

## GEOLOGICAL AND GEOCHEMICAL INVESTIGATIONS ON HAMMAT MOLASSE SEDIMENTS, G. KHARAZA, EASTERN DESERT, EGYPT

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**Abstract:** The Hammamat molasse sediments of the Eastern Desert of Egypt were deposited in isolated basins formed during an initial stage of orogen parallel N–S extension (650–580 Ma) in the Neoproterozoic time. Supply of sediments to the molasse basins began after the eruption of Dokhan volcanics (602–593 Ma), the present study basin is one of several Pan-African, sedimentary basins formed across several hundreds of kilometres of the Eastern Desert of Egypt. It comprises two stages of sedimentation: The earlier stage is characterised by the deposition of fluvial sediments and later influx of granitic clasts indicating that this part of the basin formed mostly after intrusion of what is known as the “older” granite generation in the Eastern Desert around 650–610 Ma. Geochemical studies revealed that the Hammamat sedimentary rocks were originated from felsic and intermediate igneous sources. Also, these rocks were probably formed in a continental arc setting.

**Key words:** Hammamat molasse sediments, Eastern Desert of Egypt, Geochemistry