



CENTRAL AMERICA NICKEL INC.

NEWS RELEASE

## CENTRAL AMERICA NICKEL ANNOUNCES FILING OF PATENT APPLICATION ON ULTRASOUND ASSISTED GOLD AND SILVER EXTRACTION

**Montreal, Quebec / November 21, 2023** – Central America Nickel Inc. (the “Company” or “CAN”) is pleased to announce that it has filed patent applications in the United States, Canada and Mexico titled “*Recovery of gold and silver values from feedstocks using ultrasound-assisted extraction.*” These national applications are based on International application No. PCT/2019/051807.

- The application is based on a process of selective recovery of metal values from various feedstocks, specifically gold and/or silver, with the use of CAN’s proprietary ultrasound technology, the Ultrasound Assisted Extraction (UAEx).
- The UAEx is an innovative green solution to conventional processes providing for a more environmentally-friendly, efficient and affordable extraction of both gold and silver values, with over 85% recovery rates in solution of gold and silver; these results were achieved within one-hour, under ambient temperature, and without the use of pressure.
- This process addresses global extractive industry issues including mercury pollution created by artisanal gold mining, as the UAEx does not use cyanide or mercury, and operates in a closed-loop system.
- The objective of the UN Minamata Convention, adopted in October 2013, is the elimination of mercury in artisanal mining, with some 147 parties that have ratified the agreement which calls for countries to phase out mercury use in products, ban the opening of new mercury mines, and limit the emission of mercury into the environment. The International Institute for Environment and Development (IIED) estimates that there exists between 20 to 30 million artisanal and small-scale miners across 80 countries, responsible for 37% of global mercury pollution. Artisanal mining accounts for 20% of the global supply of gold and generates approximately US\$30 billion annually.

Pierre Gauthier, CEO of Central America Nickel comments, “*We have developed a commercially-scalable, green-chemistry approach that could potentially address and solve a major industry and environmental issue associated with traditional gold and silver metallurgical processes. We hope that our technology contribution is not only a key advancement that could alter the industry standard, but also represents a crucial innovation as we move towards more sustainable mining practices.*”



Metallurgical testing for the extraction of gold and silver has been conducted on samples originating from the Company's properties as well as from properties of the CAN's joint venture partner, Auxico Resources Canada Inc., including on different solid materials such as soil, sediment and silica ores from two mines in the state of Sinaloa, Mexico, specifically Aguamas and Campanillas mines. CAN's UAEx process resulted in the recovery of over 90% of gold and over 80% silver in 1-hour extraction time, without the use of heat and pressure (*refer to Table 1*).

<i>SAMPLES (Auxico Projects)</i>	<b>Feed material % Au</b>	<b>UAEx Recovery % Au</b>	<b>Feed material % Ag</b>	<b>UAEx Recovery % Ag</b>
<b>Aguamas Mine, Mexico</b>	0.01	98	0.08	88.76
<b>Campanillas Mine, Mexico</b>	0.05	98	0.05	87.47

Table 1: Testing conducted on JV partner Auxico Resources Canada Inc. projects in Mexico using the UAEx

The ore sourced from the Campanillas mine (20 wt%), comprised 0.05% gold (Au) and 0.05% silver (Ag), was leached with a 50% v/v H<sub>2</sub>SO<sub>4</sub> solution comprising thiourea (<1%), with the resulting slurry subsequently sonicated with stirring at room temperature and under atmospheric pressure over a period of 60 minutes. The results of elemental analysis confirmed that 98% of the Au and 87.47% of the Ag were extracted.

In most cases, gold is intimately associated with sulphidic minerals such as pyrite, pyrrhotite, arsenopyrite, marcasite, chalcopyrite, chalcocite, bornite, enargite, etc., and typically gold cannot be economically recovered from gold-containing ores using cyanide without the ore being given a pre-treatment. These pre-treatments such as roasting, pressure oxidation, bacterial oxidation, using an acidic leaching medium and hydrometallurgical processes, are typically very capital intensive and use high temperatures. In the case of most existing extraction procedures, the presence of one metal may prevent a smooth and effective extraction of another. However, testing conducted using the UAEx proves a high recovery rate of both Au and Ag, and studies conducted on gold extraction depict that leach time in the presence of ultrasound can be reduced by 3 times, resulting in recoveries over 90% in less than 1-hour, inferring that with the use of UAEx as an intensifier, metallurgical processes could be more efficient, more cost-effective and would require less energy.

The implications of the UAEx technological process are dramatic in terms of CAPEX/OPEX reduction due to increased mineral recovery rates and reduced processing times, with the ability to extract complex minerals which are difficult to separate from one another using conventional methods. The main advantages of the UAEx process is that it enables minerals to separate from ore and into solution more efficiently and lower cost than traditional processing methods, with significantly less environmental impact, including substantially minimized CO<sub>2</sub> emissions, waste and energy requirements.



## **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 and the Democratic Republic of the Congo.

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## **Forward-Looking Statements**

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