

## Clay Mineral Studies on Terraces of Zayandehrood River in Isfahan

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**Abstract:** In this experiment for studying and comparing of clay minerals in the soils of river terraces, four profiles selected and sampled as represented profiles for mineralogical analysis. Three profiles were on three terraces of Zayandehrood river in Pole – Shahrestan that each of them has different ages, and the fourth is located on the old river alluvial plain and is older than three terraces. Soil samples were prepared according to the proposed method by Kittrick and Hope. X-ray technique was used to determine the minerals present in the fine and coarse clay fractions. The result obtained by X – ray diffraction indicated the presence of Quartz, Kaolinite, Illite, Chlorite and a little Polygorskite in all soils. In the soil of higher terrace there is Smectite and in the old plain's soils the Smectite and Polygorskite are dominant. This confirms the idea that Smectite and some of Polygorskite in old plain are formed by Pedogenesis process.