

ReElement Technologies Produces Ultra-High Purity, 99.99%, Battery-Grade Lithium from LFP Manufacturing Waste

Patented Multi-Mode Chromatography technology has been scaled up with lithium separation and purification results exceeding industry expectations

FISHERS, INDIANA, UNITED STATES, August 10, 2023 /EINPresswire.com/ -- [American Resources Corporation](#) (NASDAQ:AREC) ("American Resources" or the "Company"), a next generation and socially responsible supplier of raw materials to the new infrastructure and electrification marketplace, today

announced that it has achieved an ultra-high purity of 99.99% lithium from its exclusively licensed and patented multi-modal chromatography technology that was developed in partnership with [Purdue University](#). The results from LFP battery manufacturing scrap

demonstrates the technology's ability to provide industry-best purity results across various lithium battery chemistries.

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Yi Ding, PhD

Yi Ding, PhD, Director of Research and Development of [ReElement Technologies](#) commented, "Refining lithium from LFP Battery chemistries in a cost effective and environmentally sensitive manner is the key to the domestic auto and electrification industry. We applaud our research, technical and operational teams for exceeding our initial target results in producing ultra-high pure,

battery-grade lithium from end-of-life batteries utilizing our revolutionary and patented technology. The results we have achieved for LFP battery chemistry and the scalability we have now 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 ecosystem to process manufacturing waste 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."

With its initial commercial battery production train at its first Noblesville, Indiana facility, ReElement has the capacity to process approximately 137,500 kilograms per year of battery materials to produce ultra-high pure battery minerals or compounds. The Company is in the design and engineering phase to implement its second and larger scale battery production line which will have an annual capacity of approximately 13,750,000 kilograms per year with the ability to efficiently expand on a modular basis thereafter. As previously announced, this is in addition to its initial

commercial production train that is used to recycle end-of-life permanent magnets for the separation and purification of their inherent rare earth elements. The Company continues to scale its first rare earth and critical element recycling facility in Noblesville, Indiana which is being developed as a modularly-scalable, commercial facility and is also currently evaluating additional sites for both standalone and co-located facilities.

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. Typically, the Company's process first isolates lithium then subsequently isolates and recovers supplemental products such as the inherent iron phosphate, manganese, cobalt and nickel, from an NMC-type battery, with minimal increase in costs. Additionally, the chromatography 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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