



## **Geometrical 3D characterisation of sand injections in a fracture network and onset dynamics, Bevons South East France**

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The South East Basin of France is characterized by cretaceous turbiditic systems associated with per descensum sand injections. This chenal/injection association is a good analog to some drilled offshore oil reservoirs.

A 3D analysis of sand infilled fractures has been performed to determine their detailed geometry: dip, main dip directions, thickness of injections have been constrained. Coupling these data with statistics concerning fracture density allow to determine the dynamics of fracturation when injection occurred and to compare it to the regional boundary conditions.

The analysis has been performed in 4 main areas of interest a few kilometers away. The spatial variability of the data put forward fracturation is organised in separated blocks. The maximal stress is always vertical, the horizontal stresses vary from one block to the other. Detailed stratigraphic correlation between the different outcrops allow to test the variability of the data regards to the depth of injection. The evolution of the dip direction with depth is evaluated between the data sets as a function of their stratigraphic position.

The rheology of marls is taken into account to determine the way marls fracture.