

MAHENGE DFS ENHANCED WITH ADDITION OF FOURTH MODULE SIGNIFICANTLY IMPROVING PROJECT METRICS

HIGHLIGHTS

- **Black Rock's Mahenge Graphite project Definitive Feasibility Study (DFS) enhanced to include fourth production module in response to customer demand for a more aggressive ramp up**
- **Financial metrics improved with:**
 - **Black Rock's unlevered NPV₁₀ attributable value, after tax and after free carried interest increased by 30% from US\$895m to US\$1.16bn (A\$1.65*bn)**
 - **Long run C1 Opex US\$397/t (AISC \$481/t)**
 - **IRR of 44.8%**
 - **Forecast Capex US\$116**m for Stage 1** (inclusive of a 10% contingency, and is less than 1% increase from DFS)
 - **Stable state EBITDA (after year 5) of US\$306m (A\$426*m)**
- **Development sequence compressed for modules to be commissioned annually after first production, subject to funding**
- **Targeted steady state annual production to increase from 250k to 340k tonnes**
- **Success of project funding improved by addition of redundant power option**

* \$AUD/USD 0.70

** Forecast Capex has been classified as a Class 3 estimate with accuracy of ±10% as defined by AACE

Tanzanian graphite developer Black Rock Mining Limited (BKT: ASX) ("Black Rock" or "the Company") is pleased to announce it has enhanced the 100% owned Mahenge Graphite Project DFS released on 24 October 2018 to include a fourth production module, and a compressed development schedule, which is now subject to financing and confirmation of the 16% Tanzanian government free carried interest. The enhanced DFS was completed in response to product demand and feedback from customers and financial markets for a more aggressive production schedule and de-risked commissioning plan.

Commenting on the enhanced DFS, Black Rock's CEO, John de Vries, said

"The enhanced Definitive Feasibility Study (eDFS) brings together a number of competitive advantages associated with Mahenge. Ultimately this is a customer and financial markets driven outcome. Product placement from both the Canadian pilot plant and our recent Chinese pilot plant has demonstrated that Mahenge Graphite concentrate has significant "value is use" advantages, now recognised by our customers. This is evident in Black Rock having established pricing and volume frameworks based on the October DFS, three module business plan, and our customers being prepared to be named against a pricing framework. Something no other developer or producer has achieved. Ultimately, this is an outcome that supports our financing strategy.

A key strength of our business model is scalability. Being able to add capacity incrementally ensures we do not over capitalise the asset with excessive redundant capacity, but can respond to changes in market demand. This approach ensures the asset is not developed unless market demand is present.

While not an intended outcome of the exercise, the addition of the fourth module brings our total planned annual capacity to 340 – 350kt of concentrate. This will make Mahenge one of the world's largest potential graphite producers. Critically, given our concentrate purity and flake size, we have multiple market segments where demand for higher specification product exceeds available supply. Fundamentally, we are not directly competing with existing producers and trying to place product in highly contested lower specification markets.

What started off as an enhancement study in response to market demand from our customers, ultimately ended up as a conversation with our financiers about a de-risked start-up and commissioning plan. Ongoing engagement with financial markets indicated a strong desire to decouple the project development schedule from the schedule for development of the 220 KV High Voltage lateral from Ifakara to Mahenge. The High Voltage Line development is scheduled to be available for Module Two, which occurs in year 2 of the compressed schedule. Our base case is that access to hydro power from the national grid gives us the greenest produced graphite possible, and at the lowest cost possible. A decoupled power supply schedule via short term on site generation ensures Black Rock controls and manages all elements of the project start-up.

Finally, we have nominated Module Four as "sprint". Our development strategy is now "crawl, walk, run, sprint"

Mahenge Graphite Project eDFS

Black Rock completed a definitive feasibility study (DFS) on the Mahenge Project in October 2018 and is moving towards securing project financing and progressing into construction and operations with first production targeted in 2020 to 2021. Exact timing of first production will be an outcome of progress on securing finance.

The enhanced DFS (eDFS) was considered due to strong customer demand and includes the provision for a fourth production module of 85k tonnes per annum, increasing total steady state production to 340 – 350 k tonnes per annum. The development schedule, subject to financing and confirmation of the 16% Tanzanian government free carried interest, will now consider four production modules each coming online annually after the first module, rather than every two years in the original DFS.

The milling schedule was developed using existing pit shells for Ulanzi and Cascades, with no changes in pit inventory or Ore Reserves as an outcome of eDFS.

Additional mill feed has been sourced by developing a third pit at the Epanko deposit. Epanko ore was exclusively scheduled to Module Four, with Epanko production commencing at year 7 in the compressed schedule. Epanko contributes 9.9 Mt at 6.7% TGC (Total Graphitic Carbon by Loss on Ignition) for an additional 660 kt of concentrate. Epanko feed included 3.4 Mt at 8.0% TGC as Indicated Resource, with the remaining material being Inferred. The potential inclusion of Epanko in the Ore Reserve was considered to be not material, and no changes to the Ore Reserve have been considered as a consequence of the inclusion of Epanko in the enhanced DFS.

The addition of a fourth production module has no material change to the forecast capex for the first three phases, however will lift the overall revenues with a revised project NPV₁₀ of \$1.16bn (A\$ 1.65bn) (an increase of 30% over the original three module DFS). The next steps include continued progression of financing discussions and commencing detailed engineering for the commencement of construction and confirmation of the 16% Tanzanian government free carried interest.

Product from Module Four remains uncommitted, creating capacity for industry cornerstone participation in the project development. Black Rock Mining's immediate focus will be the continued progression on financing discussions for development of Module One.

Provision has been made for a 10 MW dual fuel (HFO/diesel) power station for start-up of Module One. Beyond Module One, the station will be subject to a decision to be used as back-up/standby from year two when grid connection becomes available. Decoupling the overall project from any schedule delays associated with the grid connection reduces schedule risk.

Finance

Black Rock Mining has appointed Ironstone Capital as advisors to accelerate progress on financing the Mahenge Graphite project. Ironstone have consolidated existing, and established new financing pathways with relevant banks and other potential sources of debt and industry finance.

The Ironstone appointment is in direct response to the number of inbound financing proposals and structures presented to Black Rock, in addition to options instigated by the Black Rock management team. A number of options are being pursued including project level equity, conventional African-domiciled debt financing, convertible/hybrid structures and offtake-related financing proposals. Our focus remains on identifying the least dilutive option for our shareholders.

Ironstone bring extensive experience in structured mining finance internationally, and have significant experience in the China market which is highly relevant to Black Rock's Mahenge Graphite project. Assessment of opportunities is ongoing.

Table 1 | Summary of the Enhanced DFS Financial Metrics Compared to Initial DFS

MAHENGE DEFINITIVE FEASIBILITY STUDY FINANCIAL METRICS		
Metric	Oct 2018 DFS	Jul 2019 Enhanced DFS
Post-tax, unlevered NPV ₁₀	US\$895m	US\$1.16bn
Post-tax, unlevered IRR	42.80%	44.80%
Forecast Capex for Module One*** (85k tonnes per annum; includes 10% contingency)	US\$115m (excludes HV Power Connection Provision)	US\$116m (excludes HV Power Connection Provision)
Forecast Capex for Module Two *** (85k tonnes per annum; includes 10% contingency)	US\$69.5m	US\$69.5m
Forecast Capex for Module Three*** (85k tonnes per annum; includes 10% contingency)	US\$84.2m	US\$85.3m
Forecast Capex for Module Four *** (85k tonnes per annum; includes 10% contingency)	n/a	US\$67.1m
Life of Mine C1 Costs, FOB Dar	US\$401/t	US\$397/t
Life of Mine All in Sustaining Costs, FOB Dar*	US\$473/t	US\$494/t
Concentrate basket FOB Dar es Salaam**	USD \$1,301/t	USD \$1,301/t
Life of Mine	32 years	26 years
Average steady state production rate	250k tonnes per annum	340k tonnes per annum
Total Life of Mine Concentrate production	6.6m tonnes	7.4m tonnes
Ore reserves	70m tonnes @ 8.5% TGC****	70m tonnes @ 8.5% TGC****
Reserve life	23 years	16 years
Resources	212m tonnes @ 7.8% TGC****	212m tonnes @ 7.8% TGC****

* AISC includes all post start up capex including module 2&3 expansion

** Basket is LOM average price for 97.5% LOI sized concentrate packed in 1 tonne bulka bags

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**** Total Graphitic Carbon by Loss on Ignition

Table 2 | Offtake Pricing Framework *

	Regular	Premium	Ultra
Nominal Graphite Grade (TGC)	94.5% - 95.5%	97.5% - 98.25%	>99%
CIF China (ex-duty) (US\$/tonne)	\$1,117	\$1,490	\$2,161
Reference exchange rate	RMB/USD 6.71		
Rise & fall pricing reference USD\$/tonne	95% TGC - #100 mesh Benchmark Minerals \$ 950/t as at Nov 2018		

* pricing as released in ASX announcement 08 May 2019

Table 3 | Committed Offtake Volumes by Customer *

	Year 1	Year 2	Year 3
Heilongjiang Bohao	20,000	50,000	90,000
Qingdao Fujin ⁽¹⁾	10,000	15,000	15,000
Taihe Soar	20,000	55,000	100,000
Qingdao Yujinxi	20,000	20,000	20,000
Yantai Jinyuan	15,000	30,000	30,000
TOTAL	85,000	170,000	255,000

(1) pricing to be finalised * as per ASX announcement 08 May 2019

Ends

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About Black Rock Mining

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 (the "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.

In October 2018, the Company released a Definitive Feasibility Study (DFS) for the Project, which was based on strong customer demand This was enhanced in 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 110 tonnes; and
- *Superior Economics*: IRR of 44.8% with NPV₁₀ of US\$1.16bn (A\$1.65bn**)

In February 2019, the Company announced receipt of its mining licence for the DFS project.

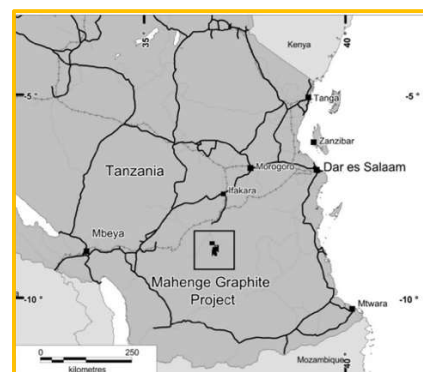
In May 2019, the Company announced it had substantially allocated planned production with up to 255k tonnes per annum of graphite committed to sale by year three of production, through Pricing Framework Agreements. The company is progressing these agreements into binding offtake commitments.

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 technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

The Company is currently progressing financing discussions and detailed engineering with a view to commencing construction of the mine.

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	8.5	6.0
Total Ore Reserves	70	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



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

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