

2022 Mineral Resources and Ore Reserves Statement

Key Points

- Kwale South Dune Mineral Resources and Ore Reserves estimates reduced due to mining depletion during the year to 30 June 2022, with:
 - Mineral Resources reducing by 26Mt containing 0.9Mt of heavy mineral.
 - Ore Reserves reducing by 18Mt containing 0.6Mt of heavy mineral.
- Kwale North Dune Mineral Resources estimate updated and maiden Ore Reserves estimate announced on 20 June 2022, resulting in:
 - Mineral Resources of 171Mt at an average heavy mineral grade of 1.5%, containing 2.6Mt of heavy mineral, a reduction of 23Mt containing 0.3Mt of heavy mineral due to some low-grade material no longer being within the prospecting licence area.
 - Ore Reserves of 13.9Mt at an average heavy mineral grade of 2.1% containing 0.29Mt of heavy mineral.
- Maiden Bumamani Ore Reserves estimate announced on 20 June 2022 of 3.9Mt at an average heavy mineral grade of 2.3%, containing 0.091Mt of heavy mineral.
- Ranobe Mineral Resources and Ore Reserves estimates updated on 27 September 2021, resulting in:
 - Mineral Resources of 2,580Mt at an average heavy mineral grade of 4.3%, containing 111Mt of heavy mineral.
 - Ore Reserves of 904Mt at an average heavy mineral grade of 6.1%, containing 55Mt of heavy mineral.

The 2022 Mineral Resources and Ore Reserves estimates for **Base Resources Limited** (ASX / AIM: BSE) are summarised in the table below, together with the 2021 Mineral Resources and Ore Reserves estimates for comparison.

	2022 ¹ as at 30 June 2022									2021 ¹ 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 (%)	LEUC (%)	ZIR (%)						ILM (%)	RUT (%)	LEUC (%)	ZIR (%)
Mineral Resources (Measured + Indicated + Inferred, inclusive of Ore Reserves)																		
Kwale ⁴	205	3.5	1.7	35	2.0	47	13	-	5.8	254	4.7	1.9	34	1.9	50	13	-	5.7
Ranobe ⁵	2,580	111	4.3	7.7	0.4	71	1.0	1.0	5.9	1,293	66	5.1	6	0	72	2 ²	-	6
Ore Reserves (Proved + Probable)																		
Kwale	40	1.1	2.7	28	2.3	55	14	-	6.0	40	1.3	3.3	24	2.1	58	14	-	5.7
Ranobe	904	55	6.1	3.8	0.1	73	1.0	1.0	5.9	586	38	6.5	3.9	0.1	74	1.1	0.9 ³	5.9

Notes:

1. Table subject to rounding differences.
2. Rutile reported is rutile + leucoxene mineral species.
3. Recovered leucoxene will be split between rutile and chloride ilmenite products depending on product specification requirements.

4. Kwale incorporates the Kwale South Dune, Kwale North Dune and Bumamani deposits.
5. Ranobe Mineral Resources as at 30 June 2022 also specify the monazite and garnet within the mineral assemblage as a percentage of HM, refer to the standalone table for the Ranobe Mineral Resources below.

Mineral Resources and Ore Reserves estimates in this statement are reported in accordance with the JORC Code. A glossary of key terms used in this statement is on pages 8 and 9.

For further information about the estimates in this statement, including information that is material to understanding the estimates in relation to the applicable criteria in Table 1 of the JORC Code, refer to the following announcements¹:

Deposit(s)		Announcement Title	Estimate Date	Release Date
Kwale South Dune	Mineral Resources & Ore Reserves	Updated Kwale South Dune Mineral Resources and Ore Reserves estimates	30 June 2021	20 August 2021
Kwale North Dune and Bumamani	Mineral Resources	Updated Kwale North Dune and maiden Bumamani Mineral Resources estimates	19 February 2021	19 February 2021
Kwale North Dune and Bumamani	Ore Reserves	Maiden Kwale North Dune and Bumamani Ore Reserves estimates	20 June 2022	20 June 2022
Ranobe (Toliara)	Mineral Resources & Ore Reserves	Updated Ranobe Mineral Resources and Ore Reserves estimates	27 September 2021	27 September 2021
2021 Comparatives	Mineral Resources & Ore Reserves	2021 Mineral Resources and Ore Reserves Statement	30 June 2021	20 August 2021

Kwale Deposits

The Company's 100% owned Kwale Mineral Sands Operations in Kenya is located approximately 50 kilometres south of Mombasa and 10 kilometres inland from the Kenyan coast. The Company's wholly owned subsidiary, Base Titanium, holds Prospecting Licence 2018/0119 (**PL119**) and Special Mining Lease 23 (**SML 23**), which contain the Kwale South Dune, the Kwale North Dune and Bumamani deposits.

Mineral Resources

The 2022 Kwale Mineral Resources, as at 30 June 2022, are estimated to be 205 million tonnes (**Mt**) at an average heavy mineral (**HM**) grade of 1.7% for 3.5Mt of contained HM, at a 1% HM cut-off grade.

¹ ASX announcements are available at <https://baseresources.com.au/investors/announcements/>.

Table 2: 2022 Kwale Mineral Resources estimate compared with the 2021 estimate at a 1% HM cut-off grade.

Category	2022 as at 30 June 2022									2021 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 South Dune Mineral Resources (Inclusive of Ore Reserves)																
Measured	17	0.49	3.0	24	1.3	59	14	5.8	38	1.2	3.3	24	1.0	59	14	5.6
Indicated	11	0.31	2.9	25	6.1	56	13	5.9	16	0.5	3.0	25	5.9	54	13	5.7
Total	28	0.81	2.9	24	3.2	58	14	5.8	54	1.7	3.2	24	2.4	57	14	5.6
Kwale North Dune Mineral Resources (Inclusive of Ore Reserves)																
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	0.03	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
Bumamani Mineral Resources (Inclusive of Ore Reserves)																
Measured	3.0	0.066	2.2	19	2.2	48	15	7.5	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	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	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	5.9	0.115	1.9	21	3.8	47	15	7.6
Total Kwale Mineral Resources (Inclusive of Ore Reserves)																
Measured	125	2.2	1.7	35	1.5	45	13	5.6	160	3.1	2.0	33	1.3	49	13	5.6
Indicated	77	1.3	1.6	35	2.8	51	14	6.1	91	1.6	1.7	34	2.8	51	13	6.0
Inferred	3	0.0	1.2	36	3.3	48	15	6.7	3	0.0	1.2	36	3.3	48	15	6.7
Total	205	3.5	1.7	35	2.0	47	13	5.8	254	4.7	1.9	34	1.9	50	13	5.7

Table subject to rounding differences.

The 2022 Kwale Mineral Resources estimate represents a decrease of approximately 49Mt (or 19%) in material tonnes containing 1.2Mt of HM compared to the 2021 Kwale Mineral Resources estimate. This was due to Kwale South Dune mining depletion and removal of low-grade Kwale North Dune material that was no longer within the boundary of PL119 following its automatic reduction in size upon renewal in accordance with Kenya's Mining Act of 2016.

The Kwale South Dune Mineral Resources are estimated to be 28Mt at an average HM grade of 2.9% for 0.81Mt of contained HM as at 30 June 2022, a decrease of 26Mt containing 0.9Mt of HM compared to the 2021 Kwale South Dune Mineral Resources estimate.

The 2022 Kwale North Dune Mineral Resources are estimated to be 171Mt at an average HM grade of 1.5% for 2.6Mt of contained HM, a decrease of 23Mt containing 0.3Mt of HM compared to the 2021 Kwale North Dune Mineral Resources estimate.

The 2022 Bumamani Mineral Resources are estimated to be 5.9Mt at an average HM grade of 1.9% for 0.115Mt of contained HM. The Bumamani Mineral Resources at 30 June 2022 are unchanged from the 2021 estimate.

Ore Reserves

Included within the Kwale Mineral Resources are the Kwale Ore Reserves, estimated to be 40Mt at an average HM grade of 2.7% for 1.1Mt of contained HM as at 30 June 2022.

Table 3: The 2022 Kwale South Dune Ore Reserves estimate compared with the 2021 estimate.

Category	2022 as at 30 June 2022								2021 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 South Dune Ore Reserves																
Proved	15	0.46	3.1	25	1.2	59	14	5.7	30	1.0	3.4	24	0.9	59	14	5.6
Probable	7	0.25	3.3	24	5.8	57	13	5.9	11	0.4	3.3	24	5.5	56	13	5.7
Total	22	0.71	3.2	24	2.8	58	14	5.8	40	1.3	3.3	24	2.1	58	14	5.7
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								
Bumamani Ore Reserves																
Proved	2.6	0.062	2.3	19	2.2	48	16	7.5	N/A							
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								
Total Kwale Ore Reserves																
Proved	26	0.69	2.7	28	1.2	56	14	6.0	30	1.0	3.4	24	0.9	59	14	5.6
Probable	14	0.40	2.7	29	4.2	55	13	6.0	11	0.4	3.3	24	5.5	56	13	5.7
Total	40	1.1	2.7	28	2.3	55	14	6.0	40	1.3	3.3	24	2.1	58	14	5.7

Table subject to rounding differences.

Compared to the 2021 Kwale Ore Reserves estimate, there was no net change in total ore tonnes. There was, however, a decrease of 19% in contained HM tonnes. This was the net result of:

- mining depletion, decreasing Kwale South Dune Ore Reserves by 18Mt containing 0.6Mt of HM, inclusive of unmined material caused by an elevated basement floor in some areas compared to that predicted in the underlying model;
- the maiden Kwale North Dune Ore Reserves estimate adding 13.9Mt of ore and 0.29Mt of contained HM; and
- the maiden Bumamani Ore Reserves estimate adding 3.9Mt of ore and 0.091Mt of contained HM.

Ranobe Deposit

The Company's 100% owned Toliara Project is based on the Ranobe deposit, located approximately 45 kilometres north of the town of Toliara and 15km inland from the coast in south west Madagascar. The Ranobe deposit sits within *Permis d'Exploitation* 37242, which is a mining lease under Malagasy law. The Company is currently progressing the project towards development.

Mineral Resources

The 2022 Ranobe Mineral Resources are estimated to be 2,580Mt at an average HM grade of 4.3% for 111Mt of contained HM, based on a 1.5% HM cut-off grade.

Table 4: The 2022 Ranobe Mineral Resources estimate compared with the 2021 estimate at a 1.5% HM cut-off grade.

Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	Mineral Assemblage as % of HM					
						ILM (%)	RUT (%)	LEUC (%)	ZIR (%)	MON (%)	GARN (%)
2022 Ranobe Mineral Resources (as at 30 June 2022, inclusive of Ore Reserves)											
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
2021 Ranobe Mineral Resources* (as at 30 June 2021, inclusive of Ore Reserves)											
Measured	419	28	6.6	4	0	75	2	-	6	-	-
Indicated	375	18	4.9	8	1	72	2	-	6	-	-
Inferred	499	20	3.9	7	1	70	2	-	5	-	-
Total	1,293	66	5.1	6	0	72	2	-	6	-	-

Table subject to rounding differences.

*Rutile reported in the table is rutile + leucoxene mineral species.

The Ranobe Mineral Resources were updated on 27 September 2021 to incorporate the results of previous drilling programs. The 2022 Ranobe Mineral Resources estimate represents an increase of 99% in material tonnes and 68% in contained HM tonnes when compared with the 2021 Ranobe Mineral Resources estimate.

Ore Reserves

Included within the Ranobe Mineral Resources are the Ranobe Ore Reserves, estimated to be 904Mt at an average HM grade of 6.1% for 55Mt of contained HM as at 30 June 2022. No monazite or garnet is incorporated in the Ranobe Ore Reserves estimate because the existing mining tenure, *Permis D'Exploitation* 37242, does not currently provide the right to exploit these minerals.

Table 5: The 2022 Ranobe Ore Reserves estimate compared with the 2021 estimate.

Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	Mineral Assemblage as % of HM			
						ILM (%)	RUT (%)	LEUC [^] (%)	ZIR (%)
2022 Ranobe Ore Reserves (as at 30 June 2022)									
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
2021 Ranobe Ore Reserves (as at 30 June 2021)									
Proved	347	24	7.0	3.8	0.1	75	1.0	1.0	5.9
Probable	239	14	5.8	4.2	0.2	73	1.3	0.8	5.7
Total	586	38	6.5	3.9	0.1	74	1.1	0.9	5.9

Table subject to rounding differences.

[^]Recovered Leucoxene will be split between Rutile and Chloride Ilmenite products depending on product specification requirements.

The Ranobe Ore Reserves estimate was also updated on 27 September 2021 following the update to the Ranobe Mineral Resources estimate mentioned above. The 2022 Ranobe Ore Reserves estimate represents an increase of 54% in material tonnes and 45% in contained HM tonnes when compared with the 2021 Ranobe Ore Reserves estimate.

Mineral Resources and Ore Reserves Governance

A summary of the governance, internal controls and estimation process applicable to Base Resources' Mineral Resources and Ore Reserves estimates is as follows:

Mineral Resources

- Review and validation of drilling and sampling methodology and data spacing, geological logging, data collection and storage, sampling and analytical quality control.
- Geological interpretation – review of known and interpreted structure, lithology and weathering controls.
- Estimation methodology – relevant to mineralisation style and proposed mining methodology.
- Comparison of estimation results with previous mineral resources models, and with results using alternate modelling methodologies.
- Visual validation of block model against raw composite data.
- Use of external Competent Persons to assist in preparation of Mineral Resources estimate updates.

Ore Reserves

- Review of potential mining methodology to suit deposit and mineralisation characteristics.
- Review of potential Modifying Factors, including cost assumptions and commodity prices to be utilised in mining evaluation.
- Ore Reserves estimate updates initiated following material changes in the relevant Modifying Factor assumptions.
- Optimisation using appropriate software packages for open pit evaluation.
- Design based on optimisation results.
- Use of external Competent Persons to assist in preparation of Ore Reserves estimates.

Competent Persons' Statements

The information in the 2022 Mineral Resources and Ore Reserves Statement that relates to Mineral Resources and Ore Reserves is based on, and fairly represents, information and supporting documentation prepared by the Competent Persons named in the table below. Each Competent Person:

- is a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists;
- has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the JORC Code and as a qualified person for the purposes of the AIM Rules for Companies; and
- consents to the inclusion in this statement of matters based on their information in the form and context in which the relevant information appears.

Mr. Scott Carruthers has also approved this statement as a whole.

Mr. Scott Carruthers is employed by Base Resources, 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. Ian Reudavey is also employed by Base Resources. He does not presently hold equity securities in Base Resources and is not entitled to participate in Base Resources' long-term incentive plan.

Name	Estimate(s)	Employer
Scott Carruthers	Kwale Mineral Resources and Ore Reserves (overall), Kwale South Dune Mineral Resources, Bumamani Mineral Resources, Kwale South Dune Ore Reserves, Kwale North Dune Ore Reserves, Bumamani Ore Reserves and Ranobe Ore Reserves	Base Resources, full-time employee
Greg Jones	Kwale North Dune Mineral Resources and Ranobe Mineral Resources	IHC Robbins, consultant geologist to Base Resources
Per Scrimshaw	Kwale North Dune Ore Reserves and Bumamani Ore Reserves	Entech, a mining consultancy engaged by Base Resources
Chris Sykes	Ranobe Ore Reserves	IHC Robbins, consultant mining engineer to Base Resources
Ian Reudavey	Ranobe Mineral Resources	Base Resources, full-time employee

Forward looking statements

Certain statements in or in connection with this statement contain or comprise forward looking statements. Such statements may include, but are not limited to, statements with regard to future production and grades, capital cost, capacity, 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.

Glossary

Assemblage	The relative proportion of heavy mineral components, principally ilmenite, rutile, zircon and, where applicable, leucoxene, monazite and garnet.
Base Resources or Company	Base Resources Limited.
Base Titanium	Base Titanium Limited.
Competent Person	The JORC Code requires that a Competent Person be a Member or Fellow of The Australasian Institute of Mining and Metallurgy, of the Australian Institute of Geoscientists, or of a 'Recognised Professional Organisation'. A Competent Person must have a minimum of five years' experience working with the style of mineralisation or type of deposit under consideration and relevant to the activity which that person is undertaking.
Cut-off grade	The lowest grade of mineralised material that is thought to be economically mineable and available. Typically used by Base Resources to define which material is reported in a Mineral Resource estimate.
GARN	Garnet, a valuable heavy mineral.
Grade	A physical or chemical measurement of the characteristics of the material of interest. In this context, the grade is always a percentage and the characteristics are heavy mineral, oversize, slime and the various product minerals (ilmenite, rutile etc).
Heavy mineral or HM	In mineral sands, minerals with a specific gravity greater than 2.85 t/m ³ .
ILM	Ilmenite, a valuable heavy mineral.
Indicated	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.
Inferred	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
JORC Code	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition, as published by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia.
LEUC	Leucoxene, a valuable heavy mineral.
Measured	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.
Modifying Factors	Modifying Factors are considerations used to convert Mineral Resources to Ore Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
MON	Monazite, a valuable heavy mineral that contains rare earth elements.
Mineral Resources	Mineral Resources are a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

Ore Reserves	Ore Reserves are those portions of Mineral Resources that, after the application of all Modifying Factors, result in an estimated tonnage and grade which, in the opinion of the Competent Person making the estimates, are economically mineable.
OS	Oversize material.
Probable	A Probable Ore Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.
Proved	A Proved Ore Reserve is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.
RUT	Rutile, a valuable heavy mineral.
SL	Slimes, being a waste product from the processing of mineral sands.
Sterilisation	Material or Ore that is depleted from Mineral Resources or Ore Reserves, but which was not mined. This material still remains in ground but mining has passed by and, in the Competent Person's opinion, it has no reasonable prospects for eventual economic extraction.
ZIR	Zircon, a valuable heavy mineral.

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For further information contact:

James Fuller, Manager - Communications and Investor Relations

Base Resources

Tel: +61 (0) 8 9413 7426

Mobile: +61 (0) 488 093 763

Email: jfuller@baseresources.com.au

UK Media Relations

Tavistock Communications

Jos Simson and Gareth Tredway

Tel: +44 (0) 207 920 3150

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.