

# 99% TGC purities achieved for Ulanzi and Epanko North primary mineralisation



5 July 2016

## Highlights

- Optimised flotation process applied to Ulanzi and Epanko North fresh (primary) mineralisation achieved 99% TGC purities
- This follows a weighted average of 99.1% TGC for the Ulanzi bulk (oxide) sample reported on 21 June
- Results are from a conventional flotation circuit which offers additional optimisation potential
- Potential to manufacture spherical graphite free of chemical purification from both Ulanzi and Epanko North, oxide and primary zones

Screen Size Microns	TGC Assay %	Distribution %	Cumulative distribution %	Weighted Av. grade %
+300 µm	99.0	12.5	12.5	99.0
+180 µm	99.1	34.7	47.2	99.1
+150 µm	99.0	10.8	58.0	99.1
+106 µm	99.1	14.2	72.2	99.1
+75 µm	98.8	10.0	82.2	99.0
+25 µm	98.2	9.4	91.6	98.9
-25 µm	87.5	8.3	99.9	98.0

Table 1. Epanko North primary mineralisation composite drill core. Assay results by size fraction and %TGC. TGC assays are by double LOI method.

**Black Rock Mining Limited (ASX:BKT) ("Black Rock Mining" or "the Company")** is pleased to announce new metallurgical test work results from the ongoing process optimisation program, this time from the fresh or primary composite samples of Ulanzi and Epanko North. The metallurgical team has surpassed 99% concentrate purity through relatively straightforward adjustments to the flowsheet. This is in addition to 99.1% TGC purity achieved for the Ulanzi bulk sample reported on 21 June 2016.

The entire +75 to +300 micron portion of flake graphite is achieving average 99% TGC purity for primary mineralised zones and this represents 82% of the sample by weight. Over the next test phase we believe that there is scope to further improve the concentrate purities with additional cleaner work.

The key outcome from this test is that exceptionally high purities in the 99% range can be achieved from **both** oxide and fresh portions of Ulanzi and Epanko North through a straightforward processing circuit whilst preserving flake size. Graphite at this high purity level will be sought after for battery and other applications and is expected to attract a price premium.

The recent high-grade results have generated considerable interest from graphite end users and traders who can see the potential to manufacture spherical graphite without the cost and environmental impact of chemical purification. Spherical graphite test work is underway in Europe to determine the suitability of Mahenge graphite for battery applications with results expected in late July. A separate spherical graphite characterisation programme is being undertaken with a new batch of 99% concentrates in response to achieving high flake graphite purities from the recent test work.

BatteryLimits is managing the metallurgical test work and feasibility study work for The Company. BatteryLimits' Managing Director Phil Hearse said, *"Continuous optimisation of the metallurgical test work program has returned excellent flake size distribution and concentrate assay results. Working closely in conjunction with the Black Rock Mining team and its consultants, BatteryLimits will press ahead with this optimisation process and we expect to see on-going improvement in graphite concentrate grades as testing of the Ulanzi and Cascade mineralisation ramps up."*

New metallurgical samples are being prepared in Tanzania this month to comprehensively test additional portions of the Ulanzi and Cascade lodes. Two more bulk surface samples and numerous drill core samples from Ulanzi and Cascade are being prepared for shipping and will be processed with the amended process circuit. In order to produce in excess of 1t of high purity flake concentrate, a continuous pilot scale process is being evaluated. This will provide considerably more data from which to finalise the processing circuit design. The metallurgical programme will continue as scheduled for the next four to six months, in parallel with the current Pre Feasibility and proposed Definitive Feasibility Studies.

Managing Director of Black Rock Mining Steven Tambanis commented: *"This is yet another excellent result from our metallurgical team which markedly increases processing confidence. Achieving >99% purities for both oxide and primary zones at Ulanzi and Epanko north underpins the potential for the Mahenge Project to deliver superior graphite products to market, in particular the fast growing lithium ion battery market. We look forward to applying our processing improvements to new bulk-scale metallurgical samples expected from site this month. Significantly, this provides potential for Black Rock Mining to brand and market spherical graphite product as being processed without chemical purification."*

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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 has graphite tenure in the Mahenge region, Tanzania, a Country which hosts world-class graphite mineralisation. The Company announced its Mahenge JORC compliant resource on 29 February 2016, which is the largest and highest grade resource in Tanzania and the 4<sup>th</sup> largest globally.*

*The company is building a skill and knowledge base to become a developer and diversified holder of graphite resources.*

*Shareholder value will be added by:*

- ✓ *identifying and securing graphite projects with economic potential*
- ✓ *focussing on tenure with scale potential that can be commercialised by converting into a JORC compliant resource; and*
- *developing the resource into a producing mine*

*Our current focus is on completing technical and financial studies to take the Mahenge Project into production.*

### Competent Person Statements

The information in this report that relates to Exploration Results 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.

The information in this report that relates to Metallurgical test work and results is based on information compiled by Mr David Pass, a Competent Person who is a member of Australian Institute of Mining and Metallurgy. Mr Pass is a full time employee of Battery Limits Pty Ltd, a specialist metallurgical consultancy and an independent consultant to Black Rock Mining Limited. Mr Pass has sufficient experience that is relevant to the style of mineralogy and type of deposit under consideration and the typical beneficiation thereof. Mr Pass consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### Appendix 1. Ulanzi primary zone metallurgical results

Screen Size Microns	TGC Assay %	Distribution %	Cumulative distribution %	Weighted Av. grade %
+300 µm	98.9	9.2	9.2	98.9
+180 µm	99.0	33.3	42.5	99.0
+150 µm	98.9	11.4	53.9	99.0
+106 µm	99.1	15.9	69.8	99.0
+75 µm	98.8	11.6	81.4	99.0
+25 µm	98.0	10.9	92.3	98.9
-25 µm	89.5	7.7	100	98.1

Table 2. Ulanzi primary mineralisation composite sample (drill core). Assay results by size fraction and %TGC. TGC assays are by double LOI method.