Correction: Field determination of the hydraulic conductivity of a compacted sand layer controlling water flow on an experimental mine waste rock pile

Marie-Lin Bréard Lanoix^{1,2,3} · Thomas Pabst^{1,2} · Michel Aubertin^{1,2}

Published online: 18 March 2020

© Springer-Verlag GmbH Germany, part of Springer Nature 2020

Correction: Hydrogeology Journal

<https://doi.org/10.1007/s10040-020-02129-7>

Equations 4 and 5 were incorrectly displayed in the original article. The corrected equations are:

$$KC : k_{\text{sat}} = \frac{C \cdot g}{\mu_w \rho_w S_s^2 D_r^2} \cdot \frac{e^3}{(1 + e)} \quad (4)$$

where k_{sat} is the saturated hydraulic conductivity (cm s^{-1}), g is the gravitational constant (9.81 m s^{-2}), μ_w is the dynamic viscosity of water ($\approx 10^{-3} \text{ Pa s}$ at 20°C), ρ_w is the density of water (998 kg m^{-3} at 20°C), e is the void ratio ($-$), S_s is the specific surface (m^2

kg^{-1} of solids) given by the Chapuis and Légaré (1992) equation, D_r is the relative density of the solid grains ($-$) and C is a factor that takes into account the shape and tortuosity of pore channels (≈ 20 for k_{sat} expressed in cm s^{-1}).

$$KCM : k_{\text{sat}} = C_G \frac{\gamma_w \cdot e^{3+x}}{\mu_w (1 + e)} C_U^{1/3} d_{10}^2 \quad (5)$$

where C_G ($= 0.1$, for k_{sat} in cm s^{-1}), and x ($= 2$) are two constants for granular materials; C_U ($= d_{60}/d_{10}$) is the uniformity coefficient ($-$) and d_{10} and d_{60} are the diameters (cm) corresponding to 10% and 60% passing on the cumulative grain-size distribution curve.

The online version of the original article can be found at <https://doi.org/10.1007/s10040-020-02129-7>

✉ Thomas Pabst
t.pabst@polymtl.ca

¹ Department of Civil, Geological and Mining Engineering, 2500, chemin de Polytechnique, Polytechnique Montreal, Montréal, QC H3T 1J4, Canada

² Research Institute on Mines and Environment (RIME), Montreal, QC, Canada

³ Golder Associates Ltd, Montreal, Canada