# BAOBAB RESOURCES PLC

## TENGE/RUONI DRILLING UPDATE

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Baobab Resources Plc ('Baobab' or the 'Company') is an iron ore, base and precious metals explorer with a portfolio of exploration projects in Mozambique. The Company is pleased to present an update of activities at the Massamba Group iron / vanadium / titanium project where resource inventories currently total 324Mt (JORC Inferred).

Scoping level viability analysis of the project assessed a vertically integrated mining, beneficiation and pig iron smelting operation and reported before tax net present value at a 10% discount (NPV10) and internal rate of return (IRR) figures of US$1.4 billion and 34% respectively (as announced in the RNS dated 29 November 2011).

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.

## HIGHLIGHTS

- The completed Tenge resource drilling programme has defined broad packages of mineralisation. Analytical results from eight reverse circulation (RC) drill holes have been returned with a further 15 drill holes currently undergoing analysis.
- Significant drill intercepts, up to 83m in length, report an average head grade of 36% Fe with DTR concentrate grades reporting a weighted average of 59% Fe, 0.8% $V_2O_5$ and 12% $TiO_2$ at a mass recovery of 43%.
- Coffey Mining is on schedule to complete the Tenge resource estimate by March 2012 which has the potential to add substantially to the current 324Mt global inventory.

**Commenting today, Ben James, Baobab's Managing Director, said:** *"The RC results to date correlate particularly well with the Ruoni North resource block and are entirely in line with the Company's expectations. Baobab looks forward to presenting investors with the next round of drill results shortly, prior to the finalised Tenge resource during March."*

## TENGE RESOURCE DRILLING

Tenge/Ruoni is the easternmost prospect area of the Massamba Group. Drilling at Tenge/Ruoni has intersected a heavily mineralised package varying in thickness from 60m to 150m. Mineralisation has been synformally folded with the fold hinge plunging gently to the west-northwest. Exploration campaigns in the prospect area have been divided into three resource blocks:

- **Ruoni North:** representing 1km of strike along the northern limb of the fold. Thirty seven reverse circulation (RC) and diamond holes have been completed to date across seven traverses for an aggregate total of c.5,750m. Drilling has intersected a substantial package of mineralisation from surface dipping at 25° to 50° to the southwest.

  On 31 October 2011, the Company announced the estimation of a 93Mt Inferred Resource at Ruoni North. Further drilling has subsequently been completed and the Company is confident that portions of the Inferred Resource will be elevated to Indicated once the analytical results have been returned.

- **Ruoni South:** representing 1.2km of strike along the southern limb of the fold. Twenty seven RC and diamond holes have been completed for an aggregate total of 5,200m. Mineralisation in the Ruoni South area is generally steeper dipping (c.65° to the north).

  On 7 December, the Company announced the estimation of a 56Mt Inferred Resource at Ruoni South. Of particular interest is the 0.9% $V_2O_5$ concentrate grade which is 12% higher than results reported from Ruoni North and some 28% higher than indicated concentrate grades from South Zone and Chitongue Grande resource areas.

- **Tenge:** representing the hinge zone of the fold and covering a strike length of approximately 1.3km. A 4,800m programme of diamond and RC drilling (26 drill holes) has been completed.

  Consultant, Coffey Mining Pty Ltd ('Coffey'), is currently developing a geological model for the Tenge block and expects to finalise a resource estimate during March 2012. All resource statements are completed in accordance with the Joint Ore Reserves Committee (JORC) guidelines.

Analytical results for eight RC holes from the Tenge resource drilling programme have been returned. Samples from all remaining Tenge diamond and RC drill holes are currently undergoing analysis at the ALS Chemex laboratory in Perth, Western Australia.

Drill hole collar details and significant intercepts are tabulated below. The average head grade of all Tenge significant intercepts reported to date (including those announced on 30 January 2012) is 36% Fe with the DTR concentrate grades reporting a weighted average of 59% Fe, 0.8% $V_2O_5$ and 12% $TiO_2$ at a mass recovery of 43%. Due to adverse water conditions down-hole, some RC drill holes were terminated in mineralisation and will be deepened with diamond drill tails during the 2012 campaign.

| HOLEID | Depth From (m) | Depth To (m) | Length (m) | Fe Head (%) | Mass Recovery (%) | Davis Tube Recovery (DTR) Product | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Fe Conc (%) | $V_2O_5$ Conc (%) | $TiO_2$ Conc (%) | $Al_2O_3$ Conc (%) | P Conc (%) | S Conc (%) | $SiO_2$ Conc (%) |
| TGRC0001* | 122 | 157 | 35 | 36.7 | 48.3 | 60 | 0.8 | 11.3 | 3.0 | <0.001 | 0.08 | 0.68 |
| TGRC0002 | 101 | 128 | 27 | 30.7 | 36.5 | 59 | 0.8 | 11.8 | 3.2 | <0.001 | 0.05 | 0.97 |
| TGRC0002* | 147 | 204 | 57 | 42.8 | 59.5 | 58 | 0.7 | 13.9 | 3.2 | <0.001 | 0.08 | 0.66 |
| TGRC0005* | 104 | 145 | 41 | 20.5 | 22.4 | 61 | 0.9 | 7.2 | 3.8 | <0.001 | 0.36 | 1.94 |
| TGRC0007 | 84 | 156 | 72 | 45.6 | 69.6 | 56 | 0.6 | 16.4 | 3.2 | <0.001 | 0.17 | 0.48 |
| TGRC0007 | 174 | 193 | 19 | 40.9 | 55.2 | 57 | 0.7 | 14.1 | 3.6 | <0.001 | 0.14 | 1.20 |
| TGRC0008 | 14 | 21 | 7 | 46.8 | 50.6 | 63 | 1.0 | 6.5 | 2.9 | <0.001 | 0.06 | 0.50 |
| TGRC0008 | 45 | 105 | 60 | 28.5 | 31.9 | 59 | 0.8 | 10.6 | 3.5 | <0.001 | 0.28 | 1.07 |
| TGRC0008 | 114 | 126 | 12 | 31.6 | 41.3 | 57 | 0.7 | 12.7 | 3.5 | <0.001 | 0.10 | 1.35 |
| TGRC0009 | 1 | 51 | 50 | 34.4 | 42.7 | 58 | 0.8 | 12.5 | 3.7 | <0.001 | 0.06 | 1.07 |
| TGRC0009 | 66 | 122 | 56 | 33.0 | 45.6 | 58 | 0.8 | 12.7 | 3.8 | <0.001 | 0.17 | 0.92 |
| TGRC0011 | 30 | 78 | 48 | 34.3 | 29.8 | 59 | 0.9 | 10.9 | 3.0 | <0.001 | 0.02 | 1.52 |
| TGRC0011 | 100 | 183 | 83 | 38.6 | 49.2 | 59 | 0.8 | 12.6 | 3.1 | <0.001 | 0.14 | 0.79 |
| TGRC0012 | 0 | 23 | 23 | 43.0 | 29.7 | 57 | 0.8 | 12.5 | 2.4 | 0.004 | 0.01 | 1.32 |
| TGRC0012 | 34 | 85 | 51 | 38.8 | 33.3 | 62 | 0.9 | 7.8 | 3.0 | 0.002 | 0.04 | 0.81 |
| TGRC0012 | 105 | 178 | 73 | 43.1 | 53.1 | 60 | 0.8 | 11.3 | 2.9 | 0.002 | 0.11 | 0.51 |

** End of hole intercept*

| HOLEID | TOTAL DEPTH (m) | EAST (m) | NORTH (m) | RL (m) | AZIMUTH (Deg) | DIP (Deg) |
|---|---|---|---|---|---|---|
| TGRC0001 | 157 | 582000 | 8261500 | 295 | 140 | -60 |
| TGRC0002 | 204 | 582030 | 8261447 | 295 | 140 | -60 |
| TGRC0005 | 145 | 582110 | 8261695 | 300 | 117 | -60 |
| TGRC0007 | 204 | 582407 | 8261653 | 295 | 59 | -60 |
| TGRC0008 | 175 | 582485 | 8261723 | 305 | 59 | -60 |
| TGRC0009 | 172 | 582540 | 8261798 | 300 | 59 | -60 |
| TGRC0011 | 204 | 582480 | 8261328 | 405 | 360 | -90 |
| TGRC0012 | 204 | 582638 | 8261443 | 410 | 360 | -90 |

*Coordinate system WGS84 UTM zone 36S. Sample preparation at 1m composite intervals was completed by ACT-UIS laboratories in Tete, Mozambique prior to despatch to ALS Chemex laboratories in Perth, Western Australia for further compositing (maximum composite length of 5m) and Davis Tube Recovery (DTR) analysis (conducted at a 38µm fraction and 3000G). Head and magnetic concentrate sub-samples were analysed by X-ray Fluorescence Spectrometry (XRF). All values are calculated as weighted averages over the reported interval. Interval lengths are measured down-hole and should not be interpreted as true width.*

## TETE PROJECT OVERVIEW

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 Project straddles the central portion of the Tete Mafic Complex and contains two areas of titano-magnetite / 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.

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 an interim 324Mt (please refer to RNS dated 7 December 2011 for details). An additional resource statement at Tenge, due for release during March 2012, is set to enlarge the inventory again, pushing it towards 500Mt.

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

A detailed Pre-Feasibility Study (PFS) work programme has been drafted and scheduled. 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.

*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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