

EVNi Clean Nickel(TM) R&D - Preliminary Results Confirm Bioleaching Potential for the W4 Nickel Sulphides

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- W4 sulphides have proven amenable to bioleaching, creates potential to skip the smelter/refiner for operations
- Testing utilized a locally derived bacteria from the Shaw Dome area- bred from local water samples
- Metal Extraction ranged from 86.0% to 90.5% for Nickel and 85.2% to 90.1% for Cobalt
- Bioleach testing continues- Bench Scale testing now into Optimization
- EV Nickel management will host a live digital event on Tuesday, May 23rd at 11:30 am ET, to discuss the Clean Nickel & TRADE; R&D. The event will be at <https://6ix.com/event/ev-nickel-work-begins-on-clean-nickel-initiative/>
- The previously-announced kickoff event has been rescheduled to May 24th with Ontario's Minister of Mines

TORONTO, May 3, 2023 - [EV Nickel Inc.](#) (TSXV:EVNI) ("EVNi" or the "Company") is pleased to announce the results of a Technical Evaluation of Bioleaching Application on its High-Grade W4 Sulphide Zone ("W4"), located in the middle of EVNi's Shaw Dome Project, just outside Timmins, Ontario (see Figure 1). The evaluation was completed by the Research and Productivity Council ("RPC") of Fredericton, New Brunswick. RPC raised locally occurring bacteria from Shaw Dome water samples and then developed two conceptual flow sheets to process the material through:

- a) a Whole Ore to Heap Bioleach ("Heap Bioleach", see Figure 2); and
- b) a Crushing-Grinding-Flotation to Tank Bioleach ("Tank Bioleach", see Figure 3).

RPC completed initial bench scale testing which proved the ore is amenable to bioleaching and extraction rates realized for Ni and Co were very encouraging, indicating a strong bioleaching potential for W4, likely greater with Tank Bioleach. Based upon these results, RPC's bench scale testing now enters an optimization phase.

"Confirmation that the W4 Zone is amenable to bioleaching is a big step forward for EVNI and its Clean Nickel™ strategy," said Sean Samson, President & CEO. "Our objective is to rethink every stage of our business, and this is a great example of unlocking opportunity through innovation. If successful, Tank Bioleach could allow EVNi to skip sending concentrate to foreign-owned smelters and refiners and produce a finished product for domestic battery plants, from our site. This would have clear commercial and environmental advantage, plus develop a revolutionizing technology for mineral processing in Ontario."

The RPC research study was completed on a sample of W4 ore with a composite grade of 0.78% Nickel and 0.02% Cobalt. Extractions achieved by the test work ranged from 86.0% to 90.5% for Nickel and 85.2% to 90.1% for Cobalt after tests ranging from 8-12 days of leaching under defined pH and temperature conditions.

The degree of sulphuric acid ("H₂SO₄") consumption is a key consideration when assessing bioleaching potential and based upon the composition of the host ultramafic- magnesium-rich materials with low sulphide content- the Heap Bioleach scenario was determined to be problematic for the W4 ore. RPC recommended the Tank Bioleach scenario because it is expected to have a considerably lower acid consumption and by incorporating flotation to upgrade the feed it will likely result in even higher bioleaching efficiency. Plus, the Tank Bioleach scenario has a far smaller processing footprint and likely lower capital costs.

Commercial Opportunity to Change the Current Nickel Value Chain

If successful, the Tank Bioleach scenario could facilitate a small footprint, localized production of the product required by the planned battery plants. This avoids the need to send concentrate to foreign-owned smelters and refiners plus cuts down on the distance material currently travels before the critical metal reaches the state which the battery plants require- a current challenge for the industry (see Figure 4). The Tank Bioleach scenario could precipitate the end-product to match the input specifications of the customers, a huge benefit to the new buyers of nickel.

Bioleaching for Nickel used in Commercial Operations Around the World

Bioleaching for base metals is a proven process which has long been a technology for recovering copper. For nickel, bioleaching has been used commercially with both Heap Bioleach and Tank Bioleach, and there have been commercial operations around the world, including in: Australia, Asia, the Middle East and Scandinavia. Heap Bioleach is the primary nickel recovery process for Terrafame in Finland, which produced 31,550 tonnes of nickel in 2022.

Additional Carbon Capture and Storage Potential

As part of the bioleaching process, magnesium ("Mg") is extracted and can be converted to magnesium hydroxide (" $Mg(OH)_2$ ", in nature as brucite) which is capable of capturing and mineralizing CO_2 . EVNi is researching this in the parallel Clean Nickel™ research stream, for Carbon Capture and Storage ("CCS", for further information on the importance of brucite, see News Release dated April 20, 2023). RPC indicated that the residual Mg minerals in the bioleach residue or floatation tails could be used for CCS and recommended further testing to optimize and validate the CO_2 capture potential.

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

Clean Nickel™ R&D Kickoff Event

The previously announced kickoff event has been rescheduled to May 24th, when EV Nickel management will be meeting at EPCM Engineering's headquarters in Oakville with Ontario's Minister of Mines, Hon. George Pirie and the MPP for Oakville, Stephen Crawford. The group will review and discuss in greater detail the workplan related to the province's \$500K investment in the Company's Clean Nickel R&D through its Critical Metals Innovation Fund (see news release dated March 6, 2023).

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™ 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 ™ (starting with W4) and Track 2- an integrated Carbon Capture & Storage project with Large-Scale Clean Nickel™ 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™ 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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