



**SOVEREIGN**  
METALS LIMITED

# A NEW FORCE IN RUTILE

KASIYA: AN EMERGING COMPANY MAKER

JUNE 2020

ABN: 71 120 833 427 | ASX: SVM



# Sovereign Metals – A New Force in Rutile



KASIYA DEPOSIT  
AN EMERGING  
COMPANY  
MAKER



STRONG  
MARKET  
FUNDAMENTALS



INFRASTRUCTURE  
IN PLACE



MULTIPLE  
HIGH-GRADE  
RUTILE PROSPECTS



HUGE  
EXPLORATION  
UPSIDE



WORK  
PROGRAM  
ONGOING

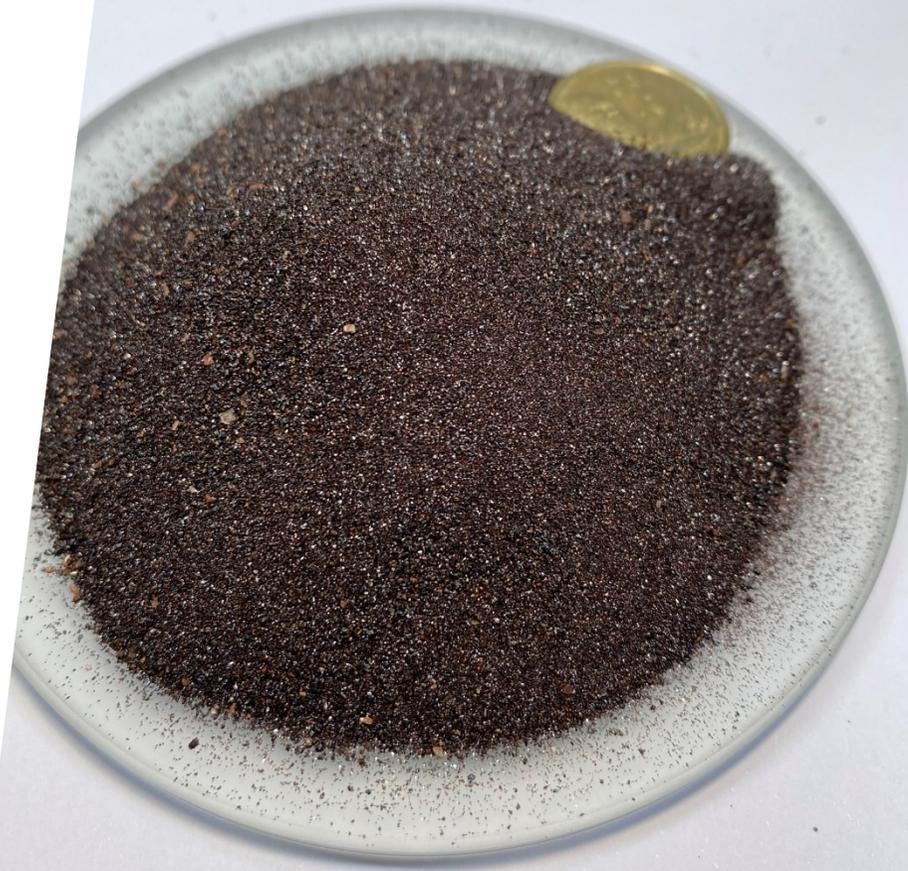


# A Genuinely Scarce Commodity



## Rutile: The rarest, highest grade and valuable titanium source

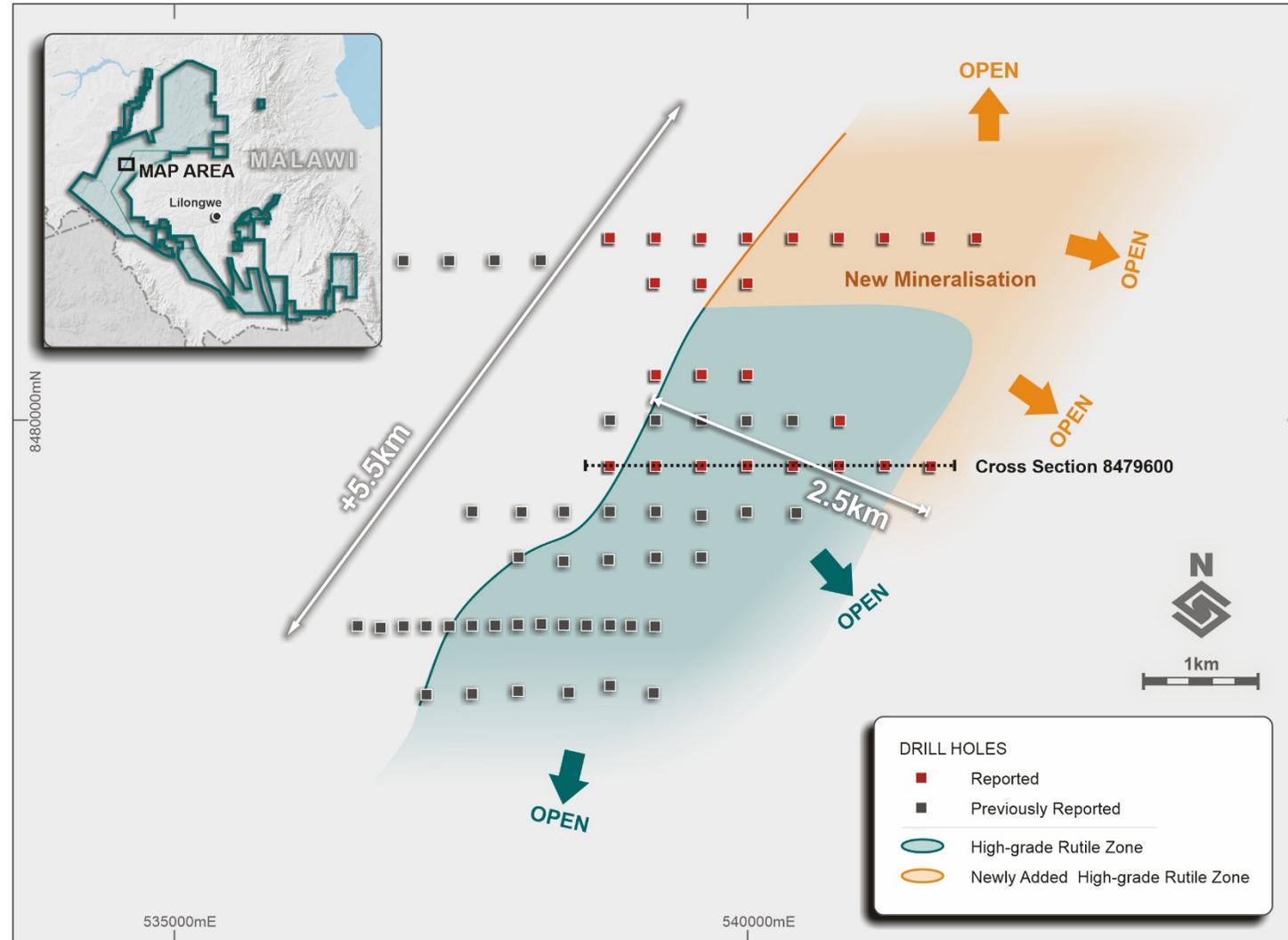
- ◆ Rutile primarily is used as pigment (paints, plastics and paper), welding rods and for titanium metal
- ◆ Global supply of rutile in structural deficit
- ◆ Mature mines with declining grades
- ◆ General lack of new rutile-rich deposits to fill the gap



# Kasiya Rutile Discovery – An Emerging Company Maker

Kasiya has the characteristics of a company making asset: large, high-grade and at surface

- ❖ Mineralised zone: +5.5km strike length with surface widths averaging +2.5km
- ❖ Mineralised zone continues to be **open along strike in both directions and open laterally** to the south east
- ❖ All mineralisation occurs from surface and is hosted in soft, free-dig, friable saprolite
- ❖ Significant ongoing exploration upside
- ❖ Located in close proximity to existing infrastructure



# Kasiya Deposit – High-Grade & Expansive

Recent drilling has significantly expanded high-grade rutile zone

## Key Results

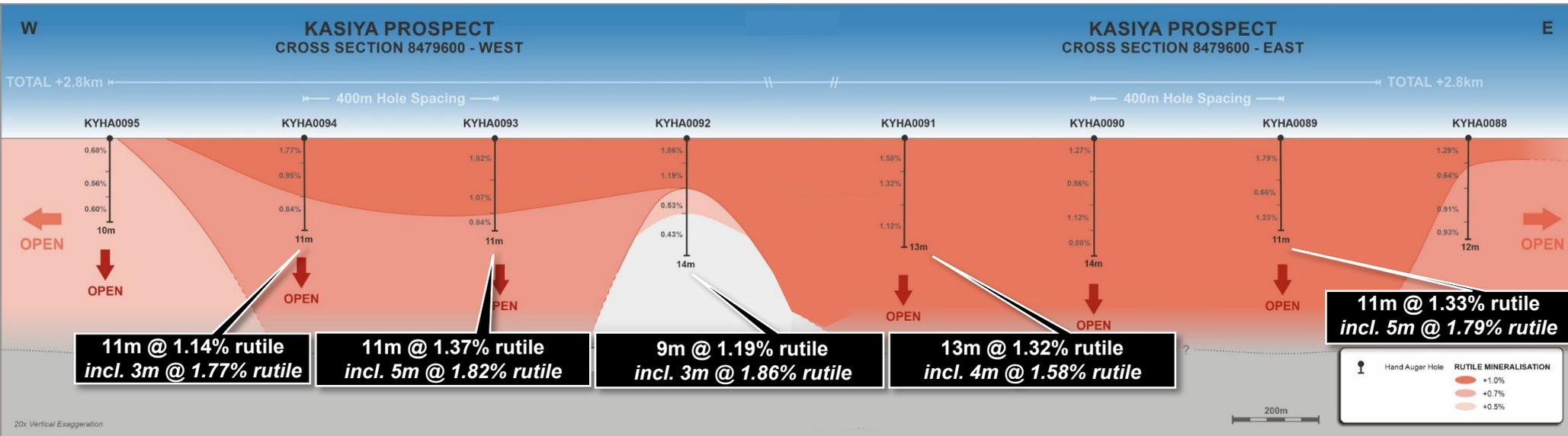
- 7m @ 1.27% rutile inc. 3m @ 1.80% rutile from surface
- 5m @ 1.43% rutile inc. 2m @ 2.04% rutile from surface
- 15m @ 1.12% rutile inc. 3m @ 1.46% rutile from surface
- 9m @ 1.19% rutile inc. 3m @ 1.86% rutile from surface
- 11m @ 1.37% rutile inc 5m @ 1.82% rutile from surface
- 11m @ 1.33% rutile inc. 5m @ 1.79% rutile from surface
- 11m @ 1.14% rutile inc. 3m @ 1.77% rutile from surface
- 10m @ 1.12% rutile inc. 3m @ 1.66% rutile from surface
- 13m @ 1.32% rutile inc. 4m @ 1.58% rutile from surface

*“Kasiya is now displaying what we believe to be some of the highest-grade, thickest and areally expansive rutile drill-intercepts globally”*

Sovereign’s Managing Director, Julian Stephens



# Exceptionally High-Grades from Surface

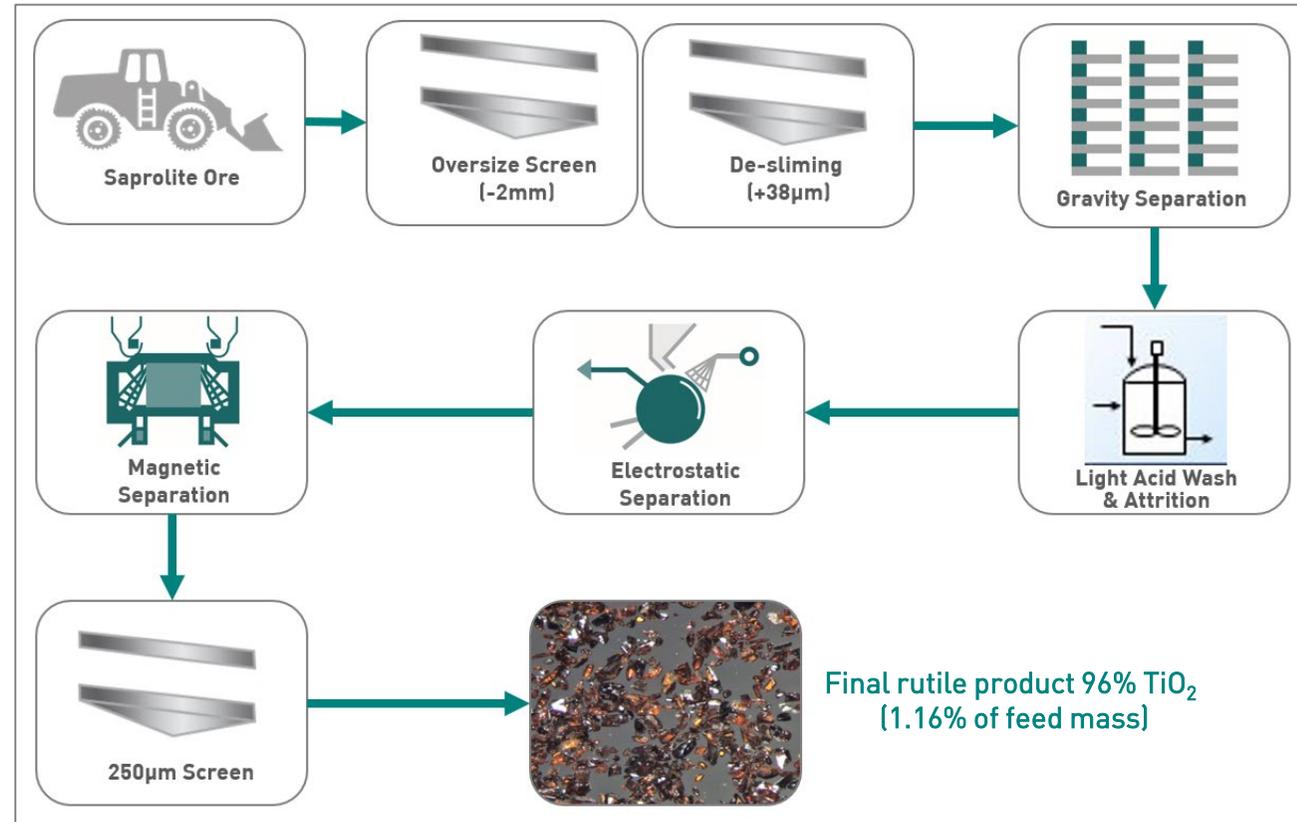


- ❖ A large percentage of intercepts remain open at depth
- ❖ High-grade rutile mineralisation interpreted to extend to the base of the soft saprolite at around 25m
- ❖ Maiden JORC Mineral Resource Estimate on target for late Q3 2020

# Kasiya – Conventional Processing Proven

## Significantly de-risked

- ❖ Free dig, friable material from surface with characteristics that may be suitable for both hydro-mining or dozer-trap methods
- ❖ Simple, conventional flowsheet
- ❖ Each drill-sample processed represents a mini metallurgical test in its own right
- ❖ Tailings show excellent settling characteristics

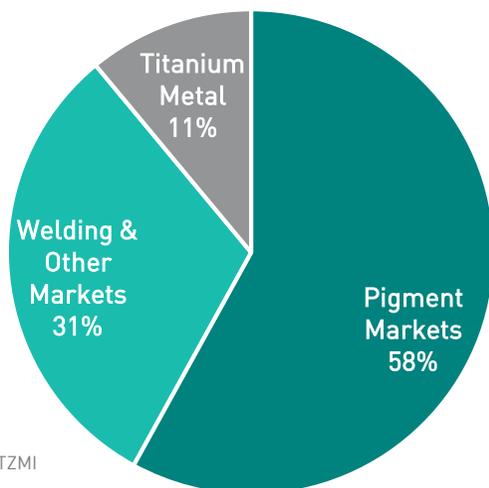


# Premium Rutile Product For All End Markets

Initial metallurgical results on saprolite-hosted mineralisation show highly favourable, premium rutile product specifications

- ◆ 96% TiO<sub>2</sub>
- ◆ No critical impurities
- ◆ Standout chemical parameters
- ◆ Highly favourable grain size distribution
- ◆ d50 of 123µm comparable to leading market products
- ◆ Suitable for all major natural rutile end-use markets

## Natural End Users of Rutile



Source: TZMI

## Comparison of Sovereign's Rutile Specifications to Leading Global Producers

Constituent		Malawi Rutile (Sovereign)	Sierra Rutile (Iluka)	RBM (Rio Tinto)	Kwale (Base Resources)	Namakwa Sands (Tronox)
TiO <sub>2</sub>	%	96.0	96.29	93.30	96.18	94.50
ZrO <sub>2</sub> +HfO <sub>2</sub>	%	0.14	0.78	1.30	0.72	1.10
SiO <sub>2</sub>	%	1.29	0.62	2.00	0.94	2.00
Fe <sub>2</sub> O <sub>3</sub>	%	0.97	0.38	0.70	1.25	0.8
Al <sub>2</sub> O <sub>3</sub>	%	0.33	0.31	0.90	0.23	0.6
Cr <sub>2</sub> O <sub>3</sub>	%	0.046	0.19	0.11	0.17	0.14
V <sub>2</sub> O <sub>5</sub>	%	0.50	0.58	0.40	0.52	0.33
Nb <sub>2</sub> O <sub>5</sub>	%	0.25	0.15	0.30	-	0.04
P <sub>2</sub> O <sub>5</sub>	%	0.036	0.01	0.03	0	0.02
MnO	%	<0.01	0.01	-	0.03	0.4
MgO	%	0.01	<0.01	-	0.1	0.01
CaO	%	0.02	0.01	-	0.04	0.04
SO <sub>3</sub> /S	%	0.048	<0.01	<0.05	-	0.01
Sn	%	0.005	-	-	-	-
U+Th	ppm	30	26	100	-	-

"Iluka" is Iluka Resources Limited; "Rio Tinto" is Rio Tinto plc; "Base Resources" is Base Resources Limited; "Tronox" is Tronox Holdings plc. "-" is not disclosed. Sources: RBM data from World Titanium Resources Ltd TZMI Conference Presentation November 2011 [Updated January 2012]; Sierra Rutile, Kwale and Namakwa Sands data from BGR Assessment Manual titled "Heavy Minerals of Economic Importance" 2010. Sovereign's results are extracted from the Company's ASX Announcement dated 24 June 2019.

## Comparison of Sovereign's Rutile d50 to Leading Global Producers

Constituent	Malawi Rutile (Sovereign)	RBM (Rio Tinto)	Namakwa Sands (Tronox)
d50	123 µm	124 µm	124 µm

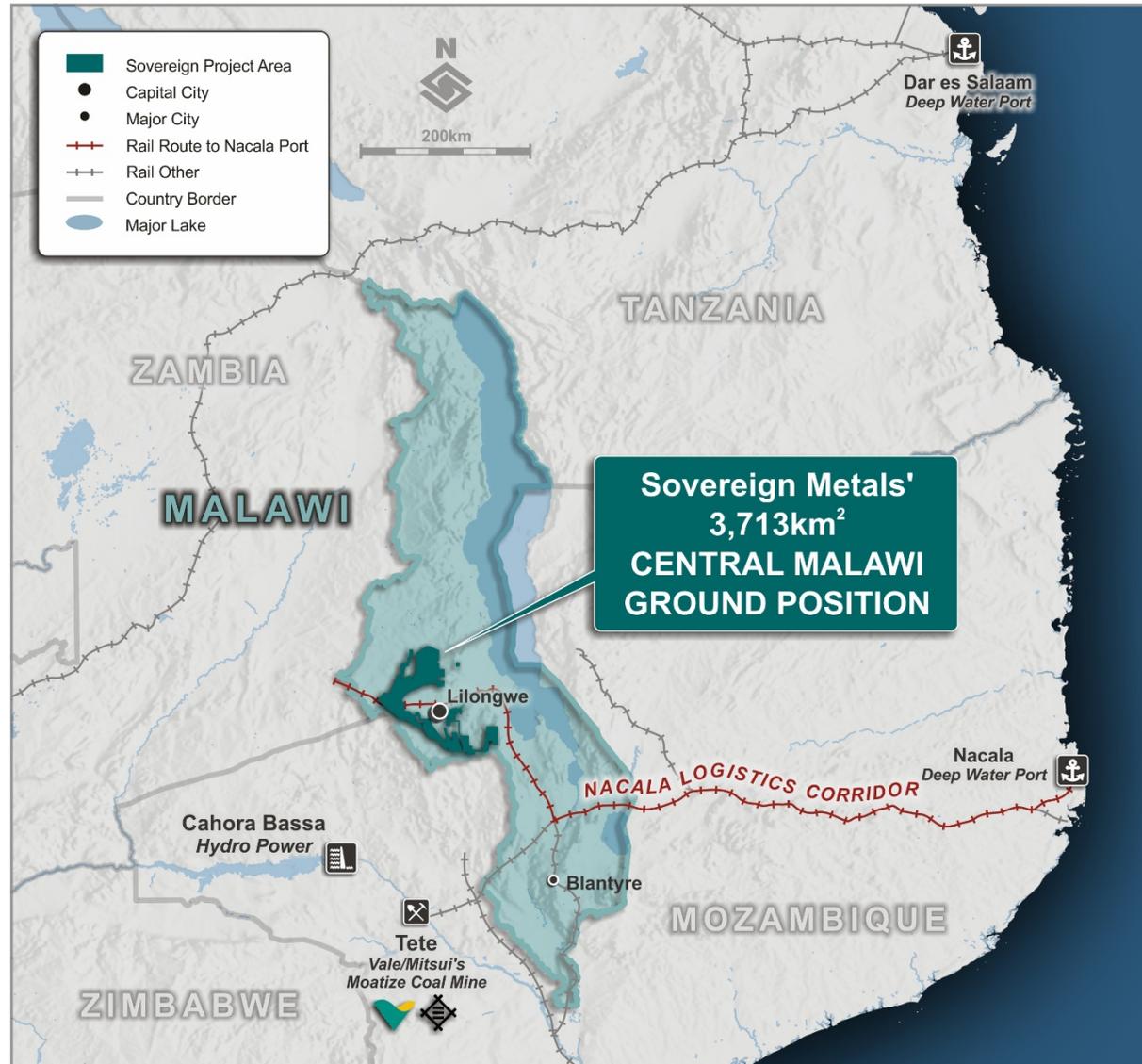
"Rio Tinto" is Rio Tinto plc; "Tronox" is Tronox Holdings plc.

Source: BGR Assessment Manual titled "Heavy Minerals of Economic Importance" 2010



# Malawi – Stable, Transparent Jurisdiction

- ◆ A stable, transparent jurisdiction
- ◆ Increasingly attracting international investment
- ◆ Significant potential and appetite for mining
- ◆ Excellent operating infrastructure in place



# Operation-Ready Infrastructure

Infrastructure in place to connect Sovereign to global rutile markets



Established rail network direct to Nacala Port  
MoU in place with rail & port operator



Paved roads surrounding project locations



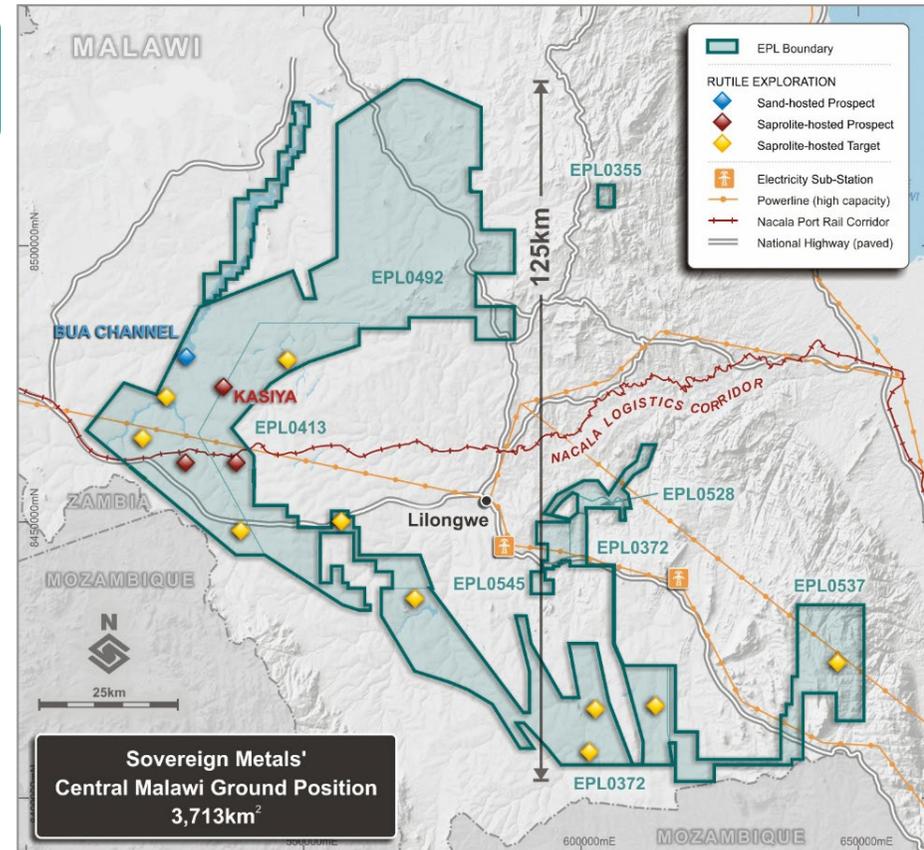
Grid power becoming available  
across license areas



Established labour pool and other industrial  
services



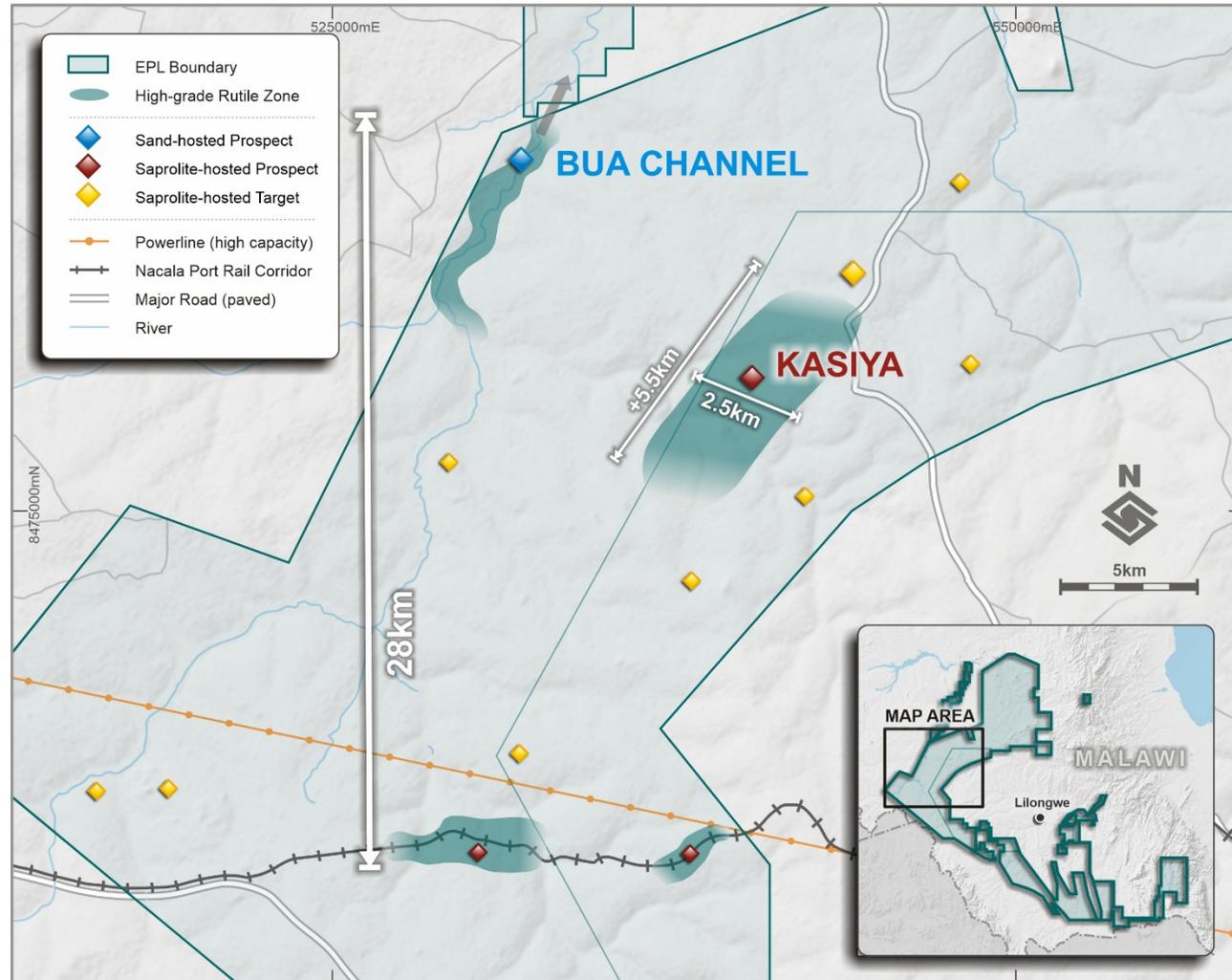
Plentiful water sources for operations



# A New Rutile Province Discovered

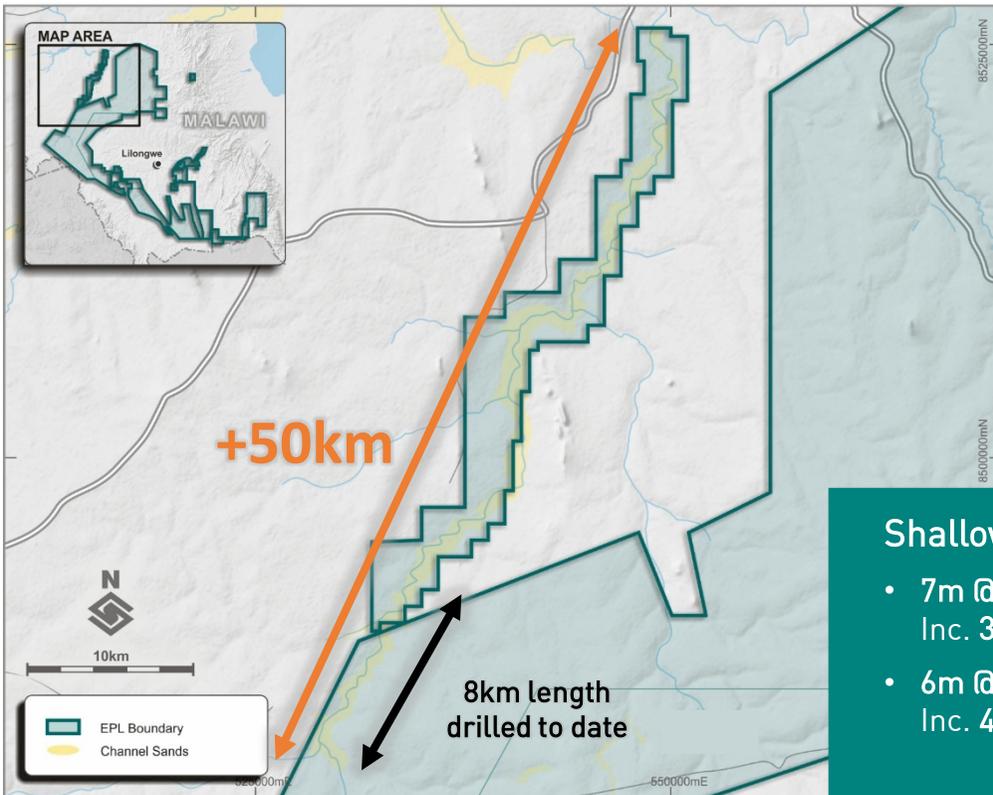
Sovereign has identified a potentially globally significant, strategic rutile province across its large Malawi ground holding

- ❖ The Malawi Rutile Province features two confirmed, discrete rutile mineralisation styles;
  - Residual saprolite which is soft, friable weathered material e.g. Kasiya
  - Traditional placer sand e.g. Bua Channel
- ❖ Both material types are proven to be amenable to conventional processing
- ❖ Rutile mineralisation is not spatially constrained by drilling at either key prospects: Kasiya (saprolite) or Bua Channel (sand)



# Bua Channel Prospect

Drilling confirms Bua Channel as a high-grade, rutile dominant, sand-hosted, channel placer deposit within the emerging Malawi Rutile Province.



## Exploration well underway

- ◆ Excellent grades of rutile and high-quality chloride ilmenite with a  $\text{TiO}_2$  content of ~60%
- ◆ Further extensional drilling over its full ~50km length is in the advanced planning and permitting stage

## Shallow drilling results

- 7m @ 0.81% rutile, 1.0% ilmenite & 0.11% zircon (from surface)  
Inc. 3m @ 1.03% rutile, 1.2% ilmenite & 0.13% zircon (from 4m)
- 6m @ 1.09% rutile, 1.6% ilmenite & 0.13% zircon (from surface)  
Inc. 4m @ 1.28% rutile, 1.9% ilmenite & 0.15% zircon (from 2m)

## Air-core results

- 8m @ 0.88 % rutile, 1.5% ilmenite & 0.08% zircon (from surface)  
Inc. 5m @ 1.02% rutile, 1.7% ilmenite & 0.09% zircon (from 3m)
- 7m @ 0.86% rutile, 1.4% ilmenite & 0.08% zircon (from surface)  
Inc. 3m @ 1.05% rutile, 1.7% ilmenite & 0.09% zircon (from 4m)

# Solid Knowledge Base Paving the Way

Sovereign has been active in Malawi for over 8 years, taking a saprolite-hosted graphite project to PFS and then DFS - technical level.

The data gathered gives us a substantial head start and offers significant benefits in terms of cost and time savings to progress our rutile projects

- ◆ Geology – identical lithologies and weathering profile
- ◆ Mining – the same host material
- ◆ Processing – the same front-end
- ◆ Infrastructure – strong knowledge base
- ◆ Logistics – same logistic solution
- ◆ Permitting – same process, framework and policies
- ◆ Personnel – same management and team
- ◆ Country – established presence



# Ongoing Work Programs

- ◆ Extensional and infill drilling at Kasiya is complete with samples in Australia for analysis
- ◆ Extend Kasiya's high-grade rutile mineralisation footprint
- ◆ Maiden JORC Mineral Resource estimate for Kasiya is targeted for late Q3, 2020
- ◆ Mining and tailings studies are ongoing in order to feed in to a future Scoping Study
- ◆ Bulk-scale metallurgical test-work has commenced on a 1 tonne representative sample from Kasiya
- ◆ Regional desktop reviews targeting more high-grade rutile discoveries like Kasiya



# Sovereign – A Compelling Opportunity



- ✓ KASIYA – A COMPANY MAKING PROJECT
- ✓ KASIYA – LARGE SCALE, HIGH-GRADE FROM SURFACE
- ✓ SIMPLE MINING & PROCESSING
- ✓ RUTILE MARKET IN DEFICIT
- ✓ EXCELLENT INFRASTRUCTURE
- ✓ STABLE, TRANSPARENT JURISDICTION



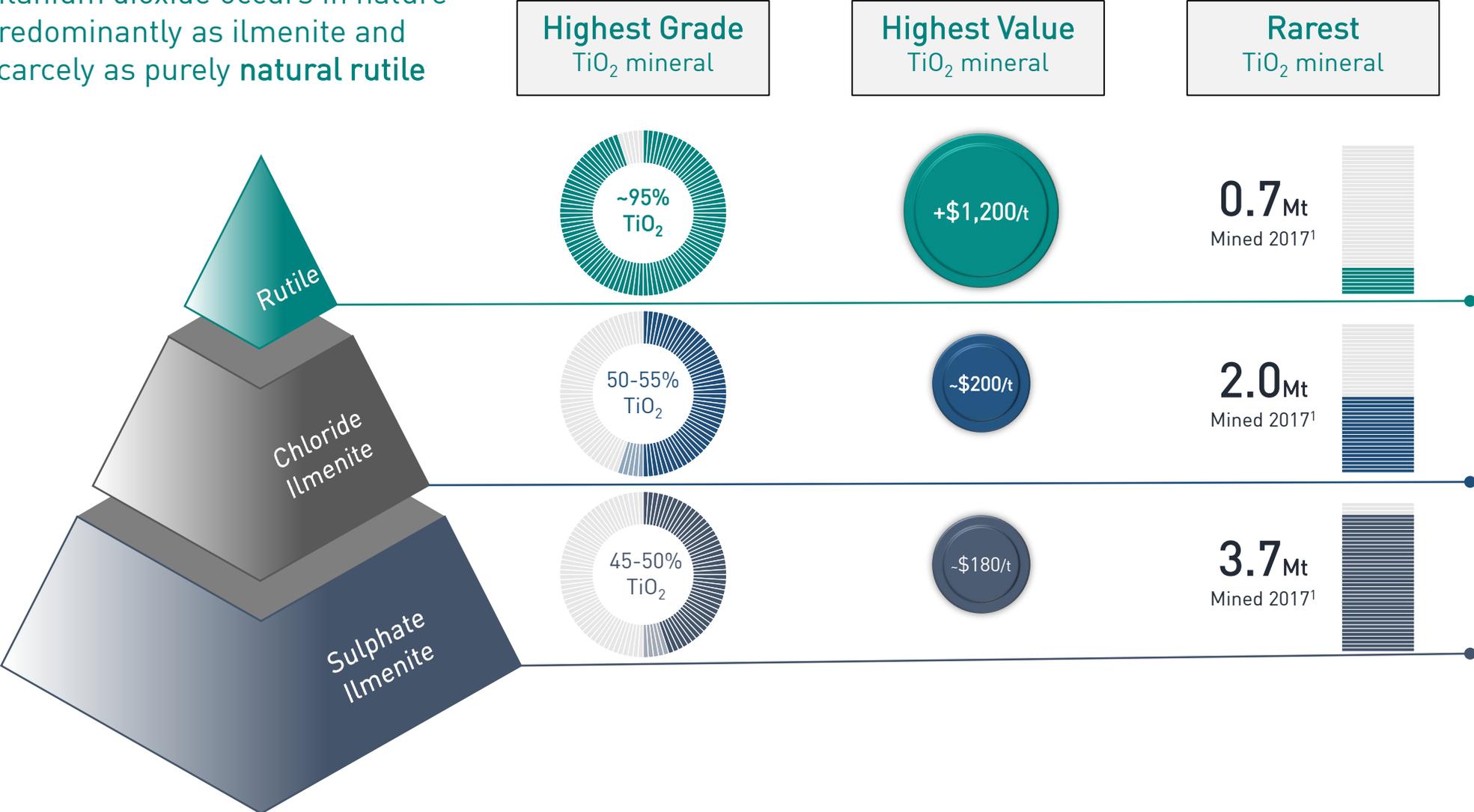
THANK YOU

# APPENDICES



# Rutile – Rarest, Highest Grade & Value Titanium Mineral

Titanium dioxide occurs in nature predominantly as ilmenite and scarcely as purely natural rutile



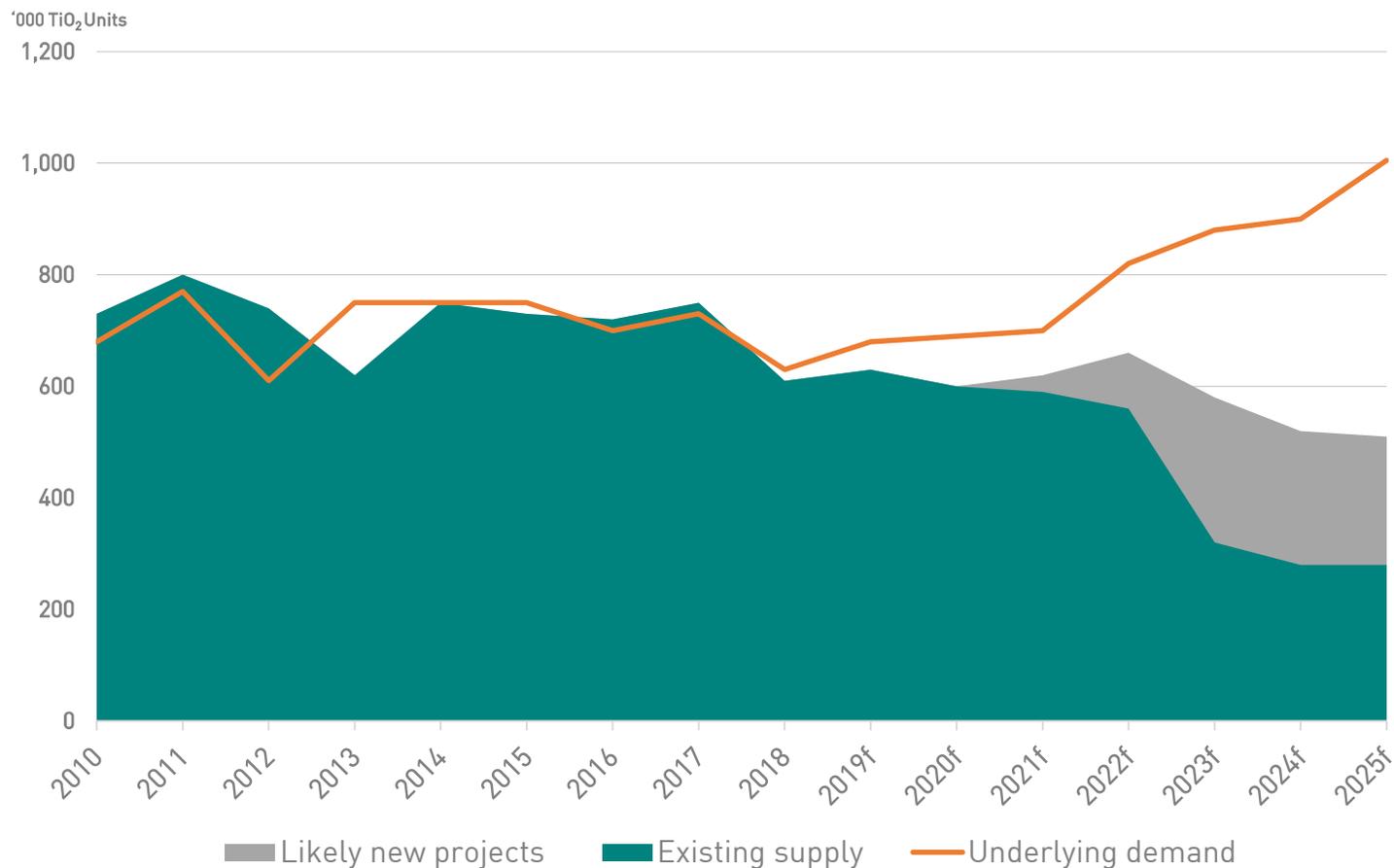
1. Sulphate ilmenite includes sulphate slag production; chloride ilmenite includes chloride slag production; synthetic rutile and upgraded chloride slag ("UGS") not included  
Source: TZMI

# Rutile – A Genuinely Scarce Commodity



No high-grade rutile discoveries in over a decade... until now

Global rutile supply/demand



Source: TZMI

## SUBSTANTIAL MARKET SPACE FOR A NEW RUTILE PRODUCER

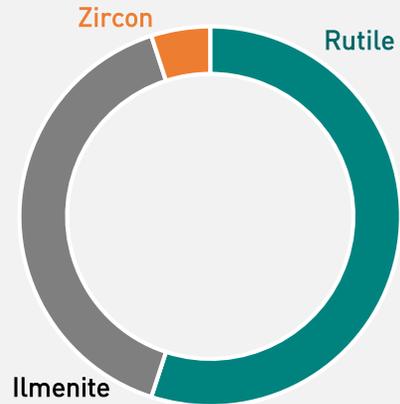
- ◆ Global supply of rutile in structural deficit
- ◆ Mature mines with declining grades
- ◆ General lack of new rutile-rich deposits to fill the gap

# Rutile's Scarcity Means Limited Comparable Projects

Two projects with the most similarities make up over 32%\* of global rutile production



Assemblage – based on resource



Current rutile resource <sup>1</sup> -

**739Mt @ 1.1% rutile**

Current rutile reserve <sup>1</sup> -

**272Mt<sup>3</sup> @ 1.3% rutile**

Annual rutile production – 12 months to 31 December 2019

**137,000 tonnes**

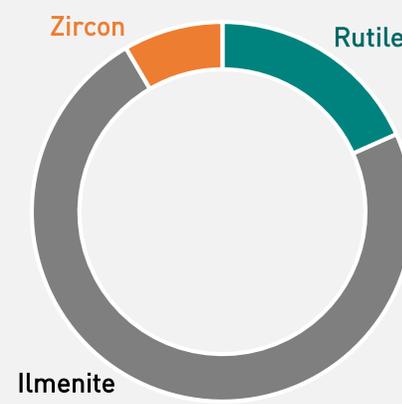
Ore mined –

12 months to 31 December 2019

**8,278,000 tonnes**



Assemblage – based on resource



Current rutile resource <sup>2</sup> -

**285Mt @ 0.27% rutile**

Current rutile reserve <sup>2</sup> -

**62Mt @ 0.49% rutile**

Annual rutile production – 12 months to 31 December 2019

**78,961 tonnes**

Ore mined –

12 months to 31 December 2019

**17,483,529 tonnes**

1. Resource and Reserve as at 31 December 2019.

2. Resource and Reserve as at 30 June 2019.

3. 70% of Ore Reserves relate to the Sembehun expansion project.

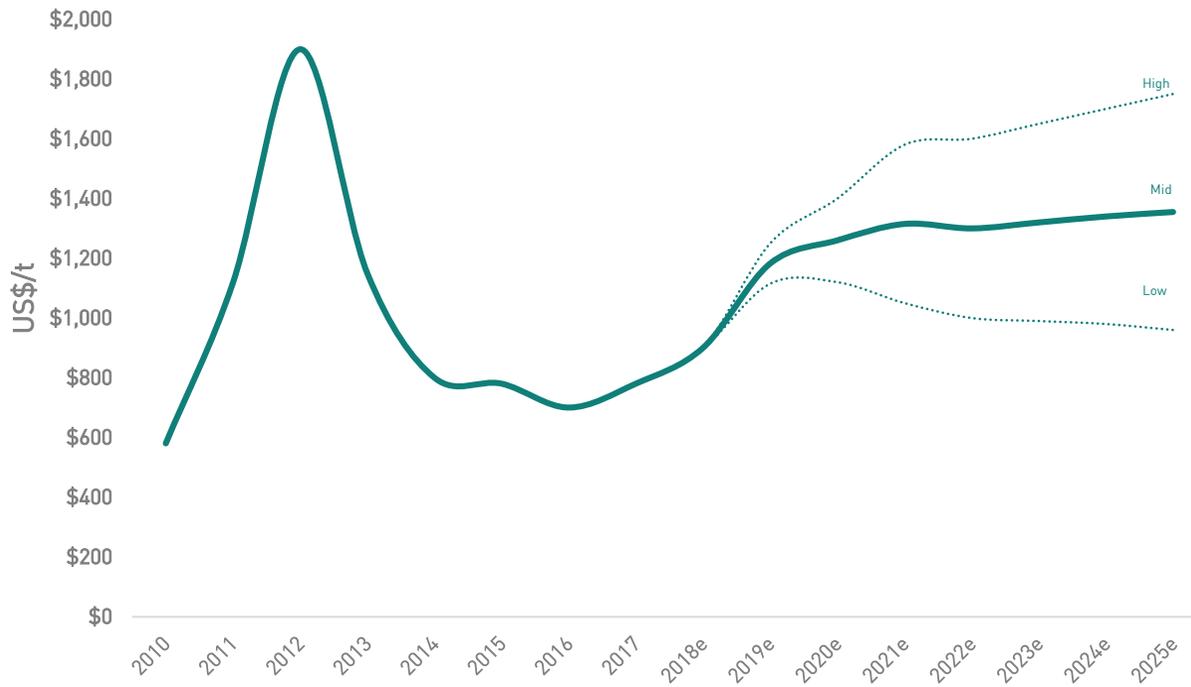
\* Sovereign's estimate based on Iluka Resources Limited and Base Resources Limited's reported 2019 production calculated against TZMI's forecasted 2019 production (680,000 tonnes).

All information sourced from Company Reports.

# Very Strong Rutile Market Fundamentals

The natural rutile market has recently shifted to a supply deficit

## Historical and Forecast Rutile Pricing



Source: TZMI (February 2019)



*“Iluka’s sales constrained by production in 2019”<sup>1</sup>*



**ILUKA**



*“Rutile demand remains strong and ongoing restricted supply is currently maintaining a tight market”<sup>2</sup>*



**BASE  
RESOURCES**

Source:

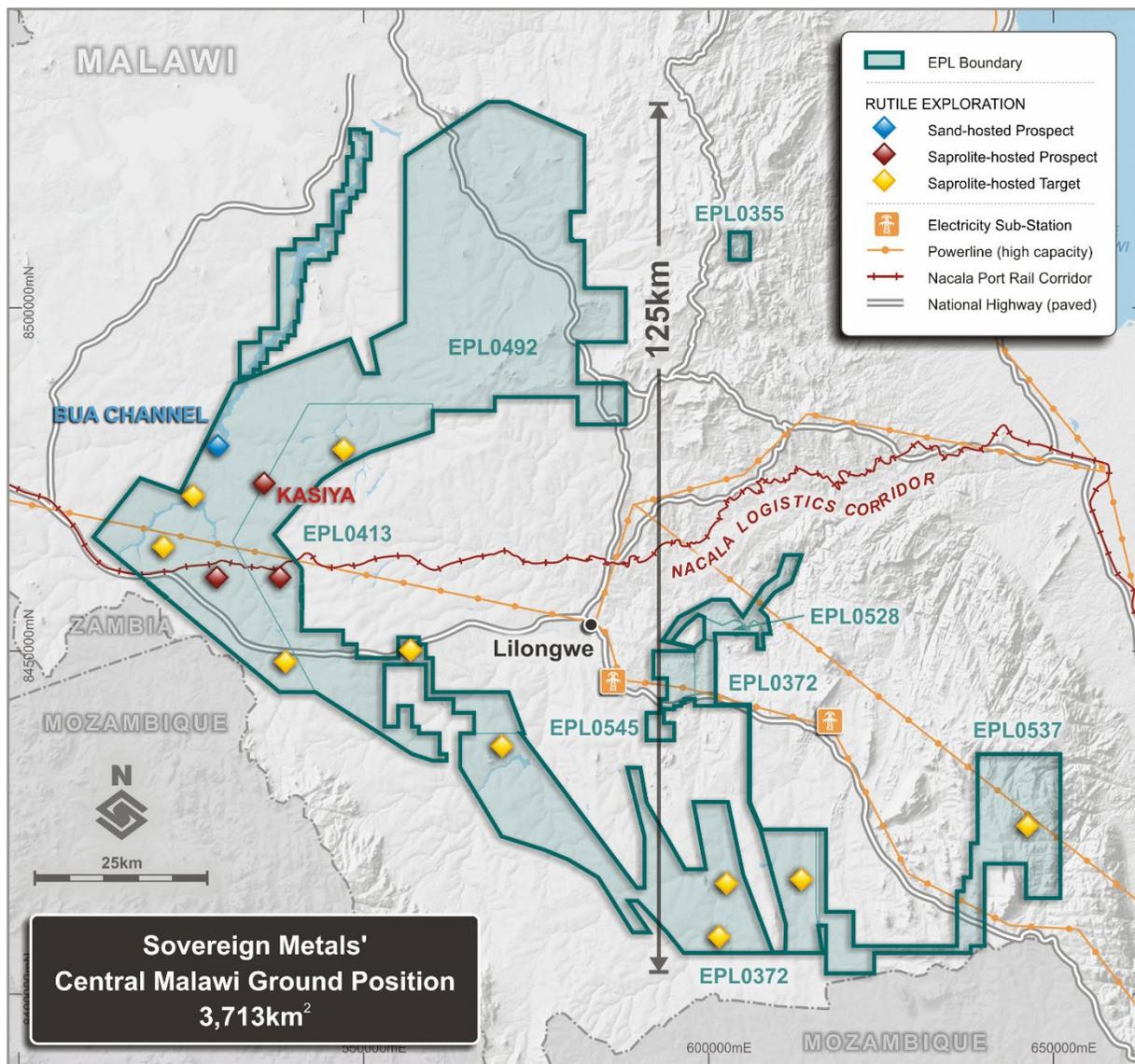
1. Iluka Resource’s Presentation released 26 February 2020
2. Base Resource’s 31 March 2020 Quarterly Report

Supply tightness driving price upwards – very strong short, medium and long-term outlook

# Huge Exploration Upside

## Advanced Targets

- ◆ Significant number of untested targets across the Company's very large ground package
- ◆ Regional exploration continues to identify new rutile prospects
- ◆ Majority of key prospects and targets are located near key infrastructure
- ◆ Huge exploration upside – large amount of unexplored ground



# Corporate Information

## Management team with a proven track record of success

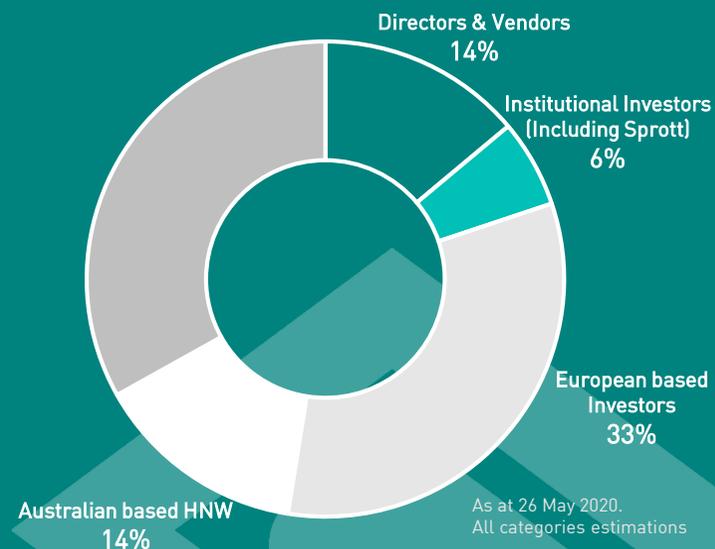
<p><b>IAN MIDDLEMAS</b> <i>Chairman</i></p>	<p>Mr Middlemas was a Senior Group Executive for Normandy Mining for more than ten years, which was Australia's largest gold miner before merging with Newmont Mining. He is currently Chairman of Salt Lake Potash, Berkeley Energia, Prairie Mining &amp; a number of other listed resource companies.</p> <p>Mr Middlemas was also previously Chairman of Papillon Resources Limited and Mantra Resources Limited.</p>
<p><b>JULIAN STEPHENS</b> <i>Managing Director</i></p>	<p>Dr Stephens is a Geologist with over 20 years experience in mineral exploration across many commodity types, and has spent 14 years working on minerals projects in Malawi.</p> <p>Dr Stephens identified, secured and led the team that discovered rutile and graphite mineralisation across Sovereign's large ground position in Malawi.</p>
<p><b>BEN STOIKOVICH</b> <i>Project Consultant</i></p>	<p>Mr Stoikovich is a Mining Engineer with 25 years experience in mine operations and mineral project development and finance. He has extensive experience in Africa having previously worked for Lonmin and Standard Bank. Mr Stoikovich is based in London. He commenced his career with BHP Billiton.</p>
<p><b>SAM CORDIN</b> <i>Business Development Manager</i></p>	<p>Mr Cordin is an experienced Chartered Accountant who commenced his career at a large international accounting firm and has since been involved with a number of ASX and AIM listed exploration and development companies operating in the resources sector, including most recently Salt Lake Potash Limited.</p>
<p><b>ANDRIES KRUGER</b> <i>Country Manager</i></p>	<p>Mr Kruger is a Geologist with over 20 years experience in mineral exploration.</p> <p>Mr Kruger has spent 10 years working on major Malawian minerals projects for ASX listed companies, directing all in-country activities relating to project development.</p>

## CAPITAL STRUCTURE

Shares on Issue	382,587,561
Unlisted Options (\$0.10 to \$0.18)	37,525,000
Un-Diluted Market Capitalisation @A\$0.165 <sup>1</sup>	A\$63.1 m
Cash <sup>1,3</sup>	~A\$2.7 m

1. Closing price 29 May 2020
2. Cash is calculated based on the 31 March 2020

## REGISTER BREAK-DOWN



**SOVEREIGN**  
METALS LIMITED

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This presentation has been approved and authorised for release by the Company's Managing Director, Dr Julian Stephens.

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This release may include forward-looking statements, which may be identified by words such as "expects", "anticipates", "believes", "projects", "plans", and similar expressions. These forward-looking statements are based on Sovereign's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Sovereign, which could cause actual results to differ materially from such statements. There can be no assurance that forward-looking statements will prove to be correct. Sovereign makes no undertaking to subsequently update or revise the forward-looking statements made in this release, to reflect the circumstances or events after the date of that release.

## **COMPETENT PERSONS STATEMENT**

The information in this presentation that relate to Exploration Results (Rutile) and QEMSCAN results are extracted from announcements on 7 November 2018, 24 January 2019, 24 June 2019, 7 August 2019, 23 September, 6 November 2019, 16 January 2020, 3 February 2020, 24 February 2020, 17 March 2020, 8 April 2020, 22 April 2020 and 26 May 2020. These announcements are available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original announcements that related to Exploration Results were based on, and fairly represents, information compiled by Dr Julian Stephens, a Competent Person who is a member of the Australasian Institute of Geoscientists (AIG). Dr Stephens is the Managing Director of Sovereign Metals Limited and a holder of shares, options and performance rights in Sovereign Metals Limited. Dr Stephens has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

The information in this presentation that relates to Metallurgical Testwork Results (Rutile) is extracted from an announcement dated 24 June 2019. This announcement is available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original ASX Announcements that related to Metallurgical Testwork Results was based on, and fairly represents, information compiled by compiled by Mr Gavin Diener, a Competent Person who is a member of the AusIMM. Mr Diener is the Chief Operating Officer of TZMI, an independent mineral sands consulting company and is not a holder of any equity type in Sovereign Metals Limited. Mr Diener has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information including in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.



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