An attitude on the textural and mineralogical characteristics of sediments in Arjan Plain lake, Fars Province

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Abstract

Arjan plain lake is one of the most important and valuable ecosystems in Fars Province possessing an area of more than 1000 hectares in 65 km southwest of Shiraz. Twenty samples were taken from the lake bed for identifying sediment textural characteristics of this seasonal lake. The particle size distribution of this deposit is 73% clay, 15% silt and 12% sand. In other words, these deposits are in the category of clay and sandy clay. Other textural features of these deposits include weak to moderate sorting, negative skew (towards coarse grains), very leptokurtic to platykurtic, fine to semi-rounded roundness, and medium to high sphericity. Mud cracks and typical gradual classification are the predominant sedimentary structures in these deposits. The main calcite and quartz minerals and dolomite, halite, feldspar, montmorillonite are sub-minerals of Arjan plain lake deposits. Fifteen types of heavy minerals were detected in these deposits. Histological characteristics show that the particles formed by these sediments are transported by river and wind processes and are deposited in a calm and low energy lake environment.

Keywords*: Textural characteristics, Sedimentology, Arjan plain lake, Fars province*