The Bull & Bear FINANCIAL REPORT

BacTech Environmental's Bugs Eat Rocks

Company to Clean Up Arsenic Stockpile Containing $150 Million Worth of Gold in Manitoba

Proprietary Technology Cleans Toxic Mine Sites and Recovers Precious and Base Metals

With a significant environmental cleanup project under contract, BacTech Environmental Corporation (CNSX: BAC) is poised to not only help the Manitoba government cleanup an arsenic-laden stockpile from a former operating mine, but reclaim a potential $150-million in gold for the company coffers.

A little more than a year ago, BacTech Mining was split into two companies: a pure mining company (REBgold; TSX.V: RBG) and a pure environmental cleanup company (BacTech Environmental; CNSX: BAC). The new BacTech then began investigating a number of mining reclamation projects throughout the world, and recently negotiated an exclusive agreement with Manitoba's Department of Innovation Energy and Mines to clean up the Snow Lake arsenopyrite stockpile, using the patented BACOX bioleaching technology.

In the process, BacTech attracted a deep-pocketed partner willing to put up $300,000 to help pay for engineering studies required to move the Canadian project to the next stage.

"The signing of the agreement with Newalta Corp. (www.newalta.com) was an exciting event, a real Christmas gift," says BacTech president and CEO Ross Orr. "We are very pleased to have attracted a quality company like Newalta to be a potential partner."

As BacTech moves the Snow Lake reclamation project forward, the company is also examining similar projects in California, Timmins and Pickle Lake, Canada, Peru, Bolivia and Slovakia, among others. The Snow Lake project was selected from a list of projects examined in 2011 either sourced internally or from interested parties. Key to the company's selection process is the ability for a project to return a profit while also delivering an environmental benefit.

"The potential size of the reclamation market we are addressing is truly very large," says Orr. "Our mandate is to identify projects that add production and value in the short to medium term, keeping in mind that

BacTech drills to test mineralization in concentrate stockpiled for over 50 years in Snow Lake, Manitoba prior to investigating feasibility of applying its proprietary bioleaching technology to clean up the toxic site and reclaim up to $150 million in gold contained in the ore.

not all tailings projects are bioleach candidates. We must search for the wheat amongst the chaff."

Snow Lake Mine Reclamation Project Attracts Joint Venture Partner and Will Be BacTech's First Commercial Bioleaching Treatment Plant

In late December, BacTech signed a definitive agreement to clean up the stockpile from the former Nor Acme Mine in Snow Lake, Manitoba. The former gold mine operated for nine years from 1949 to 1958, mostly producing "free" gold that did not need the application of any liberation technology. About 15% of the mined gold was in the form of arsenopyrite that included very high levels of arsenic, which precluded using conventional technology at the time. The miners produced a float concentrate and stockpiled it on the site for later processing once a suitable technology could be identified that could deal with the high levels of arsenic.

The stockpile containing about 20% arsenic – and over 85,000 ounces of gold – is still there, slowly oxidizing and discharging acidic water contaminated with soluble arsenic into the local environment. The stockpile contains about 300,000 tonnes of concentrate with an average grade of about 9.7 gpt gold.

BacTech's bioleaching technology is ideally suited to freeing the gold while oxidizing the sulfides to eliminate acid discharges and stabilizing the arsenic as the more benign ferric arsenate. The project has the added attraction of not requiring construction of a flotation plant or facilities for crushing or grinding. Most other projects considered by BacTech involve tailings where the sulfides need to be separated from the waste rock to produce a concentrate for bioleaching. At Snow Lake the stockpiled ore is already in a concentrated form and ready for the bacteria.

"This is an ideal project for us to build our first bioleaching plant in North America," says Orr. "This is a pile that is already in concentrate form, and therefore needs less capital to build out. Snow Lake is a great place for BacTech to start."

Newalta's participation in the Snow Lake project engineering studies provides BacTech with needed capital while it proves up the validity of the project. Under the terms of the agreement, Newalta will provide two engineers to join in the engineering study. If the study is positive, BacTech will negotiate for up to three months regarding Newalta's further participating in the project. If the study is not positive, or if the negotiations are unsuccessful, BacTech is under no obligation to repay Newalta its $300,000 cash infusion.

The study, which will determine the economic viability of the project is scheduled to be conducted by Micon Engineering beginning in January. If successful, Orr said the ideal arrangement for BacTech would be to enter a 50-50 partnership with Newalta to become the operator. Newalta currently operates over 85 plants in Canada and the U.S. The plant also will be capable of treating other refractory-type gold values and waste in the region once it completes the stockpile and could become a regional bioleaching facility for years to come.

Best of all, under its agreement with Manitoba, BacTech can keep all the gold freed from the stockpiled ore in exchange for building the plant and treating the contained arsenic. BacTech will also pay the government a 2% NSR.

"This will be the first commercial bioleach facility in North America," says Orr. "This is a major step forward for BacTech as we position ourselves as a leader in the field of tailings

BacTech Environmental:

Spurring a Revolution in Environmental Remediation

BacTech Environmental's core "bioleaching"technology employs naturally-occurring bacteria, harmless to both humans and the environment, to oxidize the sulphide materials left behind after years of mining. The tailings may contain ores and related materials contaminated by arsenic and other substances that are poisonous to humans and animals, as well as harmful to the local environment. The sulphides in the tailings react (oxidize) with the atmosphere to create an acidic solution called acid mine drainage (AMD), which leaches into the surrounding area over time. BacTech's bioleaching process can stabilize these toxins from minerals and prevent additional harmful AMD. The technology provides a "Garden of Eden" environment for the bacteria to thrive and multiply and permits them to achieve in 6 days what would normally take 20 years to occur naturally.

Why NOW is the Time for a Permanent Solution

The worldwide contamination caused by abandoned mines is so widespread that it is neither quantified nor fully evaluated. It is generally accepted, however, that in countries with a long history of mining, the magnitude of the problem is considerable; these areas are generally laden with toxic chemicals that leach into the surrounding areas. There are tens of thousands of sites around the world that contain mining-related arsenic and other substances. The public is increasingly demanding that the governments and companies responsible address the contamination due to the negative consequences of such sites. These effects include polluted water, contaminated land, air pollution, loss of useful groundwater and land, and significant negative health consequences to humans and animals living in the area.

BacTech's approach is to "cure the patient", as opposed to treating the patient over many years. In other words, stop the creation of AMD by removing the sulphides from the tailings. Current practice in the industry calls for the treatment of long-term water discharge from the tailings which is expensive and allows the possibility for future problems, as the sulphides remain in the tailings. In addition, where governments have been left with the legacy of past mining, BacTech endeavours to use the "no cost to the government" approach in which the company pays itself through the recovery of contained metals – such as gold, silver, cobalt and nickel – should it be determined to be economically viable. In effect, bioleaching is an environmental reclamation solution that also creates a profit.

reclamation. It is a highly visible project whose success could lead to bioleaching playing a prominent role in future cleanups in North and South America."

Bioleaching Technology Has Potential to Recover Gold, Silver and Base Metals from Mine Wastes

BacTech Environmental holds the sole and perpetual rights to the original company's patented BACOX bioleaching technology for anything related to mine tailings– a process that uses bacteria to remove toxic chemicals from mining wastes while liberating gold and other metals, both base and precious, for sale on the open market.

Serendipitously, there is a huge worldwide market for cleaning up former and existing mine sites laden with arsenic and other heavy metal toxic compounds.

The company's business plan is to secure an equity position in each project, augmented by additional cash flow related to metal recovery. Where possible, the company would partner with national and local governments, and/or private companies, to fund portions of the projects.

BacTech's completely modular bioleaching technology has been successfully used in the gold industry for a number of years. It utilizes naturally occurring bacteria that are harmless to both humans and the environment. The bacteria literally eat the rocks, breaking down sulfides in 5-6 days that normally would take over 20 years to occur naturally. The bioleaching process neutralizes the sulfide source of acid and stabilizes hazardous metals, including arsenic into benign compounds. The bacteria effectively eliminate acid mine drainage at the source while liberating valuable metals, such as gold, silver, copper and other base metals. BacTech's strategy is to retain those metals to fund its reclamation projects.

Penoles, Mexico demonstration bioleaching plant built by BacTech

Investment Considerations

2011 was BacTech's inaugural year as an independent company and 2012 promises to be a year of major milestones. One hoped-for milestone in 2012 will be the ability to trade on a U.S. stock exchange, making it easier for existing and potential U.S. investors to become shareholders in this environmentally-focused company.

BacTech's management team is focused on creating substantial cash flow by year-end. Orr's team of professionals have extensive experience in mining company management, metallurgy, and materials science, as well as minerals, biochemical and chemical engineering. If the team is successful in reaching its goal, the company will no longer be dependent on equity markets, according to Orr.

BacTech is one of only two companies in the world with a proprietary commercial technology suitable for oxidizing sulphides. As BacTech Mining, BacTech helped to build several commercial bioleaching plants, one in China and 2 in Australia. Currently, there are about 20 facilities worldwide that treat arsenic-bearing gold ore, but BacTech is the only company that has identified environmental reclamation as a new market for bioleaching.

With its Snow Lake contract in hand, BacTech is now being approached with other reclamation projects amenable to its BACOX technology. Snow Lake, however, remains the company's main focus.

BacTech hopes to begin building a $22 million bioleaching processing plant at Snow Lake by fall and be in actual production by the end of this year. The anticipated life of the project is about seven years with an additional 15 years for other feeds.

"We have done a lot in the past 13 months," says Orr. "In our first year as a stand-alone environmental reclamation company, we have managed to identify, negotiate and sign our first project that will use bioleaching as a means to reclaim an historic problem."

A new approach to mine tailings remediation

BACTECH ENVIRONMENTAL CORPORATION

CNSX: BAC

Contact: Ross Orr, President & CEO

50 Richmond St. East, Ste. 300
Toronto, ON M5C 1N7, Canada

Phone: 416-813-0303, x 222
Fax: 416-596-9840

Email:
info@bactechgreen.com

Website:
www.bactechgreen.com

Shares Outstanding: 38.1 million

52 Week Trading Range:
Canada: Hi: C$0.29 • Low: C$0.05

Scan to View BacTech Environmental Corporate Presentation

Quick *FACTS*

BacTech Environmental Highlights:

- **Commercial recovery of metals from arsenopyrite (arsenic bearing) tailings using BACOX technology**
- **Environmental solutions for acid mine drainage and heavy metal transport**
- **Process by-products, including arsenic, are stable and benign to environment**
- **Significant "in-house" capability for design, construction and operation**
- **BacTech is one of only two entities worldwide with proprietary commercial technology**
- **Cost effective, scalable, modular, allowing future production expansion**

BacTech Environmental is a proven leader in the commercialization of bacterial oxidation technology in the metal extractive industry. The company's commercially-proven bacterial oxidation and bioleaching technologies liberates precious metals from difficult-to-treat sulphide ores and concentrates. BacTech's patented BACOX bioleaching technology is particularly beneficial for environmental cleanup of toxic, arsenic-laden mine tailings. In addition to stabilizing arsenic and capturing heavy metals, the technology also oxidizes sulphides in mine tailings, thereby eliminating a major source of acid mine drainage. And most important for BacTech's bottom line, the technology also recovers precious and base metals from tailings for sale to market – bioleaching is an environmental clean up solution that also creates a profit.

BacTech Environmental was created about a year ago when the original company, BacTech Mining, was split to form a pure mining company (REBgold; TSX.V: RBG) and a pure environmental cleanup company (BacTech Environmental; CNSX: BAC). The new BacTech has the exclusive and perpetual right to use and commercially exploit the bioleaching technology, developed from $20 million in research and testing, and which has been used at three gold mines located in Australia, Tasmania and China. Today, two of these mines are still in operation, with BacTech's technology producing in excess of 200,000 ounces of gold per annum.. BacTech is now reviewing a number of potential mining reclamation projects throughout the world, and recently negotiated an exclusive agreement with Manitoba's Department of Innovation Energy and Mines to clean up the Snow Lake arsenopyrite stockpile, using the patented BACOX bioleaching technology.