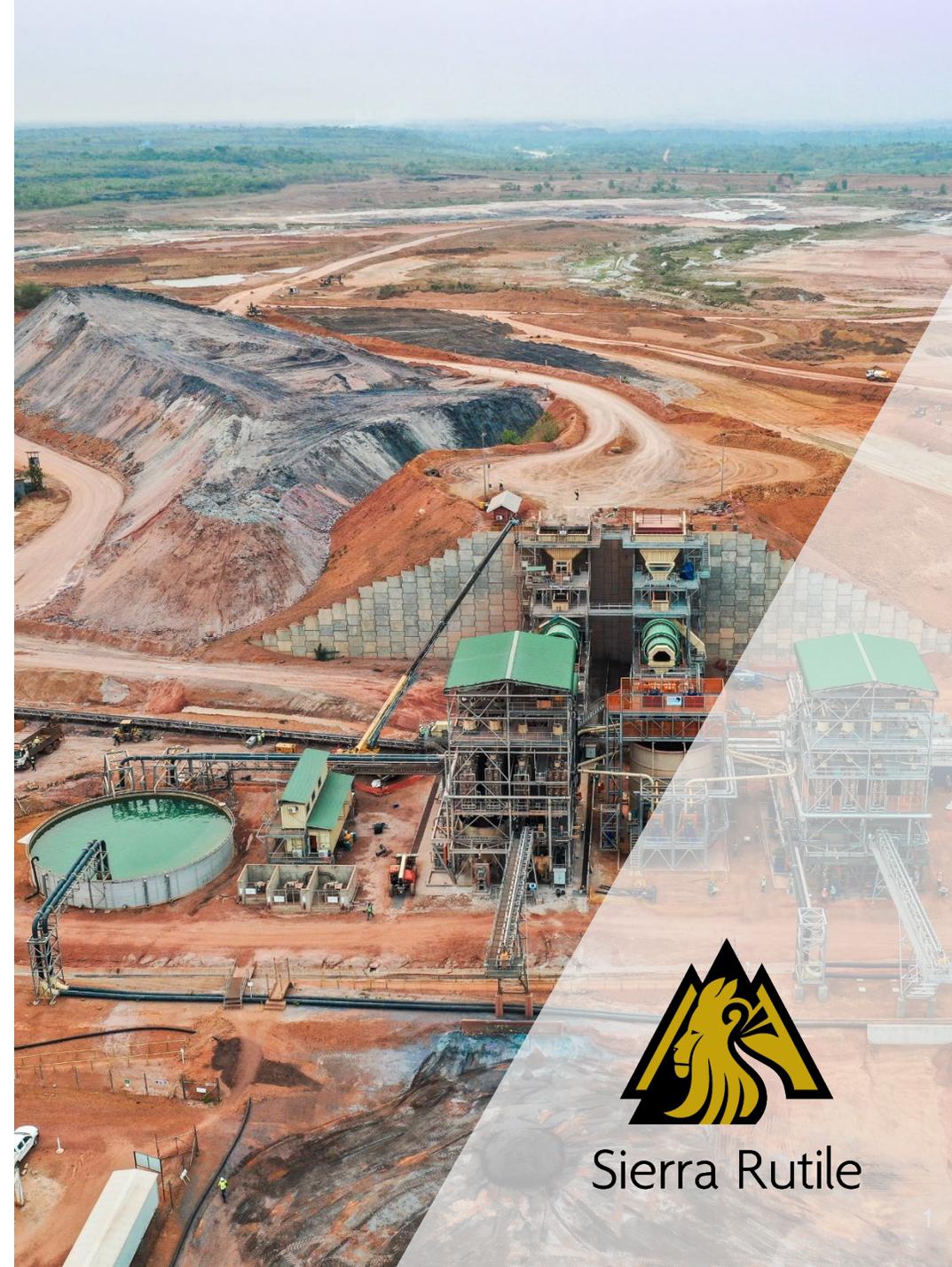


# Sierra Rutile

**Sembehun: new growth opportunity  
from the operator of the world's longest-  
established rutile mine**

November 2022

ASX. SRX



Sierra Rutile

# Introduction to Sierra Rutile



Sierra Rutile

# Sierra Rutile Investment Highlights



Sierra Rutile

*World's largest natural rutile producer positioned to significantly extend its mine life and reduce costs through development of Sembehun.*

## Highlights

Long established producer of high-quality natural rutile for pigment, sponge/metal and welding markets.

Opportunity to generate **attractive returns** for **relatively low risk** through development of **Sembehun** leveraging existing infrastructure

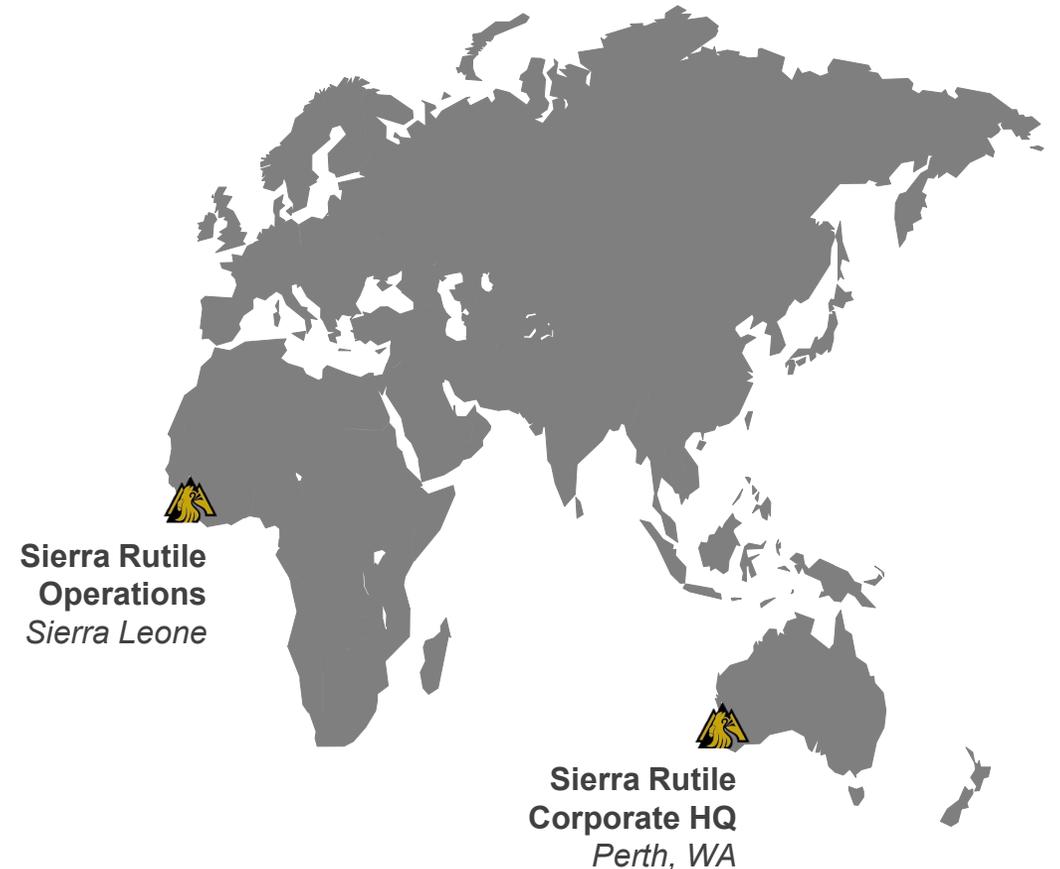
**Long-standing customer relationships** with strong demand for **premium natural rutile** in declining supply

**Area 1 operations** generating **free cash flows** contributing funding towards **Sembehun** development

High quality **ESG practices and credentials**

**Robust financial position** with cash of US\$36.3m at 30 Sept and no debt in addition to A\$63.4m balance in Sierra Rutile Rehabilitation Trust<sup>1</sup>

## Location



Note: (1) Funds are independently managed by Perpetual, one of Australia's largest providers of trustee services, and only available for rehabilitation of Area 1.

# Corporate Overview



*Listed on the ASX in July 2022, following demerger from Iluka Resources Limited. No debt and cashflow positive.*

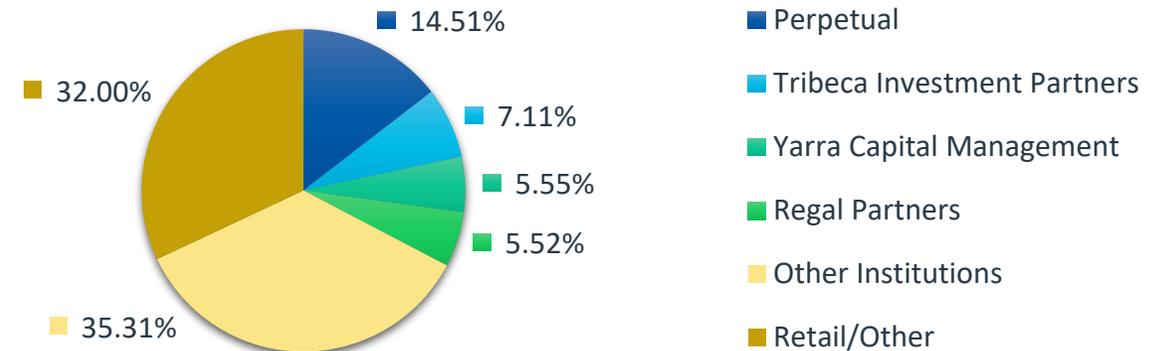
## Capital Structure

Shares on issue <b>424,236,447</b>	Market Cap (09.11.22) <b>A\$98.42m</b>
Share Price (09.11.22) <b>A\$0.23</b>	Cash position (30.09.22) <b>~US\$36.3m<sup>1</sup></b>

## Board and Senior Management

<b>Greg Martin</b> <i>Independent Chair</i>	Sydney, Australia
<b>Theuns de Bruyn</b> <i>Managing Director and Chief Executive Officer</i>	Site, Sierra Leone
<b>Martin Alciaturi</b> <i>Finance Director</i>	Perth, Australia
<b>Graham Davidson</b> <i>Independent Non-Executive Director</i>	London, UK
<b>Joanne Palmer</b> <i>Independent Non-Executive Director</i>	Perth, Australia

## Ownership Structure<sup>2</sup>



## Substantial Shareholders<sup>2</sup>

	% Shares on Issue
Perpetual Ltd.	14.51%
Tribeca Investment Partners Pty Ltd.	7.11%
Yarra Capital Management	5.55%
Regal Partners Ltd.	5.52%

Note: (1) Excludes independently managed rehabilitation trust funds  
(2) As at 5 October 2022, Capital IQ

# Rutile



Sierra Rutile

*Sierra Rutile is the world's largest, and longest established, natural rutile miner.*

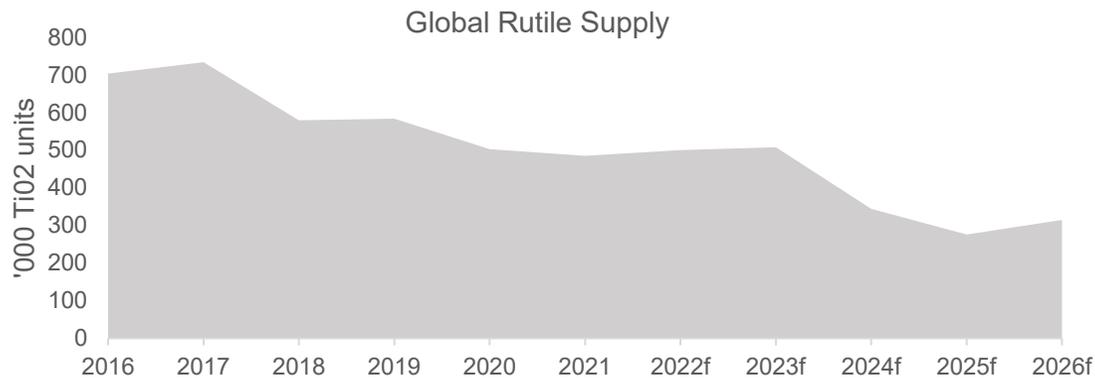
## Rutile

Natural rutile was the original chloride feedstock for conversion into titanium dioxide pigment or titanium sponge (metal).

Benefits of rutile over ilmenite upgraded into synthetic rutile or titanium slag are:

- ▲ Fewer contaminants, which can be end-use critical
- ▲ Higher TiO<sub>2</sub> content means less ore is required (reducing freight) and less waste is generated (landfill, waste treatment and emissions)
- ▲ Lower chlorine/petcoke consumption and higher chlorinator utilisation
- ▲ Lower energy/carbon consumption.

## Natural Rutile Supply Outlook<sup>1</sup>



Note: (1) Source = TZMI June 2022

(2) Sierra Rutile's historical sales (in tonnes) by end-used application

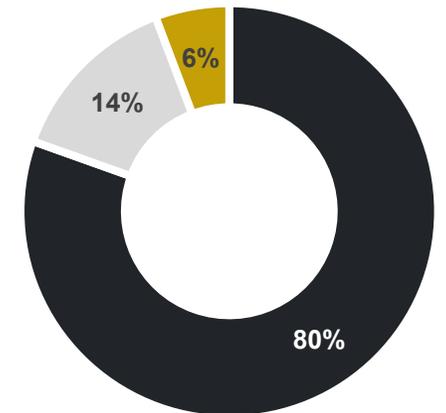
## Sierra Rutile's products

- ▲ **Standard Grade Rutile (SGR)**, which is considered to be an industry leading high quality product and is consumed primarily in the manufacture of titanium dioxide pigment and titanium sponge.
- ▲ **Industrial Grade Rutile (IGR)**, well suited to high quality flux core wire applications due to its high packing density and low contaminant level. Generally trades at a premium to competing rutile products.
- ▲ **High-grade chloride ilmenite**, suitable for direct chlorination into titanium dioxide pigment and transformation into titanium slag.

## Sierra Rutile End-Uses of Titanium Dioxide Feedstocks (FY19-21)<sup>2</sup>

Sierra Rutile's primary products serve the following end-use applications:

- ◆ **Pigment**  
*Paint, paper, plastics, inks, coatings*
- ◆ **Metal**  
*Aircraft frames and engines, medical and sporting goods, industrial applications*
- ◆ **Welding**  
*Steel fabrication, ship building, pipes, construction, transport*



# Sierra Leone

*Sierra Rutile is a key part of the economy in Sierra Leone.*



- ▲ Sierra Leone is a coastal nation in West Africa, known for its vast and numerous beaches, as well as its rainforests and wildlife preserves.
- ▲ A stable democracy for over 22 years.
- ▲ The 5<sup>th</sup> safest country in Africa<sup>1</sup>.
- ▲ Significant distance from Sahel instability impacting larger West African neighbours.
- ▲ Moderate annual economic growth, with agriculture and mining representing key contributors to the country's exports, GDP and employment.
- ▲ Sierra Rutile has an established operating history of more than 50 years in Sierra Leone.
- ▲ With a population of only 7.5 million<sup>2</sup>, Sierra Leone's economy is relatively small overall so, with ~ 2,200 direct employees and another ~800 contractors, Sierra Rutile plays a critical role economically as one of the largest private sector employers.

Note: (1) Source = 2022, Global Peace Index  
(2) Source = Sierra Leone Census 2021

# Health & Safety



Sierra Rutile

*The health and safety of all employees, contractors and visitors is of fundamental importance to Sierra Rutile.*

## Health

The Sierra Rutile Clinic, is one of the best equipped medical facilities in country. It employs a dedicated team of doctors, nurses, intensive care paramedics, laboratory specialists and support staff to provide medical support to employees and their families including the delivery of 63 babies during 2021.

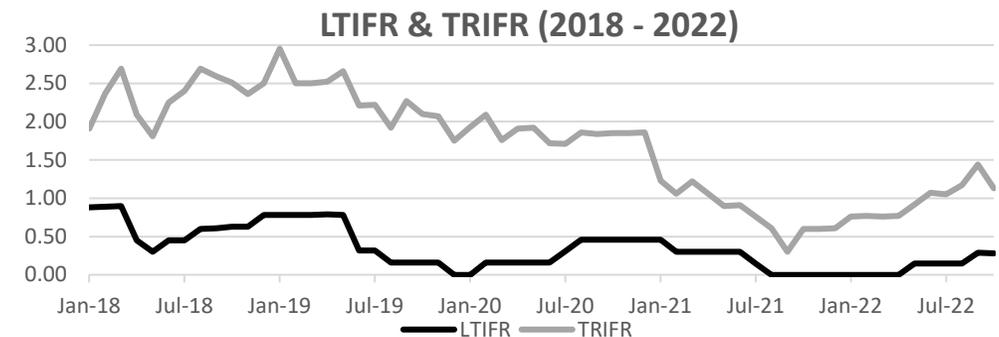
In August 2022, Sierra Rutile commissioned two community health centres built within the company's operational areas in communities where access to health facilities was very challenging.

Sierra Rutile also provides monetary and logistic support to a number of other initiatives including the Afro-European Medical and Research Network for the provision of free surgical and medical care within the Bonthe district as a result of which 295 surgical procedures were conducted during the 2022 campaign.



## Safety

Sierra Rutile has recorded a strong safety performance in recent years, attributable to the implementation of training programs, risk assessment and enhanced hazard identification. Unfortunately, two LTIs have been recorded in 2022. Sierra Rutile remains focused on improving its safety performance, with the ultimate aim to achieve zero workplace incidents.



# Environment & Social



Sierra Rutile

*Sierra Rutile is proud of its social investments in Sierra Leone and its contributions to the development of a healthy and vibrant local community.*

## Environment

### Committed to compliance with the Environmental Project Agency of Sierra Leone

...and at the forefront of environmental management in the Sierra Leone mining industry.

The full year land rehabilitation target for 2022 of 152ha was achieved and post-planting maintenance works commenced. The 2023 Land Restoration and Implementation Plan has been finalised and aims to rehabilitate 275 ha. Sierra Rutile has now rehabilitated approximately 809 hectares since 2016, supported by the ongoing efforts of Sierra Rutile's nursery team.

A Management Plan ensures compliance to all aspects of **Environmental Impact Assessment License for Area 1** including water, biodiversity, rehabilitation and waste management. An **Environmental, Social and Health Impact Assessment** for the Sembehun development is currently underway in conjunction with the DFS.



## Social

### Promoting the development of its local communities through the following initiatives:

- ▲ establishment of a local sourcing initiative;
- ▲ implementation of community infrastructure projects;
- ▲ Internship program offering opportunities in the fields of mining engineering, geology, finance and management and information technology.
- ▲ support of the Extractive Industries Transparency Initiative; and
- ▲ the Sierra Rutile Partnership Program, aimed at contributing to positive social, environmental and operational outcomes in the communities and regions in which the company operates.

### Education initiatives:

Sierra Rutile invests in education in Sierra Leone through its investment in a school bursary program, Educational Scholarship Program and its support of the Ruby Rose Educational Resource Centre, which provides educational facilities including library and internet facilities as well as outdoor play areas for children from nearby schools. Sierra Rutile has also established a school bus service for local children.



# Sembahun



Sierra Rutile

# Sembehun Development



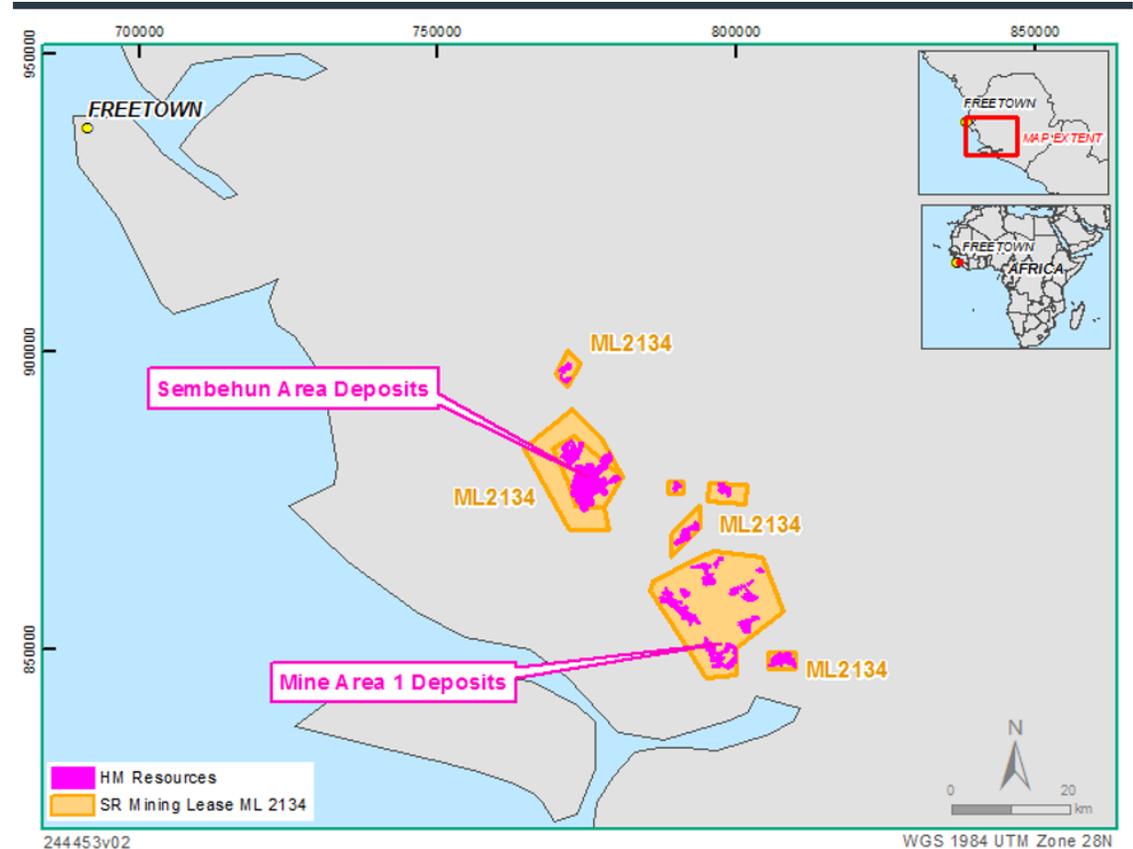
Sierra Rutile

*Sierra Rutile is advancing development of Sembehun, home to some of the largest and highest grade natural rutile deposits in the world.*

## Sembehun

- ▲ Some of the largest and highest-grade natural rutile deposits in the world.
- ▲ Aimed at extending Sierra Rutile's mine life by at least 13 years AND ...
- ▲ ...materially reducing operating costs.
- ▲ Phased development approach to:
  - leverage the significant Area 1 existing infrastructure in place; and
  - integrate development of Sembehun with the remainder of operations at Area 1.
- ▲ This approach minimises pre-production capital expenditure and maximises Sierra Rutile's ability to utilise cash flows generated from Area 1 to assist in funding the development of Sembehun.
- ▲ DFS commenced on 2 September utilising consulting engineers Hatch Limited and will take approximately 12 months, allowing a final investment decision late 2023.

## Location & Size



# Sembehun PFS Summary

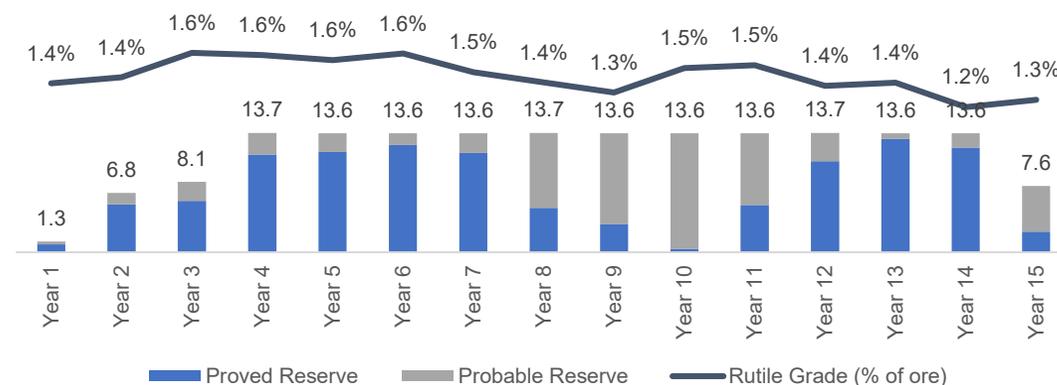


*A financially robust project leveraging existing investment in Mineral Separation Plant, port and various roads and with Sembehun production volumes expected to exceed those of Area 1.*

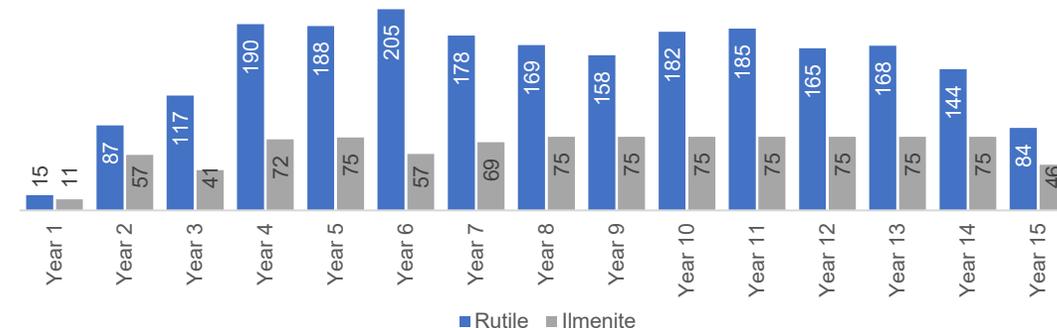
## Sembehun PFS Highlights

Ore Reserves <sup>1</sup>	▲ 174Mt @ 1.45% Rutile
Mineral Resources <sup>1</sup>	▲ 508Mt @ 1.10% Rutile
Mine Life	▲ >13 years
Mining Method	▲ Dry mining (truck & excavator)
Processing	▲ Mineral concentrate from Sembehun will be processed in a magnetic separation circuit (to be constructed) and proceed to the company's existing mineral separation plant, which includes a feed preparation plant and dry plant
Project Net Present Value (8%, post tax real) <sup>2</sup>	▲ US\$318m
Project Internal rate of return (post tax real) <sup>2</sup>	▲ 24%
Capital cost (US\$m real)	▲ Total: US\$337m • Phase 1: US\$284m   Phase 2: US\$52m
Steady state average unit cash costs of production (US\$/t Z/R, real)	▲ US\$726/t rutile and zircon produced (excluding royalties and rehabilitation)
Steady state average unit cash costs of production, net of co-product credits (US\$/t R, real) <sup>3</sup>	▲ US\$535/t rutile produced (excluding royalties and rehabilitation)

## Production Tonnes (Mt) vs Grade (% rutile)<sup>4</sup>



## Annual Rutile and Ilmenite Production (kt)<sup>4</sup>



# Sembehun – Execution Risks



*Brownfields project leveraging significant existing infrastructure and forecast Area 1 cash flows to develop Sembehun in a two phased approach.*

Risk Factor	Sembehun Development	Typical Greenfield Industrial Minerals Project
<b>Government Relationships</b>	✓ Sierra Rutile has track record of working with the Government of Sierra Leone for mutual benefit	? May need to negotiate a completely new fiscal regime
<b>Community Relationships</b>	✓ Mining Licence and over 50 years of operating history	? Need to develop community relationships given licencing requirements and significant environmental disturbance
<b>Marketing</b>	✓ Sierra Rutile has a long history of filling the world’s high-quality chloride pigment feedstock requirements as well as being qualified by leading aerospace grade titanium sponge and welding consumable producers	? Need to grow overall market or pull customers away from established supply channels without having the benefit of an established reputation and known product
<b>Export Infrastructure</b>	✓ Sierra Rutile has exclusive use of an existing owner-operated port	? May require either significant investment in a new facility or multi-user negotiation
<b>Construction</b>	✓ Extensive regional operating experience and trained local workforce	? Construction management at a new location frequently gives rise to unexpected costs
<b>Geological / Mining / Recovery Assumptions</b>	✓ Extensive understanding of the geology/ processing, given similarity to Area 1	? Incorrect geological /mining/recovery assumptions may result in reduced cash flow

# Existing (Area 1) Operations



Sierra Rutile

# Area 1 Operations



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*Area 1 represents an established operation that is positioned to deliver value and support the transition to Sembehun.*

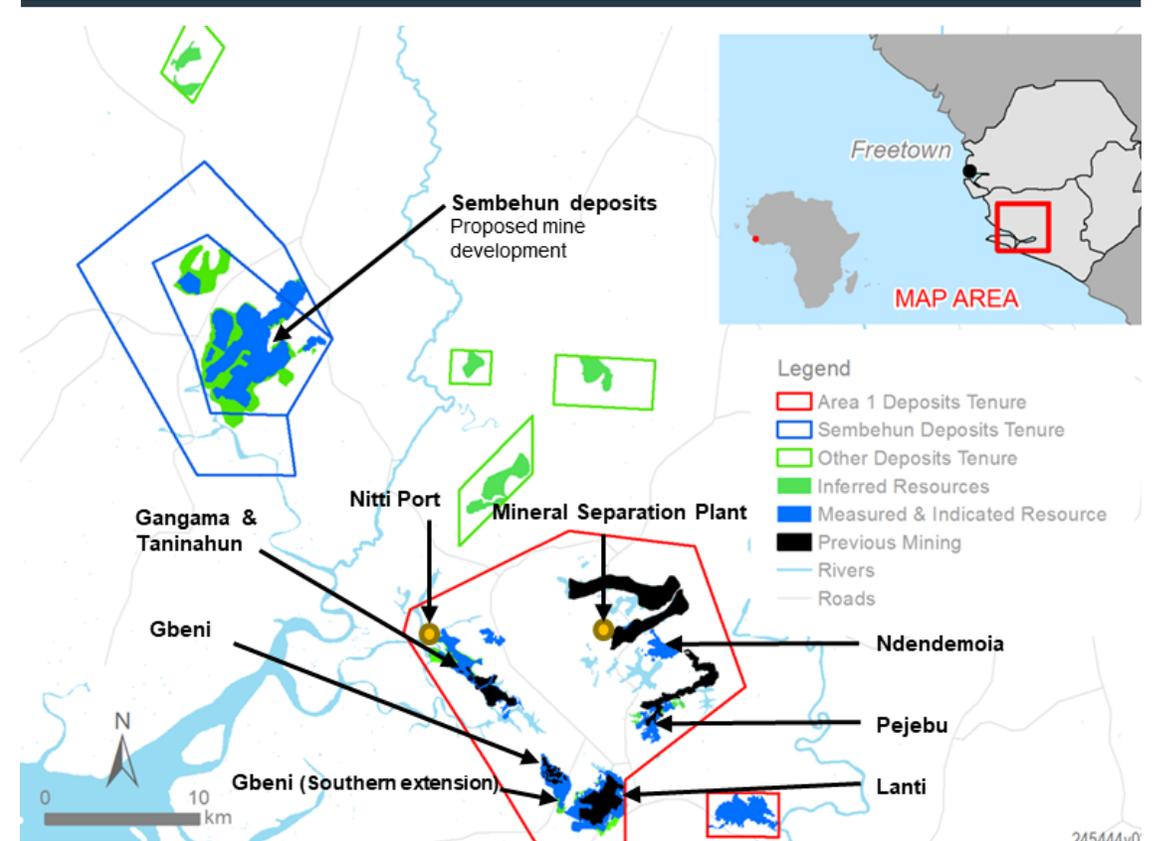
## Overview

<p><b>541Kt</b> Contained Rutile Ore Reserve<sup>1</sup></p>	<p><b>2.1Mt</b> Contained Rutile Mineral Resource<sup>1</sup></p>
<p><b>135-137kt</b> FY22 Rutile Production Guidance</p>	<p><b>US\$890/960t of rutile</b> FY22 Unit Cost Guidance (net of co-products)</p>
<p><b>Work program to extend Area 1 LOM Plan is underway</b></p>	

<b>Products</b>	<ul style="list-style-type: none"> <li>▲ Standard Grade Rutile (SGR)</li> <li>▲ Industrial Grade Rutile (IGR)</li> <li>▲ High-grade ilmenite</li> <li>▲ Zircon-in-concentrate (ZIC)</li> </ul>
<b>Mining method</b>	<ul style="list-style-type: none"> <li>▲ Dry mining: truck and excavator with dozer support.</li> </ul>
<b>Processing</b>	<ul style="list-style-type: none"> <li>▲ Four wet concentrator plants (WCPs) producing mineral concentrate with feed capacity of 500-600tph.</li> <li>▲ Mineral concentrate from Area 1 is processed in the mineral separation plant (MSP), which includes a feed preparation plant and dry plant. The MSP has capacity to produce 175ktpa of rutile.</li> </ul>
<b>Other assets</b>	<ul style="list-style-type: none"> <li>▲ Products are exported through the Nitti Port facilities situated in the Area 1 mining lease. The mine also maintains an extensive network of water supply ponds, power generation facilities, accommodation for senior and management staff, offices, extensive workshops, laboratory, a clinic and roads.</li> </ul>

Note: (1) Ore Reserve and Mineral Resource estimate as at 31 December 2021. Please see Appendix A for more information.

## Location & Size



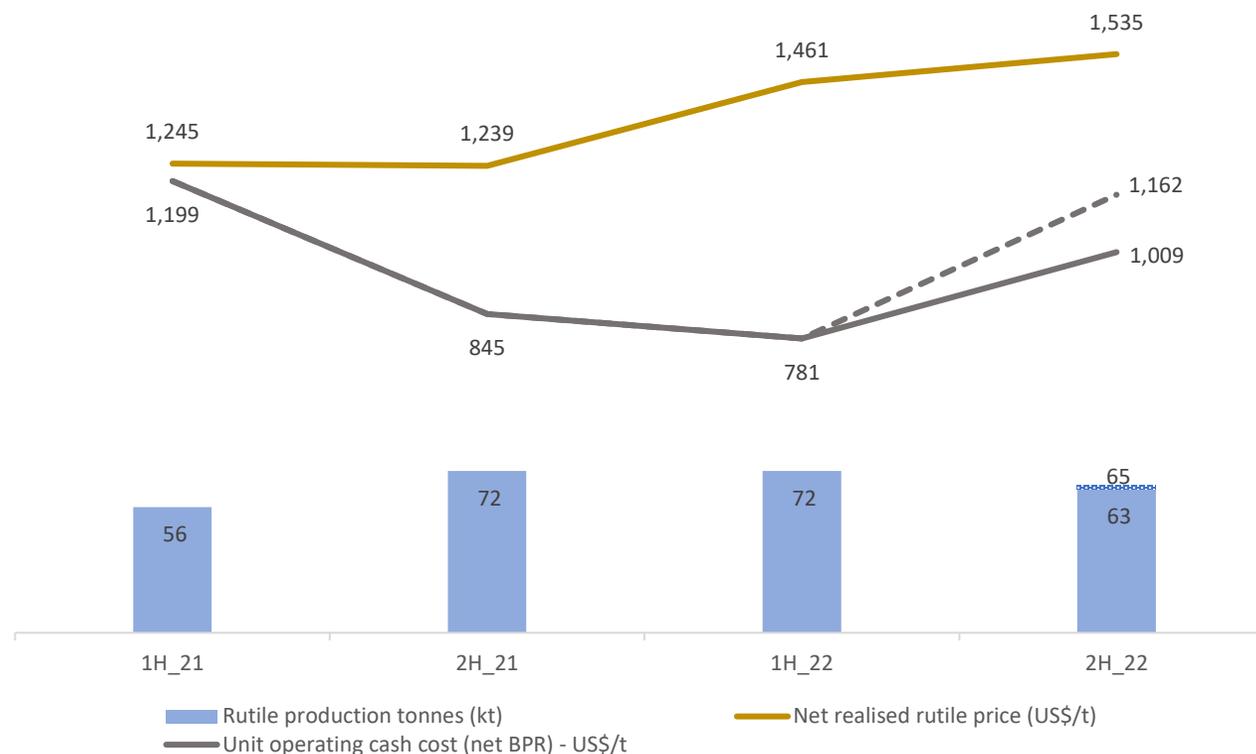
# Area 1 – Recent Financial Performance

*Operational improvements over past 2 years have had material impact notwithstanding adverse impacts of oil price rises and heavy rainfall this year.*

## Recent Operational Improvements

- ▲ Sierra Rutile identified and implemented a number of initiatives targeting cost reductions and productivity improvements from H2 2021, including:
  - mine plan optimisation;
  - improved mining, stockpile management, processing and tailings management practices;
  - enhanced maintenance practices targeting increased run time and plant availability; and
  - reduced operating costs driven by optimised staff rosters, reduced operating footprint and third party contract terms.
  
- ▲ Positive operating cashflow for Q3 2022 – but production and costs were impacted by extreme wet weather. Underlying trends are intact, with normalised production levels, and Q4 2022 is expected to provide significant concentrate sales scheduled.

## Area 1 rutile production, unit cash cost of production (net of co-credits), net rutile price realised



Note: (1) Unit cash costs (net of co-products) represent the total cash costs of production less the revenue earned from co-products (ZIC/GIC and ilmenite), divided by the total tonnes of rutile produced. (2) Production and costs for 2H 22 are as per guidance dated 27<sup>th</sup> Oct22. 1H & 2H 22 include actuals for 1Q,2Q &3Q. (3) Revenue for 2H 22 represents actual for 3Q.

# Area 1 – Mine Life Extension Program

*Currently undertaking a work program to convert Mineral Resources to Ore Reserves in order to extend the Area 1 life of mine plan.*

## Area 1 – Mine Life Extension Program Overview

- ▲ Pejebu and Ndendemoia deposits are located less than 5km south of the MSP within the Area 1 Mining Lease.
- ▲ Mine life extension work program includes:
  - additional geological drilling program and resource model update;
  - pit and civil infrastructure design;
  - operational planning including mine sequencing; and
  - financial modelling.
- ▲ Drilling at the Pejebu resource commenced in July 2022 to improve the confidence level from Indicated Mineral Resources to Ore Reserves. The drilling program is on track and planned to be completed by December 2022.
- ▲ Drilling at the Ndendemoia resource will start in November 2022 and is aimed to be completed by February 2023.
- ▲ The overall work program is scheduled to be complete by mid 2023.

## Area 1 – Current Reserve by Deposit<sup>1</sup>

Deposit	Material Tonnes (Mt)	In Situ Rutile (%)	In Situ Rutile (Mt)
<b>Gangama (inc ROM)</b>	11.8	1.4	0.17
<b>Gbeni North</b>	19.0	1.3	0.25
<b>Lanti</b>	4.9	1.8	0.09
<b>Taninahun</b>	2.5	1.4	0.04
<b>TOTAL</b>	<b>38.2</b>	<b>1.4</b>	<b>0.54</b>

## Area 1 – Target Resources in Mine Life Extension Program<sup>1</sup>

Deposit	Material Tonnes (Mt)	In Situ Rutile (%)	In Situ Rutile (Mt)
<b>Pejebu</b>			
<i>Indicated</i>	18.6	1.0	0.18
<i>Inferred</i>	4.8	1.0	0.05
<b>Ndendemoia East</b>			
<i>Indicated</i>	14.3	1.1	0.16
<b>Ndendemoia West</b>			
<i>Indicated</i>	4.0	0.6	0.03
<b>TOTAL</b>	<b>41.7</b>	<b>1.0</b>	<b>0.40</b>

Note: (1) Ore Reserve and Mineral Resource estimate as at 31 December 2021. Please see Appendix A for more information.

# Outlook



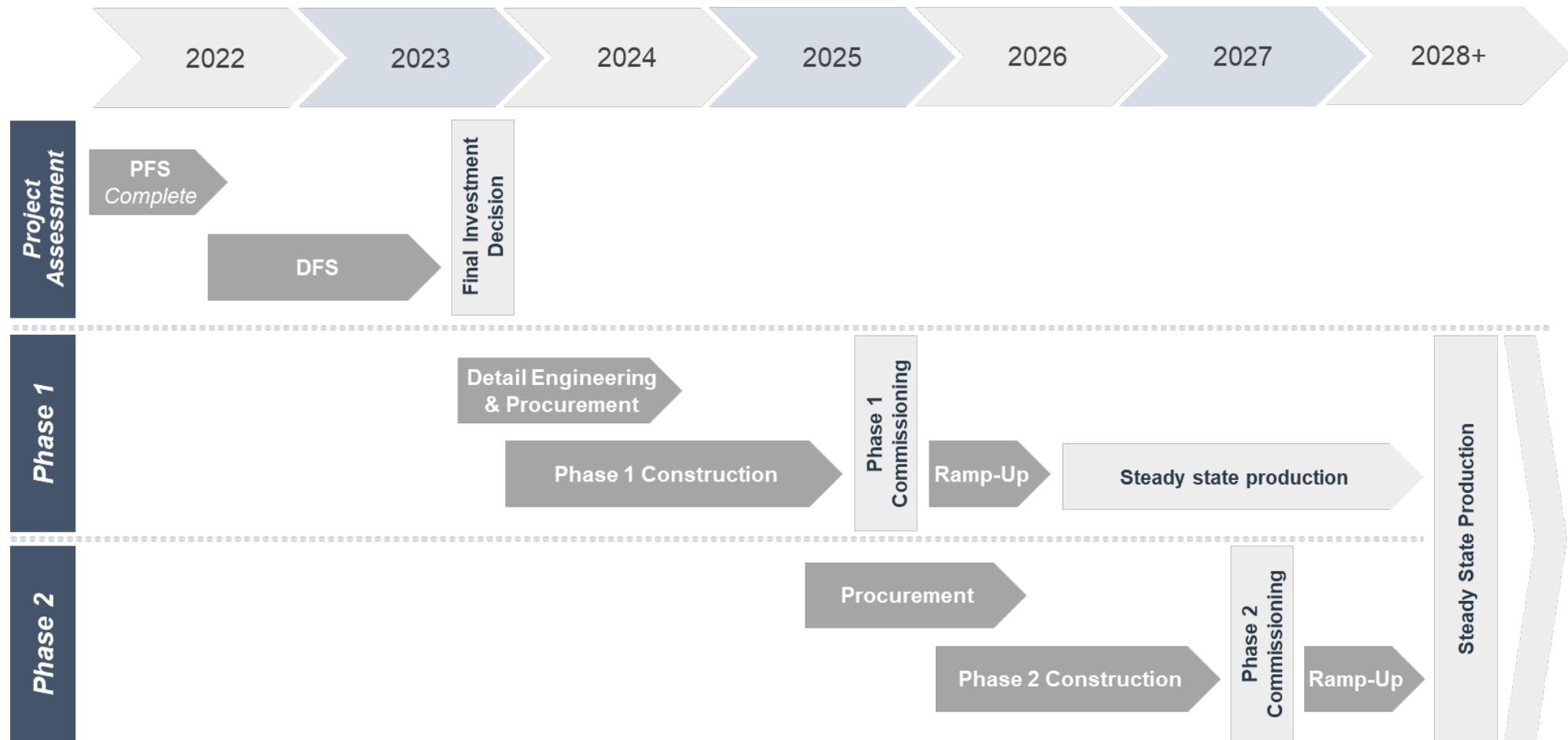
Sierra Rutile

# Sembehun Indicative Timeline



Sierra Rutile

*Aim is to see development of Sembehun integrated with the remaining operations at Area 1.*



# Outlook

*Promising outlook for substantial growth at the world's largest natural rutile producer.*



- ▲ Sembehun offers low-risk opportunity to significantly extend operations and lower cost structure for the longest established producer of natural rutile globally.
- ▲ Area 1 life extension work encouraging with result anticipated in 2Q 2023.
- ▲ Strong underlying trends. Area 1 operations are tracking broadly in line with the improved performance levels achieved over the last two years.
  - September production impacted by record rainfall at site, but has recovered in the December Quarter.
- ▲ Cash generation and levels remain healthy and support Sierra Rutile's future development plans.
  - Positive operating cashflow generation maintained in September Quarter despite adverse weather conditions.
  - Strong sales outlook for December Quarter.
- ▲ Market conditions remain positive:
  - Rutile fundamentals boosted by strong titanium demand for aerospace sector and helped by tight high grade TiO<sub>2</sub> feedstock conditions.

## For more information contact

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# Appendices



Sierra Rutile

# Appendix A: Important Notices and Disclaimer



Sierra Rutile

## 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 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 Sierra Rutile’s 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 securities exchange listing rules, Sierra Rutile 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.

## Mineral Resources, Ore Reserves Estimates and Production Guidance

This announcement contains production guidance based on estimates of Sierra Rutile’s ore reserves and mineral resources. The estimates in this announcement that relate to the ore reserves and mineral resources of Sierra Rutile have been extracted from the ASX release by Sierra Rutile entitled “Information Memorandum and Demerger Booklet” dated 25 July 2022, available at <https://sierrarutile.com/> and [www.asx.com.au](http://www.asx.com.au) (Announcement).

For the purposes of ASX Listing Rule 5.19, Sierra Rutile confirms that it is not aware of any new information or data that materially affects the information regarding Sierra Rutile’s ore reserves and mineral resources included in the Announcement and that all material assumptions and technical parameters underpinning the estimates in the Announcement continue to apply and have not materially changed. Sierra Rutile confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Announcement.

## Non-IFRS financial information

This announcement includes certain information and data, such as Operating Costs, Net Operating Cash Costs and Unit Operating Cash Costs, that are not recognised under Australian Accounting Standards and are classified as ‘non-IFRS financial information’ under ASIC Regulatory Guide 230 (Disclosing non-IFRS financial information). Sierra Rutile uses these non-IFRS financial information metrics to assess business performance and provide additional insights into the underlying performance of its operations.

The non-IFRS financial information metrics in this announcement do not have standardised meaning under the Australian Accounting Standards and, as a result, may not be comparable to the corresponding metrics reported by other entities. Non-IFRS financial information should be considered in addition to, and not as a substitute for, financial information prepared in accordance with Australian Accounting Standards. Readers are cautioned not to place undue reliance on non-IFRS financial information cited in this announcement.