



BacTech
E n v i r o n m e n t a l

BacTech Provides a Follow-Up Update on Sudbury Pyrrhotite Tailings R&D Project

TORONTO, ON, January 16, 2024 – BacTech Environmental Corporation (“**BacTech**” or the “**Company**”) (CSE: **BAC**, OTC: **BCCEF**, FSE: **OBT1**), a well-established environmental technology company specializing in environmentally friendly bioleaching and remediation solutions for the recovery of precious metals and critical minerals, has issued a follow-up update from its [December press release](#) on the pyrrhotite tailings bioleach initiative in Sudbury, Canada. For a video summary of today’s news release, please click [here](#).

MIRARCO Mining Innovation led by Dr. Nadia Myktyczuk have commissioned the bioleaching cascade reactor circuit. The MIRARCO bioleaching team, have completed 2 baseline campaigns to ensure that instrumentation, the solids suspensions, leaching kinetics, and solid/liquid handling are operating as designed. Final refinements are underway and full-scale campaigns will be possible in the coming weeks. Dr. Myktyczuk is a member of BacTech’s Strategic Advisory Board.

As previously reported, BacTech is part of a consortium aiming to provide innovative solutions for remediating 80-100 million tonnes of pyrrhotite tailings deposited in and around Sudbury, Canada. Pyrrhotite (“Po”) is a highly reactive iron sulfide mineral that reacts strongly when exposed to oxygen, releasing soluble acidic iron harmful to the environment. They also contain lower grade nickel and cobalt values.

In addition to conducting the bioleach test work for pyrrhotite, considerable thought will be directed at planning for both the upstream (feed) and downstream process components. Up to 90% of pyrrhotite is made up of iron (~55%) and sulphur (~35%). The focus of the test work will be to determine whether there exist formulations for both elements that could be commercially sold as a by-product to enhance the overall economics of the project.

Dr. Myktyczuk outlined “*Our team is excited to have the bioleaching piloting circuit up and running. We know that BacTech is eager to pilot their process. These multi-partner*

collaborative projects, like this one funded through a MICA grant and NOHFC grants to MIRARCO, are not trivial undertakings, but we are confident that the test work will achieve an essential step to proving the viability of the technology."

About the Tenguel – Ponce Enriquez Bioleaching Project

BacTech plans to construct an owner-operated bioleaching facility in Tenguel, Ecuador, a region known for its association with arsenic in sulphide gold ore (Arsenopyrite). The company intends to build a 50 tpd bioleach plant capable of treating high gold/arsenic material. Such a plant, processing feed with 1.75 ounces of gold per tonne, similar to what local miners provide, would yield approximately 31,000 ounces per year. The modular plant designs allow for expansion without disrupting ongoing production. BacTech has also signed an agreement with the government for a Phase 2 plant that would add 150-200 tpd of capacity, producing more than 100,000 ounces per annum.

Key economic highlights, assuming a base gold price of \$1,600 per ounce, include:

- Pre-tax NPV (Net Present Value with a 5% discount rate) of \$60.7 million
- Pre-tax IRR (Internal Rate of Return) of 57.9%
- Annual Gold Production of 30,900 ounces • Capital Cost of \$17.0 million
- Bioleach Operating Cost of \$212 per tonne
- Pre-tax Earnings Prior to Employee Bonus – \$10.9 million annually
- Estimated local employee bonus pool – \$1.64 million

The area hosts over 100 small mines, and BacTech is actively exploring the possibility of establishing modern bioleaching facilities in other regions of Ecuador, Peru, and Colombia. The company aims to collaborate with national and local governments, non-governmental organizations (NGOs), and other stakeholders to fund these projects and ensure adherence to high environmental and ESG (Environmental, Social, and Governance) standards.

About BacTech Environmental Corporation

BacTech Environmental Corporation is a company that specializes in environmental technology. We use a process called bioleaching to recover metals like gold, silver, cobalt, nickel, and copper, while also safely removing harmful contaminants like arsenic. This

process is eco-friendly and uses naturally occurring bacteria that are safe for both humans and the environment. By using our proprietary method of bioleaching, we can neutralize toxic concentrates and tailings while also creating profitable opportunities. The company is publicly traded on several stock exchanges, including the CSE, OTCQB, and Frankfurt Stock Exchange.

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Special Note Regarding Forward-Looking Statements

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: 193,038,333

The Canadian Securities Exchange (CSE) has not reviewed and does not accept responsibility for the adequacy or the accuracy of the contents of this release.

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.