



BacTech Announces Significant Economic Updates to Bankable Feasibility Study Results for Ecuador Project

Projected EBITDA jumps to US\$10.9M from initial \$8.8M forecast; NPV, IRR and gold production estimates for bioleaching program see dramatic increases

All dollar figures in US dollars, economic highlights assume \$1600 gold and \$18 silver estimates unless otherwise indicated

TORONTO, ON February 8, 2022 – [BacTech Environmental Corporation](#) (CSE: BAC, OTC: BCCEF, FSE: 0BT1) (“**BacTech**” or the “**Company**”), a commercially proven environmental technology company delivering effective and eco-friendly bioleaching and remediation solutions, is pleased to announce and [publicly release updated executive summary results](#) of its 3rd party produced Bankable Feasibility Study (“**BFS**”) for the staged development of its 100% owner-operated bioleaching facility in Ponce Enriquez, Ecuador (“**PE**”).

BFS economics have been updated to reflect improved optimization works allowing an increased throughput and improved average gold head grade. The latest estimates are reflected in the data that follows:

Updated Key Economic Highlights:

- Pre-tax NPV (Net Present Value with 5% discount rate) of \$60.7M (up 29.4% from \$46.9M)
- Pre-tax IRR (Internal Rate of Return) of 57.9% (up from 48%)
- Annual Gold Production of 30, 900 ounces (up 19% from 25,900 ounces)
- Capital Cost of \$17M (increased from \$15.5M)
- Bioleach Operating Cost of \$212 per tonne
- Assumed Purchase Prices of Concentrate - 65% of the contained gold value
- Pre-tax Earnings Prior to Employee Bonus - \$10.9M (up from \$8.94M)
- Estimated local employee bonus pool - \$1.64M
- Payback (75% DEBT) - 2 years

As previously announced in its [December 16, 2021 press release](#), BacTech engaged South American mining and metallurgical engineering and development firm EPCM Consultores S.R.L. (“EPCMC”) in July 2021 to undertake the independent feasibility study for the Company’s

proposed bioleach processing plant to be located in Tenguel, strategically, situated for easy accessibility to PE mining operations. New updates to the BFS outline process economics expectations and metrics pointing toward solid and long-term program viability, while considering associated capital and operating costs for the project.

“These updated results are a clear windfall for us, as the revised program economics are extraordinary,” said Ross Orr, CEO of BacTech Environmental. “We will continue to drive this program forward, and I’m proud to share the updated BFS executive summary with shareholders and other interested parties for all to see the many benefits of bioleaching in action. And while an EBITA of close to US\$11M definitely has me focused on financial delivery, I also believe profits are the net results of many ESG influences. In this regard, BacTech will continue to operate with transparency and embrace our ESG goals.”

The Feasibility Study considers the purchase of concentrates, high in both arsenic and gold levels, from mines located in the Ponce Enriquez area of SW Ecuador. In total, there are over 90 small mines operating in the area. BacTech intends to return local miner compensation back to previous payment levels, as miners across South America have been affected by an October 1, 2021 Chinese government-directed import tax of 13% placed on arsenic gold concentrates coming into the country for processing. This action has resulted in price slashing scenarios in which miners are paid approximately 50% of the gold value delivered. Penalties escalate further with contained arsenic levels above the 10% level.

Additional Project Economics & Parameters:

- Plant Design Capacity - 18,250 tonnes of dry concentrate p/annum (from 15,030 tonnes)
- Plant Life - 20 years
- Average Gold Recovery Bioleaching - 96%
- Annual Gold Production (55 gpt average feed) - 30,900 ounces
- All-in Opex - \$212 per tonne
- Upfront Capital - \$17M (increase from \$15.5M with tank upgrades to stainless steel)
- Base Case Gold Price - \$1600 per ounce
- Estimated Start of Production - Q1 2023
- Payback from Start of Production - 2.5 years

Adjusted Project Gold Price Sensitivity:

Gold Price	NPV (5%)	IRR	EBITA
\$1,500	\$53.3M	52%	\$9.9M
\$1,600	\$60.7M	58%	\$10.9M
\$1,700	\$68M	63.6%	\$11.9M
\$1,800	\$75.4M	69.3%	\$12.9M
\$1,900	\$82.7M	74.9%	\$13.9M
\$2,000	\$90.1M	80.5%	\$14.9M

This press release has been reviewed by Dr. Paul C. Miller Ph.D. Chem. Eng. C.Eng. MIMM., considered to be a qualified expert for reporting purposes.

About the Ponce Enriquez Bioleaching Project

BacTech is planning to build a new owner-operated bioleaching facility near Ponce Enriquez, Ecuador, in a region where arsenic is associated with gold ore (Arsenopyrite). The Company's plan is to build a 50 tpd bioleach plant capable of treating high gold/arsenic material. A 50 tpd plant, processing 1.75 ounces of gold per tonne of feed, similar to feeds available to the Company from local miners, would produce approximately 31,000 ounces per year. Plant designs are modular and can be expanded without affecting ongoing production. The total concentrate market in the Ponce Enriquez area is estimated to be between 200 and 250 tonnes per day, allowing for increased throughput potential with a larger plant.

In total, there are over 90 small mines operating in the area. BacTech intends to return local miner compensation back to previous payment levels, prior to a sweeping price reduction imposed by Chinese buyers due to recent import levies on arsenic/gold concentrates entering China. BacTech continues to investigate the prospects of establishing additional modern bioleaching facilities across other areas of Ecuador, Peru, and Colombia. Where possible, the Company will partner with national and local governments, non-governmental organizations (NGOs), and others to assist with the funding of these projects.

About BacTech Environmental Corporation

BacTech is a proven environmental technology company, delivering effective and eco-friendly biomining and remediation solutions to commercial operations to process and recover preferred metals (gold, silver, cobalt, 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 "0BT1".

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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: 157,455,558

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.