

## BAOBAB RESOURCES PLC

### TENGE DELIVERS 159Mt, EXPANDING GLOBAL RESOURCE INVENTORY TO 482Mt

5 MARCH 2012



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 estimation at the Tenge prospect, one of five resource areas in the Tete iron / vanadium / titanium Project.

#### HIGHLIGHTS

- Tete global resource base has expanded to 482Mt (JORC), over 300Mt of which is defined at Tenge/Ruoni, firmly establishing the prospect area as a standalone asset.
- The Tenge 159Mt Inferred Resource reports a head grade of 38.4% Fe and an average concentrate grade of 60.4% Fe, 0.8% V<sub>2</sub>O<sub>5</sub> and 12.5% TiO<sub>2</sub> at a mass recovery of 47.6%.
- Coffey Mining has been commissioned to complete an Exploration Target assessment of the resource potential underlying the 'Flats' area of Tenge/Ruoni.
- The Tete Pre-Feasibility Study (PFS) is underway. Baobab has engaged internationally respected specialist consultants Coffey Mining (resource, mining and environmental), SNC-Lavalin (engineering and infrastructure), Dr. Clout (mineral processing) and Ferrum Consultants (market studies) under the management of an experienced in-house technical team headed by project engineer, Mr. Christian Kunze.

**Commenting today, Ben James, Baobab's Managing Director, said:** *"The Tenge resource statement is the culmination of the 2011 drilling programme. Baobab started 2011 with a resource base of 48Mt and has increased it tenfold to 480Mt, far outstripping the Company's original 300Mt target.*

*"The project has made the transition from one of exploration to one of development and is strategically located in the emerging mining hub of the Tete province, Mozambique, one of Africa's fastest developing economies, with unique access to existing and expanding power and infrastructure as well as abundant coal reserves.*

*"The Scoping Study, announced in November last year, establishes the compelling economics of a vertically integrated mine-mouth smelting operation to produce a higher value, higher demand, pig iron product for distribution and sale in the growth regions of Asia, while leaving open the opportunity of downstream steel processing in-country in the event that any of the major steel companies, some already active in the Tete region, elect to explore this route. The Project's expanded resource inventory makes this a real and viable possibility that may be scaled up significantly.*

*"The Company, with the support of its strategic partner the IFC, has now embarked on a Pre-Feasibility Study, engaging internationally respected independent consultants to cover off key components under the management of a highly experienced in-house technical team. Baobab looks forward to keeping investors up-to-date as the PFS develops over what is promising to be a very exciting year for the Tete Project."*

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## TENGE RESOURCE

Internationally respected consultant, Coffey Mining Limited, has completed a resource estimate based on the completed drilling programme at Tenge. Their estimates of Inferred Mineral Resources, including the South Zone estimate (announced on 30 August 2011), Chitongue Grande and Ruoni North (both announced on 31 October 2011) and Ruoni South (announced on 7 December 2011), are summarised below. All estimates have been compiled in accordance with the Joint Ore Reserves Committee (JORC) Code guidelines. Notes on the Tenge estimation parameters are presented as Annexure 1.

In many areas the resource blocks remain open along strike and at depth, requiring extensional drilling programmes in 2012. Some areas of intersected mineralisation remain unclassified due to insufficient drilling density and will also require further drill definition.

Due to consistent sampling and analytical protocols, including routine Davis Tube Recovery (DTR) determinations, across mineralised and non-mineralised waste material at Tenge, Coffey Mining has been able to estimate the expected average concentrate characteristics for the mineralised material to an inferred Resource level of confidence: 60.4% Fe, 0.8% V<sub>2</sub>O<sub>5</sub>, 12.5% TiO<sub>2</sub>, 0.8% SiO<sub>2</sub>, 3.3% Al<sub>2</sub>O<sub>3</sub>, 0.001% P and 0.1% S at a Mass Recovery of 47.6%.

The expected weighted average concentrate characteristics for the global 482.4Mt Inferred Resource are in the order of 60.3% Fe, 0.8% V<sub>2</sub>O<sub>5</sub>, 10.9% TiO<sub>2</sub>, 1.0% SiO<sub>2</sub>, 3.3% Al<sub>2</sub>O<sub>3</sub>, 0.001% P and 0.2% S at a Mass Recovery of 36.7%.

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 (%)	Mn (%)	S (%)
Tenge*	Inferred	158.9	38.4	0.4	14.3	14	9.2	0.01	-1.4	2.1	0.2	4.1	0.2	0.2
Ruoni North**	Inferred	93.4	34.6	0.4	12.7	12.8	10.2	0.003	-1.6	2.6	0.2	5	0.2	0.2
Ruoni South*	Inferred	56.2	33.7	0.4	12.5	18.7	10.6	0.004	-1.1	3.1	0.3	4.8	0.2	0.2
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

<b>TOTAL</b>	Inferred	482.4	32.9	0.3	12.2	19.0	9.6	0.073	-1.1	3.4	0.3	5.1	0.2	0.2
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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.

## RUONI FLATS EXPLORATION TARGET

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.

Coffey Mining has been commissioned to complete an Exploration Target assessment of the resource potential of the buried fold hinge underlying the 800m x 700m 'Ruoni Flats' area between Ruoni North and Ruoni South. The Company expects to be able to announce the results of the study during March 2012.

## TETE PROJECT OVERVIEW

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The project is located in the richly endowed Tete province of Mozambique. The province hosts some of the largest undeveloped coal reserves on the planet and, with estimates pointing towards the area producing up to 20% of the world's coking coal by 2015, is fast-tracking to become a mining and industrial hub of global significance.

Immediately south of Baobab's tenure, and sharing the Company's licence boundaries, are c.15Bt of coking and thermal coal resources being brought into production by two of the world's largest mining houses, Rio Tinto and Vale, along with premier steel producers, Tata Steel, Nippon Steel, Jindal Steel and Posco. Other operators in the area include AIM listed companies Beacon Hill Resources plc, Ncondezi Coal Company plc and Eurasian Natural Resources Corporation plc (ENRC).

Low tariff hydro-electric power is readily available from the 2,075 megawatt Cahora Bassa dam. Studies are underway to expand the dam's capacity by an additional 1,300 megawatts. A new 1,500 megawatt scheme at Mphanda N'kuwa, also on the Zambezi, is in advanced planning stages and due to commence production in 2015. The Company believes that it will be able to negotiate tariff rates at a third, if not a quarter, of typical power generation costs in Australia or west Africa which will have a significant impact on future operating costs.

The railway connecting Tete with the port of Beira is being refurbished, as is the port. The deep water port of Nacala and railway linking the port with the interior is also being refurbished under the auspices of a consortium including the Mozambique government, Vale and the World Bank. An order of magnitude study has been completed on a dedicated heavy haulage railway to a Greenfields port located within 500km of Tete.

The Tete Project straddles the central portion of the Tete Mafic Complex and contains two areas of titanomagnetite / ilmenite mineralisation; the Singore area to the south and the Massamba Group in the north. The Massamba Group is composed of a series of three prospects (Chitongue Grande, Chimbala and South Zone) forming an 8km long trend and the 3.5km long Tenge / Ruoni prospect to the east.

IFC (International Finance Corporation) hold a 15% participatory interest in the project with Baobab owning the remaining 85%. The Company announced on 6 February that IFC has supported the 2012 pre-feasibility study (PFS) through a pro-rata contribution of approximately US\$1.9m.

Building on the successful exploration programmes of 2009 and 2010, Baobab accelerated activities in 2011 to achieve two key milestones; to define a minimum resource base of 300Mt on which a Scoping Study could be finalised. The Company completed an aggressive c.40,000m drilling campaign that resulted in the expansion of the global resource base to of 482Mt.

The Scoping Study, completed by independent consultants and applying conventional beneficiation and smelting technologies, assessed two production scenarios:

- Scenario 'A': base-case production of 3Mtpa titano-magnetite concentrate and 0.5Mtpa ilmenite concentrate products for export. Initial capital expenditure (capex) estimate of US\$448m.
- Scenario 'B': capitalising on the Project's access to low tariff hydro-electric power and strategic proximity to thermal coal reserves to add further value on site through the mine-mouth smelting of 1Mtpa pig iron. Initial capex estimate of US\$690m.

While the base-case model for scenario 'A' demonstrated viable Project fundamentals, the optimisations and financial modelling of Scenario 'B' at a 10% discount rate provided compelling economics with pre-tax net present value (NPV10) and internal rate of return (IRR) figures of US\$1.4b and 34% respectively. The estimated average annual net cash flow after capex over the modelled 25 year mine life is US\$275m.

The Scoping Study results show very clearly the 'value add' from the plans for on-site smelting of pig iron and underlines the strategic advantages of the Project's unique geography with respect to infrastructure and complementary resources. Producing a higher value, high demand product will not only broaden the market base, but also mitigate the requirement to compete for rail and port access.

The vanadium potential remains to be modelled and could add further to the value of this project. Reduced input costs through long-term domestic coal contracts and on-site power co-generation also need to be assessed, while the expanding resource base at Tenge/Ruoni, underpinning a meaningful +30 year mine life, allows scope for ramping up production.

For a detailed summary of the Scoping Study, please refer to RNS dated 29 November 2011.

## PRE-FEASIBILITY STUDY

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A detailed Pre-Feasibility Study (PFS) work programme is underway. The Company has signed contracts with leading mining, engineering and environmental consultancies to complete the various aspects of the study.

The PFS will be coordinated out of Australia by Baobab's Project Manager, Christian Kunze. Mr. Kunze has a Master's Degree in Mechanical Engineering / Business Administration and 20 years international management experience in iron ore project development, plant engineering and steel manufacture. He has worked for

industry specialists including Siemens VAI and ProMet Engineers, and has a well-established network of professional associates in Africa, USA, Europe, Asia and Australia. Mr. Kunze's specific strength lies in a combined technical and commercial understanding of projects.

The mineral processing component of the study will be supervised by consultant, Dr. John Clout. Dr. Clout is a leader in iron ore petrography, metallurgy, beneficiation, downstream processing and marketing. He was the Head of Resource Strategy at FMG in which role he was instrumental in the success of the company. He is an ex-CSIRO manager and has advised on mineral processing to companies including Rio Tinto, BlueScope, OneSteel, Robe River, Hancock and WISCO. John holds the position of Adjunct Professor in Mineral Processing at the School of Mechanical and Chemical Engineering, University of Western Australia.

Coffey Mining has been selected to complete the resource, mining and environmental aspects of the PFS. Coffey has more than 50 years' experience as specialist mining consultants operating in over 60 countries across the globe and has contributed to iron ore feasibility studies for clients including FMG, Atlas Iron, Robe River, BHP Billiton, Gibson Iron, OneSteel, Hancock Prospecting, Grange Resources, Brockman Resources and Midwest Cooperation.

SNC-Lavalin has been selected as the engineering and infrastructure consultant. SNC-Lavalin is one of the largest engineering and construction groups in the world, consistently ranked in the top ten international design firms by Engineering News Record. As a provider of engineering, procurement, construction and project management services SNC-Lavalin has the capacity to take the Tete project from feasibility level through to project execution. Recently executed studies relating to the beneficiation of magnetite and heavy mineral sands projects include FMG's North Star Magnetite Project, Zammin Ferrous' Valentines Magnetite Project and Grand Cote Mineral Sands Project.

Mr. Chris Barrington of Ferrum Consultants has been commissioned to complete an in-depth pig iron marketing study. Mr. Barrington has almost 40 years experience in the international natural resources field, including 17 years in the global iron ore industry. He purchased iron ore for British Steel Corp and marketed Brazilian and Australian iron ore for Utah International and Swedish iron ore for LKAB; he also had responsibility for LKAB's product strategy. He was Managing Director of Fergusson Wild & Co. Ltd. subsequent to which he established his own minerals distribution business (sold in 2007 to the Prince Minerals group). Mr. Barrington has held the role of secretariat of the International Pig Iron Association and is chief advisor to the International Iron Metallics Association.

*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.*

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

- The Tenge Prospect is part of Baobab Mining's Tete Iron Ore 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>. The diamond (DD) and reverse circulation (RC) drilling recently carried out as part of a larger exploration programme included drilling on the Tenge Prospect.
- 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.
- There is drilling coverage for the whole rock grades (in total 12 grade items) on a variable grid over the target area, drilling being aligned mainly along sections orientated northwest-southeast. The host rocks were intersected by 8 diamond and 18 reverse circulation drillholes. Not all assays were available at time of resource estimation.
- 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.
- No information was supplied regarding oxidation effects.
- 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 and S using XRF analysis or thermogravimetric measurement (for LOI).
- Baobab has in place an industry standard QAQC programme; results from this programme were not available at the time of resource estimation.
- Statistical analyses on samples and 4m composites were completed. Variography was also conducted as input into grade estimation.
- Davis Tube testwork has been undertaken to determine the percent weight recovery (DTR) of magnetic material (concentrate). The concentrate has then been assayed to establish its grade characteristics.
- As the concentrate grades are representative of the recovered portion only, the estimation requires the use of service variables to ensure the blocks are appropriately weighted. Service variables are calculated as DTR multiplied Fe grade, DTR multiplied SiO<sub>2</sub>, DTR multiplied Al<sub>2</sub>O<sub>3</sub> and so on for the remaining grade items (12 in all).
- Statistical analyses were also completed on Davis Tube testwork samples, subsequent 4m composites and service variables. Variography was undertaken on DTR, concentrate grades and service variables.
- Grade estimates were calculated for 50m (east-west) by 50m (north-south) by 10m (vertical) blocks. 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 and S) were then back calculated from these estimates.
- In situ dry bulk densities were assigned on the basis of average values from testwork (3.6t/m<sup>3</sup>). 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. The requirements for infill drilling due to uncertainties in geological interpretation and mineralisation envelopes, twin diamond drillholes to verify the veracity of the RC drilling, some uncertainties with respect to density values and lack of oxidation data have resulted in the resource being classified as an Inferred Mineral Resource.