

## **PETROGRAPHY AND GEOCHEMISTRY OF ALKALINE PLUGS FROM SÃO PEDRO, PORTO CONCEIÇÃO, MORRO CONCEIÇÃO AND MORRO DISTANTE, SW OF MATO GROSSO DO SUL STATE, BRAZIL.**

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The studied plugs occur at the south of the Pão de Açúcar syenites, and belong to the Permo-Triassic Alto Paraguay Province. These bodies form small hills with elevations beneath 300m standing out on the Pantanal/Chaco plain. Rock types form a miaskitic association of alkali syenites, syenites, quartz syenites and syenogranites, described here for the first time ever. These rocks are medium- to fine-grained microporphyritic, with phenocrysts of orthoclase and augite in a holocrystalline groundmass composed of elongated crystals of diopside and alkali feldspar, with very fine lamellae of perthites. Minor amounts of apatite, sphene and opaque minerals are common. The alkaline rock association is quite evolved, with Mg# varying from 0.229 in the most primitive (SiO<sub>2</sub> 56.1 wt %) to 0.627 in the more differentiated (SiO<sub>2</sub> 63.7 wt %). In whole rock samples, SiO<sub>2</sub> correlates negatively with TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, CaO, P<sub>2</sub>O<sub>5</sub>, MnO and MgO, in practically all cases. Compositions display an alkaline trend with relatively high CaO (1.83 to 3.11 wt %). Rb is enriched in differentiated rocks, while Sr, Ba, Zr, Nb and Y have less defined trends. Chemical and petrographic classifications point out to a prominent alkaline character, typically related to intra-plate environments. In general, these rocks are comparable to other alkaline rocks of the same province, such as Satélite I, II and Cerro Pedreira occurrences, which have a Rb/Sr age of 259 Ma and initial ratio indicative of a mantle source for most of the occurrences, with crustal contamination present in some cases.