

## BAOBAB RESOURCES PLC

### OPERATIONAL UPDATE: TETE GLOBAL INVENTORY EXCEEDS 720MT

21 FEBRUARY 2013



Baobab Resources Plc ("Baobab" or the "Company") the iron ore, base and precious metals explorer with a portfolio of exploration projects in Mozambique, is pleased to present the results of the resource re-estimation and up-grade at the Tenge/Ruoni prospect at its 85% owned Tete pig iron, vanadium and titanium project (the "Tete Project") in which International Finance Corporation ('IFC') hold a 15% participatory interest.

#### HIGHLIGHTS

- Coffey Mining Limited has revised the resource estimates for the Tenge/Ruoni resource blocks based on the infill drilling programmes completed at Ruoni North and portions of the Tenge block during 2012.
- The Tete Project's global resource base has been expanded further to 725Mt (JORC), 550Mt of which is defined underlying the 2.5km<sup>2</sup> footprint of the Tenge/Ruoni prospect.
- In addition, a total of 152Mt has been up-graded to an Indicated Resource category:
  - 79.8Mt of the original 93.4Mt Ruoni North resource was upgraded, representing an 85% conversion.
  - 72.6Mt was upgraded to an Indicated Resource category at the Tenge resource block with an additional seven drill holes still to be analysed.
- Infill drilling during 2012 was also completed at the Ruoni South resource block, with results still to be released.
- The Definitive Feasibility Study ("DFS") drilling programme commenced at Tenge on 2 February 2013. The objective of the programme is to elevate resources that lie within the Stage 1 pit shell to a 'measured' category (representing the first c.10 years of operation at 2mpta pig iron production), as well as collect representative material for the next round of metallurgical test work.

**Commenting today, Ben James, Baobab's Managing Director, said:** *'The Company is very pleased to announce the expansion of the global resource inventory to 725Mt. The Tenge/Ruoni prospect's compact 2.5 square kilometre footprint now hosts over half a billion tonnes of iron ore grading 36.4% Fe, sufficient to underpin a large scale, vertically integrated pig iron operation over a significant life of mine. Of particular encouragement is the high conversion rate of 85% from inferred to indicated mineral resources on the Ruoni North resource and the plus 70Mt defined so far at Tenge.'*

#### TENGE/RUONI RESOURCE STATEMENT

Tenge/Ruoni is the easternmost prospect area of the Massamba Group, Tete Project. Mineralisation in the area has been synformally folded with the fold hinge plunging gently to the west-northwest. The northern and southern limbs of the fold comprise the Ruoni North and Ruoni South resource blocks, while the outcropping fold hinge comprises the Tenge resource block to the east. The buried central portion of the fold comprises the Ruoni Flats resource block.

Internationally respected consultant, Coffey Mining Limited ('Coffey'), has revised the resource estimates for the Tenge/Ruoni resource blocks based on the infill drilling programmes completed at Ruoni North and portions of the Tenge block during 2012. An additional 59Mt was classified in the inferred resource category across the prospect. In addition, a total of 152.3Mt was up-graded to an indicated resource category: 79.8Mt of the original 93.4Mt Ruoni North resource was upgraded, representing an 85% conversion, and 72.6Mt was upgraded to an Indicated Resource category at the Tenge resource block with an additional seven drill holes still to be analysed. Infill drilling during 2012 was also completed at the Ruoni South resource block, however results are still to be returned from the laboratory.

Coffey's estimates of inferred and indicated mineral resources, including the South Zone estimate (announced on 30 August 2011) and Chitongue Grande (announced on 31 October 2011) are summarised below. All estimates have been compiled in accordance with the Joint Ore Reserves Committee (JORC) Code guidelines. Notes on the estimation parameters are presented as Annexure 1.

Coffey Mining has estimated the expected average concentrate characteristics for the mineralised material for the combined Tenge/Ruoni resource as: 59.7% Fe, 0.8% V<sub>2</sub>O<sub>5</sub>, 10.5% TiO<sub>2</sub>, 0.9% SiO<sub>2</sub>, 3.2% Al<sub>2</sub>O<sub>3</sub>, 0.001% P and 0.2% S at a Mass Recovery of 42.9%. A detailed summary of the expected concentrate grades of the individual ore domains is tabulated in Annexure 1.

Tete Iron Ore Project														
Summarised Grade Tonnage Report														
Whole Rock Grade Estimates Derived by Ordinary Kriging														
*15% Lower Cutoff Grade Applied    **No Lower Grade Cutoff Applied														
Resource Classification Based on JORC Code (2004) Guidelines														
AREA	Resource Classification	Tonnage (Mt)	Fe (%)	V <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	CaO (%)	K <sub>2</sub> O (%)	MgO (%)	MnO (%)	S (%)
Ruoni North*	Indicated	79.76	37.07	0.42	13.77	15.63	9.46	0.005	-1.77	2.2	0.19	4.92	0.22	0.19
	Inferred	28.82	37.99	0.42	14.28	14.42	9.27	0.004	-1.87	2.06	0.19	4.68	0.21	0.23
	Total	108.58	37.31	0.42	13.9	15.31	9.41	0.005	-1.8	2.16	0.19	4.86	0.22	0.2
Tenge*	Indicated	72.58	37.68	0.41	13.93	14.9	9.59	0.008	-1.69	2.31	0.22	4.19	0.21	0.21
	Inferred	120.3	37.57	0.41	14.03	15	9.55	0.008	-1.1	2.15	0.2	3.89	0.21	0.18
	Total	192.88	37.61	0.41	13.99	14.97	9.56	0.008	-1.32	2.21	0.21	4	0.21	0.19
Ruoni South*	Inferred	76.82	33.66	0.37	12.55	18.71	10.59	0.006	-1.06	3.07	0.3	4.73	0.21	0.22
Ruoni Flats*	Inferred	172.45	35.63	0.4	12.93	16.86	10.16	0.006	-1.36	2.62	0.25	4.65	0.2	0.28
Chitongue Grande**	Inferred	60.9	24.9	0.2	9.6	29.4	12	0.003	-0.2	4.8	0.7	4.6	0.2	0.3
South Zone**	Inferred	113	27.5	0.2	10.1	25.9	8	0.29	-0.7	5.2	0.3	6.9	0.3	0.3
Total Indicated		152.34	37.4	0.4	13.8	15.3	9.5	0.006	-1.7	2.3	0.2	4.6	0.2	0.2
Total Inferred		572.29	33.1	0.3	12.3	19.7	9.8	0.1	-1.0	3.3	0.3	4.9	0.2	0.3
Grand Total		724.63	34.0	0.4	12.6	18.8	9.7	0.1	-1.2	3.1	0.3	4.9	0.2	0.2

Where no lower cut-off grade has been applied, the resource blocks have been constrained by geologically defined mineralised zones and therefore reported accordingly; it is currently assumed that mining selectivity is limited within the mineralised zones. A three-dimensional block model was generated for the Tenge deposit to enable grade estimation. Coffey Mining has based its grade interpolation on Ordinary Kriging. Whole rock and concentrate grades were interpolated based on 4m composite samples using domain control for both composite and block selections applying hard boundaries between the zones. A service variable approach to the estimation of block concentrate grades required to account for the variation in percent recovery weight. The concentrate grades (Fe, V<sub>2</sub>O<sub>5</sub>, TiO<sub>2</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, LOI, CaO, K<sub>2</sub>O, MgO, Mn, and S) were then back calculated from these estimates. Ordinary Kriging was also used to obtain estimates of DTR and service variables for Ruoni South. For the concentrate grades of all other resource blocks, a similar approach was adopted. However, insufficient DTR test work resulted in a lower confidence in the estimate, precluding their classification.

The Company owns 85% of the Tete Project after IFC acquired a 15% participatory interest in the project by way of an unincorporated joint venture in 2009. Please refer to RNS dated 17 January 2009 for further details of the joint venture.

The information in this release that relates to Exploration Results is based on information compiled by Managing Director Ben James (BSc). Mr James is a Member of the Australasian Institute of Mining and Metallurgy, is a Competent Person as defined in the Australasian Code for Reporting of exploration results and Mineral Resources and Ore Reserves, and consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in the report which relates to the Mineral Resource is based on information compiled by Oliver Mapeto who is a Member of The Australasian Institute of Mining and Metallurgy and is employed by Coffey Mining Ltd. Mr. Mapeto has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Mineral Resources and Reserves". Mr. Mapeto consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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## ANNEXURE 1

### ***Resource Statement Notes:***

**Table 2**  
**Baobab Mining Services Pty Limited**  
**Tete Iron Ore Project**  
**Tenge-Ruoni Titanio-Magnetite Project**  
**Concentrate Grade Estimates Derived by Ordinary Kriging**  
**Lower Grade Cutoff of 15% Fe Applied**

Prospect	Concentrate														
	Tonnes (Mt)	DTR (%)	Fe (%)	V <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	LOI (%)	CaO (%)	K <sub>2</sub> O (%)	MgO (%)	MnO (%)	Na <sub>2</sub> O (%)	S (%)
Ruoni North	108.6	50.4	58.3	0.8	12.5	0.83	3.5	0.001	-3.6	0.07	0.01	1.5	0.19	0.01	0.13
Tenge	192.9	46.6	59.1	0.8	11.5	0.86	3.2	0.001	-3.2	0.08	0.01	1.3	0.18	0.01	0.14
Ruoni South	76.9	35.6	61.6	0.9	7.9	0.99	3	0.001	-3.3	0.1	0.01	1	0.12	0.02	0.22
Ruoni Flats	172.4	41.4	60.5	0.9	9.4	0.9	3.1	0.001	-3.3	0.08	0	1.2	0.14	0.01	0.25
Total	550.7	42.9	59.7	0.8	10.5	0.88	3.2	0.001	-3.3	0.1	0.01	1.3	0.16	0.01	0.18

- The Tenge-Ruoni Project is part of Baobab Mining's Tete Project in Mozambique. The project is located north of the Provincial capital of Tete in the central portion of the Tete Suite (a mafic complex), covering an area of approximately 632km<sup>2</sup>. Diamond (DD) and reverse circulation (RC) drilling was carried out as part of a larger exploration and resource definition.
- Mineralisation is cumulate-style, in massive or breccia form, emplaced predominantly as a single pod of mineralisation with occasional partings of anorthosite. Numerous subvertical dolerite dykes obliquely dissect the zone of mineralisation. Faulting also affects the mineralisation.
- Drilling coverage for the whole rock grades (in total 13 grade items) is on a variable grid over the target area, drilling being aligned mainly along sections oriented perpendicular to mineralisation. There are also 6 holes specifically targeting the dykes. The drillhole database used in this resource estimate was the same as in the previous models, with the addition of assay data from 56 new holes, many of which infill previous drilling. In total, 134 drillholes with valid data were used in this resource update.
- Drillhole data and mapping of dykes outcropping at surface was used to model the dykes. The volume of mineralisation was interpreted using geological logging and a head grade mineralisation cut-off of 15% Fe.
- The previous models for the individual prospects have been coalesced and updated with the new drilling data to create a unified geological/mineralisation model covering the entire Tenge-Ruoni Project area. Although every effort has been made to maintain the limits of the individual prospect areas as previously reported, the boundaries between the prospect domains are now vertical, resulting in a slight drop in tonnes

for Ruoni Flats from previously reported, and a corresponding slight increase in tonnes for the remaining prospect areas.

- Some non-mineralised horizons within the mineralised zones may not be separable during the mining stage; this should be accounted for in both metallurgical and mine planning.
- Information about oxidation was provided enabling a base of oxidation surface to be produced. However there is currently an insufficient number of bulk density data to define a different density value for oxidised material.
- For head (whole rock) analysis, grade characteristics were based on assaying for Fe, V, TiO<sub>2</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, LOI, CaO, K<sub>2</sub>O, MgO, Mn, Na<sub>2</sub>O and S using XRF analysis or thermogravimetric measurement (for LOI).
- Baobab has in place an industry standard QAQC programme in place. Analysis of standard samples shows that achieved accuracy is acceptable and appropriate for use in resource estimation. Field duplicate sample data was not available for analysis at the time of the resource estimation. Standard laboratory quality control data show no unexpected deviations.
- Statistical analysis was completed on raw samples and 4m composites. Statistical analyses were also completed on 3683 DavisTube testwork results for largely 4m composites, subsequent 4m composites and service variables.
- Variography on the composite data was defined as input into the spatial grade estimation. Variography was undertaken on DTR, concentrate grades and service variables as input into the weighted grade estimation.
- At the time of the resource estimation, Baobab Mining has conducted Davis Tube testwork to determine the percent weight recovery (DTR) of magnetic material (concentrate) on 85% of the 4307 composite head XRF samples. The concentrate has then been assayed to establish its grade characteristics and enable an initial estimate of expected concentrate grades prior to more detailed metallurgical testwork and determination of a final processing method. The concentrate grades are representative of the recovered portion only. The concentrate grade estimation was completed using service variables to ensure appropriate weighting. Service variables were calculated as Fe grade multiplied by DTR, SiO<sub>2</sub> multiplied by DTR, Al<sub>2</sub>O<sub>3</sub> multiplied by DTR etc for the remaining grade items. An additional programme of metallurgical testwork to further assess concentrate recovery and grades is planned.
- Grade estimates were estimated for parent blocks of size 50m x 50m x10m with sub blocks of size 2mx2mx2m. The method used to obtain grade estimates was Ordinary Kriging (OK).
- Ordinary Kriging was also used to obtain estimates of DTR and service variables. The concentrate grades (Fe, V<sub>2</sub>O<sub>5</sub>, TiO<sub>2</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, LOI, CaO, K<sub>2</sub>O, MgO, Mn, Na<sub>2</sub>O and S) were then back calculated from these estimates.
- There is a significant amount of DTR and concentrate data; due to variability within that data as currently constrained by the existing domains, and then also some uncertainty about how the DTR results might relate to any final treatment/metallurgical process, the DTR estimation is not classified as per that of the head grade estimates. Geo-metallurgical domaining is currently being reviewed and refined to possibly improve the modelling of DTR and concentrate data in the model. The indicative concentrate and DTR grades are provided in Table 2.
- In situ dry bulk densities were assigned on the basis of average values from testwork (3.6t/m<sup>3</sup> for Tenge, 3.9t/m<sup>3</sup> for Ruoni North). A range of density values from 2.7t/m<sup>3</sup> to 2.9t/m<sup>3</sup> were assigned to waste. Additional studies are needed to gain an understanding of the density distribution throughout the deposit.
- Resource classification was developed from the confidence levels of key criteria including drilling methods, geological understanding and interpretation, sampling, data density and location, grade estimation and quality.