FOSTER STOCKBROKING

EQUITY RESEARCH
Mining

13 September 2017

Black Rock Mining Limited (BKT.ASX)

Optimised PFS reaffirms Mahenge quality

Event:

- **Optimised PFS; battery test results; updated Resource; CEO appointment.**

Investment Highlights:

- **BKT is an ASX listed graphite play with a high grade resource in Tanzania.**
- **The company has released its optimised PFS enabling modularity and flexibility in approach.** BKT now contemplate a three stage development of the Mahenge asset to produce 250ktpa concentrate at steady state (project year 5), instead of a two-stage for 163ktpa.
- The company has **maintained initial capital development cost of US$90.1M**, the lowest pre production capex of East African peers with 100+ktpa production. The latter two stages will be self funded from early year project cash flows out of Mahenge.
- **Tanzanian government negotiations due to be finalised; the time frame is within the next two months**, although any earlier notification of sovereign certainty will be a positive for BKT.
- Announced appointment of **John de Vries as CEO**, previously Acting CEO, and with deep experience in various resource projects across the world, including in Africa.
- **The company released battery test results confirming Mahenge graphite allows more stable lithium-ion batteries at a lower cost and longer cycle life,** confirming the graphite quality at Mahenge.

Earnings and Valuation:

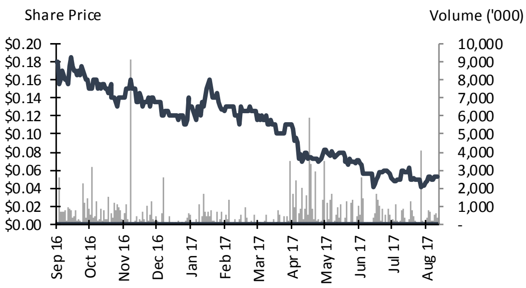
- We have an increased **unrisked valuation of A$1,152M for the Mahenge asset** (previously A$974M), as a result of the additional third module and increased production, and in spite of the assumed 16% free carried interest to the Tanzanian Government and increased royalty rate of 4.3%.
- **We have a revised valuation of $0.13 per share (previously $0.25/sh),** as a result of a change to a 100% equity finance assumption and increased risk due to Tanzanian Government uncertainty, and despite the increased unrisked valuation increase due to the contemplated production uplift.
- **We have added to our risk factor as the company negotiates a State Agreement with the Tanzanian Government**, although we note certainty surrounding this will be a positive catalyst for the company in the short term. Even with the assumed 16% free carry and increased royalty rate, the Mahenge project is attractively valued.

Recommendation:

- **We maintain coverage with a Speculative Buy recommendation and a 12-month price target of $0.13 per share** (previously $0.25/sh), in line with our DCF valuation but note the upside potential should a State Agreement be negotiated with the Tanzanian Government.
- **Catalysts for the share price** include: primarily the State Agreement or equivalent certainty from the Tanzanian Government to enable BKT to develop the asset further.

Recommendation				**Speculative Buy**
Previous				Speculative Buy
Risk				Very High
Price Target				$0.13
Previous Target				$0.25
Share Price (A$)				**$ 0.053**
ASX Code				BKT
52 week low - high (A$)				0.041-0.185
Capital structure				
Shares on Issue (M)				365
Market Cap (A$M)				**19**
Net Cash/(Debt) (A$M)				2
EV (A$m)				**17**
Options on issue (M)				57
12mth Av Daily Volume ('000)				589
Forecasts	**2016a**	**2017e**	**2018e**	**2019e**
Revenue A$M	0.0	0.0	0.0	0.0
EBITDA, A$M	-1.6	-1.8	-2.3	-2.9
NPAT, A$M	-1.6	-1.8	-2.3	-2.9
EPS, cps	-0.6	-0.4	-0.4	-0.1
PER, x	nm	nm	nm	nm
EV/EBITDA, x	nm	nm	nm	nm
Board				
Mr Stephen Copulos				Non-Executive Chairman
Mr John de Vries				Managing Director
Mr Gabriel Chiappini				Non-Executive Director
Major Shareholders				
Copulos Group				25.7%

Share Price Graph



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The analyst owns no BKT shares.

Foster Stockbroking is mandated to assist BKT with capital markets advisory services, and has received options as consideration for these services.

Black Rock Mining (BKT)

Full Year Ended 30 June

Profit and Loss A$M	2016a	2017e	2018e	2019e
Sales	0.0	0.0	0.0	0.0
Operating Costs	1.6	1.8	2.3	2.9
Underlying EBITDA	**-1.6**	**-1.8**	**-2.3**	**-2.9**
D&A	0.0	0.0	0.0	0.0
Underlying EBIT	**-1.6**	**-1.8**	**-2.3**	**-2.9**
Net Interest exp / (income)	0.0	0.0	0.0	0.0
Profit before tax	**-1.6**	**-1.8**	**-2.3**	**-2.9**
Tax exp / (benefit)	0.0	0.0	0.0	0.0
Underlying NPAT	**-1.6**	**-1.8**	**-2.3**	**-2.9**
Non-recurring exp. (benefit)	-0.2	0.0	0.0	0.0
Reported NPAT	**-1.3**	**-1.8**	**-2.3**	**-2.9**
Underlying EPS diluted (cps)	**-0.64**	**-0.43**	**-0.36**	**-0.09**

Financial Metrics	2016a	2017e	2018e	2019e
Sales growth %	nm	nm	nm	nm
EPS growth %	-11%	-33%	-17%	-76%
EBITDA margin	nm	nm	nm	nm
EBIT margin	nm	nm	nm	nm
Gearing (ND/ND+E)	-31%	-15%	-16%	-1%
Interest Cover (EBIT/net int)	133x	155x	123x	282x
Average ROE %	-16%	-14%	-12%	-3%
Average ROA %	-15%	-14%	-11%	-3%
Wtd ave shares (M)	247	365	578	3,348
Wtd ave share diluted (M)	247	421	631	3,356

Cashflow A$M	2016a	2017e	2018e	2019e
Underlying EBITDA	-1.6	-1.8	-2.3	-2.9
Change in WC	0.3	-0.1	0.1	0.1
Tax paid	0.0	0.0	0.0	0.0
Other	0.4	0.0	0.0	0.0
Net interest	0.0	0.0	0.0	0.0
Share based payments	0.0	0.0	0.0	0.0
Operating Cashflow	**-0.9**	**-1.9**	**-2.1**	**-2.7**
Purchase of PP&E	0.0	0.0	0.0	-122.8
Investments	0.2	0.3	0.3	0.3
Other	-4.0	-5.6	-7.0	-7.0
Investing Cashflow	**-3.8**	**-5.3**	**-6.7**	**-129.5**
Equity issue	5.0	7.1	10.0	130.0
Debt proceeds	0.0	0.0	0.0	0.0
Debt repayments	0.0	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0
Other	-0.4	-0.3	0.0	0.0
Financing Cashflow	**4.6**	**6.8**	**10.0**	**130.0**
Net Cashflow	**0.0**	**-0.3**	**1.2**	**-2.2**

Sales and earnings multiples	2016a	2017e	2018e	2019e
P/E x	**nm**	**nm**	**nm**	**nm**
EV/EBITDA x	nm	nm	nm	nm
EV/EBIT x	nm	nm	nm	nm
Dividend yield %	0.0%	0.0%	0.0%	0.0%

Capital structure	M
Ordinary shares	364.7
Options and rights	56.7
Fully diluted shares	**421.4**

Company Valuation	Unrisked,	Unrisked, A$/sh	Risk Factor	Risked, A$M	Risked, A$/sh
Mahenge	1,151.9	$0.35	40%	460.8	$0.14
Corporate	-74.1	-$0.02	100%	-74.1	-$0.02
Cash from equity raises	140.0	$0.04	40%	56.0	$0.02
Cash	2.1	$0.00	100%	2.1	$0.00
Cash fr options, OTM at valuation	0.0	$0.00	100%	0.0	$0.00
Valuation, DCF, WACC 10%, nominal	1,219.8	$0.37		444.7	**$0.13**
Ordinary shares					364.7
Options, ITM at valuation					34.0
Shares from equity raise					2,935.0
Fully diluted shares					**3,333.7**

Balance Sheet A$M	2016a	2017e	2018e	2019e
Cash	2.4	2.1	3.2	1.0
Receivables	0.0	0.0	0.0	0.0
Inventories	0.0	0.0	0.0	0.0
PPE	0.0	0.0	0.0	122.8
Capitalised exploration	7.6	13.2	20.2	27.2
Intangibles	0.0	0.0	0.0	0.0
Total Assets	**10.6**	**16.3**	**24.8**	**152.4**
Accounts payable	0.5	0.4	0.5	0.7
Provisions	0.0	0.2	0.2	0.2
Debt	0.0	0.0	0.0	0.0
Other	0.0	0.4	1.1	1.4
Total Liabilities	**0.5**	**0.9**	**1.7**	**2.2**
Reserves and capital	42.2	49.4	59.4	189.4
Retained earnings	-32.2	-34.0	-36.2	-39.1
Minorities	0.0	0.0	0.0	0.0
Total Equity	**10.0**	**15.4**	**23.1**	**150.2**

Commodity Assumptions	2016a	2017e	2018e	2019e
Prices				
Graphite, 98-99% TGC, US$/t	1241	1241	1241	1241
AUD/USD	0.75	0.74	0.74	0.74
Production				
Graphite shipments, Mt	0.0	0.0	0.0	0.0
C1 costs, US$/t	0.0	0.0	0.0	0.0
C3 costs, US$/t	0.0	0.0	0.0	0.0

Source: Company; Foster Stockbroking estimates

MAHENGE PROJECT – OPTIMISED PRELIMINARY FEASIBILITY STUDY

- BKT released an optimised preliminary feasibility study (PFS) on 8 August. We continue to hold the view that the quality of the Mahenge Project has given management the flexibility to adopt a modular approach to the development of the asset, even in the face of current Tanzanian legislative uncertainty.

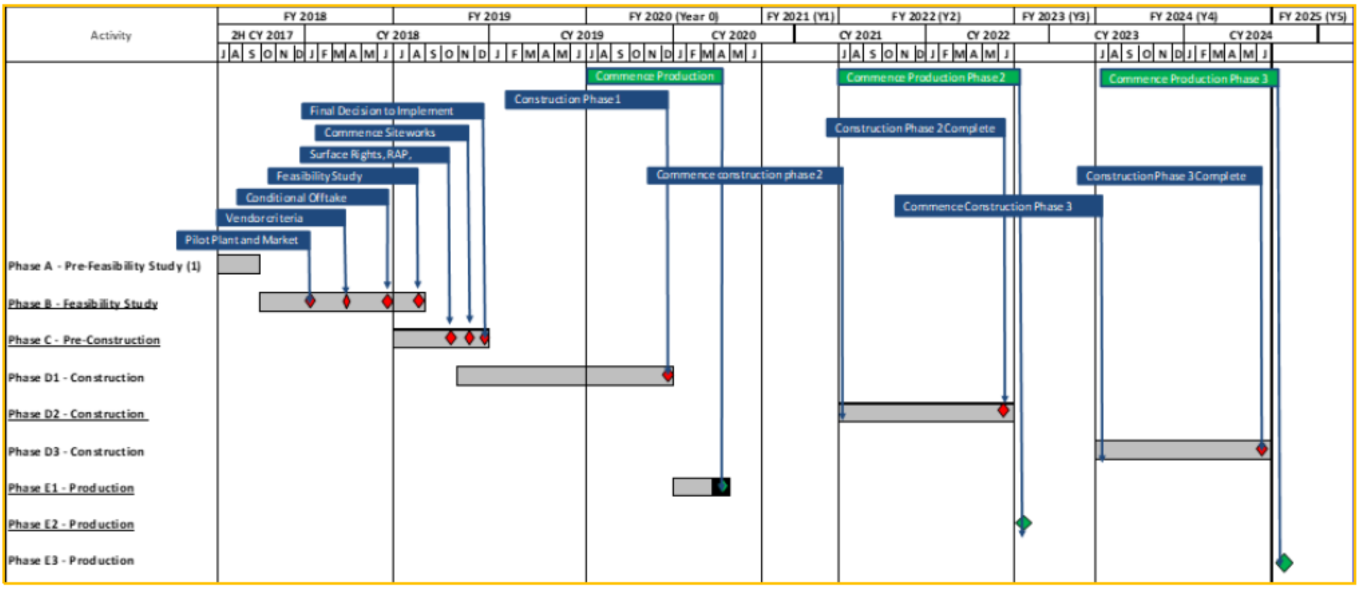
Key Updates to the Preliminary Feasibility Study

- The key updates from the Mahenge Project optimised PFS are as follows:
- BKT are now planning a three-stage construction to deliver 250ktpa of 98.5% graphite concentrate for 31 years. Mahenge was initially conceived as a two stage construction to deliver 167ktpa. BKT envisage stages two and three to be funded from Mahenge Project free cash. Stage two will be operational from year 3 of the project, as before, while stage three will be operational two years after that.
- Steady state operating costs will be reduced to US$378/tonne from US$382/tonne. Steady state will be from year 5 of the project because of the three-stage development of the asset.
- BKT has retained a US$1,241 per tonne basket price assumption, which is based on a three year trailing FOB China price, and a $100/t premium per 1% of concentrate above 95%.
- Ore Reserves increased to 69.6M tonnes at 8.5% TGC, which will contribute to 80% planned mill feed. Reserves had been previously reported as 48.3Mt at 8.7% TGC. Global Resource had previously been updated in July 2017 to 212Mt at 7.8%.
- BKT has released financial metrics to incorporate a 16% Tanzanian Government free carried interest and increased royalty rate. The post tax unlevered project NPV_{10} for Mahenge Project is US$905M (nominal). Management estimate a post tax unlevered IRR of 45.1%.
- Initial development capital (for stage 1) remains unchanged at US$90.1M, including a 15% contingency. The development capital for Stage 2 is US$72.2M (real). Stage 3 development capital is forecast to be US$81.7M (real). The latter two stages are expected to be funded from project cash flow.

THIRD PLANT MODULE AT CASCADES ADDED

- Stage 1 will still include a 1 Mtpa processing plant and infrastructure to produce up to 83ktpa graphite concentrate for the first two years of production, with first production now scheduled from April 2020 (Q4 FY20e) instead of September 2019.
- Stage 2 will include a second 1Mtpa plant and additional infrastructure doubling both throughput to 2Mtpa and graphite concentrate production to 167ktpa, with production commencing from July 2023 (Q1 FY24e; previously Q2FY22e). Both stage 1 and 2 processing plants will be located at the Ulanzi pit.
- A third stage has been added in the optimised PFS. There will be a third 1Mtpa processing plant and infrastructure located at Cascades pit to produce an additional 83ktpa graphite concentrate; production is expected to commence July 2025 (Q1 FY26e).
- The Ulanzi pits will be mined first, and mining at Cascade pit has been brought forward to year 5 of the project, and coincides with the development of the Stage 3 plant.

Figure 1: Mahenge Project Schedule



Source: Company, optimised PFS August 2017.

Capital Expenditure

- Pre-production capital expenditure remains unchanged at US$90.1M, and includes a 15% contingency.
- Total capex is now estimated at US$244M, compared to US$159M in the April 2017 PFS, as a result of an additional third module. Stage 2 capex is expected to be US$72.2M (real), and Stage 3 capex is US$81.7M (real), and both are expected to be funded from project cash flow.

Operating Costs

- Operational expenditure (C1 costs) at full production is estimated to be US$378/t of graphite product (excluding royalties). The previous estimate for operational expenditure was US$382/t. Steady state production is now expected in year 5 of the project.
- Opex costs per tonne of production are among the lowest in its peer group due to low strip ratio, large flake size, excellent purity to minimise processing costs, and high total graphite content across the Resource. The lower mining and processing costs are partially offset by higher logistics costs due to distance from port.
- Updated estimates from the optimised PFS are broken down in the following Figure.

Figure 2: Operating Cost FOB Estimate Summary

Annual Operating Costs	Avg Total, US$M pa	Total Cost, %	Feed, US$/t	Product, US$/t
Mining	19.6	23.7%	7.01	89.5
Reagents, Consumables, & Water	13.5	16.3%	4.84	61.8
Fuel	0.3	0.4%	0.12	1.5
Power	8.4	10.1%	2.99	38.2
Product Logistics	25.6	30.9%	9.16	117
General & admin	3.9	4.7%	1.39	17.7
Maintenance	2.4	3.0%	0.87	11.2
Employees	8.2	9.9%	2.94	37.6
Other Expenditure	0.8	1.0%	0.29	3.8
Total	**82.9**	**100.0%**	**29.63**	**378.3**

Source: Company, optimised PFS August 2017, Foster Stockbroking estimates.

- Costs per tonne of product are broadly similar for mining and logistics compared to the April PFS. Greater granularity has been provided for processing costs and general and administrative costs.

Mahenge Project Basket Price

- BKT have retained an average basket price of graphite products of US$1,241/t. Among East African peers, the observed basket price assumption is still a range of US$798/t up to $2,350/t and an average of US$1,346/t. BKT has adopted a conservative basket price when compared both to the peer average and highest peer.
- The basket price construction uses three year trailing historical FOB China prices, with a US$30/t freight normalisation penalty to replicate FOB Dar Es Salaam. A US$100 premium per percentage above 95% TGC has been applied.

Figure 3: Basket prices and NPV

Screen size	FOB China 3 year trailing price investment case US$/t FOB DAR	FOB China 3 year amended fines reserve case US$/t FOB DAR	East African peer average US$/t FOB DAR	Highest peer US$/t FOB DAR
500 µm	2,235	2,235	3,527	3,948
300 µm	1,676	1,676	2,237	2,664
180 µm	1,287	1,287	1,522	1,894
150 µm	1,144	1,144	1,020	1,701
75 µm	998	898	821	1,220
-75 µm	892	568	568	1,027
Basket Price LoM	**1,241**	1,174	1,346	1,777
Basket Price Ulanzi	1,201	1,123	1,261	1,694
Basket Price Cascade	1,281	1,226	1,435	1,862
NPV_{10}, post tax, US$M	1,114			
IRR, post tax	49.4%			
NPV_{10}, post tax, incl. 16% free carry, 4.3% royalty, US$M	**905**			
IRR, post tax, incl. 16% free carry, 4.3% royalty	45.1%			

Source: Company, optimised PFS August 2017.

- The Mahenge Project has an after tax NPV_{10} of US$1,114M (optimised PFS estimate), with an after tax IRR of 49.4%, at the conservative basket pricing of USD1,241/t. The previous Mahenge Project NPV_{10} from the April 2017 PFS was US$624M (after tax and real).
- BKT has also estimated an after tax NPV_{10} of US$905M assuming a 16% free carried interest to the Tanzanian Government and an increased royalty rate of 4.3%, including a 1% inspection fee. The IRR under this assumption is 45.1%.

Basket Price Assumption Sensitivity

- BKT has provided a sensitivity analysis showing the project NPV_{10} and IRR in two scenarios. First, the project is not subject to free carry, and secondly the project is subject to 16% free carry and inspection fee (i.e. increased royalty rate).

Figure 4: Basket Price Assumption Sensitivity

	No Free Carry		16% Free Carry + Inspection	
Basket Price Assumption, US$/t	NPV_{10}, US$M	IRR, %	NPV_{10}, US$M	IRR,%
+400	1,735	69.1	1,421	62.8
+200	1,425	59.7	1,163	54.0
Base	1,114	49.4	905	45.1
-200	804	40.1	648	36.0
-400	494	29.5	390	26.6

Source: Company; nominal NPV_{10} figure.

MAHENGE PROJECT – FOSTER STOCKBROKING ASSUMPTIONS

- We have updated our assumptions and key metrics for the Mahenge Project, which are outlined in the figure below.
- Key assumptions include:
  - Long term A$ assumption of US$0.75.
  - 10% WACC, cash flows modelled in nominal terms with long term inflation of 2.5%.
  - Mine life of 32 years, with steady state production reached in year of the project (FY25e).
  - Steady state C1 costs of US$379t concentrate.
  - Steady state all in costs of US$478/t concentrate.
  - Unless otherwise noted above, operational assumptions are consistent with BKT's PFS assumptions.
  - We have assumed a 16% free carried interest to the Tanzanian Government in anticipation of a State Agreement to be finalised between the company and the government.
  - We have an increased royalty rate of 4.3%.

Figure 5: Mahenge Project Key Metrics and Assumptions

Mahenge Project		**Stage 1**	**Stage 2**	**Stage 3**	**Total**
Year		Q4 FY20e	FY23e	FY25e	
Project Year Start		0	3	5	
Nominal Mine Life	Years	31	29	27	32
Process Throughput	ktpa	1,000	1,000	1,000	3,000
Nominal Ore Treated	Mt	31	29	26	86
Average Feed Grade	TGC%	8.1%	8.1%	8.5%	8.3%
Nominal Strip Ratio		0.4	0.4	1.1	0.7
Recovery	%	93%	93%	93%	93%
Nominal Concentrate Grade	%	98-99%	98-99%	98-99%	98-99%
Nominal Graphite Production	ktpa	83	83	83	250
Capital Cost	US$M, real	90.7	72.2	81.7	243.7
Total Concentrate Sales	kt	3,265	5,142	6,738	6,738
Cash Costs	US$/t, real	513	382	378	378

Source: Company, optimised PFS, Foster Stockbroking estimates.

- We have updated Mahenge Project cash flows for the first five years of production and tabled in the figure below. The company expect to reach steady state production in year 5 of the project, or FY25e (refer final column in Figure 6).

Figure 6: Mahenge Project Cash Flows, First Six Project Years Only

Mahenge Project, BKT 100% Y/e June	**Unit**	**2019e**	**2020e**	**2021e**	**2022e**	**2023e**	**2024e**	**2025e***
Commodity assumptions, FOB Dar Es Salaam Port								
Basket price, graphite	US$/t	1241	1241	1241	1272	1304	1336	1370
A$	US$	0.74	0.74	0.74	0.74	0.75	0.75	0.75
Ore mined	**Mt**	**0.0**	**0.3**	**1.0**	**1.0**	**2.0**	**2.0**	**3.2**
Production								
Graphite conc., 98.5%	**kt**	**0**	**21**	**83**	**80**	**164**	**164**	**253**
Cashflow:								
Revenue								
Graphite conc. sales (A)	A$M	0	35	140	137	286	293	464
Unit costs per conc. sold, FOB								
C1 costs	US$/t		403	470	477	353	356	379
C2 costs (C1 + royalties)	US$/t		456	524	532	409	413	438
Total cash costs	**A$M**	**2**	**13**	**59**	**57**	**90**	**91**	**149**
EBITDA	**A$M**	**-2**	**22**	**81**	**80**	**196**	**203**	**316**
All-In-Sustaining (C2 + sust capex)	US$/t		552	546	557	409	426	478
All-In-Sustaining Costs (B)	**A$M**	**2**	**16**	**61**	**60**	**90**	**93**	**162**
Pre-production capex (C)	**A$M**	**123**	**0**	**0**	**107**	**0**	**126**	**0**
Chng In Working Capital (D)	**A$M**	**0**	**2**	**5**	**0**	**10**	**1**	**9**
Tax (E)	**A$M**	**0**	**4**	**18**	**17**	**47**	**49**	**74**
Free carried interest (F)	**A$M**	**0**	**4**	**13**	**13**	**31**	**32**	**51**
Net Free Cashflow (A-B-C-D-E-F)	**A$M**	**-124**	**9**	**42**	**-60**	**108**	**-7**	**168**
NPV Post-Tax (10%, nominal)**	**A$M**	**$1,152**						

Source: Company, optimised PFS, Foster Stockbroking estimates.
** FY25e first full year of steady state production.*
*** NPV based on 32 year mine life.*

MAHENGE PROJECT VALUATION – A$1,152M UNRISKED

Mahenge Unrisked Valuation of A$1,152M

- We have derived an unrisked, nominal, after-tax NPV_{10} of A$1,152M using a DCF analysis for the Mahenge Project. We have used some approximate and conservative assumptions which we expect will be further refined post the company's release of its DFS results.
- We have modelled Mahenge using a DCF with similar assumptions outlined in the optimised PFS by BKT. Our basket price assumption is US$1,241/t, and we have modelled a 32 year mine life, with steady state production assumed in project year 5. We have included the 16% free carried interest to the Tanzanian government and a royalty rate of 4.3%. We note the strong valuation even in spite of the free carry and increased royalty rate.
- We assume Mahenge will commence production in Q4FY20e, assuming that the company achieves a number of milestones in the interim, which are not without risk. The primary risk to be overcome is certainty of the project, which will hopefully be ascertained by an upcoming State agreement with the Tanzanian government. Other risks include a completed DFS demonstrating attractive economics within twelve months, associated permitting, licensing, financing, and commencement of the construction phase.
- We have arrived at an unrisked NPV of A$1,152M in line with the US$905M, or ~A$1,200M we have estimated from the US$905M nominal NPV_{10} of the optimised PFS. Our previous unrisked NPV was A$974M. The increase in unrisked NPV is primarily due to the addition of a third module to enable increased production of 250ktpa from 163ktpa.

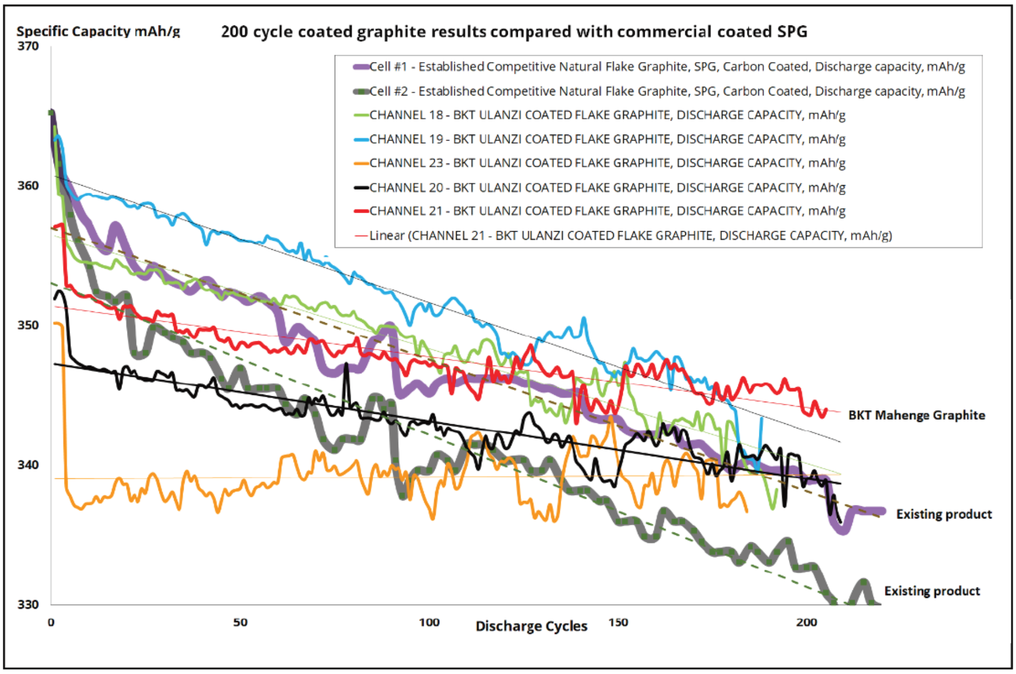
TANZANIAN MINING LEGISLATION AND SOVEREIGN FISCAL METRICS

- The company is now anticipating the Tanzanian Government will levy an increased royalty rate of 4.3% (from 3.3%), and includes a 1% inspection fee.
- Tanzanian legislation changes announced on 12 July 2017 propose a 16% free carried interest to projects within Tanzania.
- The company is currently negotiating a State Agreement for the Mahenge Graphite Mine to override certain elements of the new legislation, and to provide a higher level of certainty to the market as to the project's feasibility. The negotiation process will cover options on the free carried interest, royalty rate, and fiscal stimulus options.
- Negotiations are on foot, and the company expects to finalise some legislative certainty to enable the project's success. The time line for the announcement of a State Agreement is uncertain at this stage, however the company anticipates progress and finalisation within the next two months.

MAHENGE GRAPHITE BATTERY TEST RESULTS CONFIRM SUPERIOR QUALITY

- The company recently released excellent test results for batteries using Mahenge Graphite Project graphite.
- Two hundred cycle battery test results confirm Mahenge 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.
- The batteries with Mahenge graphite strongly outperform commercially available products, and the company believes the Mahenge graphite batteries have the ability to establish a new performance benchmark of natural graphite in the battery market.
- Mahenge Graphite has the potential for performance and cost advantages over synthetic graphite in LIBs.
- BKT has reported strong interest from battery manufacturers continues to grow with strong results from test work.
- Extended battery performance testing is consistent with the strategy of derisking the company's market of its product through demonstrating outperformance.

Figure 7: Discharge curves of Mahenge test cells



Source: Company.

BKT VALUATION

- We value BKT at an unrisked NPV of A$1,220M and risked at A$445M, or A$0.37/share and A$0.13/share, respectively. Our company valuation is underpinned by our DCF valuation for the Mahenge project, with an after tax NPV of A$1,152M.
- We have applied a 40% risk factor to our valuation, changed from 50% to reflect the current increased uncertainty, and anticipate a reduction in the risk factor on the announcement of a Tanzanian government State Agreement.
- We anticipate further risk reductions as the company achieves milestones including a release of DFS demonstrating attractive economics, finalisation on permitting, licencing, financing, and entering the construction phase.
- We now assume a 100% equity finance of the preproduction capex of A$123M required in FY19, as well as $10M equity raise to complete DFS and permitting, licencing, and preparatory works. We have assumed an equity raise at 10% discount to a 5.3cps share price. We had previously assumed a 30%:70% debt:equity finance at a 10% discount to a 7.5cps share price.

Figure 8: Valuation of BKT

Company Valuation	**Unrisked, A$M**	**Unrisked, A$/sh**	**Risk Factor**	**Risked, A$M**	**Risked, A$/sh**
Mahenge	1,151.9	$0.35	40%	460.8	$0.14
Corporate	-74.1	-$0.02	100%	-74.1	-$0.02
Cash from equity raises	140.0	$0.04	40%	56.0	$0.02
Cash	2.1	$0.00	100%	2.1	$0.00
Cash fr options, ITM at valuation	0.0	$0.00	100%	0.0	$0.00
Valuation, DCF, WACC 10%, nominal	$1,220	$0.37		$445	**$0.13**
Ordinary shares, M					364.7
Options, M					34.0
Shares from equity raise, M					2,935.0
Fully diluted shares, M					**3,333.7**

Source: Foster Stockbroking estimates.

- We estimate the company currently has cash of $2.1M with no debt.
- We have included 34.0M of the 47.3M options that are in the money at our risked valuation in our diluted share capital, as well as the cash accruing from them. Strike prices vary from $0.075 to $0.20 and expiry of the options vary from November 2018 to April 2020.

BKT EARNINGS FORECASTS

- We maintain our forecasts that BKT will make a loss in FY17e of -$1.8M, with similar results in FY18e and FY19e, until first production (one quarter) scheduled for FY20e. In FY20e we forecast NPAT of $19.6M arising out of first production out of Mahenge.
- Our earnings forecast now assume a combination of full equity financing to fund pre production capex for Mahenge. We believe other options may be available to BKT, especially from interested offtake partners.

VALUATION – REDUCED TO $0.13 PER SHARE

- We have a valuation of $0.13 per share for BKT, based on a DCF valuation. Our valuation has been reduced from $0.25 per share due to an increase in risk factor, and the dilutive effect of an all equity assumption for pre production capex of US$90M (previously 70:30 equity:debt finance assumption, and now at a decreased issue price of 5.3cps).

RISKS

- Overall risks are very high given the early stage of asset development, and pre earnings stage of the business life cycle. Four key risks include changes in the legislative framework of Tanzania render the project unable to be financed or unprofitable; delays that extend beyond the anticipated window of market place opportunity; funding sources may not be forthcoming following a feasibility study; the market does not attach adequate value to graphite.
- Risks to our view include key person risk, technology risk, competition risk, channel partner risk, single product risk, customer risk, security breach and data privacy risk, funding risk, dilution risk, and currency risk.

MAINTAIN SPECULATIVE BUY RECOMMENDATION, PRICE TARGET REDUCED TO $0.13

- **We maintain coverage with a Speculative Buy recommendation and a reduced 12 month price target of $0.13 (previous $0.25), in line with our risked DCF valuation.** We maintain the view the Mahenge Project has the potential to be a world class asset due to its long life, high purity, low cost graphite product, overlaid by a positive macro theme drive by electric vehicle demand for the next several years. This view is subject to the viability of the project in the face of Tanzanian legislative uncertainty, which confirmation will determine whether project proceeds at the optimised PFS parameters.
- **We continue to believe the stock is attractively priced at current levels, with the unrisked valuation in significant contrast to the risked valuation** due to sovereign risk concerns and risks associated with further development of the asset. Should the company sort these issues out and have greater certainty over the development of the asset we believe there is a potential for large upside due to the quality of the underlying asset.
- We see the following as **critical catalysts for the company**: 1) confirmation of Tanzanian Government legislation, either through a State Agreement at terms broadly in line with those already disclosed by the company; associated financing, commencement of the construction phase and proceeding to development of the asset.

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