



Paleomagnetic field tests on rock samples from the Murihiku Terrane, Southland, New Zealand

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Prior to the separation of the Zealandia continent in the Cretaceous, New Zealand's Mesozoic basement terranes formed part of the supercontinent Gondwana. To date, palaeomagnetic studies on New Zealand terranes have had difficulty in recovering a palaeolatitude, instead recording seemingly widespread re-magnetization. For this study, Triassic-Jurassic sedimentary successions from the Murihiku Terrane in Southland, New Zealand were investigated. A total of 14 oriented hand sample blocks from 11 sites within NE and SW dipping strata of the Southland Syncline were collected. 92 specimens were cut from the blocks and subjected to either alternating field (AF) or thermal demagnetization (THD) experiments. Hand sample (and site mean) directions in geographic coordinates are exclusively of normal polarity, range in declination from 274°W to 74°E and inclination from -65° to -86° , and mostly overlap at the 95% confidence level. These results are largely consistent with the palaeomagnetic directions found by previous authors on basement terranes in New Zealand. Following tilt correction, our site mean-directions form distinct clusters, suggesting all samples were likely affected by a post-folding re-magnetization event.