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# *Interactive comment on* "Flow dynamics in hyper-saline aquifers: hydro-geophysical monitoring and modelling" *by* K. Haaken et al.

**Anonymous Referee #2**

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In general the structure of the article is quite good, but sometimes it is a bit repetitive, so I think the text should be reviewed to avoid this. In my opinion in the introduction, the objective, (what is new or what you want to demonstrate) should be much clearer. It seems the writer is not being clear about what he wants to achieve, consequently, the idea of what is going to be developed in the following points is too superficial.

- The conclusions are a bit weak, they should be improved.

- Line 26: From my point of view, I do not agree when you say that what is presented in this paper is a methodology, in any case it could be called demonstration or application (see Line 507, when you are saying that the objective of the study was to assess, in my opinion this makes more sense)

- Lines 114-116: Here you are saying which is the goal of the article, what is correct,



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but, I think as I said above, that it is not clear what's new, what you are offering new to this field of study. Please, be more precise to capture reader's interest.

- Line 116: When you say: 'Accurate numerical modelling', I do not know what you mean with this, then you are not specifying anything about it.

- Line 151: When you are referring to figure 3, you are not describing the type of injection realized (freshwater or saltwater, volume or time of injection) in the text or in the figure's text. Then you describe it in the next point 2.2, but if you are doing a reference to the figure (injection evolution) before, you should describe the injection in the point 2.1 or you can put the figure then, in the point 2.2, or if you prefer you can do a better description of the figure in the text of it.

- Line 153: In my opinion, when you are saying 'to a depth of 7.5 m the water electrical conductivity is about 2 S/m' the value is not correct or at least, it does not correspond to the graphic in the figure 3, where it seems it is 6.5 m, so, which one is correct? The text or the figure?

- Line 306: I have seen in several sentences like this (line 32), that you refer to a simulator and then you indicate the reference of the article, I suggest, that if the code used has a name, it should be indicated, it will be easier to the reader find it, if he/she is interested on it or has a doubt about how it works.

- Line 332: When you say 'the best compromise between mesh resolution and computational effort', I would like to know how you know that, have you done some checking to decide it? I think that if you are not giving data about that affirmation, you should avoid it.

- Line 379: I think the sentence: 'This is not surprising' is not necessary, I would remove it.

- Line 448: I have a question about your sentence here: Why was not possible to entirely stop the freshwater injection in your simulation? It sounds not good, it is really

strange. Your code should give you the possibility of doing that, in any case you have an important problem.

- Line 471: When you say: see Section 4.4, I think there is an error, I cannot find that section.

- Line 540: Review some sentences, for example in this case, this sentence it seems not to be correct ( I think it should be more like: among these, there are.... , or do you want to say other thing? It is confusing)

- Figure 4: When you describe the dipole-dipole measurement, I have a doubt, in the picture, you are indicating that both dipoles are in the same borehole, but if I read the text of the same picture you are saying the contrary. So, both things should be concordant.

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