

Interactive comment on “Mapping undercover: integrated geoscientific interpretation and 3D modelling of a Proterozoic basin” by Mark Lindsay et al.

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Overview

The manuscript is very well written with clearly defined study objectives and a good implementation strategy. They used petrophysical data to constrain the prospective modeling of geophysical data, in order to test different scenarios of geological hypothesis. The interpretations of the geophysical data were first validated by comparison with the geological interpretation, then the 3D geological model was proposed by 3D inversion of geophysical data. The valuable result of this study is new insight into the deep structure of the Yerrida basin. The methodology and justification of each stage of

C1

interpretation with evidence demonstrate an example of scientific rigor.

I only have two questions on the figures.

- 1) Is the petrophysical model on Figure 11 derived from the 3D inversion? If yes, please add a few words to be clear.
- 2) If all the figures have the same orientation, it is easier to compare them and see the difference directly. Is there a special reason why Figures 12-14 show a different angle of view of 3D models?

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C2