

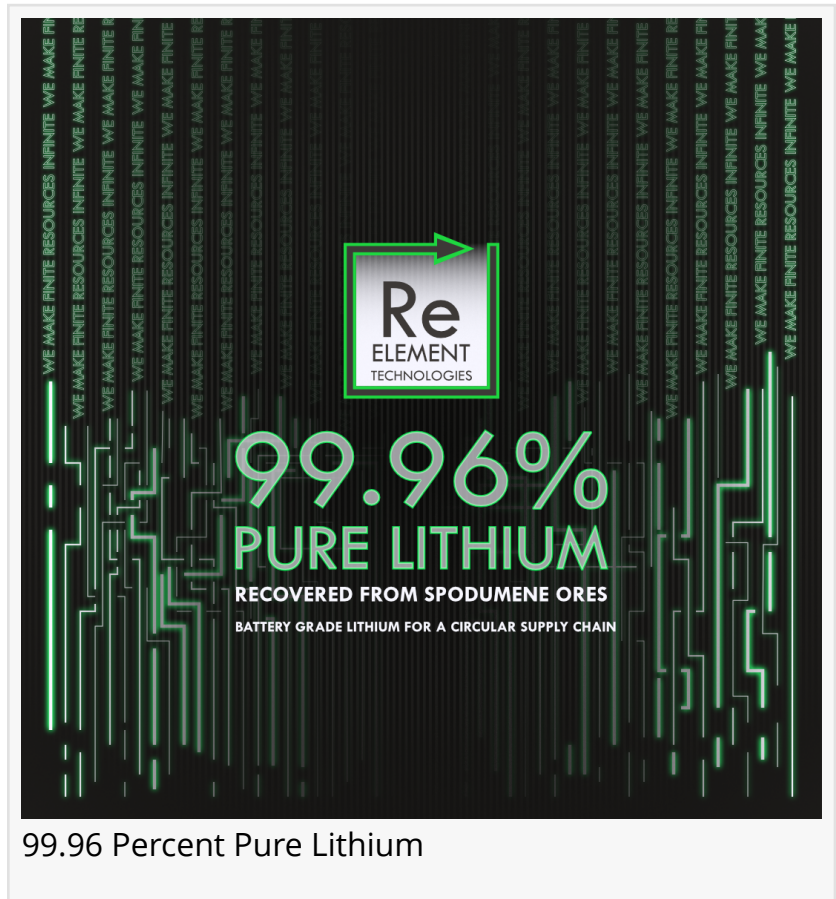
# ReElement Technologies Produces Ultra-High Purity, 99.96%, Battery-Grade Lithium from Spodumene Bearing Pegmatite Ore

*Patented Multi-Mode Chromatography technology has been scaled up and achieved better than expected separation and purification results from commercial operation*

FISHERS, INDIANA, UNITED STATES, November 2, 2023 /EINPresswire.com/ -- [American Resources Corporation](#) (NASDAQ:AREC) ("American Resources" or the "Company") subsidiary, [ReElement](#) Technologies Corporation ("ReElement"), a leading provider of high-performance refining capacity of rare earth and critical battery elements, today announced that it has achieved an ultra-high purity of 99.96% battery-grade lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) from its exclusively licensed and patented multi-modal chromatography technology that was

developed in partnership with Purdue University. The results were produced from hard rock, spodumene bearing pegmatite ore and showcase the technology's ability to provide industry-best purity results across various feedstocks, both primary and recycled.

Mark Jensen, CEO of American Resources Corporation commented, "As the electrified economy continues to expand the demand for high purity lithium will continue to see substantial demand as a commodity. Over the short term, we expect some price volatility around planned battery plants within the U.S. market. In the current market, both operating cost and capital investment will remain extremely important and we believe our refining solution is extremely competitive on both aspects, while also being able to build out in a scalable and modular basis. Being able to efficiently add refining capacity as demand warrants it is paramount to succeed in a commodity-driven, pricing environment. As such we continue to rapidly advance our innovative critical



mineral refining technology at our Commercial Qualification Plant in Noblesville, Indiana with a variety of feedstocks. We are also frequently validating the products we produce for our partners, potential partners and customers to showcase our value-added position and to most efficiently meet the needs of our fragile critical mineral supply chains. Refining lithium from natural sources, such as spodumene, in a cost effective and environmentally sensitive manner is key to the near-term domestic battery industry. We realize the importance of sustainability and circularity which has been a big focus of our critical mineral refining platform. Given our technology's efficient attributes, we are also highly focused on the rapidly



accelerating demands of the electrified economy. Our innovative platform can efficiently and cost effectively address the complex demands of our critical mineral supply chains through the refining of natural occurring ores while also creating a sustainable and circular life cycle. We applaud our technical and operational teams for exceeding our initial target results in producing

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We applaud our technical and operational teams for exceeding our initial target results in producing ultra-high pure, battery-grade lithium from spodumene utilizing our patented technology”

*Mark Jensen*

ultra-high pure, battery-grade lithium from spodumene utilizing our revolutionary and patented technology. The results we have achieved and the scalability we have showcased is paramount for the high-growth battery industry. Our technology is unique in that we can operate standalone facilities, co-locate within the battery manufacturing and mining ecosystems to produce ultra-high pure lithium in either a carbonate or hydroxide form, and at a substantially lower economic and environmental cost than conventional chemical processing and refining.”

This milestone of refining hard rock lithium ore to high

purity, battery-grade lithium products follows the Company's success in refining end-of-life and waste feedstocks back to battery and magnet-grade qualities which include:

- Achieved greater than 99.5% pure rare-earth elements (Nd/Pr and Dy) representing the first commercial scale success in the United States;

- Achieved ultra-pure (greater than 99.9%) lithium from recycled NMC lithium-ion batteries;
- Achieved an ultra-purity of 99.99% lithium from LFP lithium-ion battery manufacturing waste;

ReElement's advanced chromatography methods are unique in that it's an efficient continuous closed loop, column-based, modular system that is able to operate at multiple stages and recover high value components. As such, the process can scale congruently with the needs of the market and require less Capex and Opex to scale. The Company's process first efficiently isolates lithium then can subsequently isolate and recover any supplemental products such as inherent iron phosphate, manganese, cobalt and nickel from waste battery material, with minimal increase in costs. Additionally, our chromatography process produces very little waste making it environmentally benign and much easier to permit relative to conventional refining methods.

American Resources continues to focus on running efficient streamlined operations in being a new-aged supplier of raw materials to the infrastructure and electrification marketplace in the most sustainable of ways, while also helping the world achieve its goals of carbon neutrality. By operating with low or no legacy costs and having one of the largest and most innovative growth pipelines in the industry, American Resources Corporation works to maximize value for its investors by positioning its large asset base to best fit a new-aged economy, while being able to scale its operations to meet the growth of the markets it serves.

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