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# Preliminary data regarding the tailing pond of Suha Valley – Tarnița, Suceava County (Romania)

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**Abstract**

The tailings pond of Suha Valley consists of the waste material generated by the now-abandoned ore-processing plant of Tarnița. In terms of mineralogy, primary minerals (quartz, galena, sericite, subordinate barite and sphalerite) and secondary minerals (probably sulfates and Fe oxy-hydroxides) have been identified. Over 70% of the solid material falls within the fine and very fine fractions (less than 0.25 mm). Soluble fractions can exceed 58%, increasing with the amount of secondary minerals; the pH values are extremely low (2.17–3.51). The abundance of toxic metals emphasizes two sequences, as follows: (1) Zn > Cu > Pb > As (specific to samples with a high content of secondary minerals); (2) Cu > Pb > Zn > As (specific to samples with a low content of secondary minerals).
The physical and chemical parameters of the waste deposit indicate a high risk of environmental contamination, amplified by their susceptibility to airborne, hydromechanical and hydrochemical transportation.


**Keywords:** tailings ponds, mineralogy, grain-size, soluble fraction, toxic metals.


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