

ASX and Media Release 3 September 2021

# **Further supporting information for Bumamani PFS**

African mineral sands producer, **Base Resources Limited** (ASX & AIM: BSE) (**Base Resources**) provides the following further supporting information in respect of the outcomes of the Bumamani pre-feasibility study announced earlier today (**Bumamani PFS**).

#### Mining method

The mining method assumed for the Bumamani PFS was hydraulic mining, utilising Kwale Operations' existing hydraulic mining units (HMUs). This mining method has been successfully used at Kwale Operations since 2017. It is non-selective, with hydraulic mining units using high pressure water jets to sluice the entire ore face, creating an ore slurry which can then be pumped to the wet concentrator plant.

### Processing method

Material mined would be processed through Kwale Operations' existing wet concentrator plant and mineral separation plant. Recovery factors assumed are the same as those currently experienced at Kwale Operations and are set out in the table below. This is supported by the metallurgical testwork carried out on the Kwale North Dune (which includes the P199 section the subject of the Bumamani PFS).

The metallurgical testwork comprised wet concentrator and mineral separation plant tests on bulk samples collected from two 61cm diameter holes drilled in the Kwale North Mineral Resource, as part of the earlier Kwale North pre-feasibility study<sup>1</sup>. One of the holes (KN091) was adjacent to the P199 section, which forms part of the Bumamani PFS. Discrete ore zones were sampled (Ore1, Ore4 and Ore5) from each hole. The samples were dried and shipped to Brisbane, Australia for processing through IHC Robbins' laboratory. Samples of the fine tailings generated by IHC Robbins were sent to Outotec Metso for thickener testwork. The results of the testwork were not materially different to the run of mine results currently being achieved from mining the Kwale South Dune deposit. No metallurgical testwork was completed on the Bumamani deposit, however, it exhibits similar characteristics (including particle size) to ore currently mined at Kwale South Dune and is expected to achieve similar processing results, including mineral recoveries, as those achieved from mining the Kwale South Dune ore. With material from the Bumamani deposit and the P199 section to be mined and processed concurrently with the Kwale South Dune deposit, product recoveries similar to those currently achieved from mining Kwale South Dune ore were assumed for the Bumamani PFS.

Description	Units	Testwork Result	Bumamani PFS (consistent with current)						
			(consistent with current)						
Concentrate grade	%	84.3	85						
HM recovery – wet concentrator plant	%	83.1	79.5						
Ilmenite recovery – wet concentrator plant	%	94.6	91.8						
Rutile recovery – wet concentrator plant	%	94.8	91.2						
Zircon recovery – wet concentrator plant	%	98.0	96.3						
Ilmenite recovery – mineral separation plant	%	N/A	100						
Rutile recovery – mineral separation plant	%	N/A	100.5						
Zircon recovery – mineral separation plant	%	N/A	84						

<sup>&</sup>lt;sup>1</sup> For further information, refer to Base Resources' market announcement on 1 April 2021 "Kwale North Dune PFS outcomes" available at https://baseresources.com.au/investors/announcements/.



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#### Mining schedule

The chart below summarises the mining schedule assumed for the Bumamani PFS, compared to the mine plan if the Bumamani Project does not proceed. In addition, Figures 1 and 2 below depict the planned HMU and tailings schedules for the Bumamani PFS.

Pursuant to the Bumamani PFS, four existing HMUs will be utilised instead of three (as is current mining practice at Kwale South Dune), two continuing to mine at Kwale South Dune and two at the pits the subject of the Bumamani PFS. After the transition to four HMUs, in both areas one HMU will operate at 800 tph and one at 400 tph to give a total feed rate of 2400 tph, consistent with the present feed rate at Kwale South Dune. HMUs are capable of mining at either 400 or 800 tph by operating either one or two high pressure monitors, each capable of 400 tph.

A shutdown of mining operations and the wet concentrator plant is scheduled for February 2023 to relocate HMUs and associated pumping infrastructure, after which mining at the Bumamani pit will commence. Following depletion of the Bumamani pit in July 2023, all mining equipment will relocate to P199 while mining continues at Kwale South Dune. A mine move at Kwale South Dune is scheduled for March 2024, during which mining operations will continue at the P199 section. During planned shuts for the relocation of mining operations, the feed rate of mining units that remain operational will be maximised.

Option N	Mining Unit	Pit	Mining Rate	2022				2023											2024											
		PIL	(tph)	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
Current Plan - Kwale South only	HMU 1	Kw Sth	800																		•		71/2	mont	h exte	ension	1	<b></b>		
	HMU 2	Kw Sth	800																											
	HMU 3	Kw Sth	800																											
Add Bumamani and P199											п																			$\equiv$
	HMU 1	Kw Sth	800				800				s 🗀						800	)									800			
	HMU 2	Kw Sth	800 / 400				800			l	h			400			800			4	00	l		800	4	00				
	HMU3	Kw Sth	800				800				u t																			
		Bumaman									d			800																
	HMU 4	Bumaman									0			400																
	HMU 3	P199	800								w n												00							
	HMU 4	P199	400								11											4	00							



Figure 1: Broad HMU mine schedule for Bumamani and P199 pits and bulk sample location

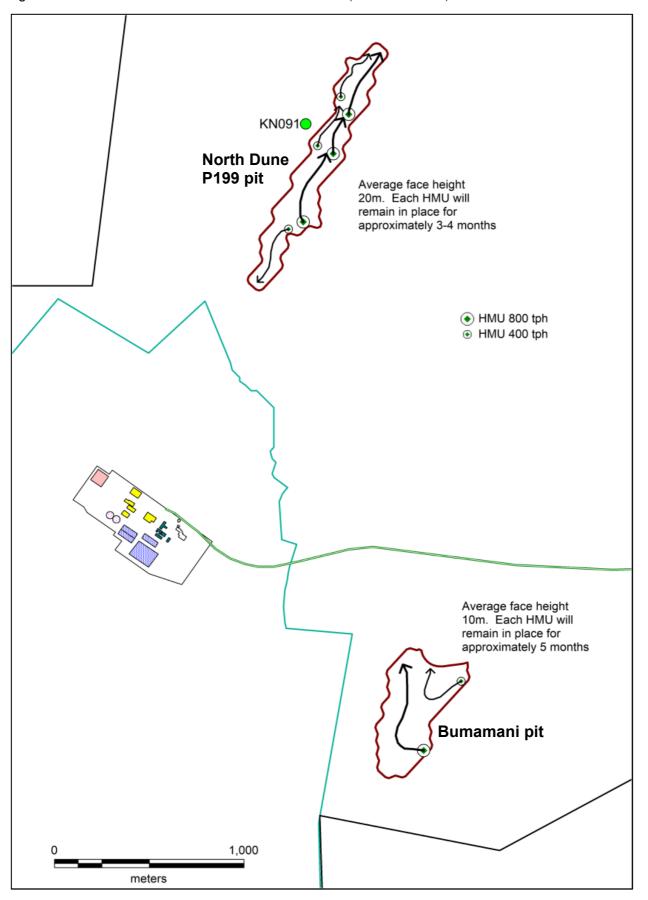
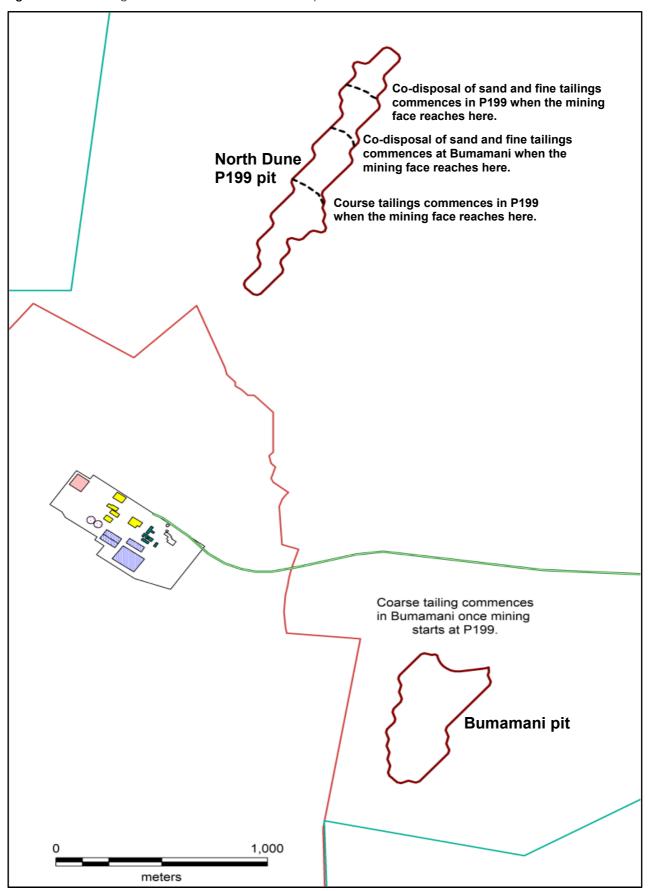




Figure 2: Broad tailing schedule for Bumamani and P199 pits





The above information have been provided for the purposes of ASX Listing Rules 5.16 and 5.17.

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This release has been authorised by Base Resources' Disclosure Committee.

#### **About Base Resources**

Base Resources 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. Further details about Base Resources are available at <a href="https://www.baseresources.com.au">www.baseresources.com.au</a>.

