Geophysical Research Abstracts
Vol. 16, EGU2014-6223, 2014
EGU General Assembly 2014

Petrogenesis of selected A-type granitic intrusions from Central Eastern Desert of Egypt

Tharwat Hassan (1), Asran Asran (2), Taha Amron (1), and Christoph Hauzenberger (3)

(1) South Valley University, Faculty of science, Geology, Qena, Egypt (geo_tharwat2010@yahoo.com), (2) Geol. Dept., Fac. Science, Sohag Univ., Egypt, (3) Intsitute of Earth Scinces, Graz University, Austria

The Pan-African orogeny in the Arabian-Nubian Shield was terminated by intrusion of A-type granites ($\sim$ 595 Ma; Greenberg, 1981) and its volcanic equivalents. Subsequent to the intrusions of these granitic bodies the shield was exhumed. Eroded A-type granite 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. Preliminary whole–rock geochemical data of three granitic intrusions (*Kadabora, Um Naggat and El shiekh Salem)* from the Central Eastern Desert of Egypt; indicate that all of them are peraluminous and with A-type characteristics. These intrusions show low CaO content (average 0.43 %wt), high FeO_T/MgO ratio (10.46-121.88), high Na_2O+K_2O (average 8.04 %wt), marked enrichment of high field strength elements (Y, Nb and Ga except Zr), depletion in MgO (0.01-0.11 %wt) and with low concentration of Sr and Ba. The studied granitoids were emplaced in within plate tectonic regime.

References:

Greenberg, J.K. (1981): Characteristic and origin of Egyptian younger granites. Bull. Geol. Soc. Am. Part 1, v.92: 224-232.