

## Final response

### *Anonymous Referee #1*

1. Comment – section on drilling hazards seems a little out of place, but does provide a holistic view.  
Response – this section helps show the importance of the topic of the paper.  
Action – none taken.
2. Comment – division into contraction or extension ignores the potential variety of structures in real scenarios.  
Response – we agree and state that we are examining simple end-member styles in order to better understand the fundamental principles and processes, and we already address more complex scenarios in the Discussion.  
Action – we have emphasized even more strongly that these are indeed end-member situations and that this will help us understand the combinations typical of real examples.

### *Referee #2 (Michael Warsitzka)*

1. Comment – references to Fig. 7d and 7e need to be switched in the text.  
Response – agreed.  
Action – fixed, but other changes mean that it's now 7c and 7d.
2. Comment – many passive diapirs are dominated by contractional folding, not extended stringers as we show. Suggests providing two alternative models: passive diapirs dominated by boudins of strong layers, and passive diapirs dominated by contractional folding.  
Response – we responded to this in detail in the “Author Response”. To summarize, we argue that both styles actually coexist in passive diapirs. Yes, the ductile halite and bittern salts are complexly folded, but strong layers are indeed ruptured into boudins within these larger-scale folds. Our focus in this paper is on the strong layers, thus our models are compatible with the observations cited by the Referee.  
Action – we have made these points more explicit in the text, distinguishing more clearly between the deformation of the weak and strong layers.
3. Comment – pure passive diapirs are rare in nature.  
Response – we agree, but they do exist. Moreover, our paper is focused on simple end-member styles, as explained in our response above to comment #2 by Referee #1.  
Action – again, we have tried to make these points more clearly in the revised text, emphasizing both the simple end members and the commonly more complex real-world examples.
4. Comment – avoid the term “tall diapir”.  
Response – agreed that this is poorly defined.  
Action – we have removed the term when used in a general sense, but kept it when describing a specific diapir in our figures or when contrasting between tall and short.

5. Comment – reference to Fig 17 is made prior to that for Fig 16, so order should be changed.  
Response – agreed that the order in the text is not correct.  
Action – kept the order of the figures and removed the early mention of Fig 17.
6. Comment – would be worth mentioning modeling by Weijermars et al. (2014).  
Response – we think the modeled stresses are too high, but agree that it is worth mentioning.  
Action – we added two sentences addressing this issue and citing this work.
7. Comment – doi numbers are missing for many references.  
Response – agreed.  
Action – fixed.
8. Comment – name misspelled in caption of Fig 11a.  
Response – agreed.  
Action – fixed.
9. Comment – add colorbar to Fig 18b.  
Response – agreed.  
Action – done.