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Dear Prof. Juhlin

We are pleased to submit the revised manuscript eguphere-2025-3117 entitled "**Reflection seismic imaging of the manganese mineralisation in the Griqualand West Basin, South Africa**" for publication. We appreciate and have addressed the constructive comments from the Editor, the Assistant Editor, and the reviewers. Below we reviewed the comments and incorporated them into the manuscript, please note that the original comments are printed in **blue** for editor, and **green** for reviewer 2. The line numbers are referred to in the file Sihoyiya et al._track_changes.docx. All the changes to the manuscript are tracked in the file Sihoyiya et al._track_changes.docx. A clean version of the manuscript is also provided in the file Sihoyiya et al._clean.docx.

We believe that the manuscript is now much improved, and we hope that you find it acceptable for publication.

Sincerely,

Mpofana Sihoyiya and co-authors

Commented: **Figure 4:** Change the title of 4b to "Power spectrum", this is what you are showing.

- Thank you for the comment. The title of Figure 4b has been revised to “Power spectrum” to accurately reflect the content shown. This correction has been implemented on Line 180 of Sihoyiya et al. 2025_Track_Changes.

Commented: [Figure 5: Change the title of 5k to 5o to "Amplitude spectrum", this is what you are showing. Also change the naming of the profiles as suggested by Reviewer #2.](#)

- Thank you for the comment. The titles of Figures 5k to 5o have been revised to “Amplitude spectrum” to accurately reflect the displayed content. In addition, the naming of the profiles has been updated to ‘P1 to P5’ as suggested by Reviewer #2. These corrections have been implemented on Line 200 of Sihoyiya et al. 2025_Track_Changes.

Commented: [Table 2, step 3: change 2.5 m binning to \(P3-P5\), it is currently \(P1-P5\).](#)

- Thank you for the comment. The binning specification in Table 2, Step 3 has been corrected from (P1–P5) to (P3–P5). This change has been implemented on Line 232 of Sihoyiya et al. (2025_Track_Changes).

Commented: [I would recommend changing the names of the profiles in Table 1 to the same style as in the text \(e.g., P1 instead of MN_P1, etc.\). You mention that you did not show P3 due to poor data quality; however, since you also present the data in Figure 5, I would suggest including the corresponding result as well.](#)

- Thank you for the comment. The profile naming in Table 1 has been revised to match the style used in the text (e.g., P1 instead of MN_P1). In addition, although P3 was initially excluded due to poorer data quality, its corresponding result has now been included in Figure 7 to ensure completeness and consistency with Figure 5. This update has been implemented on Line 294 of Sihoyiya et al. 2025_Track_Changes.

Commented: Thank you for adding Figure 9. I have an additional question regarding this figure: Discontinuity 1 appears to have no impedance contrast. What is the reason for the reflection observed in your data? Furthermore, can you identify a reverse polarity for reflections 5 and 6 in your image?.

- Thank you for the comment. The impedance contrast for Reflection 1 has been corrected in Figure 9 (Line 374). The polarity reversals observed at Reflections 5 and 6 are interpreted to result from negative acoustic impedance contrasts across these boundaries, caused by a combination of decreasing velocity and/or density with depth and the complex impedance relationship between the Hotazel BIFs and overlying Mooidraai dolomites.

Commented: Finally, I would recommend showing the synthetic seismogram converted to depth instead of time. This would make direct comparison with your image easier.

- Thank you for the comment. The synthetic seismogram has now been converted to depth to allow for a more direct and meaningful comparison with the seismic images. The updated depth-converted synthetic seismogram has been added on Line 374 of Sihoyiya et al. 2025_Track_Changes.