

Solid Earth Discuss., editor comment EC1
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Comment on se-2021-4

Virginia Toy (Editor)

Editor comment on "Mechanical and hydraulic properties of the excavation damaged zone (EDZ) in the Opalinus Clay of the Mont Terri rock laboratory, Switzerland" by Sina Hale et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-4-EC1>, 2021

SE-2021-4 Topical editor recommendations

I have read over the referee comments, and your responses, and also checked the changes you made to the manuscript. I mostly think you've done a good job of addressing their concerns, and I find the manuscript to be scientifically sound and worthy of publication. However, there are a couple of places where I recommend you do a little bit more work to adequately address the reviewer's comments and further improve the manuscript, as follows:

I would re-write your revised intro sentences as follows:

"Hence, the objective of this study was to investigate the hydro-mechanical properties of the EDZ in the Opalinus Clay of the Mont Terri URL from in situ measurements on the exposed rock surface. We carried out a nondestructive and holistic determination of hydraulic and mechanical parameters of the fractured rock mass around a small tunnel, by combining transient-flow air permeametry, photomicroscopy, and needle penetration tests. We characterised bulk rock properties of the claystone, and quantified mechanical and hydraulic apertures of different fracture types of the EDZ, since these discontinuities can significantly control the overall material behavior. We have also explored alteration of a non-lined niche that was directly exposed to air for several years *and then say WHY and HOW you did this.*

Reviewer 1 criticised inclusion of discussion of the P and S wave velocity. You did not respond to their comment. Please provide some sort of response.

Reviewer 2 criticises the statistical basis of the conclusions your reach about the EDZ fractures because your analyzed dataset is very small. You don't acknowledge this small dataset well enough in the current conclusions. Please add a statement about this.

THMC at line 47. The reviewer's point was that you never define the full term, just go straight to the acronym. You must give the full version here too.

Line 142: I don't find your revision clear enough. Why not just clearly say 'within the first 1.3 m depth into the niche'?