THE RIO CLARO BOULDER BED - EVIDENCE FOR AN ANCESTRAL WRENCH FAULT ZONE ACROSS CENTRAL TRINIDAD, WEST INDIES

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ABSTRACT

The Rio Claro boulder bed (RCBD) was originally described as a set of hard clay boulders in a calcareous clay matrix at its type section just east of the town of Rio Claro. This outcrop, unfortunately no longer accessible, is described in the Lexicon as a distinct unit at the base of the late Miocene Lengua Formation. On the geologic map of Trinidad (Kulger, 1959) the RCBB appears to be an integral part of the tectono-stratigraphically complex zone which separates the onshore Southern Basin from the Naparima (Nariva) Fold Belt immediately to the north.

In 1983, staff from the Trintoc Geological Laboratory studied a deep pipeline trench that had been cut through what was mapped as RCBB just west of its type section. Their investigations concluded that " ....no boulder beds or conglomerates were found" at this location and they suggested that the units might instead "....represent a tectonic melange" (Liska, 1988).

This study supports the author's proposal that a significant east-west fault zone extended across the island of Trinidad during late Miocene time, connecting the major east-west fault zone in the central Gulf of Paria with the east-west Darien Ridge off the east coast. This fault provided a strain partition between the Southern Basin and the more intensely deformed Naparima Fold Belt. The author suggests that this fault represented a major dextral strike-slip zone controlled by the regional plate boundary conditions, and that it would have had significant influence on the Miocene-age morphology of the island of Trinidad.