# Kibaran Resources Limited: Metallurgical tests yield Ultra-high purity + 99.9% C (news with additional features)

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Metallurgical tests yield Ultra-high purity + 99.9% C

#### **HIGHLIGHTS:**

- Metallurgical testwork yields ultra-high purity carbon grade for Epanko graphite deposit
- Ultra-high purity achieved in a simple one-step purification process
- Large flake size and high purity levels provides entry to a multitude of markets
- Testwork proves graphite is suitable for the production of spherical graphite used in the high-growth lithium-ion battery market

<u>Kibaran Resources Ltd.</u> (ASX: KNL) is pleased to report that recent metallurgical testwork has yielded results exceeding 99.9% carbon from a simple one-step process after flotation.

The ultra-high purity carbon was produced from a graphite sample taken from the Company's Epanko deposit at its Mahenge Project in Tanzania.

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. The testwork was overseen by the Company's graphite trader under our partnership and sales arrangement (refer announcement dated 23 December 2013). The results achieved are summarised in the following table.

Table 1 - Carbon grades for flotation and chemical purification

FLAKE SIZE			CONCENTRATE	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 (refer table 2) confirming that there is no limitation on the application and uses of Epanko flake

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graphite.

With the current market focused on 94% to 97% carbon purity, Kibaran's ability to easily and inexpensively produce ultra-high purity flake graphite of 99.9% from Epanko concentrate means Kibaran is now very well positioned to tap into a multitude of markets and command a premium price. These markets include Expandable, Micronised and Spherical graphite markets.

One focus of the Company is the market for lithium ion batteries, which include both expanded and spherical graphite in its composition. Demand for these types of batteries is being driven by the surging use of portable consumer electronics such as smartphones, and hybrid and electric vehicles. This market is forecast to grow to US\$34.3 billion in 2020 . The test results indicate that the high purity flake graphite produced from Epanko concentrates is suitable for the production of spherical graphite for Li-Ion-batteries.

Table 2 - Impurities levels after chemical purification

FLAKE SIZE			MOISTURE	VOLATILE MATTER	ASH CONTENT
Name	Micron	Mesh	(%)	(%)	(%)
Extra Jumbo	>500 micron	>35	0.05	0.21	0.06
Jumbo	>300 microns	>48	0.05	0.27	0.02
Large	>180 microns	>80	0.03	0.51	0.05
Medium	>106 microns	>150	<0.01	0.77	0.09
Small	>75 microns	>200	<0.01	0.81	0.15
Fine	<75 microns	<200	0.02	0.93	0.28

## Micron ( $\mu$ m) and Millimetre (mm). 1mm = 1000 $\mu$ m and carbon content determined by loss of ignition method (LOI)

The testwork was based on the 14kg of flake graphite from Epanko as reported in announcement dated 5 June 2013, which demonstrated a significant portion of extra jumbo, jumbo and large flake distribution within the deposit (refer table 3).

The purpose of the test was to evaluate the ability to achieve 99.9% C concentrate after simple flotation. A 5g sample from the flotation concentrate was obtained for each size fraction; this material was heated to 400oC.

Table 3 - Graphite flake size distribution.

FLAKE SIZE	EPANKO FLAKE DISTRIBUTION		
Name	Micron	Mesh	(% Retained)
Extra Jumbo	>500 micron	>35	8.4
Jumbo	>300 microns	>48	13.2
Large	>180 microns	>80	28.6
Medium	>106 microns	>150	23.6
Small	>75 microns	>200	10.4
Fine	<75 microns	<200	15.8

## Micron ( $\mu$ m) and Millimetre (mm). 1mm = 1000 $\mu$ m and carbon content determined by loss of ignition method (LOI)

The sample provided was sourced from MHRT09, which returned 117m at 10.0% total graphitic carbon ("TGC") (location: 9035106N, 904307E). The sample was crushed to less than 1mm and then flotation tested. The average carbon head grade was reported to be 13.6% Carbon. Large flakes of up to 3mm were observed before crushing.

The Epanko deposit has attracted a binding offtake and sales partnership agreement, which was advanced

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with the support of a development bank with the view for potential debt funding for the future development of the deposit.

### About Kibaran Resources Limited:

<u>Kibaran Resources Ltd.</u> (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 an Inferred Mineral Resource Estimate of 14.9Mt, grading 10.5% TGC, for 1.56Mt 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 be Xstrata, which is considered to be the largest undeveloped, high grade nickel sulphide deposit in the world.

1 "This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported."

#### 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, 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 <u>Kibaran Resources Ltd.</u> 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 2004 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.

**End of Corporate News** 

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Additional features:

Document: <a href="http://n.equitystory.com/c/fncls.ssp?u=AVQPTWNMTO">http://n.equitystory.com/c/fncls.ssp?u=AVQPTWNMTO</a>
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