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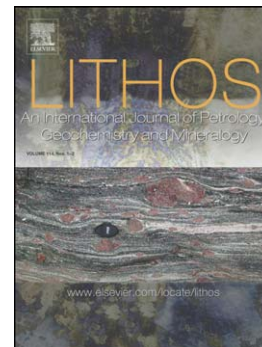
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Migmatization and low-pressure overprinting metamorphism as record of two pre Cretaceous tectonic episodes in the Santander Massif of the Andean basement in northern Colombia (NW South America)

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ABSTRACT

The core of the Santander Massif in the northern Andes of Colombia is dominated by migmatitic gneisses with a < 1.71 Ga protolith and were affected by continuous interactions of oceanic plates to the west and the northwestern corner of the South American continental plate. The exposed metamorphic core of the massif offers a unique opportunity to understand the tectonic evolution of northwestern South America. We present new metamorphic petrology and geochemistry data from the Bucaramanga Gneiss in the Santander Massif to document part of this tectonic evolution from late Proterozoic to Jurassic.

Metapelitic migmatite gneiss, quartz-feldspathic gneiss, and amphibolite from the Bucaramanga Gneiss recorded metamorphic peak conditions in the range 660–850 °C at pressures of > 7.5 kbar. Lithologies overprinted with a low pressure metamorphism, related to extensive Jurassic intrusions and linked with growth of cordierite and equilibration of low-pressure mineral assemblages, recorded metamorphic conditions of < 750 °C at pressures of < 6.5 kbar.

Observed leucosomes display significant compositional variations and can be grouped in three groups: i) Group One leucosomes with high total REE content, high LREE/HREE,

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