

# BacTech Team to Advance Sudbury Pilot Plant Development for Nickel-Cobalt and Green Iron Recovery

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**Company announces intent to respond to Canadian Government call for critical mineral development proposals; Anticipates pilot plant will be operational this summer**

TORONTO, May 18, 2022 - [BacTech Environmental Corp.](#) (CSE:BAC), (OTC:BCCEF), (FSE:0BT1) ("BacTech" or the "Company"), a commercially proven, environmental technology company delivering eco-friendly bioleaching and remediation solutions for precious metal and critical mineral recovery, is pleased to provide an update with respect to the Company's proposed pyrrhotite bioleaching initiative for nickel, cobalt, sulphur, and iron waste recovery.

Dr. Nadia Mykytczuk, a leader in biomining technology, member of BacTech's advisory board and Interim CEO and President of MIRARCO Mining Innovation, is leading the development and building of a bioleach pilot plant to be located in Sudbury, Canada. Working closely with BacTech's scientific team, the plant is for the testing of bioleaching processes like the Company's proposed approach for pyrrhotite treatment. The pilot plant will simulate a commercial bioleach process consisting of a cascade of reactors operating on a continuous basis. The plant will also include front and back-end equipment operating as separate units for capturing additional revenue sources beyond nickel-cobalt (e.g., elemental sulphur; iron as feed for steel making and oxidised residue conversion for construction materials).

The proposed pilot plant is expected to be operational by July 2022. One reactor has been 100% completed to date and is being used to test select concentrates from BacTech's Tenguel project.

On April 7, 2022, BacTech announced it had filed a provisional patent application documenting its proposed approach to bioleaching pyrrhotite materials. Pyrrhotite is a very volatile sulphide mineral containing nickel and cobalt values that oxidizes rapidly and produces large amounts of iron and sulphur components as by-products which are typically considered as wastes.

The pilot plant is part of Dr. Mykytczuk's larger effort to establish the future Centre for Mine Waste Biotechnology, a facility focussed on scale-up and commercialization of biotechnologies to help extract value and reduce impacts from mine wastes. The object is to use this pilot facility to obtain the design data necessary to establish a fully integrated tonnage-based demonstration plant, which would then lead towards full-scale commercialisation. The production of value-added materials from the iron and sulphur and oxidised residue, which would normally be disposed as wastes, differentiate this process from other pyrrhotite bioleach endeavours which only target nickel and cobalt production.

On May 11, 2022, the Canadian government announced a \$10.9M fund to assist with the construction of pilot plants and projects to support the development of critical mineral value chains. The Sudbury Basin hosts up to 100M tonnes of pyrrhotite tailings deposited over the past 90 years of mining estimated to contain on average 0.80% nickel and 0.03% cobalt. This puts the in-situ value for nickel at US\$22 billion alone (current market price of Ni @ US\$27,000/t). Nickel is a metal of increasing strategic value and in high demand due to its use in clean energy technologies. \*

"We are very happy to see the government stepping up and providing capital for pilot stage plants in the critical metals space," said Ross Orr, President and CEO of BacTech. "This is probably the most difficult capital to obtain at the R&D stage, as the demands are much greater than a typical lab set-up. We will definitely be answering the Canadian Government's call for proposals. In addition to reactors and other equipment, we need to conduct studies on the pre-bioleach phase as well as recovery of metals from solution at the back-end."

The Company's R&D pursuits radically differ from other technical groups' attempts to commercialize

pyrrhotite tails treatment that have traditionally focused on reducing the cost of nickel recovery to create favourable economics. BacTech's scientific path is to develop an innovative zero-carbon liberation and extraction approach to separating iron from its ore, in addition to optimizing nickel-cobalt recovery efforts. BacTech believes its method answers the need raised by the Canadian Government and to accelerate the sustainable extraction and processing of critical minerals from existing mine tailings and invest in domestic production.

"Providing the solution to the complex pyrrhotite issue in the Sudbury Basin would be a tremendous win for BacTech and its shareholders. Having completed an applicable year-long bioleach study with great results some 20 years ago gives us the confidence that we can succeed. The complimentary technologies that we hope to now use were not available to us back in the late 1990s and should allow us to commercialize and sell multiple end-products derived from the pyrrhotite source," Orr concluded.

#### About BacTech Environmental Corporation

BacTech is a proven environmental technology company, delivering effective and eco-friendly bioleaching and remediation solutions to commercial operations to process and recover preferred metals (gold, silver, cobalt, nickel and copper) smartly and safely remove and transform harmful contaminants like arsenic into benign EPA-approved products for landfill. Tapping into numerous environmental and economic advantages of its proprietary method of bioleaching, BacTech uses naturally occurring bacteria, harmless to both humans and the environment, to neutralize toxic mining sites with high-pay potential. BacTech is publicly traded on the CSE under the symbol "BAC"; on the OTC as "BCCEF"; and the Frankfurt Stock Exchange as "OBT1".

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\*Sources:

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This news release contains "forward-looking information", which may include, but is not limited to, statements with respect to future tailings sites, sampling or other investigations of tailing sites, the Company's ability to make use of infrastructure around tailings sites or operating performance of the Company and its projects. Often, but not always, forward-looking statements can be identified using words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or believes" or variations (including negative variations) of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance, or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements contained herein are made as of the date of this news release and the Company disclaims, other than as required by law, any obligation to update any forward-looking statements whether because of new information, results, future events, circumstances, or if management's estimates or opinions should change, or otherwise. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, the reader is cautioned not to place undue reliance on forward-looking statements.

Shares outstanding: 172,025,558

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This press release does not constitute an offer to sell or a solicitation of an offer to buy any of the shares, nor is it a solicitation of interest from a prospective investor.

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