THE RED BEDS OF THE SAN JERONIMO GROUP (CUZCO PERU) MARKER OF THE INCA 1 TECTONIC EVENT

Víctor CARLOTTO(1), Gabriel CARLIER (2), José CARDENAS(3) Willy GIL(3), Richard CHAVEZ(3)

(1) Universidad Nacional San Antonio Abad del Cuzco (Peru) and Laboratoire de Géodynamic des Chaînes Alpines Grenoble (France)
(2) ORSTOM, TOA, UR 1H, 213 rue La Fayatte, 75480 Paris,France.
(3) Universidad Nacional San Antonio Abad del Cuzco Av. de la Cultura s/n Cuzco-Peru.

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RESUMEN

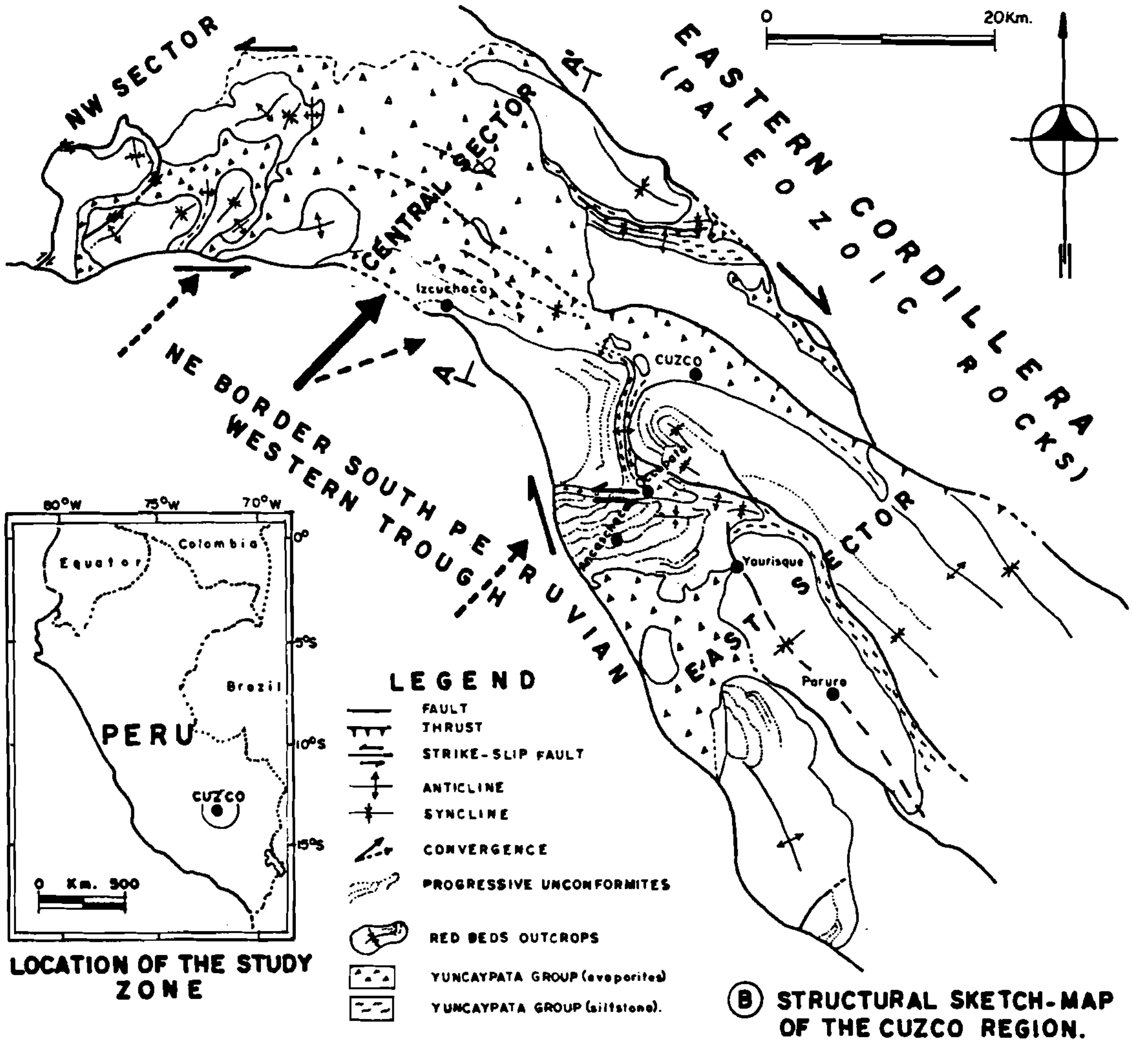
Las Capas Rojas del grupo San Jerónimo eran consideradas de edad Cretácica superior y su origen estaba relacionada a la fase Tectónica Peruana. Sin embargo, la sucesión estratigráfica, observaciones de campo, correlàciones y una datación radiométrica, muestran que esta unidad abarcaría desde el fin del Eoceno medio hasta el fin del Oligoceno inferior y que la sedimentación estaría relacionada al evento Tectónico Inca 1, que en la región se traduce como un *continuum* tectónico compresivo, desarrollando fallas de rumbo, sobre las que se formaron cuencas *pull-apart*.

INTRODUCTION

A red series of continental origin which is more than 5,000 meters thick, which is known with the name of Red Beds (Marocco, 1978) or San Jeronimo Group (Córdova,1986), widely crops out in the region of Cusco and Sicuani. In Cuzco, the San Jerónimo Group has been divided in 3 Formations, Kayra (3000 m), Soncco (1600 m) and Punacancha (1700 m) (Córdova, 1986).

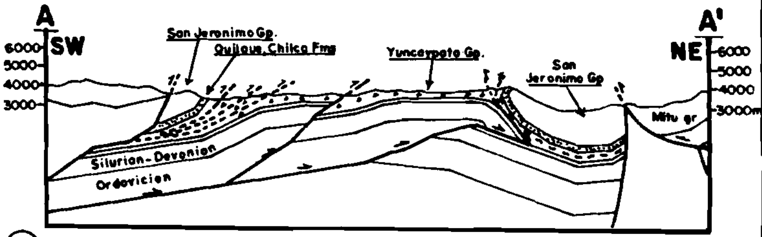
Former Studies had considered to the Red Beds of the San Jerónimo Group, as the Latest Cretaceous-Tertiary age (Marocco, 1978; Córdova, 1986).The Maastrichtian times, given to the Kayra and Soncco Formations,was based first on the charopytes presence near the Kayra base, which indicate The Maastrichtian age and then for the "dinosaur tracks" presence near the top of the Soncco Formation (Córdova, 1986; Noblet et al 1987). Then the Punacancha Formation would be Tertiary, this disconformably overlies the Soncco Formation. Further studies (Carlotto, 1992), have demonstrated that the San Jerónimo Group overlies on the paleontologycally dated series, which is of The Paleocene-Earliest Eocene times (Quilque and Chilca Formations) (Fig. 1A), that is why it was considered the overthrust in order to explain the supposed abnormal superposition (Carlotto 1992; Jaillard et al 1993).

The field works, the tectonic sections analysis and the stratigraphic correlations gave the benefit of the doubt to the overthrust existence, that is why, it was important to review and look for other ways of datation for the Red Beds. To the South-east of Cuzco, in the SW anticline limb, we have the type section of the San Jerónimo Group where the volcanic tuffs, which were found under the "dinosaur tracks", were sampled to be submitted to a radiometric datation. These samples gave a K/Ar age of 29.9±1.4 Ma (Carlotto et al 1995).

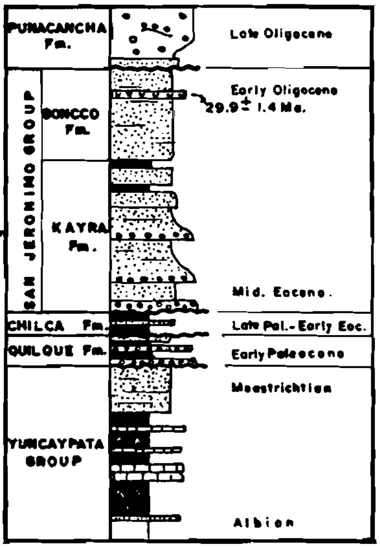


LOCATION OF THE STUDY ZONE

Ⓑ STRUCTURAL SKETCH-MAP OF THE CUZCO REGION.



Ⓒ STRUCTURAL CROSS-SECTION



Ⓐ STRATIGRAPHIC COLUMN

FIGURE 1.