

## Petrogenesis and Geochemical Signature of A-type Granite from selected intrusions, Eastern Desert, Egypt

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The Pan-African Orogeny in the Arabian-Nubian Shield was terminated by the intrusion of A-type granites (~595 Ma; Greenberg, 1981) and its volcanic equivalents. Subsequent to the intrusions of these granitic bodies, the shield was exhumed. Eroded A-type granitic pebbles were found in the molasse sediments that were deposited in intermountain basins. Therefore the A-type granites provide information about the last stage of the Pan-African geochemical system. These younger granites are common throughout the Precambrian terrain of Egypt and they played a significant role in the evolution of the Pan-African crust. The whole-rock geochemical data of two granitic intrusions (*G. Um Taghir El Tahtani and G. Ras Abda*) from the Central Eastern Desert of Egypt indicate that both of them are subaluminous with A-type characteristics. These intrusions show low CaO content (average 0.61 %wt), high  $FeO_T/MgO$  and Ga/Al ratios, and high  $Na_2O+K_2O$  (average 8.91 %wt). The A-type granite of the two plutons are marked with enrichment of high field strength elements content (Zr, Nb, Y and Ga) and depletion in MgO (0.05-0.58 %wt) and with low concentration of Sr and Ba. The studied granitoids were intruded within a plate extensional regime.

Greenberg, J.K. (1981): Bull Geol Soc Am, Part 1., 92: 224-232.