

## Excellent Metallurgical Results at Merelani East Graphite Project

- Metallurgical results confirm Merelani East contains a high distribution of large flake graphite 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 97.1% grading 96.2% TGC
- Trenching results double graphite mineralisation strike length to over 4km and support a substantial near surface occurrence
- Results support Kibaran’s staged expansion strategy through multiple mines

Kibaran Resources Limited (ASX: KNL) is pleased to provide an exploration and metallurgical update of its 100% owned Merelani East project, located within the Merelani-Arusha graphite province.

The geological results and metallurgical testwork from the initial exploration program provide evidence of a significantly larger graphite mineralisation area, with comparable grade and flake size distribution to that historically mined at the adjacent Merelani Block C (refer announcement dated 4 February).

The initial exploration programme consisted of 22 Reverse Circulation (RC) drillholes, two Diamond (HQ3) drillholes and eight trenches that targeted three prospects. Flotation results for metallurgical sample AMT001 achieved a 97.1% recovery, with the concentrate grading 96.2% fixed carbon and has delivered an extremely high proportion of large and jumbo flake (>180 micron) material with extremely high fixed carbon grades (refer table 1).

**Table 1: Flotation results for AMT001**

FLAKE SIZE			Portion of size fraction retained (%)	Carbon Content TGC (%)
Name	Microns	Mesh		
Jumbo	> 300	>48	<b>32.7</b>	<b>98.1</b>
Larger	>180	>180	<b>26.9</b>	<b>97.2</b>
Medium	> 106	>150	<b>19.7</b>	<b>96.5</b>
Small	> 75	>200	<b>7.1</b>	<b>95.3</b>
Fine	< 75	<200	<b>13.6</b>	<b>89.1</b>

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

The metallurgical results are significant given the current market shortage of large flake high grade product and that higher value graphite is determined by both flake size and carbon content. The analysis indicates Merelani East graphite is suitable for all markets (i.e. Micronised, Expanded and Spherical) and the very high graphite concentrate grade provides access to even higher value niche markets, graphene production and use in 3D printing.

It is important to note no acids were used to achieve the high carbon concentrates.

The 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.

Trenching results received support the drilling results from the first 12 RC holes. Better results include:

- **37m at 7.0% TGC** from trench AMT003
- **40m at 8.4% TGC** from trench AMT004
- **48m at 7.3% TGC** from trench AMT006

*[Full results are outlined in Table 2]*

The trench results doubled the total strike length of graphite mineralisation to more than four kilometres. The mineralisation appears consistent to that at adjacent Block C graphite mine which produced commercial quantities of high grade, large flake graphite in the mid-1990s, (refer Figures 1 and 2).

Executive Director Andrew Spinks commented, “The results confirm the Company’s view on the high quality of graphite at Merelani East. Graphite end users and traders are looking for diversity of suppliers and this has driven Kibaran’s strategy over the past three years - to broaden its own product supply base without compromising on quality.”

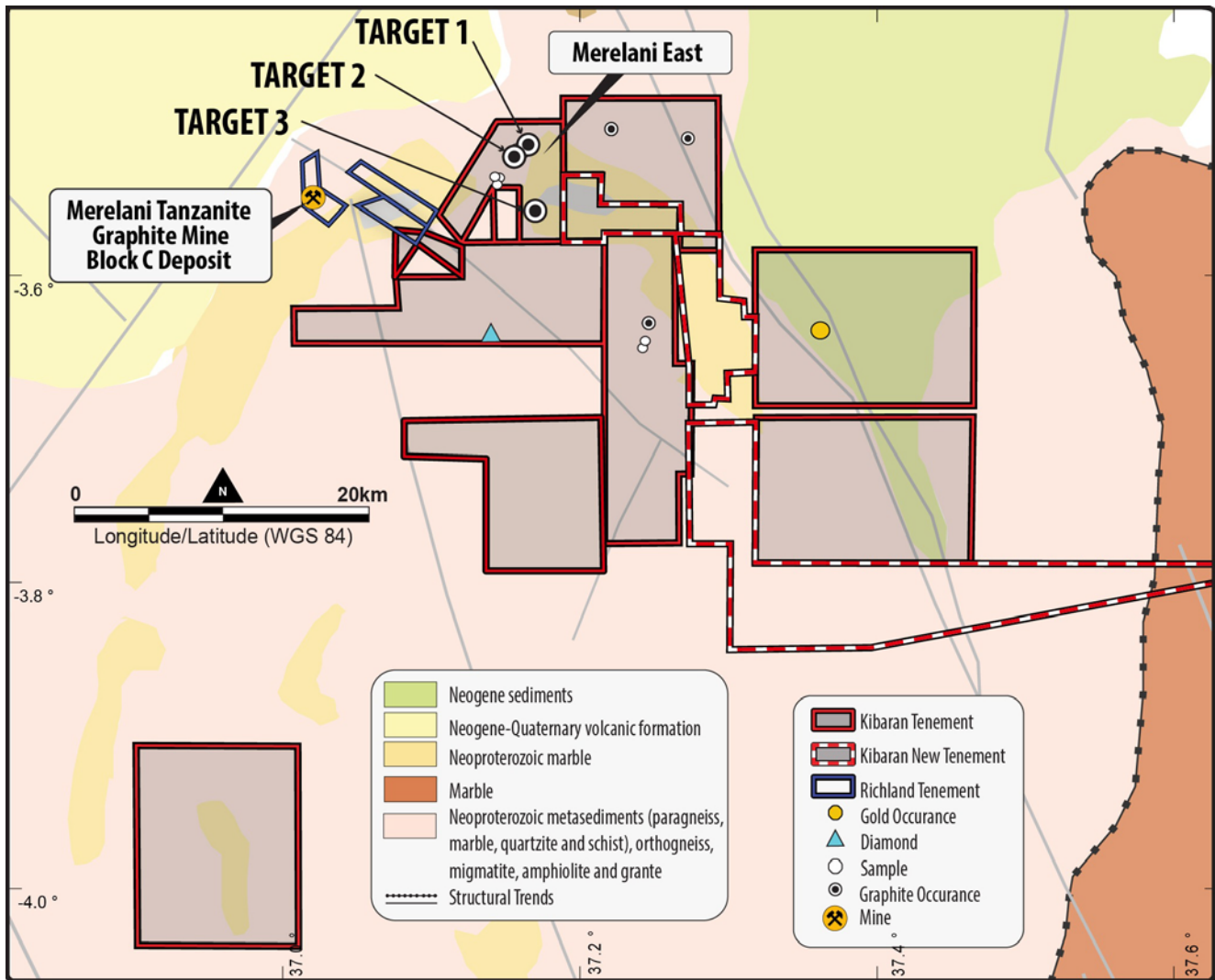


Figure 1 – Location plan of the Merelani Graphite Province – Merelani East (100%) areas and Block C

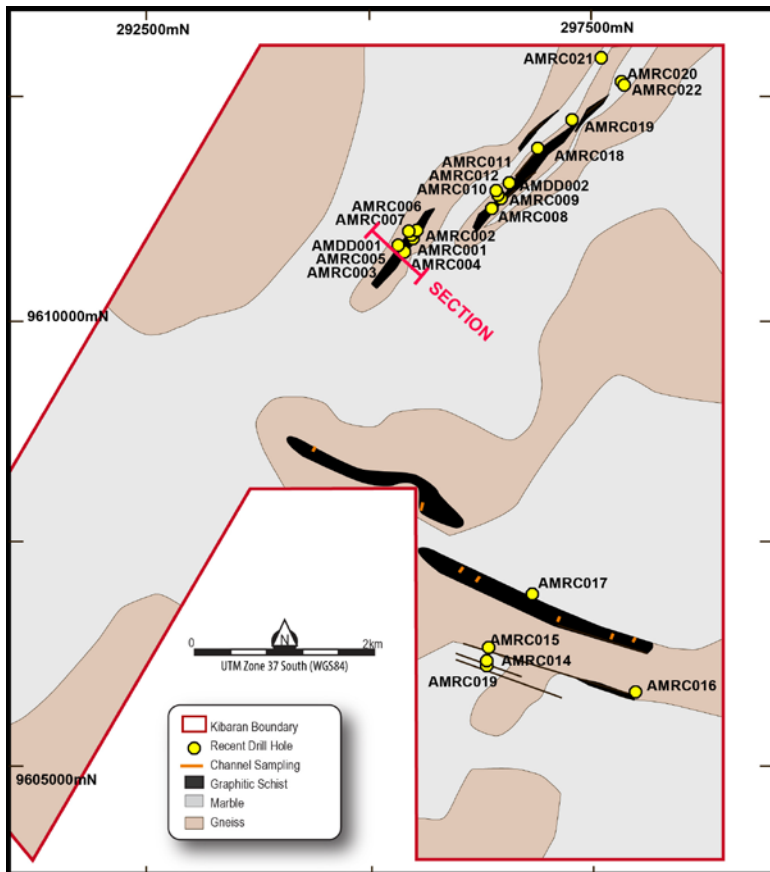


Figure 2 – Location of drilling at Merelani East (100% Kibaran)

AMT001 is a composite sample collected from trench samples centred at 9610712N and 295385E.

Table 2: Merelani East trench results

Hole_ID	N	E	mRL	Bearing	Interval (m)	Grade (%TGC)
AMT001	9606543	297572	1258	200	28	6.2
AMT002	9606675	297123	1197	200	37	7.0
AMT003	9607109	296218	1121	200	55	5.6
AMT004	9607210	296055	1110	200	40	8.4
<i>Includes</i>					9	13.3
AMT005	9607142	296009.9	1106	140	42	6.8
AMT006	9607928	295586	1113	140	48	7.3
AMT007	9608587	294400	1027	140	21	6.1
AMT008	9608405	294455	1033	140	10	8.4
AMT009	9606395	297955.6	1265	140	25	7.2
AMT010	9606464	297720	1277	140	29	6.7

**Notes for Table 1**

All total graphite carbon (“TGC”) analysis undertaken by LECO at independent commercial laboratory SGS in Johannesburg, South Africa. Samples collected over 1 metre intervals. Minimum intersection width 2 metres with internal waste of no more than 2 metres. Trench lengths are reported, as true width is unknown. Bearings are referenced to local grid. No top cut has been applied and intersection grade rounded to 1 decimal figure. Coordinates referenced to local grid WGS84 UTM36S.

**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 diameter approximately 140 mm.</p> <p>All samples were sent SGS laboratory in Johannesburg for preparation and LECO analyses. All samples are crushed using 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 samples.</li> <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>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 the job results file. Pulverising is completed using LM2 mill to 90% passing -75 µm.</p> <p>QAQC 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, calibration 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 then heated with diluted hydrochloric acid to remove any organic carbon. The sample is then heated with diluted hydrochloric acid to remove carbonates. After cooling the sample is filtered and the residue rinsed and dried at 75oC prior to analysis by the LECO instrument. The analyses by LECO are done by total combustion of sample in the oxygen atmosphere and using IR absorption from the resulting CO2 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</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>

Criteria	JORC Code explanation	Commentary
	<p>verification, data storage (physical and electronic) protocols.</p> <ul style="list-style-type: none"> <li>Discuss any adjustment to assay data.</li> </ul>	No adjustments are made to any assay data.
<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</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>Spacings 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) spacings.</p> <p>Data spacing and distribution are sufficient to establish the degree of geological and grade continuity.</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 reported if material.</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 positions.</p>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</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>The results of any audits or reviews of sampling techniques and data.</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>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.</li> <li>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.</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>Acknowledgment and appraisal of exploration by other parties.</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>Deposit type, geological setting and style of mineralisation.</li> </ul>	<p>The Merelani Project is hosted within a quartz–feldspar-carbonate graphitic schist, part of a Neoproterozoic metasediment package, including marble and gneissic units.</p>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<p>Sample and drill hole coordinates are provided in market announcements</p>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</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>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<p>All RC holes have been orientated towards an azimuth so as to be 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>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.</li> </ul>	<p>See main body of report.</p>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p>Results are presented previous announcements</p>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</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>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<p>RC and Diamond drilling is planned to be completed for further metallurgical testwork.</p>

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**About Kibaran Resources Limited:**

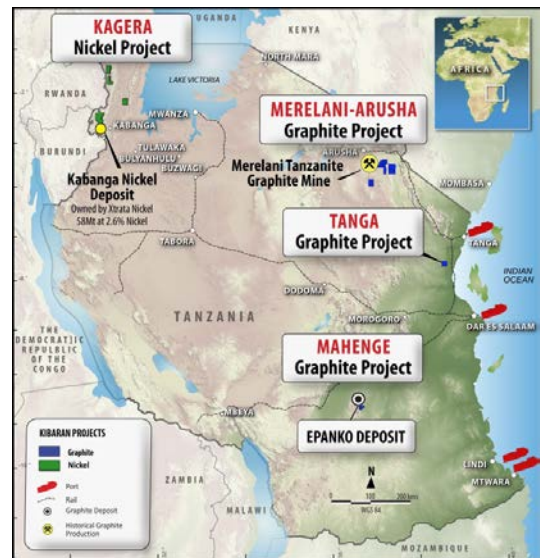
*Kibaran Resources Limited (ASX: KNL or “Kibaran”) is an exploration company with highly prospective graphite and nickel projects located in Tanzania.*

*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.