

MS se-2020-15 - Response to Editor

We have incorporated both editor comments in a modified version of the paragraph - specifically lines 209-218 in the final manuscript. These changes have removed any question of the validity of separating opening-mode and shear fracture. We will save this argument for another day!

Most Group 3 fracture sets are made up of fracture meshes (sensu Hill 1977, Sibson 1996) formed by closely interlinked sets of contemporaneous shear fractures and tensile veins (Dichiarante et al. 2016, 2020). Thus, in each sample, all fractures considered to belong to an individual fracture set (in this case Group 3) were included in the analysis regardless of opening mode. **Thus in our view it is not possible in this study to separate brittle structures into separate sets of simple tensile and shear fractures. This practical approach ensures comparability** with subsurface structures in Clair cover sequences and related fractured basement studies where similar interlinked mesh systems are dominant (see McCaffrey et al 2020). One reason for the development of such mesh networks is that many of Group 3 structures reactivate earlier (Group 1 and 2) brittle structures and therefore display a variety of hybrid opening modes (Dempsey et al. 2014).