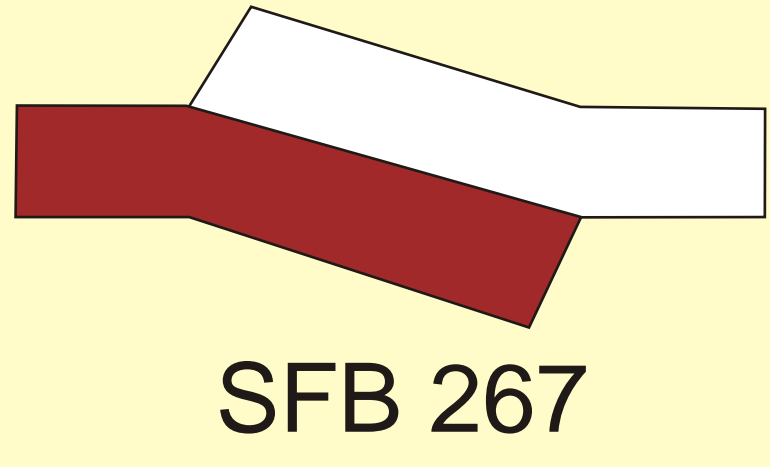


G8: Tertiary evolution of the Chaco foreland basin, southern Bolivia: Poster 1



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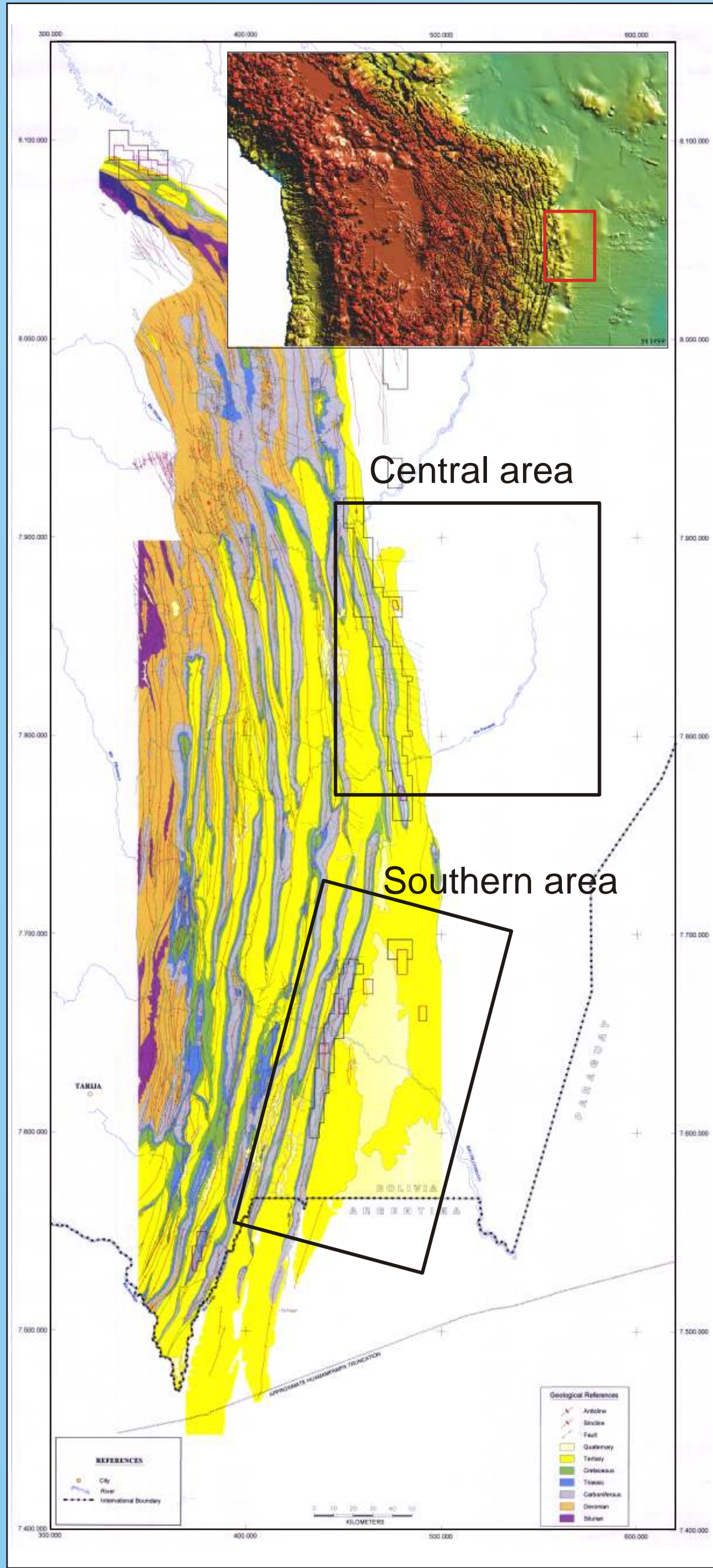


Figure 1: Location of the study area

Introduction

The Chaco basin is bordered to the east by the Brazilian Shield and in the west by the Subandean Zone (BABY et al., 1997, figure 1). This retroarc foreland basin developed in Oligocene to Recent time in response to uplift, deformation and erosion of the eastern Andes, enhanced by lithospheric flexural loading.

In this poster, we present our results to date, consisting of data obtained in a field season during which we measured type stratigraphic sections of Tertiary-age rocks in the foothills of the eastern Subandean belt of the central and southern Chaco basin (figure 10, figure 5). Our field data are augmented by preliminary interpretations of a wealth of 2-D industry seismic and well data (figure 2, figure 3).

Our goal is to obtain absolute or relative age data from ash-fall tuffs, fossils, and palynology, respectively, integrate interpreted outcrop sedimentary facies with seismic facies calibrated by well data, and to construct a time- and facies-integrated model of foreland basin evolution for the central and southern Chaco.

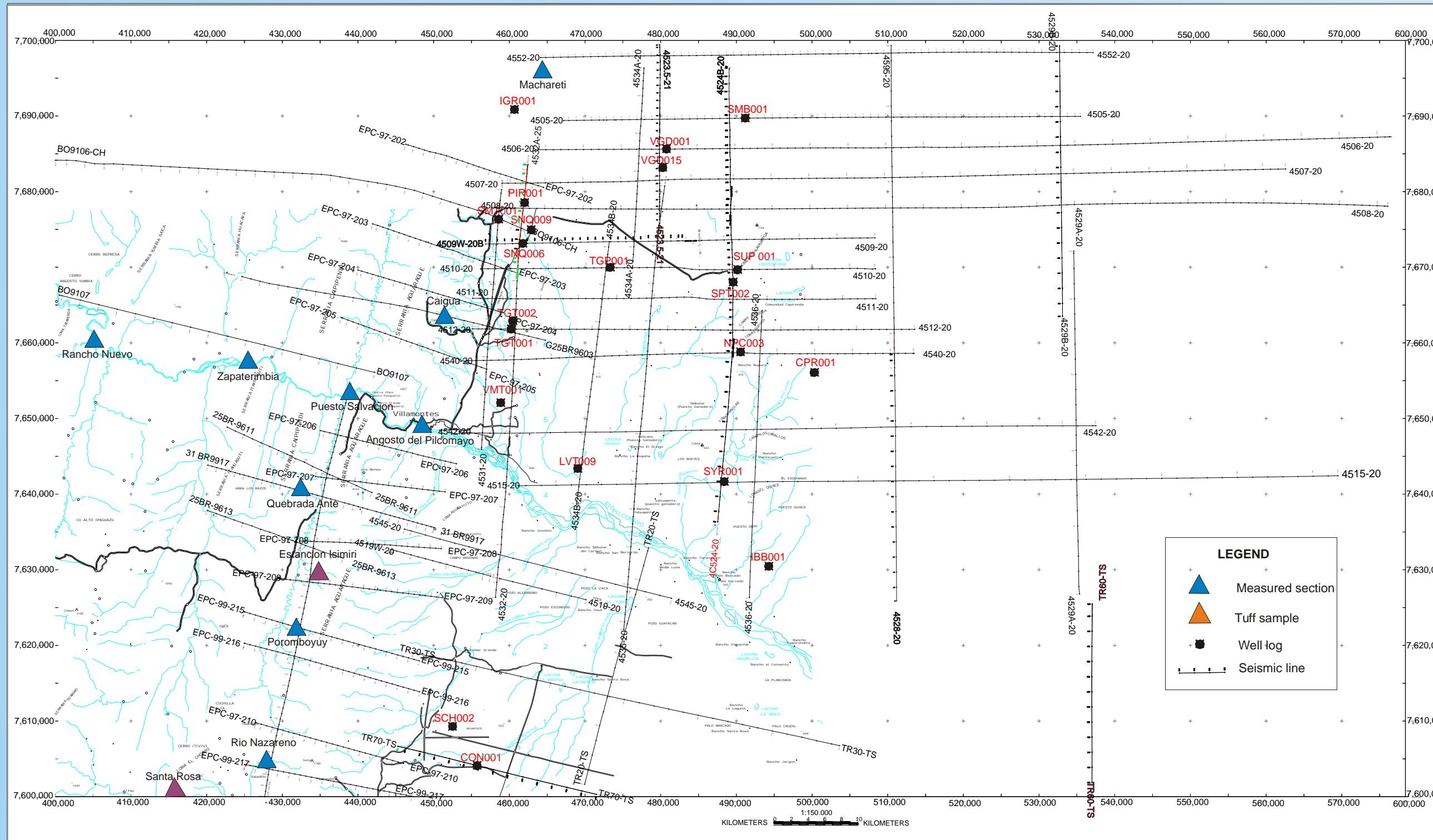


Figure 2: Basemap of southern study area.

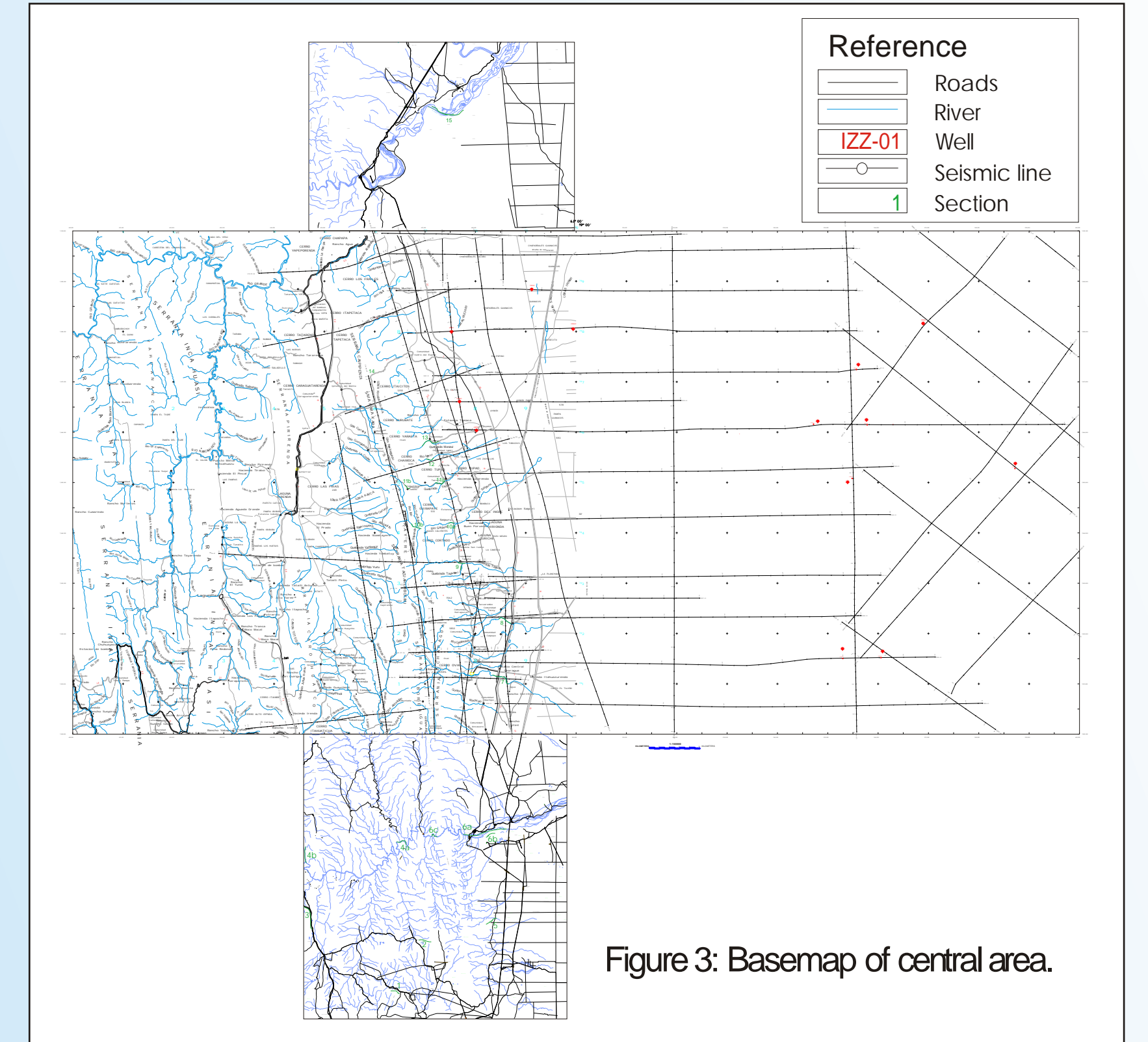


Figure 3: Basemap of central area.

System		Formation	
TERTIARY	Miocene-Pliocene	Upper Chaco	Emborozú
			Guandacay
		Lower Chaco	Tariquia
			Yecua
	Olig.	Petaca	

Figure 4: Stratigraphic subdivisions.

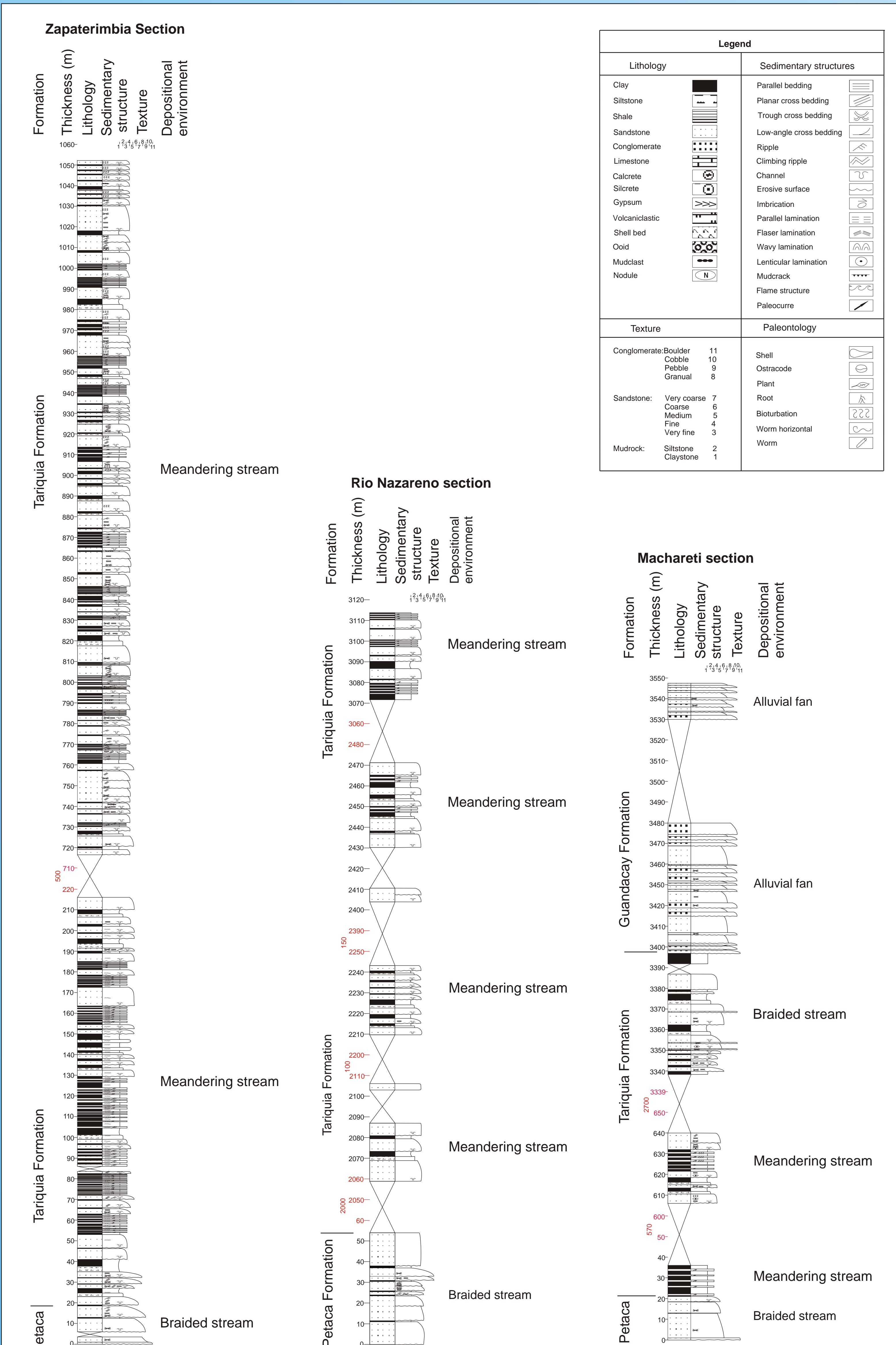


Figure 5: Stratigraphic columns of the sections Zapaterimbia, Rio Nazareno, and Machareti in the southern part of the study area.

Sediment distribution of the southern Chaco foreland basin

The onset of the Andean orogeny coincided with the late Oligocene unconformable deposition of the Petaca Fm. (GUBBELS et al. 1993; SEMPÈRE et al., 1990) over Cretaceous sedimentary rocks in the study area. This formation consists of up to 16 m-thick, multicolored, widespread basal calcrete and silcrete horizons, reworked conglomeratic pedogenic fluvial clastics and, at the top, interbedded sandstone and claystone of floodplain facies (figure 7). These beds indicate the gradual transition to overlying marginal-marine Yecua Fm. (missing in the southwestern study area). Yecua Fm. rocks are overlain by low-gradient-fluvial and braided-river sediments (Tariquia Fm.) and conglomeratic alluvial deposits (Guandacay Fm.). The sequence is topped by thick alluvial fan deposits of the Emborozu Fm.

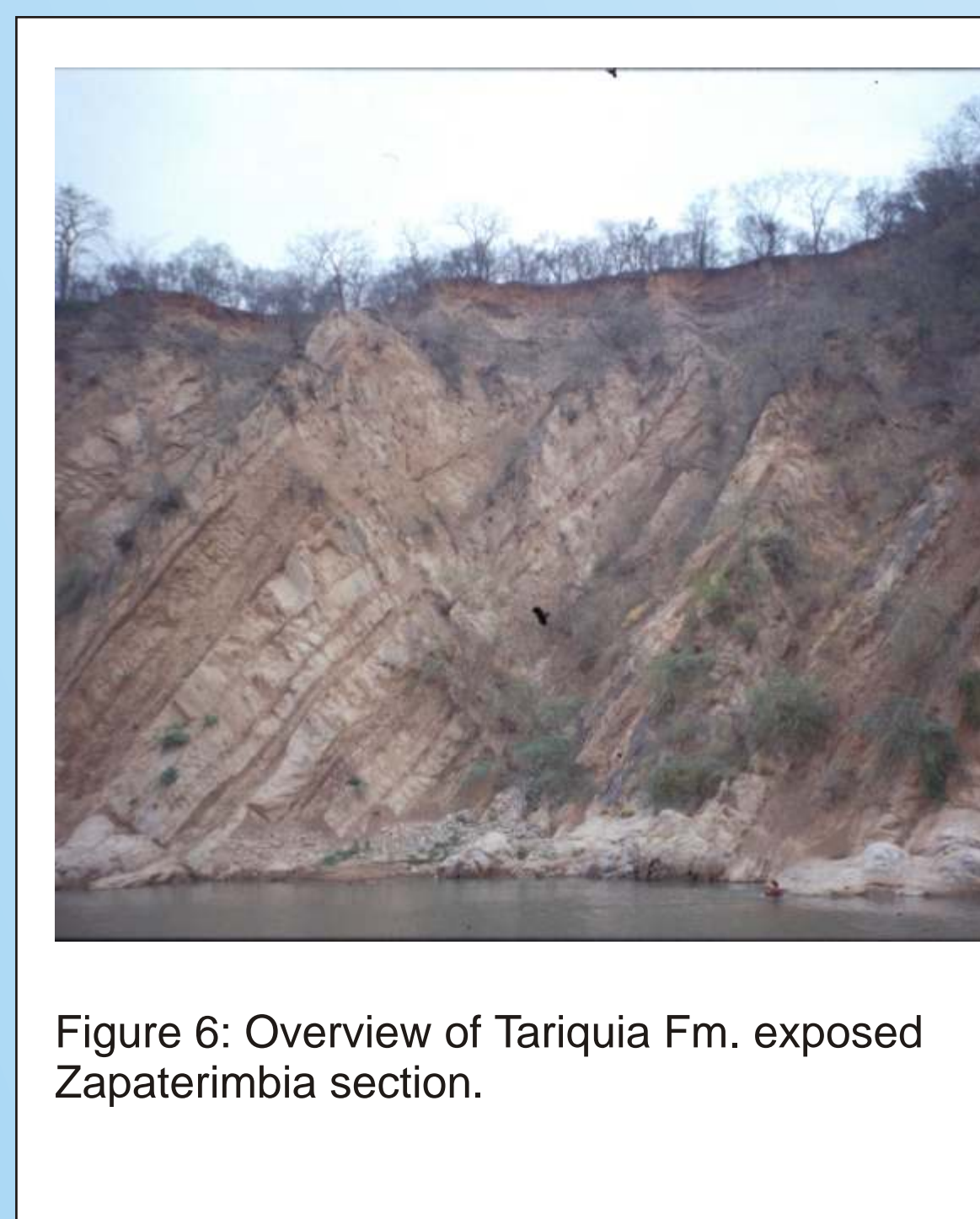


Figure 6: Overview of Tariquia Fm. exposed Zapaterimbia section.

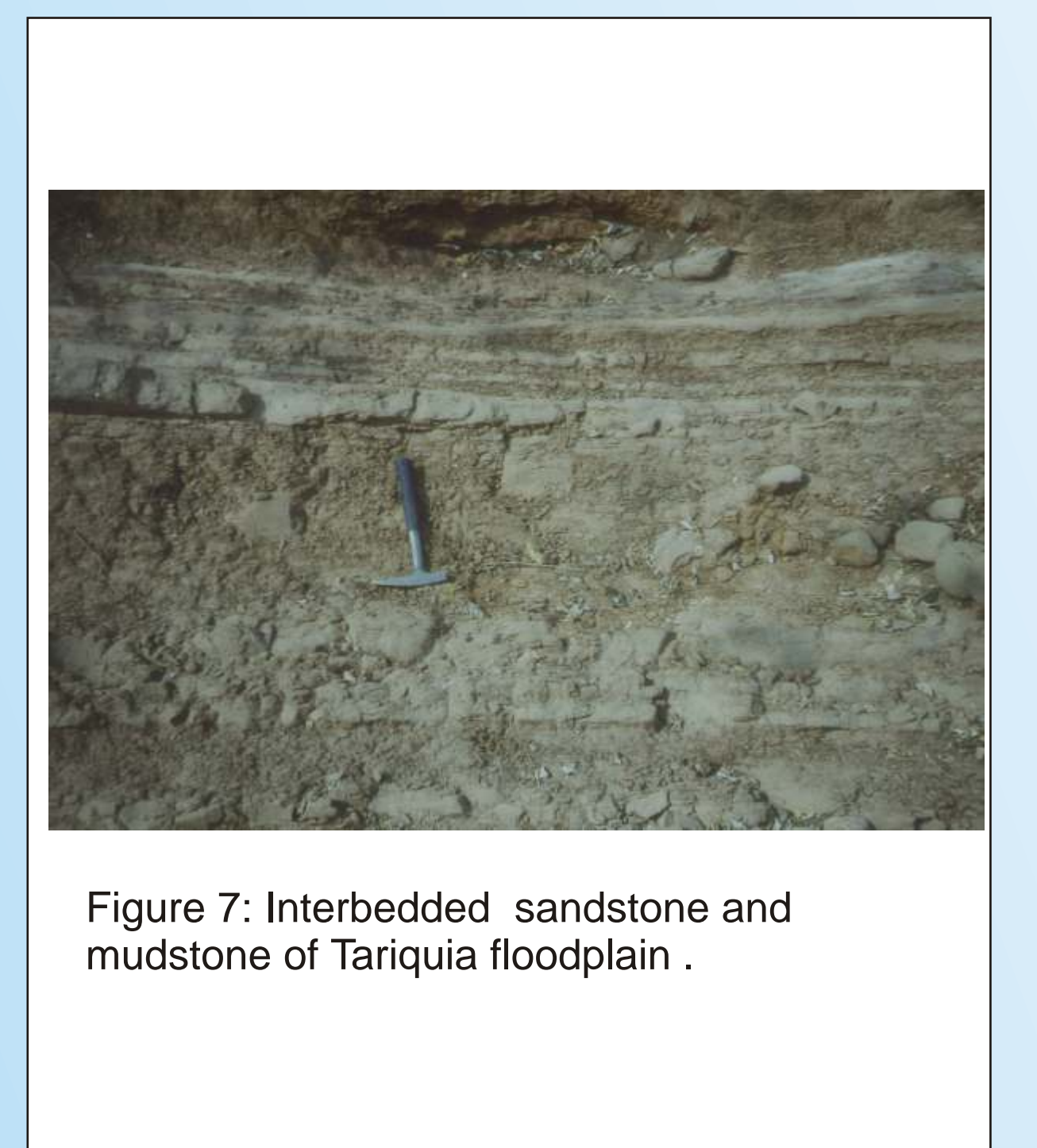


Figure 7: Interbedded sandstone and mudstone of Tariquia floodplain.



Figure 8: Well developed and multicolored Basal calcrete horizon of the Petaca Fm.

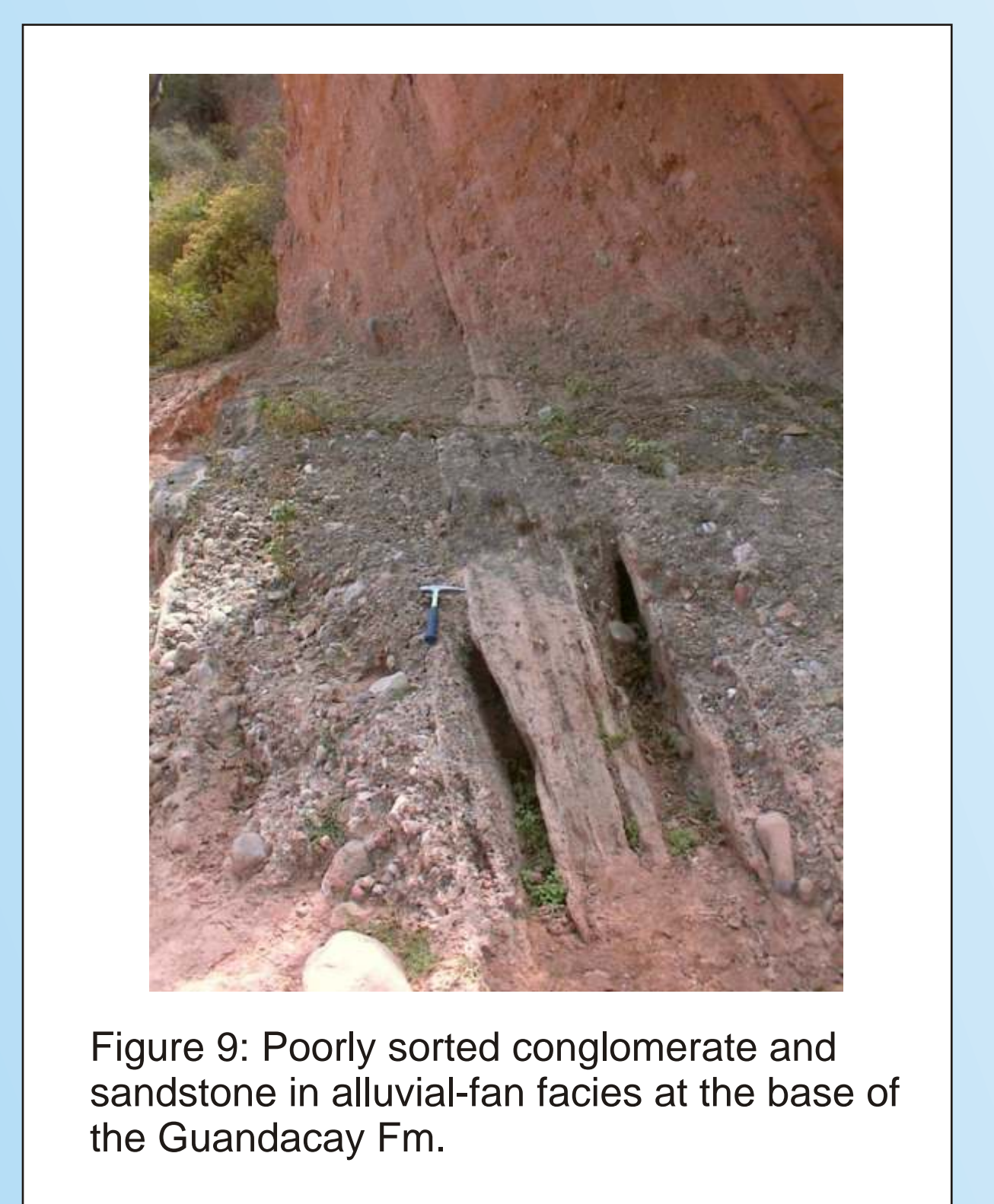


Figure 9: Poorly sorted conglomerate and sandstone in alluvial-fan facies at the base of the Guandacay Fm.