

Geochemical characteristics and origin of the Pan-African high-K calc-alkaline granitoids of Deng-Deng area (Southwestern part of Lom serie, Cameroon)

DONALD HERMANN FOSSI^{1*}, LYSIANE CHRISTELLE TCHOUNDI KOUAYEP¹, SYLVESTRE GANNO¹, JEAN-PAUL NZENTI¹

¹*Department of Earth Sciences, University of Yaounde I, P.O. Box 812, Yaounde, Cameroon*

The Deng-Deng plutonic complex belongs to the Central African Pan-African fold belt in Cameroon. It comprised of several elongated plutons of granodiorites and quartz monzonites composition. The geochemical characteristics reveal that the Deng-Deng granitoids have high SiO₂ (57.15-68.27 wt.%), Sr and Ba, moderate rare earth elements (REE) and Mg# (54-64), and low Ni and Cr concentrations. They are metamafic to slightly peraluminous, arc related high-K calc-alkaline I-type granitoids. The rocks are also depleted in Th, Nb, Ba, Ti and Ta and enriched in LILE relative to HFSE. Chondrite-normalized REE patterns are less fractionated with negative Eu anomalies (Eu/Eu*: 0.59-0.82 (granodiorite), 0.71-0.92 (quartz monzonite)).

The studied rock share a common source as revealed by the molar (Al/Mg+Fe) vs (Ca/Mg+Fe) diagram. It is suggested that the Deng-Deng granitoids were sourced from the partial melting of metabasalts and/or metatonalites, similar to other syntectonic plutons of the Pan-African fold belt of Central Africa.