



BacTech Moves Program Forward on Strong Gold Recovery Results from Commercial Bioleach Testing

TORONTO, ON., July 19, 2021 – **BacTech Environmental Corporation** (OTC:BCCEF, CSE:BAC) (“BacTech” or the “Company”), a commercially proven environmental technology company delivering effective and eco-friendly biomining and remediation solutions, is pleased to announce very positive gold recovery results from its commercial bioleach testing completed by third-party metallurgical leader ALS Laboratories in Perth, Australia.

In a program designed with added rigor to test the entire commercial process, final results show a range of 95.5% to 96.4% gold recovery on three arsenopyrite/pyrite concentrates collected from mines in Ponce Enriquez, Ecuador. Testing of the total flowsheet comprised the following unit operations: material preparation; the bio-oxidation process; separation of the oxidized residue; and finally, carbon in leach cyanidation (CIL) of the residue for gold extraction.

Samples were either tested individually or as a blend, in order to confirm the process flexibility for managing various treatment scenarios in which a range of feedstocks with different compositions would be delivered to the plant. The table below shows the gold recoveries obtained from the tests conducted using a variety of feedstock combinations. The arsenic content of all the feedstock combinations tested was very high.

Feedstock Supplied to the Test	Feedstock Gold Head Grade (g/t)	Feedstock Arsenic Content (%)	Bio-oxidized Gold Grade for CIL processing (g/t)	Tail Gold Grade After CIL Gold Extraction (g/t)	Gold Recovery (%)
Conc. 1 + Conc.3	54.6	16	55.0	2.15	96.1
Conc. 5	21.7	12.9	28.1	1.27	95.5
Conc. 1+ Conc. 3 +Conc. 5	39.6	14.6	52.8	1.92	95.4

“With successful gold recovery testing behind us, we’re excited to take the next step forward into the feasibility study with confidence. We’re proceeding with the understanding that we

can expect quality and consistent gold recoveries using a range of feedstocks with favourable solubility of arsenic and iron from the bioleaching process,” said Ross Orr, President and CEO of BacTech. “These high recoveries are especially pleasing considering that one of the tested feedstocks was a cyanide tails residue which can be difficult to bioleach due to its high toxicity. Clearly our upfront washing process of the tails residue sample safely and successfully mitigated the effects of residual cyanide during the oxidation process, and ultimately convert tailings into stable, eco-friendly products. This is an important result, considering the large number of cyanide residues available in the region which could provide additional feedstocks to our plant.”

As announced in an [April 21 press release](#), diagnostic leaching had been used as a rapid and early determinant to define the mineralogical deportment of the gold in the test work samples and the absolute release of gold from the refractory matrix by oxidation. This diagnostic tool proved valuable in the current work by indicating that virtually all of the refractory gold would be amenable to recovery by bioleach processing with no evidence of gold encapsulated in silica. The 95.5% to 96.4% strong range of gold recovery obtained from the latest comprehensive test work remains exceptional when compared to existing bioleach projects that have been in successful production for many years. These latest results show the excellent amenability of materials to the bioleach process and support earlier diagnostic test results. With further advances in process development, including optimization of the bioleach residence time and the upfront washing process, it is likely that additional gold recovery gains will be realized throughout the entire process.

The neutralization process, where limestone is added and calibrated to raise the pH of the bioleach liquor to facilitate the precipitation of the ferric arsenate, is now also being reviewed. This will demonstrate that the precipitate passes the TCLP (Toxicity Characteristic Leaching Procedure) requirements for stability set out by the U.S. Environmental Protection Agency (“EPA”) when depositing such wastes and will provide input to project permitting.

The Company expects to announce the engineering firm that will undertake the Feasibility Study shortly. BacTech continues to evaluate potential sites for the proposed plant, considering items such as having access to a reasonable quality of fresh water, the proximity to power and the sourcing of reagents for neutralization requirements. The Company will update the market in due course.

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

Ponce Enriquez Bioleaching Project

BacTech is planning to build its new owner-operated bioleaching facility in Ponce Enriquez, Ecuador, in a region where arsenic is well-known to exist in the gold ore. The Company’s plan is to build a 50 tpd bioleach plant capable of treating high gold/arsenic material. A 50 tpd plant, processing 1.5 ounces of gold per tonne of feed, similar to feeds available to the Company,

would produce approximately 26,000 ounces per year. Plant designs are modular and can be expanded without affecting ongoing production.

BacTech continues to investigate the prospects of establishing additional modern mining operations across other areas of Ecuador, Peru, Colombia, and Central America. 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 smartly process and recover preferred metals (gold, silver, cobalt, and copper) 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" and on the OTC as "BCCEF". There are presently 138,112,204 common shares of BacTech issued and outstanding.

For further information contact:

Ross Orr

President & CEO, BacTech Environmental Corporation

416-813-0303 ext. 222,

Email: borr@bactechgreen.com

Website: <https://bactechgreen.com/>

Follow us on:

Facebook <http://www.facebook.com/BacTechGreen>

Twitter <http://twitter.com/BacTechGreen>

LinkedIn <http://www.linkedin.com/company/1613873>

Vimeo <http://vimeo.com/bactechgreen>

YouTube <http://www.youtube.com/user/bactechgreen>

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.

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.