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## Trace Elements determined in sediment cores from Nhecolândia Pantanal, MS, Brazil, dated by $^{210}\text{Pb}$ method

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The Nhecolândia Pantanal, which is geographically located in the state of Mato Grosso do Sul, is part of the Brazilian Pantanal wetland, and has some singularities. One of these singularities is the existence of salty lakes, commonly known as Salinas. Currently, this environment has been affected by the unplanned use of the land, urban contamination due to touristic activities and the progress of agriculture in the region. With the knowledge of the sediment chemistry constitution is possible to obtain an estimative of the probable variations in the environment along the years since the sediment might retain many information of what may occurred. The higher layers of a sediment core may have information about the impact caused by increased human activities in recent years. Therefore to estimate a possible human influence, a study was initiated at Pantanal da Nhecolândia in 2011 where two sediment cores, Salina M, and Salina V, were collected in two Salinas of the Nhumirim farm. The elements As, Ba, Ce, Co, Cr, Cs, Eu, Fe, Hf, K, La, Lu, Na, Nd, Rb, Sb, Sc, Se, Sm, Ta, Tb, Th, U, Yb and Zn, were determined using instrumental neutron activation analysis technique (INAA), in the sediment fine fraction (silt + clay) and coarse fraction (sand) with the objectives of determining their chemical composition. The grain size analysis and sedimentation rate using the  $^{210}\text{Pb}$  dating method were also determined. The two sediment cores presented different sedimentation rates, which are probably related to periods of drought and floods. The grain size analysis showed that the Salinas have a low percentage of silt and clay, which is characteristic of this region. In addition, the chemical composition determined showed high values of As, that may be explained by the presence of natural deposits of the element in the region. The elements As, Co and Ba showed similar comporment of the silt and clay content, presenting concentration that decreased and increased with depth. The majority of the trace elements analyzed showed concentrations lower when compared with upper continental crust (UCC) values. Factorial analysis and cluster analysis were applied for the data interpretation.