BacTech Environmental Lodges Patent for Zero Waste Initiative, Transforming Mine Waste into High-Value Green Commodities

TORONTO, April 4th, 2025 – BacTech Environmental Corporation ("BacTech" or the "Company") (CSE: BAC, OTCQB: BCCEF) proudly announces that Company will file a full patent for its Zero Waste initiative, setting a new standard in sustainable mining and resource recovery, on or before Monday morning (April 7th) in Perth, Australia (+12 hours from EDT). This breakthrough innovation was validated through rigorous testing at Mirarco in Sudbury, Canada, under the direction of BacTech's Dr. Paul Miller.

BacTech's patented process enhances the economic potential of mine waste by integrating bioleaching with a unique combination of downstream processing steps. This approach converts iron sulphides, such as pyrrhotite, into a suite of high-value, saleable products. The process not only aligns with global sustainability goals, it allows for the possibility of cleaning up legacy mine sites (such as an estimated 80 million tonnes in the Sudbury Basin, etc., source *Douglas Duffy et al 2015, U. of Toronto*) but also unlocks untapped revenue streams across multiple industries.

Disruptive Innovation: Turning Waste into Marketable Commodities

The Zero Waste process represents a paradigm shift in mineral waste management by extracting and monetizing valuable elements:

- **High-Purity Magnetite Iron**: A critical input for the Green Steel sector, this furnace-,ready iron feedstock eliminates the carbon emissions associated with traditional iron ore mining and processing. It also holds high value for the pigment industry.

- **Ammonium Sulphate Fertilizer**: A strategically vital agricultural input, BacTech's process ensures independent production of this organic fertilizer, reducing reliance on petroleum-derived sulphur and stabilizing supply chains.
- **Nickel, Copper, Cobalt and Rare Earths Recovery**: These strategic base metals are precipitated out as high-purity commodities, supporting critical minerals supply and the global shift toward electrification.
- **Silicate Residue for Construction**: The remaining inert materials can be repurposed as backfill or incorporated into geopolymer-based construction materials, reducing waste disposal challenges.

A Market-Ready, De-Risked Solution for Global Mining Waste

With approximately 12 billion tonnes of fresh tailings generated annually by the global mining industry, BacTech's Zero Waste patent presents a massive opportunity to transform mine waste into sustainable resources. The process has been de-risked by integrating well-established equipment and processing methods in a novel sequence, combined with BacTech's proprietary bioleaching expertise.

Unlocking Investment & Industry Adoption

A key advantage of BacTech's approach is its ability to generate diverse and resilient revenue streams:

- **Fertilizer Production**: The highest revenue contributor, addressing global agricultural demand while reducing price volatility risks.
- **Magnetite Iron Sales**: A scalable, high-value input for both Green Steel and pigment industries.
- **Base Metal Recovery**: Nickel, copper, and cobalt extraction provides strategic value.

This revenue diversification significantly enhances the financial viability of long-term mineral waste treatment projects, making them attractive to investors previously deterred by commodity price volatility.

Environmental Benefits

- No roasting or smelting. It is a water-based leaching process with no gas emissions
- Green chemistry: uses ammonia rather than acids or exotic chemicals
- Organic fertilizer: produces ammonium sulphate via microbial extraction qualifying product as a premium organic fertilizer.
- Custom iron feedstocks: tailored iron products reduce environmental impacts for steelmakers.
- Converts mine waste into an alternative supply of metals and fertilizers lowering global mining demand and emissions.
- Eliminates the need to generate acid for fertilizer production using sulphide minerals to generate organic fertilizer. This delinks fertilizer producers from petroleum-based sulphur supply chains.

How Complex Is the Technology

- The process is simple and robust using standard tanks and settling systems under atmospheric pressure and moderate temperatures
- Avoids complex machinery and high-risk technologies ensuring reliability and ease of operation
- The process is designed for scalability and adaptability making it ideal for remote geography.
- The technology is built on proven industrial technologies

Advancing the Green Steel Revolution

Green Steel aims to eliminate carbon emissions in steel production by integrating renewable energy and waste-minimization technologies. BacTech's Zero Waste process directly supports this initiative by supplying high-grade magnetite iron, eliminating the need for carbon-intensive virgin ore mining. This presents a unique opportunity for steel producers to secure sustainable, low-carbon raw materials.

Strategic Impact on Resource Independence

Beyond its economic and environmental benefits, BacTech's Zero Waste initiative contributes to resource security for governments and industries worldwide. By converting waste into valuable, domestically sourced commodities, the process reduces reliance on imported iron, fertilizer, and critical base metals, reinforcing supply chain resilience and national strategic resource independence. It also reduces the need for fresh mining and processing, given the quantity of usable metal and byproducts now available because of this invention.

Repricing of Existing Convertible Debt Obligations

BacTech has entered into an agreement, dated March 28th, 2025, with the sole holder of a convertible debenture including principal of $1.4M and interest, and an interim demand loan of $120,000, totaling an obligation of $1.810,186. The individual has agreed to amend the terms of the convertible debenture and demand loan. The amendments will have the entire obligation extended to September 30, 2025; at which time it will be converted to equity at revised conversion price. In addition, interest generated from the obligation will cease to be accrued effective March 15, 2025. The current conversion price of 15 cents per share for the convertible debenture has now been revised to an exercise price of 10 cents for the entire obligation. To retire the obligation, BacTech would be required to issue 18,101,868 shares for the redemption of the obligation and 18,101,868 common share purchase warrants at an exercise price of $0.20 and will have a two-year term from the conversion date. The debenture holder has the option to, and if successful, arrange the US20.0M financing for the proposed bioleach facility in Ecuador by September 30, 2025. If the debenture holder is successful, the conversion price for the obligation will be revised to $0.065. In this case BacTech would be required to issue 27,849,028 common shares and the same number of common share purchase warrants at an exercise price of $0.13 and will have a two-year term from the conversion date to retire the obligation.

About BacTech Environmental

BacTech Environmental Corporation is a global leader in sustainable mining solutions, leveraging bioleaching technology to remediate environmental liabilities while recovering valuable metals. The Company's Zero Waste initiative aligns with its commitment to innovation, environmental responsibility, and the circular economy.

For further information contact:

Ross Orr
President & CEO, BacTech Environmental Corporation
416-813-0303 ext. 222,
Email: borr@bactechgreen.com
Website: https://bactechgreen.com/
Investor Presentation: https://bactechgreen.com/investors/

Follow us on:
Facebook http://www.facebook.com/BacTechGreen
X http://twitter.com/BacTechGreen
LinkedIn http://www.linkedin.com/company/1613873
Vimeo http://vimeo.com/bactechgreen
YouTube https://www.youtube.com/channel/UCBgXr3ej2_BMOtoeFoKIgEg

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.

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.