Resouro Strategic Metals Inc. (ASX:RAU) Strategic Partnership to Unlock Potential of Tiros Project

written by Raj Shah | April 28, 2025

April 28, 2025 (Source) – Resouro Strategic Metals Inc. (ASX:RAU) (CVE:RSM) (8TX:FRA) (RSGOF:OTCMKTS) is pleased to announce the unveiling of a new advanced processing deal to unlock high-value mineral extraction at its globally significant Tiros Titanium and Rare Earths Project ("Tiros Project" or "Tiros" or "Project") in Minas Gerais, Brazil.

Resouro's subsidiary, Tiros Minerais Estrategicos Mineracao LTDSA (Tiros Mineracao), has entered into a binding Memorandum of Understanding (MoU) with YM Servicos Minerais LTDA (YM Servicos) to develop and supply an innovative, high-performance metallurgical process for Tiros.

The MoU follows encouraging results from initial proof-of-concept tests on composite samples from Tiros using the Fusion Sulphuric Acid Leach ("FSAL") process developed by YM Servicos.

YM Servicos and Resouro have now started additional test work under the MoU to verify initial results and to optimise the operating conditions.

On completion of these optimisation tests, the Company will process a 200-kilogram composite sample from the high-grade zone at Tiros to produce:

- high-quality and high-purity titanium concentrates;

- a precipitated mixed rare earths oxide (MREO) or a rare earths carbonate (MREC);
- determine the specifications of other by-products and their potential marketability; and
- produce sample quantities necessary for customer assessment.

On a positive outcome of this work program, the Company plans to move forward to a pilot plant test on a significantly larger sample in the second half of the year.

The high-value technology developed in this strategic partnership will be designed to maximise product recovery and aims to eliminate or substantially reduce waste disposal from the metallurgical process.

Importantly, the MoU allows the Company to continue exploring other metallurgical processes in parallel to ensure the most viable method of extraction for the Tiros Project is achieved.

Commenting on the MoU, Resouro's CEO Alistair Stephens said:

"This agreement marks a significant milestone for our Tiros Project and solidifies Resouro's position as a leader in sustainable processing of vital in-demand minerals. By securing exclusive access to a cutting-edge FSAL process developed by YM Servicos, we are unlocking the potential to efficiently extract a suite of high-value minerals, including titanium, rare earths, iron and silica. This strategic partnership places us at the forefront of innovative mineral processing in Brazil and provides significant scope to enhance Tiros' economic viability, reinforcing the highly attractive opportunity the Project represents."

Innovative Process Technology

YM Servicos specializes in mineral analytical services with the expertise to develop and supply an innovative, high-performance metallurgical process for the Tiros Project.

Under the terms of the MoU, YM Servicos will develop a FSAL metallurgical process for processing and recovering titanium, rare earths, and potential byproducts of iron oxide, alumina, and silica. Resouro will have absolute exclusivity and perpetuity to the technology for the entire Capacete Geological Formation, which hosts the mineralisation of the Tiros Project.

To validate the merit of the technology and its application to the Tiros Project, the Company progressed a proof-of-concept metallurgical test using a two-kilogram composite sample from Tiros. The Company will now progress a series of three-kilogram bench test programs to assess the impact of different temperatures and sulfuric acid ratios to determine optimal operating conditions.

Other Metallurgy Test Works

The Company has undertaken several campaigns of metallurgical tests on Tiros mineralisation to assess the potential for extracting titanium and rare earth minerals.

Initial test work using nitric acid returned promising extractions of 81% for Total Rare Earth Oxides (TREO) and, importantly, 96% for the Magnet Rare Earth Oxides (MREO) component. Follow up work is pending outcomes from beneficiation works that could lead to a concentrate product for further nitric acid test work. This work specifically is targeting the removal of titanium minerals, iron minerals and silica that are inert in the nitric acid process. Nitric acid tests could then target a smaller volume of concentrated rare earths bearing mineralisation.

Beneficiation test work for the separation of titanium and iron minerals remains in progress. A 200kg sample is being tested by magnetic and gravity separation techniques, to determine the liberation and recovery parameters for the optimisation of a concentrate flow sheet. These works are on-going while other tests are currently being scoped.

The Company has also conducted tests for the leaching of rare earths using ammonium sulphate that achieved recoveries below expectation. This is supported with mineralogical work that identifies that a significant portion of the rare-earth mineralisation is present in mineral form and a small portion as an ionic absorption clay. This has helped direct the Company to assess beneficiation test work for rare earths mineral recovery.

NEXT STEPS

The Company will progress the FSAL test work on 3kg samples for the optimisation of process operating conditions. This work is expected to be completed by the end of the second quarter of 2025. The optimisation of the FSAL process will be followed by a 200kg test that is expected to commence early in the third quarter of 2025 and used as the basis of a Scoping Study and preliminary economic assessment. The Company expects that these works will be followed by a pilot plant study for the basis of a pre-feasibility study with a target of completion by the end of the current calendar year.

Parallel beneficiation test works should be completed during the third quarter of 2025 with the outcome used to determine the flowsheet for the pilot plant.

The Company is also anticipating that a mineral resource estimate for the Northern Block should be available by the end of the second quarter of 2025.

Commercial terms of the MoU

Payments by Resouro for exclusive and perpetual use of the FSAL process over the Capacete Geological Formation:

- a) BRL 30,000/month (circa AUD$8,000/month, CAD$7,000/month) up to 12 months or until the conclusion of the Pre-Feasibility Study (PFS), starting with laboratory tests on two 200-kilogram samples, whatever comes first;
- b) BRL 2,000,000 (circa AUD$540,000 / CAD$480,000) upon successful completion of pilot tests (30-ton sample) and issuance of the PFS, subject to at least one signed off-take agreement that will be paid in two monthly instalments of equal value; and
- c) BRL 10,000,000 (circa AUD$2.7M / CAD$2.4M) based on 10% Net Profit Interest from the demonstration plant's positive cash flow, capped at this amount. Early payment is optional.

Other Provisions

- a) Tiros Mineracao shall bear the costs of patent registration, which will remain under the ownership of YS Servicos with exclusive and perpetual use to Tiros Mineracao for the Capacete Geological Formation (that hosts the Tiros Project mineralisation);
- b) Once all payments are completed, no further royalties or financial obligations shall be owed to YM Servicos; and
- c) Tiros Mineracao may withdraw from using the FSAL method at any time, with no further payments due, provided it ceases all use of the method

Conditions Precedent

- a) The commercial effectiveness of the MoU is subject to the full viability of laboratory testing on two 200-kilogram samples from the Tiros Project, which shall support the feasibility of a 30-ton pilot test.
- b) The BRL 2,000,000 payment is contingent upon:
    - Successful completion of metallurgical pilot tests using the FSAL process;
    - The completion of a PFS; and
    - The execution of at least one off-take agreement.

- c) Tiros Mineracao's obligation to pay BRL 10,000,000 is conditional upon achieving a positive financial outcome from commercial production at the demonstration plant stage using the FSAL process.

Full terms of the MoU will be contained within long form documents to be agreed between the parties within the next 120 days.

*To view tables and figures, please visit: https://abnnewswire.net/lnk/0LY7N9O6

About Resouro Strategic Metals Inc.

Resouro Strategic Metals Inc. (ASX:RAU) (CVE:RSM) (OTCMKTS:RSGOF) (FRA:8TX) is a Canadian-based mineral exploration and development company focused on the discovery and advancement of economic mineral projects in Brazil, including the rare earth elements and titanium Tiros Project and the Novo Mundo and Santa Angela gold projects.

The Tiros Project, located in northern Minas Gerais, Brazil, is an exploration project focused on rare earth elements and titanium covering an area of approximately 450 km2. The Tiros Project comprises 17 exploration permits, and one exploration

permit application held by the Company’s Brazilian subsidiary; and 6 exploration permits and one exploration permit application that have been validly assigned to the Company’s Brazilian subsidiary and are awaiting ANM approval. The Company holds, via its wholly owned Brazilian subsidiary, a 90% interest in the Tiros Project and the remaining 10% interest in the Tiros Project is held by RBM Consultoria Mineral Eireli (RBM), an unrelated third-party vendor.

The Novo Mundo Project is located in the Alta Floresta Gold Province close to the northern border of the state of Mato Grosso, central Brazil. Within the licensed area is the small town of Novo Mundo, which is 30km west from the larger town of Guaranta do Norte. It comprises three exploration permits. The Company also has another interest in an exploration permit, being the Santa Angela Project, which is not considered material to the Company’s operations. Interests in the Novo Mundo Project and Santa Angela Project are held via the Company’s wholly owned subsidiary.

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