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Biogeochemical interactions during the biobeneficiation of minerals

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Mineral biotechnology is one of the wings of biotechnology involving integrated application of the knowledge and techniques of biochemistry, microbiology, genetics and chemical engineering to draw benefit at the technological level from the properties and capacities of microorganisms. It offers the possibility of recovering, refining and concentrating wide varieties of minerals for services essential to life and well being of mankind. It also helps in minimising the environmental damages with recourse to conserving the natural resources for future generation. The paper outlines possible microorganism-microorganism interaction, microorganism-mineral interactions and microorganism interactions with produced products of biobeneficiation especially with respect to copper waste tailings and coal containing pyretic sulphur.

Keywords: Copper; Tailings; Coal; Pyrite; Thiobascillus ferrooxidans; Thiobascillus thiooxidans