

FORM 51-102F3

MATERIAL CHANGE REPORT  
UNDER NATIONAL INSTRUMENT 51-102

1. **Name and Address of Company**

BacTech Environmental Corporation  
50 Richmond Street East, Suite 300  
Toronto, Ontario M5C 1N7

2. **Date of Material Change**

June 6, 2012

3. **News Release**

A news release with respect to the material change referred to in this report was issued on June 6, 2012 and subsequently filed on SEDAR.

4. **Summary of Material Change**

BacTech Environmental Corporation ("BacTech" or the "Company") announced that it has filed a provisional patent application for a new invention relating to bioleaching. The patent application covers the use of bioleaching as a means of manufacturing liquid ferric sulphate.

5. **Full Description of Material Change**

BacTech Environmental Corporation ("BacTech" or the "Company") announced that it has filed a provisional patent application for a new invention relating to bioleaching. The patent application covers the use of bioleaching as a means of manufacturing liquid ferric sulphate.

Ferric sulfate is a staple chemical with a wide range of applications. In conventional water treatment processes, it is commonly used as a coagulant to remove turbidity, colour, phosphate, and heavy metals. In the mining industry, ferric sulfate is not only a leaching lixiviant in various processes treating copper concentrates and uranium ores, but also a reagent commonly used to control arsenic in metal mining effluents.

The discovery of the invention arises from BacTech's bioleach work at Snow Lake, Manitoba. The invention provides for the onsite production of ferric sulphate at the mine using pyrite as a source and thereby eliminating the costly transportation of the product. With the formula  $\text{FeS}_2$ , pyrite is the most common sulfide mineral and is widely associated with other metal sulfide deposits. Unless it contains valuable metals to be recovered, pyrite is usually rejected into tailings through the flotation processes. Such tailings represent a large disposal problem because pyrite gets oxidized and generates sulfuric acid after being exposed to air and water. With this new invention, mine tailings at existing operations can be refloatated to provide a cheap source of material for the

creation of ferric sulphate. Pyrite oxidation in tailings is by far the greatest contributor of acid mine drainage.

“We have always looked at projects with the idea of extracting metal as our compensation. Here we actually don’t need associated metals as we are making a new product with wide-ranging commercial application by separating the iron from the pyrite through bioleaching. The simplicity is really what makes this interesting from a business point of view. In essence, we have most of the R&D out of the way, so moving to a commercial state will be relatively quick and inexpensive,” commented Ross Orr, President and CEO of BacTech.

“We have designed a single bioleach tank plant that can be delivered and built onsite that will eliminate the costly alternative of trucking in the ferric sulphate. The payback should be relatively short for the end user. We have also discovered that ferric sulphate is used extensively in municipal wastewater treatment plants. For example, the City of Toronto uses a precipitate to knock phosphorous out of the water stream to avoid discharge into Lake Ontario. Phosphorous is responsible for the enhanced growth of algae bloom,” Mr. Orr said.

The provisional patent is an alternate application of REBgold Corporation’s bioleaching technology. BacTech owns a perpetual, exclusive license to the bioleach technology for tailings’ reclamation and is allowed under the agreement with REBgold to own any improvements made to the technology. This patent is the invention of various contractors to the Company and they have accepted to assign their rights in the invention to the Company subject to the terms of a royalty agreement.

6. **Reliance on Subsection 7.1(2) or (3) of National Instrument 51-102**

Not applicable.

7. **Omitted Information**

Not applicable.

8. **Executive Officer**

For further information, contact Ross Orr, President and Chief Executive Officer of BacTech Environmental Corporation at (416) 813-0303.

9. **Date of Report**

June 11, 2012