## Supporting Information for

## Age as a Diagnosis of Steady-state Flows in Shallow Rectangular Reservoirs

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**Figure S1.** Flow fields computed by Camnasio et al. (2014). The colour scale represents the flow velocity magnitude (m/s).



Figure S2. Fields of eddy viscosity (m<sup>2</sup>s<sup>-1</sup>) computed by Camnasio et al. (2014).



**Figure S3.** Step response  $b(\mathbf{x}, \tau)$  computed for various values of  $\tau$  in the reservoir corresponding to Test 5.



**Figure S4.** Step response  $b(\mathbf{x}, \tau)$  computed for various values of  $\tau$  in the reservoir corresponding to Test 6.



Figure S5. Comparison of age statistics and characteristic times (linear scale).



Figure S6. Comparison of age statistics and characteristic times (log scale).



**Figure S7.** Water age distribution at six locations in the reservoir for Test 7: (a) considered locations A, B, C, D, E and F, (b) cumulated distributions *b* and (c) water age distributions *c*. The blue (–), green (–) and red (–) vertical lines show the mode, median and mean of the age distribution, respectively. The plain (–) and dashed (--) black vertical lines represent the characteristic times V/Q and  $L/(Q/S^{in})$ , respectively.