

Black Rock Mining continues to validate World Class graphite project with industry leading battery cell results

HIGHLIGHTS

- 130-cycle battery cell results demonstrate superior performance characteristics. Testing to be increased to 500 cycles
- Test results confirm Mahenge Graphite Project graphite has the potential to **enable battery manufacturers to produce more stable lithium-ion batteries (LIBs) at a lower cost with a longer cycle life.**
- Potential to displace synthetic graphite in LIBs if performance and cost advantages can be demonstrated
- Industry leading battery test results drive ongoing discussions with potential partners
- Spheronising test programme for 99% TGC concentrates recently completed with excellent results and being prepared for release
- Pilot scale ore test work underway in Canada to provide bulk quantities of high grade concentrates for vendor evaluation.

Tanzanian graphite developer Black Rock Mining Limited (ASX:BKT) ("Black Rock" or the "Company"), is pleased to announce results from battery test works have delivered industry-leading results, with superior performance characteristics over 130 cycles.

Black Rock Mining's Executive Direct and Interim CEO John de Vries commented:

"The 130-cycle results continue to demonstrate the industry leading product attributes of Black Rock's Mahenge Graphite Project. The results show that our graphite could deliver battery manufacturers with more stable lithium-ion batteries at a lower cost as well as a superior cycle life. Superior cell performance is critical to enabling our ongoing discussions with potential partners. Next steps are to provide bulk quantities of Mahenge graphite concentrates for end-user evaluation together with detailed spherical test work results from our recently completed programme in Europe."

In 2016, Black Rock engaged a US *ISO accredited* test facility to commence spherical graphite and purification test works on its Mahenge Graphite Project graphite concentrate. This spherical graphite was then used to manufacture battery cells for performance evaluation – both initial and long term performance.

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Issued Capital
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47.3m options
9m performance rights

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The ongoing electrochemical tests validate these results. Over a 130-cycle charge/discharge programme, Black Rock's test cells demonstrated consistently higher charge capacity and flatter performance curves than a leading coated spherical graphite used as a comparison. This is believed to occur due to the purer and thicker Mahenge graphite flakes which are more stable in cell use than thin flakes.

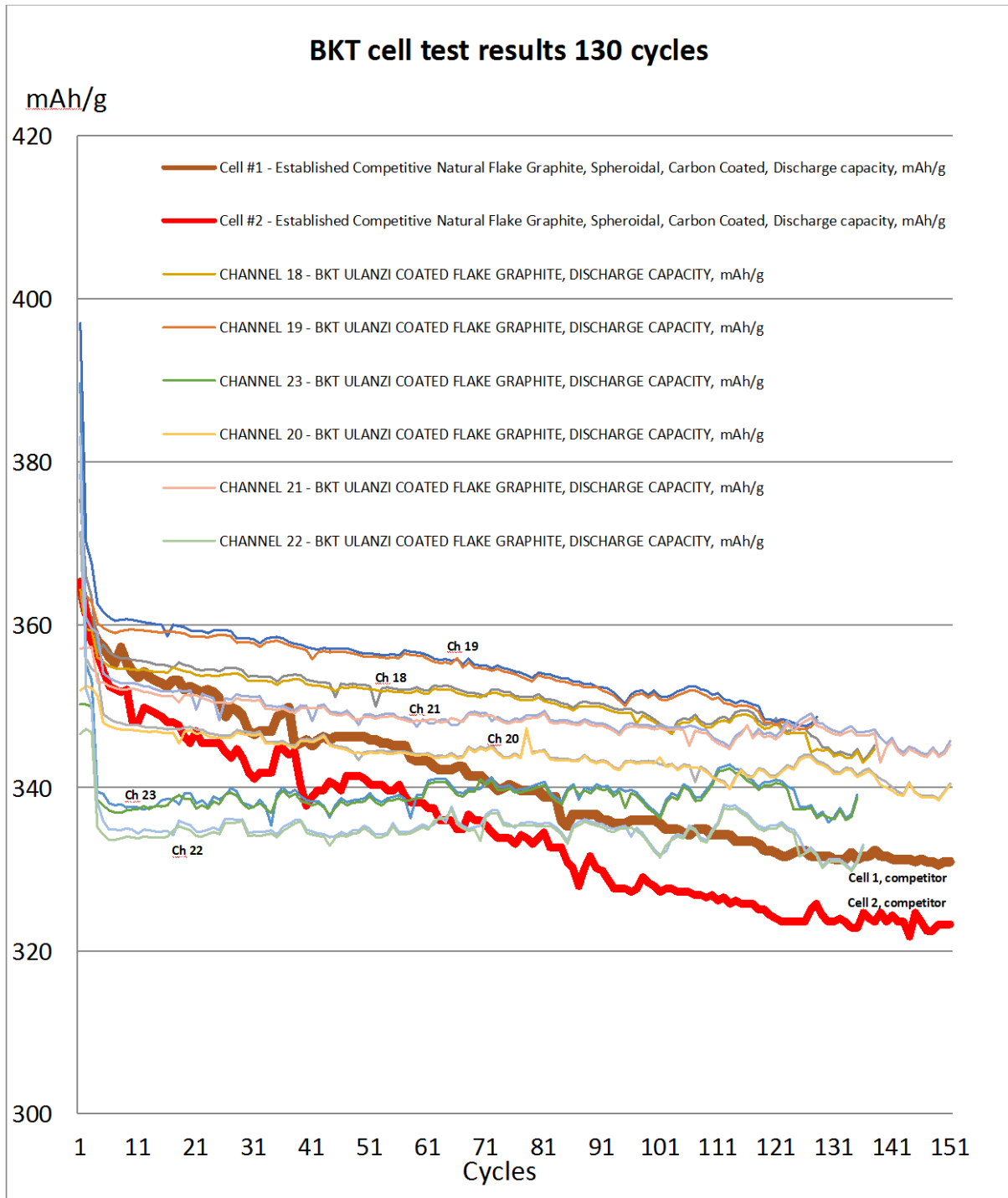


Figure 1. 130 cycle plot of six Mahenge cells compared to competitor's coated natural spherical graphite. Cells 18-21 maintain flatter performance curves than competitor material. Cells 22 and 23 begin at lower charge capacities however maintain remarkably flat performance curves. Differences in cell performance are attributed to binder compositions, electrolyte compositions and cell construction method. There is scope to further improve cell performance by optimising binder and electrolyte compositions.

The long-term cell testing builds on the successful spherical graphite and purification test work showing that the Mahenge Graphite Project spherical graphite has unique positive physical features with potential to improve the stability, battery safety performance and enhance the cycle life of lithium-ion batteries.

Importantly, Black Rock believes it is leading the graphite industry in recognising the importance of using long-term cycling data in order to characterise the sustainability of battery performance with the Company's graphite. Long-term cycling is a pivotal performance characteristic within the battery industry and the Company is proceeding with cell testing to 500 cycles.

The Company is undertaking the following detailed evaluation programmes:

1. Pilot scale test work to finalise flow sheet design and confirm the ability to process high purity graphite concentrates with a high proportion of coarse flake. This programme is expected to produce over 10 tonnes of high purity graphite concentrates for evaluation by end users
2. Spheronising test programmes to optimise yields and performance characteristics of Mahenge graphite. This programme is expected to demonstrate unique performance enhancements and potential cost savings for graphite spheronising businesses
3. Long term battery cell test work to demonstrate performance characteristics of Mahenge graphite.

Black Rock expects these evaluation initiatives will underpin ongoing discussions with potential partners.

Summary

- Independent testing indicates that Mahenge SPG has a number of unique performance characteristics with potential to manufacture lower cost and better performing lithium ion batteries
- These unique characteristics result from unusually thick, dense and naturally high purity graphite flakes, which form part of the Mahenge Graphite Project
- Additional independent development work has to be conducted to validate the highly encouraging potential for Mahenge graphite to:
 - Supply consistent high-grade graphite concentrates with superior electrochemical attributes compared to natural and synthetic graphite currently in the market
 - Potentially result in cheaper cost to construct lithium ion batteries with higher performance and longer lifespan (cycle life)
 - Potential to replace synthetic graphite in lithium ion batteries.
- Mahenge graphite mineralisation is considered to be consistent in characteristics and distribution across each orebody. This is significant to end users as the Mahenge Project has potential to deliver consistent quality graphite concentrates for decades

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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 of Tanzania.

In December 2016, the Company announced a JORC compliant Mineral Resource Estimate of 203m tonnes at 7.8% TGC for 15.9m tonnes of contained Graphite, making this one of the largest JORC compliant flake graphite Mineral Resource Estimates globally. 50% of the Mineral Resource is in the Measured and Indicated categories.

In April 2017, Black Rock announced results of a Preliminary Feasibility Study (PFS) for its Mahenge Graphite Project which confirmed its potential as a long-life, low capex, high margin operation. The PFS estimated a post-tax, unlevered, internal rate of return ("IRR") for the Project of 48.7%; and a net present value (NPV) using a discount rate of 10% (NPV10) of US\$624m.

Black Rock is moving towards commencing a Definitive Feasibility Study (DFS). With a successful DFS and associated financing, construction could commence in 2018 with first production in 2019.

For further information on the company's development pathway, please refer to the company's website at the following link: <http://www.blackrockmining.com.au> and the corporate video presentation at <http://www.blackrockmining.com.au/#video>.

