Title	Preliminary observations of faults and fractures in caprocks from New Zealand
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Abstract for	Poster

Successful prediction of the migration of sequestered CO_2 requires information about reservoir and caprocks at storage sites. Faults and fractures in caprocks can increase their bulk permeability and reduce the ability of potential reservoirs to store CO_2 for hundreds of years or more. A key question for Carbon Capture and Storage is "under what circumstances, and how, do faults (and fractures) in mudstone caprocks increase their bulk permeability"? Analysis of outcrop data and aerial photographs of faulted mudstones from the Taranaki Basin and Whakataki in New Zealand have been used to determine the; i) architecture of open fractures and fault rock within fault zones, ii) dimensions, spacing and scaling properties of faults and fractures and, iii) connectedness of fractures within the mudstone units and across mudstone-sandstone formation contacts. Preliminary results suggest that, although some faults terminate at boundaries between sandstone (reservoir) and mudstone (caprock) units, many do not. Similarly, the scaling properties of faults in sandstone-dominated, interbedded sandstone-mudstone units and mudstone-dominated strata are, to a first order, comparable. Despite these similarities between different types of strata our preliminary observations indicate that fault surfaces in poorly bedded mudstone caprocks may be more planar and less segmented than comparable size faults in interbedded sandstone-mudstone strata. This decrease in fault complexity appears to be related to a reduction of bedding and is consistent with the notion that open fractures in fault zones are more likely in well bedded sequences.