Systematic characterization of a mining waste of a Greek ore deposit, for critical metals recovery

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Abstract :

This study presents a characterization of a mining waste located in Greece. The systematic analysis of the physical, chemical and mineralogical properties of waste aims to assess the composition and concentration of critical metals and minerals present. The detailed results of this characterization provide crucial information for understanding the nature of the waste for future environmental remediation strategies.

In the context of growing demand for critical metals and minerals, this study also explores the possibility of economically viable recovery of these resources from mining waste. Separation and extraction techniques are considered, emphasizing environmental sustainability and economic efficiency. The data generated by this characterization offers practical perspectives to guide strategic decisions in mining waste management, thus contributing to a more sustainable exploitation of mineral resources. Initial fines preparation tests by flotation and gravity concentration are presented and discussed.