

Interactive comment on "Assessing accuracy of gas-driven permeability measurements: a comparative study of diverse Hassler-cell and probe permeameter devices" by C. M. Filomena et al.

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Referee report Journal: SE Title: Assessing accuracy of gas-driven permeability measurements: a comparative study of diverse Hassler-cell and probe permeameter devices Author(s): C. M. Filomena et al. MS No.: se-2013-33 MS Type: Research Article

General: This is a useful paper that helps dealing with different types of permeability data. It is not novel in a scientific way, but straightforward technical. After fixing some shortcomings it should make a nice publication that would be of interest to people

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dealing with perm measurements of different kinds.

My main objections are:

-The poor description of the samples. They should be described with respect to depositional environment, mineralogy, sorting, rounding, porosity, lithification/burial depth and age. Are these correlations relevant for someone working on carbonates, for example? Line 22 is one place where this needs to be addressed + Table 1

-Sample size. How can you measure permeability at the end of a 1-inch plug and compare it with outcrop measurements? Holding the miniperm against a more or less planar outcrop surface forces the air to move through a much longer path/larger volume of rock. This needs to be discussed. It would be interesting to know how much of a difference this makes for rocks with different porosity/permeability values. The difference may be different for low-perm and high-perm rocks/samples.

-Compare with data presented by Fossen et al. 2011, where we drilled continental sandstones at the exact locations where TinyPerm measurements were first taken. The relatively well-established correlation is given in our paper. Perhaps plot this data in your diagram.

-The reference list is incomplete.

-Language needs some fixing.

Detailed comments are given in a separate pdf Good luck to the authors, and I am looking forward to seeing the final version of this paper.

Haakon Fossen

Interactive comment on Solid Earth Discuss., 5, 1163, 2013.

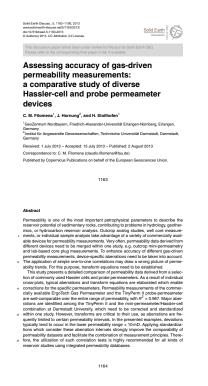


Fig. 1.

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