

Base Resources Limited

Non-Energy Minerals – Rutile (Rt), ilmenite (FeTiO₃), Zircon (Zr)

BSE A\$0.27

Base Resources Limited (BSE) is an Australian based, African focused, mineral sands producer and developer with a track record of project delivery and operational performance. The company operates the established Kwale Operations in Kenya and is developing the Toliara Project in Madagascar. Base Resources is an ASX and AIM listed company.

Company Data

Number of shares	1,178.0M
Market Capitalisation (\$m)	318.1
Free float (%)	68.0
12-month high/low	\$0.355/\$0.255
Average Daily Turnover (\$m)	0.3
% S&P/ASX200	0.017%
DDM Ranking	457
% All Ordinaries	0.014%
GICS Industry Group	Mining

Source: FactSet, BPC

Mineral Resource

Kwale North Mineral Resource

171Mt @ 1.5% HM, 37% SL & 1.8% OS for 2.6Mt HM

Bumamani Mineral Resource

5.9Mt @ 1.9% HM, 21% SL & 3.8% OS for 0.115Mt HM

Ranobe Mineral Resource

2,580Mt @ 4.3% HM, 7.7% SL & 0.4% OS for 111Mt HM

Kwale North Ore Reserve

13.9Mt @ 2.1% HM, 37% SL & 1.2% OS for 0.29Mt HM

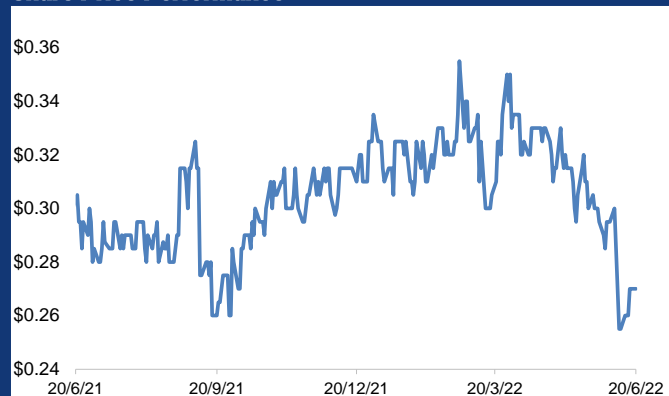
Bumamani Ore Reserve

3.9Mt @ 2.3% HM, 19% SL & 3.2% OS for 0.091Mt HM

Ranobe Ore Reserve

904Mt @ 6.1% HM, 3.8% SL & 0.1% OS for 55Mt HM

Share Price Performance



Source: FactSet, Barclay Pearce Capital

Decision to proceed with the Bumamani Project

On 20th of June 2022, Base Resources Limited (BSE) announced an update at its Bumamani Project with the following highlights:

Highlights:

- A decision to proceed with development of the Bumamani Project has been made after a definitive feasibility study (the Bumamani DFS) confirmed its economic viability;
- This will extend the life of Kwale Operations by 13 months to December 2024, once land access arrangements are finalised;
- The Bumamani Project comprises higher-grade subsets of the Bumamani and Kwale North Dune deposits and the Bumamani DFS confirmed the viability of mining these areas concurrently with the Kwale South Dune deposit;
- Mining at the Kwale North Dune is expected to commence in March 2023;
- An additional 17.9 million tonnes of Ore Reserves are expected to be mined to produce an estimated 42,000 tonnes of rutile, 171,000 tonnes of ilmenite and 20,000 tonnes of zircon;
- Proceeding with the Bumamani Project is a significant further step towards extending mine life at Kwale Operations and maintaining operational continuity, providing additional time to develop other opportunities in Kenya and the region;
- Production guidance released for FY23, incorporating mining of the Bumamani Project:
 - Rutile – 62,000 to 73,000 tonnes;
 - Ilmenite – 260,000 to 310,000 tonnes;
 - Zircon – 22,000 to 27,000 tonnes.
- Maiden Kwale North Dune and Bumamani Ore Reserves estimates underpin the Bumamani definitive feasibility study;
- North Dune Ore Reserves estimate is 13.9Mt at an average HM grade of 2.1% for 0.29Mt of contained HM;
- Bumamani Ore Reserves estimate is 3.9Mt at an average HM grade of 2.3% for 0.09Mt of contained HM.

BPC comments:

- The Bumamani DFS confirmed the viability of mining Bumamani and Kwale North Dune deposits concurrently with the Kwale South Dune deposit. An additional 17.9 million tonnes of Ore Reserves are expected to be mined to produce an estimated 42,000 tonnes of rutile, 171,000 tonnes of ilmenite and 20,000 tonnes of zircon.

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20 June 2022

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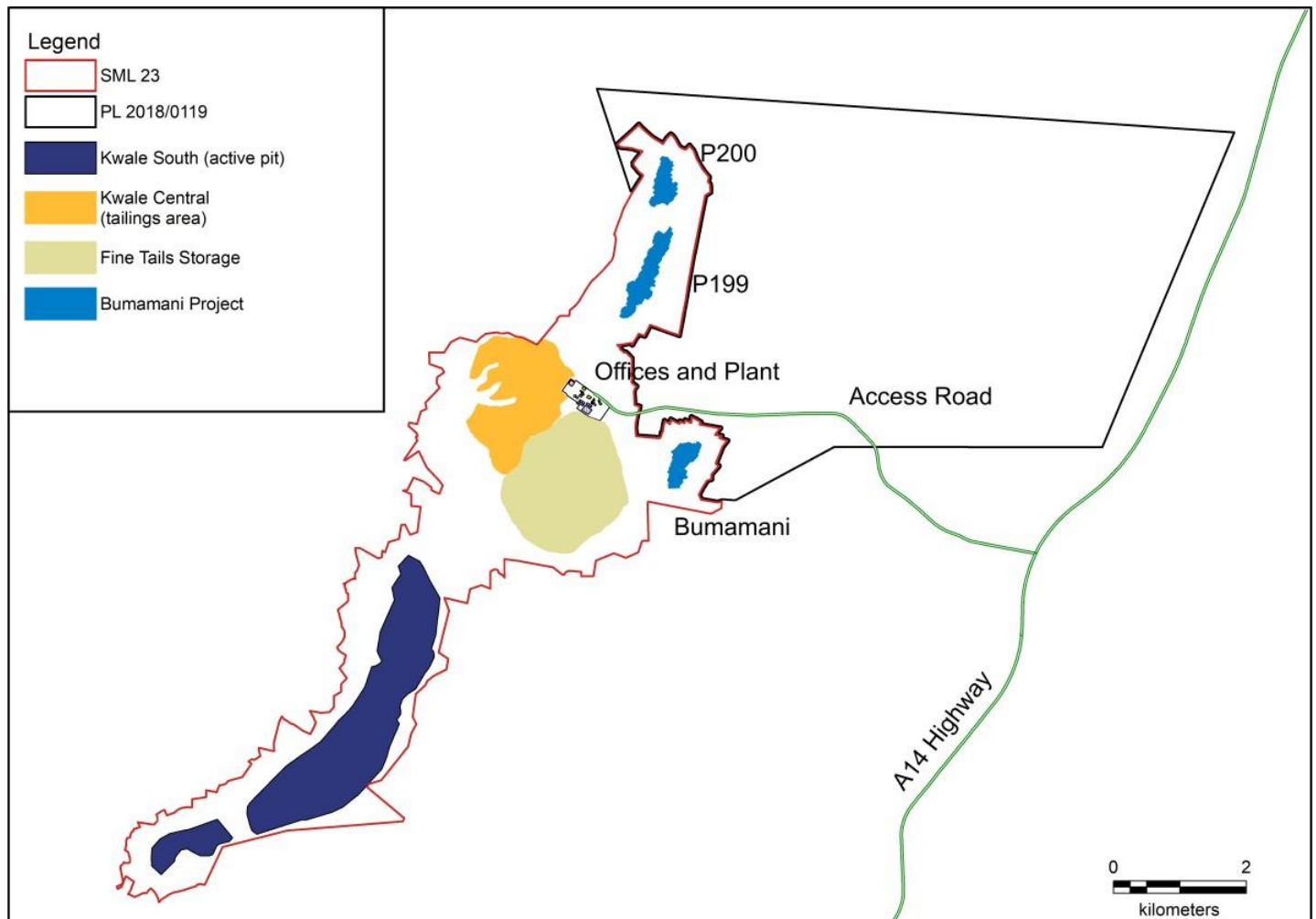
Appendix A.

Production Guidance

PRODUCTION GUIDANCE (tonnes)	FY22 Guidance Range	FY23 Guidance Range
Rutile	73,000 to 83,000	62,000 to 73,000
Ilmenite	310,000 to 340,000	260,000 to 310,000
Zircon	24,000 to 28,000	22,000 to 27,000

Appendix B.

Kwale Operations layout showing current mining and Bumamani Project areas



Appendix C.

Bumamani DFS key outcomes

Outcome / Assumption	Units	Bumamani DFS
Operations life extension	Months	13
Ore mined	Million tonnes	17.9
Ore Grade	% HM	2.1
Upfront capex	US\$ millions	28.1
Rutile produced	Thousand tonnes	42
Ilmenite produced	Thousand tonnes	171
Zircon produced	Thousand tonnes	20
Operating cost per tonne mined, inclusive of 5% royalty	US\$/t	4.64
Operating cost per tonne produced, inclusive of 5% royalty	US\$/t	266.38
Rutile price – average over LOM	US\$/t FOB	1,811
Ilmenite price – average over LOM	US\$/t FOB	285
Zircon price – average over LOM	US\$/t FOB	2,021
Study margin of error band	%	-5 / +15

Appendix D.

Mining and processing schedules in the Bumamani DFS compared to the mine plan without the Bumamani Project

Mining	Pit	Mining Unit	Mining Rate tph	2022			2023					2024												
				J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D			
Mine Plan without Bumamani Project	Kw Sth	HMU 1	800																					
		HMU 2	800																					
		HMU 3	800																					
Bumamani Project Mine Plan	Kw Sth	HMU 1	800																					
		HMU 2	800/400																					
		HMU 3	800																					
	P199	HMU 3	800																					
		HMU 4	400																					
	Bumamani	P200	HMU 3	800																				
HMU 4			400																					
HMU 1			800																					
		HMU 2	400																					
		HMU 3	800																					

Processing	2022			2023					2024														
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D					
Process plant operations without Bumamani Project																							
Bumamani Project process plant operations																							

Appendix E.

Bumamani DFS recovery assumptions

Description	Units	Bumamani DFS (consistent with current)
Concentrate grade	%	85.0
HM recovery – wet concentrator plant	%	79.5
Rutile recovery – wet concentrator plant	%	88.9
Ilmenite recovery – wet concentrator plant	%	90.0
Zircon recovery – wet concentrator plant	%	94.7
Rutile recovery – mineral separation plant	%	101.0
Ilmenite recovery – mineral separation plant	%	101.5
Zircon recovery – mineral separation plant	%	84.5

Appendix F.

Assumed product prices (FOB) used for estimation of the Ore Reserves

Mineral	Units	Value
Ilmenite	US\$/t	190
Rutile	US\$/t	1,400
Zircon	US\$/t	1,750

Appendix G.

Kwale North Dune Mineral Resources and Ore Reserves estimates

Category	2022 Estimate as at 20 June 2022									2021 Estimate as at 30 June 2021								
	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	HM Assemblage			Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	HM Assemblage				
						ILM (%)	RUT (%)	ZIR (%)						ILM (%)	RUT (%)	ZIR (%)		
Kwale North Dune Mineral Resources																		
Measured	106	1.6	1.5	37	1.5	40	13	5.4	119	1.8	1.5	37	1	42	13	6		
Indicated	63	0.9	1.4	37	2.1	49	14	6.1	73	1.0	1.4	37	2	50	14	6		
Inferred	2	0.0	1.2	37	2.9	49	15	6.5	2	0.0	1.2	37	3	50	15	7		
Total	171	2.6	1.5	37	1.8	44	13	5.7	194	2.9	1.5	37	2	45	13	6		
Kwale North Dune Ore Reserves																		
Proved	8.3	0.17	2.1	37	0.9	50	13	6.1	N/A									
Probable	5.6	0.12	2.1	37	1.8	53	13	5.9										
Total	13.9	0.29	2.1	37	1.2	51	13	6.0										

Appendix H.

Bumamani Mineral Resources and Ore Reserves estimates

Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)
Bumamani Mineral Resources as at 30 June 2021								
Measured	3.0	0.066	2.2	19	2.2	48	15	7.5
Indicated	2.6	0.045	1.7	23	5.2	47	16	7.7
Inferred	0.3	0.004	1.4	27	6.1	41	14	7.8
Total	5.9	0.115	1.9	21	3.8	47	15	7.6
2022 Bumamani Ore Reserves as at 20 June 2022								
Proved	2.6	0.062	2.3	19	2.2	48	16	7.5
Probable	1.3	0.029	2.2	19	5.3	48	16	7.6
Total	3.9	0.091	2.3	19	3.2	48	16	7.5

Appendix I.

Ranobe Ore Reserves and Mineral Resources (Toliara Project)

Category	Material (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	HM Assemblage as % of HM					
						ILM (%)	RUT (%)	LEUC*	ZIR (%)	MON^ (%)	GARN^ (%)
Mineral Resources estimate¹ at 27 September 2021											
Measured	597	36	6.1	4.3	0.2	74	1.0	1.0	5.9	1.9	2.2
Indicated	793	35	4.4	7.1	0.5	71	1.0	1.0	5.9	2.0	3.6
Inferred	1,190	39	3.3	9.7	0.6	69	1.0	1.0	5.8	2.0	4.3
Total	2,580	111	4.3	7.7	0.4	71	1.0	1.0	5.9	2.0	3.4
Ore Reserves estimate at 27 September 2021											
Proved	433	30	6.9	3.8	0.1	75	1.0	1.0	6.0		
Probable	472	25	5.3	3.9	0.2	72	1.0	1.0	5.8		
Total	904	55	6.1	3.8	0.1	73	1.0	1.0	5.9		

Appendix J.

Project location



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20 June 2022

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