Poster 16

Fluvio-lacustrine deposits in a Tertiary intermontane basin, Thailand

DAMIEN M. STROGEN
Consortium for Geological Research in South-East Asia, University of London
Geology Department, Royal Holloway and Bedford New College, Egham, Surrey TW20 OEX, England.

Of the forty or more Cenozoic intermontane pull-apart basins within the basin and range province of Northern Thailand, the majority show a tripartite stratigraphic division of their sedimentary fills primarily constituted from fluvial and lacustrine deposits.

The Chiang Muan Basin is one such intermontane basin that is filled with an excess of 500 m of sediments. The sedimentary succession determined largely from borehole data consistently exhibits this broad tripartite division. The sediments of Mid-Miocene to recent age show a variety of lithologies and structures consistent with a transition from a lower fluvial through a lacustrine to an upper fluvial environment in response to an interaction of local tectonic and regional climatic change controls.

The lowermost coarse grained unit is a sand dominated, oxidised, red-bed sequence constituted both by the lateral input of sediment from alluvial fans and the axially derived sediments of sand braided and meandering rivers. These pass quite sharply upwards into the mud dominated unit which shows abundant pedogenic structures. This middle fine grained unit is derived largely from an axial meandering river system with localised palludal and shallow lacustrine environments. Coals, with rare and thin associated limestones, within this unit are largely restricted to a western sub-basin separated by a transverse fault from the main basin. Above this is the upper coarse grained red-bed unit containing the deposits of meandering river systems and low angle alluvial fans. This is largely similar to the lower unit and has at the top recent channel bed and terrace river deposits.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 18, No. 6, November-December 1992