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Investigation of contaminations resulted by tungsten carbide pulverizer and their spectra interference in XRF analysis method

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Abstract: One of the main sources of error in sample preparation is contamination resulted by laboratory equipments. Among these equipments, pulverizers and mills have a major impact. In this research, several samples of rock and ore with different abrasive property were pulverized by a tungsten carbide ring mill and analyzed by XRF method. It has shown that some samples were highly contaminated by tungsten and cobalt. The rate of contamination can be directly related to sample abrasiveness and time of pulverizing. Many interference of X-ray fluorescence spectra of tungsten and cobalt with some other elements were also found. In order to get a precise results, it is necessary to reduce or eliminate the interference of these elements by appropriate methods.

Keywords: *Sample preparation, Contamination, Tungsten carbide ring mill, Abrasiveness, XRF, Spectra interference.*