Resouro Strategic Metals Inc.: Altilium Sighter Test Work Update on the Tiros Project

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Resouro Strategic Metals Inc. (ASX:RAU) (CVE:RSM) (FRA:8TX) (OTCMKTS:RSGOF) is pleased to provide details on the sighter test-work completed by Altilium Projects (Australia) Pty Ltd ("Altilium"), on samples from the Tiros Titanium and Rare Earth Elements ("REE") Project in Brazil ("Tiros Project" or "Tiros" or "Project").

Highlights

- Sighter test-work performed by Altilium demonstrated that over 96% of Magnet Rare Earth Oxides ("MREO") can be extracted from the ore, this result represents the world's highest REE extractions on non-selective ore intervals.

- The next phase of the Altilium test-work has commenced and will focus on the optimization of leaching parameters and downstream elements.

- Altilium's technology delivers an environmentally friendly leaching process which does not produce any waste products.

- Offtake enquiries received and initial discussions commenced.

- Second Phase of Altilium test-work commenced

On 13th August 2024 (TSXV 12th August 2024), Resouro announced the results of the sighter test-work completed by Altilium. The aim of this test-work was to achieve maximum extraction of REE and titanium minerals by applying Altilium's patented technology. This process includes acid regeneration with minimal acid loss as well as zero waste, with the aim of producing the world's lowest environmental footprint titanium dioxide ("TiO2") and Rare Earth Oxides ("REO") from pit to product.

Sighter test-work establishes whether metals can be extracted easily or not from the ore and is a critical upfront benchmark to prove the concept. Extensive additional test-work is required to determine a final process flow sheet and optimise the leaching conditions, such as acid concentration. As previously announced, the sighter test-work demonstrated that the Altilium Ti/REE Process(TM) can extract over 96% of the MREO from representative samples taken from the Tiros full ore horizon homogenous material, corresponding to the world's highest REE extractions on non-selective ore intervals.

Two samples of ore were received at Core Resources Laboratory in Queensland. These samples were crushed to a nominal top-size of 3.35 mm. The crushed samples were then representatively split into sub-samples which were then combined to produce a representative composite. The composite samples were then ground to a nominal top-size of 600 um before being rotary sample divided to produce five aliquots with masses of approximately 400 g. One sample was randomly selected for head characterisation while the remaining four were set aside for leach test work.

LT1 / LT2 - Sighter Tests

Results from test LT1 showed low extraction of aluminium and intermediate extractions for iron and magnesium. High extractions of REE were achieved, typically around 70% with results for total rare earth elements plus yttrium ("TREY") and light rare earth elements ("LREE") being virtually equal likely due to the high contribution of LREE to the TREY in the feed material. In test LT2, using a higher acid concentration and acid/ore ratio, extraction surprisingly decreased across the board for impurities and REEs. The cause of this is not currently clear, although the test appeared to go according to plan.

The LT3 test involved a pre-leach heating and leaching at the standard acid concentration (68% Wt.% Nitric Acid ("HNO3")) used in the Altilium Ti/REE Process(TM).

Test LT3 showed high extractions for aluminium and REEs. This test involved heating feed material to 600degC to convert kaolin to metakaolin, increasing its leachability and facilitating the release of aluminium and rare earths. The results indicate that the conversion was successful allowing significant improvements to

the extraction of the target metals. Of significant note is that the extraction of Magnet REE appears to increase substantially more than the Light REE and Heavy REE. This demonstrates that pre-heating of the material increases the extraction of REEs. The temperature of this sighter test was high (600o C) to prove the concept. The actual temperatures and conditions for pre-heating will be optimised in the next phase of test-work.

These results were obtained under closed-circuit temperate conditions designed to minimize losses on the target metals and on the hydroelectricity network associated with the project.

Therefore optimizing extraction rates and minimizing energy costs to enhance overall sustainability of the project.

Altilium - Key Next Steps

Resouro has now commissioned Altilium to commence the next phase of test-work, consisting of optimization of leaching parameters and downstream elements. This work is a scaled-up version of the sighter test, adjusting each condition until the optimal parameters are achieved over the Tiros Project's 1.7 bn tonne resource. For a full break down of the Company's maiden JORC resource, refer ASX announcement of 18th July 2024 - TSX Announcement of 17th July 2024.

Altilium have also commenced leach test-work on a 45 kg sample remaining at the Core Laboratory. The objective of this program is to generate residue from the leaching process to then produce TiO2 concentrate that can be sent to potential off-takers for the Titanium product.

Phase two of the Altilium test-work involves shipping a 200 kg Representative Composite Sample, that has been prepared and is awaiting shipment. This sample will undergo a full range of tests to optimise each component of the Altilium Ti/REE Process(TM). The entire test-work program is scheduled to take 30 weeks with periodic updates as test-work progresses.

Results from this next phase will allow Resouro to update its financial model for inclusion in the Preliminary Economic Assessment ("PEA").

This phase of the test-work will include the processing of saleable REE and TiO2 products to be used with potential off-takers with whom Resouro is in preliminary discussion, whilst exploring the markets for other potential saleable elements in the orebody.

Key benefits of the Altilium Ti/REE Process(TM) include:

- Zero waste, sustainable, environmentally friendly closed-circuit leach process.

- World's leading consistent representative rare earths leach extractions.

- Nitric acid produces the world's first TiO2 product with low niobium, phosphate and zirconium.

- No tailings dam required.

- Minimal acid consumption with the Altilium patented technology recovering and reusing nearly 100% of the nitric acid employed.

- A technology disruptor for the rare earth and TiO2 industry.

- Potentially, a fully automated process with minimal fluctuation in material production rates, recoveries and consumables providing reduced risk from operating perspectives.

Metallurgical Test-Work at CIT Senai

CIT Senai in Brazil is working through the test-work program and is nearing completion of the first phase of the ore characterisation studies. These studies assess the density, sizing and chemical characteristics of the orebody to allow the project team to leverage this knowledge and produce a likely flowsheet. Concurrently, CIT Senai are working on the next leaching tests using sulphuric and hydrochloric acids and a range of other reagents. Following the receipt of further results currently in the laboratory under various conditions (concentration, residency times, temperatures and pH), Resouro will continue to progress its dual-pronged metallurgical testing framework and update the market accordingly.

Initial discussions with off-take partners

Subsequent to the announcement of Resouro's 1.7 billion tonne high grade REE and TiO2 JORC resource,

numerous unsolicited enquires from large industrial companies in Asia, Europe and North America have been received. The first stage of the Altilium test-work is to produce trial samples of TiO2 concentrate from a 45 kg sample already at the Core Laboratory in Brisbane and to send these to potential off-takers. An additional 200 kg representative composite sample has been sent to the Core Laboratory to commence test-work on rare earth leaching and TiO2 concentration.

President, CEO, Director and Founder, Chris Eager commented:

"The initial sighter test-work results completed at the Core Laboratories in Queensland provide a proof of concept and indicate that Resouro can achieve high Rare Earths Extraction from Tiros Ore. The Altilium Ti/REE Process(TM) has many advantages over conventional leaching and has the potential to produce a clean TiO2 product.

This gives us confidence to take the next step of detailed test-work with Altilium.

Resouro is also continuing to explore conventional leaching, a range of other reagents and leaching protocols.

We are focussed on finding the optimal leaching method that will provide the most environmentally friendly process with high Rare Earths and TiO2 recoveries at the lowest cost."

*To view tables and figures, please visit:
https://abnnewswire.net/lnk/QA4E9CB6

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.

Source:
Resouro Strategic Metals Inc

Contact:

Chris Eager, CEO chris.eager@resouro.com +44 7388 0579809 Justin Clyne, Director justin.clyne@resouro.com +61 407 123 143 Melissa Hamilton, Media, melissa.hamilton@mcpartners.com.au +61 417 750 274