Properties of the ochre-precipitates formed during passive treatment of acid mine drainage – Potential for reuse

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Abstract

This work presents the properties of the waste sludge formed by neutralization in a passive system, constructed to treat AMD from an abandoned Au-mine (Jales plant, Portugal). These wastes, here designated as ochre-precipitates, pose some management problems since they are quantitatively important and interfere with the biological treatment, affecting the global performance of the treatment plant. The geochemical mineralogical and colorimetric properties of the ochre-precipitates were evaluated for environmental and management purposes. Results indicate that colour parameters as well as the iron content are in the range of synthetic pigments, suggesting a possible reuse of these materials as industrial pigments.

Keywords: ochre-precipitates, colorimetric properties, reuse, pigments, Portugal.