

## THE MORRO AGUDO DE GOIÁS DYKE SWARM (GOIÁS, BRAZIL)

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The Morro Agudo de Goiás Dyke Swarm consists mainly of mafic dykes, but includes subordinate ultramafic and differentiated mafic-ultramafic dykes and ultramafic stocks, all intruding Archean granite-gneisses of the Goiás Massif. The dyke swarm was sub-divided into five groups, as follows: group I - andesite and metandesite dykes; group II- diabase, metadiabase, metagabbro and amphibolite dykes; group III -meta- diabase of mafic-ultramafic dykes; group IV - ultramafic dykes; group V -ultramafic stocks. Preliminary K/Ar determinations yielded an approximate 2,400 Ma age for basaltic andesite while a limited Sm/Nd isochron resulted in a 2,330.7  $\pm$  101.4 Ma age for the mafic-ultramafic dykes. Dominantly cumulate dyke and stock ultramafic lithotypes were probably formed through fractionation of olivine, orthopyroxene and clinopyroxene from a tholeiitic basalt parental magma. Evolved diabases probably represent variably fractionated basaltic magma. Modelling of magmatic fractionation shows that group I rocks probably originated from a parental magma that was different from the one that formed groups II, III, IV and V dykes/stocks. In addition, negative Sr anomalies and differences in Ti/Zr, P<sub>2</sub>O<sub>5</sub>/Zr and Y/Zr ratios point to apparently distinct mantle sources for magmas forming group II from those yielding groups III, IV and V mafic/ultramafic rocks.