

PROVENANCE AND PALAEOENVIRONMENTAL CONDITIONS OF LACUSTRINE
SEDIMENTS IN THE AREA EAST OF HIGAZA, NILE VALLEY, UPPER EGYPT

by

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The present study is dealing with sediments that are known in literature as "Pliocene gulf deposits and conglomerates" These sediments were classified according to the distribution of facies into four lithostratigraphic units of formational rank [1], [2]. These units from older to younger are Khuzam Shale, Durri Limestone, Higaza Formation and Issawia Formation. Due to the lack of marine fauna in these sediments, the age of their deposition still is questionable. However, the previous workers assigned these sediments to Pliocene age. The origin of the studied succession also is controversial. Earlier authors believed that these rocks were accumulated either in fresh water lake [3], fluviatile, estuarine [4], lake or gulf of sea [5] environments. Later, they were considered as brackish water lake sediments [2]. Nevertheless the question of the palaeo-environmental conditions of the studied sediments still open.

Lithologically, the investigated sequence is composed of carbonates and clastic sediments. Grain size analysis data of the clastic type indicate that they were deposited in uniform suspension. The mineralogy of carbonates exhibits the presence of calcite, dolomite, quartz and clays together with minor amounts of k-feldspar and plagioclase. Analysis of the clay fraction of loose sediments shows the dominance of smectite as well as small contents of kaolinite, chlorite and mica. The final petrographical and geochemical investigations of the present study are still in progress.

References

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