

Supplementary Material

Direct Visualization of Pore-Scale Fines Migration and Formation Damage During Low-Salinity Waterflooding

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In the following sections, we provide information to supplement the article content. This document describes the determination of the representative elementary volume (REV) of the micromodel system.

Representative Elementary Volume (REV) calculation

The representative elementary volume (REV) of the micromodel was determined by calculating porosities associated with square areas of the base image as shown in Fig. S1(a). The porosities were plotted with respect to the width of the square sampling areas, as shown in Fig. S1(b). The REV was found to be $\sim 300 \mu\text{m}$. This is consistent with the REV of a homogeneous porous medium determined by Yun & Kavscek (2015).

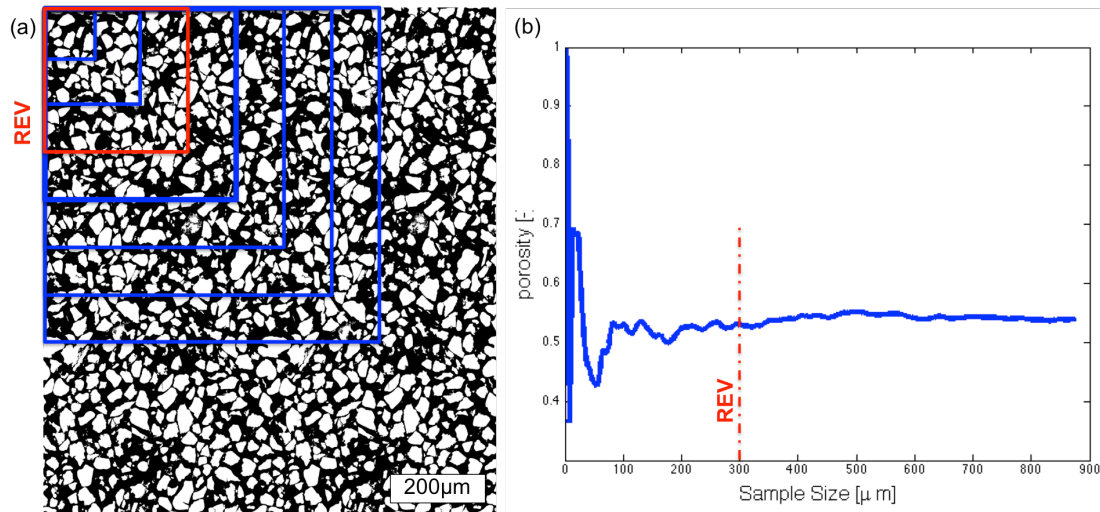


Fig. S 1. Representative Elementary Volume (REV) calculations. The REV was determined by increasing the sampling area of the base image (a) by $0.2858 \mu\text{m}$ until the porosity values converged (b). The width of the REV was found to be $\sim 300 \mu\text{m}$.

References

Yun, W. & Kavscek, A.R., 2015. Microvisual investigation of polymer retention on the homogeneous pore network of a micromodel. *Journal of Petroleum Science and Engineering*, 128, pp.115–127. Available at: <http://dx.doi.org/10.1016/j.petrol.2015.02.004>.