

## Maiden Mineral Resource Estimate for Merelani East

- Mineral Resource estimate of 17.2Mt at 6.5% TGC for 1,120,000 tonnes of contained graphite
- Located within the world class Merelani Graphite Province with a recognised sales history
- Exceptional metallurgical results which are directly comparable to neighbouring Block C deposit
- Mineral Resource estimate covers only 15% of Kibaran’s 100% owned tenement position and mineralisation remains open in all directions
- Strong results highlight stand-alone project potential and support Kibaran’s strategy of establishing a second production centre
- Exclusivity for neighbouring Block C deposit renewed

**Kibaran Resources Limited** (ASX: KNL), (‘Kibaran’ or the ‘Company’) is pleased to announce its maiden JORC-compliant Mineral Resource for the Merelani East deposit in Tanzania. The Mineral Resource estimate totals 17.2 million tonnes (Mt) grading 6.5% total graphitic carbon (TGC) for 1,120,000 tonnes of contained graphite in the Inferred category.

The 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 (refer announcement dated 4 February 2015). The Mineral Resource estimate has been classified in accordance with the JORC (2012) Code (Table 1).

**Table 1** Mineral Resource Estimate for Merelani East deposit, > 5% TGC

JORC Classification	Tonnage (Mt)	Grade (%TGC)	Contained Graphite (t)
Inferred	17.2	6.5	1,120,000
Total	17.2	6.5	1,120,000

**Notes for Table 1:**

Tonnage figures contained within Table 1 have been rounded to nearest 10,000. % TGC grades are rounded to 1 decimal figure.  
Abbreviations used: Mt = 1,000,000 tonnes.

The Merelani East deposit is comparable in terms of grade, flake size and concentrate purity to the neighbouring Merelani Block C deposit (Table 2). The Company is continuing to work with the new owners of Tanzanite One Mining Limited and has extended an exclusive dealing period on this ground for a further 3 months.

The metallurgical characteristics of Kibaran’s Merelani East and Block C deposits are very attractive but importantly directly comparable. The Merelani East deposit, however, has the potential to host a significantly larger Mineral Resource than Block C and without the complications of gemstone associated mineralisation. This is supported by recent exploration trench results doubling the strike length of the graphite mineralisation at Merelani East to a total strike length in excess of 4 km while the mineralization remains open in all directions.

As the Company continues to fast track its flagship Epanko Graphite Project to production, the results emerging from Merelani East demonstrate that it is now a significant asset within Kibaran’s portfolio of graphite properties in Tanzania.

A key advantage of the Merelani East deposit is that occurs within a brownfields graphite province that has past production, proven processing flow sheet design and a recognised graphite sales history. This is generating considerable interest from traders and end users in the graphite industry and provides confidence that the Company’s Merelani Arusha Graphite project will support a second graphite operation after the development of Epanko.

The historical Merelani Block C Mineral Resource estimate for the main source of graphite mined, known as the Kyanite zone was 6.2Mt at 6.5% carbon. This historical estimate was reported by SAMAX Limited in 1993 and published in Explor. Mining Geology. Vol 3, No 4, pp. 371-382, 1994.

**Table 2** Graphite flake distribution comparison based flotation results (refer announcement 23/2/2015)

Flake Size			Portion of size fraction retained (%)	
Name	Microns	Mesh	Merelani East Deposit	Block C Deposit*
Jumbo	> 300	>48	<b>32.7</b>	<b>44.1</b>
Larger	>180	>80	<b>26.9</b>	<b>31.3</b>
Medium	>150	>100	<b>19.7</b>	<b>6.9</b>
	> 106	>150		<b>17.7</b>
Small	> 75	>200	<b>7.1</b>	
Fine	< 75	<200	<b>13.6</b>	-

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

*\*Based on Bench Scale Flotation results and metallurgical technical data referenced from the Africa 1995 IMM Conference in Windhoek titled Merelani Graphite Project – Tanzania co-authored by Mr J.G. Park, Mr A.C. Northfield and Mr D.S. Dodd, Minerals Engineering, Vol. 7, No's 2/3, pp 371-387, 1994 Printed in Great Britain.*

The Metallurgical results support Kibaran’s future expansion strategy of producing a premium quality graphite product from a separate source to the Epanko Graphite Project and meet the longer-term requirements of the broader graphite market which is seeking supplier diversity.

The company has now initiated further test work, including ash melting point and purity on Merelani East graphite samples.

**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. Independent test work programs have determined that (refer announcement 23 February 2015):

- The Merelani East project contains a large flake distribution with very high-grade carbon concentrates recovered from simple flotation. 32.7% of concentrate is Jumbo flake (+300 micron) at 98.1 % TGC. Overall recovery is 97.1% at 96.2% TGC.
- Commercial viability is assisted by having a low percentage of fine flake (< 75 micron) which has low value and is likely unsaleable and a high percentage of large flake which provides higher basket prices and increased saleability.

Recent test work 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 23 February 2015). The very high-grade graphite concentrate grade provides access to even higher value niche markets, graphene production and use in 3D printing. The ability to sell the product is supported by the company’s existing sales agreement (refer announcement 23 December 2013).

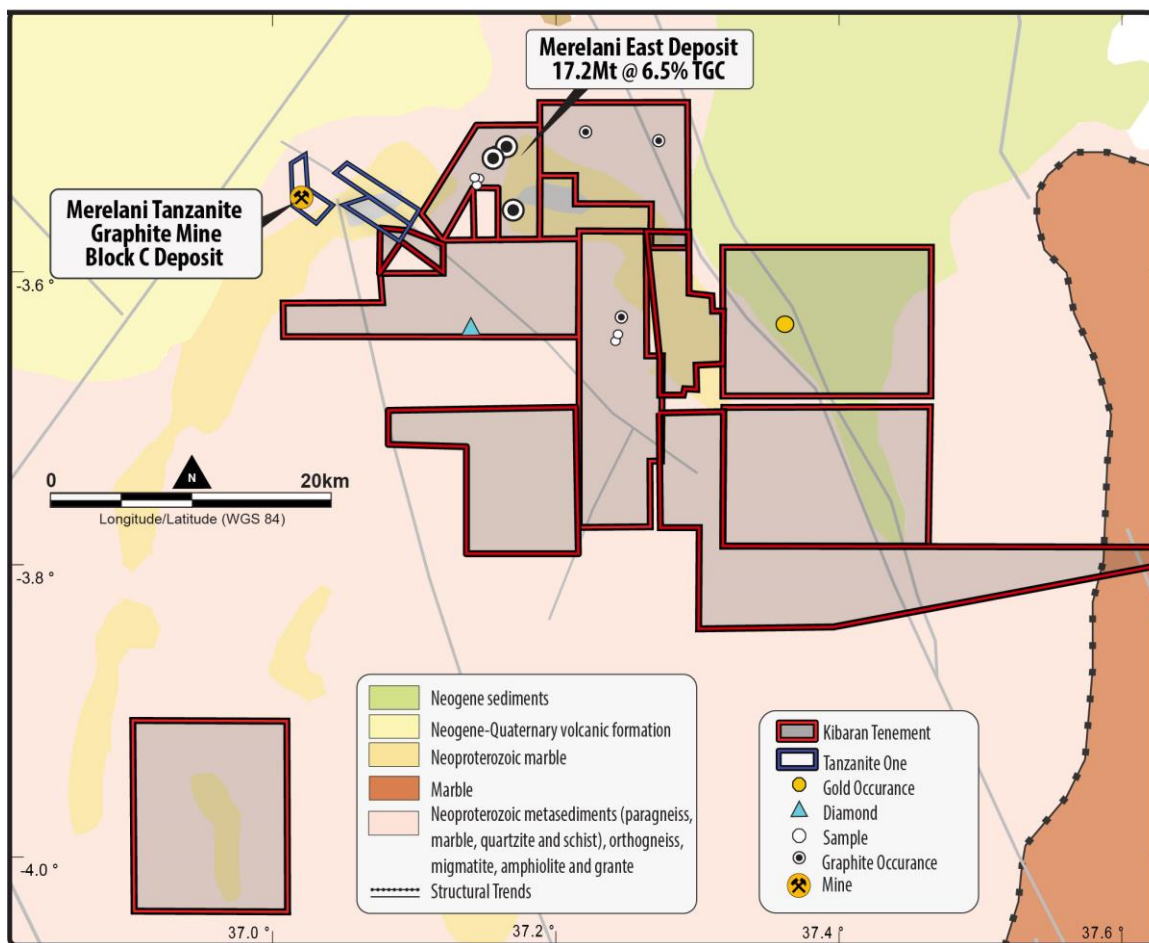
**MINERAL RESOURCE ESTIMATE**

Mineral Resource modelling was based on information compiled by Kibaran’s geologists and included geological and drilling data derived from twenty two reverse circulation (RC) drill holes, two diamond drill holes and seven trenches cut across the strike of two zones of mineralisation, namely the Northern Zone and Southern Zone. The deposit comprises three target areas of mineralisation. All areas have been mapped at surface from natural outcrop. Trenching has demonstrated strike continuity of mineralisation outside the resource limits.

The mineralisation has a combined strike length of 4,100 m. The down-dip extent of the Northern Zone is 100 m below the deepest mineralisation intercept. The Northern Zone was extrapolated along strike beyond the last two lines of drilling by a distance of 100 m to the north and south, or as supported by observed mineralised outcrop.

The mineralisation exhibits shallowly dipping stratigraphy in the Northern Zone, with a more vertical dip in the Southern Zone. The graphitic mineralisation is open at depth in both zones. 3D modelling of the Merelani graphite mineralisation was undertaken by CSA Global and block grades were estimated using the Inverse Distance Squared method. A density value of 2.5 t/m<sup>3</sup> was applied to the Mineral Resource, based upon documented density measurements from the Block C deposit. Drill samples were assayed by a reputable independent assay laboratory in South Africa.

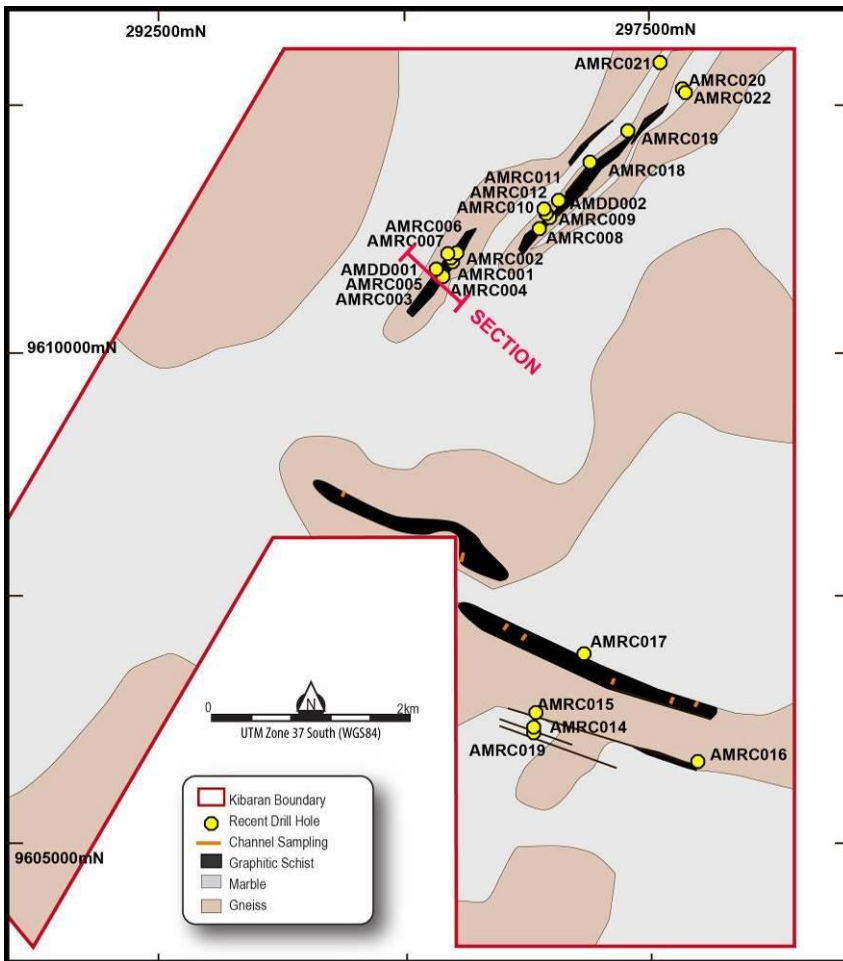
It is important to note that a substantial amount of graphite mineralisation exists within the model at lower TGC cut-off grades than was used to report the Mineral Resource estimate.



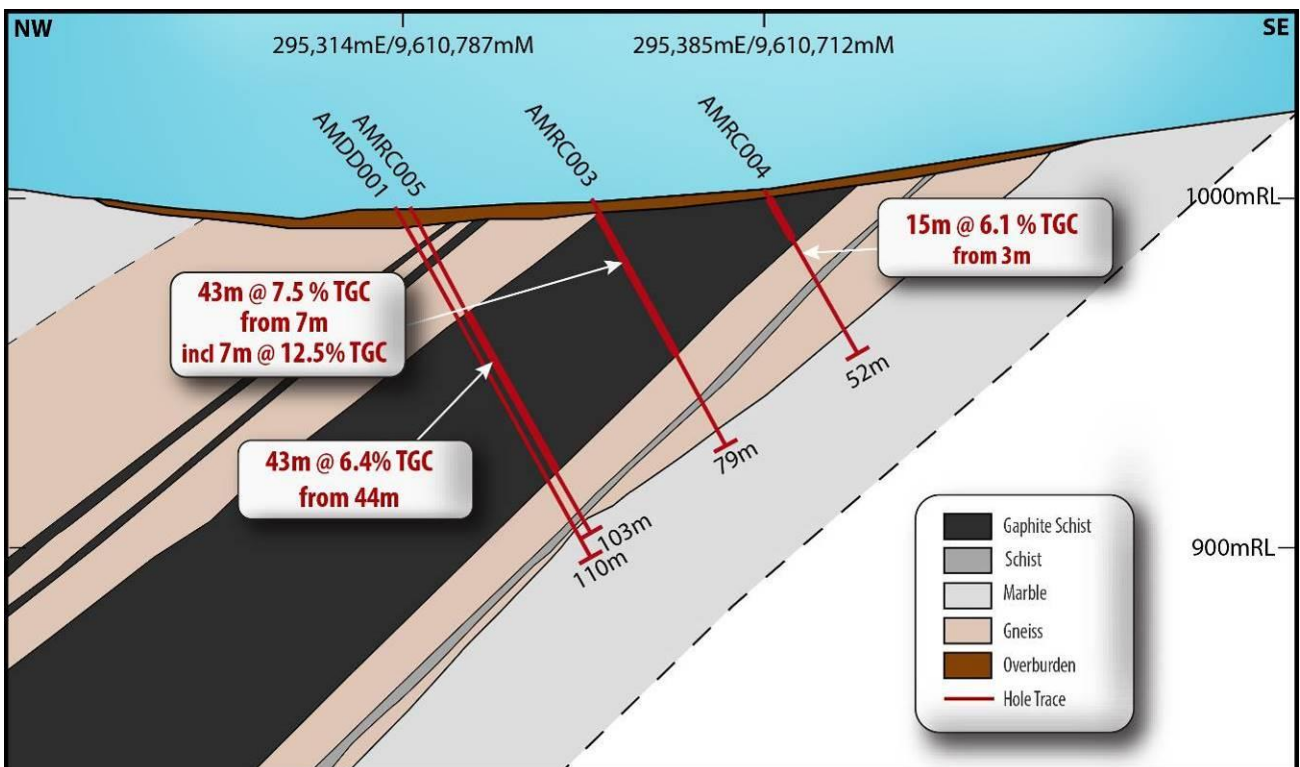
**Figure 1** Geological plan showing Mineral Resource estimate and interpretation

Classification of the Mineral Resource estimate considered the geological understanding of the deposit, quality of the samples, density data and drill hole spacing. In addition, Clause 49 of the JORC (2012) Code was referred to, with metallurgical characteristics (flake size and distribution, flotation results) and marketing agreements supporting an Inferred classification. A more comprehensive assessment of Mineral Resource classification criteria is provided in JORC Table 1 which is presented at the end of this announcement.

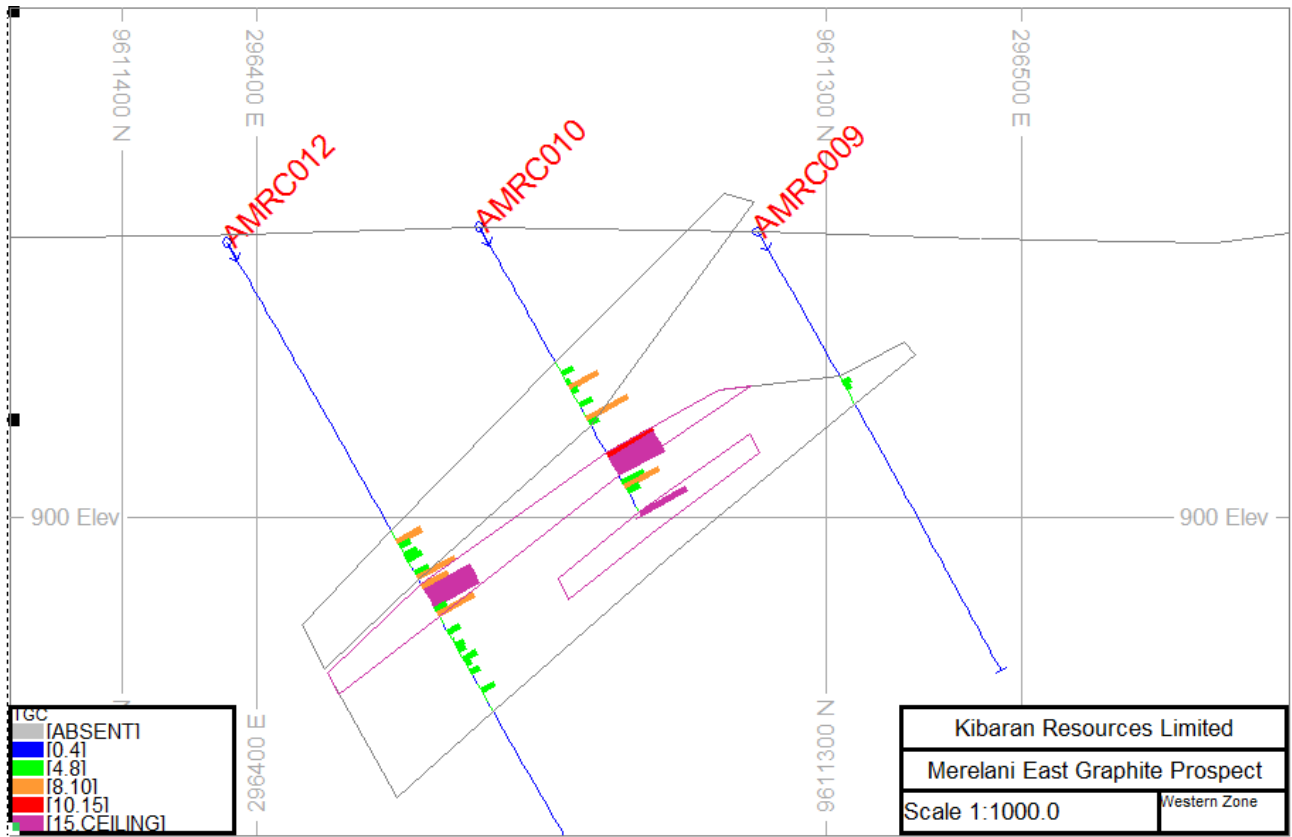
Figure 2 presents a collar plot at the Merelani deposit. A typical geological cross-section is presented in Figure 3 and an interpretation of the mineralisation is shown in Figure 4. The block model is shown in Figure 5 and Figure 6.



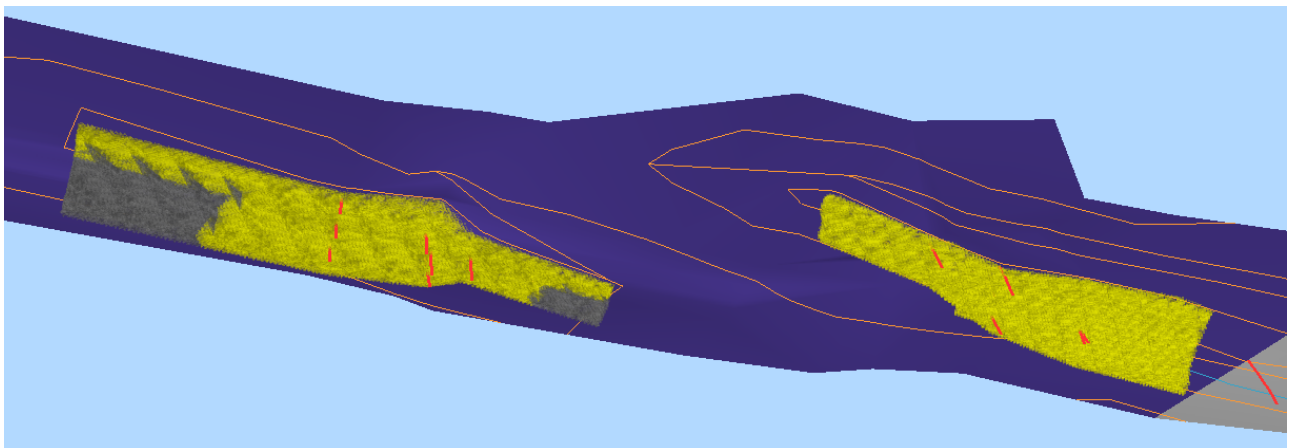
**Figure 2** Location of drilling at Merelani East deposit



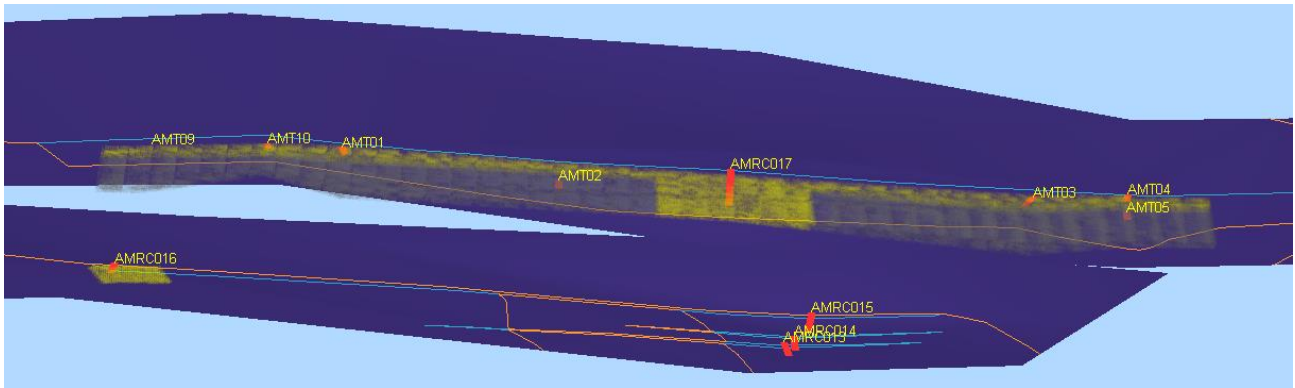
**Figure 3** Geological cross-section of Merelani East deposit



**Figure 4** West-east cross section through the Northern Zone, showing RC drill holes (coloured by TGC as per legend), mineralisation outlines (4% TGC and internal 8% TGC) and topographic profile.



**Figure 5** 3D View of Northern Zone block model showing drill holes (red), geological mapping strings, topographic DTM and resource blocks coloured on resource classification (yellow = Inferred, grey = unclassified). View looking up towards west-north-west. Strike length of Inferred Mineral Resource approximately 1,800 m.



**Figure 6** 3D View of Southern Zone block model showing drill holes and trenches (red), geological mapping strings, topographic DTM and resource blocks coloured on resource classification (yellow = Inferred, grey = unclassified). View looking up towards south. Strike length of modelled mineralisation is 2,300 m.

### **MERELANI BLOCK C – EXTENSION OF EXCLUSIVITY**

The exclusivity agreement for Merelani Block C graphite rights has been extended by the Company for a period of 3 months.

As previously announced the Company and both AIM listed Richland Resources Limited wholly owned subsidiary Tanzanite One Mining Limited (“TML”) and Tanzania’s State Mining Corporation (“STAMICO”) via their STAMICO-TML Joint Venture (“the Joint Venture”) entered a Memorandum of Understanding, with the intent of finalising an agreement to consolidate the Joint Venture’s graphite assets at Merelani with Kibaran’s 100% owned contiguous licences.

When Kibaran initially approached Richland Resources Limited regarding the concept of entering into an agreement for the graphite rights of Merelani Block C, the primary attraction was the potential for Merelani Block C to return to graphite production in a shorter timeframe than other graphite projects, including Epanko.

However, due to Richland Resources Limited recent selling of Tanzanite One Mining Limited to privately owned Sky Associates Limited, the negotiations to finalise an agreement have been delayed and consequently certain of the benefits of access to a brownfields site, including the time to production, have been eroded.

Subject to continued negotiations and further assessment of the potential of the Merelani East deposit, the company will determine the optimal development strategy to establishing a second production centre for Kibaran.

## JORC CODE, 2012 EDITION – TABLE 1

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<p>Samples were collected by reverse circulation (RC) holes, diamond core drilling and trenching.</p> <p>Sampling is guided by Kibaran's protocols and QA/QC procedures.</p> <p>RC samples are collected by a riffle splitter using a face sampling hammer with a diameter of approximately 140 mm.</p> <p>All samples were sent SGS laboratory in Johannesburg for preparation and LECO analyses. All samples are crushed using an LM2 mill to -4 mm and pulverised to nominal 80% passing -75 µm.</p> <p>Diamond core (if competent) is cut using a core saw. Where the material is too soft it is left in the tray and a knife is used to quarter the core for sampling. Trenches were sampled at 0.5m intervals, these intervals were speared and submitted for analyses.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<p>RC holes were drilled in a direction so as to hit the mineralisation orthogonally. Face sample hammers were used and all samples collected dry and riffle split after passing through the cyclone.</p> <p>Diamond drilling was drilled as triple Tubed HQ diameter core.</p>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<p>The RC rig sampling systems are routinely cleaned to minimize the opportunity for contamination; drilling methods are focused on sample quality. Diamond drilling (triple Tubed HQ diameter core) was used to maximise sample recovery when used.</p> <p>The selection of RC drilling company, having a water drilling background enables far greater control on any water present in the system, ensuring wet samples were kept to a minimum.</p> <p>No relationship exists between sample recovery and grade.</p>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<p>Geological logging is completed for all holes and representative across the deposit. Logged data is both qualitative and quantitative depending on field being logged.</p> <p>All drill holes and all intervals were logged.</p>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of</li> </ul>	<p>All RC samples are split using a riffle splitter mounted under the cyclone, RC samples are drilled dry.</p> <p>A small fraction of samples returned to the surface wet. All samples were submitted for assay</p> <p>Diamond core was cut on core saw and quarter core submitted for analyses.</p> <p>Sample preparation at the SGS laboratory involves the original sample being dried at 80° for up to 24 hours and weighed on submission to laboratory. Crushing to nominal -4 mm. Sample is split to less than 2 kg through linear splitter and excess retained. Sample splits are weighed at a frequency of 1/20 and entered into</p>

Criteria	JORC Code explanation	Commentary
	<p>samples.</p> <ul style="list-style-type: none"> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>the job results file. Pulverising is completed using LM2 mill to 90% passing –75 µm.</p> <p>QA/QC protocols were followed, including the use of field duplicate samples to test the primary sampling step for the RC drilling.</p> <p>Sample sizes are considered appropriate with regard to the grain size of the sampled material.</p>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<p>Drill samples were sent to the SGS Laboratory at Mwanza (Tanzania) for sample preparation, with the pulps sent to SGS Johannesburg for assaying. The following methodology is used by SGS for Total Graphitic Carbon (TGC) analyses.</p> <p>Total carbon is measured using LECO technique. The sample is combusted in the oxygen atmosphere and the IR used to measure the amount of CO<sub>2</sub> produced. The calibration of the LECO instrument is done by using certified reference materials.</p> <p>For the analysis of Graphitic Carbon, a 0.3g sample is weighed and roasted at 550°C 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 75°C prior to analysis by the LECO instrument. The analyses by LECO are done by total combustion of sample in the oxygen atmosphere and using IR absorption from the resulting CO<sub>2</sub> produced.</p> <p>Laboratory certificates were sent via email from the assay laboratory to Kibaran. The assay data was provided to CSA in the form of Microsoft XL files and assay laboratory certificates. The files were imported into Datamine.</p> <p>Standards are inserted at approximately a 10% frequency rate. In addition, field duplicates, laboratory duplicates are collectively inserted at a rate of 10% QAQC data analysis has been completed to industry standards.</p>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<p>Senior Kibaran geological personnel supervised the sampling, and alternative personnel verified the sampling locations. Two RC holes were twinned with diamond drill holes.</p> <p>Primary data are captured on paper in the field and then re-entered into spreadsheet format by the supervising geologist, to then be loaded into the company's database.</p> <p>No adjustments are made to any assay data.</p>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<p>Sample locations picked up by hand held GPS.</p> <p>UTM Zone 37 South was the grid system used.</p> <p>No coordinate transformation was applied to the data.</p> <p>Downhole surveys collected by multi-shot camera.</p> <p>Topographic DTM was compiled from point data, collected from a series of traverses 50m spaced along strike.</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<p>Spacing's are sufficient for estimation and reporting of a Mineral Resource.</p> <p>Drill hole locations are at a nominal 100 m (Y) by 25 to 50 m (X) spacing.</p> <p>Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for the classification applied.</p> <p>No compositing has been applied to exploration data.</p>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and</li> </ul>	<p>Most holes have been orientated towards an azimuth so as to be able intersect the graphitic mineralisation in a perpendicular manner. Drill pad accessibility has required an adjustment to drill hole orientation to a few holes.</p> <p>RC holes were drilled at variable dips to define the geology and contacts of the deposit.</p> <p>Some holes were drilled vertical to test geological contact</p>



Criteria	JORC Code explanation	Commentary
	<i>reported if material.</i>	positions.
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	Samples were stored at the company's secure field camp prior to dispatch to the prep lab by contacted transport company, who maintained security of the samples.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<p>Sampling procedures were independently reviewed by CSA Global as part of the preparation of the Mineral Resource estimate. Kibaran senior geological personnel reviewed sampling procedures on a regular basis.</p> <p>All drill hole results were collated and stored within a Datashed database. A random selection of assays from the database was cross referenced against the laboratory certificates.</p>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<p>The tenements are 100% owned by Kibaran wholly owned subsidiary and are within granted and live prospecting licenses.</p> <p>The Merelani project consists of PL 7907/2012, PL 7913/2012, PL 7914/2012, PL 7915/2012, PL 7917/2012, PL 7906/2012, PL 7918/2012, PL 10090/2014, PL10091/2014, PL10092/2014.</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>Historical reports exist for the project area as the region was first recognised for graphite potential in 1959.</p> <p>No recent information exists.</p>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	The Merelani Project is hosted within a quartz–feldspar-carbonate graphitic schist, part of a Neoproterozoic metasediment package, including marble and gneissic units.
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul> </li> <li><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	Sample and drill hole coordinates are provided in market announcements.
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>No high-grade cuts were necessary.</p> <p>Aggregating was made for intervals that reported over 1% TGC (Total graphitic carbon). The purpose of this is to report intervals that may be significant to future metallurgical work.</p> <p>There is no implication about economic significance. Intervals reporting above 8% TGC are intended to highlight a significant higher grade component of graphite, there is no implication of economic significance.</p> <p>No equivalents were used.</p>
<b>Relationships</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important</i></li> </ul>	All RC holes have been orientated towards an azimuth so as to be

Criteria	JORC Code explanation	Commentary
<b>p between mineralisation on widths and intercept lengths</b>	<p><i>in the reporting of Exploration Results.</i></p> <ul style="list-style-type: none"> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<p>able intersect the graphitic mineralisation orthogonally.</p> <p>Given dip variations are mapped down hole length are reported, true width not known from the exploration results.</p>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	See main body of report.
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	Results are presented previous announcements.
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<p>Field mapping was conducted early in the geological assessment of the license area to define the geological boundaries of the graphitic schist with other geological formations. Geological mapping of trenches cut across the strike of the host geological units provided important information used to compile the Mineral Resource estimate.</p> <p>Details of metallurgical testwork are detailed in the body of this report, and in Section 3 of this Table.</p>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	RC and Diamond drilling is planned to be completed for further metallurgical testwork.

## Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li><i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i></li> <li><i>Data validation procedures used.</i></li> </ul>	<p>Data used in the Mineral Resource estimate is sourced from a data base export. Relevant tables from the data base are exported to MS Excel format and converted to csv format for import into Datamine Studio 3 software for use in the Mineral Resource estimate.</p> <p>Validation of the data import include checks for overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.</p>
<b>Site visits</b>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li><i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	The Competent Person (CP) for Mineral Resources has not visited the Merelani site. It is anticipated that this will occur during the next planned drilling programme. The CP has visited Kibaran's other graphite project (Epanko) and reviewed the drilling and sampling procedures employed there, which were replicated at Merelani. The CP has relied upon the opinions of the CP (exploration results) and other senior Kibaran staff regarding geological outcrop of mineralisation, and other relevant matters.
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li><i>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</i></li> <li><i>Nature of the data used and of any assumption.</i></li> </ul>	There is a low to moderate level of confidence in the geological interpretation, based upon lithological logging of diamond drill core, RC chips, trench sampling and geological mapping of outcropping strata. Trenches cut orthogonal to the strike of the geology demonstrated the geometry of

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	<p>tions made.</p> <ul style="list-style-type: none"> <li>• The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>• The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>• The factors affecting continuity both of grade and geology.</li> </ul>	<p>the deposit, and clearly showed graphitic mineralisation. Deposit scale geological mapping provide a geological framework for the interpretation.</p> <p>Drill hole intercept logging and assay results (RC hole only), structural interpretations from drill core and geological logs of trenches have formed the basis for the geological interpretation. Assumptions were made on depth and strike extension of the graphitic schists, using drill hole and trench sample assays as anchor points at depth and at intervals along strike. Geological mapping also support the geological assumptions built into the Mineral Resource.</p> <p>No alternative interpretations were considered because the exposed geology in outcrop support the current interpretation.</p> <p>Graphitic mineralisation is hosted within a graphitic schist, which is mapped along it's strike continuity within the license area. Grade (total graphitic carbon, TGC) is assumed to be likewise continuous with the host rock unit. Metallurgical characteristics, principally flake size, has been observed to be of a consistent nature when observed in outcrop, trench exposure and diamond drill core at numerous locations within the license area.</p> <p>The graphitic schist is open down dip.</p> <p>The interpretation of the mineralisation domains is based upon a pre-determined lower cut-off grade for TGC of 4%, supported by statistical studies of the TGC (%) population. A variation to the cut-off grade will affect the volume and average grade of the domains.</p>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<p>The Merelani Mineral Resource estimate is approximately 4,100 m in strike, 50 m in plan width and reaches 100 m depth below surface.</p>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>• The assumptions made regarding recovery of by-products.</li> <li>• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>• Any assumptions behind modelling of selective mining units.</li> <li>• Any assumptions about correlation between variables.</li> <li>• Description of how the geological interpretation was used to control the resource estimates.</li> <li>• Discussion of basis for using or not using grade cutting or capping.</li> <li>• The process of validation, the checking pro-</li> </ul>	<p>Datamine Studio 3 software was used for all geological modelling, block modelling, grade interpolation, MRE classification and reporting. GeoAccess Professional and Snowden Supervisor were used for geostatistical analyses of data. The TGC interpretations were based upon a lower cut-off of 4% TGC and geological interpretations of mineralised outcrop and trenches, and logging of diamond drill core and RC chips. Internal high grade domains were identified and were modelled using a lower cut-off grade of 8% TGC. The Mineral Resource model consists of 7 zones of TGC mineralisation, with 5 zones in the Western Zone and 2 zones in the Eastern zone. Mineralisation domains were encapsulated by means of 3D wireframed envelopes. Domains were extrapolated along strike or down plunge to half a section spacing or if a barren hole cut the plunge extension before this limit. Top cuts were not used to constrain extreme grade values because the TGC grade distribution did not warrant their use. All drill hole data (RC only) and trench assays were utilised in the grade interpolation. A statistical study of the trench assay data demonstrated a similar population to the conventional drilling sample assay results.</p> <p>A block model with parent cell sizes 50 m x 25 m x 10 m was constructed, compared to typical drill spacing of 100m x 50m.</p> <p>Grade estimation was by Inverse Distance Squared (IDS). A minimum of 4 and maximum of 18 samples were used in any one block estimate. A maximum of 5 samples per drill hole were used in any one block estimate. Cell Discretisation of 3 x 3 x 3 was used. Grade interpolation was run within the individual mineralisation domains, acting as hard boundaries.</p> <p>The current Mineral Resource is the maiden Mineral Resource estimate for the Merelani East prospect and therefore cannot be compared to previous estimates.</p>

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	<p>cess used, the comparison of model data to drill hole data, and use of reconciliation data if available.</p>	<p>No depletion of the Mineral Resource due to mining activity was required due to no mining having occurred historically. The Mineral Resource is constrained fully within license PL7907_2012.</p> <p>No by products were modelled.</p> <p>No selective mining units were assumed in this model.</p> <p>The grade model was validated by 1) creating slices of the model and comparing to drill holes on the same slice; 2) swath plots comparing average block grades with average sample grades on nominated easting, northing and RL slices; and 3) mean grades per domain for estimated blocks and flagged drill hole samples. No reconciliation data exists to test the model.</p>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<p>Tonnages are estimated on a dry basis.</p>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<p>A reporting cut-off grade of 5% TGC was used to report the Mineral Resource, and is in line with other reported Mineral Resources in East Africa.</p>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<p>It is assumed the deposit, if mined, will be developed using open pit mining methods. No assumptions have been made to date regarding minimum mining widths or dilution.</p> <p>The largest mineralisation domains in plan view have an apparent width of over 50m which may result in less selective mining methods, as opposed to (for example) mining equipment that would need to be used to mine narrow veins in a gold mine.</p>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<p>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. Independent test work programs were reported on 23 February 2015. Relevant findings include:</p> <ul style="list-style-type: none"> <li>Metallurgical results confirm the Merelani East pit contains very large flake distribution with very grade carbon concentrates recovered from simple tion.</li> <li>32.7% of concentrate is Jumbo flake (+300 micro 98.1 % TGC.</li> <li>Overall recovery 97.1% grading 96.2% TGC.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<p>No assumptions have been made to date regarding possible waste and process residue disposal options.</p> <p>Kibaran are holding ongoing discussions with local land-holders and community groups to keep them well informed of the status and future planned directions of the project.</p> <p>Merelani is located in a sub-equatorial region of Tanzania and is subject to heavy seasonal rainfall, with rapid growth of vegetation in season. No major waterways are located within the project area.</p>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have</li> </ul>	<p>A density value of 2.5 t/m<sup>3</sup> was applied to the Mineral Resource estimate, and is an assumed value. This value was used in the estimation of the adjacent 'Block C' project and is considered appropriate for the host rock unit. The rock units were observed in drill core to be quite competent from shallow depths therefore a lower density for the oxidised weathering profile was not applied for this Mineral Re-</p>

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	<p><i>been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></p> <ul style="list-style-type: none"> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<p>source.</p>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<p>Classification of the Mineral Resource estimates was carried out taking into account the geological understanding of the deposit, QAQC of the samples, density data and drill hole spacing. Metallurgical results related to flake size and sample purity, as well as marketing agreements in place supported the classification, as per Clause 49 (JORC 2012).</p> <p>The Mineral Resource is classified as Inferred, with geological evidence sufficient to imply but not verify geological and grade continuity.</p> <p>All available data was assessed and the CPs relative confidence in the data was used to assist in the classification of the Mineral Resource.</p> <p>The current classification assignment appropriately reflects the Competent Person's view of the deposit.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<p>No audits or reviews of the current Mineral Resource estimate have been undertaken.</p>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<p>No other estimation method or geostatistical analysis has been performed.</p> <p>The Mineral Resource is a global estimate.</p> <p>Relevant tonnages and grade above nominated cut-off grades for TGC are provided in the introduction and body of this report. Tonnages were calculated by filtering all blocks above the cut-off grade and sub-setting the resultant data into bins by mineralisation domain. The volumes of all the collated blocks were multiplied by the dry density value to derive the tonnages. The graphite metal values (g) for each block were calculated by multiplying the TGC grades (%) by the block tonnage. The total sum of all metal for the deposit for the filtered blocks was divided by 100 to derive the reportable tonnages of graphite metal.</p> <p>No production data is available to reconcile results with.</p>

## ABOUT KIBARAN RESOURCES LIMITED

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*Kibaran Resources Limited (ASX: KNL or “Kibaran”) is a graphite focused resource company with world class graphite projects located in Tanzania. Kibaran is also a 50% shareholder in 3D Graphtech Industries.*

*The Company’s primary focus is to develop its 100%-owned Epanko Graphite Project, located within the Mahenge Graphite Province. Epanko is currently undergoing a Bankable Feasibility Study and 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. Metallurgical testwork has found Epanko graphite to be large flake, expandable, ultra-high purity and premium quality from a global perspective.*

*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 raw material of graphene.*

*The Company is positioning itself to participate in the emerging 3D printing market using graphite inks via 3D Graphtech Industries PL, jointly owned with 333D Pty Ltd (formerly 3D Group) which is transacting as OZ Brewing (ASX:OZB).*

*In addition, Kibaran has the Kagera Nickel Project which remains underexplored and is located along strike of the Kabanga nickel deposit, owned by the Glencore – Barrick Gold Joint Venture, which is considered to be the largest undeveloped, high grade nickel sulphide deposit in the world. Kibaran is currently seeking a partner to progress exploration of its highly prospective nickel properties.*

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 Limited. 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.

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