

ASX ANNOUNCEMENT | 25 JULY 2024

## DRY MINING TRIAL SUCCESSFULLY COMPLETED AT PILOT PHASE TEST PIT

- Pilot Phase dry mining trial confirms Kasiya can be efficiently mined using standard mobile excavators and trucks, demonstrating operational alternatives as part of ongoing PFS Optimisation Study
- Test pit mined as planned and on schedule to a depth of 20 metres, excavating approximately 170,000 bench cubic metres
- Simple and efficient dry mining undertaken with free-dig and soft, friable nature of the Kasiya orebody confirming no drilling or blasting required for excavation
- Ore extracted with zero strip ratio successfully stockpiled with no requirement to crush or grind prior to use as processing plant feed
- Hydraulic mining trials to begin in coming weeks with six million litre water storage pond currently filled to 80% capacity
- Pilot Phase continues to progress as part of ongoing PFS Optimisation Study with oversight from Sovereign-Rio Tinto Technical Committee



Figure 1: Kasiya Pilot Phase Test Pit mined to 20 metres depth

Sovereign Metals Limited (ASX: SVM; AIM: SVML; OTCQX: SVMLF) (**Sovereign** or the **Company**) is pleased to announce that the dry mining trial is now complete with a test pit successfully excavated as part of the ongoing Pilot Mining and Land Rehabilitation Program (**Pilot Phase**) at the Company's Kasiya Rutile-Graphite Project (**Kasiya**) in Malawi.

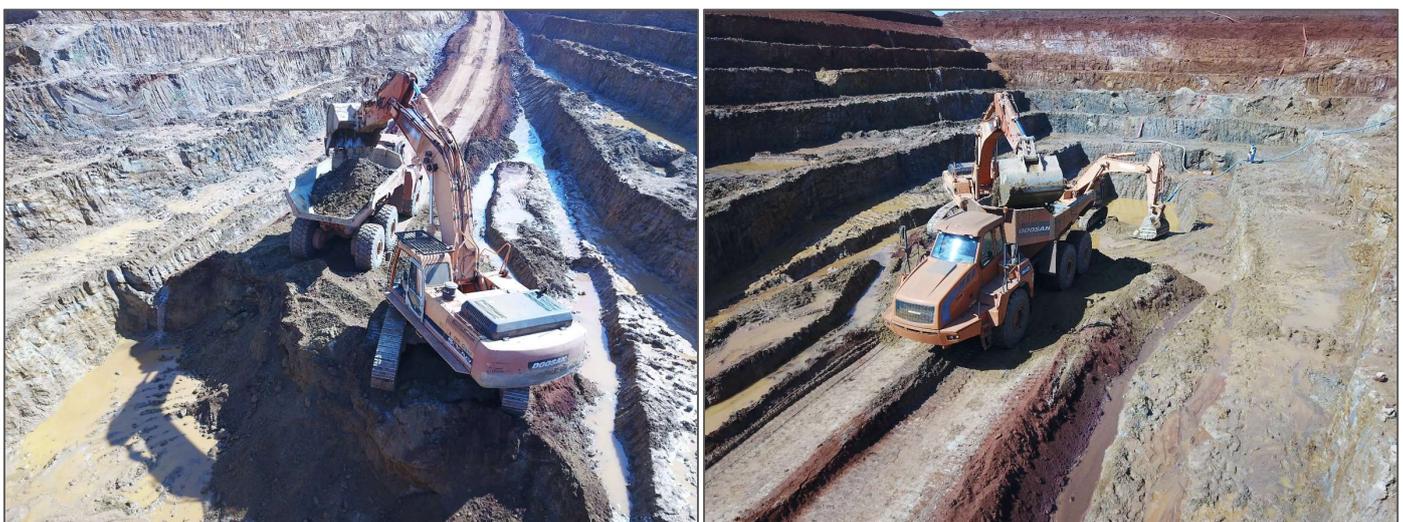
The test pit covers the planned area of 120 metres by 110 metres and has been excavated to a depth of 20 metres through the weathered ore at Kasiya. This confirms Kasiya ore can be efficiently mined using conventional dry-mining techniques and a simple mobile excavator fleet. The pit is accessible through a 10-metre-wide ramp constructed at appropriate geotechnical angles.

**Managing Director, Frank Eagar commented:** "Completion of the test pit at this scale marks a significant achievement. The mining, hydrology and geotechnical data collected throughout is invaluable in our understanding of the orebody and the simplicity of a potential dry-mining operation at Kasiya. We now look forward to the next steps of the pilot phase including the hydraulic mining trial, cyclone separation of ore, backfilling of test pits and soil rehabilitation."

For the test pit, the dry mining fleet consisted of four excavators, 20 trucks and a support fleet including two bulldozers and a motor grader. The saprolite-hosted mineralisation at Kasiya is largely homogenous and has relatively consistent physical properties throughout the 1.8 billion tonnes Mineral Resource Estimate. Data collected from the pilot phase confirmed that no drilling, blasting, crushing, grinding or milling will be required prior to stockpiling material for processing into rutile and graphite products; an indication of potentially lower mining costs and a lower carbon footprint comparable to hard rock deposits.



Figure 2: Kasiya mining and front-end processing vs. hard rock peers



Figures 3 & 4: Simple excavator fleet mining the test pit

Approximately 170,000 bench cubic metres of material has been mined as part of the test-pit program. Steady-state operations envisage 24 million tonnes of material being mined annually. The test pit material will be processed through cyclones on-site for deposition testwork.



Figure 5: Dry mining plant feed stockpiled without any crushing or grinding



Figure 6: Pilot Phase Water Storage Pond almost at capacity with rehabilitation demonstration pits in background

The main pit will be backfilled with dry material, while material from hydraulic mining will be used to fill rehabilitation pits as part of the rehabilitation phase.

A temporary water storage pond has been constructed and sealed using natural clay from excavated material, minimising the use of conventional plastic lining. The pond is being filled via eight boreholes delivering water to site and is nearing its capacity of six million litres. Water from the storage pond will initially be used for the hydraulic mining stage.



Figure 7: Pilot Phase Site end of July 2024

### Background to the Pilot Phase

The Pilot Phase is a critical part of Kasiya's optimisation study; empirical data generated from the Pilot Phase will determine optimal project excavation, material handling, processing, backfilling and rehabilitation approaches. The Pilot Phase is being undertaken on a 9.9-hectare site and includes the following activities:

1. **Test Pit:** A test pit of 120m by 110m excavated to a depth of 20m, allowing optimisation of hydraulic and dry mining excavation methods.
2. **Stockpiles:** The excavated material will be temporarily stored in 4 stockpiles, namely all dry mining material, wet slimes (in a pond) and two sizes of sand fractions from the hydraulic mining.
3. **Backfilling and Grading:** The material will be placed back into the pit, and all areas will be graded.

4. **Rehabilitation Demonstration:** Sovereign will construct eight small rehabilitation demonstration pits covering a combined area of 100m by 130m. These will be used for water storage, excavated material storage, and demonstration of multiple rehabilitation approaches.
5. **Temporary Laydown Areas:** Four areas will be used as temporary laydown areas, offices, and associated infrastructure.
6. **Communication:** The Pilot Phase will be an educational opportunity for Project stakeholders. Sovereign will undertake a series of stakeholder visits and consultations for this purpose.

Sovereign's objective is to restore land after mining to conditions that achieve the same or better agricultural yields than existing land uses and crop yields. The Pilot Phase will demonstrate to local communities the successful rehabilitation of land for agricultural use post-mining; land rehabilitation will form an integral component of the ongoing optimisation study. Results will also allow Sovereign to determine optimal excavation and backfill approaches, providing critical information for the upcoming Definitive Feasibility Study.

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#### Competent Person Statement

*The information in this announcement that relates to the Mineral Resource Estimate is extracted from an announcement dated 5 April 2023 entitled 'Kasiya Indicated Resource Increased by over 80%' which is available to view at [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au) and is based on, and fairly represents information compiled by Mr Richard Stockwell, a Competent Person, who is a fellow of the Australian Institute of Geoscientists (AIG). Mr Stockwell is a principal of Placer Consulting Pty Ltd, an independent consulting company. 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 announcement have not been materially changed from the original announcement.*

#### Kasiya Total Indicated + Inferred Mineral Resource Estimate at 0.7% rutile cut-off grade

Classification	Resource (Mt)	Rutile Grade (%)	Contained Rutile (Mt)	Graphite Grade (TGC) (%)	Contained Graphite (Mt)
Indicated	1,200	1.0%	12.2	1.5%	18.0
Inferred	609	0.9%	5.7	1.1%	6.5
<b>Total</b>	<b>1,809</b>	<b>1.0%</b>	<b>17.9</b>	<b>1.4%</b>	<b>24.4</b>

#### 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.*

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