

SUPPORTING INFORMATION

**Pore-Scale Study of Transverse Mixing Induced CaCO₃
Precipitation and Permeability Reduction in a Model Subsurface
Sedimentary System**

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Journal: Environmental Science & Technology

Number of pages: 6

Number of Figures: 5

Date prepared: August 12, 2010

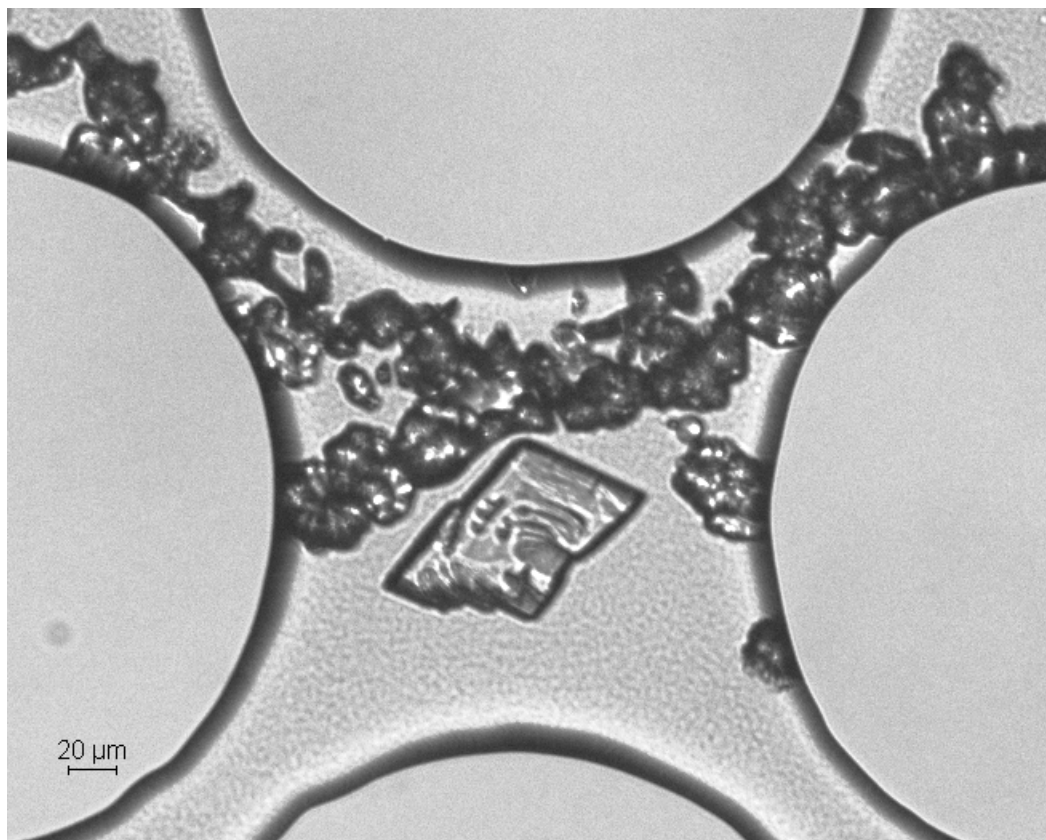


Figure S1. High resolution image (0.65 μm) used for mineral form analysis.

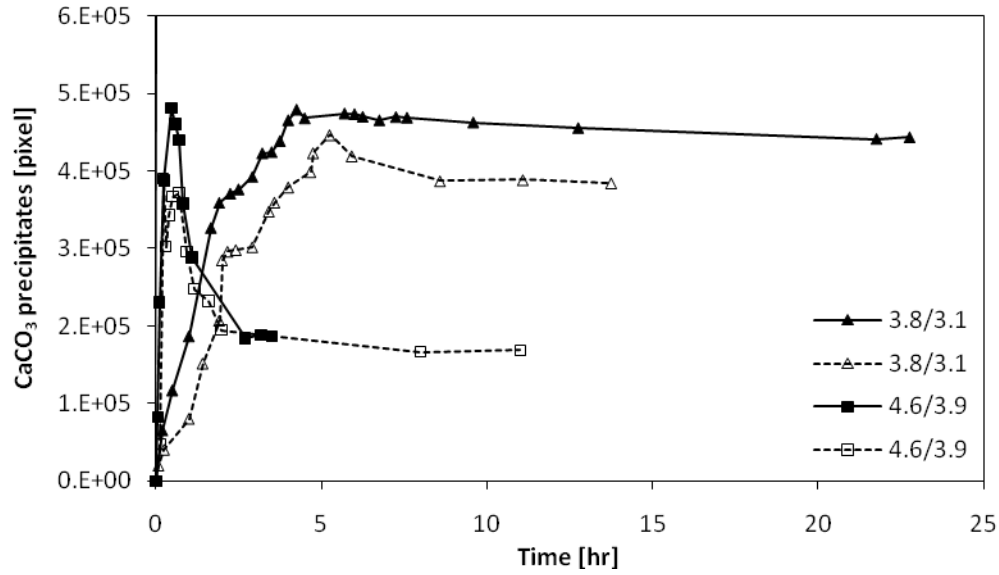


Figure S2. Overall precipitation rate in the micromodel at $\Omega_c/\Omega_v = 3.8/3.1$, and $\Omega_c/\Omega_v = 4.6/3.9$.

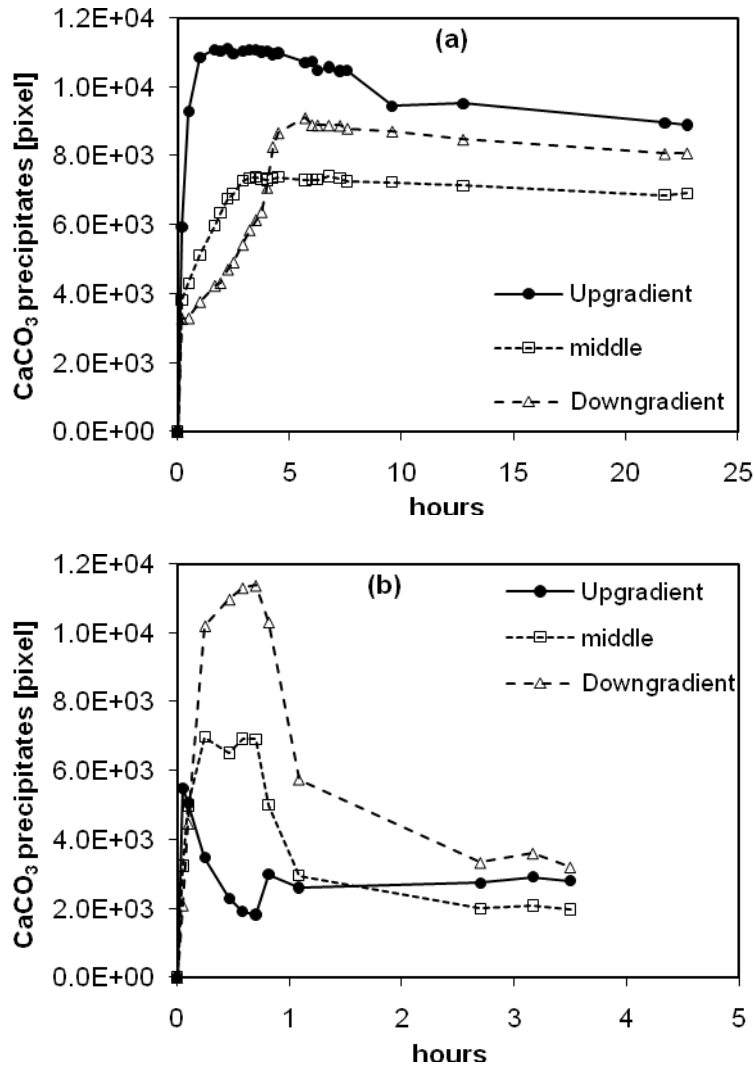


Figure S3. CaCO₃ precipitation rate at selected pore space at (a) $\Omega_c/\Omega_v = 3.8/3.1$, and (b), $\Omega_c/\Omega_v = 4.6/3.9$.

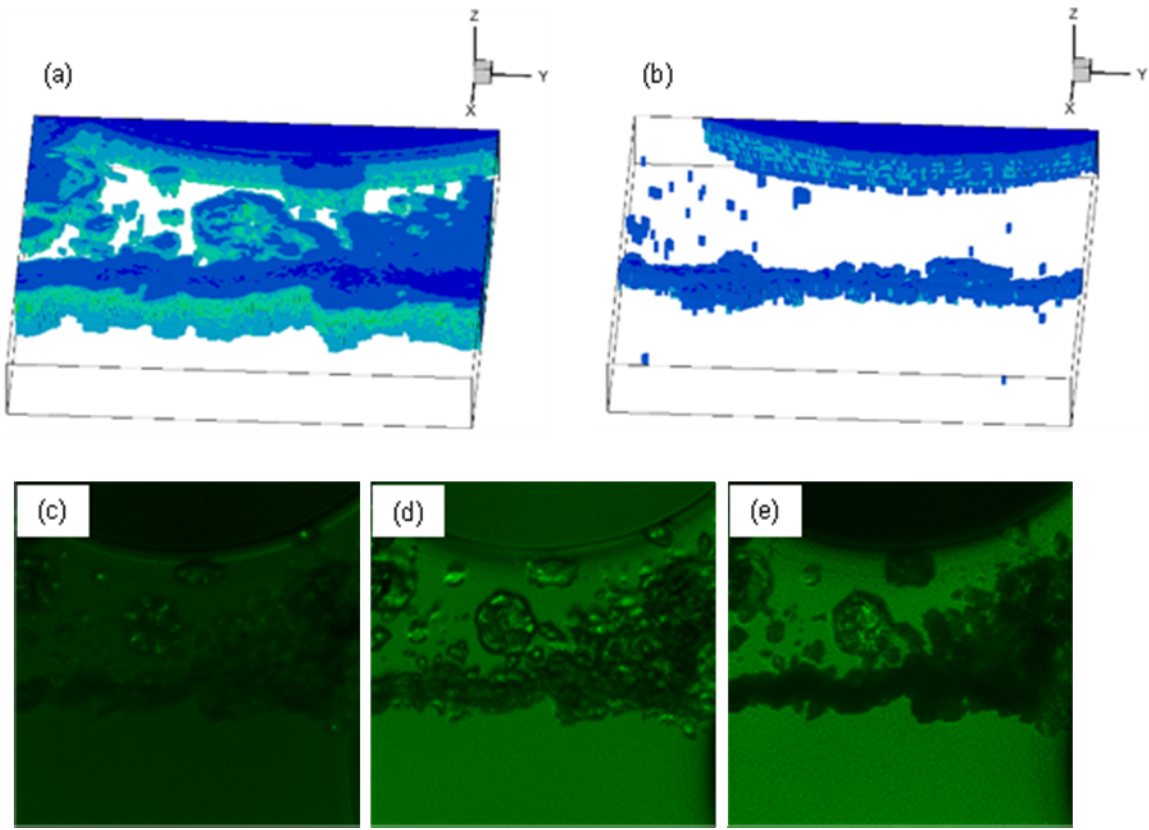


Figure S4. 3D confocal images of CaCO₃ precipitates in a micromodel pore at (a) $\Omega_c/\Omega_v = 3.4/2.8$ and (b) $\Omega_c/\Omega_v = 4.6/3.9$, and (c-e) 2D confocal images at selected depths at $\Omega_c/\Omega_v = 3.4/2.8$.

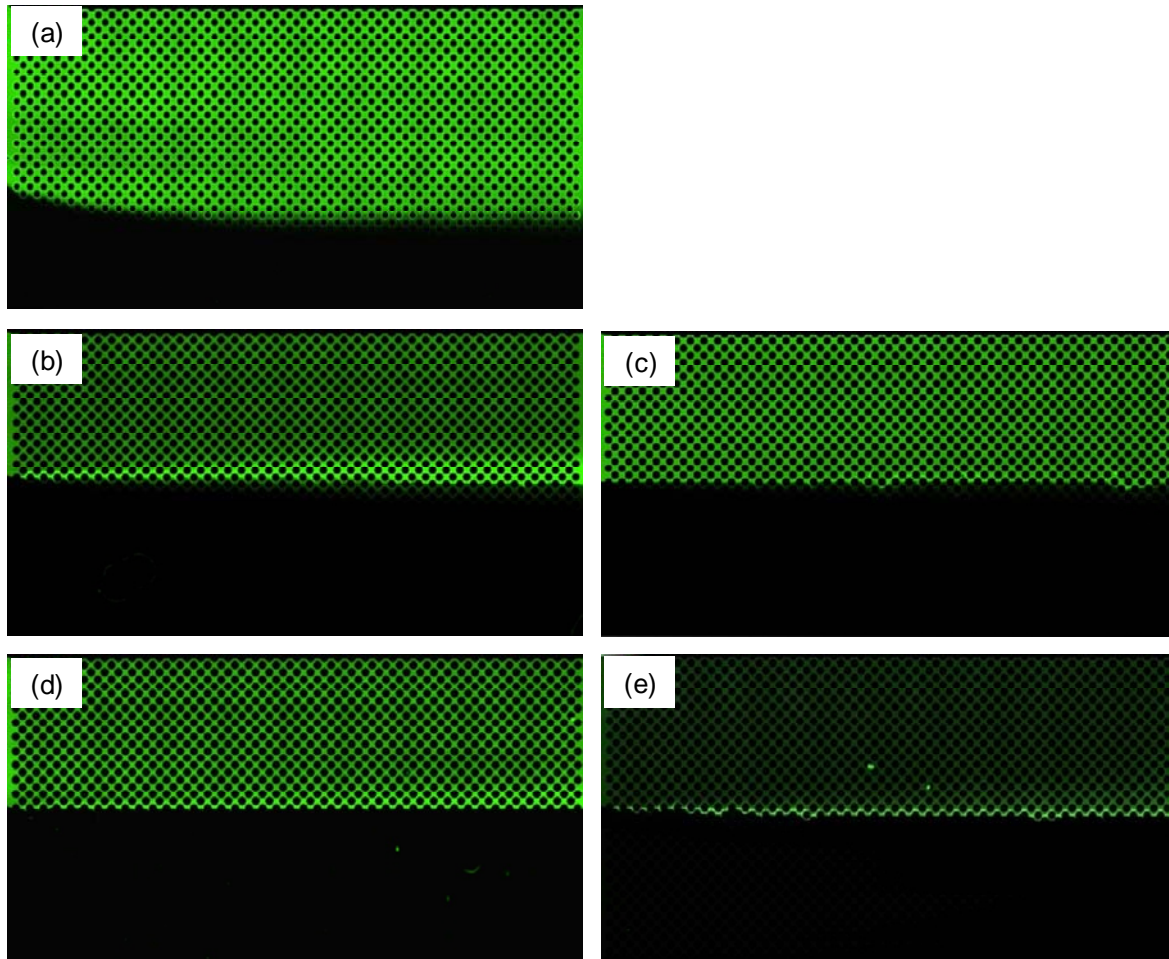


Figure S5. Images of the fluorescent tracer in the micromodel before CaCO_3 precipitates formed (a), and after CaCO_3 precipitates formed at $\Omega_c/\Omega_v = 3.4/2.8$ (b), $\Omega_c/\Omega_v = 3.8/3.1$ (c), $\Omega_c/\Omega_v = 4.6/3.9$ (d), and $\Omega_c/\Omega_v = 5.2/4.5$ (e).