



ASX, AIM and Media Release 23 January 2020

# **Quarterly Activities Report – December 2019**

## Key points

- Kwale Operations FY20 production guidance increased on sustained improved recoveries and higher rutile in the assemblage.
- Market conditions continue to support strengthening rutile and ilmenite prices.
- Kwale North Dune concept study findings support progression to a pre-feasibility study.
- Toliara Project DFS outcomes released, reinforcing the Company's view that the Toliara Project is a world class mineral sands project.
- Toliara Project drilling reveals significant additional high-grade mineralisation.
- Government of Madagascar suspends on-the-ground activity at the Toliara Project whilst discussions on fiscal terms applying to the project are progressed.
- An incident with Kwale Operations' haulage contractor resulted in a fatality on a public road.

African mineral sands producer, **Base Resources Limited** (ASX & AIM: BSE) (**Base Resources** or the **Company**) is pleased to provide a quarterly operational, development and corporate update.

Kwale Mineral Sands Operations (**Kwale Operations**) in Kenya steadily increased production following a ramp up in mining operations last quarter after the successful transition of mining operations to the South Dune orebody. As expected, heavy mineral (**HM**) grades increased as mining advanced from the lower grade fringes towards the centre of the orebody.

The definitive feasibility study (**DFS**) for the Toliara mineral sands project (**Toliara Project**) in the south-west of Madagascar was released in December 2019, reinforcing the Company's view that the project is a world class mineral sands development and confirming the findings of the pre-feasibility study released in March 2019.

## **KWALE OPERATIONS**

Production & Sales	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter	Dec 2019 Quarter
Production (tonnes)					
Ilmenite	108,465	87,179	88,789	73,808	91,406
Rutile	24,505	20,171	22,588	16,390	19,812
Zircon	8,252	6,943	7,063	6,980	7,923
Zircon low grade	-	172	347	466	546
Sales (tonnes)					
Ilmenite	106,788	81,339	99,620	60,109	106,544
Rutile	24,008	14,593	31,889	14,018	13,078
Zircon	8,791	7,260	7,968	6,713	7,090
Zircon low grade <sup>1</sup>	-	115	219	839	616

<sup>&</sup>lt;sup>1</sup> Reported as tonnes of zircon contained in concentrate, it realises 90% to 100% of the value of the equivalent volume of standard grade zircon, due to rutile credits.



Mining operations continued steadily on the South Dune orebody with mined tonnage of 4.6Mt, lower than the last quarter's 4.9Mt. Productivity was impacted by lower face heights and reduced water pressures as the hydro mining guns approached the end of the current mining blocks and the distance from the pumping stations increased. As hydraulic mining units are re-located to new mining blocks during the coming quarter, productivity is expected to improve. As mining advanced from the lower grade fringes towards the centre of the orebody, ore grade improved over the previous quarter as expected, increasing from 2.7% to 4.2% HM.

Mining & WCP Performance	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter	Dec 2019 Quarter
Ore mined (tonnes)	5,036,211	4,349,984	3,644,160	4,909,999	4,579,386
HM %	3.60	3.59	3.52	2.66	4.22
HMC produced (tonnes)	148,937	154,001	131,475	114,149	189,952

Wet concentrator plant (WCP) production of heavy mineral concentrate (HMC) increased to 190kt (last quarter: 114kt) due to the higher mined ore grades and, as a result, HMC stockpiles increased to 46kt (last quarter: 11kt). Sand tails continued to be deposited into the mined-out Central Dune area. Rehabilitation works on the Central Dune continued, with rehabilitation of the South Dune mined out areas commencing.

MSP Performance	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter	Dec 2019 Quarter
MSP Feed (tonnes of HMC)	191,633	155,373	160,766	121,600	155,217
MSP feed rate (tph)	90	78	76	67	86
MSP recovery %					
Ilmenite	102	104	100	103	100
Rutile	99	102	104	103	102
Zircon	73	78	76	86	88

Total mineral separation plant (**MSP**) feed tonnage was higher than the prior quarter reflecting the available HMC stocks. Increased MSP feed, together with higher recoveries for zircon, contributed to increased production of all products. The higher zircon recovery is a function of the mineral properties encountered to date in the South Dune orebody, which improve separation efficiency.

Bulk loading operations at the Company's Likoni Port facility continued to run smoothly, dispatching more than 116kt of ilmenite and rutile and low-grade zircon during the quarter (last quarter: 72kt). Containerised shipments of rutile and zircon through the Mombasa Port proceeded according to plan.

Summary of unit costs	Dec 2018	Mar 2019	June 2019	Sept 2019	Dec 2019
& Revenue per tonne (US\$)	Quarter	Quarter	Quarter	Quarter	Quarter
Unit operating costs per tonne produced	\$115	\$138	\$127	\$173	\$140
Unit cost of goods sold per tonne sold	\$146	\$151	\$180	\$213	\$141
Unit revenue per tonne of product sold	\$377	\$368	\$482	\$469	\$355
Revenue: Cost of goods sold ratio	2.6	2.4	2.7	2.2	2.5

Total operating costs were marginally lower than the previous quarter, which, when combined with higher production volumes, resulted in a lower unit operating cost of US\$140 per tonne produced (rutile, ilmenite, zircon and low-grade zircon) (last quarter: US\$173 per tonne).

Unit cost of goods sold is influenced by both the underlying operating costs and product sales mix. Operating costs are allocated to each product based on revenue contribution, which sees the higher value rutile and zircon products attracting a higher cost per tonne than the lower value ilmenite. Therefore, the greater the sales volume of rutile and zircon relative to ilmenite in a quarter, the higher both unit revenue per tonne and unit cost of goods sold will be.



Ilmenite, and the majority of rutile, is sold in bulk, with typical shipment sizes of 50-54kt for ilmenite and 10-12kt for rutile, which means any given quarter will usually contain either one or two rutile and ilmenite sales. Zircon is sold in smaller parcels and sales generally align with production volume. Product sales mix will therefore vary depending on the number of bulk shipments of ilmenite and rutile in each quarter.

Cost of goods sold of US\$141 per tonne sold (operating costs, adjusted for stockpile movements, and royalties) was lower due to the lower operating cost per tonne produced and sales mix (last quarter: US\$213 per tonne). The higher proportion of ilmenite sold in the quarter contributed to a reduction in both the cost of goods sold and average revenue per tonne to US\$355 per tonne (last quarter: US\$469 per tonne). From the combination of these factors, the revenue to cost of goods sold ratio for the quarter increased to 2.5 (last quarter: 2.2).

PRODUCTION GUIDANCE (tonnes)	Original FY20 Guidance Range	Updated FY20 Guidance Range
Rutile	64,000 to 70,000	75,000 to 81,000
Ilmenite	315,000 to 350,000	335,000 to 355,000
Zircon	25,000 to 28,000	29,000 to 32,000

The Company released updated 2020 financial year (**FY20**) production guidance on 13 January 2020<sup>2</sup>. Since commencing mining on the South Dune orebody in July 2019, the Company has encountered higher rutile and marginally lower ilmenite than expected in the mineral assemblage, with zircon largely as forecast. In addition, due to the mineral characteristics of the South Dune ore, separation efficiency has improved, when compared with the Central Dune ore, and MSP recoveries are higher than planned – particularly for zircon.

With the expectation that these trends will continue, in conjunction with higher mining volumes achieved year to date, the production guidance for all products was revised upwards for FY20 as shown above.

The updated FY20 production guidance is based on the following assumptions:

- Mining of 18.7Mt (increased from 18.0Mt) at an average HM grade of 3.58% (no change), with the remainder of the FY20 volume coming entirely from Ore Reserves<sup>3</sup>.
- Average MSP feed rate of 79tph (increased from 75tph).
- Average MSP product recoveries of 102% for rutile (increased from 99%), 101% for ilmenite (increased from 100%) and 85% for zircon (increased from 77%).

#### MARKETING

Tight market conditions from the ongoing constraints on global supply of sulphate ilmenite and high-grade chloride feedstocks (including rutile) resulted in further price gains through the December quarter.

Global pigment producers continue to indicate that underlying demand for pigment remains firm, although not as strong as initially expected through the second half of 2019. Ongoing global economic uncertainties have led to a preference for pigment consumers to maintain low pigment inventory levels. However, underlying pigment consumption remains sufficient for most pigment producers to continue operating at high production levels which continues to fuel strong demand for titanium feedstocks.

The ilmenite supply deficit, created by strong demand and supply restrictions from major ilmenite-producing regions, continued to support a strengthening ilmenite price through the quarter. Demand for Base Resources' ilmenite from existing customers remains

<sup>&</sup>lt;sup>3</sup> The Ore Reserves estimates underpinning the above production guidance were prepared by Competent Persons in accordance with the JORC Code (2012 edition). For further information regarding the Ore Reserves estimates refer to Base Resources' announcement on 9 October 2017 "2017 Kwale Mineral Resources and Ore Reserves Statement" available at https://www.baseresources.com.au/investor-centre/asx-releases. The above production guidance is the result of detailed studies based on the actual performance of the Kwale mine and processing plant. These studies include the assessment of mining, metallurgical, ore processing, environmental and economic factors.



<sup>&</sup>lt;sup>2</sup> For further information refer to Base Resources' market announcement on 13 January 2020 "FY20 production guidance increased" available at https://www.baseresources.com.au/investor-centre/asx-releases/.

greater than the Company's ability to supply and enquiries continue to be received from potential new customers globally. Tight market conditions for ilmenite are expected to continue through the coming quarter resulting in further price gains.

Ongoing firm demand and constraints on high grade feedstock supply continued to support price improvement for rutile through the quarter. However, rutile prices are expected to flatten out through the start of 2020 as a result of seasonal demand factors, flat pigment prices and an expectation from pigment producers that chloride slag supply constraints will ease in 2020.

Major pigment producers are generally optimistic that demand for pigment will grow over 2020. Stabilisation of the global economy should result in an improvement in underlying pigment consumption as well as the re-building of inventory by downstream consumers above the current low levels.

Subdued conditions in the zircon market continued through the quarter as a consequence of cautious buying behaviour from customers and increased sales volumes from some major zircon suppliers. These factors resulted in further moderation in zircon prices. Ongoing economic uncertainties, seasonal demand weakness and surplus inventory held by some major zircon suppliers is expected to result in further price erosion through the March quarter. Stabilisation of the zircon price through the coming quarter will largely depend on how major producers manage supply into the market and how strongly demand rebounds following the Chinese New Year.

## SAFETY

On 2 January 2020, an incident with Kwale Operations haulage contractor tragically resulted in a fatal injury to another road user on a public road. An internal investigation was immediately launched. The safety of Base Resources' activities for its people and the communities in which it operates is a fundamental commitment for the Company and the incident is being addressed at the highest level.

There were no workplace lost time or medical treatment injuries during the quarter, or in the past year, at Kwale Operations and the lost time injury frequency rate (LTIFR) and total recordable injury frequency rate (TRIFR) remain at zero. No injuries were recorded in the quarter for the Toliara Project and the total number of injuries of any type since project commencement remains at zero. Base Resources' employees and contractors have now worked 19.1 million man-hours LTI free, with the last LTI recorded in early 2014. Further, 9.4 million hours have been worked without a medical treatment injury.

## COMMUNITY AND ENVIRONMENT

#### **Kwale Operations**

Agricultural livelihood programs at Kwale continued to expand, working with partners Business for Development, the PAVI farmers' cooperative, and the Cooperative Bank of Kenya. Further discussions were also held with the Government of Kenya to explore opportunities for value addition to the Kenyan cotton industry.

Harvesting, supported by Base Resources, of maize, cotton, green grams, legumes, rice and sunflower has now been completed with good yields supporting farmer incomes for most crops. Unseasonal rains continued throughout the quarter which resulted in lower than anticipated cotton yields. Beekeeping and poultry programs continue to expand and PAVI has completed installation of a livestock feed mill to manufacture poultry feeds using farmers' produce. The first batch of forty 50kg sacks were sold to farmers during the quarter.

With land rehabilitation activities increasing on site, additional community groups have been engaged for vegetation planting activities and grass seed collection.

#### **Toliara Project**

Over 580 local people have now undergone community training programs including heavy equipment operation, wet trades, agriculture and other courses aimed at increasing employability and livelihoods. In addition to these programs, 24 young men and women from the Toliara area continue their two-year apprenticeships at the Kwale Operations in Kenya.

Following the government-required suspension of all on-the-ground activities on the Toliara Project (refer below for further details), the completion of construction of school and medical facilities and installation of solar pumping equipment into community boreholes has been postponed.



#### **BUSINESS DEVELOPMENT**

#### Toliara Project development - Madagascar

In November 2019, the Government of Madagascar (**GoM**) required the Company to temporarily suspend on-the-ground activity on the Toliara Project while discussions on fiscal terms applying to the project were progressed<sup>4</sup>. Activity remains suspended as Base Resources engages with the GoM in relation to the fiscal terms applicable to the mining sector in Madagascar, including the Toliara Project. Base Resources is confident that mutually beneficial terms can be secured that will support a sound and sustainable Toliara Project and broader mining sector, while delivering clear benefits to the communities, the nation of Madagascar and shareholders.

The Toliara Project DFS was completed, and a summary released in December 2019. The DFS outcomes closely align with the Pre-Feasibility Study (**PFS**) findings released in March 2019, with no material changes to any metrics and confirms a post-tax/pre-debt (real) NPV<sub>10</sub> of US\$652 million and an average revenue to cost ratio of 3.15 over the initial 33-year mine life. The DFS schedule assumes construction will commence in late 2020, at a cost of US\$442 million, which would see production starting in late 2022.<sup>5</sup>

In January 2020, the Company released the results of a 29,753m drill program undertaken over the course of 2018 and 2019 to test the extent of mineralisation to the west of the existing Ranobe Mineral Resources and at depth<sup>6</sup>. While assaying is still ongoing, with only 67% of samples completed to date, results received show some material HM intercepts, particularly in the lower sand unit (**LSU**) to the west of the current Ranobe Ore Reserves, as shown in Figure 2 below.

There are currently three recognised mineralised units at the Ranobe deposit: the upper sand unit (**USU**), which is the only unit within the current Ranobe Ore Reserves, the intermediate clay sand unit (**ICSU**) and the LSU, as illustrated in Figure 1 below. Prior to Base Resources' drilling, there were a limited number of intercepts of the ICSU and LSU and expanding the knowledge of these units was a key objective of the current drilling program.

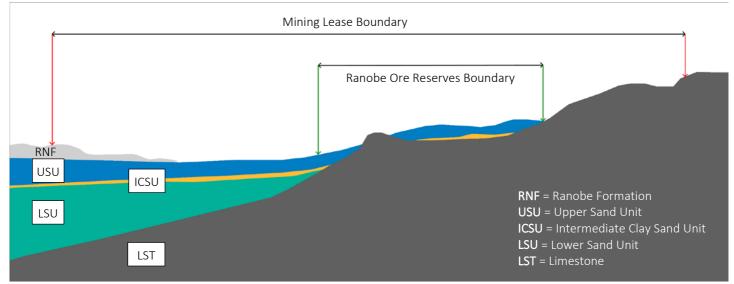


Figure 1: Stylised cross section of the Toliara Project mining lease<sup>†</sup>

+Stylised schematic section is not to scale and only intended to show the spatial relationships of the mineralised units to illustrate general setting.

<sup>&</sup>lt;sup>6</sup> Refer to Base Resources' market announcement "Toliara Project drill assays reveal significant additional high-grade mineralisation" released on 21 January 2020, which is available at http://www.baseresources.com.au/investor-centre/asx-releases/. Base Resources confirms that it is not aware of any new information or data that materially affects the information included in the 21 January 2020 announcement.

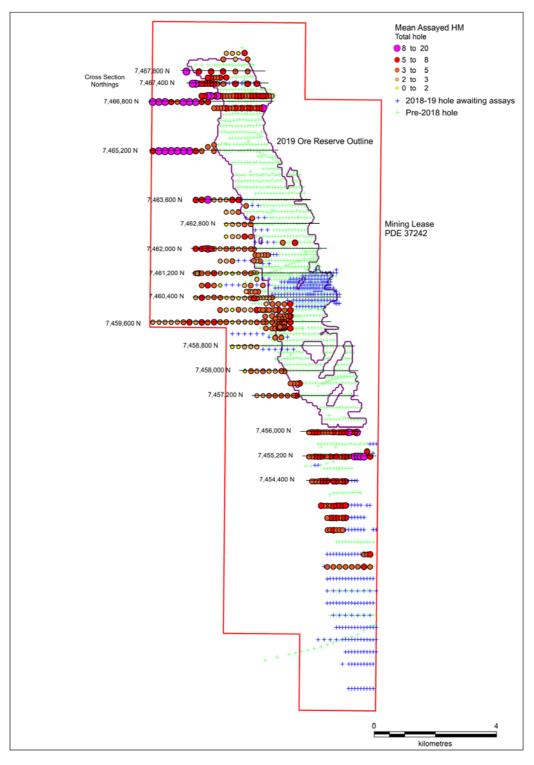


<sup>&</sup>lt;sup>4</sup> Refer to Base Resources' market announcement "Toliara Project – Government of Madagascar statement" released on 7 November 2019, which is available at http://www.baseresources.com.au/investor-centre/asx-releases/.

<sup>&</sup>lt;sup>5</sup> The forecast financial information is derived from the Toliara Project Definitive Feasibility Study. Refer to Base Resources' market announcement "DFS reinforces Toliara Project's status as a world class mineral sands development" released on 12 December 2019, which is available at http://www.baseresources.com.au/investor-centre/asx-releases/ (**DFS Announcement**). The DFS Announcement discloses details about the material assumptions and underlying methodologies adopted for deriving the production information and forecast financial information included in this announcement in respect of the Toliara Project. Key assumptions include the currently legislated government mineral royalties of 2%. The DFS Announcement also discloses key pre and post FID risks and an NPV sensitivity analysis in respect of the Toliara Project. Base Resources confirms that the material assumptions underpinning the production information and the forecast financial information disclosed in the DFS Announcement continue to apply and have not materially changed.

Bulk mineralogical assays are yet to be performed but a preliminary mineralogical assessment of two high grade LSU intercepts are positive. These assessments indicate ilmenite, rutile and zircon make up approximately 50% of the HM and are in similar proportions to those reported in the existing Ranobe Ore Reserves estimate, with the remaining HM showing elevated levels of garnet within the LSU compared to the USU (approximately 30-35% of HM compared to 1-5%). Additionally, there is some indication of increased levels of the higher value chloride ilmenite within the ilmenite. There was no indication of elevated deleterious oxides within the product minerals that might preclude or hinder their sale. The separability of the garnet and the opportunity to realise value from it will be assessed as part of any future feasibility studies.

Figure 2: Drill hole collar locations. Collars coloured by average grade from surface to bottom of hole where assays are available.





Other key activities during the quarter included:

- Completion of additional MSP and pumping (rheology) testwork.
- Progression of land acquisition for the camp site with agreements secured from landowners.
- Continuation with community programs (until the GoM suspension) including capacity building for local people, community borehole development, the construction of schools and medical facilities, and tomb relocations.
- Ongoing training for local staff.

Key activities planned for the coming quarter include:

- Continued discussions with the GoM on the fiscal terms applicable to the mining industry, including the Toliara Project.
- Commencement of front-end engineer design (FEED) activities including:
  - o Processing plant engineering, mechanical and electrical equipment selection.
  - o Tender evaluation and preferred contractor selection for key packages including marine EPC, export facility earthworks, piling at the export facility, bridge, power, fuel and camp operations.
- Subject to lifting of the GoM suspension, re-establishing on-site activities including:
  - o Environmental baseline studies and monitoring programs.
  - o Land acquisition and resettlement programs.
  - o Training programs for local people ahead of planned construction.
  - Early works activities including camp earthworks, construction of a temporary site access road and construction of accommodation buildings.
  - Borehole drilling and additional geotechnical investigations (on and offshore) at the export facility, bridge and road to optimise designs.
  - o Community programs including relocation of tombs, resuming construction of schools and medical facilities, installation of solar pumping equipment into community boreholes, social economic baseline studies, human rights and health impact assessments.
- Continued development of the Project's Environmental and Social Management System (ESMS) including:
  - o Updating the approved environmental management plan (PGE) to reflect project changes.
  - o Preparing and submission of the construction PGE.
- Completion of the application for certification under the Large Mining Investment Law (LGIM).
- Submission of outstanding drill samples for assay.

Total expenditure on the Toliara Project for the quarter was US\$6.8 million (last quarter: US\$9.0 million).

#### Extensional exploration – Kenya

Mining tenure arrangements continue to progress with the Kenyan Ministry of Petroleum and Mining as a precursor to an anticipated updated Ore Reserves estimate based on the expanded 2017 Kwale South Dune Mineral Resource announced on 4<sup>th</sup> October 2017<sup>7</sup>.

A concept study for mining the 171Mt North Dune Mineral Resources estimate (136Mt Indicated and 34Mt Inferred)<sup>8</sup> was completed in early January 2020, with a pre-feasibility study planned to commence in the March 2020 quarter, subject to Board endorsement.

<sup>&</sup>lt;sup>8</sup> For further information on the Kwale North Dune Mineral Resources estimate, refer to Base Resources' market announcement "Mineral Resource for Kwale North Dune deposit" released on 1 May 2019, which is available at http://www.baseresources.com.au/investor-centre/asx-releases/. Base Resources confirms that it is not aware of any new information or data that materially affects the information included in the 1 May 2019 announcement and all material assumptions and technical parameters underpinning the estimates in the 1 May 2019 announcement continue to apply and have not materially changed.



<sup>&</sup>lt;sup>7</sup> Refer to Base Resources' market announcement "Mineral Resource Increase for Kwale South Dune" released on 4 October 2017, which is available at http://www.baseresources.com.au/investor-centre/asx-releases/.

Completion of the remaining drilling program (4,200 metres) in the North-East Sector (Kwale East) of PL 2018/0119 remains on hold pending community access being secured. Drill assay results to date have shown potential for some limited extensional economic resource close to the Central Dune (Bumamani), but this remains subject to more detailed evaluation.

Further drilling of the northern sections of the Vanga Prospecting License (PL/2015/0042) remained on hold pending resolution of community access issues. A north eastern extension of the Vanga Prospecting Licence is under application (App No/1753) to cover further prospective ground which has since become available.

The additional prospecting license applications lodged for an area south of Lamu (Apps No/2136, 2146 and 2153) together with an area in the Kuranze region of Kwale county about 70 km west of the Kwale Operation (App No/2123) remain in progress through the granting process.

Expenditure on exploration activities in Kenya during the quarter was US\$0.1 million (last quarter: US\$0.2 million).

#### CORPORATE

#### Kenyan VAT receivable

As previously announced, Base Resources has refund claims for VAT paid in Kenya, relating to both construction of the Kwale Project and the period since operations commenced, which totalled approximately US\$21.7 million at 31 December 2019. These claims are proceeding through the Kenya Revenue Authority process with refunds totalling US\$3.1 million received during the quarter (last quarter: US\$2.5 million). Base Resources is continuing to engage with the Kenyan Treasury and the Kenya Revenue Authority, seeking to expedite the refunds.

## Kwale Operations tax payments

From the commencement of Kwale Operations, Base Titanium Limited (the Company's wholly owned subsidiary and owner of Kwale Operations) benefited from an immediate upfront tax deduction for its initial capital investment in developing the project. This large tax deduction created a significant tax loss position which has been carried forward and subsequently applied against profits generated by the operation. Following the depletion of its remaining carry forward tax losses, Kwale Operations reached a tax payable position for the first time in the 2019 financial year (**FY19**), with taxes relating to FY19 of US\$14.5 million paid to the Kenya Revenue Authority (**KRA**) this quarter.

Since becoming a taxpayer, Base Titanium has transitioned from paying corporate income tax annually in arrears to quarterly in advance. As a result, during the quarter, Base Titanium paid US\$6.2 million to the KRA in settlement of its estimated corporate tax payable for the first two quarters of FY20.

Due to the payment of US\$20.7 million in corporate income tax to the KRA during the quarter, the Group's net cash position did not increase significantly from the prior quarter.

#### In summary, at 31 December 2019:

- Net cash of US\$32.6 million, consisting of:
  - o Cash and cash equivalents of US\$47.6 million.
  - o Revolving Credit Facility debt of US\$15.0 million.
- 1,171,609,774 fully paid ordinary shares on issue.
- 69,167,541 performance rights issued pursuant to the terms of the Base Resources Long Term Incentive Plan, comprising:
  - o 6,527,607 vested performance rights, which remain subject to exercise<sup>9</sup>.
  - o 62,639,934 unvested performance rights, which are subject to performance testing in accordance with their terms of issue.

----- ENDS -----

<sup>&</sup>lt;sup>9</sup> Vested performance rights have a nil cash exercise price and, unless exercised beforehand, these rights expire on 30 September 2024.



#### Forward looking statements

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, capacity, future production and grades, sales projections 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. 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 the Board of Base Resources.

## About Base Resources

#### **UK Media Relations**

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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.

