Corrigendum

Mahmoodzadeh, H., Randolph, M. F. & Wang, D. (2014). Numerical simulation of piezocone dissipation test in clays. *Géotechnique* **64**, No. 8, 657–666, 680, <http://dx.doi.org/10.1680/geot.14.P011>. The authors are embarrassed to admit to a systematic error that affected the normalised plots of pore pressure dissipation and one of the primary conclusions from the above paper. The error was in the calculation of the value of the consolidation coefficient relevant for the various numerical analyses, where the authors had failed to take account of changes in initial void ratio, and hence also rigidity index, that resulted from varying different input parameters.

The authors would like to take this opportunity to provide corrected versions of the affected figures, and also revise the conclusion regarding the relationship between the coefficients of consolidation that result from (a) laboratory oedometric compression (c_v) and (b) piezocone dissipation testing (c_h).

The paper presented a relationship for c_h , within the idealisations of modified Cam Clay and assuming isotropic permeability, of

$$c_h = \frac{3(1-\nu)(1+e_0)p'}{1+\nu} \frac{k}{\kappa^\alpha \lambda^{(1-\alpha)} \gamma_w} = \frac{3(1-\nu)}{(1+\nu)} \left(\frac{\lambda}{\kappa}\right)^\alpha c_v \quad (14)$$

where ν is Poisson's ratio; e_0 is the initial void ratio; p' is the mean effective stress; k is the (isotropic) permeability; γ_w is the unit weight of water; and κ and λ are the gradients for swelling and consolidation in the modified Cam Clay model. A weighting factor, α , was introduced defining the contribution of elastic and plastic behaviour, and the paper went on to argue that a value of $\alpha = 0.5$ led to a unified dissipation curve as input parameters such as ν , κ and λ were varied. However, once the correct values of e_0 are allowed for, it turns out that a value of $\alpha = 0.75$ proves superior in order to unify the dissipation responses.

The affected figures are provided here; for completeness Figure 3(b) is also included since, although it was not affected by the error, the published version of the paper had an incorrect axis for the normalised time, $T = c_v t / D^2$, where t is the time and D is the diameter of the cone. The normalised time in the remaining figures is given by $T^* = c_h t / D^2 \sqrt{I_r}$, where I_r is the rigidity index. The value of $\alpha = 0.75$ implies that the dissipation response is dominated by elastic response of the soil with only minor effects of plasticity. Nevertheless, the influence of plasticity increases T^*_{50} to about 0.08, compared with the value of 0.061 derived by Teh and Houlsby (1991).

Fig. 3. Dissipation graph from the numerical modelling and the centrifuge test

Fig. 5. Dissipation response at different rigidity indices

Fig. 6. Variation of dissipation response with λ

Fig. 8. Effect of stress anisotropy on dissipation response

Fig. 7. Variation of dissipation response with κ Fig. 9. Effect of overconsolidation ratio (OCR) at u_2 position

Fig. 11. Normalised dissipation graphs after effective stress correction

Fig. 12. Comparison between normalised dissipation graphs from centrifuge tests and MSS

Fig. 13. Penetration rate effects from model piezocone tests in normally consolidated clay