



NEWS RELEASE 18 SEPTEMBER 2024

SPIRAL PLANT SUCCESSFULLY INSTALLED FOR GRAPHITE OFFTAKE DISCUSSIONS

- Industrial scale spiral concentrator plant successfully installed and commissioned at Sovereign's expanded laboratory and testing facility in Lilongwe, Malawi
- Graphite pre-concentrate from spiral plant will facilitate ongoing testwork and offtake discussions with lithium-ion battery makers and traditional graphite markets
- Spiral plant commissioning commenced with material from the Pilot Phase test pit being processed at a throughput rate of up to 3 tonnes per hour for continuous sample preparation
- The spiral installed and commissioned is the identical model selected for the Wet Concentrator Plant per the simple 2023 Kasiya pre-feasibility study (PFS) process flowsheet
- Commissioning and subsequent use of spiral plant also provides Malawian employee training in industrial scale processing prior to full-scale operations
- Sovereign is targeting a market-leading position as the world's largest and lowest-cost producer of rutile for the titanium industry and flake graphite for the lithium-ion battery market

Sovereign Metals Limited (ASX: SVM; AIM: SVML; OTCQX: SVMLF) (**Sovereign** or the **Company**) is pleased to announce that it has successfully installed and commissioned an industrial-scale spiral concentrator plant at the Company's laboratory and testing facility in Lilongwe, Malawi.

The plant enables Sovereign to process material from the test pit mined as part of the Pilot Mining and Land Rehabilitation (**Pilot Phase**) at its Kasiya Rutile-Graphite Project (**Kasiya** or **Project**).

Managing Director Frank Eagar commented: *"The new infrastructure allows Sovereign to deliver large-scale graphite pre-concentrate for qualification by its future potential customers. With a simple and conventional process flowsheet, Kasiya ore is processed at a throughput rate of up to 3 tonnes per hour for continuous sample preparation. Our PFS optimisation continues to advance as planned with oversight from the Sovereign-Rio Tinto Technical Committee."*

The spiral plant will prepare a graphite gravity concentrate from the Pilot Phase test pit's run of mine at a bulk scale. The concentrate will then be sent to specialised laboratories where flotation, purification, spheronisation and coating testwork for the battery anode segment in line with Sovereign's strategy to commercialise Kasiya's graphite by-product.

This follows the Company's recent announcement that downstream testwork performed by a leading independent consultancy had demonstrated that Coated Spherical Purified Graphite (**CSPG**) produced from Kasiya natural flake graphite has performance characteristics comparable to leading Chinese natural graphite anode materials manufacturers (See Company Announcement dated 4 September 2024).

Graphite concentrate will also be provided to traditional industrial graphite users, including refractories, foundries, expandable graphite, graphite foil, brake lining pads, and lubrication.

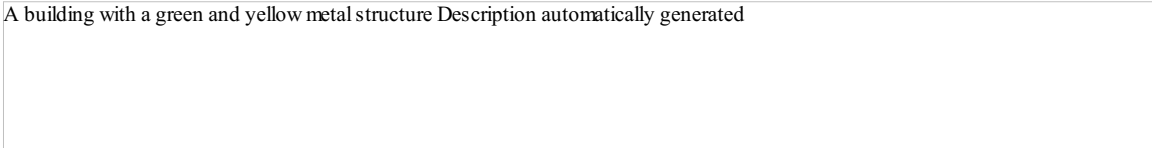




Figure 1: Installed Spiral plant at Sovereign's Lilongwe facility

A group of people working on a machine Description automatically generated

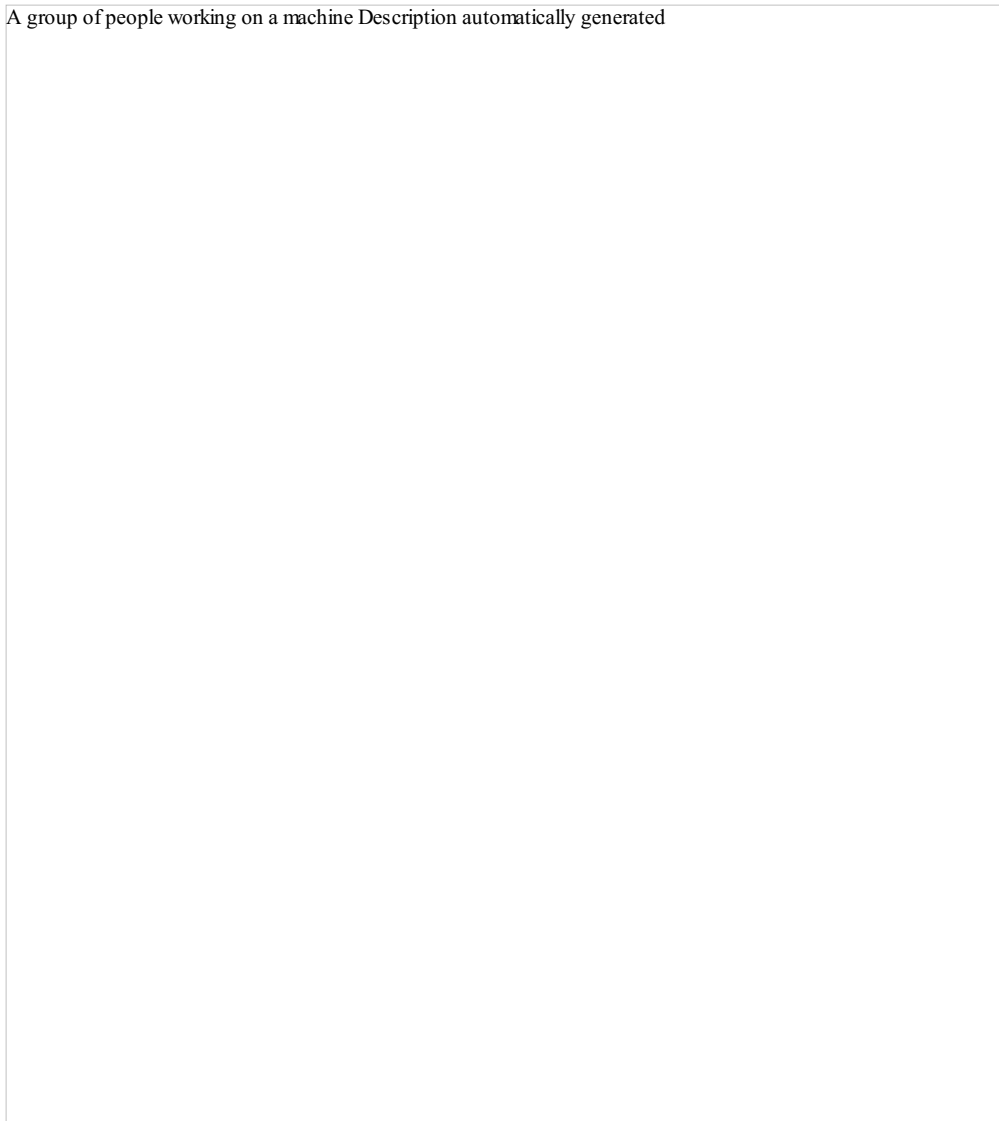


Figure 2: Commencement of spiral commissioning

The Kasiya process flowsheet is separated into distinct simple processing areas.

Wet Concentrator Plant (WCP)

The WCP will receive mined material pre-screened at 2mm to remove oversize. Simple gravity separation through spirals will produce a Heavy Mineral Concentrate (**HMC**) and a separate gravity tailings stream enriched in graphite. The spiral installed and commissioned is the identical model selected for the Wet Concentrator Plant per the 2023 Kasiya PFS process flowsheet. It will have the same throughput capacity as a spiral in the designed plant.

Mineral Separation Plant (MSP)

At the MSP, the HMC will initially undergo electrostatic separation to separate heavy minerals into electrically conductive minerals including rutile, and non-conductive minerals. Magnetic separation will then isolate rutile, which is non-magnetic, from other conductive minerals. Sovereign recently installed and is commissioning a CoronaStat Electric Separator at its facility in Lilongwe. This unit has been supplied by OreKinetics Pty Ltd which has also supplied the majority of electrostatic separators to the mineral sands industry over the last 20 years.

A drawer with drawers in it Description automatically generated with medium confidence



Figure 3: CoronaStat Electric Separator at Sovereign's Lilongwe facility clearly showing non-conductive material on left-hand-side and conductive minerals including rutile on right-hand-side

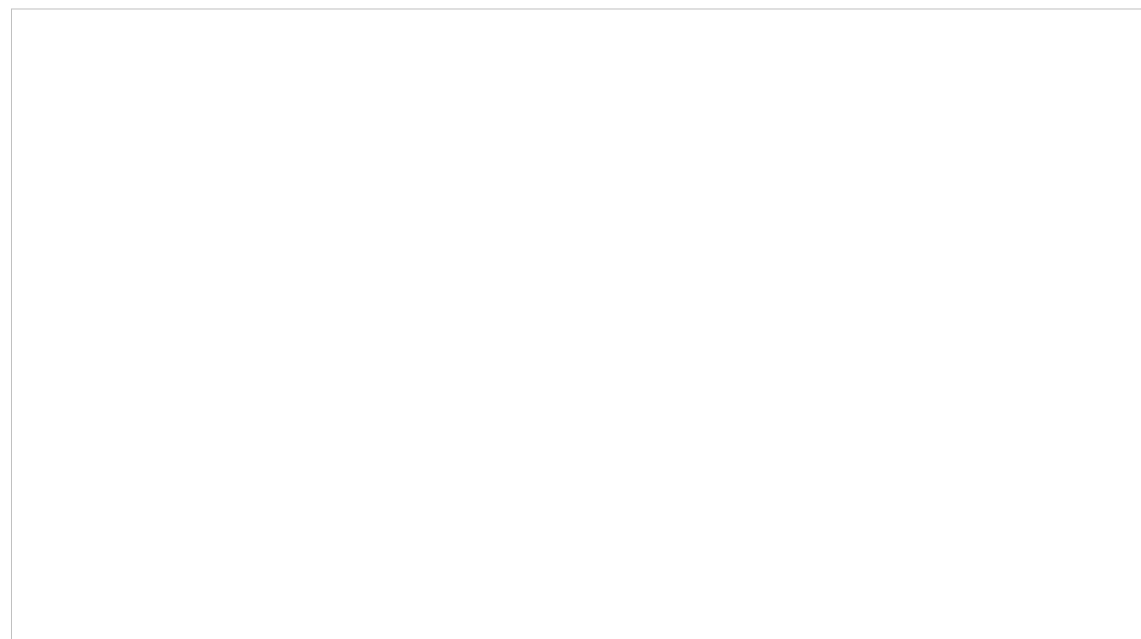


Figure 4: Bench-scale magnetic separator at Sovereign's Lilongwe facility separating non-magnetic rutile from other conductive minerals

Graphite Plant

The graphite tailings stream collected from the gravity spirals will be processed through froth flotation, including polishing and stirred media mills, producing a coarse-flake graphite concentrate and tailings.

Tailings storage and management will be further refined as part of the ongoing Kasiya PFS Optimisation Study.

ENQUIRIES

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Forward Looking Statement

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