

## Bumamani PFS supports extension of Kwale mine life to mid-2024

### Key outcomes

- The Bumamani PFS concludes that it is economically feasible to mine higher-grade subsets of the Bumamani and Kwale North Dune deposits concurrently with the Kwale South Dune deposit, which would extend the mine life of Kwale Operations by 7.5 months to July 2024.
- Estimated 11.4 million tonnes of material to be mined to produce an estimated 34,000 tonnes of rutile, 113,000 tonnes of ilmenite and 13,000 tonnes of zircon.
- The Bumamani PFS is a significant further forward step in achieving Base Resources' goal of extending the mine life at Kwale, providing additional time to develop further opportunities within Kenya whilst maintaining operational continuity.
- A definitive feasibility study is now underway to improve the accuracy of project estimates.

African mineral sands producer and developer, **Base Resources Limited** (ASX & AIM: BSE) (**Base Resources**) has completed a pre-feasibility study on the potential for mining higher grade subsets of the Bumamani and Kwale North Dune deposits (**Bumamani PFS**) to extend mine life at its 100% owned and operated mineral sands operations in Kwale County, Kenya (**Kwale Operations**).

The Bumamani PFS has concluded that it is economically feasible to mine smaller, higher-grade subsets of the Bumamani deposit and the Kwale North Dune deposit (referred to as **P199**) concurrently with the Kwale South Dune deposit, which would extend the mine life of Kwale Operations by 7.5 months to July 2024. This extension would provide additional time for Base Resources to develop further opportunities within Kenya, and the region, while maintaining operational continuity. A definitive feasibility study is now underway to improve the accuracy of project estimates.

The Bumamani PFS was undertaken after an earlier pre-feasibility study on mining significantly larger subsets of the North Dune and Bumamani deposits concluded this was not viable due to the low combined heavy mineral grade, high upfront capital costs, elevated slimes content and associated tailings disposal costs<sup>1</sup>.

The North Dune Mineral Resources are estimated at 194 million tonnes (**Mt**) (119 Mt Measured, 73 Mt Indicated and 2 Mt Inferred) at an average heavy mineral (**HM**) grade of 1.5% for 2.9 Mt of contained HM, and the Bumamani Mineral Resources are estimated at 5.9 Mt (3.0 Mt Measured, 2.6 Mt Indicated and 0.3 Mt Inferred) at an average HM grade of 1.9% for 0.115 Mt of contained HM. The subsets of these Mineral Resource estimates considered for the Bumamani PFS totalled 11.4 Mt of material at an average HM grade of 2.3% for 0.26Mt of contained HM. Of this 11.4 Mt of material, 60% is categorised as Measured and 40% as Indicated.

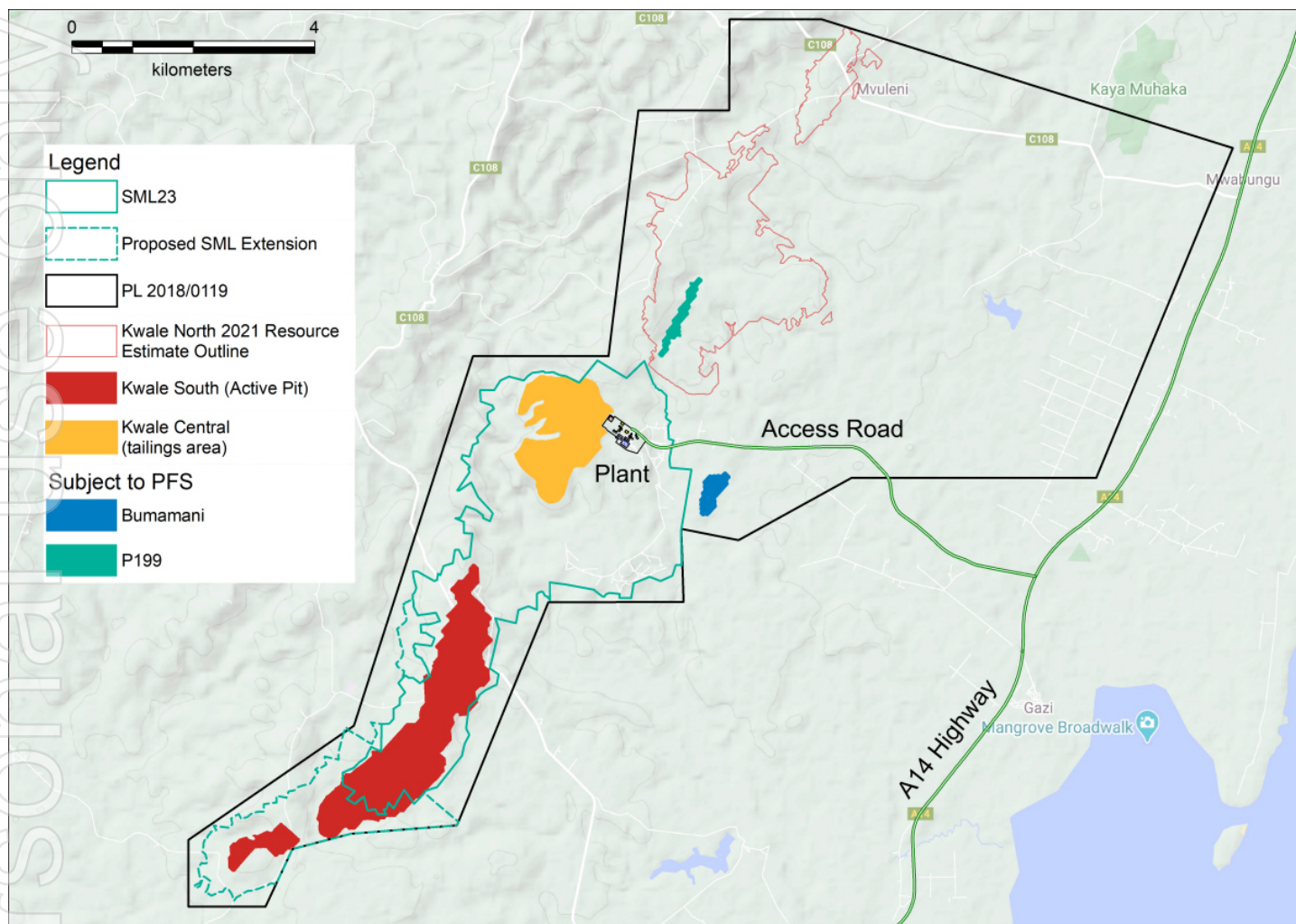
The Bumamani and North Dune deposits are situated within Kwale Prospecting Licence PL/2018/0119 (**PL119**), but outside Special Mining Lease 23 (**SML 23**), which lies within PL119 – see Figure 1 below. The Bumamani PFS assumes that mining tenure will be obtained by way of a further extension of SML 23 to incorporate the Bumamani deposit and the P199 section and that a royalty of 5% would be payable to the Government of Kenya.

Capital cost is estimated at US\$13.6 million for the acquisition of land and the additional mine services and infrastructure that will be required. Mining operations would use existing hydraulic mining units relocated from the South Dune and the mined material would be processed through Kwale Operations' existing concentrator and mineral separation plants.

To maximise mining rates and better manage tailings, it is envisaged that the Bumamani deposit and the P199 section would be mined concurrently with the South Dune deposit, commencing from early 2023, with all deposits then being depleted at approximately the

<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/>.

same time in July 2024. The majority of fine tailings would be accommodated within Kwale Operations' current tailings storage facility while coarse tailings would be used for land rehabilitation across Kwale Operations. It is anticipated that approximately 25% of the fine tailings from all mining would be co-disposed with coarse tailings to create a water retention layer as part of land rehabilitation.



**Figure 1:** Plan showing the Bumamani deposit and P199, the higher-grade subset of the North Dune deposit.

Set out below are the key outcomes and other key assumptions for the Bumamani PFS.

Upfront capital	US\$ millions	13.6
Total rutile produced	tonnes	34,000
Total ilmenite produced	tonnes	113,000
Total zircon produced	tonnes	13,000
Mining - Operating costs inclusive of 5% royalty	US\$/t mined	4.83*
Production - Operating costs inclusive of 5% royalty	US\$/t produced	261*
Rutile price – average over 2023/2024	US\$/t FOB	\$1,400
Ilmenite price – average over 2023/2024	US\$/t FOB	\$183
Zircon price – average over 2023/2024	US\$/t FOB	\$1,775

\*Average operating costs for Kwale Operations from early 2023 to July 2024 following commencement of mining at the Bumamani deposit and assuming concurrent mining with the Kwale South deposit.

Operating cost per tonne mined is consistent with current Kwale Operations performance but operating costs per tonne produced will be higher as a consequence of the lower heavy mineral grade resulting in lower production. On the basis of the above outcomes, and subject to the above assumptions, the Bumamani PFS has forecast net post-tax cash flows totalling US\$16.5 million.

Assumed average product prices were derived from Base Resources' internal price forecasts, determined based on supply/demand analysis and taking into account relevant data from independent industry consultants, TZMI, and are not materially different to TZMI's average forecast prices over the same period.

Following the completion of an Environmental and Social Impact Assessment, Base Resources' wholly owned Kenyan subsidiary, Base Titanium Limited, has now received an Environmental Impact Assessment Licence from the National Environment Management Authority to extend mining activity into the Bumamani and P199 deposits once it has secured mining tenure over these areas.

A key risk identified for this Kwale mine life extension opportunity is the ability to secure mining tenure for the Bumamani and P199 deposits on reasonable terms by mid-2022, either by way of a variation to extend SML 23 or the grant of a new mining licence under the Kenyan Mining Act 2016 subject to an equivalent fiscal regime to the regime applicable to SML 23. Another key risk is the ability to complete the necessary land acquisitions at reasonable prices and in line with the proposed mine schedule. Failure to achieve either of these outcomes could impact the viability of this extension opportunity. While plans have been developed to actively manage and mitigate these issues to the extent possible, as they require engagement with and action by third parties, residual risk remains.

### **Mineral Resources estimates and production and forecast financial information**

The information included in this announcement about the estimated Mineral Resources for the Kwale North Dune and Bumamani deposits has been extracted from Base Resources' ASX announcement titled "Updated Kwale North Dune and maiden Bumamani Mineral Resource estimates" dated 19 February 2021, which is available at <https://baseresources.com.au/investors/announcements/>. Base Resources confirms that it is not aware of any new information or data that materially affects the information included in this announcement and all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed.

The information included in this announcement about the subsets of the estimated Mineral Resources for the Kwale North Dune and Bumamani deposits is based on, and fairly represents, information and supporting documentation prepared by Mr. Scott Carruthers. Mr. Carruthers is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Carruthers is employed by Base Resources, he holds equity securities in Base Resources, and is entitled to participate in Base Resources' long-term incentive plan and receive equity securities under that plan. Details about that plan are included in Base Resources' 2021 Annual Report. Mr. Carruthers has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the JORC Code and is considered a Qualified Person for the purposes of the AIM Rules for Companies. Mr. Carruthers has reviewed this announcement and consent to the inclusion in this announcement of the information about the subsets of the estimated Mineral Resources for the Kwale North Dune and Bumamani deposits in the form and context in which the relevant information appears.

The estimated Mineral Resources underpinning the production and forecast financial information included in this announcement have been prepared by Competent Persons in accordance with the JORC Code.

### **Forward Looking Statements**

The Bumamani PFS is based on technical, economic and other conditions and information as at the date of this announcement, which may be subject to change. Accordingly, the information and conclusions presented in this announcement should be viewed in this light. Information in this announcement should also be read in conjunction with other announcements made by Base Resources to ASX.

Certain statements in or in connection with this announcement contain or comprise forward looking statements. Such statements may include, but are not limited to, statements with regard to capital cost, operating cost, future production and available grades, product prices, and financial performance and may be (but are not necessarily) identified by the use of phrases such as "will", "expect", "anticipate", "believe" and "envisage". By their nature, forward looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future and may be outside Base Resources' control. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic

and market conditions, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in product prices and exchange rates and business and operational risk management. Some risks that could impact Base Resources' ability to achieve the outcomes or results expressed or implied by such statements are disclosed in this announcement. Subject to any continuing obligations under applicable law or relevant stock exchange listing rules, Base Resources undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events.

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