

## LEADING JAPANESE TITANIUM PRODUCER VALIDATES KASIYA RUTILE FOR HIGH-SPECIFICATION APPLICATIONS

- Test work by Japan's Toho Titanium has confirmed that natural rutile from Kasiya is suitable for producing high-performance titanium metal products
- Japan accounts for over 15% of global titanium production capacity and over 60% of non-sanctioned, aerospace-grade titanium, i.e. excluding China and Russia
- Titanium is essential for high-growth industries, including aerospace, defence, and space exploration
  - In 2024, global defence spending increased by 7.4% year on year to US\$2.46 trillion with titanium critical for advanced fighter aircraft, naval vessels, and precision weapons systems
  - Consumption of titanium in the aerospace industry is forecast to grow by a compound annual growth rate (CAGR) of 7% over the next decade, more than doubling to 132kt by 2034

**Sovereign Metals Limited (ASX:SVM; AIM:SVML; OTCQX:SVMLF) (Sovereign or the Company)**, developer of the world's largest known natural rutile deposit, is pleased to announce that one of Japan's premier titanium metal (sponge and ingot) producers, Toho Titanium Company Limited (**Toho Titanium**), has confirmed the suitability of natural rutile from Sovereign's Kasiya Rutile-Graphite Project (**Kasiya or the Project**) for manufacturing high-specification titanium products critical to aerospace and industrial applications.

Toho Titanium's analysis of a sample of rutile from Kasiya concluded that **"it is of a quality that can be used without any issues"**. Kasiya's rutile surpassed the requirements for TiO<sub>2</sub> grade (>95%), low or no deleterious elements, low radiation value, and suitable particle size distribution and density.

Toho Titanium represents a cornerstone supplier in the global titanium value chain, with combined decades of expertise serving the world's most demanding aerospace and industrial manufacturers. Toho Titanium, together with Japan's other major titanium metal producer, Osaka Titanium Technologies Co., Ltd. (**Osaka Titanium**), account for over 15% of global titanium production capacity and over 60% of non-sanctioned, aerospace-grade titanium metal production (i.e. excluding China, which is not qualified to produce aerospace-grade titanium, and Russia).

Toho Titanium occupies a critical position in titanium supply chains, supporting the aerospace industry across the United States, Europe, and the Indo-Pacific region. Recent geopolitical developments have intensified focus on secure titanium supply chains, creating unprecedented strategic opportunities and strengthening the strategic nature of Kasiya as a future supplier of high-grade titanium feedstock.

**Managing Director and CEO Frank Eagar commented:** "The validation by Toho Titanium – one of the world's most respected titanium producers – once again confirms Kasiya's rutile as a premium and purest form of titanium feedstock for the titanium metals industry. Toho Titanium supplies the most demanding aerospace applications globally, such as Boeing and Airbus commercial aircraft. Confirmation that our rutile meets Toho Titanium's exacting standards for high-specification titanium production validates our position as a future cornerstone supplier to critical industries. With the world's largest known rutile deposit, Sovereign is uniquely positioned to capitalise on the intersection of resource security, aerospace supply chain realignment, and national defence priorities. Kasiya's exceptional scale and quality, combined with Malawi's stable jurisdiction, offers unparalleled exposure to one of the most strategic and rapidly growing mineral markets of our time."



## Kasiya Rutile Suitable for all Major End-Use Markets

Bulk scale metallurgical test work conducted by Allied Mineral Laboratories in Australia has previously confirmed that a premium-grade rutile product can be produced via a simple, conventional process flow sheet with no requirements for flotation or acid leaching.

World-class specification rutile products were reported ranging from 95.0% to 97.2% TiO<sub>2</sub> with low impurities and exceptional metallurgical recoveries of up to 100% (Refer to ASX Announcement: "Outstanding Metallurgical Results at Kasiya" dated 7 December 2021).

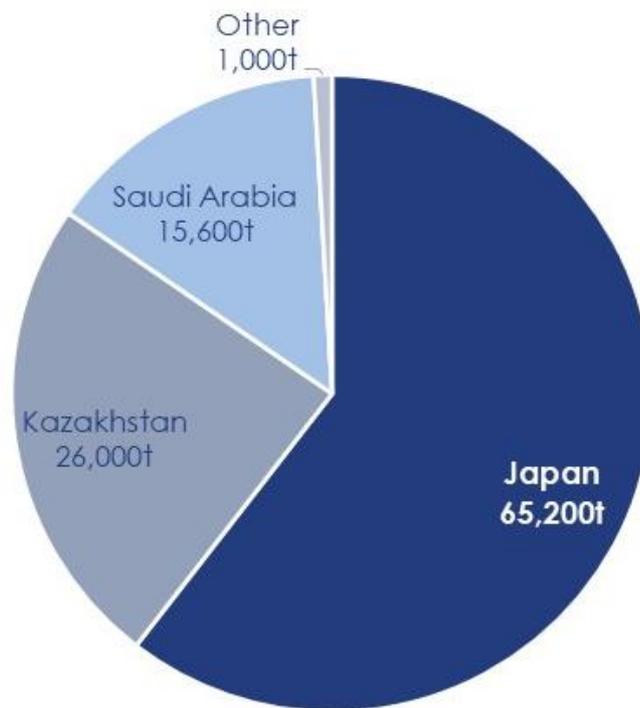
The premium chemical parameters and particle sizing (d<sub>50</sub> 126µm, 8.6% <75µm) of Kasiya's rutile indicate that the product is suitable for all major end-use markets. Specifically, Kasiya's rutile product specification makes it a suitable feedstock for superior, high-performance titanium metal products.

Confirmation that Kasiya's rutile can be used by Toho Titanium establishes Sovereign Metals as a credible future supplier to the global titanium industry's most discerning customers. This technical endorsement, combined with Kasiya's unmatched scale and strategic location, positions Sovereign as a potential market leader in the titanium supply chain.

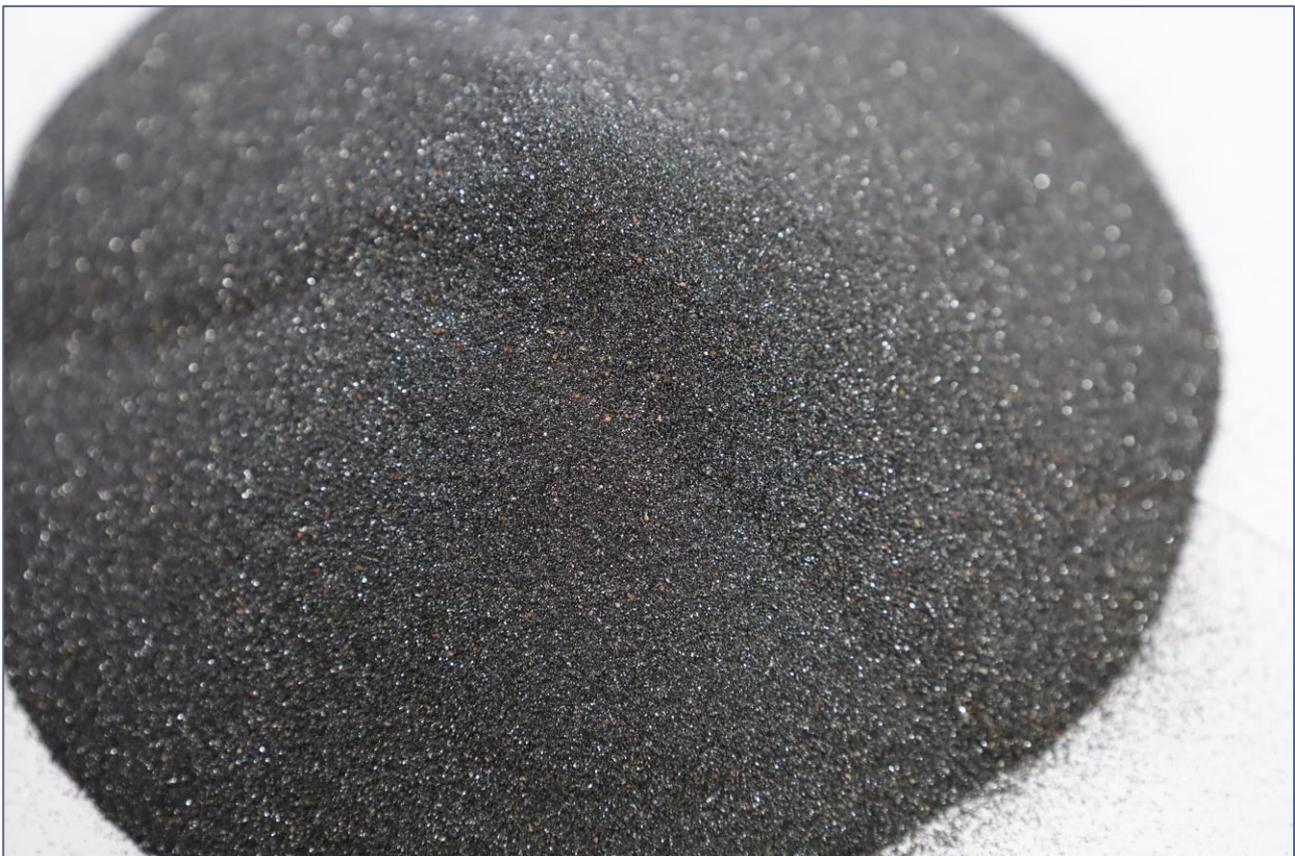
**Table 1: Kasiya Rutile Specification**

Constituent		Kasiya (Sovereign Metals)
TiO <sub>2</sub>	%	95.7
ZrO <sub>2</sub> +HfO <sub>2</sub>	%	0.18
SiO <sub>2</sub>	%	0.70
Fe <sub>2</sub> O <sub>3</sub>	%	0.98
Al <sub>2</sub> O <sub>3</sub>	%	0.44
Cr <sub>2</sub> O <sub>3</sub>	%	0.10
V <sub>2</sub> O <sub>5</sub>	%	0.58
Nb <sub>2</sub> O <sub>5</sub>	%	0.37
P <sub>2</sub> O <sub>5</sub>	%	0.018
MnO	%	0.007
MgO	%	0.001
CaO	%	0.011
S	%	0.005
U+Th	ppm	30

Selected rutile product specification derived from bulk testwork on samples representing the first three years of mining, which is broadly representative of the overall Kasiya Ore Reserve.



**Figure 1: 2024 Global Titanium Sponge Production Capacity by Non-Sanctioned Countries Qualified to Produce Aerospace-Grade Titanium Products**  
(Source: US Geological Survey; "Other" includes USA and India)



**Figure 2: Processed rutile sample from Kasiya**



## Titanium's Growing Strategic and Critical Status

According to the International Institute for Strategic Studies, a world-leading authority on global security, political risk and military conflict, global defence spending surged to US\$2.46 trillion in 2024, representing a 7.4% real-terms increase as nations respond to escalating security challenges. This increase in defence expenditure is driving unprecedented demand for titanium-intensive military platforms, including advanced fighter aircraft, naval vessels, and precision weapons systems.

Titanium's unique properties – exceptional strength-to-weight ratio, corrosion resistance, and high-temperature performance – makes it irreplaceable in many conventional and advanced military systems. Consequently, titanium has been officially classified as a critical mineral by the United States, European Union, United Kingdom, Canada, Australia, and Japan, reflecting its strategic importance to national security and economic competitiveness.

The ongoing conflict in Ukraine and rising tensions in the Indo-Pacific have highlighted critical vulnerabilities in titanium supply chains, as titanium production is concentrated in geopolitically sensitive regions. Historical supply dependency on Russia prompted an urgent reassessment of supply security, and in December 2024, NATO designated titanium as a defence-critical, strategic mineral essential for the Allied defence industry.

The recent signing of various critical minerals cooperation agreements, including between the United States and Saudi Arabia, announced during U.S. President Donald Trump's May 2025 visit, underscores the strategic importance of titanium supply security. Notably, Toho Titanium's joint venture facility in Saudi Arabia, operating at full capacity with an annual production of 15,000 tonnes, demonstrates the growing importance of secure titanium supply partnerships outside traditional Russian and Chinese-dominated markets.

## Aerospace Sector Driving Unprecedented Titanium Demand

The commercial aerospace sector is one of the fastest-growing sources of titanium demand, driven by the ramp-up of commercial aircraft production, next-generation engine programs, and expanding global aviation capacity. Each modern commercial aircraft contains 15-20 tonnes of titanium components, concentrated in critical structural elements, engine components, and landing gear systems. The consumption of titanium in the aerospace industry is forecast to grow at a CAGR of 7% over the next decade, more than doubling to 132kt by 2034 (Source: Project Blue market intelligence).

According to PricewaterhouseCoopers, the aerospace and defence industry saw an 11% increase in revenues in 2023 to US\$829 billion, with civil aviation companies leading the way. Boeing Commercial Airplanes' revenue increased by 30%, with revenues from tier 1 suppliers GE Aerospace, Rolls-Royce, and Safran being higher by more than 20%.

Aircraft manufacturers reported that titanium shortages have impacted production schedules following the disruption of supply from Russia by sanctions and import restrictions. In April 2025, Airbus signed a titanium supply agreement with Saudi Arabia, demonstrating the importance of securing alternative supply chains outside Russian-dominated markets.

According to CAPA – Centre for Aviation, Boeing's and Airbus's combined backlogs exceed over 14 years with each aircraft requiring substantial titanium content for structural components and engine systems, while traditional supply sources remain constrained by geopolitical sanctions and trade restrictions.



## About Toho Titanium

Toho Titanium, established in 1953, is a leading producer of titanium metals with significant production capacity. Toho Titanium produces 25,000 tonnes of titanium metals per annum, excluding 15,000 tonnes from a joint venture facility in Saudi Arabia. The company operates advanced manufacturing facilities that supply critical materials for aerospace and industrial markets.

## Enquiries

### **Frank Eagar, Managing Director & CEO**

South Africa / Malawi  
+27 21 140 3190

### **Sapan Ghai, CCO**

London  
+44 207 478 3900

## Forward Looking Statement

*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 relates to the Exploration Results (metallurgy - rutile) is extracted from announcements dated 7 December 2021, 16 December 2021, 28 September 2023 and 22 January 2025 which are available to view at [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). Sovereign confirms that a) it is not aware of any new information or data that materially affects the information included in the original announcement; b) all material assumptions included in the original announcement continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this report have not been materially changed from the original announcements.*

*The information in this announcement that relates to Production Targets, Ore Reserves, Processing, Infrastructure and Capital and Operating Costs is extracted from an announcement dated 22 January 2025, which is available to view at [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). Sovereign confirms that: a) it is not aware of any new information or data that materially affects the information included in the original announcement; b) all material assumptions and technical parameters underpinning the Production Target, and related forecast financial information derived from the Production Target included in the original announcement continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this presentation have not been materially modified from the original announcement.*

*In relation to the disclosure of visual information, Sovereign cautions that the images displayed are for general illustrative purposes only, and that the samples displayed and visual methods of mineralisation identification and estimation of mineral abundance should not be considered as a proxy or substitute for laboratory analysis. Laboratory analysis would be required for the grades of mineralisation. Visual information also potentially provides no information regarding impurities or deleterious physical properties relevant to valuations*

*This announcement has been approved and authorised for release by the Company's Managing Director & CEO, Frank Eagar.*