

Possible earthquake-induced sediment remobilization and syn-sedimentary faulting in the Tynemouth Creek Formation (Lower Pennsylvanian) of southern New Brunswick

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Braided river, sheetflood and playa lake sediments in the Tynemouth Creek Formation exhibit evidence of post-depositional sediment remobilization and syn-sedimentary faulting. Sediment remobilization structures include sinuous, branching sandstone dikes, sandstone 'pillows' and mud intrusions. These structures cross-cut strata for over 1m but show no evidence of extrusion at the ground surface. Sediment intrusion took place in several stages during very early

and later burial and was the result of rapid, ?earthquake-induced water expulsion. Twenty-one metres above the intrusion structures, a paleosol is offset 1.5m by two, syn-sedimentary faults. Sediments were initially deposited on the downthrown side of the faults but later sediments blanket both sides with no evidence of displacement. Faulting must therefore have been syn-sedimentary and probably earthquake-induced.