



**BLACK ROCK**  
MINING LIMITED

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# **MAHENG**

## **BEST IN CLASS GRAPHITE PROJECT**

Mining Journal Conference  
June 2019

*(Amended July 2019)*



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## COMPETENT PERSONS

The information in this report that relates to Exploration Results and Mineral Resource Statements is based on information compiled by John de Vries, who is a member of the AusIMM. He is an employee of Black Rock. John de Vries 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'.

The information that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr Aidan Patel (Consultant with Patel Consulting Pty Ltd). Mr Barnes and Mr Patel are members of the Australian Institute of Mining and Metallurgy and have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Barnes, Mr Patel and Mr de Vries consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

The Ore Reserves have been compiled by Black Rock Mining, under the direction of Mr John de Vries, who is a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Mr de Vries is a full-time employee of Black Rock Mining and holds performance rights in the company as part of his total remuneration package. Mr de Vries has sufficient experience in Ore Reserve estimation relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves".



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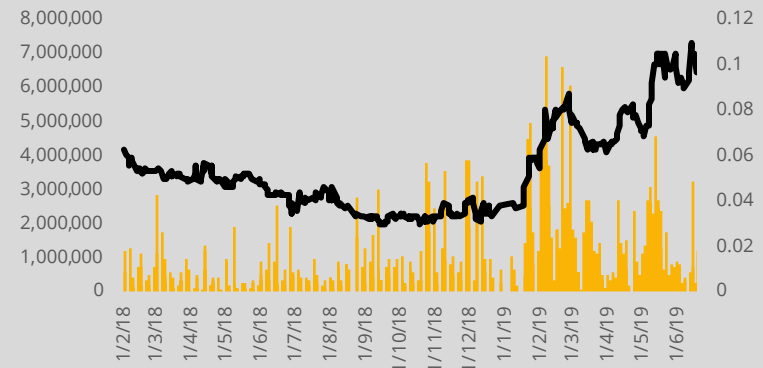
**Black Rock Mining Limited** is an Australian based company listed on the Australian Securities Exchange (ASX:BKT) with a 100% interest in the Mahenge Graphite Project located in Tanzania.

The Project has a JORC compliant Mineral Resource Estimate of 212m tonnes at 7.8% TGC\*.

The Reserve is 70m tonnes at 8.5% TGC and supports a mine life of 250k tonnes of graphite per annum for 25 years.

The contained graphite of the project is ranked #2 in terms of Ore Reserves and #4 in terms of Resources

ASX Ticker	BKT
Share Price (as at 19 June 2019)	A\$0.097
Shares on Issue	538.5m
Options	47m
Fully Diluted Market Capitalisation	A\$57m
Top 20 Shareholders	c.42%





# Leadership Team



**BLACK ROCK**  
MINING LIMITED



**JOHN DE VRIES**  
**CEO,**  
**Executive Director**

Mining Engineer with over 35 years-experience in mine development and operations. Previously, General Manager Technical Services with St Barbara and integral in the 2014 turnaround. John has held positions at BHP Ni West, and was Global Business Manager, Advanced Mining Solutions with Orica Mining Services. John's geographic experience includes Africa, the Pacific, the FSU, North America and South America.



**RAYMOND HEKIMA**  
**Vice President –**  
**Corporate (Tanzania)**

Holding qualifications in Environmental Sciences and Management with over 13 years experience with Government and Corporate sectors. Raymond is responsible for overall business and operations in Tanzania and manages relationships and interactions with, National Government, Local Government, NGO's and Community relations.



**JEFF DAWKINS**  
**Chief Financial Officer**  
**& Joint Co-Secretary**

Chartered Accountant with over 25 years commercial and corporate experience including over 20 years working for resources companies with particular experience in mine development and start up of offshore projects. Jeff was previously CFO during the financing and development phase of Archipelago Resources, Hanking Gold and Blackham Resources. Jeff was also CFO at Peak Resources and most recently Battery Minerals.



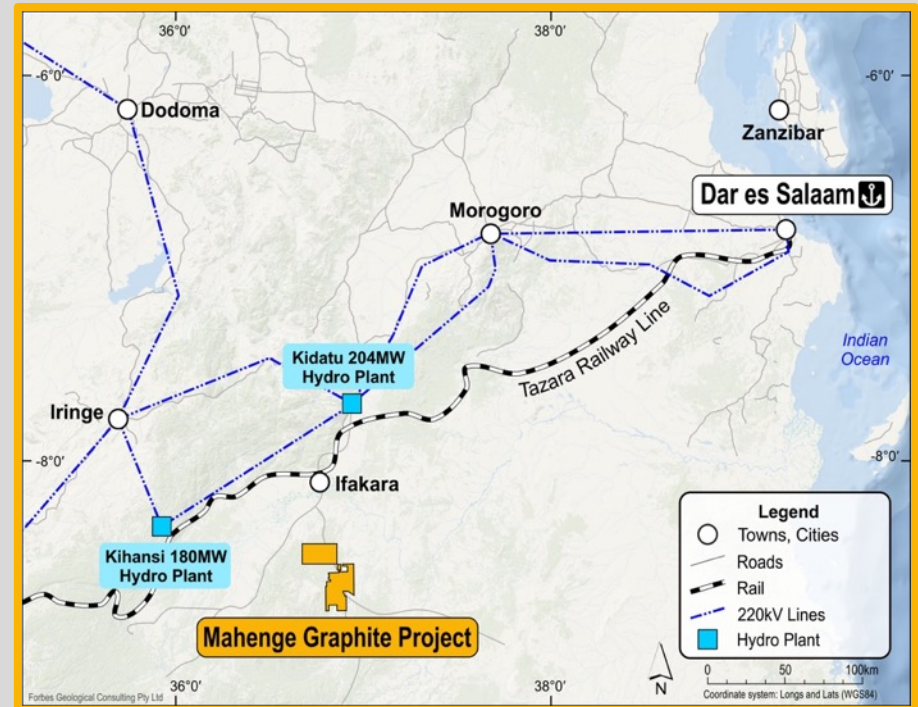
**RICHARD CROOKES**  
**Non-Executive**  
**Chairman**

A geologist with over 30 years executive experience in the resources and investments industries. Prior roles include Investment Director at Mining PE Fund EMR Capital, Executive Director in Macquarie Bank's Metals & Energy Capital Division and Chief Geologist then Mining Manager with Ernest Henry Mining. Has raised capital and financed a number of projects globally, including across Africa.



## MAHENGE - Unique Geology and Geography

- **No overprint mineralisation** results in industries highest and cleanest graphite concentrate
- **Large flake distribution** places product in uncontested and **multiple markets**
- Large deposit results in **intergenerational mine life**
- Large grind size permits **dry stacking**
- Proximity to national grid provides access to **grid power**
- **Proximity to rail and deep water ports** lowers logistics complexity and costs
- **Well educated local workforce** eliminates commute and camp



# Why Graphite?



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**Growing demand**



**Clean Production**



**EV & Batteries**



**Flake Size opportunity**



**Emerging Product Premium**



- Demand for energy storage and expanded applications is likely to double volumes over next decade
- In the expandable market, urbanization and building renovation are driving demand for large flake and purity products
- Search for high grade graphite producers

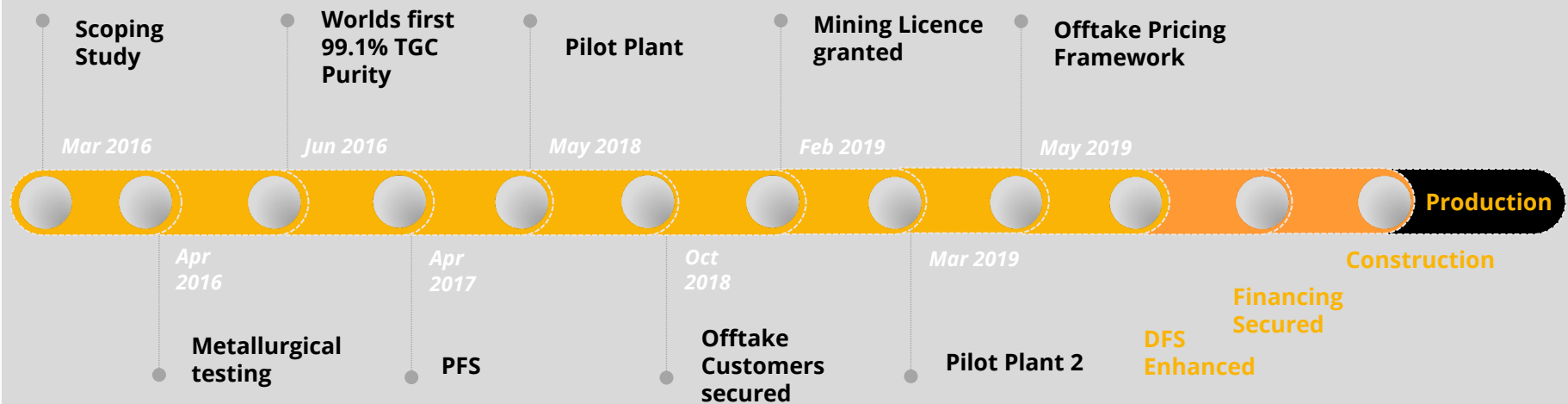


# Redefining the Road to Production



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Engineering approach to eliminating risks drive strong economics which underpin the financing process(s)



Largest Pilot Plant run of any Graphite mine globally

First to introduce a staged development model

Sector first EPC vendor bid plant with performance warranty

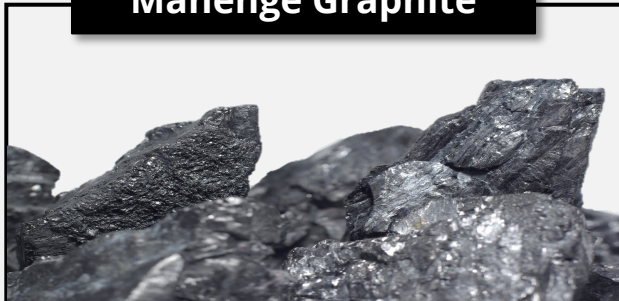
World first use of Dry Stack to eliminate tropical wet tails dam

# Enhancing the DFS



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## Mahenge Graphite



## Offtake Commitments\*

	Year 1	Year 2	Year 3
Qingdao Fujin <sup>(1)</sup>	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
<b>TOTAL</b>	<b>85,000</b>	<b>170,000</b>	<b>255,000</b>

## Pilot Plant



Product Quality Proven  
Operational performance  
Clean "Green" Footprint

## DFS Financial Metrics \*

Black Rock DFS Financial Metrics	Value
Post-tax, unlevered NPV10	US\$895m
Post-tax, unlevered IRR	42.80%
Capex for Phase One (83k tonnes per annum)	US\$115m
AISC margin	63.6%
Average steady state production rate	250k tonnes per annum

## Pricing Framework\*

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

Customer driven demand  
for a fourth module



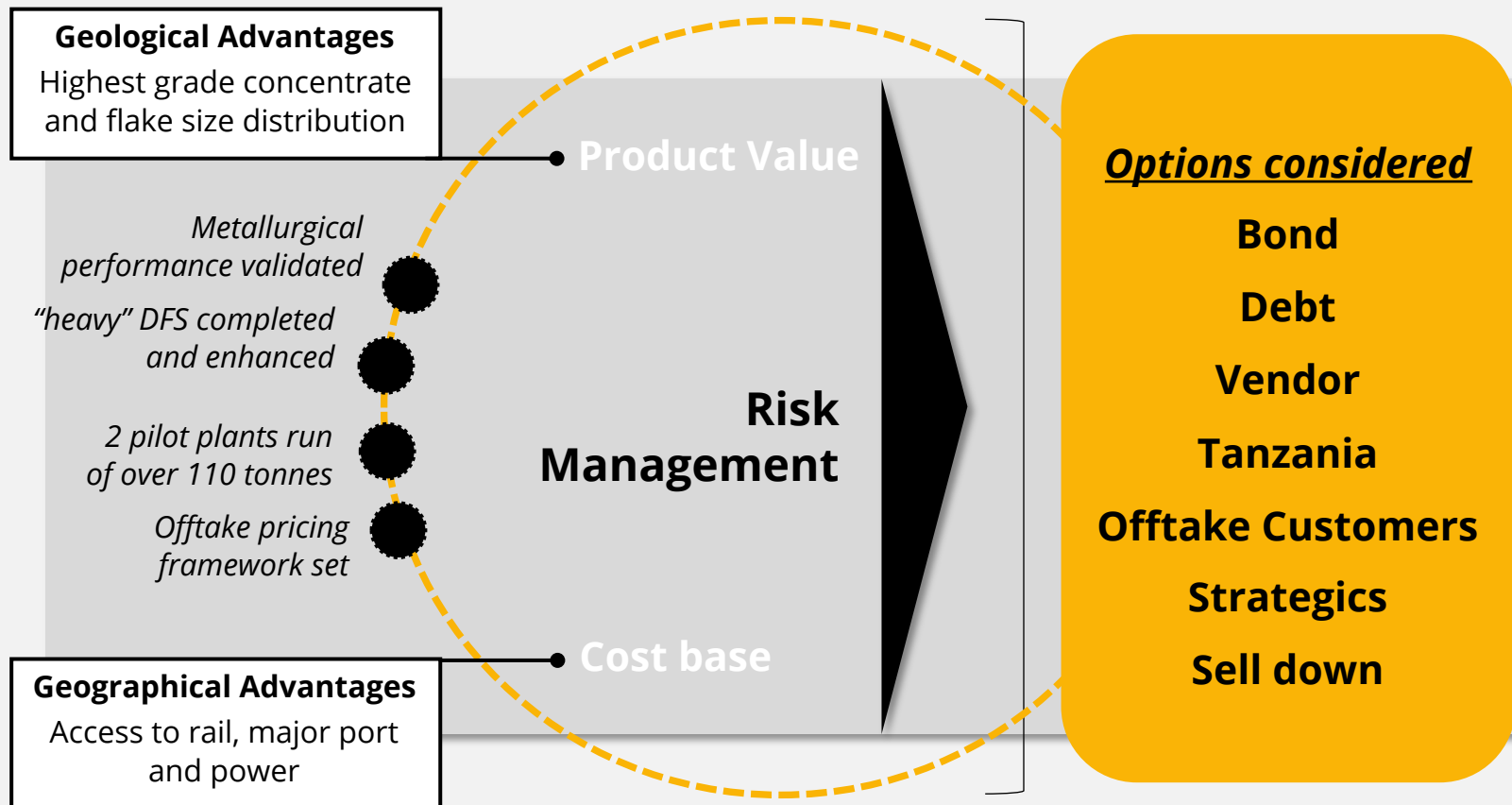
eDFS in progress

\* refer to ASX announcement dated 24 October 2018 and 8 May 2019. Following release of the DFS, the Company confirms that it is not aware of any new data or information that materially affects the results of the DFS and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed





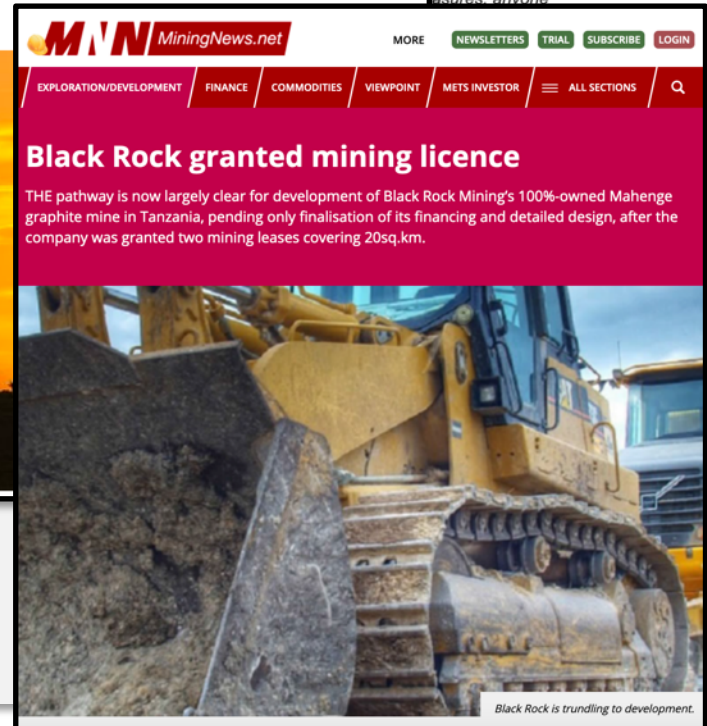
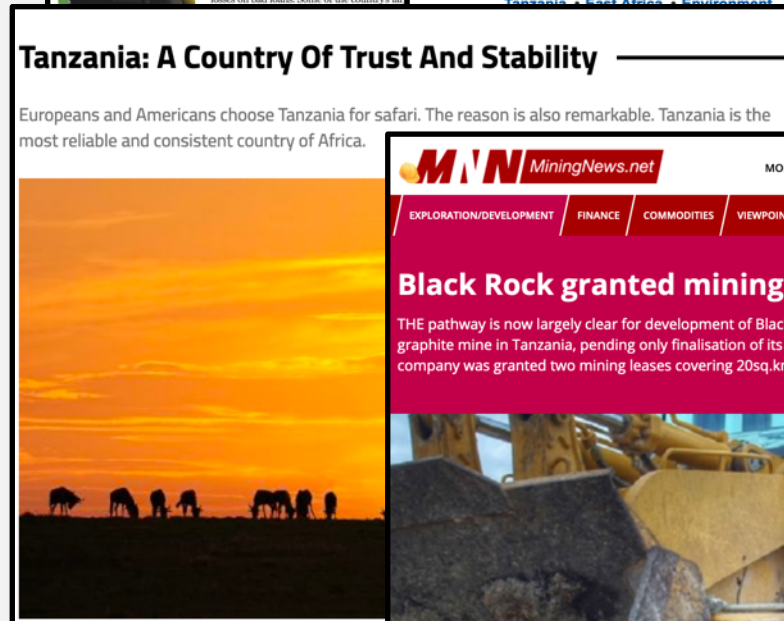
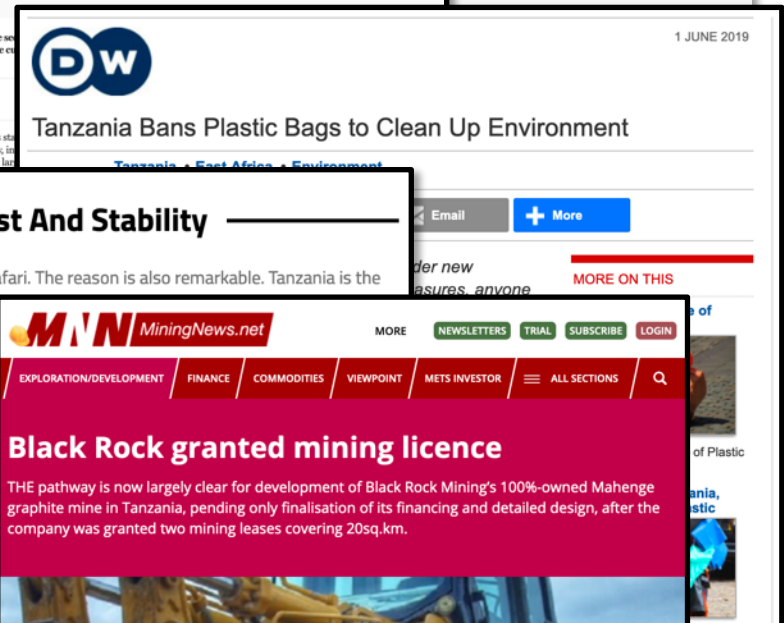
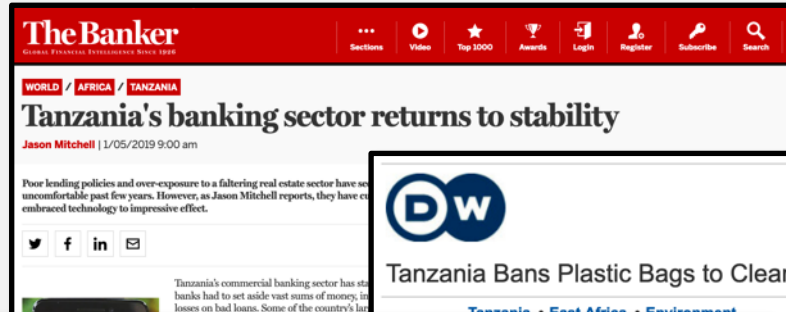
**Blended finance model is designed to leverage project advantages and match risks to participants who are best placed to manage it**





## Continued political and socioeconomic stability

- Nedbank agrees to fund Strandline mineral sands – subject to CP
- Export of processed minerals clarified
- Mining licences granted
- National banking laws consistent with Francophone Africa



# Why invest in Black Rock Mining ?



**BLACK ROCK**  
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The best undeveloped graphite project globally driven by geology and geography, **which delivers a unique product that is suitable for multiple market segments and is uncontested in the high grade sectors**



## Geology

Highest grade concentrate and flake size distribution delivers significant value in use to customers



## Geography

Low cost base driven by access to rail and major port at Dar es Salam along with direct grid power to site



## Risk Management

2 Pilot Plant runs of over 110 tonnes, enhancing DFS in progress, offtake pricing framework



## Exceptional Economics \*

CAPEX US\$115m | NPV<sub>10</sub> US\$895m | IRR 42.8% | MARGIN 63.6%

\* refer to ASX announcement dated 24 October 2018. Following release of the DFS, the Company confirms that it is not aware of any new data or information that materially affects the results of the DFS and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed



## GROWING MARKET

- Significant growth opportunities across Electric Vehicles, Clean Energy and Battery markets
- Enormous demand for Mahenge's naturally high spec graphite product
- Emerging demand for "clean" graphite



## BKT WELL POSITIONED

- Geographical advantages drive a lower production cost base
- Geological (high product spec) delivers Value in use to customers
- Modular execution driven by customer demand
- Risk Management driven Execution and Financing strategy



## EXCEPTIONAL ECONOMICS \*

- Construction underwritten by Offtake commitments underpinned with a price framework
- Strong Financial Metrics with an enhanced DFS:
  - **NPV<sub>10</sub> US\$895m**
  - **IRR 42.8%**
  - **Margin 63.6%**



**BLACK ROCK**  
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# About Black Rock Mining



**BLACK ROCK**  
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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 250k tonnes of graphite per annum for 25 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 demonstrating exceptional financial metrics including:

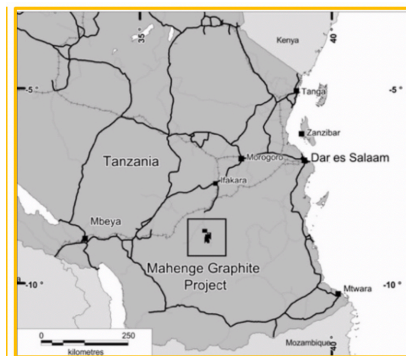
- Low Capex: Lowest peak capital expenditure of US\$115M for phase one;
- High Margin: AISC margin of 63.6%;
- Low Technical Risk: Substantial pilot plant operations run of 110 tonnes; and
- Superior Economics: IRR of 42.8% with NPV10 of US\$895m

Following release of the DFS, the Company confirms that it is not aware of any new data or information that materially affects the results of the DFS and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. In January 2019 the Company announced it had substantially sold out of production with up to 205k tonnes per annum of graphite committed to sale by year three of production, through binding agreements to enter into offtake agreements. In February 2019 it also announced receipt of its mining licence for the DFS project.

The Company is currently progressing financing discussions and detailed engineering including an optimised DFS with a view to commencing construction of the mine in 2019

## 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
<b>Total Ore Reserves</b>	<b>70</b>	<b>8.5</b>	<b>6.0</b>
Mineral Resources			
- Measured	25.5	8.6	2.2
- Indicated	88.1	7.9	6.9
<b>Total M&amp;I</b>	<b>113.6</b>	<b>8.1</b>	<b>9.1</b>
- Inferred	98.3	7.6	7.4
<b>Total M, I&amp;I</b>	<b>211.9</b>	<b>7.8</b>	<b>16.6</b>



Location of Black Rock's Mahenge Graphite Project in Tanzania

For further information on  
Black Rock Mining Ltd, visit

[www.blackrockmining.com.au](http://www.blackrockmining.com.au)