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True Bio-Mining on the Horizon

'Rock Eaters' and Biological Engineering open new Frontier for miners

Sudbury— January 12, 2021 - For decades the term '**biomining**' has been thrown around throughout the industry mistakenly, since biotechnology has never really technically contributed to the actual mining. The closest its ever got in mining, was the passive support system of oxidation, where a couple of very simple and finicky bacteria use Iron (Fe) for energy by oxidizing Fe^{2+} to Fe^{3+} , and the Fe^{3+} would become an oxidant in the leaching chemistry for sulfides and oxides.

Bio-Mine is about to change that forever. After 5 long years of R&D, and with the help of the advancements in biological engineering pertaining to DNA/RNA and metabolic programming through nutrient selection and starvation. Bio-Mine has released version 1 of the world's first true and controllable '**bio-mining**' community of organisms consisting of both Fungi and bacteria working together to provide an environment where very specific 'workhorse species' can actually '**break down rocks**', just like they do other substrates like wood or metals. These 'Rock Eaters' are all highly adaptive extremophiles with a sole purpose of scavenging nutrients from the surface of specific rock types like silicates, effectively altering the morphology over time.

"We believe this is the entry point into the holy grail for operators, In-Situ mining."

Dr. Vasu Appanna, PhD – Chief Technology Director

The first real-world test of this powerful biomining technology was put into play on a very difficult low grade PGM ore body. The PGM's were attached to sulfides and tellurides, BUT they were also proven to be encapsulated in a 93% silicate morphology.

All conventional leaching attempts produced next to nothing of PGM's in solution without grinding to approx. 25um, which was impossible economically.

After only a 30-day pre-treatment using our powerful bio-version 1, the team then repeated a simple 24 hr. Chloride acid leach and were shocked to discover an **increased recovery of PGM's in solution of over 3000% and base metals by 1500% vs the untreated ore.**

*“We were shocked. The exposure of the community to the ore was only 30 days, and for an increase of PGM in solution that high, we knew we had a successful **proof of concept** for a true **'Bio-Mining'** application for clean recovery from low-grade ore and tailings.*

Kurtis Vanwallegham – CEO – Bio-Mine Ltd.

Bio-Mine Ltd. will now try and find partners to commercialize this newest in clean mine processing technologies.

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