

BACTERIAL LEACHING

Bacterial leaching is an established method of treating refractory gold and base metal ores or concentrates. SGS Minerals Services has undertaken testing for numerous projects for flowsheet development and optimization including bench scale and pilot plant testing, and audits and troubleshooting at operating plants in South Africa, Brazil, Ghana, Australia, Uzbekistan, Peru, Chile, Greece and the USA.

SGS Minerals Services' services include:

- Research and development
- Amenity testing
- Flowsheet development
- Continuous pilot plants with integrated downstream processing
- Plant audits and troubleshooting

We have been requested by clients to establish bacterial leaching testing facilities to fulfill needs for:

- An independent testing facility not associated with any processing or engineering interests
- A "one-stop-shop" providing facilities to test alternative oxidation processes including, bacteria, pressure oxidation, Activox® and roasting

SGS is able to use the following technologies:

- BIOX®
- GEOCOAT®
- (Heap or thin layer leaching of low grade flotation concentrates)
- BacTech processes
- Other non-proprietary technologies

SGS's expertise with the BIOX® process (mesophilic bacteria) spans amenability testing to plant commissioning.

Current research includes pilot testing of chalcopyrite-chalcocite-covellite concentrates using mesophilic bacteria.

We use GEOCOAT® processes in heap leach simulation, column leach testing of various sulphide minerals including pyrite, enargite and sphalerite using mesophile and extreme thermophile bacteria.

We are licensed to use the BacTech technologies and our current research focuses on investigating the oxidation of chalcopyrite.



AGGLOMERATION LEACHING OF CONCENTRATES

SGS Minerals Services Australia has developed a technique for heap or thin layer leaching of low-grade flotation concentrates. A binding agent is used to attach milled concentrates to the surface of an inert carrier. A suitable carrier is competent crushed rock such as granite in the size range 10 - 12 mm. The agglomerate is stacked in a column and treated by percolation leaching to oxidize the sulphide minerals. This technique may be applicable to low grade concentrates where agitated bacterial leaching or pressure leaching are not economical.



CONTACT INFORMATION

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