







## APPLICATION OF INNOVATIVE PROCESSES FOR GOLD RECOVERY FROM ROMANIAN MINING WASTES

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**Abstract.** The application of a new hydrometallurgical process for gold extraction by thiosulphate leaching from Romanian mining wastes, coming from Balan and Deva deposits, was studied. Another objective of this work was to develop an integrated flow-sheet including the recycling of process solutions and of the coconut activated carbon used for gold purification. There was obtained 85% of Au extraction after leaching; moreover, an integrated flow-sheet, including recycling of process solution and carbon, was outlined, based on results obtained at a laboratory scale, using a schematic chemical circuit of treatment. Global recovery of the process (leaching-adsorption-desorption-electrodeposition) of about 75-80% of Au was achieved. The developed integrated flow-sheet, allows to recycle the reagents during the process, with a loss of only 5-10%, in particular thiosulphate and alcohol, for each complete circuit of treatment.

**Keywords:** mining waste, gold, thiosulphate leaching, activated carbon, adsorption, desorption.

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