Battery X Metals Achieves Milestone in Graphite Recovery to 98.6% and Metal Oxide Purity of 96.3% in Controlled Trials with Global Top 20 University Partner

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News Release Highlights:

1. Battery X Recycling Technologies achieves 98.6% graphite recovery and 96.3% metal oxide purity using its proprietary two-stage flotation process, representing a significant milestone.
2. Combined use of the New Solvent and two-stage flotation delivers enhanced separation efficiency and reduced binder interference, demonstrating strong process advancement.
3. Collaboration with Global Top 20 University moves toward next-phase trials focused on further boosting graphite purity and oxide recovery, with the ultimate goal of patent protection and future commercialization for widespread application in the lithium-ion battery recycling industry.

VANCOUVER, May 16, 2025 - Battery X Metals Inc. (CSE:BATX)(OTCQB:BATXF)(FSE:5YW,WKN:A40X9W)("Battery X Metals" or the "Company") an energy transition resource exploration and technology company, announces that its wholly-owned subsidiary, Battery X Recycling Technologies Inc. (" Battery X Recycling Technologies "), has achieved another milestone in graphite recovery and metal oxide ("MO") purity in its ongoing research collaboration with the Institute of Mining Engineering at a globally ranked Top 20 university (the "Global Top 20 University") for its proprietary eco-friendly froth flotation technology being developed.

Further to the Company's news releases dated April 4, 2025, and May 6, 2025, Battery X Recycling Technologies and the Global Top 20 University have leveraged key findings as part of their ongoing work to optimize the recovery of battery-grade materials from end-of-life lithium-ion batteries. This includes the identification of a new solvent (the "New Solvent") that enhances the selective separation of metal oxides from graphite using Battery X Recycling Technologies' proprietary eco-friendly froth flotation process, along with the evaluation of varying frother and collector ratios, and the implementation of both single-stage and two-stage flotation processes.

As previously disclosed in the May 6, 2025 news release (the "Prior Results"), flotation tests using New Solvent-treated black mass showed much faster separation activity in the flotation cell. This high level of froth formation suggested that some MOs may have been unintentionally carried into the graphite froth, rather than remaining in the tailings as intended. To further explore this effect and enhance separation precision, two follow-up trials were conducted using the concentrate (377g) and tailings (105g) collected from the Prior Results, which originated from flotation tests on 500g samples of unoxidized, Nickel-Manganese-Cobalt (NMC)-dominant black mass using Denver Cell flotation devices (each, a "Recent Trial", and together, the "Recent Trials").

These follow-up tests included Recent Trial #1, a re-flotation of the graphite-rich concentrate, and Recent Trial #2, a re-flotation of the corresponding tailings. Both trials used a frother, with no collector added, and were conducted using the same Denver Cell configuration as the Prior Results. In Recent Trial #1, flotation activity remained rapid but slightly more controlled than in the Prior Results, with graphite beginning to float before aeration and froth forming within 2 to 3 minutes. Recent Trial #2, which involved the lower-solid-content tailings made up mostly of materials that do not naturally float, showed less vigorous froth formation and a shorter duration of approximately 2 minutes. The combined results of the Recent Trials were used to calculate the Results (as defined herein).

The Trials yielded a notable improvement in performance over the Prior Results: graphite recovery increased from 96.28% in the prior single-stage test to 98.6% in the two-stage flotation, representing a relative increase of 2.4% and an absolute increase of 2.32 percentage points; graphite grade improved from 72.99% to 75.7%, representing a relative increase of 3.7% (an absolute increase of 2.71 percentage points); metal oxide recovery (in tailings, treated as MO concentrate) increased from 48.09% to 53.2%, representing a relative increase of 10.6% (an absolute increase of 5.11 percentage points); and metal oxide grade improved from 89.87% to 96.3%, representing a relative increase of 7.1% (an absolute increase of 6.43 percentage points) (collectively, the "Results").

The Results refer to the measured improvements in graphite recovery, graphite grade, metal oxide recovery, and metal oxide purity achieved through the application of a two-stage flotation process designed to reduce entrainment and improve separation selectivity. These enhancements represent a significant advancement in process performance over the Prior Results and were determined using the same graphite burn-off assay method, in which samples were heated at 750°C for two hours to quantify graphite content and calculate associated material balances. A comparison of the prior and current results is set out in the table below for reference.

Graphite Recovery & Grade Comparison

Parameter	Recent Trial Unoxidized Sample - two-stage flotation, pre-washed w/ New Solvent (Frother & C
Graphite Recovery (%)	98.60%
Graphite Grade (%)	75.70%

Metal Oxide Recovery & Grade Comparison

Parameter	Recent Trial Unoxidized Sample - two-stage flotation, pre-washed w/ New Solvent (Frother
Metal Oxide Recovery (%)	53.20%
Metal Oxide Grade (%)	96.30%

Significance of Results and Next Steps in Ongoing Research Collaboration with Global Top 20 University
The combined application of the New Solvent and a two-stage flotation process represents a significant advancement for Battery X Recycling Technologies and its proprietary battery material separation platform. By reprocessing both the concentrate and tailings from the prior single-stage test, the Company has demonstrated materially improved separation performance, achieving 98.6% graphite recovery and 96.3% metal oxide purity. These results reflect a meaningful improvement in flotation efficiency and selectivity, confirming that the integration of targeted chemical treatment with staged mechanical processing can effectively overcome prior limitations.

This development also builds on earlier findings that a rubber-like binder in the black mass, believed to be a by-product of real-world battery use, may inhibit the proper separation of graphite and metal oxides during flotation. The New Solvent has shown promise in disrupting this binder effect, while the two-stage flotation configuration improved mechanical selectivity and contributed to more optimal separation of materials. Together, these innovations have resulted in improved recovery rates and higher-purity outputs.

Looking ahead, Battery X Recycling Technologies and the Global Top 20 University will focus next-phase research on reducing the impact of this binder to further improve battery material recovery performance. The goal is to achieve even higher graphite purity and metal oxide recovery through enhanced pre-treatment, refined solvent strategies, and continued process optimization. In addition to minimizing the binder's impact, future work will also focus on reducing mechanical entrainment and improving separation selectivity to maximize recovery efficiency. Battery X Recycling Technologies and the Global Top 20 University also plan to obtain and test different black mass chemistries, including phosphate-dominant material, to assess the versatility and effectiveness of the proprietary froth flotation technology across varying battery compositions and recycling scenarios. The collaboration aims to validate the technology and apply for a provisional patent to protect the underlying intellectual property, with the ultimate objective of commercializing the process for widespread application in the lithium-ion battery recycling industry.

"These results mark another step forward in the evolution of our clean technology platform," said Massimo Bellini Bressi, CEO of Battery X Metals. "By combining a chemical and mechanical approach to battery material separation, we are advancing an eco-friendly solution for end-of-life lithium-ion batteries. Our collaboration with the Global Top 20 University continues to deliver impactful milestones, and we look forward to building on this momentum."

Lithium-Ion Battery Recycling Industry Tailwinds and the Significance of Graphite Recovery
Battery X Metals, through its wholly-owned subsidiary Battery X Recycling Technologies, is advancing sustainable lithium-ion battery recycling through its amended research collaboration agreement with the Global Top 20 University. The research focuses on proprietary froth flotation technology under development to recover critical battery-grade materials-graphite, lithium, nickel, cobalt, manganese, and copper-from end-of-life lithium-ion batteries, supporting a circular battery economy.

Graphite, comprising 95% of lithium-ion battery anodes [1] , is often neglected in traditional hydrometallurgy and pyrometallurgy recycling methods [2]. Battery X Metals' process shows promise to enable the separation of cathode-active metal oxides from anode-active graphite without degradation, unlike high-temperature treatments [3] and chemical leaching [4] processes such as pyrometallurgy and hydrometallurgy.

In October 2024, Mercedes-Benz (FSE:MBG) opened Europe's first battery recycling plant, integrating mechanical-hydrometallurgical processes and becoming the first automotive manufacturer worldwide to establish an in-house battery recycling loop [5], underscoring the industry's shift toward battery recycling.

Further emphasizing the industry's momentum, Redwood Materials, Inc., founded by Tesla co-founder and former Chief Technology Officer J.B. Straubel, became the exclusive battery recycling partner for Lime's shared scooters and e-bikes in April 2025. This collaboration, covering operations in the United States, Germany, and the Netherlands, aims to recycle end-of-life batteries, thereby enhancing the domestic supply of critical materials and improving battery recycling supply chains [6].

Redwood Materials has also established partnerships with major companies such as Ford, Panasonic, BMW, General Motors, and Toyota. The company has received a $2 billion conditional loan from the U.S. Department of Energy to build and expand a battery materials campus in Nevada, supporting the growing electric vehicle market in America [7,8].

The global shift toward electrification is driving the clean energy transition, with lithium-ion batteries playing a central role in reducing reliance on fossil fuels [9]. Global lithium-ion battery demand is projected to rise 670% by 2030 [10] with energy storage requirements rising from 700 GWh in 2022 to 4.7 TWh [10], primarily due to the increased adoption of EVs [10]. Yet, recycling remains underutilized, with less than 5% of batteries currently recycled [11]. EVs and battery storage will account for nearly half of mineral demand growth from clean energy technologies over the next two decades [12], making the recovery of materials like graphite, lithium, nickel, and cobalt critical.

As the industry prioritizes battery recycling, Battery X Metals' eco-friendly technology stands out by recovering battery-grade graphite-anode material often lost in conventional methods. This positions Battery X Metals to address a major gap in the growing battery recycling market.

1 ECGA, 2 National Library of Medicine, 3 Rho Motion, 4 LA Ist, 5 Mercedes-Benz,6 TechCrunch, 7 Redwood Materials, 8 Ford Authority 9 Energy X, 10 Mckinsey & Company, 11 CAS, 12 Mining Review Africa

About Battery X Metals Inc.
Battery X Metals (CSE:BATX)(OTCQB:BATXF)(FSE:5YW, WKN:A40X9W) is an energy transition resource exploration and technology company committed to advancing domestic and critical battery metal resource exploration and developing next-generation proprietary technologies. Taking a diversified, 360° approach to the battery metals industry, the Company focuses on exploration, lifespan extension, and recycling of lithium-ion batteries and battery materials. For more information, visit batteryxmetals.com.

On Behalf of the Board of Directors
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Disclaimer for Forward-Looking Information
This news release contains forward-looking statements within the meaning of applicable securities laws. These statements relate to the Company's objectives, strategies, and future plans, including the development, optimization, validation, and commercialization of proprietary technologies, exploration initiatives, and strategic collaborations. Specific forward-looking statements include, without limitation: expectations regarding the Company's ongoing research collaboration with the Global Top 20 University and the future research plans for the collaboration; the performance, optimization, and potential advantages of the Company's proprietary froth flotation process; the anticipated impact of the New Solvent in improving the selective separation of graphite and metal oxides; the role of multi-stage flotation in enhancing recovery and purity; the significance of binder interference and efforts to mitigate its impact; the evaluation and testing of phosphate-dominant and other black mass chemistries; the scalability, applicability, and commercial viability of the Company's process for use across varying battery compositions; and the intention to apply for a provisional patent to protect intellectual property arising from the process. Additional forward-looking statements include expectations regarding graphite recovery and grade, metal oxide purity and recovery, improvements in flotation efficiency and selectivity, and the Company's broader role in addressing critical mineral supply challenges through sustainable lithium-ion battery recycling. These statements also reflect management's belief that the Company's technology provides an eco-friendly alternative to conventional pyrometallurgical and hydrometallurgical recycling methods, and that it is well-positioned to help meet the rising global demand for battery-grade materials, including graphite, lithium, nickel, cobalt, manganese, and copper. Forward-looking statements further include references to broader industry trends, such as the projected increase in global lithium-ion battery demand, regulatory developments supporting circular economy initiatives, and the role of leading automotive and battery recycling partnerships in shaping future market opportunities. These forward-looking statements are based on current expectations, assumptions, and beliefs as of the date of this news release. However, they involve known and unknown risks, uncertainties, and other factors that could cause actual results, performance, or achievements to differ materially from those expressed or implied. Such risks include, but are not limited to: uncertainties in research and development; the outcome of laboratory testing and trial programs; technical challenges in developing and scaling the Company's flotation process; regulatory and permitting risks; fluctuations in commodity prices; supply chain constraints; the ability to secure sufficient funding or strategic partnerships to advance commercialization efforts; competition in the battery recycling and critical minerals sectors; dependence on third-party collaborators and suppliers; and changes in consumer preferences, industry standards, or geopolitical conditions affecting the adoption of clean energy technologies. Battery X Metals assumes no obligation to update or revise any forward-looking statements to reflect future events, developments, or circumstances, except as required by applicable law. Investors are cautioned not to place undue reliance on these forward-looking statements and are encouraged to review the Company's public disclosures available on SEDAR+ for additional risk factors.

SOURCE: Battery X Metals

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