57	742	15,747	1.60	809	0.65
Tap AB Primary	1,288	1.64	68	3,163	1.39	141	4,451	1.46	209	0.61
Tap C Primary				391	1.56	20	391	1.56	20	0.68
<b>Total Primary</b>	<b>2,307</b>	<b>1.81</b>	<b>135</b>	<b>18,282</b>	<b>1.54</b>	<b>903</b>	<b>20,589</b>	<b>1.57</b>	<b>1,038</b>	<b>0.64</b>
Urucum Total	2,176	1.59	111	18,426	1.45	859	20,602	1.47	971	
Tap AB Total	3,635	1.97	230	5,915	1.45	276	9,550	1.65	507	
Tap C Total				2,399	1.27	98	2,399	1.27	98	
<b>Total Oxide and Primary</b>	<b>5,811</b>	<b>1.83</b>	<b>342</b>	<b>26,740</b>	<b>1.43</b>	<b>1,233</b>	<b>32,551</b>	<b>1.50</b>	<b>1,575</b>	<b>0.61</b>
High Grade Stockpile	289	1.45	13				289	1.45	13	
Low Grade Stockpile	2,015	0.86	56				2,015	0.86	56	
Spent Ore Stockpile	5,808	0.85	159				5,808	0.85	159	
<b>Total Stockpiles</b>	<b>8,112</b>	<b>0.87</b>	<b>228</b>				<b>8,112</b>	<b>0.87</b>	<b>228</b>	
<b>Total Brazil</b>	<b>13,923</b>	<b>1.27</b>	<b>570</b>	<b>26,740</b>	<b>1.43</b>	<b>1,233</b>	<b>40,663</b>	<b>1.38</b>	<b>1,803</b>	

**Table 1. Beadell JORC Reserve as at 30 June 2012**

**Tap AB** Open pit Ore Reserve totals **9.55 Mt @ 1.65 g/t gold for 507 koz** contained gold representing the highest grade of the Open pit Ore Reserves and is being preferentially mined in the initial years of the operation to maximise the head grade through the mill.

Pit designs to maximise early cash flows also include the scheduling of starter pits at Tap AB, Urucum and Tap C focussing on higher grade oxide material.

The **Urucum** open pit Ore Reserve totalling **20.6 Mt @ 1.47 g/t gold for 971 koz** contained gold represents the backbone ore source for the Tucano project over the life of mine. The Urucum deposit comprises a 2.5 km long mineralised zone divided into a southern zone and a northern zone.

**Tap C** is the central deposit along the Tucano trend comprising an Ore Reserve of **2.40 Mt @ 1.27 g/t gold for 98 koz** contained gold. The deposit provides a good source of oxide mineralisation and remains open at depth and along strike, requiring additional drilling to expand the Mineral Resource and Ore Reserve.

The optimised open pits also contain **12.3 Mt @ 0.84 g/t for 331,000 oz** of Inferred Resources within the final pit limits. This Inferred Resource material is currently classified as waste in the reserve calculations. Ongoing drilling to convert these Inferred Resources into a higher category Mineral Resource classification (e.g. Indicated Resource classification) will also improve the future Ore Reserve position.

Anticipated revenue as a result of the iron ore agreements with Anglo Ferrous has been factored into the reserve estimate in the form of direct agreed compensation for delivery of high grade and low grade iron ore to the iron ore stockpiles (previously considered waste in the DFS) and iron ore revenue from iron concentrate produced as a by-product of the gold ore. The iron ore within the gold pits has significantly reduced the stripping ratio when included as ore at Tap AB to 4.7:1 ore to waste and at Tap C at 1.9:1 ore to waste.

Gold ore mining continues to build up a large repository of stockpiled ore ready to process through the gold plant. A lower grade stockpile available for commissioning is currently at 2.6 Mt @ 1.1 g/t gold, of which 1.7 Mt @ 1.1 g/t gold is ready for direct feed into the SAG mill with no crushing required. Total stockpiles at Tucano have increased to 8.2 Mt @ 0.88 g/t for 231,000 oz. A higher grade stockpile totalling 312,000 tonnes at 1.48 g/t is already on the ROM pad. In addition to this, access to the very high grade Trough Zone at Tap AB2 has just been exposed in the Tap AB pit. Ongoing mining of the Trough Zone over the coming 3 months prior to first gold pour will ensure abundant high grade ore is available to the mill post commissioning.

Physicals	Open pit	Stockpile	Total
Total material – Pit and surface stockpiles (million tonnes)	437.6	8.1	445.8
Strip Ratio – (tonnes waste / tonnes gold)	12.4	0	10.0
Strip Ratio – (tonnes waste / tonnes gold and iron ore)	7.0	0	6.1
Ore (million tonnes)	32.6	8.1	40.7
Gold Grade (g/t)	1.50	0.87	1.38
Contained gold (000' ounces)	1,575	228	1,803
Milling recovery	91.4%	86.6%	90.4%
Recovered gold (000' ounces)	1,439	197	1,636

**Table 2. Key Results of the Ore Reserve.**

## Tucano Mineral Resource

Total JORC Resources produced in accordance with the Australasian Code for Reporting of Mineral Resources and Ore Reserves, December 2004 (the JORC Code) have increased by 531,000 oz to 5.14 Moz contained gold as at the 30 June 2012 (Table 3).

Brazil	Measured			Indicated			Inferred			Total		
	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)
Urucum Oxide	1,441	1.28	60	4,805	1.03	159	14,221	0.70	322	20,467	0.82	540
Tap AB Oxide	3,117	2.16	217	4,069	1.62	212	3,758	0.92	111	10,943	1.62	539
Tap C Oxide	0	0	0	2,538	1.16	95	340	1.24	14	2,878	1.18	109
Tap D Oxide	0	0	0	917	0.97	29	196	1.37	9	1,114	1.04	37
Duckhead Oxide	0	0	0	0	0.00	0	115	17.06	63	115	17.04	63
<b>Total Oxide</b>	<b>4,558</b>	<b>1.88</b>	<b>276</b>	<b>12,329</b>	<b>1.25</b>	<b>495</b>	<b>18,629</b>	<b>0.87</b>	<b>518</b>	<b>35,516</b>	<b>1.13</b>	<b>1,289</b>
Urucum Primary	1,005	2.15	70	24,133	1.77	1,372	19,041	1.39	853	44,179	1.62	2,294
Tap AB Primary	1,227	1.66	65	6,064	1.55	302	9,135	1.61	472	16,425	1.59	839
Tap C Primary	0	0	0	479	1.57	24	1,828	1.57	93	2,307	1.58	117
Tap D Primary	0	0	0	698	0.99	22	772	1.19	29	1,470	1.09	52
<b>Total Primary</b>	<b>2,231</b>	<b>1.88</b>	<b>135</b>	<b>31,374</b>	<b>1.70</b>	<b>1,720</b>	<b>30,775</b>	<b>1.46</b>	<b>1,447</b>	<b>64,381</b>	<b>1.60</b>	<b>3,302</b>
Urucum Total	2,446	1.64	129	28,938	1.65	1,531	33,261	1.10	1,175	64,645	1.36	2,834
Tap AB Total	4,343	2.02	282	10,133	1.58	514	12,892	1.41	583	27,369	1.57	1,378
Tap C Total	0	0	0	3,017	1.22	119	2,168	1.52	106	5,185	1.35	225
Tap D Total	0	0	0	1,615	0.98	51	968	1.22	38	2,583	1.07	89
Duckhead Total	0	0	0	0	0	0	115	17.06	63	115	17.06	63
<b>Total Oxide and Primary</b>	<b>6,789</b>	<b>1.88</b>	<b>411</b>	<b>43,703</b>	<b>1.58</b>	<b>2,214</b>	<b>49,404</b>	<b>1.24</b>	<b>1,964</b>	<b>99,897</b>	<b>1.43</b>	<b>4,589</b>
High Grade Stockpile	289	1.45	13	0	0	0	0	0	0	289	1.45	13
Low Grade Stockpile	2,015	0.86	56	0	0	0	0	0	0	2,015	0.86	56
Spent Ore Stockpile	5,808	0.85	159	0	0	0	0	0	0	5,808	0.85	159
<b>Total Stockpiles</b>	<b>8,112</b>	<b>0.87</b>	<b>228</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,112</b>	<b>0.87</b>	<b>228</b>
Tartaruga	0	0	0	0	0	0	5,500	1.6	279	5,500	1.6	279
<b>Total Brazil</b>	<b>14,901</b>	<b>1.33</b>	<b>639</b>	<b>43,703</b>	<b>1.58</b>	<b>2,214</b>	<b>54,904</b>	<b>1.27</b>	<b>2,243</b>	<b>113,509</b>	<b>1.40</b>	<b>5,096</b>
Australia	Measured			Indicated			Inferred			Total		
	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)
Reedy Creek	0	0	0	0	0	0	609	2.4	47	609	2.4	47
<b>Beadell Total</b>	<b>14,901</b>	<b>1.33</b>	<b>639</b>	<b>43,703</b>	<b>1.58</b>	<b>2,214</b>	<b>55,513</b>	<b>1.28</b>	<b>2,290</b>	<b>114,118</b>	<b>1.40</b>	<b>5,143</b>

Table 3. Beadell JORC Resource as at 30 June 2012

The **Urucum** deposit is the largest of the known gold deposits at Tucano forming a 3 km long zone of mineralisation hosted in sheared and sulphidised Banded Iron Formation (BIF). Total resources for Urucum have grown to **65.6 Mt @ 1.36 g/t for 2,834,000 oz**. The primary free-milling ore totals **44.2 Mt @ 1.62 g/t for 2,294,000 oz** has been drilled to approximately 700 m below surface where ore grade intercepts remain completely open at depth.

**Tap AB** is the southernmost deposit along the main 7 km long north-trending mineralised BIF. Total resources for Tap AB are **27.4 Mt @ 1.57 g/t for 1,378,000 oz** of gold. Total oxide resources for Tap AB stand at **10.9 Mt @ 1.62 g/t for 456,000 oz** of gold with underlying fresh rock primary resources of **16.4 Mt @ 1.59 g/t for 839,000 oz** of gold.

From south to north over the 2 km strike length, the deposit has been nominally split into 3 zones referred to as Tap AB 1, Tap AB 2 and Tap AB3. A high grade zone referred to as the Trough Zone forms a central main lode to the broader deposit. Deep oxide weathering in the Trough Zone to in excess of 200 m deep contains an oxide Measured and Indicted Resource of **1.7 Mt @ 3.7 g/t gold for 199,000 oz**. Open pit mining of the Trough Zone has recently commenced the first few benches of the Trough Zone ensuring high grade ore will be available for post commissioning of the gold plant.

Tap AB has been drilled to approximately 450 m below surface in the central part of the deposit and remains completely open at depth and to the south.

**Tap C** is located between Tap AB to the south and Urucum to the north along the same north-trending BIF unit which forms a continuous mineralised trend over the 7 km length. Total resources for Tap C are **5.2 Mt @ 1.35 g/t for 225,000 oz** of gold. The deposit has a deep weathering profile and is dominated by oxide mineralisation.

The **Duck Head** deposit is located approximately 8 km southeast of Tap AB along the same BIF unit that hosts the gold and also iron ore. Existing JORC Inferred Resource total **115,000 tonnes @ 17.1 g/t gold for 63,000 oz**. Beadell is currently completing a major, 15,000 m drill out of the Duckhead Prospect. Exceptional initial RC composite results of up to **10 m @ 70.9 g/t gold** and **15 m @ 31.6 g/t gold** have extended the high grade resource to the surface with further results anticipated shortly.

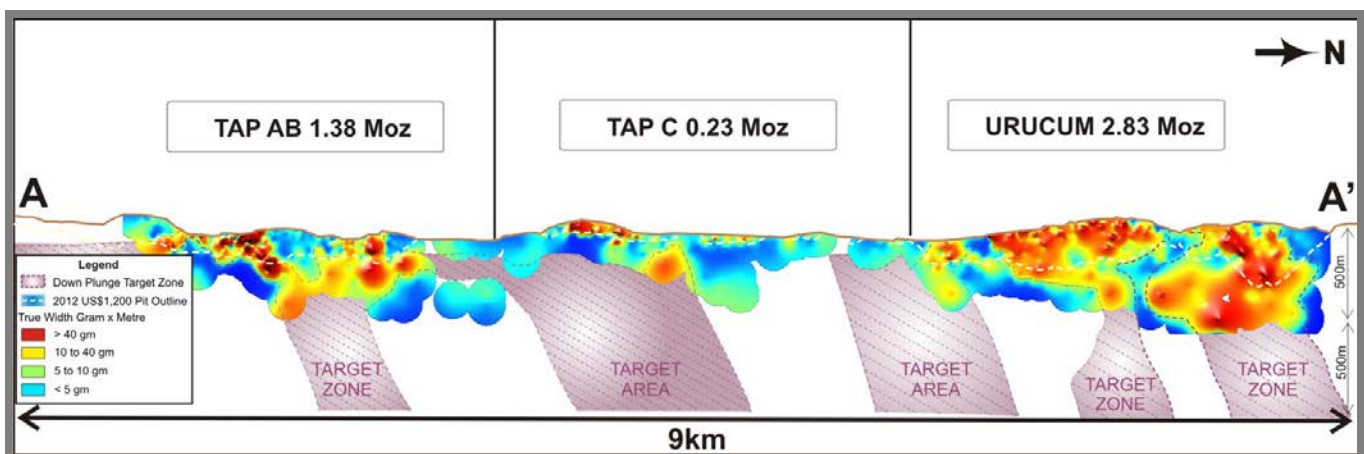


Figure 1. Tucano Longsection



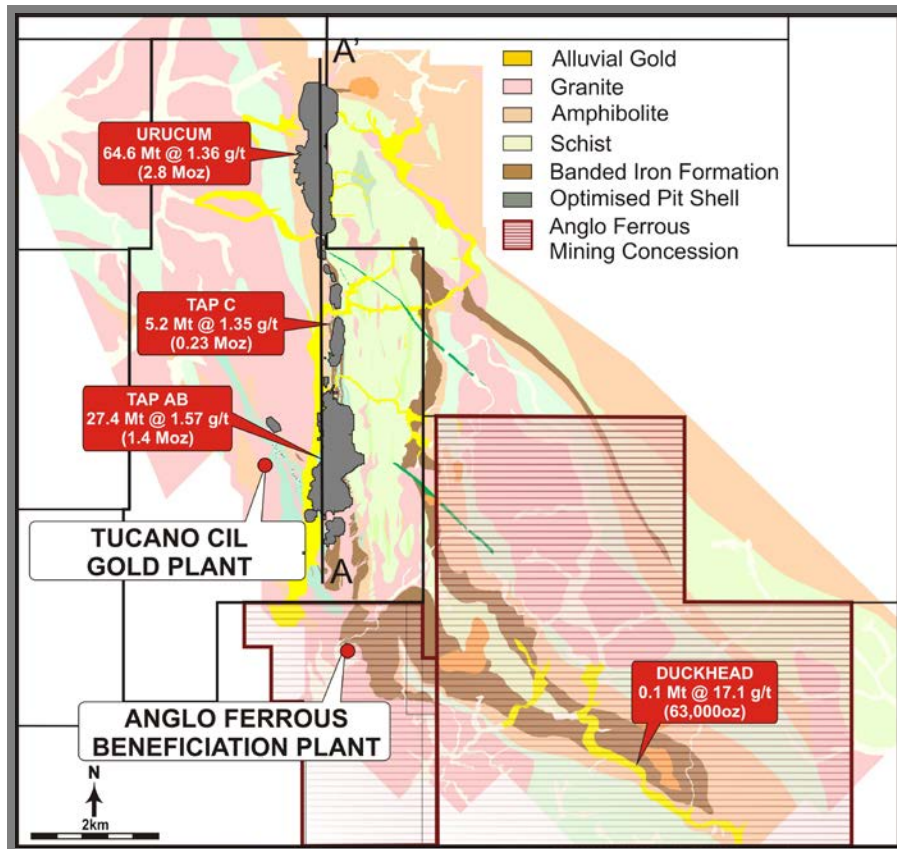


Figure 2. Tucano Deposit Locations

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**Competency Statement**

The information in this report relating to Open Pit Ore Reserves is based on information compiled by Mr Mark Jewell 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Jewell is a full time employee of Beadell Resource Ltd and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating Stockpile Ore Reserves and wireframe interpretation for the Tap AB, Tap D and Urucum gold deposits 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Tan is a full time employee of Beadell Resources Ltd and he 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 the geostatistical modelling and Mineral Resource estimation for the Tap AB and Urucum gold deposits is based on information compiled by Mr Marcelo Antonio Batelochi who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the project economics under consideration to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Batelochi is a Consultant and he 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 the wireframing of the mineralised domains and, geostatistical estimation of gold grades for the Tap C deposit is based on information compiled by Mr Robin Simpson who is a member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Simpson is a full time employee of SRK Consulting and he 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 the Duckhead gold deposit is based on information compiled by Mr Daniel Guibal who is a member of the Australian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the project economics under consideration to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Guibal is a full time employee of SRK Consulting and he 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 technical information has been reviewed and approved by Mr Robert Watkins who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the project economics under consideration to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Watkins is an Executive Director and full time employee of Beadell Resources Ltd and he consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Appendix 1.

### Reserve Parameters for Tucano Deposits.

- Whittle pit optimisation software was used to generate the final pit designs.
- The pit optimisation was based on Definitive Feasibility Study (DFS) geotechnical slope recommendations, which included allowances for the placement of haul roads and geotechnical berms.
- The geotechnical recommendations assume drained or partially drained slope conditions that include pit dewatering and depressurisation measures. These measures are considered technically possible considering the site conditions but have not yet been proven in the field.
- The mining model used a 5% mining dilution and a 5% mining loss to generate the diluted gold grades. .
- Iron ore revenue from mining of coincident iron ore has been factored into the open pit optimisation based on agreed compensation rates under the Joint Operating Agreement with Anglo Ferrous. Iron ore production and revenue from iron concentrate produced from gold ore has been estimated based on metallurgical testwork from each of the deposits and based on the revenue under the terms of the Iron Concentrate Agreement with Anglo Ferrous.
- Densities were based on lithological modelling and derived from an extensive database of specific gravity measurements.
- Mining costs were estimated for an owner operator scenario, guided by the April 2011 DFS study cost estimates.
- The processing costs and processing recoveries were provided by Ausenco and allocated by material type for the pit optimisation purposes.
- 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 operating costs for the 3.5 Mt/y throughput, used for this Ore Reserve, were calculated based on the unit cost 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.
- Measured and Indicated Resource material blocks were assigned revenue value to drive the pit optimisation shell.
- Inferred Resource material blocks were classified as waste for pit optimisation purposes.
- No final pit designs were created for this Ore Reserve update. The pit shell inventories were factored to allow for a conversion of the pit shells to final pit designs. The conversion factors were guided by the April 2011 DFS study conversion factors, based on the comparison of the DFS final pit designs to the final pit shells, as well as taking into account the enlarged final pit shells for the September 2012 work.
- The Proven and Probable Ore Reserve are based on the factored pit shell inventories as described above. Overall an ore tonnage factor of 94.6 % was used to convert the pit shell ore tonnage to the Ore Reserve number. An overall metal tonnage factor of 94.8% was used to convert pit shell gold metal to the Ore Reserve number.
- Base gold revenue for the pit optimisations excluding was US\$1,200 per troy ounce gold. A 2% royalty charge was deducted from this base revenue as selling costs. A US\$ 2 per troy ounce charge was used for refining charges.

### Resource Parameters for Tucano Deposits.

- 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 BIFunit. 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 80° east except for the western zone in Tap AB1 pit which dips shallowly 25-45° west. Individual lenses achieve a thickness of between 5m and 33m. Sulphide content ranges from 5% to 10% and is mostly pyrrhotite and pyrite.

- A summary of the drill holes in each Tucano Mineral Resource is tabulated below.

Deposit	Diamond Holes	Diamond Metres	RC Holes	RC Metres	Auger Holes	Auger Metres	Total Holes	Total Metres
Tap AB	657	90,160	532	30,785	1,556	6,496	2,745	127,441
Tap C	188	16,843	215	11,112	0	0	403	27,955
Tap D	80	7,636	79	5,843	0	0	159	13,479
Urucum	297	73,922	136	10,549	814	3,022	1,247	87,493
Duck Head	13	1,894	0	0	0	0	13	1,894

- Tap AB, Tap C, Tap D and Urucum resources are reported above a 0.4 g/t gold lower cut off grade. Duckhead, Tartaruga and Reedy Creek are reported above a 0.5 g/t gold lower cut off grade.
- RC Holes of 3 inches diameter were angled to the east and west at generally minus 60°. Entire samples are taken every metre, dried and split on site to 600g. 300g split of this sample is then pulverised to -100 um and a 100g pulp shipped for offsite analysis.
- The diamond drill holes commence with HQ size in the colluvium/saprolite, reducing to NQ size in hard rock. Core is half cut to a maximum length of 1m, crushed (-2mm) and split to 600 g. 300 g of this sample is then pulverised to -100 um and a 100 g pulp shipped for offsite analysis.
- All gold determinations were carried out by standard 50g fire assay at SGS laboratories in Belo Horizonte. Pulps are retained on the mine site for storage.
- Diamond holes have been surveyed by techniques unaffected by magnetism such as Maxibore and more recently Deviflex methods.
- Drillhole collar locations and elevation are surveyed by total station.
- The resources have been drilled up to 700 vertical metres below surface on a 40 m x 20 m drill pattern with infill drilling (ongoing) down to a 20 x 20 m pattern.
- Bulk densities have been measured on wet samples at irregular intervals in the oxide (where reasonable intact core can be collected) and every metre in the fresh material. Dry densities have been back-calculated for the oxide material at the modelling stage using the moisture content of various lithology types established from wet vs dry drill core density and insitu tests within the open pits at Tucano. Block model densities have been estimated using nearest neighbour technique and constrained within lithological, hardness and oxidation domains.
- For both RC and Diamond, a lab duplicate, field duplicate and certified standard are inserted every 20<sup>th</sup> sample. A blank is inserted at the start of every batch. Standard results are routinely checked to ensure values are within tolerance and the whole batch submitted for reanalysis if this is exceeded.
- Tap AB and Urucum models have been modelled separately in Isatis and imported into a sub-blocked Datamine model. Blocks 2m x 5m x 1m (x,y,z) were defined and ordinary kriging was used to estimate block grades within individual lode wireframes. Blocks 8 m x 20 m x 4 m were defined to estimate blocks using ordinary kriging outside the lode wireframes.
- Tap AB, Tap D and Urucum were modelled using conventional 3D wireframes to constrain the 0.3 g/t mineralisation boundary.
- Tap C was constrained by using a Leapfrog wireframe on a nominal 0.25 g/t envelope. Block gold grades were estimated in Isatis by ordinary kriging using a block size of 8 m x 20 m x 4 m and then imported into a block model with sub-blocking of 2 m x 5 m x 1 m. Leapfrog was also used to constrain a low grade / waste 0.1 g/t gold envelope surrounding the wireframe lodes at Tap AB and Urucum.
- Anomalously high grades were controlled in the Tap C estimation by using grade and distance thresholds. Where a composite grade exceeded the grade and search distance threshold, the composite was top-cut to the grade threshold. Where a composite grade exceeded the grade threshold but not the distance threshold, the composite was included at its full value. The distance threshold was set at 20 m. For the Tap C lode domains, the grade threshold chosen was 20 g/t, and for the Tap C colluvium domains the grade threshold was 10 g/t.
- Oxidation, colluvium and resistance surfaces were modelled for each deposit. Geological domains were wireframed.
- Drill hole samples have been composited to 2 m intervals for the resource calculation.
- For Tap AB and Urucum various top cuts were applied depending on the statistical distribution of gold within each lode or domain for each deposit.