

Solid Earth Discuss., referee comment RC2
<https://doi.org/10.5194/se-2021-121-RC2>, 2022
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Comment on se-2021-121

Anonymous Referee #2

Referee comment on "Surface-wave tomography for mineral exploration: a successful combination of passive and active data (Siilinjärvi phosphorus mine, Finland)" by Chiara Colombero et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-121-RC2>, 2022

I read your manuscript with great attention and interest as it is an essential topic about applying the seismic potential (active and passive surface-wave tomography) in solving or dealing with mining exploration problems, especially about the estimation of phosphorus-bearing reserves, which is a critical point from which important management decision are relied on. I found this article not only written in a clear language but also well structured so potential readers are going to be pleased to read that. From a more technical point of view, I could see that a significant number of seismic data were gathered from different seismic sources, which are well described, and also using a high number of geophones. I found particularly interesting the excellent agreement among the seismic anomalies and the potential deep ore-bearing structures that could help support those decision stages for further drilling works. So that makes this methodology too promising for other mining areas where it is crucial to have a precise understanding of the geological structures from which the ores are mined. The authors even suggest an appropriate and tested workflow that could be implemented by potential practitioners.

So, I would suggest the paper to be considered for publishing.

Please also note the supplement to this comment:

<https://se.copernicus.org/preprints/se-2021-121/se-2021-121-RC2-supplement.pdf>