

Epanko Graphite Project Update

- **Epanko growth strategy developed**
- **2 stage production upgrade from 40,000tpa to 100,000tpa**
- **Internally funded 5 year expansion plan indicates an NPV of \$251m**
- **Feasibility Study on schedule and within budget**
- **Environmental Certification in the final stage of the approval process**

Kibaran Resources Limited (ASX:KNL), is pleased to provide the following update on its flagship Epanko Graphite Project within the Mahenge Graphite Province in Tanzania.

EPANKO GROWTH STRATEGY

Kibaran initiated a review of its mining and processing schedule with the view to developing a growth strategy for the project, which would cater for future increases in demand for premium quality large flake graphite. The study was undertaken by Intermine Engineering Consultants and confirmed that the Eastern and Western zones can easily support an annual production rate of 100,000tpa of concentrate.

Whilst production can, from a technical perspective, commence at the rate of 100,000tpa, Kibaran believes meeting current demand by commencing at 40,000tpa is prudent and coupled with a sound 100,000tpa growth strategy, places the company in a prime position to respond quickly to future increases in demand.

The study scheduled the ramp up in two (2) stages, with upgrade capital being self-funded as shown in the table below.

	Concentrate (tpa)	Timeframe
Initial Start-up	40,000	
Stage 1	75,000	2-4 years
Stage 2	100,000	4-5 years

In terms of NPV, the scoping study showed at 40,000tpa, an NPV of \$213m over a 27 year mine life (refer announcement 18 August 2014). The expansion strategy to 100,000tpa has increased the NPV to \$251m at the current resource base; as and when required, the company can in a relatively short timeframe and with minimal expenditure, increase the resource both along strike and at depth to extend the mine life further.

The production growth strategy has been based on both the Company's and independent modelling for new graphite demand for premium quality large flake graphite. Epanko's current Mineral Resource easily supports this growth strategy.

Cautionary Statement:

Kibaran cautions investors in relation to using the financial estimations as a basis for investment decisions in KNL shares. The company utilised Indicated and Inferred JORC Mineral Resource recently estimated report (Announcement 12 August 2014) and under the JORC (2012) Code, Inferred resources are not adequate to determine or imply economic viability.

Statements implying economic viability require a reasonable basis; otherwise they can be seen as being misleading to shareholders. The Scoping Study utilised assumptions in some areas, hence the results do not definitively confirm the economic viability.

In order to determine the economic viability of the project, the Company needs to establish that the deposit hosts sufficient Indicated Mineral Resources in addition to confirming all the technical and financial aspects of mining, processing, metallurgy, infrastructure, economics, marketing, legal, environmental, social and government. As such, some of the economic assumptions used in the Scoping Study may or may not be realised.

There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

Table 1 – Key Assumptions and Findings

Items		Base Case	Stage 2
Plant throughput	(tpa)	420,000	1,050,000
Plant Recovery	(%)	96%	96%
Feed Grade	(%)	9.64%	9.64%
Production Concentrate	(tpa)	40,000	100,000
Base Price Assumption	(\$/t)	\$1,258	\$1,258
Capital Expenditure (at each stage)	(\$m)	\$56	\$45
Strip ratio	(W:O)	2.2:1	2.2:1
Discount Rate	(%)	10	10
Net Present Value (NPV)	(\$m)	213	251

Note : Stage 2 Capital is an expansion of the plant from the base case.

Mineral Resource Estimate

The Mineral Resource for Epanko is shown in Table 2

CLASSIFICATION	TONNAGE (Mt)	GRADE (%TGC)	CONTAINED GRAPHITE (t)
Indicated	12.8	10.0	1,281,200
Inferred	9.9	9.6	942,100
Total	22.7	9.8	2,223,300

Notes for table 3:

- Tonnage figures contained within Table 1 have been rounded to nearest 1000. % TGC grades are rounded to 1 decimal figure.
- The Mineral Resource is quoted from blocks where the TGC (%) grade is greater than 8%.
- Abbreviations used: Mt = 1,000,000 tonnes

The Mineral Resource estimate represents only a very small footprint (20%) of the known Epanko project area, lending itself to be increased through future exploration.

Metallurgy and Process Design

A process flow sheet was based on the metallurgical testwork carried out. This resulted in a very conventional flotation plant and the capital cost for the plant is based on a two-stage liberation process to separate the graphite. The flowsheet comprises rougher flotation, two liberation stages, cleaner flotation, dewatering, drying and screening prior to bagging for export.

The metallurgical results showed that the flotation concentrate averaged 94% Fixed Carbon and more importantly, that the testwork yielded large flake graphite. Detailed results are presented in Table 3 below.

Table 3: Flotation results per size fraction

SIZE		RETAIN	FIXED CARBON
Classification	Micron	(%)	(%)
Jumbo	> 500 µm	8.4	97.6
Extra Large	> 300 µm	13.2	95.4
Large	> 180 µm	28.6	93.8
Medium	> 106 µm	23.6	93.6
Small	> 75 µm	10.4	91.0
		Average	94.0

Micron (µm) and Millimetre (mm). 1mm = 1000µm and fixed carbon content determined by loss of ignition method (LOI)

Marketability

The portion of very large size flake 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 scoping study is \$1,258/t of concentrate which is based on the value of each sizing as detailed in Table 4. The pricing is based the indicative pricing for 94-97% carbon

Mid-term pricing for premium quality large flake graphite is forecast to substantially increase, according to recent forecast price modelling by Toronto-based, independent research firm Stormcrow Capital Ltd. In what is generally considered an opaque market, Stormcrow has forecast pricing for Jumbo flake (+300 micron) to increase to US\$6,170 per tonne in 2020, a near three-fold jump on 2013 prices (refer table 4). This graphite price forecast modelling is also consistent with reports published in Industrial Minerals.

Table 4: Graphite Pricing and Basket Price used in Study

FLAKE SIZE			CURRENT GRAPHITE PRICING		STORMCROW 2020 PRICES	
			EPANKO SIZE FRACTION	PRICE (US\$/t)	VALUE (US\$)	PRICE (US\$/t)
Jumbo	> 300 microns	21.6	\$2,300	\$497	6175	\$1,334
Larger	>180 microns	28.6	\$1,300	\$372	1165	\$333
Medium	> 106 microns	23.6	\$950	\$224	517	\$122
Small	> 75 microns	10.4	\$750	\$78	493	\$51
Fine	< 75 microns	15.8	\$550	\$87	359	\$57
Weighted Basket Price (Price x Size Fraction)				\$1,258		\$1,897

If the future prices by Stormcrow are used the basket price would increase to \$1,897 which would add further revenue of \$635 million over the life of the mine.

Expanded graphite, from premium natural flake graphite, is used to produce graphite foils, an inert sealing material that is used in high temperature and high pressure applications such as high temperature gaskets, bipolar plates in fuel cells and computer heat sinks. Expanded graphite is also considered highly sought after in the battery market which is considered one of the key drivers for future demand.

The testwork was undertaken at NGS Naturgraphit GmbH (“NGS”), an independent company which specialises in world-wide graphite sales and carbon based products located in Germany is summarised in table 5

Table 5 - Carbon grades for flotation and chemical purification

FLAKE SIZE			FLOTATION CONCENTRATE	PURIFICATION GRADE
Name	Micron	Mesh	(%)	(%)
Extra Jumbo	>500 micron	>35	97.7	99.94
Jumbo	>300 microns	>48	97.2	99.98
Large	>180 microns	>80	96.2	99.95
Medium	>106 microns	>150	95.8	99.91
Small	>75 microns	>200	93.7	99.85
Fine	<75 microns	<200	87.4	99.72

Notes: Chemical Purification by HF acid. Results calculated by drying at temperatures in the range of 400 °C and from LOI.

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

Mining

Intermine Engineering carried out preliminary pit optimisation, mine scheduling and mining cost estimation based on open pit mining constrained by Whittle pit optimisations. The mining costs were developed from information provided by Intermine. Dilution and ore recovery factors were applied to the mineral inventory, resulting in a mineral resource used for mine planning, design and cash-flow analysis. This mineral resource within the pit shell includes dilution of 5% and a 95% mining recovery.

Mining Schedule

Various mining production scenarios were examined. The scenario that was adopted as the base case of the Study was to extract ore at the rate necessary to completely utilise a process plant with 465,000tpa with a staged increase to 1,050,000tpa

After some pre-stripping the stripping ratios for the first 10 years of production are less than 1 to 1 (waste to ore). Mining production would be campaigned during the dry season between March to November. Total movement to produce of feed would be conducted using a 40t excavator and 2-3 articulated trucks over a 5 months a year basis.

Geotechnical work will be undertaken to assist in the final open pit designs however it is considered no final slopes will be encountered in the initial years of mining.

Pit Outlines

The main Epanko excavation, occurring in the eastern zone, is a single elongated pit approximately 500m long, up to 200m wide and up to 50m deep. With an overall pit wall angle of 40° it is expected that only a single ramp pass will be required on one of the walls. Excavation on the Western zone occurs over a 750 long strike length. No final wall is expected in the first 5 years of mining.

Total Indicated and Inferred resource contained within the optimisation shells is 10.8Mt at 9.6% TGC with waste containing lower grade mineralisation of 5.80Mt at 6.8% of lower grade (5 to 8% TGC) mineralisation.

Processing and Mine Site Infrastructure

Anzaplan in conjunction with EGT have developed preliminary designs for the processing plant, based on the metallurgical test work carried out by EGT. Operating and capital cost estimates for the various project options were then prepared to an accuracy based on typical industry practices.

Transport

For the purpose of the study 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 and future studies may see this as the preferred route. Costs for the transport were developed based on current transport costs in Tanzania.

FEASIBILITY STUDY

The feasibility study being managed by GR Engineering Services (GRES) is progressing well and is on schedule and within budget. Work to date has focussed on finalising the plant site, ROM pad, tailings storage facility and access road alignment, the key criteria being minimising earthworks and environmental impact.

Representatives of GRES and Knight Piesold completed their initial site visit in November and subsequent to that, diamond drilling and test pits have been completed on the proposed plant and TSF sites and samples sent to the laboratory for geotechnical analysis.

The metallurgical testwork program for the study has been finalised in conjunction with GRES, Independent Metallurgical Operations Pty Ltd (IMO), Australia's largest metallurgical services group and Kibaran's off-take and sales partners. Samples have arrived in Australia from Tanzania and work has commenced, being undertaken by IMO in Perth. Comminution testwork is mostly complete and sample characterisation has begun.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

The Company received the formal feedback on 9th January 2015, from NEMC’s Technical Audit Committee related to their site visit undertaken last quarter. The ESIA has subsequently been updated to address points raised with appropriate mitigations and was resubmitted to NEMC on 16th January 2015. Kibaran expects that NEMC will now be in a position to recommend to the Ministry of Environment that the Environmental Certificate for the Epanko Project be issued.

Kibaran’s Chairman Mr John Park commented, “The development of a 100,000tpa expansion strategy is an extremely exciting advance for Kibaran and allows for manageable step changes in production to meet anticipated growth in the market.

Whilst the company has always believed and has demonstrated its graphite is amongst the best quality in the world, the Epanko project can now be considered competitive in terms of scale, to some of the large deposits currently being explored in other countries. We are poised and ready to react to future demand increases and have the ability to act quickly, given our lean structure and in house expertise.

The progress we are making in terms of statutory permitting and the feasibility study is equally as pleasing; we remain diligently on track to deliver on our commitments in this regard.”

For further information, please contact:

Company Secretary

Robert Hodby
Kibaran Resources
P: + 61 8 6380 1003

Media Relations

Rebecca Lawson
M&C Partners
P: +61 2 8916 6124
E: rebecca.lawson@mcpartners.com.au

About Kibaran Resources Limited:

Kibaran Resources Limited (ASX: KNL or “Kibaran”) is an exploration company with highly prospective graphite and nickel projects located in Tanzania.

The Company’s primary focus is on its 100%-owned Epanko deposit, located within the Mahenge Graphite Project. Epanko currently has a total Indicated and Inferred Mineral Resource Estimate of 22.7Mt, grading 9.8% TGC, for 2.2Mt of contained graphite, defined in accordance with the JORC Code. This initial estimate only covers 20% of the project area. Metallurgy has found Epanko graphite to be large flake and expandable in nature.

Kibaran also has rights to the Merelani-Arusha Graphite Project, located in the north-east of Tanzania. Merelani-Arusha is also considered to be highly prospective for commercial graphite.

Graphite is regarded as a critical material for future global industrial growth, destined for industrial and technology applications including nuclear reactors, lithium-ion battery manufacturing and a source of graphene.

In addition, the Kagera Nickel Project remains underexplored and is located along strike of the Kabanga nickel deposit, owned by Xstrata, which is considered to be the largest undeveloped, high grade nickel sulphide deposit in the world



The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Andrew Spinks, who is a Member of The Australasian Institute of Mining and Metallurgy included in a list promulgated by the ASX from time to time. Andrew Spinks is a director of Kibaran Resources Limited and 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 Exploration Results and Mineral Resources is based on information compiled by Mr David Williams, who is a Member of The Australasian Institute of Mining and Metallurgy included in a list promulgated by the ASX from time to time. David Williams is employed by CSA Global Pty Ltd and 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.