PETROLOGICAL ASPECTS OF EARLY MAFIC MINERALOGY OF THE AGULHAS E BANANAS AND SERRA DO PINTADO SYENITIC PLUTONS - SERRINHA NUCLEUS (BAHIA STATE - BRAZIL)

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The Agulhas e Bananas and Serra do Pintado syenitic plutons are located in the northeast of Bahia State, in the southwestern part of the Serrinha Nucleus. They are small bodies (30 km2) and are intrusive in the archean gneissic-migmatitic basement of this nucleus. In these plutons were identified four petrographyc facies: alkali syenitic, granitic, mafic cumulatic and filonian. Zircon, Fe-Ti oxides, apatite, diopside, hornblende and biotite are early mafic mineralogy in syenites from the alkali syenitic facies and in hornoblendites of cumulatic facies. The hornoblendites are composed basically by them, being occasionally apatite assumes varietal mineral proportions. Zircon is the first mineral to crystallize and often appears zoned, showing change in the magmatic chamber thermodynamics conditions or in alkalis and alumina grade. Apatite crystallization occurs in early periods when magma reaches phosphorous saturation, and your crystallization will be better as much as lower SiO2 and smaller f(O2). Ilmenite takes advantage of this small f(O2) magma condition to crystallize. The diopside presents crowded of zircon, Fe-Ti oxides and apatite inclusions, oxidized and almost wholly replaced by hornblende and biotite. The oxidized diopside presence certifies the increase of the oxidation conditions and the biggest activity of fluidos. Your crystallization can have enriched the magma in water, favoring the crystallization of hornblende and biotite, whose preference of crystallization would be on, respectively, to the minor or greater activity of potassium-bearing fluids. The authors thank CBPM, CAPES and CNPq. This is the 068-99 contribution to GPA-UFBA.