

# EVNi Clean Nickel(TM) R&D - Carbon Capture Results Beat Expectations, Great Potential for Carbon Mineralization and Storage – Advancing to Pilot Plant Testing

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- CarLang A Zone material has demonstrated the potential to capture up to 40 kg CO<sub>2</sub> per tonne of tailings
- This should more than offset the Project's carbon footprint- creating an additional potential business line
- Brucite is the integral mineral for Carbon Capture and the CarLang Trend is brucite-rich, sampling up to 6%
- Research now progresses to the next phase, planning to include with the Clean Nickel&TRADE; Pilot Plant
- EV Nickel management will host a live digital event today at noon ET, to discuss the Clean Nickel &TRADE; R&D. The event will be at <https://events.6ix.com/preview/ev-nickel-r-and-d-update-advancing-to-pilot-plant>

TORONTO, October 4, 2023 - [EV Nickel Inc.](#) (TSXV:EVNI) ("EVNi" or the "Company") is pleased to announce the ongoing results of the Carbon Mineralization and Storage research, on its Large-Scale CarLang A Zone, located in the Shaw Dome Project, just outside Timmins, Ontario (see Figure 1).

Greenhouse gases such as CO<sub>2</sub> trap heat, causing temperatures to rise. To avoid the worst effects of climate change the world needs to decrease emissions and ideally remove CO<sub>2</sub> that is already in the atmosphere. Ultramafic rocks are well suited for this, as they contain minerals that are highly reactive to CO<sub>2</sub>. More specifically, brucite is the key mineral for "carbon mineralization" to occur with the ultramafic rocks. In a future potential mining operation, CO<sub>2</sub> could be absorbed by the tailings and converted into a solid carbonate mineral, permanently and safely trapping and storing CO<sub>2</sub>. In addition to mineralogy, the ultimate carbon mineralization capacity of mine tailings is dependent on particle size, tailings management practices and the concentration of CO<sub>2</sub> in the source gases-passive vs enriched.

Building on the Preliminary Results (see news release dated April 20, 2023) EVNi has continued to work with its technical partners Arca Climate Technologies, to quantify the total amount of CO<sub>2</sub> that can be captured and stored, including if the process was to use a CO<sub>2</sub> -enriched input gas.

"These are very promising results so far, representing what could be best-in-class carbon mineralization, driven by our high brucite levels along the CarLang Trend," said Sean Samson, President & CEO. "Our Company's Clean Nickel&TRADE; Strategy is about rethinking all of the steps we take and with this workstream, if we can potentially create a new business- from our tailings- this is exactly the type of innovation we are focused on."

## Passive Analysis- Direct Air Capture testing

Ambient carbonation, using naturally occurring CO<sub>2</sub> levels, referred to as direct air capture ("DAC"), in the atmosphere mimics natural processes but increases the exposure of the minerals to the reactive CO<sub>2</sub>. Prior to testing, samples from the CarLang A Zone were assessed for their total inorganic carbon ("TIC") content. This TIC was then tracked to determine the quantity of CO<sub>2</sub> sequestered by the sample through the test. The samples were homogenized and then acidified, releasing the gaseous CO<sub>2</sub>, that was measured using a photodetector. The experiment was completed after 21 days and the amount of CO<sub>2</sub> chemically bound was measured by analyzing the TIC in the sample and then netting out the original content of TIC. The measurement of chemically bound CO<sub>2</sub> were roughly in agreement with the calculated brucite content of

each sample (see Figure 2). Selected samples d156202 and f465375 yielded TIC increases of 8.3 and 6.7 kg CO<sub>2</sub> per tonne of tailings.

Enriched Analysis- injecting a concentrated CO<sub>2</sub> stream

Mineralization injection testing was completed with samples injected with 10% CO<sub>2</sub> at a flow rate of 80mL/minute. Samples weighing 0.5g were collected after 2 and 7 days during the week-long experimental duration. TIC was analyzed on the material before exposure to CO<sub>2</sub> and on the intermediate and final samples to assess the amount of carbon mineralization over time.

The brucite-bearing samples increased dramatically in TIC within the first 48 hours, continuing to capture CO<sub>2</sub> over the remaining 5 days at a reduced rate. Results from the Enriched analysis were consistent on a relative basis with the Passive experiments. It was demonstrated that brucite reacts readily in atmospheric conditions, but reacts fully in higher CO<sub>2</sub> conditions, in days versus months (see Figure 3). At the end of 7 days, samples d156202 and f465375 had captured 40.4 and 38.3 kg CO<sub>2</sub> per tonne of tailings.

It was concluded by Arca that regardless of the approach taken to achieve carbonation, tailings from the Shaw Dome project have been shown to have significant carbon mineralization potential in proportion to the mine's emissions. Based on the impressive results from the CarLang samples with the Enriched Analysis, EVNi will develop a parallel workstream with the technical Pilot Plant, to commercially explore sourcing high CO<sub>2</sub> gas.

Brucite is integral and has been identified along the CarLang trend

Geologic sampling and QEM Scan analysis completed by XPS Expert Process Solutions of Sudbury, Ontario in 2022 along the CarLang Trend has confirmed the presence of brucite within the host komatiitic peridotite/dunites indicating that areas associated with the limited surface sampling have similar potential to sequester CO<sub>2</sub> as observed in the area of the CarLang A Zone.

It should be recognized that the nature of this research is experimental and continued successful results are not a certainty.

About EV Nickel Inc.

EV Nickel's mission is to accelerate the transition to clean energy. It is a Canadian nickel exploration company, focussed on the Shaw Dome Project, south of Timmins, Ontario. The Shaw Dome includes the CarLang Area with more than 10 km of mineralization and where the first 20% contains the A Zone - with a Resource which defined 1.25M Indicated and 1.16M Inferred tonnes of Contained Nickel and the W4 Zone Deposit - the basis of a 2010 historical estimate of 677K tonnes @ 1% Ni, ~15M lbs of Contained Nickel. EV Nickel plans to grow and advance a Clean Nickel&TRADE; business, targeting the growing demand from the electric vehicle battery sector. EV Nickel has over 30,000 hectares to explore across the Shaw Dome and has identified >100 km of additional favourable cumulative strike length. The Company is focused on a 2-track strategy: Track 1 - to produce High-Grade Clean Nickel &TRADE; (starting with W4) and Track 2- an integrated Carbon Capture & Storage project with Large-Scale Clean Nickel&TRADE; production (starting with CarLang).

The Company acknowledges the financial contributions being provided by the Province of Ontario's Critical Minerals Innovation Fund ("CMIF) and the Government of Canada through the Industrial Research Assistance Program ("IRAP") in assisting with the implementation of EVNI's Clean Nickel&TRADE; Research and Development Program.

Qualified Person

The Company's Projects are under the direct technical supervision of Paul Davis, P.Geo., and Vice-President of the Company. Mr. Davis is a Qualified Person as defined by NI 43-101. He has reviewed and approved the technical information in this press release. There are no known factors that could

materially affect the reliability of the information verified by Mr. Davis.

#### Cautionary Note Regarding Forward-Looking Statements:

This press release contains forward-looking information. Such forward-looking statements or information are provided for the purpose of providing information about management's current expectations and plans relating to the future. Readers are cautioned that reliance on such information may not be appropriate for other purposes. Any such forward-looking information may be identified by words such as "anticipate", "proposed", "estimates", "would", "expects", "intends", "plans", "may", "will", and similar expressions. Forward-looking statements or information are based on a number of factors and assumptions which have been used to develop such statements and information, but which may prove to be incorrect. Although EV Nickel believes that the expectations reflected in such forward-looking statements or information are reasonable, undue reliance should not be placed on forward-looking statements because the Company can give no assurance that such expectations will prove to be correct. Factors that could cause actual results to differ materially from those described in such forward-looking information include, but are not limited to, changes in business plans and strategies, market conditions, share price, best use of available cash, the ability of the Company to raise sufficient capital to fund its obligations under various contractual arrangements, to maintain its mineral tenures and concessions in good standing, and to explore and develop its projects and for general working capital purposes, changes in economic conditions or financial markets, the inherent hazards associated with mineral exploration, future prices of metals and other commodities, environmental challenges and risks, the Company's ability to obtain the necessary permits and consents required to explore, drill and develop its projects and if obtained, to obtain such permits and consents in a timely fashion relative to the Company's plans and business objectives, changes in environmental and other laws or regulations that could have an impact on the Company's operations, compliance with such laws and regulations, the Company's ability to obtain required shareholder or regulatory approvals, dependence on key management personnel, natural disasters and global pandemics, including COVID-19 and general competition in the mining industry. These risks, as well as others, could cause actual results and events to vary significantly. The forward-looking information in this press release reflects the current expectations, assumptions and/or beliefs of EV Nickel based on information currently available to the Company. Any forward-looking information speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking information, whether as a result of new information, future events or results or expressly qualified by this cautionary statement.

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