blackmountain
resources limited

ASX ANNOUNCEMENT

12 December 2016

MAIDEN MINERAL RESOURCE ESTIMATE
NAMEKARA VERMICULITE MINE

Highlights

- **Maiden Inferred Mineral Resource of 61.9 Mt at 18.2% vermiculite for 11.3Mt of contained vermiculite**
- **Resource estimate completed by independent mining and geological consulting company CSA Global**
- **Resource estimate based on historical 119 reverse circulation and diamond drill holes for 6,898m between 2007 and 2012**
- **New in-fill and exploration drilling program currently underway to upgrade resource classification, validate vermiculite flake size, bulk density and grade, and to provide basis for new mine plan**

Black Mountain Resources Limited (**ASX:BMZ**) (**Black Mountain** or the **Company**) is pleased to provide a maiden JORC 2012 Mineral Resource estimate ("Resource") for its 100% owned Namekara Vermiculite Mine, located in located in Eastern Uganda.

	NAMEKARA MINERAL RESOURCE ESTIMATE (10% CUT OFF)			
	Million Tonnes	**Grade (> 710 µm)**	**Bulk Density**	**Contained Tonnes (> 710 µm)**
Inferred Resource	61.9	18.2%	2.2	11.3

Table 1 Namekara Vermiculite Mine, November 2016 Mineral Resource estimate

The Mineral Resource estimate was completed by independent mining consultants CSA Global Pty Ltd using the historical data from Reverse Circulation ("**RC**") Drilling completed by Rio Tinto and Diamond Drilling ("**DD**") completed by Gulf Industrials Limited, and is classified as Inferred in accordance with the JORC Code (2012).

BASIS OF THE NAMEKARA INFERRED MINERAL RESOURCE

In June 2008, Rio Tinto plc ("**Rio Tinto**") completed an internal resource estimate in accordance with the JORC Code (2004). This was based on a 72 vertical hole, 3,490m RC drilling program in 2007 and 2008. On the 23rd July 2009, Gulf Industrials Limited ("**Gulf**") published an Inferred Mineral Resource estimate reported in accordance with the JORC Code (2004).

In 2011 and 2012, Gulf completed 56 angled boreholes in a 3,408 metre, DD infill drilling campaign based on recommendations in an SRK Consulting review published by Gulf in July 2009. Following this drilling campaign, Gulf completed a number of internal reviews, none of which were made public.

This maiden Mineral Resource estimate published by the Company is the first published estimate calculated using all the historical exploration work and data completed by both Rio Tinto and Gulf over a 5-year period between 2007 and 2012 on the Namekara Vermiculite Mine.

The Resource estimation was completed by CSA Global, a privately-owned and independent international mining consultancy business that has been providing services to its clients across all mineral commodities and regions globally for over 30 years. CSA Global's team provides expertise in all aspects of geological and geostatistical modelling applicable to exploration and mining using an integrated approach to assessing and using data, defining geological controls on mineralisation, applying appropriate techniques for Mineral Resource and Ore Reserve estimation and validating mineable resource models using appropriate grade control and reconciliation practices.

THE NAMEKARA VERMICULITE MINE

The Namekara Vermiculite Mine is located in Eastern Uganda near the towns of Mbale and Tororo, approximately 230 km from the Ugandan capital, Kampala and close to the border with Kenya. It is on major central African road and rail networks and is 10 km from a rail spur that connects to the Kenyan port of Mombasa.

Black Mountain completed the acquisition of a 100% interest in Namekara Mining Company Limited ("**NMCL**") in November 2016, NMCL is the registered holder of Mining License ML 4651, upon which it operates the Namekara Vermiculite Mine.

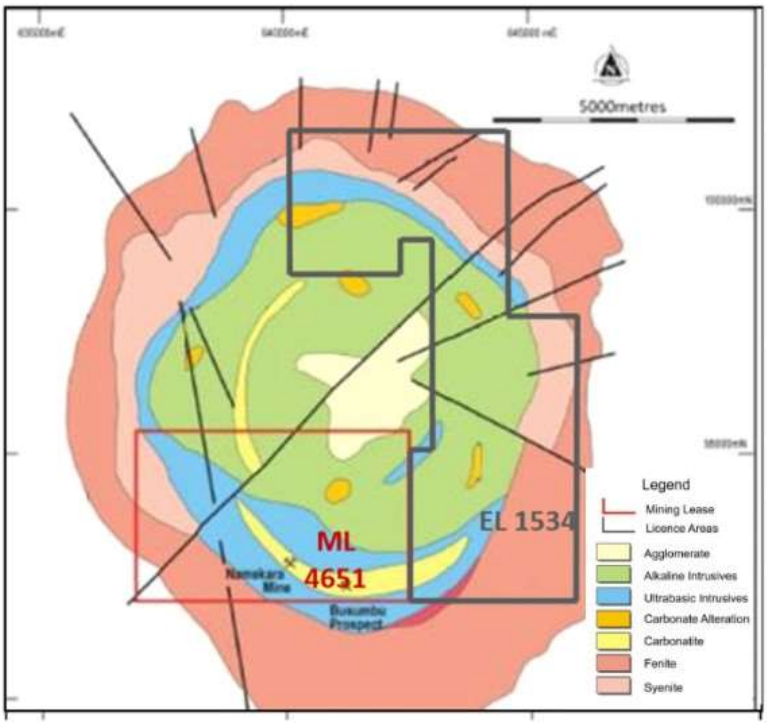

Figure 1: Geology of the Bukusu Carbonatite Complex, SE Uganda, showing the Namakera Project.

Vermiculite mineralisation on ML 4651 occurs within an approximately 35m thick sub-horizontal tabular zone and is derived by weathering of phlogopite within coarse-grained to pegmatoidal pyroxenite (Figure 1).

The vermiculite mineralisation has been identified to extend from near surface to a depth of between 45m to 55m. Mining is currently restricted to the current depth of the water table, approximately 35m below surface. Lateral Extents of the deposit in the latest Mineral Resource estimate has been determined from drilling extents (Figure 2).

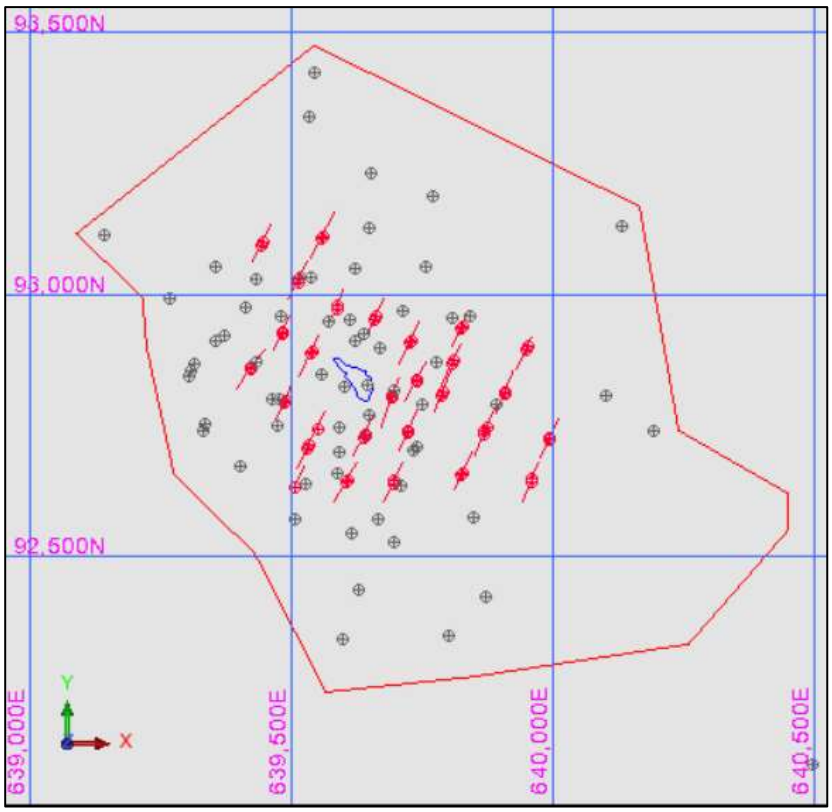

Figure 2: Location of all drill collars within the Namekara mine area.
Grey Circles = Rio Tinto RC holes. Red Circles = Gulf DD holes. Blue String = Namekara Pit Extent

PROPOSED ADDITIONAL EXPLORATION WORK

The Company commenced a nominal 65 hole, 2,250 metre drill program on the 26th November 2016.

The drilling program will be completed over a 2 month period and will primarily be Aircore ("AC") focused. Diamond drilling of 6 holes will be completed and will twin historic RC and DD holes to verify data relating to vermiculite flake size, bulk density and vermiculite grade.

Flake size is a key attribute for the Namekara Vermiculite Mine and the marketing of vermiculite products.

The AC drilling will be an in-fill and exploration drilling program, whose results will be used to both upgrade the current resource classification and to provide the basis for the new mine plan to be implemented at the Namekara Vermiculite Mine in 2017. The AC drilling program will be completed at two drill-hole spacing; 10 metre hole spacing is planned in the current open pit, while the two adjacent areas to the existing open pit mine will be drilled at a 25 metre spacing.

ENDS

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Competent Person's Statement

The information in this report that relates to Exploration Results has been compiled by Andrew Scogings and Patrick Takaedza. Dr Scogings is a full-time employee of CSA Global Pty Ltd. Mr Takaedza is a full-time employee of Namekara Mining Company Ltd. Dr Scogings is a Member of the Australian Institute of Geoscientists and the Australian Institute of Mining and Metallurgy. Mr Takaedza is a member of the Australian Institute of Mining and Metallurgy. Both Dr Scogings and Mr Takaedza have 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 Competent Persons as defined in the JORC Code (2012). Both Dr Scogings and Mr Takaedza consent to the disclosure of this 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. Dr Cobb 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 this 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.

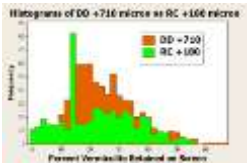
Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the 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 template

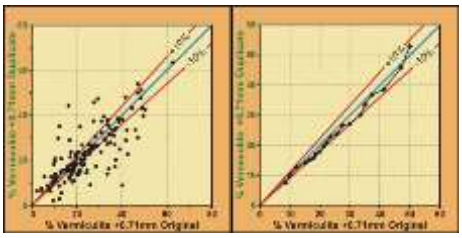
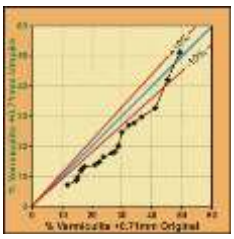
Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

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.*	Samples were collected by Rio Tinto (Rio) using reverse circulation (RC) drilling in 2007 and by Gulf Industrials using Diamond Drilling (DD) in 2011 and 2012. RC samples were collected at 1 m intervals and later composited into 5 m samples. DD 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.	All drill samples were riffle split in order to obtain representative samples. In addition, during the 2011 to 2012 DD programme, duplicates of the crushed 3 m composites were split and submitted as duplicate samples. Equipment calibration was not recorded and should be addressed during the next drilling phase.
	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). Therefore the selection of an appropriate sampling method such as diamond, auger or aircore drilling is important in order to retain the integrity of vermiculite flakes. RC drilling is not recommended for vermiculite, as the percussion method reduces flake size. Hence the drilling from 2011 through 2012 was by DD, in order to preserve flake size as much as feasible.
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).*	The 2007 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). A triple barrel wireline HQ diameter core barrel was used from 2011 through 2012. This had 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.*	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. The 2015 diamond core recoveries in fresh rock were measured in the core trays and were deemed acceptable.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Sample quality and recovery of RC and DD 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	Rio collected bulk samples from the pit and had these analysed at three laboratories. These tests indicated that between 47.1% and 61.7% of the flakes could be classified

Criteria	JORC Code explanation	Commentary
	due to preferential loss/gain of fine/coarse material.	as 'coarse' or more than 2 mm. 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'. Based on Rios decription of the effect of RC drilling on flake size, the RC method used in 2007 is considered to have resulted in finer flake size than that from the 2011 DD programme. This is due to the pulverising action of the RC hammer which reduced vermiculite flake size. This is illustrated by histograms of two sample populations across the deposit. The 3 m composite DD samples have a mean value of 24.5% vermiculite > 710 micron compared with 5 m RC composites have a mean value of 23% vermiculite > 180 micron (see graph below). 
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.*	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. All down-hole lithologies were domained by Rio into four units, namely a) OVB: overburden; b) OS: mineralized interval pyroxenite with visible vermiculite; c) OSNV: almost un-mineralized host rock; with low vermiculite content partially weathered with contaminants such as Phlogopite or grit; d) BTT: basement unit. The RC samples were not suitable for geotechnical logging and the 2011 to 2012 core samples were not geotechnically logged. This aspect should be addressed in any future drill programmes, though there is probably sufficient geotechnical information available from the current pit for mining studies.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	During logging of the 2007 RC chips, it was noted that the visual estimation of vermiculite percentages is not as accurate as in core. During visual estimations only the +0.425 mm fraction of the sample was estimated, but it was assumed that a significant part of the vermiculite was in the –0.425 mm fraction. The visual estimates of vermiculite coarseness and grade in RC chips were compared with some of the exposed pit wall sections and although not directly recorded, Rio considered that the 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. The vermiculite content was visually estimated during logging of the 2011 and 2012 core and this was used as a guide to sampling particularly at the overburden /

Criteria	JORC Code explanation	Commentary
		mineralisation transition and at the mineralisation / footwall transition. At this latter transition, increased phlogopite content and decreased oxidation are guides to lower limits of vermiculite mineralisation. A review of the DD logs showed that there was a broad correlation of high grade peaks between visual estimates and laboratory results. However, it was noted that the visual estimated of low grade intervals were significantly lower than the test results, while the high grade intervals were slightly overestimated. This was believed to be due to the difficulty of distinguishing fine grained vermiculite in low grade zones.
	The total length and percentage of the relevant intersections logged.	All RC chips were logged at 1 m intervals. All relevant intersections were logged in the DD holes.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	The entire core from the 2011 DD programme was dried, crushed and bagged in approximately 1 m intervals.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC samples were collected at 1 m intervals. The RC cuttings were sampled every metre and all sample cuttings were collected via a cyclone directly from the drill and put into plastic-impregnated paper bags. A 50:50 riffle splitter was used to manually composite the 1 m samples to form 5 m splits for submittal to the Palabora Mining Company (PMC) laboratory. The three metre composites were made up from 1 m DD core samples that had been through the sample preparation process. Sample rifflers were used to split the samples. New sample numbers were issued for the composites and duplicates of the composites were kept as well. The crushing of DD core was done manually on specially constructed steel tables, with all material reduced until passing through a 14 mm sieve. The material was then split through a 48 mm riffler and the sample and duplicate 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.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Composite RC sample lengths were adjusted according to the Visual Estimates of Grade made on the samples during logging, but in most cases (>90%) they were 5 metres. The original one metre DD samples were composited into three metre lengths, in order to reduce the number of samples.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	
	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 the 2011 and 2012 DD core composites were collected using a riffler and submitted in the sample stream for analysis. See below for more details, under 'Quality of assay data'.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The 5 m RC composites and 3 m DD composites were deemed to be sufficient size for the flake size and concentration of the vermiculite.
Quality of assay data and	*The nature, quality and appropriateness of the assaying*	According to the Rio report, RC samples from the 2007

Criteria	JORC Code explanation	Commentary
laboratory tests	*and laboratory procedures used and whether the technique is considered partial or total.*	programme were mixed and split by riffle dividing of a ±1 kg sample from the original 5m composite sample as submitted. Further splitting was performed to approximately 300 g to be used for analysis; 300 g were also retained as a duplicate reference sample. Samples were screened by shaking and after sieving, all sieve fractions were weighed separately. Each sample portion was exfoliated in small portions in pre-heated metal pans in a muffle furnace at 850±10°C until fully exfoliated (around 5 minutes). Samples were cooled, weighed and weight was recorded. 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. 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. DD composites from the 2011/2012 programme were submitted to the exploration laboratory housed in the same complex of buildings as the exploration office. The laboratory test procedures were based on the procedures as used by Rio during their 2007 percussion drilling exercise. The laboratory Standard Operating Procedure Protocol in place in February 2012 was directly based on the Rio Tinto test procedures. The samples were reduced to approximately 300g 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. The sample to be screened was placed on a nest of sieves (9.5, 5.6, 2.0, 0.71, 0.425 and 0.18 mm) and placed on a mechanical sieve shaker. A hand held magnet was used to remove magnetite particles which were ubiquitous in the samples. Each of the fractions was then exfoliated in a rotary dryer, allowed to cool and then floated using a water funnel method. The above 'screening, calcining and floats / sinks' method is deemed appropriate for this style of mineralisation. The following properties have not yet been systematically tested in drill samples, for example Exfoliation Yield, Bulk and Compacted Densities, Cation Exchange Capacity, Thermal Conductivity or Absorption Capacity Specific Surface Area. It is recommended that these properties are tested in some reference holes to assess variability across the deposit.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading	Geophysical tools were not used to determine analyses of the mineralisation, as the analytical process physically extracted the vermiculite, which could be weighed.

Criteria	JORC Code explanation	Commentary
	times, calibrations factors applied and their derivation, etc.	
	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 2011 to 012 exploration programme, 699 original composite drill samples were tested in-house 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. An approximately 100 kg sample of mined mineralisation was used as an internal standard material for analytical QC control. The insertion of standard samples was delayed and hence did not cover the full analytical process. The number of standard samples tested was 50 (7.15%). The testing of the duplicate samples also did not occur until after the original samples testing process was underway. The standards showed a good consistency apart from four samples with results out of +- 2 x standard deviation. This indicates that, in the main, sample preparation and analysis was conducted properly in the laboratory. Although 65% of the DD drilling duplicates lie outside of the nominal 10% tolerance (see left graph below), the overall trend in both the scatterplot and the Q-Q plot (see right graph below) is around the one-to-one line suggesting no significant bias, but poor precision. This is borne out by the average +0.71 mm vermiculite content for each population being very similar (24.7% and 23.3% averages for the originals and duplicates respectively).  The umpire results versus original sample results highlighted a negative bias, with umpire samples (mean = 19.5%) being lower than the originals (mean = 25.38%) by an average of 23%. The umpire duplicate samples were prepared at the Namekara prospect laboratory and the laboratory methods at DuPre were the same as those used at the Namekara laboratory with one key exception; i.e. the vermiculite content as measured by the float/sinks test in water where the DuPre test used a surfactant to wet the particles compared to the Namekara test which used no surfactant. The addition of surfactant may have increased the "sinks" fraction, resulting in apparently lower grade. Refer to the QQ scatterplot graph below for a comparison between original (X axis) and umpire results (Y axis)  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.*	Vermiculite intersections were reviewed and visually verified in diamond core (Scogings and Barnett, 2013). In addition, vermiculite mineralisation was verified within the pit faces and floor.
	The use of twinned holes.	No twinned holes were drilled in 2011 to verify the 2007 data. However, 1 m samples were retrieved during 2013 from NAM 040 & 062 (2007) RC holes and re-analysed for comparison with adjacent DD holes ND 01 & 32 from the 2011 programme. The individual 1 m samples were tested in the Gulf Exploration laboratory (>0.71 mm) and compared with the original 5 m composite sample results from the Rio Tinto laboratory analyses (>0.425 mm) and suggested a similar tenor of vermiculite content.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	During the 2007 RC programme all data recorded during drilling activities (rock logging, vermiculite visual estimates, drill hole collar data and sampling) were compiled in hard copy paper and subsequently imported into Excel spreadsheets and uploaded in to a centralized database located at Rio headquarters in Paddington, London-UK. Paper copies were safely stored at Namekara Project site. Logging of DD core in 2011 and 2012 was onto hardcopy log sheets that were transcribed into Excel. For each data field there were a number of pre-set options. A photographic record was kept of the core after marking and prior to further processing such as cutting or crushing.
	Discuss any adjustment to assay data.	The analytical data were not adjusted in any way.
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.*	The 2007 RC collars were surveyed using a hand held GPS. All readings were taken averaged over 15 minutes. Estimated accuracy of the Easting and Northing co-ordinates is <5 m. Elevations were taken using the barometer function on the hand-held GPS, with an estimated accuracy of <5 m. The 2011 and 2012 DD collars were surveyed by means of hand held GPS and later by a local surveyor (ARC 60 co-ordinates). The first six boreholes were not surveyed as these were in the pit area and the collars were removed before the survey was undertaken. The later survey had to approximate the position of some of the boreholes as the concrete beacons put in place had been removed by local inhabitants. African Land Survey (ALS) of Cramerview, South Africa surveyed the pit and collars during March 2012. ALS drill collar coordinates were found to differ consistently from the Ugandan surveyed collars by an average of 5.37 m to the north; 1.07 m to the east and 7.02 m in elevation in WGS84 UTM Zone 36N. ALS measured 43 of the 54 collars and the remaining 11 were moved by the average differences noted above. Neither the RC nor the DD holes were surveyed down-hole as the holes were short and not anticipated to deviate

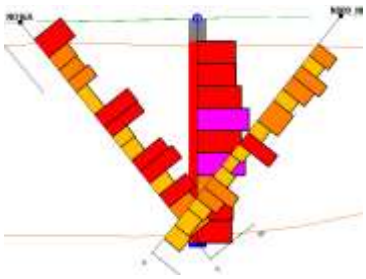
Criteria	JORC Code explanation	Commentary
		significantly. Given the style of mineralisation, any drill deviations were not anticipated to have a material impact on intercept widths of grades.
	Specification of the grid system used.	WGS84 UTM Zone 36 North
	Quality and adequacy of topographic control.	See notes above, under "*Accuracy and quality of surveys used to locate drill holes".* ALS surveyed the Namekara pit in addition to the drill collars.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Rio drilled 37 RC holes during an 'initial' campaign mainly testing a zone over 1 km of strike by 1 km in width. Rio then drilled a further 35 RC holes mostly within an area of about 650 m x 850 m with drill spacing set between 50 m and 150 m. The Rio report noted that "Drill hole collars were located using a combination of the best geological fit for resource definition and land access negotiations. Where possible, collars were located adjacent to existing access roads mainly to prevent excessive crop and land disturbance. The Gulf DD holes were drilled on eight northeast-trending lines spaced between approximately 80 m and 120 m apart. The drill lines were oriented to be approximately orthogonal to the general strike of the central complex. The drill collars were placed at approximately 100 m apart along the lines.
	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 sufficient to establish the geological and grade (quality) continuity appropriate for the Mineral Resource classification applied.
	Whether sample compositing has been applied.	The 2007 Rio RC chips were collected over 1 m intervals and later composited to 5 m. The 2011 DD core samples were taken at 1 metre intervals and to lithological boundaries where appropriate and were later composited to 3 m samples. In order to evaluate the effectiveness of the compositing, 99 individual core samples, each approximately one metre intervals, from holes ND01 and ND32 were tested during September 2012 with the objective of comparing variability within the three metre composites. The results showed a low average difference for each borehole; i.e. less than 10%.
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. 35m thick sub-horizontal tabular zone, derived by weathering of phlogopite within coarse-grained to pegmatoidal pyroxenite. CSA Global consider it unlikely that the sampling orientation has biased the data (vertical in 2008 or inclined at 50 degrees in 2011).
	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 does not consider the orientation of drilling to have introduced significant bias into the sampling.
Sample security	*The measures taken to ensure sample security.*	Each composite 5 m RC sample was assigned a unique sample number that was written 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; all sample details were firstly copied in paper

Criteria	JORC Code explanation	Commentary
		and then being entered in excel spreadsheets and stored in Rio's while paper copies were safely stored at Namekara Project site. 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, as reference materials before samples be dispatched to the lab. The DD core samples were bagged and stored at the on-site laboratory, with sample splits retained for future reference.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	The sampling techniques were 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 (BMZ:ASX). 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 DD 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. The differences were due to a surfactant being used by the umpire lab when floating expanded vermiculite in water, which caused more vermiculite to sink than in the original laboratory method. The umpire laboratory therefore returned lower total vermiculite content that the original lab.

Criteria	JORC Code explanation	Commentary
Geology	*Deposit type, geological setting and style of mineralisation.*	The Namekara vermiculite deposit is located in the southwestern part of the Bukusu Complex, which is an intrusive complex extending over about 50 Km^2 and which consists principally of intrusive carbonatites and silicate rocks such as pyroxenite. The vermiculite occurs within a ca. 35m thick sub-horizontal tabular zone, derived by weathering of phlogopite within coarse-grained to pegmatoidal pyroxenite. 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. The Namekara deposit is cut by a west-northwest-trending carbonatite dyke up to 50 m wide. It is assumed that the dyke is steep dipping, based on DD 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:* • *easting and northing of the drill hole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.*	Not relevant when reporting Mineral Resources.
	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.	Not relevant when reporting Mineral Resources.
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.*	Drillhole intervals were length weighted when composited to 5 m intervals for modelling. Internal waste was included at no specified maximum length in order to maintain tabular continuity of the deposit morphology.
	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.	Not relevant when reporting Mineral Resources.
	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').*	The 2008 Rio holes were drilled vertical and mineralisation lengths downhole are therefore considered to be similar to true width. The 2011 Gulf holes were inclined at about 50 degrees; therefore mineralisation lengths are apparent and may be anticipated to be approximately 25% longer than vertical holes. See cross section below for comparison between two inclined holes and a vertical hole. The bar charts represent vermiculite content.

Criteria	JORC Code explanation	Commentary
		
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.*	Refer to figures within the main body of this 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.*	Not relevant when reporting Mineral Resources.
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.*	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) 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 drill vertical aircore (AC) holes during December 2016 within-pit for grade control and Mineral Resource estimation. BMZ also plans to drill at wider spacing to the north, northeast and northwest of the existing pit for purposes of upgrading the Mineral Resource classification. BMZ also plans to drill vertical twin DD holes to verify the 2007 RC and inclined holes to verify the 2012 DD drilling results, and to verify the 2016 AC results.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not applicable when reporting Mineral resources

Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in the preceding section 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.*	Data for integration onto a drillhole database was supplied to CSA Global as a series of spreadsheets. CSA Global has not conducted a thorough investigation into the correctness of the data supplied, beyond that of logical integrity for creation of the database. CSA Global is unaware of the steps taken by previous operators of the project to ensure data integrity. Data supplied has been

Criteria	JORC Code explanation	Commentary
		accepted on an as-is basis.
	Data validation procedures used.	CSA Global imported 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.*	No site visit was made as part of the Mineral Resource estimate. CSA Global associates have previously visited site in 2011 and 2012. A site visit by CSA Global staff is planned prior to the next resource update.
	If no site visits have been undertaken indicate why this is the case.	Not applicable – See above.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	Previous mining activity supports the current geological interpretation of the deposit. Mineralisation is laterally continuous and both drilling and mining have indicated only minor variation to the thickness of the deposit across the project area.
	Nature of the data used and of any assumptions made.	Drill hole logging and dense media separation analyses of vermiculite content have formed the basis for mineralisation domain interpretation.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The geological model for the deposit is well understood. Alternative geological interpretations are unlikely to have a significant influence on the global Mineral Resource estimate.
	The use of geology in guiding and controlling Mineral Resource estimation.	The base of mineralisation has been defined based on logging and analytical results which define the transition between vermiculite and unaltered phlogopite. The carbonatite intersected in DD holes ND03, 13, 34, 43 and 53 was used to model a northwest-trending barren dyke estimated to be approximately 50 m in width.
	The factors affecting continuity both of grade and geology.	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 and DD drilling has 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).

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	The deposit was modelled as a single continuous horizon of slightly varying thickness. A 3 dimensional volume of the deposit was created using a lower boundary defined by the logged and / or assayed presence of phlogopite, a boundary defined by a 50 m offset from the main body of drilling data for lateral extent, and the logged absence of vermiculite to define the upper boundary. The Mineral Resource was generated using Surpac™ software, version 6.6.2. Ordinary kriging was used in a two pass strategy with expanding search ellipse, to estimate the Mineral resource. Variography was conducted using Supervisor™ version 8 software, as was kriging neighbourhood analysis to optimise block model cell size and search parameters. Variography was modelled using two spherical structures and a nugget component, with total semivariance distributed approximately evenly between the three structures. Ranges were in the order of 40 m and 200 m for the two spherical components. In the primary direction of continuity. Preliminary exploratory data analysis did not identify a significantly skewed population (normally characterised by extreme outliers) a single sample with total was cut whose total vermiculate >=710 micron was >60% was cut to 60% from the input data set. Total vermiculite content >= 710 µm was the primary variable estimated. Deleterious components were not considered as part of this Mineral Resource estimate. The Competent Person considers both the modelling method and estimation techniques to be appropriate for the deposit.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Rio produced an Inferred Mineral Resource estimate of 57.4 Mt at a grade of 26.7% vermiculite > 0.180 mm. Gulf Industrials reported an Inferred Mineral Resource estimate of 54.9 Mt @ 26.7% vermiculite > 0.18 mm. Neither of these estimates are directly comparable to the current estimate due to the differing size fraction at which the two estimates were produced, and differing mineralised extents used.
	The assumptions made regarding recovery of by-products.	No by-products are considered.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg. sulphur for acid mine drainage characterisation).	No deleterious elements have been considered as part of this Mineral Resource Estimate.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A parent block size of 25 m x 25 m x 5 m (XYZ) was used for model creation. Sub cells were permitted to 6.25 m x 6.25 m x 1.25 m for the purposes of volume resolution on domains. This compares to a drillhole spacing with is nominally 50 m, but varies up to 100 m in parts.
	Any assumptions behind modelling of selective mining units.	No assumptions regarding selective mining units have been made.

Criteria	JORC Code explanation	Commentary
	Any assumptions about correlation between variables.	The Mineral Resource estimate as presented is univariate, and no correlations between variables have been considered.
	Description of how the geological interpretation was used to control the resource estimates.	The geological model is defined by the presence / absence of vermiculite, and the presence absence of phlogopite. Presence of the latter indicates incomplete weathering, and is the marker of the lower mineralisation / waste boundary. Mineral resource estimation was constrained by this lower boundary, and the presence of assay values yielding >= 5% total vermiculite content >710µm.
	Discussion of basis for using or not using grade cutting or capping.	No significant outliers were observed during exploratory data analysis; only a single composite was top cut from >60% to 60% total vermiculite >710 µm.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The model has been validated by a number of means; visual comparison between input composites and resulting block values, the use of swath plots in 3 dimensions, data distributions (histogram comparison), and log-probability plot comparison. While the deposit has previously been mined, no reconciliation data was available for comparison.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages were estimated using a dry bulk density.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The deposit was modelled for volume using a 5% total >710 µm vermiculite cutoff. The resulting estimate has been reported at zero cutoff within this volume.
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.*	No assumptions have been made regarding mining methods that would influence the results of the Mineral Resource Estimate. Dilution has not been considered or factored in to the current Mineral Resource estimate.
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 Mineral Resource estimate has been modelled and estimated using the flake size parameter >710 µm. Previous owners of the deposit considered this to be the optimal size for saleable product. No other assumptions regarding yield or other metallurgical factors have been considered.
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*	The assumption has been made that negotiations with local agricultural communities whose farmland intersects the Mineral Resource boundary will be favourable. Historic interactions, and ongoing negotiations between the beneficial owner of the Mineral Resource and local communities has thus far been positive, and so CSA Global

Criteria	JORC Code explanation	Commentary
	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.	considers this assumption to be reasonable.
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.*	The in situ bulk density was determined during the Rio programme by the 'sand replacement method' at four locations on the floor of the Namekara pit. This was for in situ material at natural moisture. The method used by Rio was according to Australian Standard AS-1289.5.3.1 (1993). As reported by Rio, a small cylindrical hole was dug into the pit floor, measuring about 20 cm x 20 cm x 15 cm. All material dug from the hole was collected in an airtight plastic bag and the sample was weighed at the laboratory. The volume of the hole was determined by filling the hole with sand via a bottle and inverted cone. The vermiculite-mineralised samples were later dried and this allowed for the estimation of dry bulk density, which was between 2.12 g/cm^3 and 2.26 g/cm^3. The density value used in the Mineral Resource estimate was assigned at a value of 2.2 representing an approximate average of the range of values determined by Rio Tinto.
	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.	See above.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Only a single material (mineralisation) has had densities applied for the purpose of reporting Mineral Resource tonnages.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The Mineral Resource estimate has been classified as Inferred on the basis of input data quality (uncertainties associated with quality control and bias) , data density (drill hole spacing), estimation quality parameters such as kriging efficiency and estimate slope of regression.
	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).	Questions regarding the presence of bias between two phases of drilling under differing operators, the lack of QC data accompanying assay results, and the general level of input data density have all been accounted for in the resulting classification of the Mineral Resource estimate.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource classification of Inferred appropriately reflects the Competent Persons' view.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource Estimate has been internally audited by CSA Global staff. No third party audit has taken place.

Criteria	JORC Code explanation	Commentary
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.*	The Mineral Resource accuracy is communicated through the classification assigned to 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.
	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.	This Mineral Resource Estimate is suitable as a global estimate only.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Not Applicable . No reliable production data is available.