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The post-tectonic granites of the Gavião Block: the example of Salininha Monzogranite, Bahia, Brazil.

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Gavião Block is one of the four Archean crustal segments that collided during the Paleoproterozoic at 2080 Ma [1]. There are post-tectonic granitoids associated with this Block and one of these is Salininha Monzogranite, object of this work. This granitic body is located at approximately 50 kilometers NW of the city of Brumado, state of Bahia, Brazil. In order to understand how the crustal evolution of the southern portion of the Gavião Block occurred, the study of this rock's mineralogy, lithogeochemistry and geochronology becomes necessary.

This rock's color varies from light to dark gray; it is homogeneous and does not show deformational structures. It shows an abrupt, rectilinear contact with the gneissic enclosing rock and xenoliths of this gneiss can be found in the granitic body.

This rock is composed by quartz, plagioclase, K-feldspar and biotite, all these primary, as main minerals and muscovite, epidote, zircon and opaques as accessories. The lithogeochemical studies for major, minor, trace and rare earth elements revealed that this monzogranite is peraluminous and also shows a strong negative Eu anomaly, indicating that the source of the magma that generated this rock is rich in plagioclase. These data were also used to help determining the tectonic environment of formation of this igneous body as post-collisional.

The U-Pb (ID-TIMS) age of 2003 ± 4 Ma, measured on zircon crystals, indicates that this monzogranite was formed after the paleoproterozoic collision and this can be noticed by the absence of deformational structures at the outcrops of this granitic body. Detailed geochemical and geochronological studies will give a more precise idea about how the crustal evolution of this portion of the São Francisco Craton occurred.

References:

[1] Barbosa J and Sabaté P (2003) Brazilian Journal of Geology 33: 7-14

