# ASX ANNOUNCEMENT

29 March 2017

**MAIDEN ORE RESERVE FOR NAMEKARA PROJECT - UGANDA**

**Highlights**

- **Maiden Ore Reserve of 1.16 Mt at 24.8% vermiculite >710 micron (20% >710 micron cutoff) at Namekara Vermiculite Deposit, Uganda.**
- **Maiden Ore Reserve will provide an immediate feedstock for at least 5 years of mine life at current production rates which is the current planning horizon.**
- **Ore Reserve based on Indicated Mineral Resource that currently sits above the water table at the 1180mRL and constitutes less than 10% of the total Resource.**
- **Maiden Ore Reserve is free dig operation and within 50 m from the surface.**

Black Mountain Resources Limited (**ASX:BMZ**) (**Black Mountain** or the **Company**) is pleased to announce its maiden Ore Reserve estimate and an updated Indicated Mineral Resource for the Namekara Vermiculite Deposit located in Uganda, see Figure 1 and Table A1.

The Ore Reserve estimate is a culmination of the 2,415m resource drilling program undertaken by BMZ, (announced to the ASX on the 24th of February 2017) and Mineral Resource updates by CSA Global Pty Ltd ("CSA Global") using the BMZ drill data in conjunction with 3,490m reverse circulation ("RC") by Rio Tinto ("Rio") and 3,408m diamond core ("DC") by Gulf Industrials ("Gulf") announced on the ASX on the 10th of March 2017.

Furthermore, ongoing feasibility studies completed by BMZ, 15 years of mining, processing and marketing experience and optimised pit designs have been used as a basis to convert the Indicated Resource into Ore Reserves.

**Management Commentary**

**Black Mountain's Chairman and Chief Executive Officer Julian Ford commented**: "The long term mine planning for the Namekara orebody is taking shape and progressing well. Namekara is a world-class orebody and the Company is focused on implementing plans that will maximise its value in the long term and also ensure that our growing list of global customers can plan confidently for the future supply.

The Company is pleased that our estimates to drill out a 5 years rolling Mine Plan have come to fruition and that dry season drill plan was spot on with respect to achieving the 5 year plus Reserve. With only 10% of the area currently covered by Inferred Resource being subjected to infill drilling, our team remains confident of further expanding the Namekara Project into a long life mining operation."

**Further Work to convert remaining Indicated Mineral Resource onto Reserve and extend mine life past 5 Years.**

The Ore Reserve is converted only from Indicated Resources that are currently located above the 1180mRL, which is the estimated level of the water table. The Indicated Mineral Resource extends by an additional 15m below the 1180mRL. However the Company has yet to complete geo-hydrological studies to assess pit dewatering parameters and characteristics. As such, the Company has not as yet classified any of the Indicated Mineral Resource below the water table as Ore Reserves. The Indicated Mineral Resource below the 1180mRL is 1.6 MT at 19.72% Vermiculite. Given that the current Probable Ore Reserve provides for a mine life in excess of 5 years, the Company intends to complete hydro-geological studies in the next few years to assess the feasibility of mining below the current water table so as to facilitate expansion of the process facility and access the improved grades at depth. The Company will also complete an annual drilling program in the dry season to infill drill the remainder of the Resource. Drilling by BMZ constitutes about 10% of the infill into the Resource. The dry season runs from December through to February every year.

**ORE RESERVE**

The Ore Reserve estimate, classified and reported in accordance with the JORC Code, is listed in Table A1. Ore Reserves are excluded in the Mineral Resource estimate. This is the first Ore Reserve estimate reported for the Namekara deposit.

**Table A1. NAMEKARA ORE RESERVE ESTIMATE, MARCH 2017 UPDATE (% CUT-OFF)**

| | Million Tonnes | Grade % (> 710**µm**) | Bulk Density | Contained Vermiculite (Kt) (> 710**µm**) |
|---|---|---|---|---|
| **Probable Ore Reserve** | 1.16 | 24.8 | 2.15 | 288 |

Ore Reserves are the economically mineable part of the Measured and/or Indicated Mineral Resources demonstrated by at least a preliminary feasibility study. The economic factors applied to the Namekara Ore body are based on metallurgical performance of the current beneficiation plant and the existing mining practices.

Ore Reserves fall into two categories:

- Proven Ore Reserves - the economically mineable part of a Measured Resource for which at least a preliminary feasibility study demonstrates that, at the time of reporting, economic extraction could be reasonably justified
- Probable Ore Reserves - the economically mineable part of a Measured and/or Indicated Resource for which at least a preliminary feasibility study demonstrates that, at the time of reporting, economic extraction could be reasonably justified.

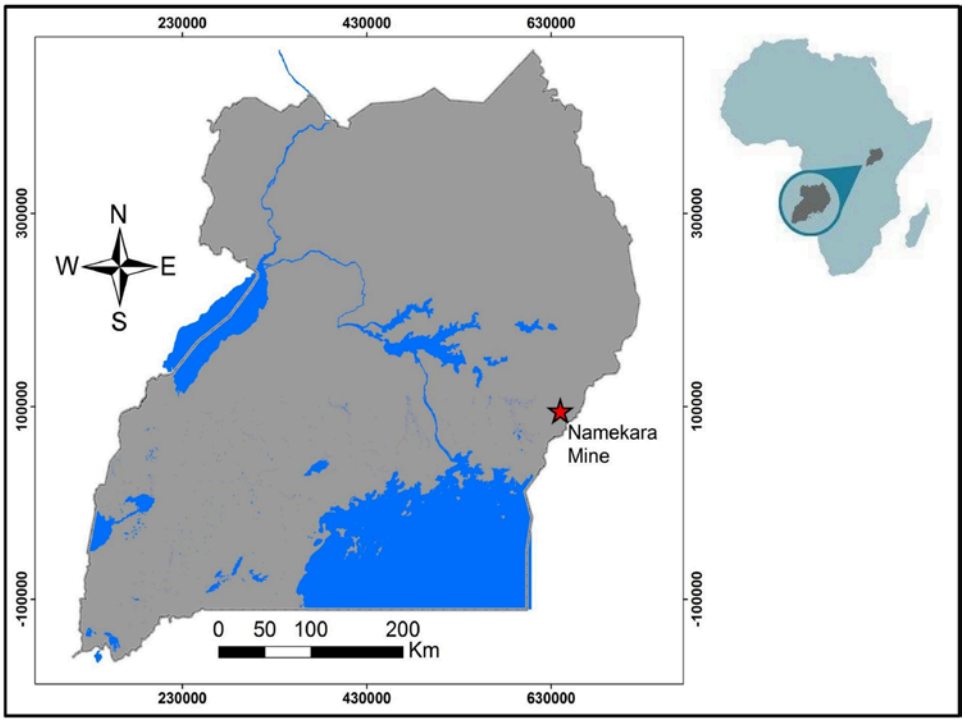


**Figure 1: Location of Namekara Mine in Southern Uganda**

Dilution of the Mineral Resource estimate and an allowance for ore loss has been included in the Namekara Ore Reserve estimate. About 85% of the Indicated Mineral Resources intersected by the optimised pit mine design at a 20% Cut-off grade has been classified as Probable Ore Reserves after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the Namekara project. There is no Measured Resource in the open pit mine design. Namekara Ore Reserves are shown in figure 2 below.

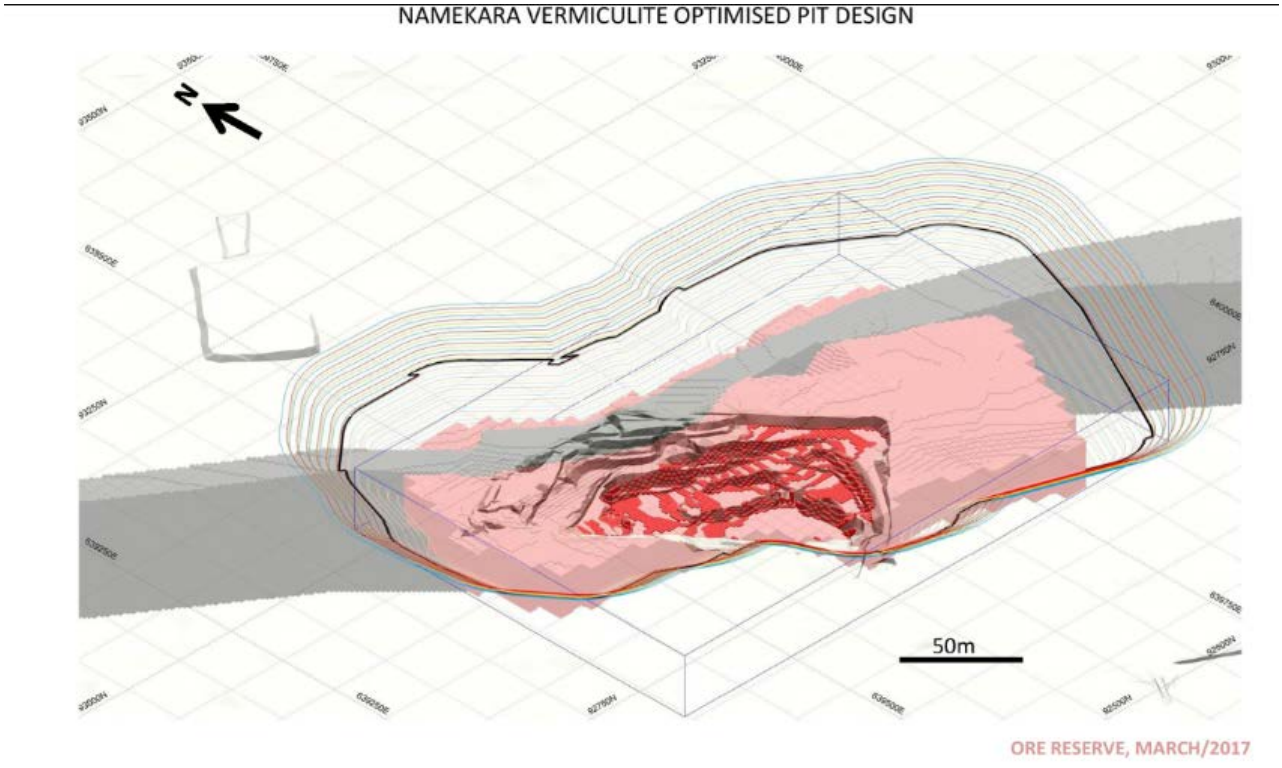


**Figure 2. Ore Reserves within the Optimised Pit Design**

BMZ has used current geological models, dollar average vermiculite price per ton, depending on the varying production schedules and the annual forecast realized prices, and current or projected operating costs and mine plans to estimate the Ore Reserves, allowing for dilution and mining losses. Standard data verification process for the estimate have been undertaken.

**MINERAL RESOURCE**

The updated Mineral Resource estimate, classified and reported in accordance with the JORC 2012 Code is listed in Table A2. Mineral Resources are reported exclusive of Ore Reserves.

**Table A2. NAMEKARA MINERAL RESOURCE ESTIMATE, MARCH 2017 UPDATE (10% CUT-OFF)**

| | Million Tonnes | Grade % (> 710**µm**) | Bulk Density | Contained Vermiculite (Mt) (> 710**µm**) |
|---|---|---|---|---|
| **Indicated Resources above 1180 mRL** | 3.0 | 19.4 | 2.15 | 0.58 |
| **Indicated Resources below 1180 mRL** | 1.6 | 19.7 | 2.15 | 0.32 |
| **Total Indicated Resources** | 4.6 | 19.5 | 2.15 | 0.90 |
| **Inferred Resources above 1180 mRL** | 30.9 | 17.9 | 2.15 | 5.53 |
| **Inferred Resources below 1180 mRL** | 24.6 | 17.3 | 2.15 | 4.26 |
| **Total Inferred Resource** | 55.5 | 17.7 | 2.15 | 9.79 |
| **Total Resource** | 57.1 | 19 | 2.15 | 10.57 |

Mineral Resources do not have demonstrated economic viability, but have reasonable prospects for eventual economic extraction. They fall into three categories: measured, indicated and inferred. No Measured Mineral Resources have been declared for the Namekara Project. The reported Mineral Resources are exclusive of Ore Reserves.

- Measured and Indicated Mineral Resources can be estimated with sufficient confidence to allow the appropriate application of technical, economic, marketing, legal, environmental, social and governmental factors to support evaluation of the economic viability of the deposit. Measured Resources have enough confidence to confirm both geological and grade continuity to support detailed mine planning while confidence in Indicated Resources is such that reasonable assumptions on geological and grade continuity are sufficient to support mine planning.
- Inferred Mineral Resources are estimated using limited geological evidence and sampling information. Confidence to evaluate their economic viability in a meaningful way is not enough. It is assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource, but it is reasonably expected that the majority of inferred mineral resources could be upgraded to Indicated Mineral Resources with continued exploration.

**MODIFYING FACTORS**

The key inputs to the Ore Reserve estimation and information on the modifying factors are listed in Table A3.

**Table A3. MODIFYING FACTORS**

| FACTOR | COMPLETED BY |
|---|---|
| **Geology** | BMZ |
| **Resource** | CSA Global |
| **Geotechnical** | BMZ |
| **Mining** | BMZ |
| **Processing and Metallurgical** | BMZ |
| **Marketing** | BMZ |
| **Environmental, Legal, Political & Social** | ABMAK Associates |

The Namekara Project is an operating mine for the past 15 years. The material modifying factors for the Ore Reserve have been extensively studied and tested over a considerable amount of time. All regulatory leasing, approvals, licensing, agreements and current infrastructure are in place and hence this estimation is regarded as confidently higher than that of a feasibility study.

**GEOLOGY**

The Namekara Project geological model and continuity of mineralization is confidently understood. Surface mapping, drill hole testing, and 15 years of operating experience has ensured high confidence in the geological interpretation of the mineralization. Details of the geological and assay work completed is contained in the JORC 2012 Table 1 appended in this report.

**MINERAL RESOURCES**

The updated Mineral Resource estimate has been classified and reported in accordance with the JORC 2012 Code. The Ore Reserves are assumed to be entirely a depletion of the Indicated Mineral Resource. No component of the Inferred Mineral Resource has been converted into Ore Reserves. Exploration and sampling details were reported to the ASX on the 24th of February 2017. The Mineral Resource estimate was reported in the ASX announcement of the 10th of March 2017 and the JORC 2012 Table 1 appended below.

**CUT-OFF GRADES**

A cut-off grade of 20% has been applied in estimating the Ore Reserve versus a 10% Vermiculite cut off used in the Mineral Resource estimate. The higher cut-off grade has been selected with consideration to mineability and cash operating margins. No upper cut has been applied to the Ore Reserve as this has been adequately dealt with in the Mineral Resource estimation stage. Figure 3 below illustrates the effect of different cut offs on the Namekara Resource grade-tonnage curves.

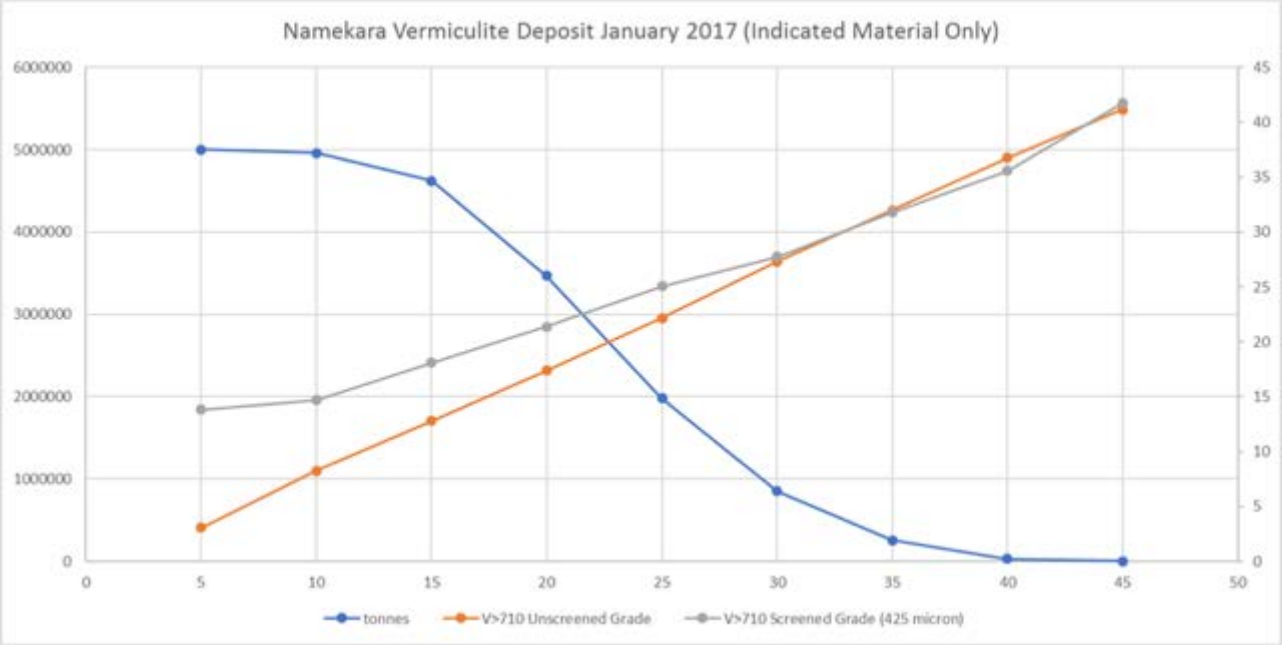


**Figure 3: Namekara Cut Off Grade for Indicated Mineral Resource**

**GEOTECHNICAL**

An overall pit wall angle of 70˚ has been used in the design of the optimised pit walls which is deemed a conservative factor, given that the existing overall pit wall angle is about 75˚ and has stood up well over the past six years with no recorded failures. No formal geotechnical studies have been carried out on the pit walls and the more conservative 70˚ angle has been used in the design parameters for the Pit Shell.

**MINING METHOD AND ASSUMPTIONS**

Mining at the Namekara deposit will be free dig open pit mining, which is the method currently in use in the open pit. The Mineral Resource Estimate has therefore been undertaken on the assumption of the open pit mining method being continued for the Life of Mine. Dilution has Mine plans and schedules designed to supply the plant with 15,000 tons of Run of Mine ore per month which is the current practice. Modifying factors associated with mining dilution and ore loss were undertaken by regularising the resource block model. The process combines smaller sub-blocks or divides larger parent blocks within the resource model to derive a predetermined SMU (Selective Mining Unit) of 2.5 m x 2.5 m x 1.25 m. The digging accuracy of the ore mining equipment to reflect the regularised 1.25m RL block height has been undertaken through actual waste mining and ore digging during mining operations. The regularisation process incorporates ore loss and dilution at the edges of mineralisation.

**Historically, there has been no formal mine plan so that there has not been any reconciliation of the mine plan and the ore delivered to the ROM pad.**

**PROCESSING AND METALLURGICAL ASSUMPTIONS**

The existing vermiculite process plant at Namekara will be used to process the ore. The metallurgical process used at Namekara is a well-tested technology and widely applied in the vermiculite industry. The head grade, determined from the mine plan and schedule is 24.8%. An average metallurgical recovery factor of 55% is being realised in the process plant and has been assumed to be the recovery for the purposes of the Ore Reserve Estimate. Final vermiculite concentrate has been assumed to be plus 93% in line with current production and product specifications.

**ECONOMIC**

The economic analysis is based on cash flows driven by the production schedule. The cash flow projections include:

- Initial and sustaining capital estimates
- Mining, processing and logistics costs based on FOB Mombasa pricing
- Revenue estimates based on concentrate pricing adjusted for fees, charges and royalties
- Closure costs
- Company tax estimates
- A 10% discount factor

Mining pre-feasibility studies have shown a positive NPV. Product pricing estimates were based on the current average prices that the company is achieving, with adjustments being made based on the company's understanding of the market dynamics going forward.

Vermiculite revenue factors considered are:

- Variable head grade averaging 35% over 5 years of the mine life
- Metallurgical recoveries applied at 55%.
- Exchange rate of 0.70 AUD:USD and UGX3300:USD
- State royalty of USD$3.00 per ton
- Net smelter royalty of 1%.

**MARKETING**

The world vermiculite business is now classified according to grade (grain size) of the classified product as per the table below;

| **PRODUCT GRADE** | **Minimum Grain Size (mm)** | **Maximum Grain Size (mm)** |
|---|---|---|
| Premium | 8 | 16 |
| Large | 4 | 8 |
| Medium | 2 | 4 |
| Fine | 1 | 2 |
| Superfine | 0.5 | 1 |
| Micron | | < 0.5 |

BMZ has sales agreements in place with existing customers, with most of them being repeat customers, to purchase product from Namekara.

The vermiculite product from Namekara is accepted by the market as seen from repeat sales to different customers in Europe, Asia, Australia and North America. The global market for vermiculite sales is estimated at 450,000 to 550, 000 tonnes per annum by the both The Vermiculite Association (TVA) and the United States Geological Survey (USGS). NMCL is a member organisation of the TVA.

The Namekara Vermiculite product size distribution is globally unique, with over 60% of product being medium or larger size fractions. The company's major competitors produce less than 15% of their product size fraction as medium or larger. There is an acknowledged global shortage of medium and large material whereas the finer grades (superfine and micron) size material is in abundant supply, with prices reflecting the supply and demand balance. On average, the Company receives three times the price per ton for large grade material compared to superfine material.

NMCL has in place a rigorous product assurance quality control (QA/QC), testing regime with a fully equipped laboratory onsite.

**ENVIRONMENTAL, LEGAL, POLITICAL AND SOCIAL**

The Namekara Vermiculite Prospect lies within Mining License, ML 4651, which was granted on the 15th of May 2003 and is registered in the name of Namekara Mining Company Limited (NMCL). The license is valid until the 14th of May 2024, and is renewable. Namekara Mining Company Limited is a wholly owned subsidiary of GLF Holdings LTD (Gulf). Gulf, in turn, is owned 100% by Black Mountain Resources LTD (ASX:BMZ). There are no material issues with third parties such as joint-venture agreements, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental concerns and as such there are no known impediments to the exploitation of the Ore Reserves.

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## Competent Person's Statement

The information in this report that relates to exploration planning, methodology, analysis and results has been compiled by Patrick Takaedza. Mr Takaedza is a full-time employee of Namekara Mining Company Ltd. Mr Takaedza is a member of the Australian Institute of Mining and Metallurgy. Mr Takaedza has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the JORC Code (2012). Mr Takaedza consents to the disclosure of the information in this report in the form and context in which it appears.

The information in this report that relates to Mineral Resources has been compiled by Matthew Cobb, who is a full-time employee of CSA Global Pty Ltd. Dr Cobb is a Member of both the Australian Institute of Geoscientists and the Australian Institute of Mining and Metallurgy, and has sufficient experience 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 JORC Code (2012). Dr Cobb consents to the disclosure of the information in this report in the form and context in which it appears.

The information in this report that relates to Mineral Resource regularisation, pit optimisation process, mine scheduling and pit design for the Ore Reserves has been compiled by Patrick Takaedza. Mr Takaedza is a full-time employee of Namekara Mining Company Ltd. Mr Takaedza is a member of the Australian Institute of Mining and Metallurgy. Mr Takaedza has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the JORC Code (2012). Mr Takaedza consents to the disclosure of the information in this report in the form and context in which it appears.

## Forward Looking Statements

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

# JORC Code, 2012 Edition – Table 1 Report

**Section 1:** Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Sampling techniques** | *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.* | Black Mountain Resources (BMZ) sampling was done by Aircore (AC) and Diamond core (DC). AC sampling was at 1 m intervals and DC samples were generally taken at 1 m intervals within lithological boundaries.<br><br>Samples collected by Rio Tinto (Rio) used reverse circulation (RC) drilling in 2007 and by Gulf Industrials (Gulf) using DC in 2011 and 2012.<br><br>RC samples were collected at 1 m intervals and later composited into 5 m samples. DC samples were generally taken at 1 m intervals except or to lithological boundaries, and subsequently composited to approximately 3 m. |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | BMZ AC drill samples were 50-50 riffle split in order to obtain representative samples, with both samples being retained.<br><br>BMZ DC samples were also crushed and ripple split<br><br>Rio RC samples were also riffle split.<br><br>In 2012, Gulf DC programme, duplicates of the crushed 3 m composites were split and submitted as duplicate samples.<br><br>AC samples were weighed by a calibrated scale before splitting |
| | *Aspects of the determination of mineralisation that are Material to the Public Report. 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.* | Industrial minerals such as vermiculite are required by JORC Code Clause 49 to be reported in terms of product specifications, which in the case of vermiculite includes flake size and expansion ratio (exfoliation).<br><br>AC drilling has been selected as there is no percussive hammer action to potentially grind the vermiculite flakes and distort particle size distribution. DC has been used to twin current AC drilling, and historical Rio Tinto RC and Gulf DC to assess potential sampling/assaying variance, and for accurate specific gravity determinations. |
| **Drilling techniques** | *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. core diameter, triple of standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc).* | AC drilling utilized 2 differing bits, both of 86.65 mm internal diameter. Outer diameters were 112.70 mm and 113.70 mm respectively.<br><br>The 2007 Rio RC holes were started using an 8.0 inch percussion hammer through loose overburden, and casing inserted to the depth of 6 m. The diameter was then reduced to 5.5" and further percussion drilling was conducted. The same type of tungsten-button bits were used throughout the entire drilling campaign, except for NAM-38 to NAM-41 which were drilled by using a cross-type (or x-type bit).<br><br>For all DC drilling, both Gulf and BMZ used a triple barrel wireline HQ3 diameter core barrel with a split inner barrel to allow for wet and weathered core to be removed without disturbance. |
| **Drill sample recovery** | *Method of recording and assessing core and chip sample recoveries and results assessed.* | All AC samples were weighed before splitting on a calibrated scale. Recovery was then back calculated against nominal hole diameter and density, based on previous |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | analytical results for density measurement.<br><br>Recovery rates for the 2007 RC drilling were not calculated during drilling, as samples were not weighed on site. Rio described the recoveries as visibly quite good at all times.<br><br>All DC recovered during Gulf and BMZ was measured for length and recovery calculated per run. |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | Sample quality and recovery of AC, RC and DC was continuously monitored during drilling to ensure that samples were representative and recoveries maximised. |
| | *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.* | Recovery was lower when AC drilling encountered cavities and holes were stopped at this point.<br><br>Rio noted that in the RC samples the vermiculite in the coarser grades (>2 mm in diameter) did not appear to reach the coarseness seen in the pit bulk samples. This was ascribed to the RC technique having a tendency to 'fine the samples'.<br><br>For DC, recovery was severely reduced in highly broken ground and as a consequence the hole would be abandoned. |
| **Logging** | *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.* | AC chips were qualitatively logged by the metre, for colour, vermiculite flake size, vermiculite content, magnetite content, as well lithology. Where more than one lithology was observed in an interval, the dominant material was logged as the primary lithology. The vermiculite color was also used to assign zones while logging. The AC samples were not suitable for geotechnical logging.<br><br>The 2007 RC chips were logged by the metre, noting coarseness of vermiculite and content, as well lithology. Where more than one lithology was observed in an interval, the dominant material was logged as the primary lithology and each assigned a percentage.<br><br>All DC was qualitatively logged for colour, vermiculite flake size, vermiculite content, magnetite content, as well lithology. |
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | AC chips were logged qualitatively by visual estimation of flake size, total content and magnetite content which was then compared with the quantitative analysis after assaying.<br><br>Rio RC visual estimates correlated well with the total contained vermiculite but showed size reduction of the flake size. It was noted that this was due to the percussion drill method reducing the size of the vermiculite flakes.<br><br>DC was initially logged qualitatively then later quantitatively after analysis of samples. DC logs showed that there was a broad correlation of high grade peaks between visual estimates and laboratory results |
| | *The total length and percentage of the relevant intersections logged.* | All AC chips were logged at 1 metre intervals.<br><br>RC chips were logged at 1 m intervals<br><br>Gulf and BMZ DC drilling was logged continuously from the top of hole noting relevant intersections |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Sub-sampling techniques and sample preparation** | *If core, whether cut or sawn and whether quarter, half or all core taken.* | Entire core was dried, crushed and bagged in approximately 1 m intervals to retain representatively. |
| | *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | BMZ AC and Rio RC samples were collected at 1 m intervals. The AC cuttings were sampled every metre and all sample cuttings were collected via a cyclone directly from the drill and into plastic-impregnated paper bags. A 50:50 riffle splitter was used to manually split the 1 m samples for further analysis.<br><br>All DC core was crushed manually on specially constructed steel tables, with all material reduced until passing through a 13 mm sieve. The material was then split through a 48 mm riffle splitter and each sample pair further crushed through a 2 mm roller crusher. The roller crusher allowed crushing of the grit to -2mm, while leaving the large vermiculite flakes virtually unaffected. BMZ DC samples were analysed at 1m while Gulf 1m DC samples were composed into 3m composites. |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | AC samples were taken at 1m intervals with no subsequent compositing.<br><br>Rio RC samples were manually composited to 5m using a 50-50 riffler.<br><br>Gulf DC 1m original samples were composited into 3m samples<br><br>BMZ DC samples were not composited to avoid any grade smearing or variances. |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | All AC samples were split 50-50 and both duplicates retained. The 20$^{th}$ duplicate was sent for analysis. (5% duplicates)<br><br>Every 20$^{th}$ BMZ DC sample was duplicated in a 50-50 splitter and sent for analysis. (5% duplicates)<br><br>20% duplicates of the Gulf DC samples were prepared for analysis. |
| | *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.* | Duplicate samples of both AC and DC were collected using a riffler and submitted for analysis.<br><br>Duplicate samples of the Gulf DC core composites were collected using a riffler and submitted for assay with the rest of the samples |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | BMZ 1m AC and DC samples were an appropriate size for the flake size and concentration of the vermiculite.<br><br>Rio 5m RC and Gulf 3m DC composites were also deemed appropriate. |
| **Quality of assay data and laboratory tests** | *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* | AC samples were split by riffle to ±1 kg sample. Further splitting was performed to approximately 300 g to be used for analysis; 300 g were also retained as a duplicate reference sample.<br><br>Samples were screened by shaking and after sieving, all sieve fractions (5.6, 2.0, 0.71 and 0.425 mm) were weighed separately.<br><br>A hand held magnet was used to remove magnetite particles which were ubiquitous in the samples. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | Each sample portion was exfoliated in small portions in pre-heated rotary furnace at 850±10°C until fully exfoliated (around 5 minutes). Samples were cooled, weighed and weight was recorded.<br><br>Exfoliated vermiculite was separated from the remainder of each sample by a float / sink procedure using water. Approximately 750 ml water was added into a dish containing the exfoliated sample, with the dense non-exfoliating material settling within approximately 20 seconds. The sinks were dried, cooled and weighed.<br><br>Phlogopite flakes were separated out by oral winnowing (gently blowing) and the remaining grit was recorded. The phlogopite weight was recorded also by subtracting the grit weight from the sinks weight.<br><br>In 2007 Rio had used exactly the same method with the only difference being it used a muffle furnace instead for exfoliation<br><br>All (BMZ & Gulf) DC samples were reduced to approximately 300 g by riffle. The sample was then split into two parts with one to be screened and the other to be dried in a laboratory oven to measure residual moisture.<br><br>The sample to be screened was placed on a nest of sieves (5.6, 2.0, 0.71 and 0.425 mm) and placed on a mechanical sieve shaker.<br><br>A hand-held magnet was used to remove magnetite particles which were ubiquitous in the samples.<br><br>Each of the fractions was then exfoliated in a rotary furnace, allowed to cool and then floated using a water funnel method.<br><br>The above 'screening, calcining and floats / sinks' method is deemed appropriate for this style of mineralisation. |
| | *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.* | Geophysical tools were not used to determine analyses of the mineralisation, as the analytical process physically extracted the vermiculite, which could be weighed. |
| | *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.* | During the Gulf exploration programme, 699 original composite drill samples were tested at the Gulf exploration laboratory in Uganda. Of these, 146 duplicates (20%) were prepared and tested in-house. 46 (6.6%) samples were selected for umpire testing by DuPre UK<br><br>2051 original drill samples were tested in-house at the Namekara exploration laboratory. 109 duplicates (5%) were prepared and tested in-house. 114 (5%) standard samples were also prepared and analysed. 109 (5%) umpire samples were tested by an independent consultant RobCol on behalf of CSA Global.<br><br>Both Gulf and BMZ used approximately 100 kg sample of mined mineralisation was used as an internal standard material for analytical QC control. It was homogenized by running it through a rotary dryer for about 15min.<br><br>The standards showed good consistency was followed in the laboratory.<br><br>No blanks were inserted as the analytical test procedures |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | were physical tests with results recorded as weights. |
| **Verification of sampling and assaying** | *The verification of significant intersections by either independent or alternative company personnel.* | CSA Global consultants visited site in Dec 2016 and checked AC and DC sampling techniques and samples. In addition, vermiculite mineralisation was verified within the pit faces and floor.<br><br>In 2013 CSA Global consultants had also visited the site to verify and review core and mineralization in the pit. |
| | *The use of twinned holes.* | 8 BMZ DC and 5 AC holes were twin holes, twinning historical Rio Tinto RC drill holes, Gulf DC drill holes and current AC drilling.<br><br>No twinning was done during the Rio RC or Gulf DC drilling. |
| | *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | All BMZ data and logs recorded during drilling and analysis activities were compiled in hard copy paper and subsequently imported into Excel. All hard copy original documents have also been scanned into soft copy and safely backed up. Paper copies are safely stored at Namekara Mine Offices.<br><br>During Rio campaign data was recorded into hard copy then transferred to excel. Hard copies were kept on site while softcopy spreadsheets were uploaded at the Rio headquarters in London, UK.<br><br>Gulf hard and soft copy duplicates were stored at the project site at Namekara. |
| | *Discuss any adjustment to assay data.* | Analytical data was not adjusted. |
| **Location of data points** | *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.* | All BMZ collar survey was done as soon as the hole was completed by consultant Native Geomatics Pvt Ltd using Nikon DTM 352 Total Station with accuracy of +/- 1.0mm.Initial control set up was by a Leica 500 Art 502 DGPS with results being post processed online by processing facility AUSPOS and independently checked with another processing facility CSRS.<br><br>Rio RC collars were surveyed by hand held GPS and an accuracy of +/- 5m.<br><br>Gulf DC collar survey was done initially by hand held GPS then later by a local surveyor in ARC 1960. African Land Survey (ALS) of SA was contracted to redo collar and pit survey in WGS84 (UTM Zone 36N). Differences in x, y and z were noted of the magnitude of 1.07m, 5.37 and 7.02m respectively.<br><br>Neither the AC, RC nor DC holes were surveyed down-hole as the holes were short and not anticipated to deviate significantly. Given the style of mineralisation, any drill deviations were not anticipated to have a material impact on intercept widths of grades. |
| | *Specification of the grid system used.* | WGS84 UTM Zone 36 North |
| | *Quality and adequacy of topographic control.* | Native Geomatics did a detailed survey of the Namekara pit and tenement topography in addition to the drill collars.<br><br>ALS did a detailed pit and collar survey |
| **Data spacing and** | *Data spacing for reporting of Exploration Results.* | Rio drilled 72 holes within an area of about 1km by 1km at |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **distribution** | | grid spacing of approximately 50m by 150m<br><br>Gulf drilled in 8 section lines of 80m to 120m apart. Hole spacing in a line was about 100m<br><br>BMZ infill drilling was done on 10 x 10 m in the pit and 25x25 m around the pit. |
| | *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.* | The data spacing is deemed sufficient to establish the geological and grade continuity appropriate for classification of a Mineral Resource in the Namekara prospect. |
| | *Whether sample compositing has been applied.* | 2007 Rio RC chips were sampled at 1 m intervals and later composited to 5 m.<br><br>2011 Gulf DC samples were taken at 1 metre intervals and to lithological boundaries where appropriate and were later composited to 3 m samples<br><br>No compositing of samples was done during the BMZ drilling. |
| **Orientation of data in relation to geological structure** | *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* | The vermiculite occurs within a ca. 35 metre thick sub-horizontal tabular zone, derived by weathering of phlogopite within coarse-grained to pegmatoidal pyroxenite. CSA Global and the BMZ competent person consider it unlikely that the sampling orientation has biased the data (vertical or inclined at -50 degrees). |
| | *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.* | Given the horizontal orientation of the deposit, CSA Global and the BMZ competent person do not consider the orientation of drilling to have introduced significant bias into the sampling. |
| **Sample security** | *The measures taken to ensure sample security.* | Rio 5 m RC composite samples were labelled uniquely on the bag and a ticket stub placed inside bag. All the data (sample number, hole number and depth interval) was recorded in triplicate as a QC measure. Approximately 500 g from every 1 m RC sample interval from the 2007 were riffle split and stored in plastic containers at the storage room in Namekara site.<br><br>Gulf DC samples were ticketed bagged and stored in secure containers on site.<br><br>AC samples were labelled with hole number and interval was written on the bag and a ticket stub placed inside bag. All the data was recorded in hard and soft copy.<br><br>Samples are stored in shelves inside metal containers under lock and key.<br><br>The BMZ DC samples were bagged and stored in same container as AC samples.<br><br>All BMZ AC and DC sample details were firstly copied in paper and then being entered in excel spreadsheets safely stored at Namekara Project site. All hard copy records have been scanned in pdf and safely backed up. |
| **Audits or reviews** | *The results of any audits or reviews of sampling techniques and data.* | CSA Global consultants reviewed all sampling SOPs, techniques and data for the drilling BMZ drilling campaign.<br><br>Gulf sampling techniques were also reviewed during 2011 and 2012. |

**Section 2:** Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Mineral tenement and land tenure status** | *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.* | The Namekara Vermiculite Prospect is within 2 tenements; a Mining License, ML 4651 and an Exploration License, EL 1534. The prospect is located in Eastern Uganda near the towns of Mbale and Tororo, approx. 190 km from the Uganda capital, Kampala and close to the border with Kenya. The prospect and mine is owned by Namekara Mining Company LTD (NMCL) a wholly owned subsidiary of GLF Holdings LTD (Gulf). Gulf, in turn, is owned 100% by Black Mountain Resources LTD (ASX:BMZ). There are no material issues with third parties like JV agreements partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. |
| | *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.* | The licences are in good standing and BMZ has lawful access to the mineral and exploration rights provided under Ugandan mining and exploration legislation as witnessed by Independent Solicitors, Ugandan legal firm Adukule and Co Advocates. |
| **Exploration done by other parties** | *Acknowledgment and appraisal of exploration by other parties.* | Rio Tinto previously drilled 72 vertical RC holes for a total of 3,490 m during 2007. Gulf Industrials drilled 54 inclined DC holes totalling 3,408 metres at the project from 2011 through 2012 but did not report a Mineral Resource mainly due to differences between original and umpire laboratory results for vermiculite content. |
| **Geology** | *Deposit type, geological setting and style of mineralisation.* | The Namekara vermiculite deposit is located in the south-western part of the Bukusu Complex, which is an alkali intrusive complex extending over about 50 $Km^2$ and which consists principally of intrusive carbonatite and silicate rocks such as pyroxenite.<br><br>The vermiculite occurs within a ca. 35 metre thick sub-horizontal tabular zone, derived by weathering of phlogopite within coarse-grained to pegmatoidal pyroxenite.<br><br>The vermiculite body is subdivided into an upper highly-oxidised zone (UZ) about 5 metres thick underlain by a less weathered lower zone (LZ). Vermiculite from the UZ does not readily exfoliate.<br><br>The Namekara deposit is cut by a west-northwest-trending carbonatite dyke up to 50 metres wide. It is assumed that the dyke is steep dipping, based on DC information. |
| **Drill hole Information** | *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:*<br><br>• *easting and northing of the drill hole collar*<br>• *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>• *dip and azimuth of the hole*<br>• *down hole length and interception depth*<br>• *hole length.* | NA |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *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.* | NA |
| **Data aggregation methods** | *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.* | NA |
| | *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.* | NA |
| | *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No metal equivalents were reported, as this is an industrial mineral deposit. |
| **Relationship between mineralisation widths and intercept lengths** | *These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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').* | Both vertical and inclined holes were drilled. Vertical holes intercepts when mineralisation style is considered are therefore deemed to be similar to the true width. Holes that are inclined at about 50 degrees give apparent mineralisation lengths at approximately 25% longer than vertical holes. |
| **Diagrams** | *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.* | Relevant figures have been included in the report. |
| **Balanced reporting** | *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.* | NA |
| **Other substantive exploration data** | *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.* | Rio Tinto previously drilled 72 vertical RC holes for a total of 3,490 m during 2007. Gulf Industrials drilled 54 inclined DC holes totalling 3,408 metres at the project from 2011 through 2012.<br><br>Bulk samples: although the mine is in production there has been no reliable reconciliation of tonnes mined and product produced. However Scogings and Barnett (2013) of CSA attempted to reconcile the pit volume with recorded production (2010 to 2012) and estimated that approximately 15,000 tonnes of vermiculite were produced from approximately 70,000 tonnes mined, for an estimated recovery of close to 24% vermiculite. |
| **Further work** | *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* | BMZ plans to have an ongoing infill drilling program to cover the whole tenement area. |
| | *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | NA |

**Section 3:** Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Database integrity | *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.*<br><br>*Data validation procedures used.* | Data for integration was provided to CSA Global as an Access™ database. CSA Global modified the supplied input data into an Access™ database for use in Surpac™ 6.6.2 mining software. This procedure requires a set of routine validation steps checking for logical consistency within the data (absence of from-to interval overlaps, data extending beyond maximum recorded depth of hole, survey information for dip and azimuth). The created database validated successfully. |
| Site visits | *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br><br>*If no site visits have been undertaken indicate why this is the case.* | Site visits were undertaken in December 2016 by Andrew Scogings and Matthew Cobb (Competent Person) of CSA Global in the presence of resident Competent Person Patrick Takaedza of BMZ to review drilling, sampling and analytical methods. No material issues were raised. Further site visits took place in Feb 2017 by Rob Barnet and Johan Krynauw of RobCol Initiatives who, in the presence of the Patrick Takaedza, reviewed laboratory standards, assay protocols and results. Again no material issues were identified. |
| Geological interpretation | *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*<br><br>*Nature of the data used and of any assumptions made.*<br><br>*The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br><br>*The use of geology in guiding and controlling Mineral Resource estimation.*<br><br>*The factors affecting continuity both of grade and geology.* | The geological interpretation of the Namekara deposit is robust and well understood after extensive surface and open pit mapping, drilling and logging of 3,490m by Rio Tinto, 3,408m by Gulf and 2,415m by BMZ and 15 years of mining.<br><br>Mineralisation is laterally continuous and both drilling and mining have indicated only minor variation to the thickness of the deposit across the project area. The data do not readily offer materially different interpretations of mineralisation.<br><br>Drill hole logging and dense media separation analyses of vermiculite content have formed the basis for mineralisation domain interpretation.<br><br>The base of mineralisation has been defined based on logging and analytical results which define the transition between vermiculite and unaltered phlogopite.<br><br>Grade continuity is affected by the intensity of weathering of the parent phlogopite, original phlogopite content within the precursor pyroxenite host, flake size variations due to pegmatoidal zones within the host pyroxenite, and the presence of late-stage cross cutting intrusive units which disrupt mineralisation. |
| Dimensions | *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.* | RC, Aircore and DD drilling have intersected vermiculite mineralisation from about 3 m below surface to about 45 m below surface, along approximately 1,200 m of strike and 1000 m across strike. The upper 5 to 10 m of the mineralisation (the Upper Zone) is described as oxidised and does not have as favourable exfoliation properties as deeper mineralisation (the Lower Zone). |
| Estimation and modelling | *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining,* | The geological model for the Namekara deposit was constructed using manual wireframing triangulation methods, with closed three dimensional volumes and / or open two |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| techniques | *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.*<br><br>*The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br><br>*The assumptions made regarding recovery of by-products.*<br><br>*Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br><br>*In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br><br>*Any assumptions behind modelling of selective mining units.*<br><br>*Any assumptions about correlation between variables.*<br><br>*Description of how the geological interpretation was used to control the resource estimates.*<br><br>*Discussion of basis for using or not using grade cutting or capping.*<br><br>*The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | dimensional surfaces constructed to define, mineralisation, various stratigraphic horizons within the host lithology, oxidation state and regolith overburden. Wireframes were snapped to the relevant intersections within drillhole information. Where drillhole information ceased, the mineralisation wireframe was extended a maximum of 50 metres beyond the final drillhole in the XY plane. Vertical resolution on extrapolated points was defined by the dip angle of the wireframe between the previous two drillhole intercepts, perpendicular to the direction of extrapolation. Mineralisation boundaries were defined nominally on a 10% total vermiculite content at the >710 micron size fraction. Some inclusion of sub-grade material was made for the purposes of maintaining geological continuity.<br><br>The Namekara Mineral Resource was estimated vi ordinary co-kriging, and univariate ordinary kriging with the Isatis software package. These well-established methods for grade interpolation are considered appropriate for the style of mineralisation. Two domains were defined based on the presence of up-to-date quality control data pertaining to input assay data and the availability of total vermiculite data measured as a fraction of a complete unscreened sample.<br><br>Non-spatial grade distributions are continuous with no spurious outliers. Consequently, no grade top-cutting has been applied.<br>No assumptions have been made regarding selective mining units.<br><br>A block size of 10 x 10 x 5 metres (XYZ) to model the Namekara Mineral resource, subcelled to 2.5 x 2.5 x 1.25 metres for volume resolution.<br><br>Where available, the total contained vermiculite percentage within the unscreened and screened sample fractions were co-estimated. These variables show a high degree of intrinsic and spatial correlation (R = 0.89). The screened fraction estimate permits the determination of yield for the given size fraction cutoff (710 micron).<br><br>The Competent Person considers both the modelling method and estimation techniques to be appropriate for the deposit.<br><br>The Mineral Resource has been previously estimated both by Rio Tinto in 2008, and internally by Gulf Resources Ltd in2013, however the parameters for the definition of mineralisation (relating to flake size and total vermiculite percentage cutoff) were different to those current, and so the previous estimates are not directly comparable. The current estimate does compare favourably to the Inferred Mineral Resource estimate published by Black Mountain Resources in December 2016.<br><br>The Mineral Resource estimate was validated visually by comparing the input grade data against proximal block estimates, and also through the use of trend plots generated in the three primary dimensions of the deposit (XYZ).<br><br>No by products are recovered, and no deleterious elements need be considered in this style of deposit. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | No reliable production or reconciliation data is available for comparison to the current estimate. |
| Moisture | *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | Estimated tonnes are based on a dry bulk density that was measured on air-dried core. All samples were further oven dried at approximately 100˚C for about an hour for in-situ moisture determination |
| Cut-off parameters | *The basis of the adopted cut-off grade(s) or quality parameters applied.* | A cut-off of 10% vermiculite was used for the Resource estimation at flake size 0.710mm in line with mining, production and transport costs and to match market requirements. |
| Mining factors or assumptions | *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.* | It is assumed all the vermiculite ore will be mined in a free dig open pit as is current practice at 2.5m bench heights. The process will involve the expansion of the current pit by a series of push backs, stripping of 5 m of laterite overburden followed by another 5m of oxidised vermiculite ore before reaching the proper ore zone. |
| Metallurgical factors or assumptions | *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.* | The mine has operated and produced since 2002 and it is assumed that at a minimum, the same process plant will continue to be used with some parameters being improved along the way. A recovery of 55% is assumed. |
| Environmental factors or assumptions | *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.* | Current operations meet all the necessary environmental, social and legal requirements. |
| Bulk density | *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.*<br><br>*The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*<br><br>*Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | Dry bulk density was determined using 2 different methods on core samples.<br><br>The calliper method was used on core samples in different lithologies and ore zones. The core tray method was also used to determine dry bulk density of the core noting lithology and zone.<br><br>For both methods lithology and zone was observed and noted. Variations in bulk density were also noted as they were dependent on the magnetite content, degree of weathering and vermiculite content. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Classification | *The basis for the classification of the Mineral Resources into varying confidence categories.*<br><br>*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).*<br><br>*Whether the result appropriately reflects the Competent Person's view of the deposit.* | The Namekara Mineral Resource has been classified via qualitative methods, through the assessment of input data density, input data reliability, availability of related QC data, and the review of estimation quality parameters including kriging variance and estimate slope of regression. The classification appropriately reflects the Competent Persons view of the deposit. |
| Audits or reviews | *The results of any audits or reviews of Mineral Resource estimates.* | The currently reported Mineral Resource has not been subject to third party review, but has been internally peer-reviewed by CSA Global principal resource geology consultants. |
| Discussion of relative accuracy/ confidence | *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.*<br><br>*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.*<br><br>*These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | The Mineral Resource accuracy is communicated through the classification assigned to various parts of the deposit. The Mineral Resource estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1 and Section 3 of this Table.<br><br>The Mineral Resource statement relates to a global estimate of in-situ tonnes and grade.<br><br>While the deposit is currently being mined, a lack of production control in historic operations means that reliable reconciliation data are not available. Subsequent to the production of the current Mineral Resource, monitoring of production values (grade and tonnage) are to be initiated for reconciliation against all future model updates. |

**Section 4:** Estimation and Reporting of Ore Reserves (Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

| Criteria | JORC Code Explanation | COMMENTARY |
|---|---|---|
| *Mineral Resource estimate for conversion to Ore Reserves* | *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*<br><br>*Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.* | The Mineral Resource estimate used as the basis for this Ore Reserves Update was compiled by CSA Global in March 2017. The resource model estimation is discussed in detail in section 3 of this table.<br><br>The Ore Reserves reported here are exclusive in the Mineral Resource Estimate reported by the Company on the 10 March 2017. |
| *Site visits* | *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br><br>*If no site visits have been undertaken indicate why this is the case.* | The competent person is employed by BMZ and is ordinarily stationed at the operation which is the subject of this statement. CSA Global, the independent technical consultants and competent persons to the Company have carried out a visit to the site where they were able to meet and interact with key operational personnel, observe the infill and resource drilling, view the current open pit and processing plant and appreciate the general infrastructure and regional setting. |
| *Study status* | *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*<br><br>*The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.* | The Namekara vermiculite mine is a fully operational open pit mine with an operating stand-alone vermiculite recovery plant that was commissioned in November 2011. The updated Ore Reserve has included all aspects of the operation of the existing mine including all inputs related to operational costs and actual production parameters.<br><br>BMZ has used current geological models, dollar average vermiculite price per ton, depending on the varying production schedules and the annual forecast realized prices, and current or projected operating costs and mine plans to estimate the Ore Reserves, allowing for dilution and mining losses. Standard data verification process for the estimate have been undertaken.<br><br>Actual operating costs and modifying factors have been applied in the design of the optimized pit. |
| *Cut-off parameters* | *The basis of the cut-off grade(s) or quality parameters applied.* | A cut-off grade of 20% vermiculite in the +0.710mm size range was used. This cut-off grade reflects current mining practice, ore blending, product size specifications and most importantly the prices received for the various size fractions in the current market as at February 2017. A weighted average price has been used based on current average production from the current production over the past 4 months.<br><br>A cut-off grade study was undertaken in 2016, into early 2017 and supports the use of the 20% vermiculite grade cut-off used in this statement. |
| *Mining factors or assumptions* | *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*<br><br>*The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*<br><br>*The assumptions made regarding geotechnical parameters (eg* | The regularised mining block model, as distinct from the Mineral Resource model, was developed from the resource model by the application of a regular block size and estimation of the Mineral Resource model to a Standard Mining Unit (SMU) mining block model; is the basis for the estimation of the Ore Reserve has been used in the process of generating open pit shells taking into account current site operating information as well as independent expert recommendations.<br><br>Appropriate factors have been added to the regularised mining |

| Criteria | JORC Code Explanation | COMMENTARY |
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| | *pit slopes, stope sizes, etc), grade control and pre-production drilling.*<br><br>*The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*<br><br>• *The mining dilution factors used.*<br><br>• *The mining recovery factors used.*<br><br>• *Any minimum mining widths used.*<br><br>*The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*<br><br>*The infrastructure requirements of the selected mining methods.* | block model, which has been optimised using Datamine NPVS Optimisation software. The resultant optimal shell was then used as the basis for the detailed design to include pit wall angels and access ramps.<br><br>The open pit mining method assumed in the Ore Reserve study is the same as the method currently in use at Namekara vermiculite mine, with the existing open pit having been designed to be developed in a series of progressive cut backs. The Ore Reserve pit is effectively designed as an extension of the existing pit in a series of further cut backs.<br><br>The schedule is based on the diluted resource models (i.e. mining models). Due to the regularisation process of the Mineral Resource models, Indicated Resource material can be mixed with lower resource categories. This mixed Indicated material has not been allowed to be eligible for conversion to a Probable Reserve.<br><br>There is no Proven Reserves because there is no Measured Resource category material in the Mineral Resource Models.<br><br>Inferred Mineral Resource for the purpose of the Ore Reserve estimate is treated as waste within the mine production scheduling process and financial analysis.<br><br>A small scale mining fleet, in keeping with current operating practices at the open pit, was selected using contract mining services.<br><br>A overall pit wall angle of 70˚ has been used in the design of the pit walls used in the optimised pit which is deemed a conservative factor, given that the existing overall pit wall angle is 60% and has stood up well over the past six years. However, no formal geotechnical studies have been carried out on the pit walls, so a more conservative 70˚ angle has been used in the design parameters for the NPV Scheduler Pit Shell.<br><br>No Inferred Mineral Resources are included in the Ore Reserve optimisation process as the Inferred Mineral Resource is spatially separate from the Mineral Resource that has been infill drilled in order to increase the confidence in the Mineral Resource estimate.<br><br>At present, the mining is limited to the area above the ground water table and the base of the ground water table has been used for maximum pit depth extension. .<br><br>Modifying factors associated with mining dilution and ore loss were undertaken by regularising the resource block model. The process combines smaller sub-blocks or divides larger parent blocks within the resource model to derive a predetermined SMU (Selective Mining Unit) of 2.5 m x 2.5 m x 1.25 m. The digging accuracy of the ore mining equipment to reflect the regularised 1.25m RL block height has been undertaken through actual waste mining and ore digging during mining operations The regularisation process incorporates ore loss and dilution at the edges of mineralisation. No other dilution is applied other than the inherent dilution built within the geological modelling as precursor to the Resource Modeling and Estimation process.<br><br>These are estimates as no historical Ore Reserve has been |

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| | | available to complete reconciliation between Mining Ore Reserve and process plant feed.<br><br>The Ore Reserve model is a recoverable reserve estimate that takes into account estimation of dilution and ore losses in the estimation based on a SMU. |
| *Metallurgical factors or assumptions* | *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*<br><br>*Whether the metallurgical process is well-tested technology or novel in nature.*<br><br>*The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*<br><br>*Any assumptions or allowances made for deleterious elements.*<br><br>*The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*<br><br>*For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?* | The existing vermiculite recovery plant at Namekara will be used to process the Ore Reserve and a recovery factor of 55% has been assumed in the estimation of the Ore Reserve. The recoverable vermiculite for the process plant is set at a similar size fraction cut-off to the 710 micron used in the existing beneficiation process plant. The 55% recoverable Vermiculite is the current process plant performance and is in line with industry standards for Vermiculite beneficiation plants operating in this particle size fraction range.<br><br>The metallurgical process used at Namekara is a well-tested technology and widely applied in the industry. The process consists progressively of: magnetite recovery by magnetic separation; drying in a rotary kiln; primary screening to remove fines and clay; winnowing to separate vermiculite from grit and finally size sorting using sieves to produce four size fractions. The current production size fractions are large (4.75mm - 11.2mm); medium (2mm – 4.75mm); fine (1mm – 2.8mm); and super fine (0.710mm – 1.7mm). The process plant can also produce a premium size product (11.2mm – 16mm), although currently the majority of the premium product is granulated to produce the smaller size fractions.<br><br>The metallurgical results from the full scale Namekara vermiculite recovery plant have been incorporated into the Ore Reserve estimation.<br><br>No assumptions have been made for deleterious material as the experience from the full scale operation of the Namekara processing plant has not turned up any deleterious elements. |
| *Environmental* | *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.* | All statutory and regulatory approvals have been received for mining, occupational health and safety, environmental and surface rights.<br><br>The waste material is in the form of magnetite, fines and dust. Although a market exists for magnetite, the current practise is to stockpile the material, while further metallurgical test work is carried out on the product. The fines and dust are currently dumped in a waste stock pile. |
| *Infrastructure* | *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.* | The full range of infrastructure is in place at Namekara with grid power, water, a well-developed road network and both skilled and unskilled labour currently available and supporting the existing operations. |
| *Costs* | *The derivation of, or assumptions made, regarding projected capital costs in the study.*<br><br>*The methodology used to estimate operating costs.*<br><br>*Allowances made for the content of deleterious elements.*<br><br>*The derivation of assumptions made of metal or commodity* | The economic analysis was based on total cash costs with no allowance being made for capital costs. All costs for mining, processing transportation and marketing were derived from the operating mine.<br><br>Current operating experience has not revealed any deleterious elements within both the ore and waste, as such no allowance |

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| | *price(s), for the principal minerals and co- products.*<br><br>*The source of exchange rates used in the study.*<br><br>*Derivation of transportation charges.*<br><br>*The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*<br><br>*The allowances made for royalties payable, both Government and private.* | has been made for such items.<br><br>All financial analyses and product pricing has been done in US dollars which is the currency used by Namekara Mining Company Pty Ltd for budget and planning purposes. The three major production cost components, namely fuel for drying, expatriate labour costs and maintenance spares which currently make up 50% of current costs are all priced in US$. The local Ugandan costs in shillings for national labour and power are converted into US$'s at the current exchange rate. The exchange rate used in the economic cut off model is [US$1X:UGX 3,300}<br><br>Product pricing has been based on the weighted average price currently being achieved.<br><br>Transport charges are based on current contract transportation rates from the mine site to Mombasa, the current port used for 100% of exports. The majority of the company's products are sold on a Free On Board (FOB) Mombasa basis.<br><br>Allowance for both government and private royalty has been based on current rates and includes a US$3/ tonne of final product royalty payable to the Ugandan Government and a 1% Net Smelter Royalty paid to private parties. |
| *Revenue factors* | *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*<br><br>*The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.* | Ore reserves were calculated based on FY2016/17 budget Financial Modelling approved by the board of BMZ. The budget has been guided by the mine plan and schedule completed for the project. The Companies' current weighted average price received for its product, FOB Mombasa is US$300 per tonne, as sold in 1.1 tonne bulk bags, stacked and shipped in 20ft Containers. |
| *Market assessment* | *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*<br><br>*A customer and competitor analysis along with the identification of likely market windows for the product.*<br><br>*Price and volume forecasts and the basis for these forecasts.*<br><br>*For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.* | BMZ has sales agreements in place with existing customers, with most of them being repeat customers, to purchase product from Namekara.<br><br>The vermiculite product from Namekara is accepted by the market as seen from repeat sales to different customers in Europe, Asia, Australia and North America. The global market for vermiculite sales is estimated at 450,000 to 550, 000 tonnes per annum by the both The Vermiculite Association (TVA) and the United States Geological Survey (USGS). NMCL is a member organisation of the TVA.<br><br>The Namekara Vermiculite product size distribution is globally unique, with over 60% of product being medium or larger size fractions. The company's major competitors produce less than 15% of their product size fraction as medium or larger. There is an acknowledged global shortage of medium and large material whereas the finer grades (superfine and micron) size material is in abundant supply, with prices reflecting the supply and demand balance. On average, the Company receives three times the price per ton for large grade material compared to superfine material.<br><br>NMCL has in place a rigorous product assurance quality control (QA/QC), testing regime with a fully equipped laboratory onsite. Currently, approximately 6 to 8% of production is rejected for quality purposes and then reprocessed. The main factors which the QA/QC program addresses are grit content, exfoliation rate |

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| | | and size fraction conformity to market specifications. |
| *Economic* | *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*<br><br>*NPV ranges and sensitivity to variations in the significant assumptions and inputs.* | The Ore Reserves have been confirmed through a standard financial model, with all capital and operating costs as well as revenue factors being incorporated into the financial model.<br><br>In testing the cut of grade at various financial input parameters and using various physical assumptions for both mining and beneficiation, the Cut-off grade is 24.8%. As the current Life of Mine based on current Ore Reserves is in excess of 5 years, with only 10% of the current Inferred Mineral Resource converted into Indicated status through infill drilling, the Company has taken a conservative and prudent approach in selecting a cut-off grade of 20% for the Ore Reserves. |
| *Social* | *The status of agreements with key stakeholders and matters leading to social licence to operate.* | Stakeholder support is strong as has recently been demonstrated by the ability of the company to conclude the acquisition of land for open pit expansion.<br><br>The mine has an existing Mining Lease (ML4651) which is valid until the 14th of May 2024 and is renewable.<br><br>The Company has an active community engagement program which it has continued since this was established by Rio Tinto over 10 years ago. The community engagement program currently includes an onsite mine clinic, a number of schools, supply piped drinking water within a 2 kilometre radius of the mine and most importantly a local hire & training program, with 80 of the total mine labour force being drawn from the surrounding communities. |
| *Other* | *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*<br><br>*Any identified material naturally occurring risks.*<br><br>*The status of material legal agreements and marketing arrangements.*<br><br>*The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.* | No material naturally occurring risks have been identified.<br><br>The company has a duly granted Mining Lease (ML4651) covering sufficient area for the open pit. The company also has valid 99 year leases covering sufficient area for the processing plant and other relevant infrastructure.<br><br>In 2014, the Ugandan government imposed an embargo on the export of all minerals that had been deemed "not fully beneficiated". This embargo included Vermiculite. The embargo last 7 months and was finally resolved after lobbying by mining and civil society groups in Uganda.<br><br>The Company currently has an internal marketing department and is progressively entering into exclusive contracts with third parties in a structured and systematic fashion. At present, exclusive contracts exist for two European countries with two separate agencies and or trading houses.<br><br>There are no unresolved issues with third parties that would have a material impact on the ability of the company to extract the Ore Reserves.<br><br>The Company intends to complete a Pre-Feasibility Study for the expansion and doubling of the production capacity of the Namekara facility in the short term. |
| *Classification* | *The basis for the classification of the Ore Reserves into varying confidence categories.*<br><br>*Whether the result appropriately reflects the Competent* | The classification of the Namekara Ore Reserves has been based on the recommendations of the JORC Code 2012, and is primarily based on the density of the drilling, the estimation |

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| | *Person's view of the deposit.*<br><br>*The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).* | methodology and ore body experience.<br><br>The competent person is of the view that the results appropriately reflect the deposit.<br><br>Probable Ore Reserves were determined from Indicated Resource material, as per the guidelines. |
| *Audits or reviews* | *The results of any audits or reviews of Ore Reserve estimates.* | The Ore Reserve has undergone internal peer review. Various independent contractors have undertaken inputs into the ore reserve estimate and, independent experts have reviewed this data. |
| *Discussion of relative accuracy/ confidence* | *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*<br><br>*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.*<br><br>*Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.*<br><br>*It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | Namekara has been in operation at the current scale since November 2011, and on a much smaller scale since 2002. As such, the mining and processing knowledge gained exceeds feasibility study level. The Ore Reserves are considered to be an extension of the current operation.<br><br>The material costs and modifying factors used in the generation of the Ore Reserves are considered to be reasonable in the opinion of the competent person.<br><br>The Company intends to use the Probable Ore Reserves to generate a mining plan and production plan. The Company already has in place a detailed and rigorous process plant survey, assay and monitoring program that allows for a mass balance and recovery factors on a shift by shift basis. It is the company's intention to complete a vermiculite deportment determination on a quarterly basis. This will assist the Company in fine tuning and adjusting the current dilution and recovery factors used in the Reserve determination over the longer term.<br><br>The Company also intends to complete a detailed hydrogeological investigation to determine the technical risks associated with pit dewatering and mining below the current water table. |