



CENTRAL AMERICA NICKEL INC.

NEWS RELEASE

## **CENTRAL AMERICA NICKEL ANNOUNCES COMMERCIALY SCALABLE, SCANDIUM-VANADIUM, PATENTED ULTRASOUND TECHNOLOGY**

**Montreal, Quebec / October 19, 2023** – Central America Nickel Inc. (the “Company” or “CAN”) is pleased to announce it has been granted patents in the United States and Canada, for the extraction of scandium and vanadium using the Company’s Ultrasound Assisted Extraction (UAEx). The patents are based on International Application Number PCT/CA2018/050772, Publication Number WO2018232528, titled “*Recovery of scandium and vanadium values from feedstocks using ultrasound-assisted extraction*”. An application based on the aforementioned International application is also pending in Guatemala. Both scandium and vanadium are on the lists of minerals critical for the green transition as outlined by the governments of Canada and the United States, and crucial for their distinct potential to spur economic growth and their necessity as inputs for priority supply chains.

Due to its light-weighting potential and utility in fuel cells, scandium is critical to achieving energy efficiency, and its incorporation in materials has environmental benefits across multiple industrial sectors, particularly in decarbonization of energy. Both scandium and vanadium are important minerals used in alloy production due to their physical properties such as high-tensile strength and fatigue resistance, used for a diverse range of commercial applications including railways, steel products, catalysts, defense and aerospace.

CAN is focused on the sourcing, production and processing of strategic and critical minerals, and has developed technologies for the refining of minerals into elemental form for the clean energy industries, with recovery rates of up to up to 80% vanadium and 95% scandium within one hour of processing time, using the Company’s proprietary technology.

CAN’s proprietary technologies and metallurgical processes employ ultrasound processing, classified as a green chemistry approach as it significantly reduces the amount of acid and reagents being used to recover metals by accelerating the recovery time, as well as by increasing mineral recovery rates. CAN’s ultrasound technology, coined the Ultrasound Assisted Extraction (UAEx), is an environmentally-friendly alternative to conventional processing methods, as it reduces waste material and carbon emissions due to the process requiring less energy than traditional leaching, avoids the use of calcination and furthermore operates at ambient temperatures without conventional heat or pressure.

Daria C. Boffito, Ing., Ph.D., Prof. Canada Research Chair in Engineering Process Intensification and Catalysis (EPIC), Polytechnique Montréal, who has been working closely with CAN with a



focus on establishing UAEx to enhance metal recoveries from ore at the industrial scale, commented: *“Metal production accounts for approximately 10% of global GHG emissions, making of it one of the most urgent sectors to decarbonize. Ultrasound is an innovative technology, classified as Process Intensification, which gathers a pool of innovative approaches that improves process efficiency, and opportunities for feedstock substitution, energy transition, in particular for the electrification of the chemical industry. CAN and its partners have been spearheading ultrasound-assisted technologies for critical metals extraction, reaching the same or higher recoveries as traditional high temperature, high pressure acid leaching, but at ambient conditions, in less than 1/20 the time and with less acid and chemical input.”*

CAN's technological processes rely on known chemistry but are augmented by the Company's UAEx which leverages ultrasound cavitation energy, resulting in reduced operating costs by eliminating the use of pressure processing. In addition, UAEx minimizes the temperature, energy requirements and processing times, as well as the use of chemical inventory or reagents by 75-90%, depending on the metal extracted. CAN's method of ultrasound extraction technology is an enabler to the entire metallurgical process, with the intent to move away from pressure leaching, and increase effectiveness across the integrated system. The UAEx process resulted in effective recoveries up to 95% nickel, cobalt, manganese, and scandium, 80% extraction of vanadium, titanium, copper, and iron, over 84% recovery of rare earths in solution, specifically 92% neodymium as well as 100% recovery of iridium, gadolinium and praseodymium. CAN's technological advancements are a result of collaborative work done with partners such as Polytechnique Montréal, Impact Global Solutions Inc., and the Coalia research center from Theftford Mines.

## **About The Company**

Central America Nickel Inc. (“CAN”) is a privately-held corporation based in Montreal, focused on the processing and purification of critical minerals and energy metals using patented and patent-pending technologies, in partnership with strategic partners. CAN has access, directly or through joint ventures, to minerals projects including nickel, cobalt, scandium, vanadium, lithium and rare earth elements located in several countries, including Guatemala, Nigeria, and the Democratic Republic of the Congo.

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## **Forward-Looking Statements**

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