

Interactive comment on “Examining the effect of pore size distribution and shape on flow through unsaturated peat using 3-D computed tomography” by F. Rezanezhad et al.

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As the Anonymous Referee #1’s comment, posted on 15 July 2009, we appreciate the insight provided by the Referee. We acknowledge the reviewer’s suggestions for improving the paper and the remarks will be considered in the final version of the article.

Responses to Specific Comments:

The Referee recommended that we consider the article Anderson et al., 2003. We thank the Referee for his suggestion and have read the suggested paper. However, we believe that the methods of the recommended paper would not serve objectives

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of our paper. For example, on page 138 of that paper, the authors describe how the soil porosity was calculated. Their approach was to count the CT HU values directly from each soil component; however in our study, the organic material had an HU value indistinguishable from that of water, making their method unsuitable in our case.

The Referee recommended using a log-scale for the hydraulic conductivity axis in Figure 3. We thank the Referee for this comment. In other publication we have presented the hydraulic conductivity on a log axis. However in this case we found that such a presentation does not serve the reader well when we refer to specific values on the graphs, for example the change in hydraulic conductivity between tension heads -2 and -10 cm, where rapid initial drainage were observed.

All recommended comments for Figure 4 will be addressed in the manuscript, as suggested. The value of '0.99' for r was checked and the referee was right. This value was 0.9585. Agreement between estimated and measured values was satisfactory with a linear relationship and regression coefficient of 0.9598. This will be corrected in the final version.

We agree with all Technical Corrections. We will consider and change them in the final revised manuscript, as suggested.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 3835, 2009.

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