

extensive and precise information on the intimate mechanisms involved, both insofar as the changes occurring in the mineral substrate are concerned and the events occurring at the micro-organism-mineral surface interface.

In the investigations described, some further information on the mechanisms of microbial leaching of the copper minerals chalcocite and covellite has been obtained, by the use of synthetic specimens as model substrates and a range of physico-chemical techniques. In brief, it has been shown that in the bacterial leaching of synthetic chalcocite, the indirect mechanism of ferric leaching is paramount, while in the leaching of synthetic covellite the direct mechanism is important. The direct mechanism operates by preventing the accumulation of a protective layer of sulphur and by the depolarisation of the cathodic reaction.

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