Overall, the authors greatly improved the manuscript and clarified most of the points that were unclear in the previous version. As already stated, the paper is novel, very interesting and relevant for the geological community.

I still have a (very) few minor comments and one serious concern about the data (or at least fig. 3), not supporting the conclusions. This is an important concern and should it be clarified.

Figure 8:

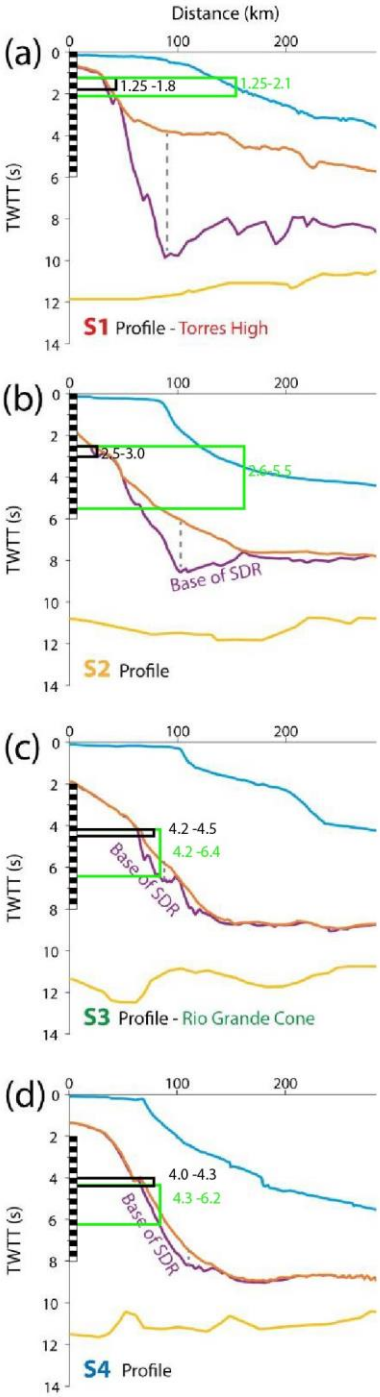
1. Missing a), b), c), d) labels on the figure

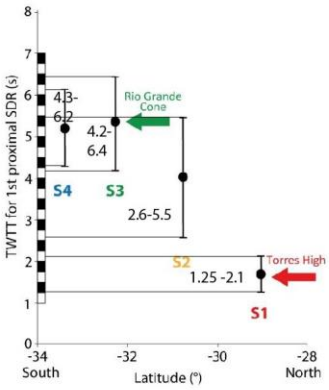
Section 5.3:

2. *In contrast, for the magma-normal margin profiles in the south, first proximal SDRs occur at **6 s or deeper** (Fig. 8c).*

Sorry, this was a concern of my first review and this is still not resolved now. I went in more detail looking at figure 3 and 8 and I don't understand how you come to the results of figure 8b. The data on figure 3 show very different values. Or maybe I don't understand what you mean by first proximal SDR. For me I understand it as the first (shallowest) identification of rocks belonging to the SDR package. Or the point where the horizons "top of SDR" and "base of SDR" diverge. And if you look at this, then I cannot understand how your uncertainty can be that big. For S3, it encompasses half of the whole SDR package. If we look at figure 2a and 2b, the distinction between what is SDR and what is not part of it seems quite clear. Furthermore, TWTT data are raw data and there is therefore no (or very minimal) uncertainty. It's not like depth-converted data which can feature large uncertainty depending on the velocities assumed. And by having these huge uncertainties and using the mean of these, you end up considering TWTT values much higher than what your fig. 3 do show for the first proximal occurrence of SDR.

In the figure below, I show how I would interpret the TWTT of first proximal SDRs (black rectangles with values) and how you did interpret it (green rectangles with values, taken from fig. 8b on the right). And they show very different results for profiles S2, S3 and S4.





So either:

a) I don't understand what you mean with "first proximal SDR". But then the reader might also not understand it and you would have to explain it better. I fail to see what it could mean else. I assume it does not mean the oldest flows (or reflectors) of your SDR package (which would cover a range of TWTT) instead of the first observation of SDR rocks (which

would be a point) as your uncertainty bracket of profile S3 encompasses several SRD packages (we can see it on fig. 2b).

b) The TWTT scale of figure 3 is not correct.
c) Your plot on fig. 8b is incorrect and should plot lower values with lower uncertainty.
d) I completely misunderstand something else. But then the reader might also misunderstand it and it should be clarified.

So for the moment, I would say that your data (fig. 3), do not support your conclusions, which is a major issue. This includes the mention of 5.5s TWTT in the abstract, in the Summary, as well as the 5.25 (not consistent BTW) on line 324. For me your data show 4.0 -4.5s TWTT and not 5-6s TWTT.

But your conclusions still hold true for a value of 4.0-4.5 s. This is still higher than 1-2 s TWTT for the magma-super-rich S1. But this has to be sorted out.

3. *In contrast the normal magmatic addition model shows (Fig. 9a) the upper surface of first volcanics at ~ 2 km water depth corresponding to submarine lava flows erupted onto thinned continental crust.*

It would not be bad to add a small comment saying that this suggests that SDRs seismic facies might not only form subaerially or near sea-level as presented in classical models. Which is not a surprise as they are based on very few samples. You mention this in your answer to the editor but I think it should also be mentioned in the paper as it is an important observation.

4. *Invoking Warner's 10 s rule for the Moho TWTT for thermally equilibrated lithosphere allows the cross-sections shown in Fig. 9c and Fig. 9d to be converted into the time domain as shown in Fig. 9e and Fig. 9f. To do this basement thickness* ***is converted to interval TWTT*** *and subtracted from 10s to give the TWTT of top basement; this estimate of TWTT of top basement is therefore independent of the interval TWTT of bathymetry and post-rift sediments.*

You have to give the velocities you used. In your answer to my first review, you mentioned that you "assume a basement seismic velocity of 6.5km/s". Fine but this should also be mentioned in the paper itself, not just in the answers.

Summary

5. *In the time domain, a magma-rich margin, with sub-aerial SDR flows, shows first volcanics at ~1 – 2s TWTT while a "normal" magmatic margin has first volcanics* ***at 5 – 6 s TWTT***.

As mentioned above, this is not supported by your data (fig. 3) that rather show 4.0- 4.5s.

6. *Our study shows that the TWTT of first volcanics may provide an alternative approach for distinguishing magma-rich margins from margins with normal magmatic addition compared to estimating total magmatic volumes*

As mentioned in my first review, I think that this should be introduced in section 5.3 and not only in the summary where it comes for the first time. I think you should add at least a few words in 5.3 to say what other approaches are used in the literature (you provide an alternative to what?) and in which aspects your alternative is interesting (obviously, it's easier to measure, even with seismic data of lower quality) and maybe what are the limitations of this alternative approach. Then it would be perfectly fine to include it in the Summary.