ASX and Media Release
11 August 2023

2023 Mineral Resources and Ore Reserves Statement

Key Points

- Kwale South Dune Mineral Resources and Ore Reserves estimates reduced due to mining depletion and related sterilisation during the year to 30 June 2023, with:
  - Mineral Resources reducing by 18.8Mt containing 0.61Mt of heavy mineral.
  - Ore Reserves reducing by 16.9Mt containing 0.57Mt of heavy mineral.
- Kwale North Dune Mineral Resources and Ore Reserves estimates reduced due to mining depletion during the year to 30 June 2023, with:
  - Mineral Resources reducing by 2.4Mt containing 0.05Mt of heavy mineral.
  - Ore Reserves reducing by 1.8Mt containing 0.04Mt of heavy mineral.
- Ranobe Mineral Resources and Ore Reserves estimates were both unchanged from 2022.

The 2023 Mineral Resources and Ore Reserves estimates for **Base Resources Limited** (ASX / AIM: BSE) are summarised in the table below, together with the 2022 Mineral Resources and Ore Reserves estimates for comparison.

	2023[1] as at 30 June 2023									**2022**[1] as at 30 June 2022								
						HM Assemblage									HM Assemblage			
	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%	OS (%	ILM (%)	RUT (%)	LEUC (%)	ZIR (%)	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	LEUC (%)	ZIR (%)
Mineral Resources (Measured + Indicated + Inferred, inclusive of Ore Reserves)																		
Kwale[2]	184	2.8	1.5	36	1.9	45	13[3]	-	5.8	205	3.5	1.7	35	2.0	47	13[3]	-	5.8
Ranobe[4]	2,580	111	4.3	7.7	0.4	71	1.0	1.0	5.9	2,580	111	4.3	7.7	0.4	71	1.0	1.0	5.9
Ore Reserves (Proved + Probable)																		
Kwale	21	0.5	2.2	32	2.1	52	14	-	6.1	40	1.1	2.7	28	2.3	55	14	-	6.0
Ranobe	904	55	6.1	3.8	0.1	73	1.0	1.0	5.9	904	55	6.1	3.8	0.1	73	1.0	1.0	5.9

Notes:

1. *Table may be subject to slight arithmetic differences due to rounding.*
2. *Kwale incorporates the Kwale South Dune, Kwale North Dune and Bumamani deposits.*
3. *Kwale rutile reported is rutile + leucoxene minerals.*
4. *The Ranobe Mineral Resources estimate also specifies the monazite and garnet within the mineral assemblage as a percentage of HM, refer to the standalone table for the Ranobe Mineral Resources estimate below for these percentages.*

The 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 7 and 8.

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 announcements[1]:

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[2]	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
2022 Comparatives	Mineral Resources & Ore Reserves	2022 Mineral Resources and Ore Reserves Statement	30 June 2022	12 August 2022

Kwale Deposits

The Company's 100% owned Kwale Mineral Sands Operations in Kenya is located in Kwale County and 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 and Special Mining Lease No. 23, which contain the Kwale South Dune, the Kwale North Dune and the Bumamani deposits.

Mineral Resources

The 2023 Kwale Mineral Resources, as at 30 June 2023, are estimated to be 184Mt at an average HM grade of 1.5% for 2.8Mt of contained HM, at a 1% HM cut-off grade.

The 2023 Kwale Mineral Resources estimate represents a decrease of approximately 21Mt (or 10%) in material tonnes containing 0.7Mt of HM compared to the 2022 Kwale Mineral Resources estimate. This was due to mining depletion and sterilisation of the Kwale South Dune Mineral Resources and mining depletion of the Kwale North Dune Mineral Resources.

The Kwale South Dune Mineral Resources are estimated to be 8.9Mt at an average HM grade of 2.2% for 0.19Mt of contained HM as at 30 June 2023, a decrease of 18.8Mt containing 0.61Mt of HM compared to the 2022 Kwale South Dune Mineral Resources estimate.

The 2023 Kwale North Dune Mineral Resources are estimated to be 169Mt at an average HM grade of 1.5% for 2.51Mt of contained HM as at 30 June 2023, a decrease of 2.4Mt containing 0.05Mt of HM compared to the 2022 Kwale North Dune Mineral Resources estimate.

The 2023 Bumamani Mineral Resources are estimated to be 5.9Mt at an average HM grade of 1.9% for 0.12Mt of contained HM. The Bumamani Mineral Resources at 30 June 2023 are unchanged from the 2022 estimate.

[1] ASX announcements are available at https://baseresources.com.au/investors/announcements/.

[2] The Kwale North Mineral Resources estimate was updated as at 20 June 2022 and disclosed in the announcement titled 'Maiden Kwale North Dune and Bumamani Ore Reserves estimates' released on 20 June 2022. Refer to this announcement for the most recent JORC Code Table 1 information for both the Kwale North Dune and Bumamani Mineral Resources estimates.

Table 2: 2023 Kwale Mineral Resources estimate compared with the 2022 estimate at a 1% HM cut-off grade.

	2023 as at 30 June 2023								2022 as at 30 June 2022							
						HM Assemblage								HM Assemblage		
Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)
Kwale South Dune Mineral Resources																
Measured	4.9	0.11	2.2	26	2.3	59	14	6.1	17	0.49	3.0	24	1.3	59	14	5.8
Indicated	4.0	0.09	2.2	27	6.1	57	14	6.0	11	0.31	2.9	25	6.1	56	13	5.9
Total	**8.9**	**0.19**	**2.2**	**26**	**4.0**	**58**	**14**	**6.1**	**28**	**0.81**	**2.9**	**24**	**3.2**	**58**	**14**	**5.8**
Kwale North Dune Mineral Resources																
Measured	104	1.60	1.5	37	1.5	40	13	5.4	106	1.6	1.5	37	1.5	40	13	5.4
Indicated	62	0.89	1.4	37	2.1	49	14	6.1	63	0.9	1.4	37	2.1	49	14	6.1
Inferred	2	0.03	1.2	37	2.9	49	15	6.5	2	0.03	1.2	37	2.9	49	15	6.5
Total	**169**	**2.51**	**1.5**	**37**	**1.8**	**43**	**13**	**5.7**	**171**	**2.6**	**1.5**	**37**	**1.8**	**44**	**13**	**5.7**
Bumamani Mineral Resources																
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																
Measured	112	1.77	1.6	36	1.6	41	13	5.5	125	2.2	1.7	35	1.5	45	13	5.6
Indicated	69	1.02	1.5	36	2.5	50	14	6.2	77	1.3	1.6	35	2.8	51	14	6.1
Inferred	3	0.03	1.2	36	3.3	48	15	6.7	3	0.0	1.2	36	3.3	48	15	6.7
Total	**184**	**2.82**	**1.5**	**36**	**1.9**	**45**	**13**	**5.8**	**205**	**3.5**	**1.7**	**35**	**2.0**	**47**	**13**	**5.8**

Table may be subject to slight arithmetic differences due to rounding. Mineral Resources are reported inclusive of Ore Reserves.

Ore Reserves

Included within the Kwale Mineral Resources are the Kwale Ore Reserves, estimated to be 21.3Mt at an average HM grade of 2.2% for 0.48Mt of contained HM as at 30 June 2023.

Compared to the 2022 Kwale Ore Reserves estimate, there was a decrease of 56% in contained HM tonnes.

The Kwale South Dune Ore Reserves decreased by 16.9Mt containing 0.57Mt of HM due to mining depletion and sterilisation of unmined material due to a combination of an elevated basement floor in some areas compared to that predicted in the underlying model, induration at the base of the mineralised profile that could not be readily mined and infrastructure buffers.

The Kwale North Dune Ore Reserves decreased by 1.8Mt containing 0.04Mt of HM due to mining depletion. There was no sterilisation of unmined material as the design pit floor is yet to be reached.

Table 3: 2023 Kwale Ore Reserves estimate compared with the 2022 estimate.

	2023 as at 30 June 2022								2022 as at 30 June 2022							
						HM Assemblage								HM Assemblage		
Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	ZIR (%)
Kwale South Dune Ore Reserves																
Proved	3.6	0.09	2.4	27	2.2	59	14	6.1	15	0.46	3.1	25	1.2	59	14	5.7
Probable	1.6	0.05	3.0	26	7.4	57	13	6.1	7	0.25	3.3	24	5.8	57	13	5.9
Total	**5.2**	**0.13**	**2.6**	**27**	**3.8**	**58**	**14**	**6.1**	**22**	**0.71**	**3.2**	**24**	**2.8**	**58**	**14**	**5.8**
Kwale North Dune Ore Reserves																
Proved	7.3	0.15	2.1	39	0.7	48	13	5.5	8.3	0.17	2.1	37	0.9	50	13	6.1
Probable	4.9	0.10	2.1	38	1.6	52	13	5.9	5.6	0.12	2.1	37	1.8	53	13	5.9
Total	**12.1**	**0.25**	**2.1**	**39**	**1.1**	**50**	**13**	**5.6**	**13.9**	**0.29**	**2.1**	**37**	**1.2**	**51**	**13**	**6.0**
Bumamani Ore Reserves																
Proved	2.6	0.06	2.3	19	2.2	48	16	7.5	2.6	0.06	2.3	19	2.2	48	16	7.5
Probable	1.3	0.03	2.2	19	5.3	48	16	7.6	1.3	0.03	2.2	19	5.3	48	16	7.6
Total	**3.9**	**0.09**	**2.3**	**19**	**3.2**	**48**	**16**	**7.5**	**3.9**	**0.09**	**2.3**	**19**	**3.2**	**48**	**16**	**7.5**
Total Kwale Ore Reserves																
Proved	13.5	0.30	2.2	32	1.4	51	14	6.1	26	0.69	2.7	28	1.2	56	14	6.0
Probable	7.8	0.18	2.3	33	3.4	53	14	6.2	14	0.40	2.7	29	4.2	55	13	6.0
Total	**21.3**	**0.48**	**2.2**	**32**	**2.1**	**52**	**14**	**6.1**	**40**	**1.1**	**2.7**	**28**	**2.3**	**55**	**14**	**6.0**

Table may be subject to slight arithmetic differences due to rounding.

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 2023 Ranobe Mineral Resources was unchanged from the 2022 estimate of 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 2023 Ranobe Mineral Resources estimate at a 1.5% HM cut-off grade.

						Mineral Assemblage as % of HM					
Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	LEUC (%)	ZIR (%)	MON (%)	GARN (%)
2023 Ranobe Mineral Resources (as at 30 June 2023)											
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**

Table may be subject to slight arithmetic differences due to rounding. Mineral Resources are reported inclusive of Ore Reserves.

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 2023, which are unchanged from the 2022 estimate. 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 2023 Ranobe Ore Reserves estimate.

						Mineral Assemblage as % of HM			
Category	Tonnes (Mt)	HM (Mt)	HM (%)	SL (%)	OS (%)	ILM (%)	RUT (%)	LEUC^ (%)	ZIR (%)
2023 Ranobe Ore Reserves (as at 30 June 2023)									
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**

Table may be subject to slight arithmetic differences due to rounding.

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

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' Statement

The information in the 2023 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 the relevant estimate(s) listed alongside their name in table below in the form and context in which the estimate and the relevant information are presented.

Mr Ian Reudavey has also approved this statement as a whole.

Mr Ian Reudavey is employed by Base Resources, does not presently hold equity securities in Base Resources, and is entitled to participate in Base Resources' long-term incentive plan and receive equity securities under that plan. Mr Scott Carruthers is employed by Base Titanium, Base Resources' wholly owned subsidiary. Mr Carruthers holds equity securities in Base Resources, and is also 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' 2022 Annual Report.

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

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 Resources 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.
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.
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.

Ore Reserves	Ore Reserves are the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.
OS	Oversize material, for Kwale and Ranobe it is defined as material >1mm in size
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, fine material (defined as <45µm at Kwale and <63µm at Ranobe) that is a waste product from the processing of mineral sands.
Sterilisation	Material that is depleted from Mineral Resources or Ore Reserves, but which was not mined. This material still remains in ground following mining activity 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:

Australian investor and media queries
Citadel Magnus
Cameron Gilenko and Michael Weir
Tel: +61 (8) 6160 4900

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, is developing the Toliara Project in Madagascar and is conducting exploration in Tanzania. Base Resources is an ASX and AIM listed company. Further details about Base Resources are available at www.baseresources.com.au.