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Analysis of the Residual Generation in a Gemstone Processing Industry: A Case Study with Reuse Proposition

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Abstract

The gemstone productive chain and jewelry is an important income source and job generator in Brazil, since the country stands out worldwide for the extraction and processing of these materials. However, this activity generates a high volume of waste. In this way, this work aims at analyzing the generation of waste in a gemstone processing industry and at proposing alternatives for its treatment and reuse in other applications, like, for example, in the composition of ceramic clay. This is a quantitative approach research of descriptive and exploratory character, and there were used bibliographies and case study. As a result, it was observed that at the end of beneficiation process just 65% of the parts come into conformity, while 35% of them have some kind of defect. Furthermore, in terms of volume, it appears that only 15% of the gems become final finished product, and the remainder being transformed into various types of solid and liquid residues, infected by cutting oil that need to be treated properly so that they can have an environmentally correct destination and guarantee the sustainability of the activity.

Keyword: *beneficiation process, gems and jewelry, residues.*
