Black Rock Signs MOU with US Clean Tech Graphite Processing Company Urbix

HIGHLIGHTS

- **Urbix is a US based Clean Tech and Advanced Materials company specialising in innovative and sustainable processing technologies for graphite**
- **Urbix technology provides significant yield, quality and sustainability advantages for the manufacturing of battery anode materials**
- **The MOU provides Black Rock and its customers with access to an additional western option for battery anode materials processing**
- **Urbix processed anode material manufactured from Mahenge graphite concentrate has been supplied to Black Rock's shareholder and development partner POSCO for qualification**
- **The partnership is designed to establish a whole of supply chain collaboration to deliver commercial advantages to Black Rock's customers**

Tanzanian graphite developer Black Rock Mining Limited (ASX:BKT) (**Black Rock** or the **Company**) is pleased to confirm that it has signed a Memorandum Of Understanding (**MOU**) with United States (**US**) Clean Tech Graphite Processing company Urbix, Inc (**Urbix**), for an innovative supply chain partnership collaboration on battery anode processing.

Urbix is an advanced materials technology company specialising in all aspects of the graphite value chain including manufacturing the most economically viable graphite and energy storage products in the world. Patented refinement techniques deliver lower production costs with a low environmental footprint by avoiding the traditional need for Hydrofluoric Acid (**HF**) and high power consumption.

Urbix Partnership

The MOU is designed as a whole of supply chain collaboration that will drive commercial benefits for Black Rock and its customers. Under the MOU, Black Rock and Urbix will examine the potential to provide current and potential offtakers with a western option that is not only competitive, but delivers strongly differentiated environmental and sustainable battery anode materials.

Urbix has produced battery anode material from Mahenge graphite concentrates, with an initial batch submitted to Black Rock's shareholder and development partner, POSCO Ltd, for qualification testing. Further samples will be prepared for ongoing testing.

Under the MOU, both parties will work to validate and verify scaled up performance of the technology at a technical and commercial level. Following construction of a dedicated processing facility by Urbix to access US markets, the companies will seek to examine a North Asia opportunity for toll processing or Joint Venture (**JV**).

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Innovative Supply Chain Collaboration

Urbix's graphite processing technology has several advantages that has the potential to transform the global processing of natural graphite products for battery and energy storage applications. Urbix processing technology can deliver significant advantages to Black Rock and its customers through:

- Much lower energy consumption;
- Eliminating the need for hydrofluoric acid use;
- Significantly higher product yield (70% to 80% versus current industry standard of 35%); and
- Reduced reliance on co-product credit (re-carburiser sales to monetise waste streams).

Commenting on the Urbix partnership, Black Rock Managing Director and CEO, John de Vries said:

"The Urbix partnership follows our core strategy of developing relationships and collaborating with downstream partners that will drive collective benefits for our entire supply chain, while we remain focused on our core skills of developing and operating mines.

This MOU is transformational in the context that we are developing an additional US and western option for processing of graphite into battery applications. Increased geographic diversity of our supply chain allows us to be closer to our customers without the need to directly develop and fund the cost of downstream processing facilities. Importantly, Urbix's technology will deliver significant environmental and economic benefits that essentially improve our ESG footprint across the whole battery anode supply chain, further differentiating our supply chain from competing brands.

This is something our customers, and their customers, are asking for."

Commenting on the Black Rock partnership, Urbix CEO, Nico Cuevas, said:

"Urbix is excited to establish these initial steps toward a collaboration with Black Rock and its customers. We look forward to leveraging our innovative technology with Black Rock's high quality graphite to serve the growing battery-grade graphite market."

This ASX release was authorised on behalf of the Black Rock Board by:
John de Vries, Managing Director & CEO

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About Black Rock

Black Rock Mining Limited is an Australian based company listed on the Australian Securities Exchange (ASX:BKT). The Company has a 100% interest in the Mahenge Graphite Project (**Project**) located in Tanzania. The Project has a JORC compliant Mineral Resource Estimate of 212m tonnes at 7.8% TGC. It also has Ore Reserves of 70m tonnes at 8.5% TGC. The Ore Reserves support a mine life of up to 350k tonnes of graphite per annum for a reserve life of 16 years. Since the release of the Mineral Resource Estimate, the Company confirms that it is not aware of any new information or data that materially affects the mineral resources estimate.

On 25 July 2019, the Company released an enhanced Definitive Feasibility Study (eDFS) for the Project. The eDFS for the Mahenge Graphite Mine envisages a four phase operation, ultimately producing 340,000 tpa of high-grade graphite, with exceptional financial metrics including:

- *Low Capex*: Lowest peak capital expenditure of US$116M for phase one*;
- *High Margin*: AISC margin of 63.1%;
- *Low Technical Risk*: Substantial pilot plant operations run of 110 tonnes; and
- *Superior Economics*: IRR of 44.8% with NPV_{10} of US$1.16bn (A$1.65bn**)

Black Rock has obtained all Environmental approvals, Mining Licences and its Resettlement Action Plan with clear title to the eDFS project area.

In June 2020, the Company announced a Strategic Alliance with POSCO Group for the development of the Mahenge Graphite Mine. This included an equity investment of US$7.5M, signed in February 2021, and an offtake agreement, currently in progress, which includes a prepayment facility of up to US$20M. Black Rock has also allocated planned production through Pricing Framework Agreements (ASX release 8 May 2019) with five other offtake customers.

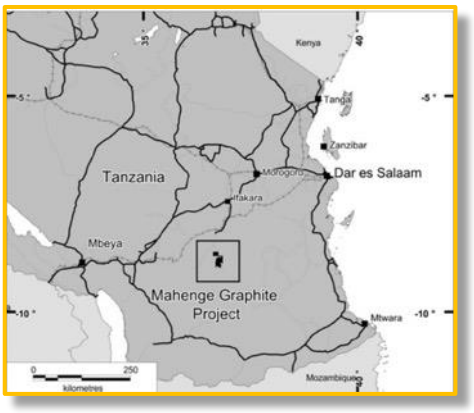
Following release of the enhanced DFS (eDFS) in July 2019, the Company confirms that it is not aware of any new data or information that materially affects the results of the eDFS and that all material assumptions and, in the case of estimates of Mineral Resources or Ore Reserves, technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

The estimated Ore Reserves and Mineral Resources underpinning the production target has been prepared by competent persons in accordance with the requirements in Appendix 5A (JORC Code).

The Company is construction-ready subject to financing and confirmation of Tanzanian Government Free Carried Interest Agreement.

JORC Compliant Mineral Resource Estimate and Ore Reserve***

Ore Reserves	Tonnes (Mt)	Grade (% TGC)	Contained Graphite (Mt)
- Proven	0	0.0	0.0
- Probable	69.6	8.5	6.0
Total Ore Reserves	**69.6**	**8.5**	**6.0**
Mineral Resources			
- Measured	25.5	8.6	2.2
- Indicated	88.1	7.9	6.9
Total M&I	**113.6**	**8.1**	**9.1**
- Inferred	98.3	7.6	7.4
Total M, I&I	**211.9**	**7.8**	**16.6**



Location of Black Rock's Mahenge Graphite Project in Tanzania

For further information on Black Rock Mining Ltd, please visit **www.blackrockmining.com.au**

* Forecast Capex has been classified as a Class 3 estimate with accuracy of ±10% as defined by AACE
** AU$/US$ 0.70
*** Resource and Ore Reserve Estimates as released to ASX on 8 August 2017 Optimised PFS

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