



**SIERRA RUTILE LIMITED**

*Working for a better Sierra Leone*

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# Company Presentation

TZMI Congress

November 2011

# Disclaimer

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## **Forward-Looking Information**

This document may contain forward-looking statements. These forward-looking statements are made as of the date of this document and Sierra Rutile Limited (the “Company”) does not intend, and does not assume any obligation, to update these forward-looking statements, except as required under applicable securities legislation.

Forward-looking statements relate to future events or future performance and reflect Company management’s expectations or beliefs regarding future events and include, but are not limited to, statements with respect to the estimation of mineral reserves and resources, the realization of mineral reserve estimates, the timing and amount of estimated future production, costs of production, capital expenditures, success of mining operations, environmental risks, unanticipated reclamation expenses, title disputes or claims and limitations on insurance coverage. In certain cases, forward-looking statements can be identified by the use of words such as “plans”, “expects” or “does not expect”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or “does not anticipate”, or “believes”, or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “might” or “will be taken”, “occur” or “be achieved” or the negative of these terms or comparable terminology. By their very nature forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward looking statements. Such factors include, among others, risks related to actual results of current exploration activities; changes in project parameters as plans continue to be refined; future prices of mineral resources; possible variations in ore reserves, grade or recovery rates; accidents, labor disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities; as well as those factors detailed from time to time in the Company's interim and annual reports.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.



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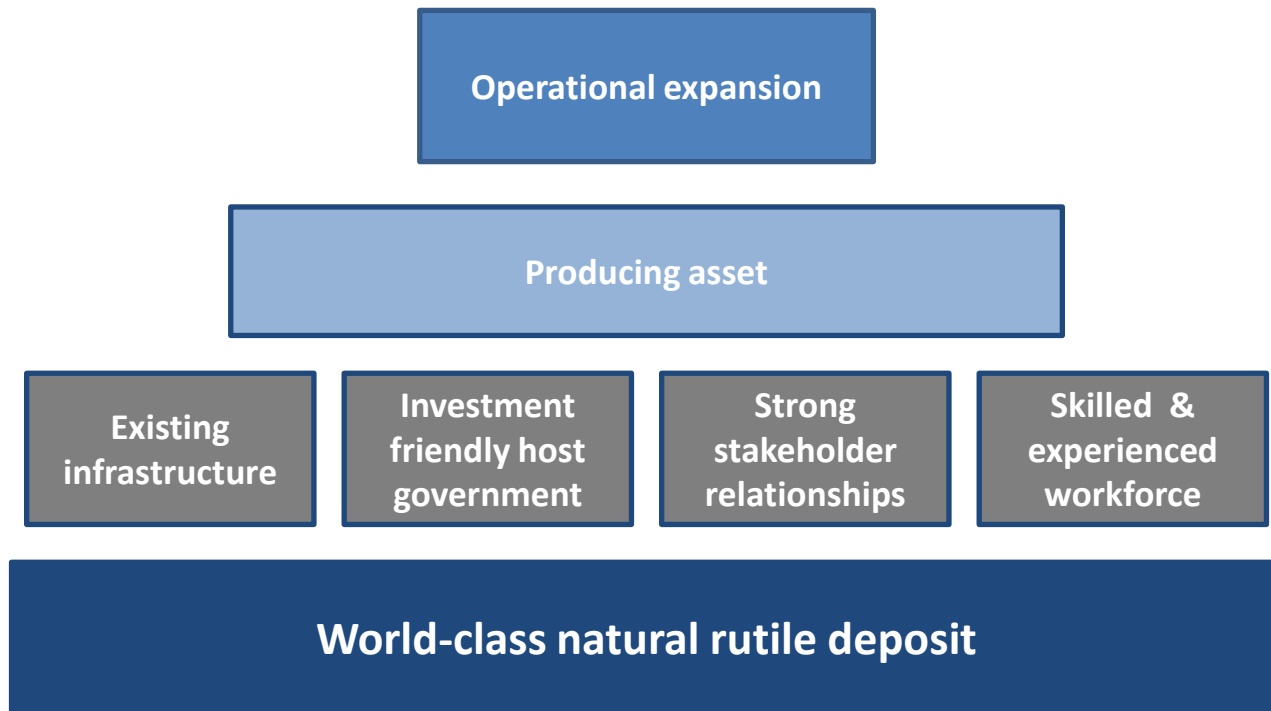
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# The Foundation: An Established Operation

# The Right Building Blocks

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***With solid foundations, and a turnaround plan already yielding dividends, Sierra Rutile is moving quickly to re-establish itself as a world leader in high-quality, natural rutile production***

# A World-Class Deposit

## The largest primary rutile mine in the world

- JORC Mineral Resource<sup>1</sup> in excess of 600 million tonnes

## Exceptional, high-value assemblage

- 72% of payable heavy mineral<sup>2</sup> is rutile
- 22% of payable heavy mineral<sup>2</sup> is zircon

## Significant opportunity to expand resource

- 558.9 sq. km of land licensed for mining
- 317.6 sq. km of reconnaissance permits
  - Less than 20% of the mining leases have been drilled
  - New exploration campaign commenced

Classification	Tonnes	Grade (%)				Contained Tonnes (kt)			
	Millions	HM	Rutile	Ilmenite	Zircon	HM	Rutile	Ilmenite	Zircon
Measured	4.4	2.30	1.13	0.42	0.18	102	50	19	8
Indicated	436.6	6.18	1.42	0.74	0.32	26,992	6,204	3,242	1,377
<b>Measured &amp; Indicated</b>	<b>441.0</b>	<b>6.14</b>	<b>1.42</b>	<b>0.74</b>	<b>0.31</b>	<b>27,095</b>	<b>6,254</b>	<b>3,260</b>	<b>1,385</b>
Inferred <sup>3</sup>	163.9	-	0.96	-	-	-	1,575	-	-
<b>Total Measured, Indicated and Inferred</b>	<b>604.9</b>					<b>27,095</b>	<b>7,829</b>	<b>3,260</b>	<b>1,385</b>

***Sierra Rutile's deposit is large, long-life, and its assemblage dominated by high-value, high-grade rutile***

<sup>1</sup>Mineral Resources include those resources which have been modified to produce the Ore Reserves. The figures reported represent 100% of the Mineral Resources and Ore Reserves attributable to Sierra Rutile Limited.

<sup>2</sup>By value assuming a rutile price of \$1000/t; zircon of \$1715/t and ilmenite of \$190/t.

<sup>3</sup>Insufficient historical data was available to provide a JORC-compliant inferred heavy mineral, ilmenite and zircon grade estimate

# Sierra Rutile's Premium Rutile Product

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Sierra Rutile's natural rutile has a number of favourable physical and chemical characteristics

Characteristic		Benefit
High TiO <sub>2</sub> levels	→	Increased recovery
Low alkali content	→	Avoids build up of Ca and Mg in fluidized bed
Low silica and alumina	→	Avoids precipitation of chlorides in reactor
Low uranium and thorium	→	Reduces radionuclide content of waste streams
Low tin levels	→	Important for effective TiO <sub>2</sub> and Ti metal production
Good particle shape	→	Important for stability in fluidized bed
High bulk density	→	Reduces elutriation losses during the chlorination process
High packing density	→	Important for flux core wire welding application

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***Sierra Rutile's product has significant advantages for end-users over other natural rutile suppliers' product***

# A Producing Asset with Significant Infrastructure

- **D1 – 1,000tph electric bucket ladder dredge**
  - In operation since 1979
  - Historical production of 130,000tpa
  - Recent underperformance driven by under-investment
- **Significant infrastructure already in place**
  - Mineral separation plant capable of producing 140,000 tonnes of rutile
  - A port and shipping fleet able to ship >200,000 tonnes per annum of rutile
  - A modern MFO<sup>1</sup> power plant capable of producing 26MW of power, 35% utilized
  - Modern engineering facilities
- **Skilled and experienced workforce**
  - Highly experienced local workforce with decades of experience at the operation

D1 at Lanti



Road and grid system



*Sierra Rutile's operations have a long history of production*

# Strong Stakeholder Relationships

## Strong relationship with government

- **Long-standing relationships**
  - Pre-payment of \$18.3 million of the loan to Government of Sierra Leone in March 2011. \$30 million still outstanding and repayable prior to 2016
  - Strong Government support for the company
- **Considerable contribution to economy**
  - Significant proportion of Sierra Leonean GDP and exports
  - One of the largest employers in Sierra Leone
  - Spends over \$32.5m annually on in-country procurement and wages

## Positive community relations

- **Economic contributions to community**
  - >\$1m invested annually in the local community
  - Treat over 24,000 people per year in the company's medical facility
  - Agricultural programs
  - Fish farms
- **Environmental consideration**
  - Continual rehabilitation
  - Minimization of environmental impact

Technical College



Aquaculture project



***Sierra Rutile has long-standing, established relationships with both government and the community***



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# The Turnaround: Unlocking Sierra Rutile's Potential

# The Turnaround of Sierra Rutile

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**Board leadership**

**Executive management**



**A company capable of leveraging the full potential of its world-class asset base**



**Asset optimization**

**Systems and controls**

**Mine planning**

**Product marketing**

# Board Leadership

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## Additions:

### **Jan Castro, Non-Executive Chairman**

- Chief Executive Officer, Pala Investments AG, an investment advisory company focused on the mining sector, and Sierra Rutile's cornerstone shareholder
- Significant strategic advisory, management, turnaround and investment experience

### **Charles Entrekin, Non-Executive**

- 35 years of experience in the mining sector
- As former President of Titanium Metals Corporation, brings significant industry knowledge

### **Michael Brown, Non-Executive**

- Senior Vice President at Pala Investments AG
- Former Chief Operating Officer, De Beers South Africa
- Deep industry expertise, including substantial project feasibility and construction experience

### **Michael Barton, Non-Executive**

- Senior Vice President at Pala Investments AG
- Significant strategy and transaction advisory experience
- Substantial restructuring and financing expertise

## Retentions:

### **John Bonoh Sisay, Chief Executive Officer**

- Considerable experience in African mining sector, having worked in 10 African countries
- Formerly of De Beers and America Mineral Fields (now First Quantum)
- Previously President of Chamber of Mines, Sierra Leone
- Sierra Leone national

### **Alex Kamara, Non-Executive**

- Head of Engineering at Sierra Rutile from 1982-1995
- Deep understanding of Sierra Rutile's operations
- Chairman of Standard Chartered, Sierra Leone
- Sierra Leone national

### **Francois Colette, Non-Executive**

- 25 years of African mining experience
- Formerly of Gécamines and AMFI-Adastra
- Led copper, cobalt and zinc projects, including Kolwezi Tailings

***Sierra Rutile's board has been strengthened in order to deliver on the operational turnaround and the significant growth potential of the company***

# Executive Management

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## Additions:

### **Andrew Taylor, Chief Operating Officer**

- 20 years of mining and processing expertise
- Significant experience of operating in Africa with De Beers and Anglo American
- Managed the construction and commissioning of the \$200 million Voorspoed Mine in South Africa between 2005 and 2010

### **Joseph Connolly, Chief Financial Officer**

- Previously Director, Business Development at Clipper Windpower
- Brings significant expertise in financial management, strategy, business risk and corporate governance

### **Desmond Williams, Operations Manager**

- 10 years experience with SNC Lavalin and Worley Parsons
- 10 years prior experience with Sierra Rutile
- Senior management positions on numerous international projects, including Bald Mountain Gold (Barrick) and Kabanga Nickel

## Existing:

### **Mark Button, Director of Resource Development**

- 22 years experience of working in Africa in a variety of mining and geological roles
- Formerly of Anglo American and Gold Fields

### **Sahr Wonday, Director of Strategic Projects**

- 32 years experience with Sierra Rutile
- Significant experience in operational delivery

### **Lindberg Charles, Director of Corporate Controls**

- Formerly Ernst & Young and financial controller of Le Meridian
- Sierra Rutile Group Financial Controller 2005-2008

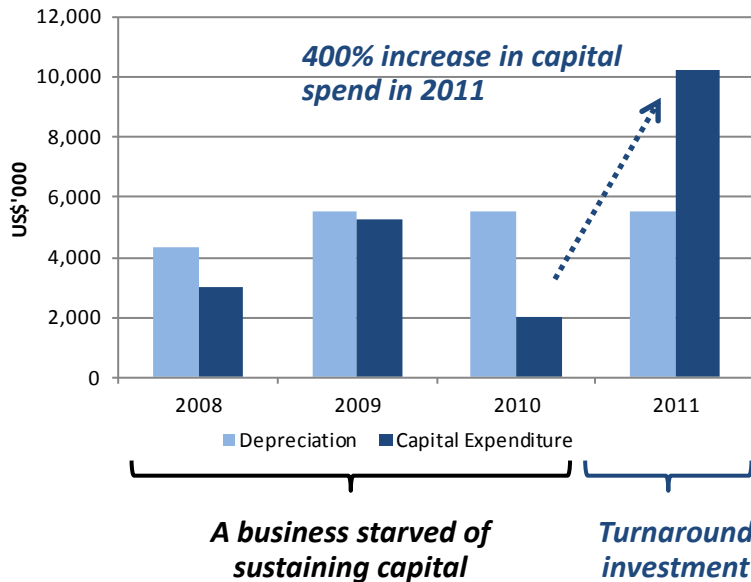
### **Neil Gawthorpe, Marketing Director**

- 17 years experience in international industrial minerals marketing
- Previous technical and marketing positions at Redland PLC, Frank & Schulte GmbH and Minelco Group

***A senior management team with the right experience, knowledge and skills to imbed the turnaround and lead the expansion of Sierra Rutile***

# Asset Optimization

Fresh capital continues to be invested in optimizing existing operations following under-investment in previous years

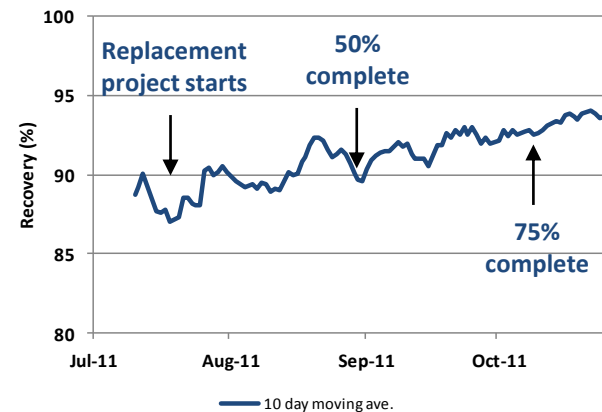


**Improvements in operational performance are already being realised**

Capital investment is being targeted to increase productivity, increase plant availabilities, reduce costs and improve product quality

Investment	Improvement
New rougher spirals	Increased recovery – up to 4%
Critical spares	Reduced downtime
Bucket ladder upgrades	Reduced downtime and increase productivity
Auto samplers	Improved process control & recovery
New product barges	Improve final product logistics
Fire suppression system	Reduced downtime & enhanced safety

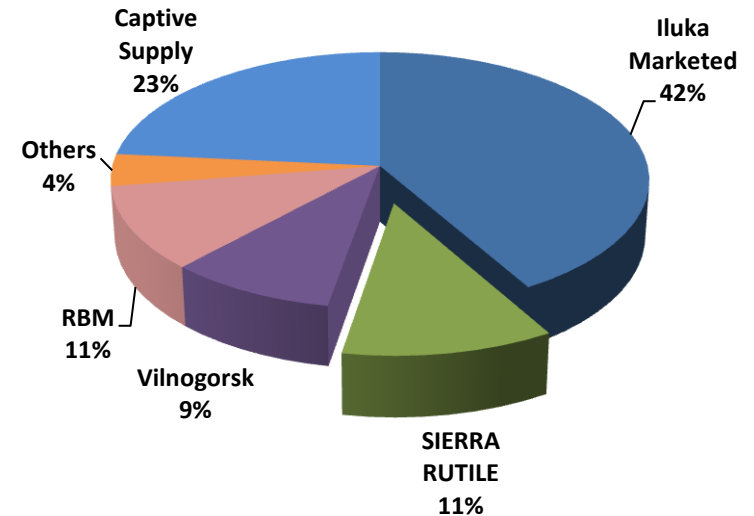
## Spiral plant recovery



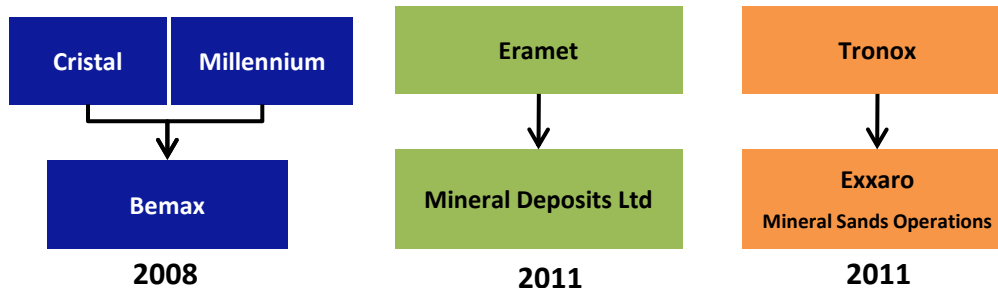
# Increasing Market Concentration

- Increasing backward integration by feedstock producers and suppliers
- Highly concentrated supply base becoming further consolidated

Natural rutile market supply<sup>1</sup>



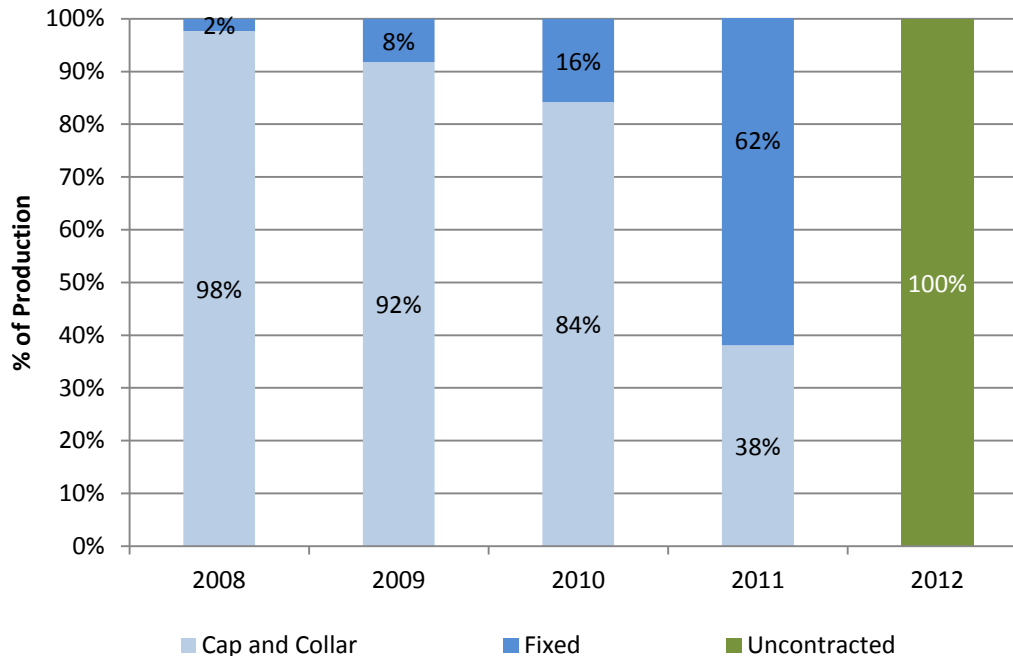
Recent examples of backward integration into mining



<sup>1</sup>Sierra Rutile 2010 estimates. "Captive Supply" includes Bemax 12% and Exxaro 11%. "Iluka Marketed" includes Iluka 30% and CRL 12%

# Product Marketing

*From December 2011, all of Sierra Rutile's sales are uncontracted*



*The significant end-user benefits of Sierra Rutile's premium natural rutile should command premium prices*



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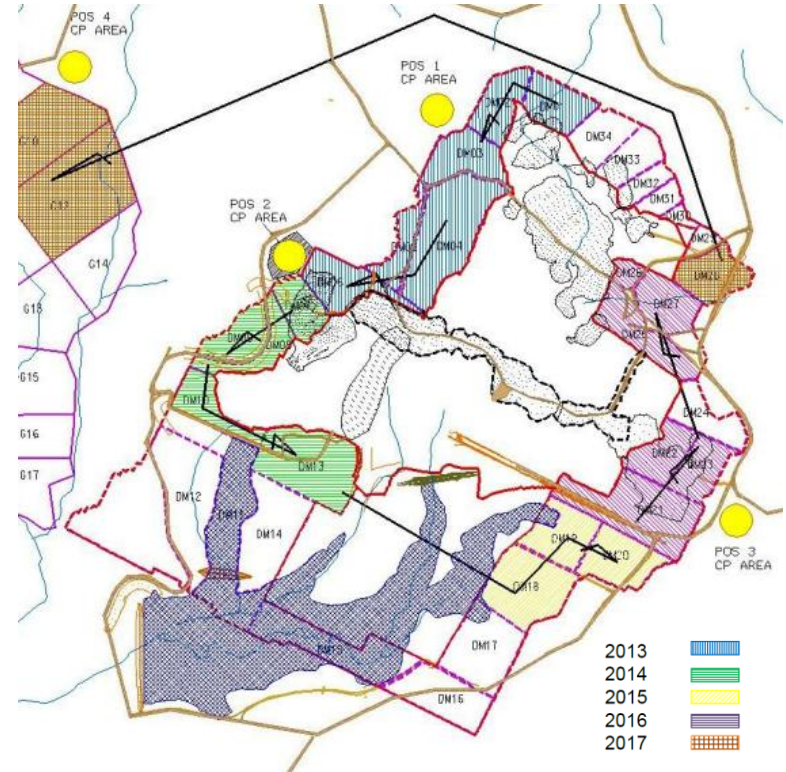
**The Future:  
Delivering 90% Production  
Growth Within 2 Years**

# Dry Mining

## Potential for near-term, high-grade dry mining

- Targeting high-grade pockets of resource, inaccessible to dredge mining
  - 28.1 million tonnes at 1.5% recoverable rutile
- Production of 30,000 to 35,000 tonnes per annum of rutile
- Contractor mining operation due to commence in early 2013 at a total project cost of \$20 million<sup>1</sup>
- Operating costs of \$680 per tonne<sup>2</sup>

Dry mining sequencing of the Lanti deposit



***Dry mining provides access to localised high-grade areas with short lead times and low capital cost, enhancing Sierra Rutile's leverage to rising prices***

<sup>1</sup> Includes 20% contingency

<sup>2</sup> Operating costs vary with grade in the particular year of operation and include by-product credits from ilmenite only

# Mogbwemo Tailings

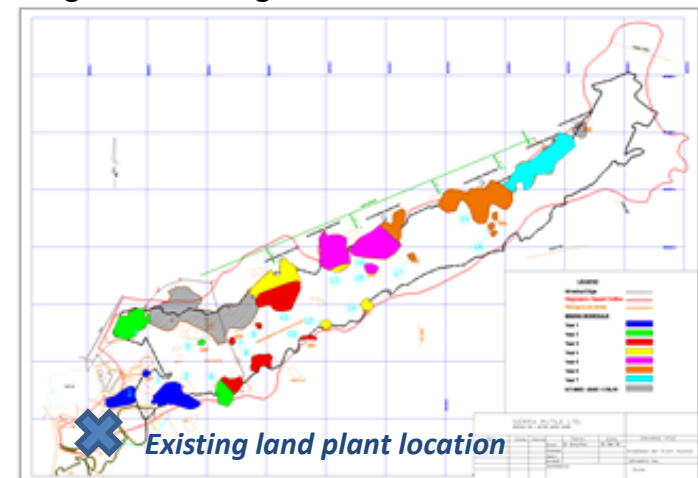
## Mogbwemo tailings

- 22.0mt @ 1.13% rutile, made up of unconsolidated sand tailings, located adjacent to the existing land plants
- Potential for 20,000 to 25,000 tonnes per annum of rutile finished product at an operating costs of approximately \$580 per tonne<sup>1</sup>
- Capital cost of \$25 million<sup>2</sup>
- Implemented in 2013 and ramping up to full production in 2014
- Production will be via a small scale (ca.500tph) dredge and land-based concentrator plant.

Small scale 500 tph dredge operating in Lanti



Mogwembo tailings



***Significant historic tailings in close proximity to the land plant provide for low risk, near-term, production expansion***

<sup>1</sup> Operating costs vary with grade in the particular year of operation and include by-product credits from ilmenite only

<sup>2</sup> Includes 20% contingency

# New Dredge

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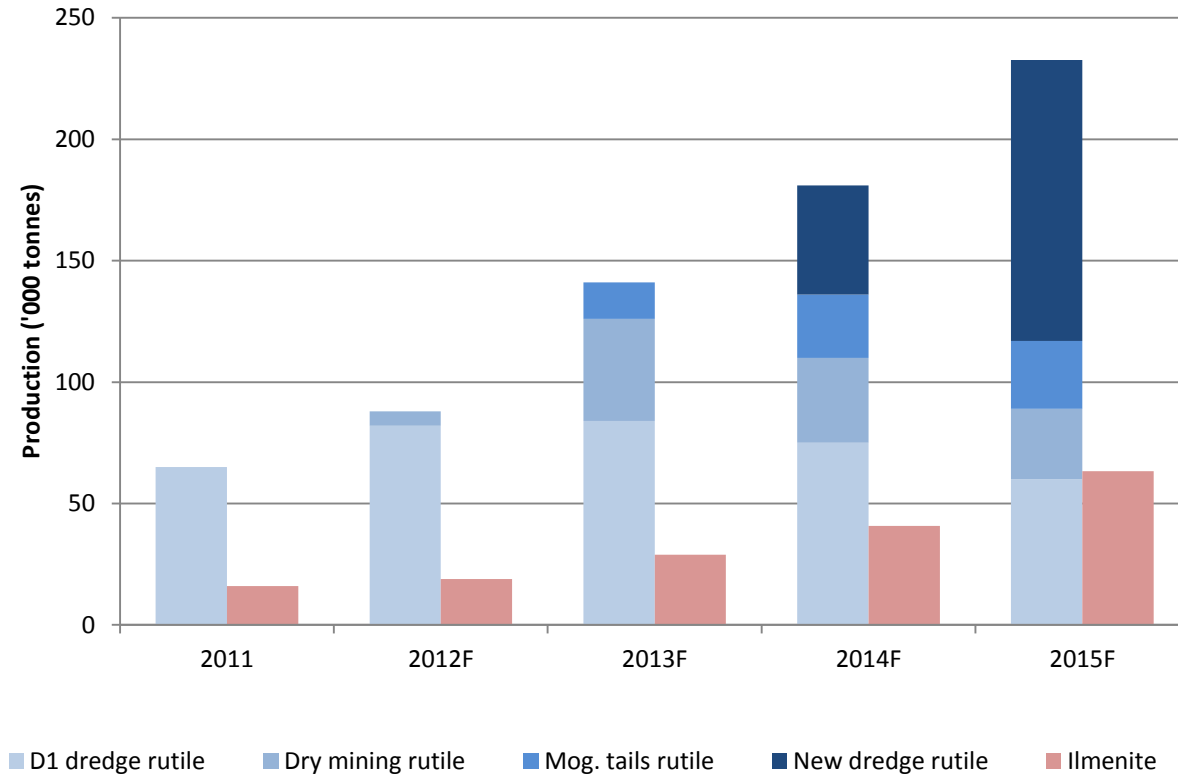
## Construction of a new large dredge

- A feasibility study has been commissioned into the construction of a second large dredge and wet plant concentrator unit
- The dredge will have a design capacity of >1,000tph and will produce at least 60,000 to 90,000 tonnes per annum of natural rutile
- The feasibility study and construction will take an estimated 30 months and have a total project development cost of \$125 million<sup>1</sup>
- Options to reduce the capital cost will be investigated, including the salvaging of equipment from D2

***The construction of a large dredge will provide a significant step change in natural rutile production profile***

<sup>1</sup> Includes dredge and wet plant construction; upgrade of the process and power plants; pre-mining development costs; and working capital

# Major Expansion Underway

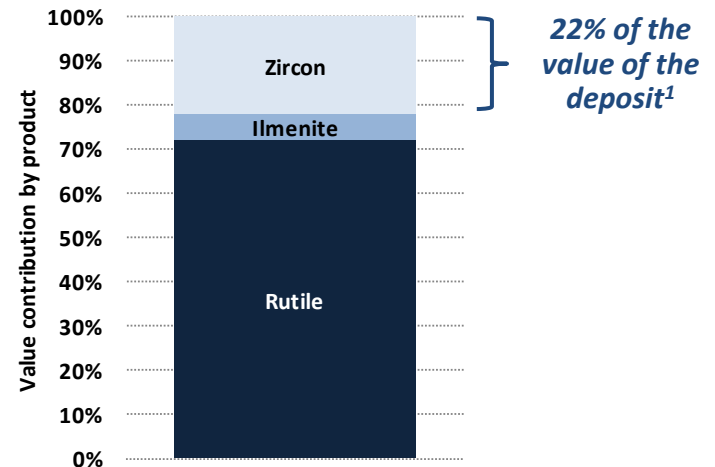


***Brown field expansion opportunities expected to deliver 90% increase in Sierra Rutile's near term production with further significant growth thereafter***

# On-Stream Zircon Processing

## Maximisation of Sierra Rutile's high-value mineral assemblage

- A zircon-rich (40-43%  $ZrO_2$ ) concentrate is currently produced in a batch process, limiting the potential production opportunities when rutile production is expanded
- At current production rates, on-stream zircon processing would yield ca.9,000tpa product of zircon-rich concentrate
  - With a growth in mining rates, this will be considerably higher
- Sierra Rutile is commissioning an optimization study into zircon and rare-earth processing options



***On-stream zircon processing will allow Sierra Rutile to enhance its exposure to the attractive zircon market***

<sup>1</sup> Based on rutile price of \$1000/t; zircon of \$1715/t and ilmenite of \$190/t

# Conclusion

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- ***World class rutile deposit:*** Sierra Rutile owns the largest known primary natural rutile deposit in the world
- ***Produces premium grade natural rutile:*** The physical and chemical properties of Sierra Rutile's natural rutile give it significant advantages for end-users over other natural rutile suppliers' product
- ***Significant invested capital:*** Long established operation with significant infrastructure and operating skills already in place
- ***Turnaround yielding dividends:*** The operational turnaround is already yielding significant operational benefits
- ***Quick to implement expansion opportunities:*** Near-term expansion opportunities are already being implemented to expand rutile production by 90% within 2 years
- ***Expansion to 200,000 tonnes per annum:*** The large, high-quality resource base allows considerable opportunities for expansion growth to at least 200,000 tonnes per annum of natural rutile through the commissioning of a new large dredge