GEOCHEMICAL SIGNATURES IN LITTORAL SHALLOW MARINE DEPOSITS (MIOCENE). NORTHEASTERN ARGENTINE

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The littoral shallow marine Miocene deposits of the "Mesopotamia and Llanura Chaco-pampeana" at the Argentine plains are constituted by an heterolithic succession (i.e. mud and very fine sands) with intercalations of tempestite deposits (i.e. mudrocks)

The study of the composition, grain size, morphoscopy, petrography, X-ray, SEM and geochemic revealed a strong affinity either very fine sand, mud or mudrocks.

More than 1,000 trace elements measurements were carried out on very fine sand, mud and mudrocks in order to confront the geochemical signatures of mud, mudrock and very fine sand over an area of about 200,000 km^2.

Geochemical signatures revealed a clearly and typically specific pattern for mud, mudrock and very fine sands quite according with textural and arquitectural previous studies.

The trace element performance as potential indicators in order to differentiate among mud, mudrock and very fine sand were Ga, Cs, Ni, Cu, Zn, Rb, Sr, Y, Zr, Nb, Mo, Pb, Th, Cr, V, Co and barium.

Silica values are definitively different for mud, mudrock and very fine sands. The molecule TiO_2 finely characterized different types of muds.