Special Issue

Geometallurgical Approaches to Tailings Management and Resource Recovery

Message from the Guest Editors

The generation of large volumes of tailings from mining and ore processing presents challenges for management and storage. One solution is tailings valorization through metal recovery or use as industrial raw materials. Tailings may contain significant amounts of valuable and critical minerals (e.g., cobalt, indium, rare earth elements). Sulfidic tailings also pose a risk of acid drainage. Geometallurgical approaches help manage these risks and unlock resource potential by integrating geochemical, mineralogical, and environmental factors. This Special Issue invites submissions on tailings geometallurgy across all stages of the mining value chain, focusing on resource recovery and environmental aspects. Topics include (1) tailings sampling; (2) geometallurgical characterization and process mineralogy; (3) reprocessing for metal and critical mineral recovery; (4) desulfurization and geoenvironmental characterization; (5) geophysical methods for tailings deposits; (6) geometallurgical modeling for resource assessment; (7) case studies on tailings geometallurgy.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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