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MESOPROTEROZOIC PALEO-HYDROTHERMAL OCEANIC SYSTEM WITH GARNET-CORDIERITE-CUMMINGTONITE/ANTHOPHYLLITE AMPHIBOLITES FROM THE SERRA DO ITABERABA GROUP, SÃO PAULO (BRAZIL).

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Metabasites from the basal volcano-sedimentary Morro da Pedra Preta Formation have MORB signature. Within this medium-grade metamorphosed formation are found very deformed intrusions of andesites/rhyodacites. Surrounding these bodies there is a zoned sequence of rocks interpreted as have been formed by ocean floor hydrothermalism.

In basic rocks a complete gradation between unaltered to strongly altered rocks was observed, represented by groups of unaltered rocks (hornblende amphibolites), weakly altered rocks (hornblende amphibolites with cordierite and cummingtonite), transitional rocks (where two or three amphiboles coexist), moderately altered rocks (cummingtonite amphibolites, cordierite-cummingtonite amphibolites, and garnet-cordierite-cummingtonite amphibolites) and strongly altered rocks (garnet-cordierite-cummingtonite/anthophyllite. In felsic rocks was distinguished moderate alteration (cummingtonite/anthophyllite-chlorite-quartz-plagioclase rocks) and strong alteration (cummingtonite/anthophyllite-cordierite-quartz±chlorite rocks).

Layers of carbonated rocks (carbonate-epidote-actinolite-diopside metabasites) occur under felsic intrusions and hornblende-garnet amphibolites and cummingtonite-garnet-chlorite schists bodies are also present. Potassic alteration (biotite amphibolites) overprints some lithotypes and silicification overprints most of them. Gold mineralization and hydrothermal rocks rich in margarite and corundum are associated to this system. In the upper part of the formation are present small bodies of Algoma type BIFs and sulfide-rich metapelites. Grants: Fapesp 93/4350-0 and CNPq 400490/94-3.