

Black Rock Mining Signs Conditional Framework Agreement with US Cleantech Graphite Processing Company Urbix, Inc.

HIGHLIGHTS

- **Conditional Framework Agreement signed with Urbix Inc., an emerging American cleantech refining company focused on producing lithium-ion battery anode materials in the USA**
- **Conditional upon Urbix providing substantial prepayment or equity support to secure Offtake for Mahenge Module 2**
- **The Agreement enables Black Rock to potentially bring forward the construction of Mahenge Module 2 concurrent with Module 1, approximately doubling the project's debt capacity with a similar Company equity requirement**
- **Establishes new integrated supply chain with best-in-class ESG credentials for the American and European battery markets, in line with the US Inflation Reduction Act**

Tanzanian graphite developer **Black Rock Mining Limited (BKT: ASX)** (**Black Rock** or the **Company**) is pleased to announce that its 84% owned Tanzanian subsidiary, Faru Graphite Corporation Limited (**Faru**), has signed a Conditional Framework Agreement (**Agreement**) with US-based Urbix, Inc (**Urbix**) for material from Module 2 of the Mahenge Graphite Project (**Mahenge**).

Under the terms of the Agreement, the parties will collaborate in establishing a new supply chain suited to the localisation and ESG demands of the US and European battery industries. The Agreement means Black Rock can potentially bring forward construction of Module 2 concurrent with Module 1 through Urbix providing or facilitating a substantial prepayment and/or equity support for exclusivity of offtake of -100 natural flake graphite fines from Module 2.

The consummation of this Agreement highlights the strength of underlying demand for Mahenge's high-quality graphite concentrates and is indicative of the Board's methodical and considered approach in maximising shareholder value around the establishment of alternative supply chains suitable for American and European battery manufacturers.

Under the Agreement Black Rock has granted Urbix trade exclusivity for Module 2 fines for 150 days after execution of the Agreement.

Background

Black Rock initially signed a Memorandum of Understanding (**MOU**) with Urbix on 1 July 2021 to explore working together to secure for the US national interests, a vertically integrated, independent supply of ESG-friendly anode material.

At least 8 battery gigafactories will be constructed in the USA by the mid 2020s with an annual demand of at least USD 2.3 billion for anode material. Graphite is now a critical mineral of national and economic security for the USA. Furthermore, it is widely predicted that natural flake graphite will steadily replace synthetic graphite in

anodes given the large carbon footprint and cost of synthetic graphite and the jurisdictional concentration of its production.

Black Rock has undertaken significant assessment of midstream processing options, including thermal treatments, caustic bake processes, and proposals to replicate the conventional Chinese hydrofluoric acid chemical purification method. Black Rock considers the complexity of these processes represents a significant execution risk particularly for a junior company executing a mine build. Further, increasing ESG based market access risks and the need to qualify large volumes of material as part of customer acceptance represents time consuming and costly processes in a market where an increasing supply shortfall is apparent.

Black Rock's assessment has identified Urbix, with its proprietary purification, spheroidisation and thermal treatment techniques, deep team expertise, and incumbent positioning as a truly "Made in America" anode processor as having the best compatibility to the future requirements of Western supply chains (in particular USA and Europe). Urbix product will also qualify under the US Inflation Reduction Act's "domestic content" rules.

Urbix processing technology will deliver significant advantages to Black Rock and its customers through:

- Materially lower energy consumption;
- Elimination of hydrofluoric acid use;
- Significantly higher product yield (more than double the industry standard);
- Ability to incorporate at the particle level appropriate levels of synthetic graphite material to produce a blended anode material as a drop-in product for cell manufacturers;
- Extensive third-party assessment confirming Urbix's anode material has superior electrochemical performance.

The Agreement reflects a collaboration that permits two world class organisations to focus on their individual core competencies (Black Rock mining with Urbix's materials processing) and deliver a "best of breed" anode product and supply chain.

Black Rock has identified substantial market demand for large natural flake graphite from Module 2 and will seek to place large flake offtake from Module 2 under optional term sheets to be entered into during the period of Urbix's exclusivity under the Agreement.

Conditional Framework Agreement

Under the terms of the Agreement, and subject to satisfaction of standard conditions precedent, Urbix will enter into the following minimum offtake agreement for Mahenge Module 2 -100 mesh graphite 95% concentrate on an as available basis in accordance with the following ramp up period:

- Year 1: 7,500 dry metric tonnes (dmt)+/- 10%
- Year 2: 10,000 dmt+/- 10%
- Remaining Term: 15,000 dmt+/- 10%

Black Rock anticipates that after the ramp up period it will be able to produce up to 30,000 dmt per annum of the relevant product and to the extent it does or produces more than comprises the Minimum Commitment during the ramp up period, Urbix will extend its purchase commitment.

Under the Agreement, the parties have 150 days to satisfy conditions precedent. Thereafter the parties have a further 45 days to enter into final binding agreements.

Commenting on the transaction, Black Rock CEO, John de Vries, said:

"Signing this Agreement with Urbix is potentially transformational in the context that we are developing an additional USA and European option for the processing of Black Rock's 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, fund and qualify downstream processing facilities. Developing an option to step away from the conventional hydrofluoric acid route allows a low carbon and low chemical footprint brand to be developed in a market that is increasingly ESG differentiated.

Importantly, Urbix's technology will deliver significant environmental and economic benefits deploying our ESG footprint across the whole battery anode supply chain, further differentiating our offering from competing brands.

The potential to concurrently execute Module 1 and Module 2 provides significant leverage to Black Rock through securing economics of scale early in the project's life. Doubling the size of the initial project also approximately doubles our debt capacity and combined with a substantial prepayment and/or equity support through Urbix, is expected to mean a similar Company equity funding requirement to building Module 1 only. This Agreement is complementary to our existing agreement with POSCO for Module 1 in that it supports access to funding directed at supply chain diversity not previously available.

Being in a position to supply increased volumes of large flake is particularly beneficial in securing market share with Mahenge branded product in a market that is increasingly short of large flake.

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

"Urbix has analysed over 35 different graphite resource samples to assess suitability for battery materials. While our novel processes can purify graphite resources more optimally than the incumbent processes, there is still a high standard level of morphology, mineralogy and crystallinity required to enable efficient purification. Urbix has technically confirmed that the Black Rock graphite resource is of a quality perfectly suited to EV battery supply chains and it is excited to establish these initial steps toward a collaboration with Black Rock and its customers. Urbix looks forward to leveraging its innovative technology with Black Rock's high-quality graphite to serve the EV market with highest ESG and product quality standards."

This ASX release was authorised on behalf of the Black Rock Board by:

John de Vries, Managing Director & CEO

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About Urbix, Inc

Urbix, Inc. is a US-based graphite processing technology company that has developed a proprietary technology to process (purification, spheroidization, coating, thermal treatment, air classification) natural flake graphite and is currently undertaking the financing and construction of manufacturing facilities to produce graphite lithium-ion battery anode products in the US and potentially other regions, commencing around late 2024.

Urbix headquarters are based in the greater Phoenix area of Arizona, and all technology developed by Urbix is home grown in the USA. Certain of the intellectual property owned by Urbix had its genesis in the University of Arizona and Urbix holds a perpetual licence to that technology. Urbix has strong support from the USA Government and is in the process of securing a loan from the Department of Energy Loan Programs Office. Urbix's processes are unique and versatile, Urbix is perfectly positioned to be a local supplier of anode material in line with the USA Make America Great Again policy and the Build Back Better Act that spawned the Inflation Reduction Act of 2022, recently signed by President Biden. Urbix will benefit immensely from such initiatives and facilitate safer entry into the USA for cell and anode manufacturers. Urbix will establish its first full-scale USA commercial plant by 2024/25, which is expected to produce 34,000 tonnes per annum of coated spherical purified graphite (**CSPG**). Urbix has plotted a pathway to producing 350,000 tonnes per annum of CSPG by 2030 in the USA and Europe.

Some highlights of the Urbix solution are:

- 90% less energy usage than standard purification processes
- Sustainable approach with low environmental impact, no usage of hydrofluoric acid, and only light industrial zoning required
- ESG attributes simplify permit and licence requirements in different jurisdictions, thus enabling more flexibility in site expansion selection.
- Significantly lower cost of production than standard processes
- Can accept a wide variety of feedstocks. Urbix has vetted graphite from five different continents and over 35 sources, confirming that Mahenge material is best in class
- 70%+ yields that are 100% greater than the industry standard methods for producing CSPG
- Higher energy density than traditional processes and excellent charge/discharge capacities, as validated by extensive third-party testing by anode and cell OEMs
- Internally developed intellectual property in key processing stages
- Urbix technology manufactures an improved "drop-in" CSPG and allows for core blending of synthetic graphite and other materials such as silicon according to customer specification
- Modular design enables rapid capacity expansion and construction in close geographic proximity to customers, thus reducing storage and transportation costs.

About Black Rock

Black Rock Mining Limited is an Australian based company listed on the Australian Securities Exchange (ASX:**BKT**). The Company has an 84% interest in the world-class Mahenge Graphite Project (**Mahenge**) located in Tanzania. Mahenge has a JORC compliant Mineral Resource Estimate of 213m 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 Resource Estimate.

In October 2018, the Company released a Definitive Feasibility Study (**DFS**) for Mahenge, which was based on strong customer demand. This was enhanced (**eDFS**) in July 2019 (ASX Announcement 25 July 2019), and demonstrates 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 600 tonnes; and
- *Superior Economics*: IRR of 44.8% with NPV_{10 nominal} of US\$1.5bn (A\$2.1bn**)

Black Rock is completing a FEED process (Front End Engineering Design) and re-estimating the capital and operating costs at Mahenge as part of financing process. The costs, process constraints and ESG are currently subject to peer review from an Independent Technical Expert (**ITE**) as part of this process. Black Rock will update the market once the ITE review is complete and updated estimates are finalised.

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 Mahenge. This included an equity investment of US\$7.5M, signed in February 2021, followed by an offtake agreement, with a US\$10M prepayment facility. In December 2021, Black Rock signed a Framework Agreement with the Government of Tanzania confirming their 16% Free Carried Interest shareholding, agreed to consolidate its Mining Licenses into a Special Mining Licence (SML) and committed to jointly develop Mahenge. The SML for Mahenge was awarded in September 2022. The Company is construction-ready subject to financing.

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).

JORC Compliant Mineral Resource Estimate and Ore Reserve***

Ore Reserves	Tonnes (Mt)	Grade (% TGC)	Contained Graphite (Mt)
- Proven	0	0.0	0.0
- Probable	70.5	8.5	6.0
Total Ore Reserves	70.5	8.5	6.0
Mineral Resources			
- Measured	31.8	8.6	2.7
- Indicated	84.6	7.8	6.6
Total M&I	116.4	8.0	9.3
- Inferred	96.7	7.4	7.2
Total M, I&I	213.1	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 Estimate as released to ASX on 3 February 2022: BKT Confirms 25% increase in Measured Resources and Ore Reserve Estimates as released to ASX on 8 August 2017: BKT delivers Exceptional Optimised PFS. All material assumptions underpinning the Resource Estimate and Ore Reserve Estimate continue to apply and have not materially changed.

**** Refer ASX announcement released on 25 July 2019. All material assumptions underpinning the eDFS continue to apply and have not materially changed. BKT is currently completing a FEED process and re-estimating the capital and operating costs at Mahenge as part of financing process and will update the market once complete

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