

With Bugs That Eat Rocks, BacTech Mining Is Revolutionizing The Way We Process And Clean Up, Gold, Silver, Copper And Other Metals

Mining
Precious Metals
(BM-TSXV)

BacTech Mining Corporation

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Ross Orr
President and CEO, Director

BIO:

M. Ross Orr, B.A.

Position: **Director, President & CEO**

Ross Orr initially brought BacTech to Canada from Australia in 1997 and was instrumental in the success of the Company's IPO. He sat on the board as an outside Director until taking the role of President and CEO in 2004. The first 2 years in this new position were consumed by restructuring the Company and positioning it to begin its refractory gold acquisition strategy. Mr. Orr is a graduate of the University of Calgary and currently

sits on the boards of Caldera Resources Ltd. and Golden Odyssey Mining Inc.

Company Profile:

BacTech owns patented bacterial oxidation technology for the treatment of refractory ores and concentrates to enhance the recovery of gold, silver and base metals. The Company's focus is the acquisition of equity positions in projects amenable to bioleaching. In June 2008, the Company signed an agreement to acquire Yamana Gold Inc.'s 33% interest in two refractory gold deposits in Papua New Guinea. In September 2008, BacTech signed an MOU to investigate the use of bioleaching to reprocess arsenic-laden tailings in Cobalt, Ontario. This is the Company's first foray into the cleantech industry. BacTech is continuing to evaluate additional remediation projects.

Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFOinterviews.com

CEOCFO: Mr. Orr, what was your vision when you became CEO of BacTech?

Mr. Orr: "The vision when I took the reigns of the company was to allow the company to survive. It was a bit of a train wreck when I took over and it has been undergoing a two-year transformation that culminated in the elimination of a very large chunk of debt that we inherited last month. Our vision going forward is to develop this company on two prongs, a company that uses our patented bacterial oxidation technology for gold and in the cleantech space for mine tailings reclamation."

CEOCFO: Do your two technologies have anything in common?

Mr. Orr: "The one thing our technologies share in common is the use of bacte-

ria to liberate metals that are trapped in very difficult to treat ores and concentrates from mining. We have built three plants for other people in gold mining, and by virtue of us getting a licensing royalty of \$1 to \$2 million, plus a small royalty, we were unlocking value for the mining company and they would make hundreds of millions of dollars as a result of our technology. We changed our strategy several years ago; now we are only going to use our technology to acquire interest in projects that need our technology to make them viable. A year ago, we stumbled across a project here in Canada that was a tailings project. This has been material that was disposed of from the mining process, which a lot of times contains metals that just couldn't be recovered for whatever reason. We were introduced to a project in northern Ontario that was leaching arsenic from existing mine tailings and as luck would have it, one of the results of using bioleaching is the fact that you can stabilize arsenic. That became the first cleantech project that we sort of took on. As we went forward in the market trying to talk to investors about our company, we found we were confusing the heck out of them. They were asking "are we a green company or a gold company". The answer, as of this morning, is that we are actually going to be spinning out the gold assets into a separate company to be given to all shareholders, to eliminate the confusion as to what you are buying when you buy a share of BacTech."

CEOCFO: What is the bio leaching process and what your method?

Mr. Orr: "The bacteria are naturally occurring in nature and they can be found living on outcrops and barren rocks. Given optimal conditions, such as temperature, moisture, and sunlight;

these bacteria come to life and start devouring sulfides, which are also what we call refractory ores. Sulphides encapsulate the metals that you want inside a matrix of sulphur, iron and arsenic. Think of your fist as being a sulfide matrix with the gold or copper trapped inside the fist. You have to somehow break that open. Historically they burned it, which is called smelting or roasting. Bioleaching puts virtually billions of these fists, or sulphides, into these large stainless vats and give the bacteria what they want so that they work 24 hours a day as opposed to waking up maybe ten times a year and working a total of twenty hours over the course of a year. We get them to do in five or six days what would normally take fifteen or twenty years to do in nature. We do this without burning anything, so there are no noxious gasses given off. I like to joke that it is a non-unionized workforce, so they work all the time and do a great job. We have built three plants for other people; a very large gold company called Gold Fields of South Africa has built sixteen or seventeen of these so it is not new technology. It is new in the sense that we are now applying it to base metals and silver as opposed to just gold.”

CEOCFO: Where are these bacteria now?

Mr. Orr: “The bacteria that we use live outside in nature. You could go to a certain parts of Australia, or anywhere in fact, take a hammer, and whack off a piece of rock and on that rock you will probably find some bacteria. We have assembled a suite of about sixty-five different strains of bacteria that literally live in a refrigerator where we keep them in hibernation. When you don’t give them the ultimate conditions that they like to live by, they go into hibernation. This is why it takes them fifteen or twenty years to do what their job. We use a series of large stainless tanks that are agitated, meaning we use big impellers inside the tanks to keep the concentrate or sulphides suspended so that the bacteria can do their job. We also blow in air, which is also part of the oxidization of the sulfides. They go to work and create a lot of

heat from their efforts. It is an exothermic reaction so they generate heat, which means we can use the technology in northern climates, so it doesn’t have to be housed into big expensive buildings. They effectively have a life of about eight days and they basically divide and divide, much like growing a yeast for beer; it is similar to that idea.”

CEOCFO: Are mining companies looking for alternatives, or do they need to be convinced that this might be the way to go?

Mr. Orr: “They have to really. With the environment becoming such a big part of everything we do, people have just said, ‘Look, I don’t want a smelter or roaster in my backyard. It spews out So2 emissions or arsenic trioxide.’ Codelco, which is the largest copper mining company in the world, and is owned by the Chilean

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government, has publicly stated that bioleaching is the technology for the next decade in mining. This is because of its environmental attributes and the fact that we can get these bugs to go to work for you. With very little maintenance and very little capital, you can start to recover metals from metal that you have already thrown out like copper waste rock. There are many other technologies that are being developed for metal extraction but the difference being that we are commercial. We have actually built plants; the other guys are still trying to get through that first hurdle which is to get into commercial production.”

CEOCFO: You are in three widely dispersed countries; is that by design, or is that just where the projects happen to be?

Mr. Orr: “The technology actually started at Kings College in London England, and migrated to Australia where the first two plants that were built were built.

The third plant was built in China, which is not necessarily too far away from Australia geographically, compared to Toronto. What happens was the company migrated to Canada in 1997, because Toronto is what they call the de facto mining capital of the world for raising capital. I was responsible for moving the company up here with another gentleman, Geoff Donohue of Perth, Australia and we have been involved here ever since. I only started running the company when we hit the skids back in 2004.”

CEOCFO: What is the financial picture a Bactech today?

Mr. Orr: “A lot better! We had a debenture outstanding with a group out of Dallas that was about \$3.3 million, which we recently bought out for about \$400 thousand, so that was a nice coup for us. It removed the biggest ‘hangover’ for the company. Now, going forward, I am looking forward at raising additional capital in June. We hired a group out of the States called Growthink, which is based in LA, San Francisco, and New York. Their investment bank has taken a keen interest in what we are doing, especially on the cleantech side. I hope to raise \$3 or \$4 million and obviously, we would all like to do so at

higher prices than where we are now. That would keep us in very good stead, as we have to build our plant next year up in Cobalt, Ontario.”

CEOCFO: How do you reach your potential customers?

Mr. Orr: “The good old internet is a very handy way to start. Then it is just a function of being aggressive. What we found in the last six months is that potential investors are now contacting us for information on the Company. It has completely turned around the other way. Now they are coming in from all over the place. This morning I heard from Korea, yesterday I heard from somebody in India. Everybody has tailings problems, and that is universal because there has been mining for hundreds of years. They either approach us because they have an environmental disaster they want to address or they have identified something that

contains a lot of metal and if that metal is locked up, it needs some sort of a treatment to liberate it.”

CEOCFO: What is the competitive landscape?

Mr. Orr: “You have the old tried and true, which are the smelting and roasting companies. However, they really are not built anymore because they are very capital intensive and they are also not necessarily something that people want in their backyard. Pressure oxidation also known as auto-claving will be a direct competitor to us, but the capital to build that sort of operation is a lot higher than it is for bioleaching. It tends to be used for bigger projects too. Realistically if you had a mine that was going to produce 300,000 ounces of gold a year, you would use an auto-clave, because you are going to get 98% gold recovery vs. say 94 to 95% for bacteria. But you wouldn’t use it for 100,000 ounce a year plant, because the capital is too high in relation to the amount of gold produced. Therefore, we have our niche cut out and the nice thing about bioleaching is that it is a modular technology. So if you build a plant for 100,000 ounces and you decide you want to produce 200,000 ounces, you would effectively double the tanks that you have

in an operation. That is what we just did last year in China. That plant in China now produces about 150,000 ounces a year up from 75,000.”

CEOCFO: How do you get the attention of potential investors and of the industry?

Mr. Orr: “We are helping to raise our profile through our affiliation with this group out of the United States. They are in the process of rebranding us now on the internet, because we have to get out our story that we will be two companies not one. I tend to spend a lot of time making presentations to funds; it is the funds that you need to come in to do the financing as opposed to the retail guys. On the retail side we have people that work for us on the IR side and it is word-of-mouth and it is starting to pick up speed very quickly.”

CEOCFO: Are people starting to get the concept?

Mr. Orr: “Yes and they think it is neat. For example, when we would go to a mining investor conference, instead of having a booth full of drill results and massive pictures of properties, we just had a television screen that said, ‘Our bugs eat rocks’. That would stop people dead in their tracks and once that hap-

pens you have their interest and then the story is a lot easier to sell.”

CEOCFO: Why should potential investors pay attention?

Mr. Orr: “Because you are at the ground level of a pretty exciting roll-out of two for the price of one. If you are interested in gold, you still have to buy BacTech to get there. The ability to go from zero to sixty miles an hour by virtue of landing projects that you can get very cheaply because of the inherent problems they have, just can’t be dismissed. For us to build up two million ounces of gold, on the balance sheet on the gold side is a reality that can happen very quickly. Think about that at \$900 an ounce. You have \$2 billion worth of gold that you paid a lot less for, in fact it’s a fraction of that amount. It is the old adage, “making a silk purse from a sow’s ear”. On the clean tech side, you have government and other groups that are under pressure to clean up problems. They are coming to us now saying, ‘Can you help us with this situation.’ So it is a nice position to be in.”

CEOCFO: Final thoughts, what should people remember most about BacTech?

Mr. Orr: “Our stock symbol BM.”



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