Thin Film XRF measurements (Wet and dry) of Black Sea Sediment Samples And Their Elemental Comparisons With Same Core U Channel Sample.

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This paper presents the XRF data from about 0.3mm thin film sediment core. We prepared 3 different model from same sediment core. The main aim is the finding for elemental changing of spectra variety and their comparison with physical changes of samples about mass and water content. Our XRF measurements were carried out by ITRAX (Cox System), and we have documented the some useful and more precision tricks; a) the first point is that the wet or dry nature of the core, b) the second is the use of U channel sample or thin film sample. For base referencing for the selected elements, we prepared normal wet U channel sample with the thickness of 1.5 cm. We used thin material (film) for keeping the humidty of every core sample's surface. Because humidity loss very high on thin film core sample and very effective to get bad results related to changing of topography and beam emission related to loss of pore water.
Our XRF measurements have revealed that the Zn, Ti, Si, V,S, Cr, Mn, Ba, K and Ca elements were measured more precisely and accurate using by the dry thin film sample than those of wet U channel and wet thin sediment sample experiments. Beside this, Y, Zr, Nb, Rb, Sr, Ir, Fe,Co, Ni and Al elements were measured from the wet U channeled core more reliable with respect to the former. Lead (Pb) and Cd elements have behaved constantly during the three types of measurements.

Keywords: Thin film XRF, U channel, Elements, Sediment, Measurement