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Interactive comment on "Syn-eruptive, soft-sediment deformation of dilute pyroclastic density current deposits: triggers from granular shear, dynamic pore pressure, ballistic impacts and shock waves" *by* G. A. Douillet et al.

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Comments from an anonymous reviewer:

This careful review was very useful and most comments have been accepted. The discussion on flows' "accumulative vs. depletive evolution" was removed, since the "soft-state deformation" structures observed here do indeed not permit discussion without abusive speculation. . .

Answers to specific comments:

"2,71 "metastable conditions" meaning what? Typically they are both unsteady and non- uniform, but be clear how this favours SSD. Do you mean rapidly changing capacity?"

-This relates to the deposit state, not the flow, adapted.

"2,108 I like "potatoids" but suspect this is no more helpful than pseudonodule; irregular rounded bodies?"

-Given the comments from the other reviewer noting confusion on the term pseudonodule, the term potatoid was kept and pseudonodule removed.

"7,437 Water would enhance cohesion but the concept, as stated, of overweight due to water is too simplistic; needs some elaboration":

-Sentence modified into "This would enhance cohesion on one hand, and the overweight due to water acting on freshly emplaced, unstable beds could also have triggered the sliding."

"10,587 I suggest: . . .and may systematically relate to both flow unsteadiness and flow non-uniformity. Check the veracity of the following statement; on the ground it is the other way around for experimental debris flows at USGS flume. Clearly one would anticipate high dynamic pressure associated with the 'impact' of a flow front, but this may not be the same as 'felt' by deposit on the ground. This is worth

-Experiments by Roche et al. 2010 cited, indeed flow fronts relate to an underpressure due to dilation.

"11,705 yes, and this needs reconciling with earlier account regarding dynamic pressure and pore pressure effects (see above)":

-A shock wave is not related to a granular flow. . . I do not understand the link with flow's dynamic pressure.