# Cascades drilling update: High grade zones returning up to 62m@ 14.92% TGC downhole

12 October 2016

## HIGHLIGHTS

- Wide zones of graphite mineralisation confirmed with a higher grade zone outcropping at surface. 51 holes drilled
- Best downhole intercepts to date of:
  - **62m@ 14.92%** TGC from RC157
  - **100m@ 10.46%** TGC including **56m@ 13.98%** TGC from RC148
  - **48m@ 12.99%** TGC including **38m@ 13.98%** TGC from RC147
  - **146m@ 9.2%** TGC including **72m@ 11.03%** TGC from RC135
- Potential to improve conceptual project economics through higher grades and lower mining costs
- Expectation of substantially increased Mineral Resource tonnes at Cascades together with higher grade zones
- > 98.3% TGC concentrates produced from first-pass metallurgical tests. Improvements expected as process is optimised for coarser flake

**Black Rock Mining Limited (ASX.BKT) ("Black Rock Mining" or "the Company")** is pleased to provide an update on the Cascades infill drilling programme at its Mahenge Project.

Assay results from the first 30 drill holes are returning higher overall grades than Ulanzi with the potential to yield zones of 12-14% mineralisation for early years of mining.

Drilling continues to confirm broad zones of outcropping mineralisation up to 150m across strike with coarser overall flake sizes than at Ulanzi and a significantly deeper weathered or oxidized profile in the central portion. Drilling is demonstrating good potential to significantly increase the 12.3mt Inferred Cascades Mineral Resource announced in February this year as well as deliver higher category (Measured and Indicated) Mineral Resources.

Managing Director Steven Tambanis commented: *"Assay results from 30 holes received to date reinforce the potential for Cascades to deliver higher grade starter pits for the initial years of mining. We are delighted to see the widest and highest grade results to date from our two year programme.*

*Highly encouraging initial metallurgical results add to the potential of Cascades to augment the Mahenge mine development, although this will be subject to confirmation that both the Cascades oxide and primary zones are capable of producing high grade concentrates. This testing is underway."*

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## Cascades infill drill programme

Cascades drilling commenced in mid July 2016 with 45 RC and 6 diamond holes drilled to date. Assay results have been received for the first 30 reverse circulation (RC) holes and DD25 as summarized in Table 1. The broad zones of mineralisation intersected are highly encouraging, particularly the consistent higher grade intervals from 10%-16% TGC.

| Hole | from | to | Interval | % TGC | Intervals: metres@ % TGC | Including |
|---|---|---|---|---|---|---|
| RC41 | 0 | 88 | 88 | 9.68 | 88m@ 9.68 | **44m@ 11.09** |
| RC42 | 4 | 64 | 60 | 10 | 60m@ 10 | **22m@ 11.46** |
| RC43 | 2 | 100 | 98 | 8.92 | 98m@ 8.92 | **40m@ 10.18** |
| RC44 | 2 | 100 | 98 | 9.04 | 98m@ 9.04 | **62m@ 10.07** |
| | | | | | | |
| RC129 | 32 | 74 | 42 | 8.57 | 42m@ 8.57% | |
| RC130 | 2 | 52 | 50 | 8.77 | 50m@ 8.77% & 48m@ 7.70% | **20m@ 13.52%** |
| RC130 | 130 | 178 | 48 | 7.70 | | |
| RC131 | 0 | 122 | 122 | 8.59 | 122m@ 8.59% | **86m@ 10.16%** |
| RC132 | 0 | 50 | 50 | 8.61 | 50m@ 8.61% | |
| RC133 | 2 | 94 | 92 | 9.28 | 92m@ 9.28% | **68m@ 10.39%** |
| RC134 | 2 | 68 | 66 | 9.09 | 66m@ 9.09% | **30m@ 11.18%** |
| RC135 | 0 | 154 | 154 | 9.07 | 146m@ 9.2% | **72m@ 11.03% & 56m@ 8.54** |
| RC136 | 6 | 120 | 114 | 8.76 | 114m@ 8.76% | **104m@ 9.03%** |
| RC137 | 4 | 70 | 66 | 8.36 | 66m@ 8.36% | |
| RC138 | 2 | 116 | 114 | 8.89 | 96m@ 8.89% | **46m@ 10.67%** |
| RC139 | 4 | 60 | 56 | 9.17 | 60m@ 9.17% | **26m@ 11.71%** |
| RC140 | 0 | 102 | 102 | 8.29 | 102m@ 8.29% | **48m@ 10.02%** |
| RC141 | 0 | 52 | 52 | 10.17 | 52m@ 10.17% | **52m@ 10.17%** |
| RC142 | 0 | 62 | 62 | 9.57 | 62m@ 9.57 | **40m@ 10.59** |
| RC143 | 28 | 62 | 34 | 5.35 | 34m@ 5.35% | |
| RC144 | 28 | 92 | 64 | 8.02 | 52m@ 8.02% | **14m@ 12.76%** |
| RC145 | 0 | 64 | 64 | 7.09 | 64m@ 7.09% | |
| RC146 | 0 | 88 | 88 | 8.89 | 88m@ 8.89% | **26m@ 13.97%** |
| RC147 | 24 | 86 | 62 | 11.87 | 62m@ 11.87 | **48m@ 12.99%** |
| RC148 | 12 | 112 | 100 | 10.46 | 100m@ 10.46% | **56m@ 13.98%** |
| RC149 | 18 | 138 | 120 | 9.11 | 120m@ 9.11% | **40m@ 11.02%** |
| RC150 | 0 | 106 | 106 | 8.80 | 106m@ 8.8% | **32m@ 10.17%** |
| RC151 | 30 | 80 | 50 | 8.18 | 50m@ 8.18% | **28m@ 9.76%** |
| RC152 | 38 | 62 | 24 | 6.71 | 24m@ 6.71% | |
| RC153 | 0 | 34 | 34 | 5.49 | 34m@ 5.49% | |
| RC154 | 2 | 52 | 50 | 6.92 | 50m@ 6.92% & 16m@ 7.87% | |
| RC155 | 32 | 104 | 72 | 7.43 | 72m@ 7.43% | **36m@ 9.03%** |
| RC156 | 2 | 80 | 78 | 8.01 | 78m@ 8.01 | **44m@ 10.56%** |
| RC157 | 20 | 82 | 62 | 14.92 | 62m@ 14.92 | **48m@ 16% TGC** |
| RC158 | | | | | NSR | |

Table 1: RC drill results from 2016 programme. Results in blue previously announced from 2015 drill programme.

Another 20 holes are planned to complete the 2016 programme: 8 RC and 12 diamond tails into existing RC hole collars. These holes will focus on more comprehensively sampling deeper portions of the western Cascades structure and are expected to be sufficient to calculate an upgrade Mineral Resource.

Many RC holes were ended due to loss of circulation, limiting the knowledge of true depth of mineralisation. RC 157 stopped at 84m depth due to loss of circulation with the last 2m interval grading 20.8% TGC of a 62m interval that averaged 14.92% TGC. The diamond tail holes are designed to test this true depth extent.

At RC141 graphite was intersected from surface to the bottom of hole (52m@ 10.17% TGC) where circulation was lost at 52m. Diamond hole DD26 from the same pad drilled through 143m of graphitic mineralisation (assays awaited).

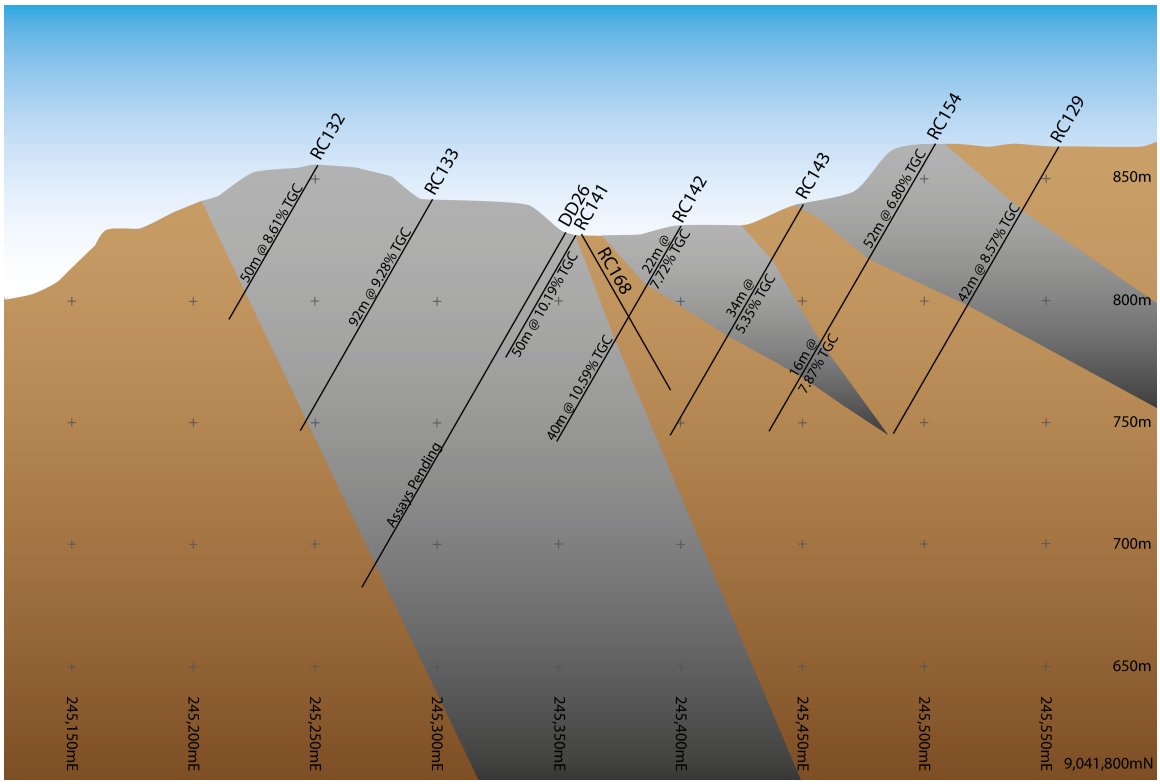


Figure 1. Section across 9,041,800 line. Five holes along this section have all started in graphite and RC142 and RC143 are oxidized along their entire length. RC142 will be diamond tailed.

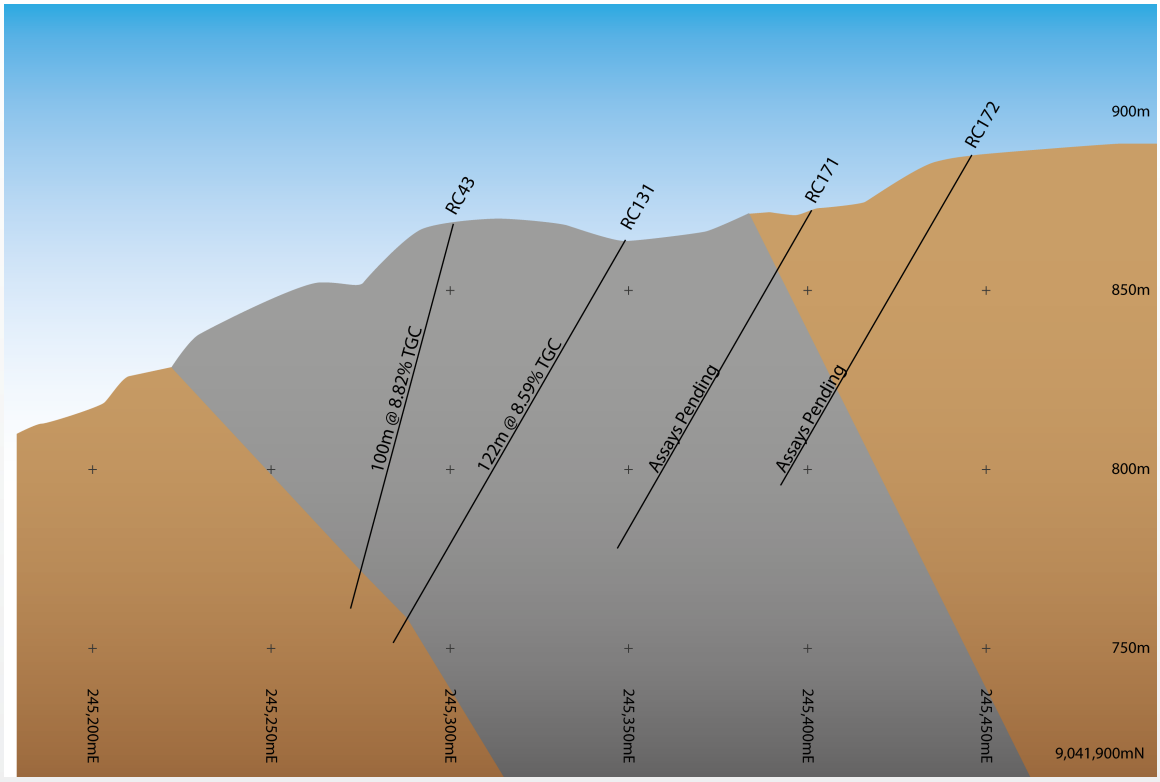


Figure 2. Section across 9,041,900. Graphitic mineralisation at the western lode. Consistent mineralisation

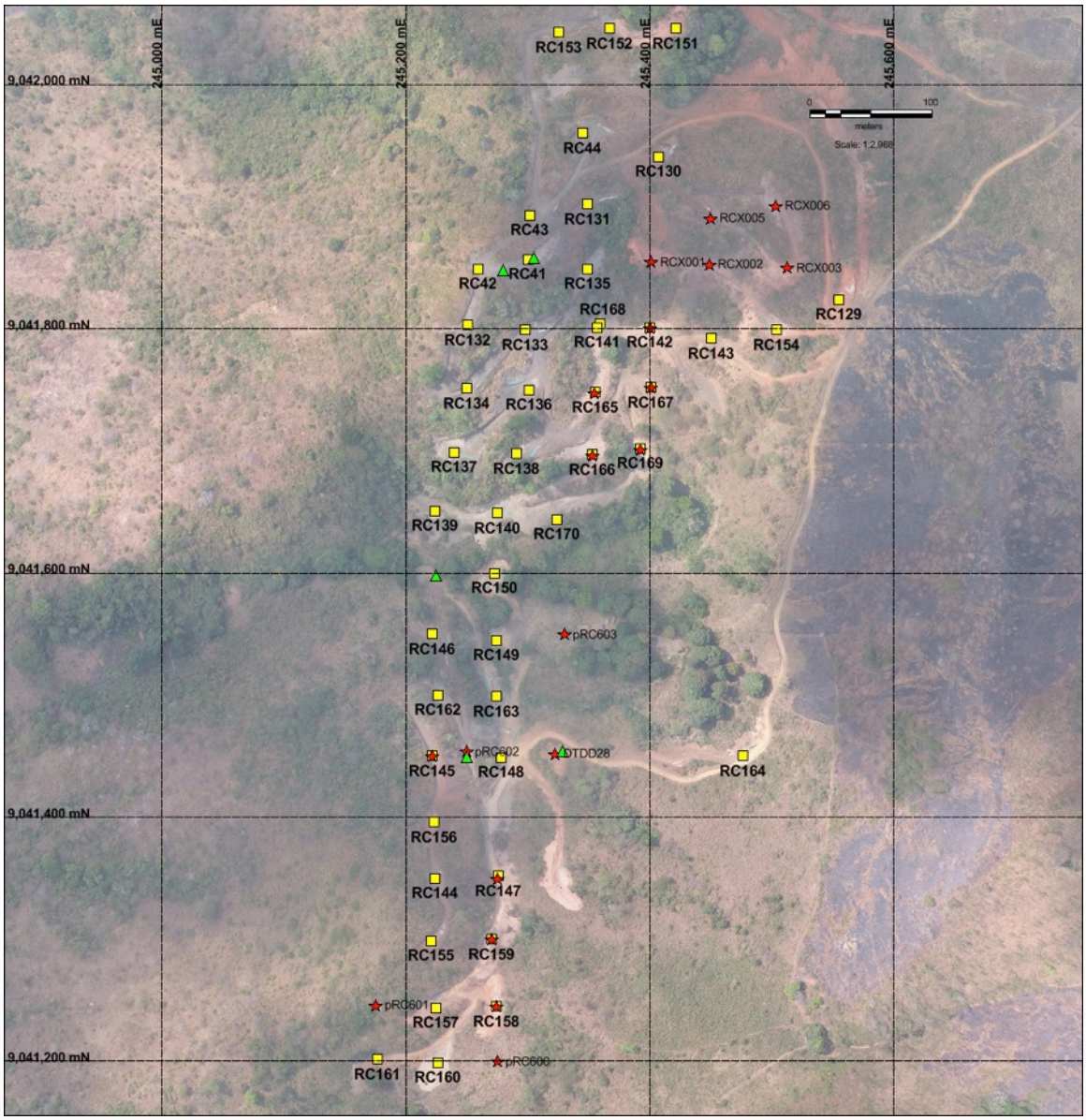


Figure 3. Cascades overlay showing drilholes over 800m of strike. The western lode is over 200m wide at the 9,041,800 northing. Yellow squares are completed holes, green triangles are diamond holes and red stars are proposed drill holes.

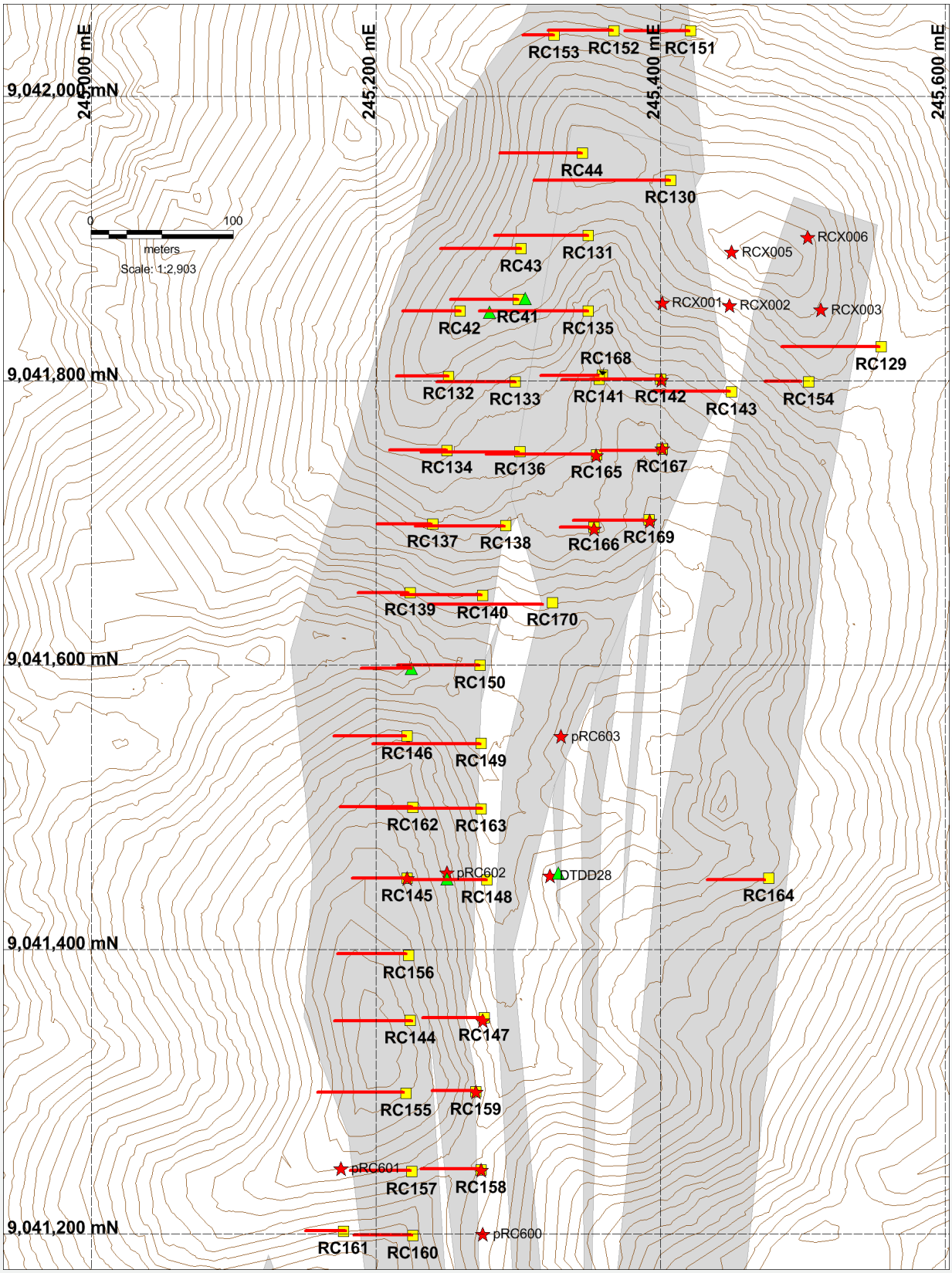


Figure 4. Cascades surface geology (grey) showing interpreted lode structures. Yellow squares represent completed holes. Red stars are proposed drillhole collars. Note that mineralisation is located on top of steep ridges, lowering potential strip ratios (waste:ore) for mining. Weathering profile is up to 70m below surface, enhancing free-digging potential for mining.

## Summary

The Cascades prospect is returning the best results to date from the Company's Mahenge Project:

- Excellent potential to mine a higher grade core in the early years of mining and improve project economics from intervals up to 62m@ 14.92% TGC and 56m@ 13.98% TGC
- Metallurgy appears to be similar to Ulanzi, providing potential to make high purity concentrates. Flake size is coarser than Ulanzi
- Grades are on average higher than Ulanzi – based on assays from the first 30 holes
- Up to 70m deep weathering profile suggests that significant portions of this mineralisation may be free-digging, which implies low cost mining and processing.
- Mineralisation is on top of or adjacent to steep ridge structures. This provides potential for low strip ratios
- The PFS will continue to be based upon the 111.8Mt Ulanzi Mineral Resource however provisions are being made to incorporate the Cascades results due to the expected improvement in project economics

Based upon the recent 30 drill hole results, the Cascades drill programme is expected to deliver a higher grade resource than Ulanzi with potential to improve project economics. Drilling is expected to significantly increase the resource tonnage from Cascades over and above the 12.3Mt Inferred Mineral Resource announced in February 2016.


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### About Black Rock Mining

*Black Rock Mining Limited is an Australian based company listed on the Australian Securities Exchange. The Company owns graphite tenure in the Mahenge region, Tanzania, a Country that hosts world-class graphite mineralisation. The Company announced a JORC compliant resource of 162.5mt @ 7.8% TGC for 12.7m tonnes of contained Graphite in October 2016, making this one of the largest JORC resources Globally. A positive scoping study in March 2016 led into the current Pre Feasibility Study, which is expected to be released in November 2016. The Company intends to complete a Definitive Feasibility study by March 2017.*

*Extensive metallurgical testing has achieved sector leading >99% TGC concentrate purity from a simple flotation circuit. High quality expandable and spherical graphite has been produced at independent test facilities in Europe, Japan and the USA.*

***Competent Person's statement***

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Steven Tambanis, who is a member of the AusIMM. He is an employee of Black Rock Mining Limited. Steven Tambanis has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steven Tambanis consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

**Appendix 1: JORC mineral resource statement (October 2016)**

| Prospect | Category | Tonnes (Millions) | TGC (%) | Contained TGC (Millions tonnes) |
|---|---|---|---|---|
| **Ulanzi** | Measured | 13.3 | 8.9 | 1.2 |
| | Indicated | 48.0 | 8.2 | 3.9 |
| | Inferred | 50.5 | 8.0 | 4.0 |
| | **Sub-total** | **111.8** | **8.2** | **9.2** |
| **Epanko** | Measured | | | |
| | Indicated | 17.6 | 6.4 | 1.1 |
| | Inferred | 20.8 | 5.9 | 1.2 |
| | **Sub-total** | **38.4** | **6.1** | **2.3** |
| **Cascades** | Measured | | | |
| | Indicated | - | - | - |
| | Inferred | 12.3 | 9.5 | 1.2 |
| | **Sub-total** | **12.3** | **9.5** | **1.2** |
| **COMBINED** | **MEASURED** | **13.3** | **8.9** | **1.2** |
| | **INDICATED** | **65.5** | **7.7** | **5.1** |
| | **INFERRED** | **83.6** | **7.7** | **6.4** |
| | **TOTAL** | **162.5** | **7.8** | **12.7** |

**Appendix 2: Cascades drillhole summary.** Holes RC41-RC44 were previously reported in 2015. RC129 onwards are from the 2016 drill programme. Coordinates are to WGS84 Projection, Zone 37 South.

| Hole | Easting | Northing | Dip | Azimuth | Elev. | Depth |
|---|---|---|---|---|---|---|
| RC41 | 245300 | 9041857 | 57 | 270 | 858 | 94 |
| RC42 | 245259 | 9041849 | 71 | 270 | 857 | 79 |
| RC43 | 245302 | 9041893 | 75 | 270 | 863 | 112 |
| RC44 | 245345 | 9041960 | 63 | 270 | 875 | 114 |
| | | | | | | |
| RC129 | 245555 | 9041824 | 60 | 270 | 888 | 136 |
| RC130 | 245407 | 9041941 | 60 | 270 | 882 | 187 |
| RC131 | 245349 | 9041902 | 60 | 270 | 887 | 130 |
| RC132 | 245251 | 9041803 | 60 | 270 | 886 | 73 |
| RC133 | 245298 | 9041799 | 60 | 270 | 661 | 109 |
| RC134 | 245250 | 9041751 | 60 | 270 | 857 | 80 |
| RC135 | 245349 | 9041849 | 60 | 270 | 867 | 161 |
| RC136 | 245301 | 9041750 | 60 | 270 | 853 | 136 |
| RC137 | 245240 | 9041699 | 60 | 270 | 851 | 76 |
| RC138 | 245291 | 9041698 | 60 | 270 | 843 | 125 |
| RC139 | 245224 | 9041651 | 60 | 270 | 810 | 69 |
| RC140 | 245275 | 9041649 | 60 | 270 | 808 | 112 |
| RC141 | 245357 | 9041801 | 60 | 270 | 859 | 58 |
| RC142 | 245400 | 9041801 | 60 | 270 | 852 | 102 |
| RC143 | 245450 | 9041792 | 60 | 270 | 850 | 109 |
| RC144 | 245224 | 9041350 | 60 | 270 | 867 | 109 |
| RC145 | 245222 | 9041450 | 60 | 270 | 839 | 76 |
| RC146 | 245222 | 9041550 | 60 | 270 | 836 | 100 |
| RC147 | 245276 | 9041352 | 60 | 270 | 832 | 86 |
| RC148 | 245278 | 9041449 | 60 | 270 | 809 | 117 |
| RC149 | 245274 | 9041545 | 60 | 270 | 800 | 148 |
| RC150 | 245273 | 9041600 | 60 | 270 | 812 | 115 |
| RC151 | 245421 | 9042046 | 60 | 270 | 860 | 94 |
| RC152 | 245367 | 9042046 | 60 | 270 | 870 | 80 |
| RC153 | 245325 | 9042043 | 60 | 270 | 871 | 43 |
| RC154 | 245504 | 9041799 | -60 | 270 | 883 | 136 |
| RC155 | 245221 | 9041299 | -60 | 270 | 862 | 120 |
| RC156 | 245223 | 9041396 | -60 | 270 | 855 | 97 |
| RC157 | 245225 | 9041244 | -60 | 270 | 837 | 84 |
| RC158 | 245274 | 9041245 | -60 | 270 | 835 | 82 |

**Appendix 3: JORC Tables**

# 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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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.* | • *The Company has taken all care to ensure no material containing additional carbon has contaminated the samples.*<br>• *The trenches were sampled using 2m composites with samples taken from in situ oxide, transition or fresh rock as a continuous chip channel across the trench walls or along a clean exposed trench floor*<br>• *The pit samples were taken as individual point samples at the base of the pit.*<br>• *All samples are individually labelled and logged.*<br>• *Diamond drill sampling consisted of quarter core sampling of HQ diamond core or a sliver (~1/5$^{th}$) of PQ diamond core, on a 2m sample interval.*<br>• *RC samples were riffle split on an individual 1m interval then composited as two x 1m samples which were submitted to the laboratory.* |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • *Both diamond core (HQ and PQ single tube) and reverse circulation (6" face sampling) drilling methods have been used. All core is oriented using a spear or ACT back-end orientation device.* |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • *Diamond drill sample recoveries have been measured for all holes and found to be acceptable. Method was linear metre core recovery for every meter drilled.*<br>• *RC recoveries were estimated by measuring the weight of every 1m interval. Grade /recovery correlation was found to be acceptable.*<br>• *Twin hole comparison of RC vs Diamond indicates that no sample bias has occurred for graphite.* |
| ***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.* | • *Pits and trenches were logged for geology and structures, and photographs were also recorded for the trench samples.*<br>• *All drill holes have been comprehensively logged for lithology, mineralisation, recoveries, orientation, structure and RQD (core). All* |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | *drill holes have been photographed. Sawn diamond core has been retained for a record in core trays. RC chips stored in both chip trays and 1-3kg individual metre samples as a record.* |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • *The pit and trench samples were not sub sampled.*<br>• *HQ diamond core samples were halved with one half then quartered. A quarter core sample was taken for laboratory analysis. The remaining quarter core sample is retained for a record and a half core sample retained for metallurgical testwork. PQ diamond core was slivered with a core saw and the sliver (~20%) taken for laboratory analysis. The remaining core was retained for metallurgical testwork and for a record.*<br>• *RC samples were collected for every down-hole metre in a separate RC bag. Each metre sample was split through a three-tier riffle splitter and a 1.5kg sample taken of each metre. Two one-metre samples, totalling 3kg in weight were composited for assay submission. Field duplicates were taken to test precision up to the compositing and splitting stage.*<br>• *Sample sizes for all medium (i.e. trenches, pits, DD and RC drilling) were appropriate for this style of graphite mineralisation.* |
| ***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.*<br>• *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.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | • *The samples were sent to Mwanza in Tanzania for preparation and pulps were then sent to Brisbane for carbon analysis: Total Graphitic Carbon (TGC) C-IR18 LECO Total Carbon.*<br>• *Graphitic C is determined by digesting sample in 50% HCl to evolve carbonate as CO2. Residue is filtered, washed, dried and then roasted at 425°C. The roasted residue is analysed for carbon by high temperature Leco furnace with infra red detection. Method Precision: ± 15%. Reporting Limit:0.02 – 100 %.*<br>• *Some of the samples were analysed for Multi-elements using ME-ICP81 sodium peroxide fusion and dissolution with elements determined by ICP.*<br>• *Some of the samples were analysed for Multi-elements using ME-MS61 for 48 elements using a HF-HNO3-HClO4 acid digestion, HCl leach followed by ICP-AES and ICP-MS analysis.*<br>• *Some of the samples were analysed for Multi-elements using ME-MS81 using lithium borate fusion and ICP-MS determination for 38 elements.*<br>• *All analysis has been carried out by certified laboratory – ALS Global. TGC is the most appropriate method to analyse for graphitic carbon* |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | *and it is a total analysis. ALSChemex inserted its own standards and blanks and completed its own QAQC for each batch of samples. No failures were noted.*<br>• *BKT inserted certified standard material, a blank or a duplicate at a rate of one in twenty samples.*<br>• *Approximately 1/40 sample pulps from the 2015 drilling were re-submitted from the primary Laboratory (ALS Global) to a secondary Laboratory (SGS) in Johannesburg, South Africa. No bias or issues with accuracy or precision were observed between the two data sets.*<br>• *Based on the QA/QC strategy employed by BKT for the duration of the exploration programs at Mahenge BKT is satisfied the TGC results are accurate and precise and no systematic bias has been introduced* |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • *The data has been manually updated into a master spreadsheet and a GIS database, considered to be appropriate for this exploration program.*<br>• *Drill intersections have been checked by a consultant geologist as part of the data validation process and errors corrected prior to resource estimation.*<br>• *Twin holes were used to compare diamond Vs RC drilling. Correlation of results was excellent.*<br>• *There has been no adjustment of assay data.* |
| ***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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • *A handheld GPS was used to identify the positions of the pits in the field.*<br>• *The handheld GPS has an accuracy of +/- 5m.*<br>• *The datum used is: WGS84, zone 37 south.*<br>• *Drill collars have been surveyed with a DGPS for sub-metre accuracy for the X, Y and Z components and the Ulanzi, Cascade and Epanko North prospects have been surveyed with a high resolution aerial drone to generate an accurate contour map and high resolution photo image. The Z component has also been checked by draping the collar position over a high quality digital terrain model and comparing to the DGPS Z reading.*<br>• *The locations and RLs of the trenches have been checked using the detailed aerial/topo survey and modified accordingly for both x/y and z components.*<br>• *BKT is satisfied the location of trenches, pits and drill holes have* |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | *been located with a high degree of accuracy.* |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • *Data spacing and distribution is considered to be appropriate for the estimation of a Mineral Resource.*<br>• *The company has used 100 x 100m or 100 x 50m or 50 x 50m grid spacing which has been sufficient to show geological and grade continuity.*<br>• *The drill spacing is appropriate for Resource Estimation.*<br>• *No further sample compositing has been applied post the sub-sampling stage.* |
| ***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.*<br>• *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.* | • *Drilling is oriented perpendicular to mineralisation or as close to perpendicular to mineralisation as possible.*<br>• *The orientation of the drill direction has not introduced a sample bias.* |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • *The samples were taken under the supervision of an experienced geologist employed as a consultant to BKT.*<br>• *The samples were transferred under BKT supervision from site to the local town of Mahenge where the samples were then transported from Mahenge to Dar es Salaam and then transported to Mwanza where they were inspected and then delivered directly to the ALS Global process facility.*<br>• *Chain of custody protocols were observed to ensure the samples were not tampered with post-sampling and until delivery to the laboratory for preparation and analysis.*<br>• *Tamper proof plastic security tags were fastened to the samples bags. No evidence of sample tampering was reported by the receiving laboratory.*<br>• *Transport of the pulps from Tanzania to Australia was under the supervision of ALS Global.* |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • *Trenching and drilling information collected by BKT has been evaluated for sampling techniques, appropriateness of methods and data accuracy by an external geological consultant.* |

## 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.*<br>• *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 sampling was undertaken on granted license PL 7802/2012.*<br>• *It has an area of 293km$^2$.*<br>• *The license is 100% owned by BKT.*<br>• *Landowners of nearby villages are supportive of the recently completed sampling and exploration program.* |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • *Previous explorers completed some limited RC drilling and rockchip sampling but the original data has not been located apart from what has been announced via ASX releases by Kibaran Resources during 2011 and 2013.* |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • *The deposit type is described as schist hosted flaky graphite.*<br>• *The mineralisation is hosted within upper amphibolite facies gneiss of the Mozambique Mobile Belt.*<br>• *Over 95% of the exposures within the tenement comprise 3 main rock types that include alternating sequences of:*<br>• *Graphitic schist – feldspar and quartz rich varieties.*<br>• *Marble and,*<br>• *Biotite and hornblende granulites.*<br>• *Less common rock types include quartzite.* |
| ***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>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *hole length.*<br>• *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.* | • *A summary of all material drill intervals are provided in Appendix 1.* |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • *Exploration results have been reported as weighted averages allowing up to 2m of internal waste and minimum grades at 5% TGC.*<br>• *No maximum or top- cutting was applied during the calculation of drill holes intersects.*<br>• *Drill intervals are provided in Appendix 1.* |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *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').* | • *Drill hole results are reported as down-hole metres.*<br>• *Sufficient drilling, mapping and trenching has been completed at the main prospects to understand the orientation of mineralised lodes. A range of drill holes angles were used during the exploration program with the majority drilled at -60˚ (refer to Appendix 1).* |
| ***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.* | • *Figures show plan location of drill holes, appropriately scaled and referenced.*<br>• *Refer to images in the main body of the text* |
| ***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.* | • *All drill holes have been reported in their entirety.*<br>• *All drilling results have been reported in past Exploration announcements.* |
| ***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.* | • *1 in 10 samples from the first drill programme were assayed for deleterious elements using a 40 element ICP method. No deleterious elements were observed, with background (low) levels of uranium and thorium.*<br>• *757 bulk density measurements using the water displacement method from the oxide (limited) transitional and fresh zones.*<br>• *The samples for the bulk density measurements were taken from diamond drill core.*<br>• *Every diamond hole drilled used in this Resource Estimate has had intervals tested for bulk density generating a high quality dataset.* |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas,* | • *Additional drilling is planned for the remainder of 2016 to define further extensions of mineralisation at Cascade, with the intention of defining additional high grade, near surface resources*<br>• *Ongoing metallurgical testwork – flotation and particle size* |

| Criteria | JORC Code explanation | Commentary |
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| | *provided this information is not commercially sensitive.* | *optimization.*<br>• *Additional bulk density testwork is planned, particularly focused on the oxide and transition material.* |