Mineralogical Effects of Sulfur in Handheld XRF

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Mineralogical effects on XRF intensities have been noted in many geological samples. Preliminary data was collected on a handheld XRF instrument that suggested a non-linear relationship between sulfur content and the intensity of the FeKα1 peak. This relationship has been further studied, and data will be presented that describe the effect of increasing S content on Fe. Cu and Zn x-rays are also affected by S, and their ores are now mainly found as sulfides. Preliminary data for S effects on these elements will also be presented, and possible solutions for accurate handheld XRF measurement of sulfides will be discussed.