Reviewer 2

First of all, we would like to thank the reviewer for his comments and suggestions. Below we list our detailed answers. Please note that the mentioned line numbers refer to the original submission.

GENERAL COMMENTS

You should complement the introduction with references to studies from other research groups and not only self-citations, particularly in these sentences outlining general aspects. For example, you could illustrate the examples of use of FWI in hydrocarbon exploration outlined in L62 with apropriate references to different studies (and maybe add other relevant challenges addressed, such as sub-salt or sub-basalt imaging).

Reply: This point was a bit unclear to us. Regarding the 'general' introduction, it is hard to avoid self-citation aspect, as the hardrock seismic community is relatively small and many members of this community are in fact contributing to this manuscript. Best to our knowledge, this is probably the first application of a joint imaging workflow consisting of FWI and RTM in the hardrock environment. Similarly, we cannot avoid same issue when talking about the depth imaging approach (L49), but we tried to supplement it with other references, for example, Schmelzbach et al. 2008.

Regarding the industry FWI examples: we talk first about "solving complex imaging challenges, e.g. seeing through gas clouds and resolving shallow velocity heterogeneities" (L61), which is mostly relevant to marine environment (similarly with the sub-salt, sub-basalt imaging) and that's why we do not cite any references. Then we turn the reader attention to land data, citing some relevant papers:

"Nevertheless, a few successful case studies have been reported for 2D and 3D land datasets using acoustic/viscoacoustic FWI (Ravaut et al., 2004; Malinowski et al., 2011; Baeten et al., 2013; Adamczyk et al., 2014; Stopin et al., 2014; Cheng et al., 2017)".

I am not a fan of describing the paper organisation in the introduction (last paragraph of the introduction), as it ends up being very redundant (e.g. "Finally, we conclude our case study in the 'Conclusions' section" is quite obvious). The one but the last paragraph looks much better as a wrap up of the introduction section, so I'd suggest removing the last paragraph entirely.

Reply: Thank you for this suggestion. We have removed the last paragraph from the introduction part.

L197 - It would be useful to show a map of the raypath coverage, to give a hint of the areas with higher or lower uncertainty. In particular, areas to the SE of the study area do not seem to be sampled by any raypaths; the model in these areas is the initial or an extrapolation from the nearby locations?

Reply: We have revised Figure 2 where we are now showcasing different depth slices from the tomographic velocity model, masked according to the ray coverage.

SPECIFIC COMMENTS

L34 - "the need for it", explain the "it", use "this technique" or so.

L36 - bringS L93 - What does "endowment" mean in this sentence?

L102 - The references should be ordered either by date of publication (preferrable) or alphabetically, but you have both systems. Please check throughout the manuscript.

L106 - What other methods are included within that "etc"? Please explain.

L2014 - "Theoretically, FWI can start with the raw data" - this sentence is too vague, please explain.
L261 - Does this refer to issues generally observed in land FWI studies or to specific issues observed in your study? If the former, add references; if the latter, please clarify.

L444 - You could remove "One can interpret that"

Reply: Thank you very much for highlighting these. All mentioned points are incorporated in the revised manuscript.

FIGURES

Figure 10 - Maybe this is a visual effect, but the depth image corresponding to the FWI image (10c) looks like having a higher frequency content than the other two. Is this the case?

Reply: Yes, this is correctly pointed out that the FWI image is having higher frequency content than other two. As RTM is computationally very intense, we decided to run it with the optimal time-step and grid-size based on velocity model used [Line 412, Table 3].

Figure 12 - Please specify in the caption where do the mineralization bodies interpretations come from (otherwise it looks like you are interpreting these bodies from the FWI model).

Reply: This is also incorporated in the revised manuscript.

REFERENCES

Many of the references are incomplete (e.g. lacking th journal name), please check and amend them.

Reply: Thank you very much for the fine observation. All such discrepancies had been removed in the revised manuscript.