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CHEMICAL, PHYSICAL AND MINERALOGICAL, CHARACTERIZATION OF AL-HISHAH DIATOMITE AT SUBKHAT GHUZAYIL AREA, LIBYA

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ABSTRACT

Naturally occurring diatomaceous earth (diatomite) has tested as potential sorbent for several heavy metals and the intrinsic properties were improved by different modification concepts. Where in recent years, contamination of ground and surface water with heavy metals (not biodegradable) and tend to accumulate in the organisms is becoming a major concern. The chemical analyses of the bulk samples are shown as follow were taken from the Subkhat Ghuzyayil deposited in Libya, which is characterized by the expansion and evolution by the late Quaternary age. Silica, alumina and iron oxide were the main constituents of the samples.

The SiO_2 content corresponds to both diatomaceous silica and alumina-silicate minerals present in the samples, Al_2O_3 to alumina-silicate minerals, and Fe_2O_3 to the high amounts of chlorite and vermiculite present in the samples. The CaO and MgO contents are low due to the absence of carbonate minerals. Both are associated with the presence of Ca-smectite, whereas CaO may correspond to the presence of subsidiary Na–Ca feldspars. The loss on ignition (LOI) of the samples is mainly s The Na_2O and K_2O content are mainly attributed to the presence of feldspars and illite.

KEYWORDS: Diatomite Characterization Chemical Analysis, XRD, SEM, XRF for Subkhat Ghuzayil Deposit