

Cohesive and non-cohesive sediments

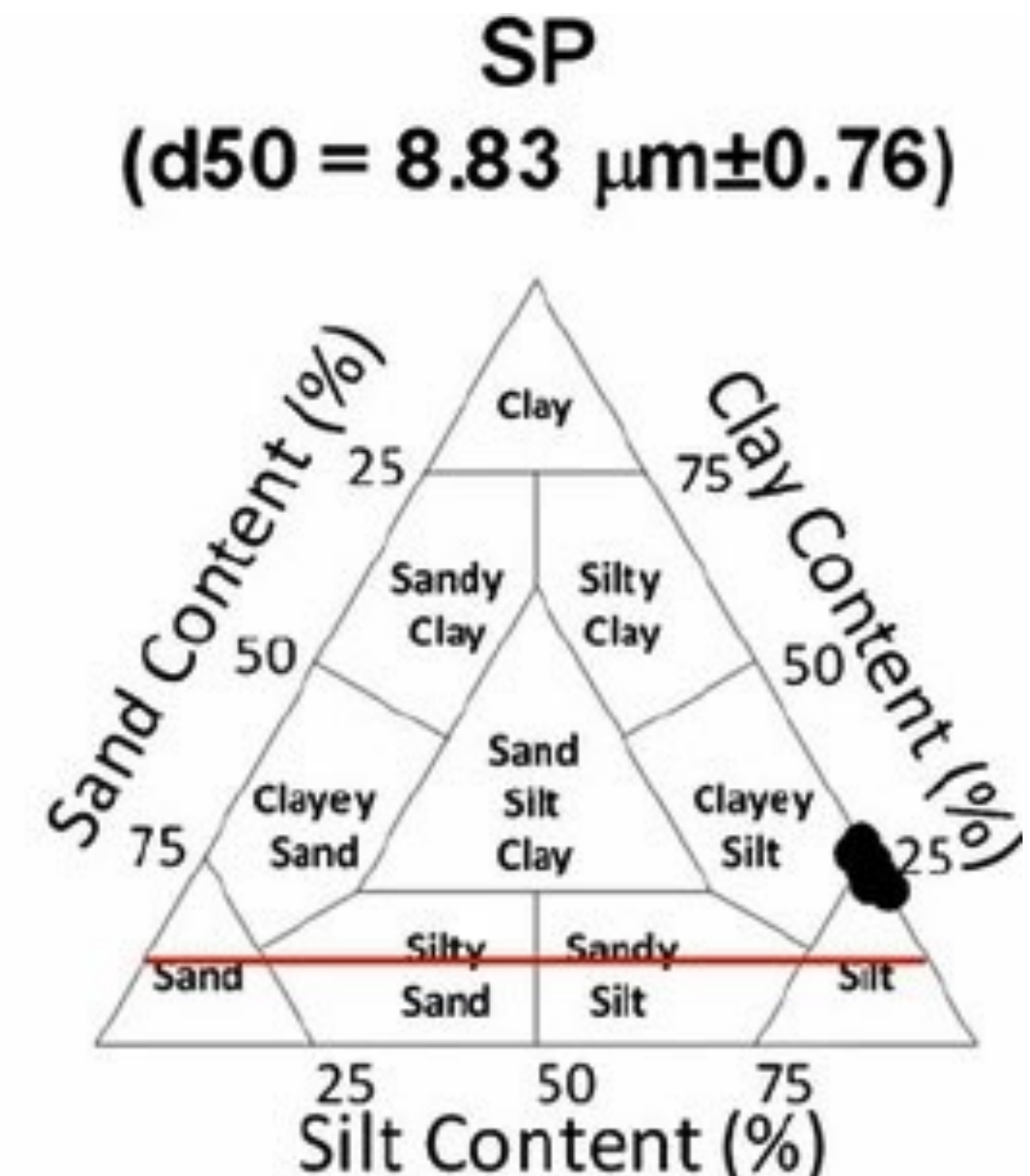
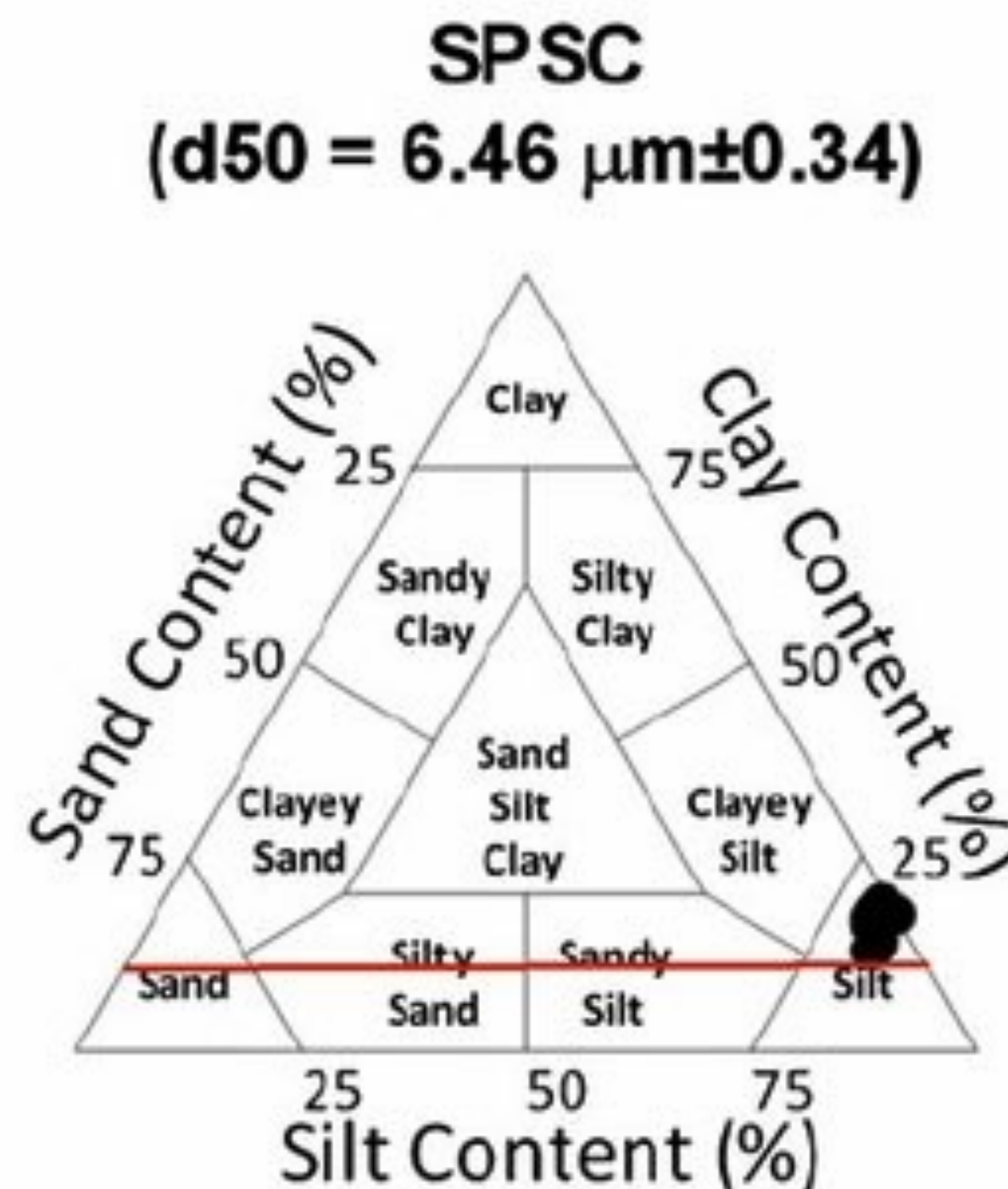
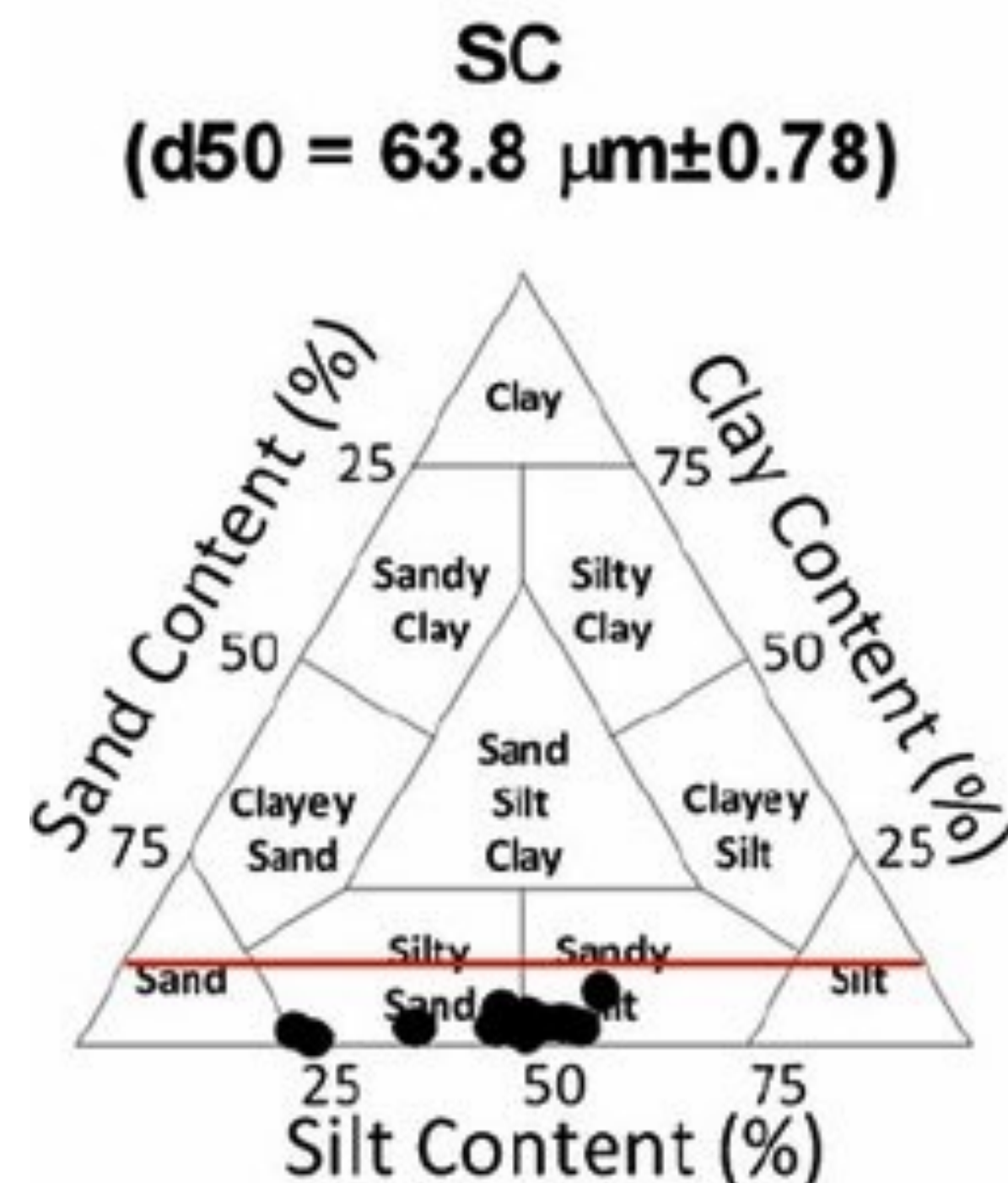
The relationship between grain size and critical shear stress is not linear.
it is strongly dependent of the nature of the bed sediments.



Cohesiveness results from the presence of clay in the sediment. Clay particles tend to form aggregates in which the individual flakes are held together by electrostatic attraction and the surface tension of the films of water surrounding the flakes.

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Clay increases the overall cohesion of the bed and it begins to be significant even when they constitute only a small proportion of the total sediment (5-10% of content).



The critical shear stresses required to set cohesive sediments in motion are much greater than might be supposed from their small particle size.