



CENTRAL AMERICA NICKEL INC.

NEWS RELEASE

## **CENTRAL AMERICA NICKEL ANNOUNCES FILING OF RARE EARTH EXTRACTION PATENT USING PROPRIETARY ULTRASOUND TECHNOLOGY**

**Montreal, Quebec / October 30, 2023** – Central America Nickel Inc. (the “Company” or “CAN”) is pleased to announce that it has filed a PCT application (PCT/CA2023/051387) and a patent application in the Democratic Republic of the Congo titled “*Process for Extraction of Rare Earth Elements*” for the extraction of rare earth elements using the Company’s Ultrasound Assisted Extraction (UAEx) technology.

- The patent-filed process is a combination of a process for the extraction and recovery of rare earth elements, and the selective extraction and separation of radioactive components (uranium and thorium) from rare earth components with the use of CAN’s ultrasound technology, the Ultrasound Assisted Extraction (UAEx), as a process intensification method. The separation of radioactivity from rare earth concentrates is crucial for the ability to export and transport material internationally, as well as for further processing into refined end-products intended for the green industries.
- The UAEx is an environmentally-friendly alternative to conventional processing methods as it increases mineral recovery rates while reducing processing time; the process enables minerals to separate from ore and into solution more efficiently and at a lower cost than traditional processing methods, with significantly less environmental impact including substantially minimized CO<sub>2</sub> emissions, waste and energy requirements.
- Over 84% recovery of rare earths in solution was achieved using the UAEx, with recoveries of 92% of neodymium, and a 100% recovery of praseodymium, gadolinium, and iridium.
- Given the complexity of extracting and refining rare earths elements, the use of CAN’s proprietary technology and processes could represent a major extractive industry advancement.
- Rare earth elements are profoundly valuable and critical in the manufacturing of a variety of modern devices including high-strength magnets, batteries, displays, electronics, lighting and high-performance metal alloys. Rare earths are listed on the critical mineral lists outlined by the governments of Canada and the United States.

Metallurgical testing for the extraction and recovery of rare earths has been conducted on the material from Company’s rare earth project in the Democratic Republic of the Congo (DRC),



estimated to contain in excess of 1 million tonnes of concentrated rare earths with grades averaging ~59% total rare earth oxide content (TREO). The average recovery rates for rare earths using the UAEx on samples from DRC and other deposits are over 84% in solution within a 2-hour extraction cycle (*For reference, please see Table 1*). The Company has been exporting commercial rare earth concentrates for the past year from the DRC concessions with grades up to 16.92% neodymium and 4.12% praseodymium, an ~60% TREO (based on SGS South Africa and Anchem analysis), and with thorium grade below 1%.

<b>Results of UAEx tests conducted on samples sourced from deposits controlled by CAN and JV partner Auxico Resources Canada</b>					
<b>Symbol</b>	<b>Brazil Grade (%)</b>	<b>DRC Grade (%)</b>	<b>Colombia Grade (%)</b>	<b>Bolivia Grade (%)</b>	<b>Average UAEx Recovery (%)</b>
CeO <sub>2</sub>	35.90	31.61	31.09	20.86	85.72
Dy <sub>2</sub> O <sub>3</sub>	0.28	0.09	0.72	0.49	86.63
Gd <sub>2</sub> O <sub>3</sub>	0.17	0.73	0.75	4.68	87.47
La <sub>2</sub> O <sub>3</sub>	15.17	9.41	9.40	5.49	85.41
Nd <sub>2</sub> O <sub>3</sub>	9.04	12.34	9.49	10.77	84.74
Pr <sub>6</sub> O <sub>11</sub>	0.89	2.58	2.44	1.57	85.94
Sm <sub>2</sub> O <sub>3</sub>	0.90	1.99	1.81	8.66	86.02
Y <sub>2</sub> O <sub>3</sub>	1.14	0.49	0.50	1.63	76.26
<b>Total RE (%)</b>	<b>63.49</b>	<b>59.24</b>	<b>56.20</b>	<b>54.15</b>	<b>84.77</b>

Table 1. Results of lab analysis of key rare earth elements from deposits in the DRC, Brazil, Bolivia and Colombia.

The Company and its joint venture partner Auxico Resources Canada Inc., are developing a diversified supply source of critical minerals, including rare earths, from properties in the DRC, Colombia, Bolivia and Brazil. Both firms have the objective of refining these critical minerals into end user forms for the EV battery and power-train components manufacturing supply industry; the companies have jointly conducted scoping studies for the critical minerals processing and refining facilities, leveraging the UAEx, alongside technology partners including Impact Global Solutions Inc. (IGS), Coalia research center from Thetford Mines, Polytechnique Montréal (Université de Montreal) and McGill University. Richard Boudreault and Daria Boffito, members of the Technology Advisory Board of Auxico Resources Canada Inc., are listed as inventors of the patent-pending process for the refining of rare earths alongside the CAN team.

### **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 critical mineral 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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