Kibaran Resources Limited: Epanko Bankable Feasibility Study Confirms Economic Viability

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Kibaran Resources Limited (ASX: KNL), ('Kibaran' or the 'Company') is pleased to announce the results of the Bankable Feasibility Study ('BFS' or 'Study') for its 100% owned Epanko Graphite Project ('Epanko' or the 'Project') located in Tanzania. The BFS has confirmed the viability of a conventional open cut mine and conventional flotation processing plant.

The BFS has been delivered both on schedule and within budget. Results support Kibaran's strategy of being one of the first listed graphite focussed companies to progress to production.

Study Highlights

- Epanko technically and commercially viable with no identified impediments for a positive decision to mine

- Key BFS Results

- Pre-tax NPV10 of US$197.4m

- Pre-tax IRR of 41.2%

- Capital Expenditure of US$77.5m

- Annual EBITDA of US$33.6m for 15 years

- Mine life of 25 years

- Strip ratio 1:1 (LOM)

- Maiden Proved and Probable Ore reserves of 10.9 Mt at 8.6% TGC

- Annual production of 40,000tpa of high grade graphite flake concentrate for first 15 years

- Mining licence granted with environmental approvals in place

- All plant, associated equipment and infrastructure designed to Australian standards

- Processing plant and associated infrastructure designed to accommodate an upgrade in production, in line with future increased global demand

- Initial production supported by existing offtake and sales agreements

- Debt financing discussions commenced

Mr Andrew Spinks, Managing Director commented "Completion of the BFS is a significant milestone for our Company and shareholders. The study is based on a realistic development strategy and supported by

strategic partnerships in European markets. The positive BFS result enables the Company to advance Epanko to production and in parallel further progress its second 100% owned graphite project at Merelani East and advance the strategic downstream value add opportunities we have announced to date."

Mr Spinks added further "The milestone places the company in an enviable position, as it will provide access to further strategic partnerships in the European, Japan and US markets. The emerging battery market will have a significant positive impact on our future graphite sales, given our current sales agreements are solely based on the traditional refractory and expandable markets. The next few months is an exciting time as we deliver on our specific milestones for the broader development strategy for the Company."

BANKABLE FEASIBILITY STUDY

GR Engineering Services Ltd (ASX:GNG), ('GR Engineering') completed the BFS based on the upgraded Mineral Resource estimate undertaken by CSA Global Pty Ltd ('CSA Global') and outstanding results from the metallurgical test work. Conservative pricing estimates for flake graphite fractions were adopted by Kibaran using both current pricing and forecast demand by Roskill. The BFS capital and operating cost estimates are to a level of accuracy of ±10%.

The BFS assessed the viability of an initial mining operation producing 40,000tpa of high grade, large flake graphite. The BFS economics are supported by offtake and sales agreements, based on pricing FOB Dar es Salaam.

The BFS is based on a 440,000tpa flotation processing plant treating predominantly oxide ore and producing 40,000tpa of graphite concentrate. The Study addressed in detail; processing plant design and metallurgical recovery, infrastructure requirements, capital and operating costs, social and environmental issues, mining and processing operations, financial analysis, implementation, as well as risks and opportunities. All financial numbers are reported in US dollars.

STUDY TEAM

The BFS was managed by GR Engineering utilising industry leading experts in relevant disciplines including:

GR Engineering Services	Study Manager and Engineering Design
CSA Global	Mineral Resource and Geology
Knight Piésold	Hydrology and Infrastructure
ECG Engineering	Power and Electrical Engineering
Independent Metallurgical Operations	Metallurgy
Intermine Engineers	Mining and Ore Reserves
George Orr & Associates	Geotechnical Mine Design
MTL Consulting	Environment
Trinity Promotions	Social and Community

All of the consultants have previously worked on African based projects and the majority are engaged under various exclusivity arrangements. The Study also had significant technical input from Mr Christoph Frey, Kibaran's Specialist Graphite Consultant.

FINANCIALS

Table 1 below summarises the key financial and physical parameters over the Life of Mine (LOM). Annual concentrate production for the first 15 years is 40,000tpa, with the remaining 10 years averaging 31,300tpa.

Table 1: Financial Summary (US$)

Items		Parameters (LOM)
Plant Throughput	(tpa)	434,000
Plant Recovery	(%)	93.3
Feed Grade	(%)	8.6

Carbon Grade	(%)	96.3
Production Concentrate	(tpa)	36,400
Base Price Assumption	(US$/t)	1,446
Cost per Tonne of Concentrate	(US$/t)	570
Mine Life	(Yrs)	25
Pre-Production Capital	(US$m)	77.5
Strip Ratio	(W:O)	1:1
Discount Rate	(%)	10
Payback	(Yrs)	2.7
EBITDA/Annum (Avg)	(US$m)	30.3
Pre-tax IRR	(%)	41.2
Pre-tax NPV	(US$m)	197.4

CAPITAL COST

The total establishment capital cost of the Project is US$77.5m, including all pre-development and pre-production expenditure, first fill consumables, insurance spares and contingency. Table 2 provides the capital cost estimates of the Project.

Table 2: Capital Cost Estimate

CAPITAL ITEM	(US$m)
Mining	2.4
Process Plant	45.1
Infrastructure	10.9
EPC	11.0
Contingency (10%)	6.2
Owners Cost	1.9
Total	77.5

OPERATING COSTS

Life-of-mine project FOB cash operating costs are forecast to be $570/t concentrate, before the payment of a 3% royalty and taxes to the Government of Tanzania.

Table 3: Operating Cost Estimate (excluding royalties and taxes)

ITEM	ESTIMATE (FOB US$/t)
Mining	117
Processing1	277
Transport and Freight to Port (FOB)	102
General & Administration	74
Total Cost per tonne of concentrate	570

Note 1: Power generation is by diesel generators for the first 2 years of production and then by grid power from the Ifakara substation.

ORE RESERVES

The Proved and Probable Ore Reserve estimated as part of BFS is based on and inclusive of the Measured and Indicated Mineral Resource.

Table 4: Ore Reserve Statement >5% TGC

JORC Classification	Tonnage (Mt)	TGC Grade (%)	Contained Graphite (t)
Proved	8.0	8.3	659,000
Probable	2.9	9.6	279,000
Total	10.9	8.6	938,000

Notes for Table 4 & 5:
Tonnage figures contained within tables 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 Ore Reserve has been reported at a 5% cut-off grade due to a reduction in the economic cut-off grade determined by the BFS.

MINERAL RESOURCE

A significant portion of the Mineral Resource estimate has been classified as Measured and Indicated (M+I). 62% of the Mineral Resource estimate is now M+I, totalling 14.5 Mt at 9.8% TGC for 1.4 Mt of contained graphite. 46% of the M + I Mineral Resource estimate is now classified as Measured.

The total Mineral Resource estimate stands at 23.3 Mt grading 9.4% total graphitic carbon (TGC) for 2,194,600 tonnes of contained graphite. The resource estimate was carried out by CSA Global and was based on data sets compiled from drilling, trenching and other geological activity undertaken in late 2014. The Mineral Resource estimate was reported in June 2015 and has been classified in accordance with the JORC (2012) Code and is shown in Table 5.

Table 5: Mineral Resource Estimate for Epanko Deposit (8% TGC, June 2015

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

A substantial amount of graphite mineralisation exists within the Mineral Resource between 5% and 8% TGC. When adopting a lower TGC cut-off grade of 5%, consistent with the cut-off grade used to report the Ore Reserves, the total Mineral Resource is 89.2 Mt @ 7.4% TGC for 6,614,300 tonnes of contained graphite. This includes a Measured Mineral Resource of 17.6Mt @ 7.8% TGC and an Indicated Mineral Resource of 23.5Mt @ 7.7% TGC. The BFS has determined that a 5% reporting cut-off grade is reasonable, support for which was not available when the Mineral Resource was reported (ASX announcement 11th June 2015).

METALLURGY

Detailed BFS testwork delivered significant metallurgical improvements in comparison to metallurgical parameters utilised in the Scoping Study. The results highlighted;

- Very high proportion of large flake graphite with 85.7% of the flake distribution greater than >106 micron

- Exceptional final average carbon concentrates of 96.3%

The final process flow sheet was delivered by GR Engineering based on the metallurgical testwork carried out as part of the Study. This resulted in a conventional flotation plant, the capital cost of which is based on a two-stage liberation process to separate the graphite. The flowsheet shown in Figure 3 below was developed by GR Engineering in conjunction with IMO Pty Ltd and comprises rougher flotation, two liberation stages, cleaner flotation, dewatering, drying and screening prior to bagging for export.

The average carbon concentrate reported is 96.3% TGC and is a marked increase from the Scoping Study.

Final graphite concentrate size analysis on a percent retained basis is shown in Table 6.

Table 6: Flotation Results

FLAKE SIZE DISTRIBUTION

Name	Microns (µm)	Mesh Size	Portion Retained (%)	Carbon Grade (%)
Jumbo	>300	>48	20.0	97.1
Large	>180	>80	35.4	96.7
Medium	>106	>150	30.3	96.2
Small	>75	>200	7.4	95.3
Fine	<75	<200	6.9	92.6
			100%	96.3%

Note: Micron (µm) and Millimetre (mm). 1mm = 1000µm and fixed carbon content determined by Loss on Ignition method (LOI).

Testwork was based on a bulk master composite samples from the 7 HQ3 diamond holes (refer announcement dated 30 September 2014) centred at E904301 and N9035298.

Ultra high purity can be reached easily in a single one step process. Importantly, extremely low impurities were recorded confirming that there is no limitation on the applications and uses of Epanko flake graphite.

The testwork also demonstrated a superior quality graphite product. The metallurgical characteristics are considered exceptional and give Epanko 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 6.9% reporting to this size fraction

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

PROCESS DESIGN

The processing plant will include a two stage crushing circuit that will deliver product to a storage bin. Ore will be reclaimed from the storage bin and delivered to a single stage rod mill operating in closed circuit with a screen. The undersize from the mill product screen will report to a flotation circuit for recovery of the graphite using a circuit comprising rougher, scavenger, primary cleaner and secondary cleaner flotation stages. Graphite concentrate will be filtered and dried. Dry graphite concentrate will be screened into various product sizes and bagged for shipping. Flotation tailings will report to the tailings thickener and then be pumped to the tailings storage facility.

INFRASTRUCTURE

Power

The Project will utilise diesel generated power for the first 2 years of production whilst the Rural Energy Agency of Tanzania constructs a new substation at Ifakara. During the second year of production, the Company will construct a 33kV power line from the Ifakara substation to Epanko. Power costs will then be reduced from 28.8 cents/kwh to 9 cents/kwh. The capital cost of the power line is estimated to be US$8.5m which will be funded out of cashflow.

Water

The Study has determined a positive water balance for the processing plant. Water supply for the project will come from a combination of mine water, borefield groundwater, tailings return water and runoff within the TSF catchment area.

Tailings Storage Facility (TSF)

The TSF will comprise a valley-type storage formed by a multi-zoned earth fill embankment. The facility will be built as a single cell to store the total amount of tailings (10.3 Mt). Prior to commissioning of the process plant a starter embankment will be built with a tailings storage capacity for the first 14 months.

Transport

For the purpose of the BFS the only transport option considered was direct trucking of graphite concentrate to the port of Dar es Salaam. The Project is located 120km south of the Ifakara rail siding, future studies will determine potential of this rail option as the preferred route. Costs for transport were developed based on current transport costs in Tanzania.

Mining Licence

The Mining Licence has been granted by the Ministry of Energy and Minerals (refer announcement dated 15 July 2015).

GRAPHITE PRICING

The portion of very large size flake and high carbon grades has a significant advantage, as at present there is a shortage of this product in the graphite market. The basket price for graphite product used in the BFS is US$1,446/t of concentrate which is based on the value of each sizing as detailed in Table 7.

The pricing model is based on FOB Dar es Salaam and based current graphite pricing with forecast demand for larger flake with reference to the Company's offtake and sales partners and 'Natural & Synthetic Graphite Market Outlook to 2020' from Roskill Information Services.

Table 7: Basket Price Model

FLAKE SIZE FOB PRICE BASIS AND CALCULATION (US$/t)

Name	Microns	Mesh	Price (US$/t)	Retained (%)	Grade	Basket Price
Super Jumbo	> 500	>35	2,800	20.0	97.1	560
Jumbo	> 300	>48				
Large	>180	>80	1,400	35.4	96.7	496
Medium	>150	>100	950	30.3	96.2	288
	> 106	>150				
Small	> 75	>200	840	7.4	95.3	62
Fine	< 75	<200	580	6.9	92.6	40
						US$1,446

Pricing for premium quality large flake graphite is forecast to substantially increase due to a shortage of supply and an increase in demand. Demand for spherical graphite is also expected to increase significantly.

Kibaran has taken a conservative approach to pricing by not factoring in excessive potential future demand driven increases.

SENSITIVITY ANALYSIS

OFFTAKE AND SALES AGREEMENTS

Kibaran reached a major milestone in December 2013 with 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 20,000tpa of natural flake graphite in Russia, Korea and the EU 27 (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.

MINING

Intermine Engineering Consultants completed pit optimisations, staged mine designs and LOM mine scheduling for the feasibility study.

Results of the study show that mining will occur for the first 16 years containing an initial Ore Reserve of 10.9Mt at 8.6%TGC. The LOM strip ratio is 1:1. Mining will be conducted on a 5 day dayshift only basis with total movement of 57,000bcm a month utilising an 80t excavator and 40t articulated trucks. Mining will be from the Eastern and Western deposits located within 1km of the ROM pad. The Western deposit consists of mining a strike length of 850m along the top of the hill to a depth of 180m and the Eastern deposit sits within a small valley and will be mined to a depth of 120m.

At both deposits there is a substantial Inferred resource that is a continuation of the Measured and Indicated resource that is not used in the study.

Mining costs have been derived utilising a mining contractor. Quotes were obtained from Ausdrill using initial haulage profiles and dump locations. Dilution and ore loss factors are based on the mining of broad zones of graphite mineralisation inclusive of the weathering profile and the need for drill and blast in fresh rock. Geotechnical parameters provided by Chris Orr and Associates used for optimisation and designs are adequate for the initial stages of the mine plan but further geotechnical investigation will be necessary to cover the LOM plan.

The mine schedule is formulated to target a ROM feed that falls within the limitation of 440,000t per year mill throughput with a maximum of 40,000t of concentrate output. From the Ore Reserve, only material over an 8%TGC cut-off will be fed to the plant for the first 16 years after which stockpiled lower grade material will be reclaimed and processed. There is 6.5Mt at 9.9% TGC of high grade feed sourced from 68% Proved and 32% Probable Ore Reserve over this period (refer Ore Reserve Table 4). The pre-strip will be limited to total movement of 180,000bcm over 4 months to establish the Eastern deposit, the ROM pad, haulage roads and diversion bunds and drains. The Eastern deposit will be the main source for high grade plant feed with the Western deposit starting as a feed source after 6 months of processing.

FUTURE EXPANSION

Whilst the Epanko production rate has been set at 40,000tpa of concentrate, the process plant has a name plate throughput capacity of 480,000tpa and as such is capable of producing additional product. Kibaran has developed an expansion strategy that can cater for anticipated future increases in demand for premium quality large flake graphite. The Epanko deposit can easily support a production rate of 100,000tpa of concentrate, with the expansion capital being funded from cashflow. The additional footprint required for the expansion has been allowed for in the design layout.

IMPLEMENTATION SCHEDULE

First production will commence 17 months from the completion of project financing. The schedule is outlined below.

For further information, please contact:

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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.

The information in this report that relates to the Ore Reserve has been compiled by Mr Steve O'Grady. Mr O'Grady, who is a Member of the Australasian Institute of Mining and Metallurgy, is a full time employee of Intermine Engineering and produced the Mining Reserve estimate based on data and geological information supplied by Mr Williams. Mr O'Grady has sufficient experience that is relevant to the estimation, assessment, evaluation and economic extraction of Ore Reserve that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr O'Grady consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

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