Kibaran Resources Limited: Epanko Mineral Resource Upgrade

11.06.2015 | DGAP

Kibaran Resources
ASX ANNOUNCEMENT 11 June 2015

Epanko Mineral Resource Upgrade

- Mineral Resource estimate for the Epanko deposit has now been upgraded and re-classified as Measured and Indicated (M+I)

- 62% of the Mineral Resource estimate is now M+I which totals 14.5 Mt at 9.8% TGC for 1.4 Mt of contained graphite

- 46% of M + I Mineral Resource estimate classified as Measured

- The Mineral Resource supports the previously announced expanded production scenario which would involve producing 100,000tpa of concentrate over 20 years with no further exploration required

- Upgraded Mineral Resource estimate will be the basis for the BFS which is nearing completion

Kibaran Resources Limited (ASX: KNL), ('Kibaran' or the 'Company') is pleased to announce the Mineral Resource for the Epanko Graphite Project in Tanzania has been upgraded with a significant proportion of the previously reported Indicated Mineral Resource now classified as Measured. The Mineral Resource estimate totals 23.3 million tonnes (Mt) grading 9.4% total graphitic carbon (TGC) for 2,194,600 tonnes of contained graphite.

The Mineral Resource estimate was carried out by CSA Global Pty Ltd ('CSA Global'), an independent and internationally recognised mineral industry consultancy group, and was based on data sets compiled from drilling, trenching and other geological activity undertaken in late 2014. The Mineral Resource estimate has been classified in accordance with the JORC (2012) Code and is shown in Table 1.

JORC Classification	Tonnage (Mt)	TGC Grade (%)	Contained Graphite (t)
Measured	6.6	9.7	635,800
Indicated	7.9	10.0	785,300
Inferred	8.8	8.7	773,500
Total	23.3	9.4	2,194,600

Table 1 Mineral Resource Estimate for Epanko deposit > 8% TGC

Notes for Table 1:
Tonnage figures contained within Table 1 have been rounded to nearest 100,000. % TGC grades are rounded to 1 decimal figure.
Abbreviations used: Mt = 1,000,000 tonnes. Rounding errors may occur in tables.

The Mineral Resource upgrade and re-classification is based on the increased confidence gained from results of metallurgical testwork carried out on 7 diamond drill holes as part of the Bankable Feasibility Study (BFS).

The BFS remains on schedule and the Company expects to receive the first draft from GR Engineering by the end of June. Kibaran will review the BFS over the month of July, prior to announcing the detail of the study.

It is important to note that a substantial amount of graphite mineralisation exists within the reported Mineral Resource at lower TGC cut-off grades as follows:

- 5% Cut-off grade, a total 89.2 Mt at 7.4% TGC for 6,614,300 tonnes of contained graphite

- 6% Cut-off grade, a total 75.6 Mt at 7.7% TGC for 5,845,200 tonnes of contained graphite

- 7% Cut-off grade, a total 48.3 Mt at 8.4% TGC for 4,070,300 tonnes of contained graphite

CLAUSE 49, JORC CODE CONSIDERATION

In accordance with Clause 49 of the JORC Code (2012), the product specifications and general product marketability were considered to support the Mineral Resource estimate for Industrial Minerals. The following metallurgical characteristics are considered exceptional and provide Epanko with significant competitive and commercial advantages:

- Expansion rates for Jumbo (+50 mesh) flake is 490 ml/g which is up to 30% higher than graphite produced in China

- Ultra high purity of 99.98% Carbon achievable

- Ash melting point of 1,305oC is up to 150oC higher than graphite produced in China

- Very low percentage of fine flake (< 75 micron) with only 15.8% reporting to this size fraction

- Extremely high percentage of large flake provides higher basket prices and revenue from sales

Testwork has confirmed the graphite mineralisation is suitable for the 'expanded' and 'spherical' battery market and in fact has no limitations on its uses (refer announcement dated 7 July 2014).

Kibaran reached a major milestone in December 2013 by the signing of a binding off-take and partnership agreement with a leading European graphite trader. Under the terms of this agreement, the European graphite trader guarantees the purchase of 10,000 tonnes of graphite concentrate per year from Kibaran, for an initial period of five years with the option to renew for a further five years.

During October 2014, Kibaran announced that it had executed a Letter of Intent ("LOI") with German company ThyssenKrupp Metallurgical Products GmbH, a subsidiary of ThyssenKrupp, to develop an exclusive, long-term commercial agreement for the sale of Kibaran's natural flake graphite products.

The LOI was for the sale of a minimum of 20,000 tpa of natural flake graphite products in Russia, Korea and the EU 27 (excluding Germany, but including Turkey) for a 10 year period. ThyssenKrupp Metallurgical Products will also endeavour to assist Kibaran to obtain debt or equity funding for developing the graphite projects.

MINERAL RESOURCE ESTIMATE

Geology of Project and Geological Interpretation

The Epanko deposit is located within Neoproterozoic high grade mafic and felsic granulites, gneiss and migmatites, interlayered with amphibolites, marble quartzite, schist and mylonite. Epanko host rocks consist of gneiss, biotite-carbonate-graphite schist, marble and late quartz-feldspar-carbonate veining. The gneiss unit is the dominant unit within the prospect, consisting of amphibole, biotite and carbonate with trace graphite in places.

A dolomitic marble is located in the footwall of the mineralisation, to the east of the Eastern Zone. To the footwall of the mineralisation-bearing host rock is a biotite-carbonate-graphite schist, occasionally containing significant quantities of graphite. The mineralisation is hosted within a graphitic schist, which is dominantly light grey, and in places strongly brecciated and dark coloured. Coarse flaky graphite has been observed within the graphitic schist. The host rocks generally strike in a northerly direction, with varying dips.

A geological fact map was used to control the strike and dip of the mineralisation interpretations. The Western Zone is interpreted to have a strike of 10o and dip 60o to 70o to the east. The Eastern Zone is interpreted to have a strike of 330o with a shallow dip to the west. The mineralisation domains were therefore modelled using the orientation of the host stratigraphy to guide boundary placement.

The TGC interpretations were based upon a lower cut-off of 5% TGC, geological interpretations of mineralised outcrop and trenches, and logging of diamond drill core and RC chips. The Mineral Resource model consists of 13 zones of TGC mineralisation, with 11 zones in the Western Lode and 2 zones in the Eastern Lode. Mineralisation domains were encapsulated by means of 3D wireframed envelopes. Domains were extrapolated along strike to half a section spacing or if a barren hole cut the plunge extension before this limit.

Drilling Techniques

The Mineral Resource estimate is based upon results derived from diamond drilling (triple tubed HQ diameter core), RC drilling and trenching.

Sampling and Sub-sampling Techniques

Diamond core (if competent) was cut using a core saw. Where the material was too soft it was left in the tray and a knife was used to quarter the core for sampling. Trenches were sampled at 0.5 m intervals, these intervals were speared and submitted for analysis. RC samples were collected by a riffle splitter using a face sampling hammer with a diameter of approximately 140 mm. All samples were bagged and ticketed with unique sample numbers.

Drill samples were sent to the SGS Laboratory at Mwanza (Tanzania) for sample preparation, with the pulps sent to SGS Johannesburg for assaying. All samples were crushed using an LM2 mill to -4 mm and pulverised to a nominal 80% passing -75 ?m.

Sample Analysis

Total carbon is measured using LECO technique. The sample is combusted in the oxygen atmosphere and IR used to measure the amount of CO2 produced. Calibration of the LECO instrument is completed by using certified reference materials.

For the analysis of TGC, a 0.3 g sample is weighed and roasted at 550oC to remove any organic carbon. The sample is then heated with diluted hydrochloric acid to remove carbonates. After cooling the sample is filtered and the residue rinsed and dried at 75oC prior to analysis by the LECO instrument. LECO analysis are completed by total combustion of sample in the oxygen atmosphere and using IR absorption from the resulting CO2 produced.

Estimation Methodology

A block model with parent cell sizes of 25 m by 25 m by 25 m was constructed, compared to the typical drill

spacing of 50 m x 50 m within the Measured and Indicated volumes.

Grade estimation was by ordinary kriging with inverse distance squared estimation run concurrently as a check estimate. A minimum of 4 and maximum of 16 composited samples were used in any one block estimate for the Western Zone, and minimum of 6 and maximum of 25 composited samples were used for the Eastern Zone. A maximum of 5 composited samples per drill hole were used in any one block estimate. Cell Discretisation of 5 by 5 by 5 was used. Grade interpolation was run with hard boundaries between the individual mineralisation domains.

All drill hole data (RC and diamond) and trench assays were utilised in the grade interpolation. A Quality Assurance study of the RC drilling coupled with a due diligence and twin drilling (diamond core) programme confirmed the RC drill holes could be used with the diamond core samples as part of the grade interpolation. A statistical study of the trench assay data similarly demonstrated a similar population to the conventional drilling sample assay results.

Density values of 1.86 t/m3, 2.23 t/m3 and 2.80 t/m3 were applied to the oxide, transitional and fresh weathering domains respectively for the Mineral Resource located in the Western Zone. Density values of 1.61 t/m3, 2.23 t/m3and 2.80 t/m3 were applied to the oxide, transitional and fresh weathering domains respectively for the Eastern Zone.

Mineral Resource Classification

Measured and Indicated Mineral Resources are contained within mineralised volumes supported by a drill spacing (diamond core, RC and / or trenching) of up to 50 m (along strike) by 25 m (across strike). Inferred Mineral Resources are defined by drill spacing of up to 200 m along strike, often with only one drill hole or trench on a section line. Quality control results from drill data were also reviewed and assisted in the classification of the Mineral Resource.

Geological mapping of lithologies and mineralisation provided a higher level of confidence for the near surface volume of the Mineral Resource, sufficient to allow classification of a proportion of the Mineral Resource as Measured.

Pursuant to Clause 49 of the JORC Code, metallurgical results and marketing agreements were considered prior to final classification of the Mineral Resource, as discussed earlier in this announcement.

Reporting Cut-off Grades

A reporting cut-off grade of 8% TGC was previously used to report the Mineral Resource, and is in line with other reported Mineral Resources in East Africa.

For further information, please contact:

Company Secretary
Robert Hodby
Kibaran Resources
P: + 61 8 6380 1003

The information in this report that relates to Exploration Results is based on information compiled by Mr Andrew Spinks, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Andrew Spinks is employed by Kibaran Resources Ltd.. Mr Spinks has sufficient experience which is relevant to the style 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". Andrew Spinks 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 that relates to Mineral Resources is based on information compiled by Mr David

Williams, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. David Williams is employed by CSA Global Pty Ltd, an independent consulting company. Mr Williams has sufficient experience which is relevant to the style 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". David Williams consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.