Electronic supplementary material (ESM) – Hydrogeology Journal

Characterization of a fluvial aquifer at a range of depths and scales: the Triassic St Bees Sandstone Formation, Cumbria, UK

G. Medici[1]*, L.J. West[1], N.P. Mountney[1]

1. School of Earth and Environment, University of Leeds, Woodhouse Lane, Leeds, W Yorkshire, LS2 9JT, UK

*Corresponding author at: School of Earth and Environment, University of Leeds, Leeds LS 9TJ, United Kingdom.
E-mail: eegm@leeds.ac.uk (Giacomo Medici)

This ESM contains mode T_2 vs hydraulic conductivity graphs. It also contains pumping and packer test data from the Bridge End Trial, Rottington Trial, West Cumbria ABH 1, BH2 and BH3 Sellafield wells. Wireline logs (neutron porosity and gamma ray) from the BH2 and BH3 Sellafield wells are also reported. Also shown are the log-normal distribution of core plug K_h hydraulic conductivity values of channel deposits.

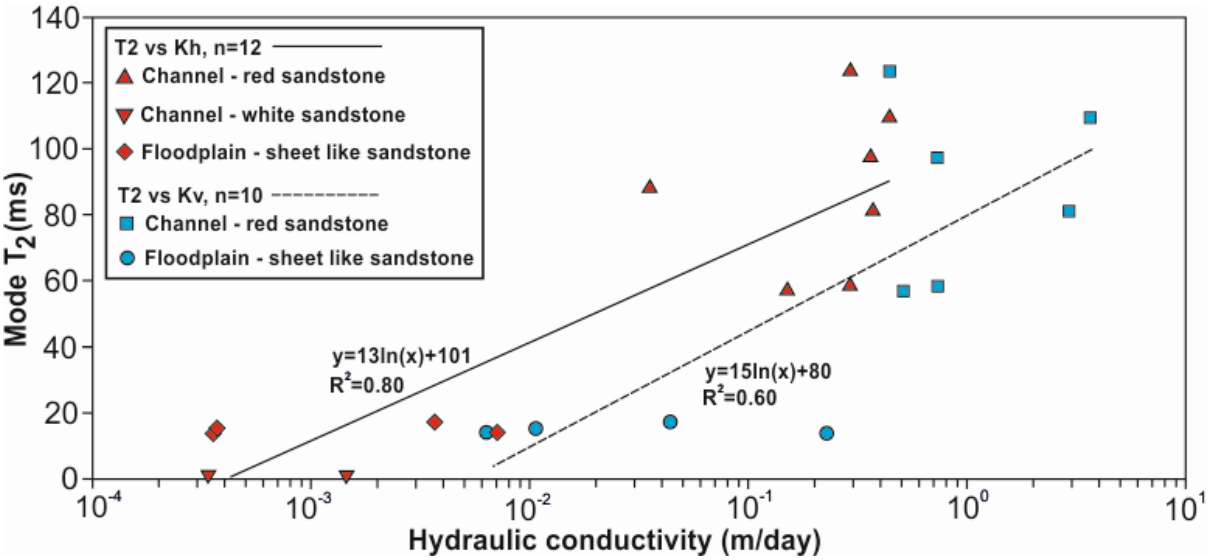

Fig. S1 Hydraulic conductivity parallel (K_h – red symbols) and perpendicular (K_v- blue symbols) to bedding vs modal NMR T_2.

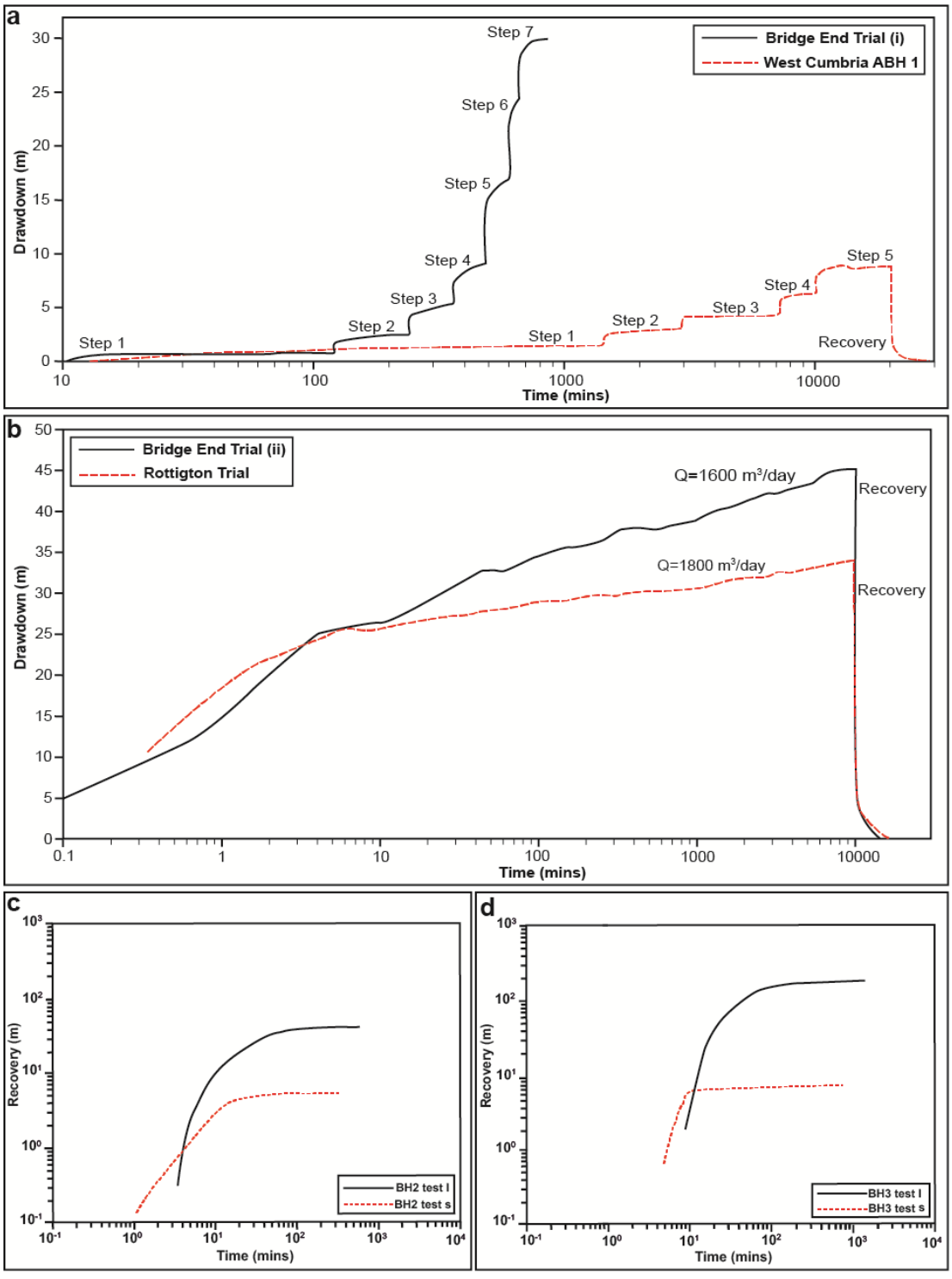

Fig. S2 Pumping test data from wells in the shallow St Bees Sandstone aquifer. **a** Drawdown step tests for the Bridge End Trial and West Cumbria ABH1 wells, **b** Drawdown with recovery for constant flow rate tests in the Bridge End Trial and Rottington Trial wells, **c** pumping tests from the BH2 and BH3 Sellafield boreholes.

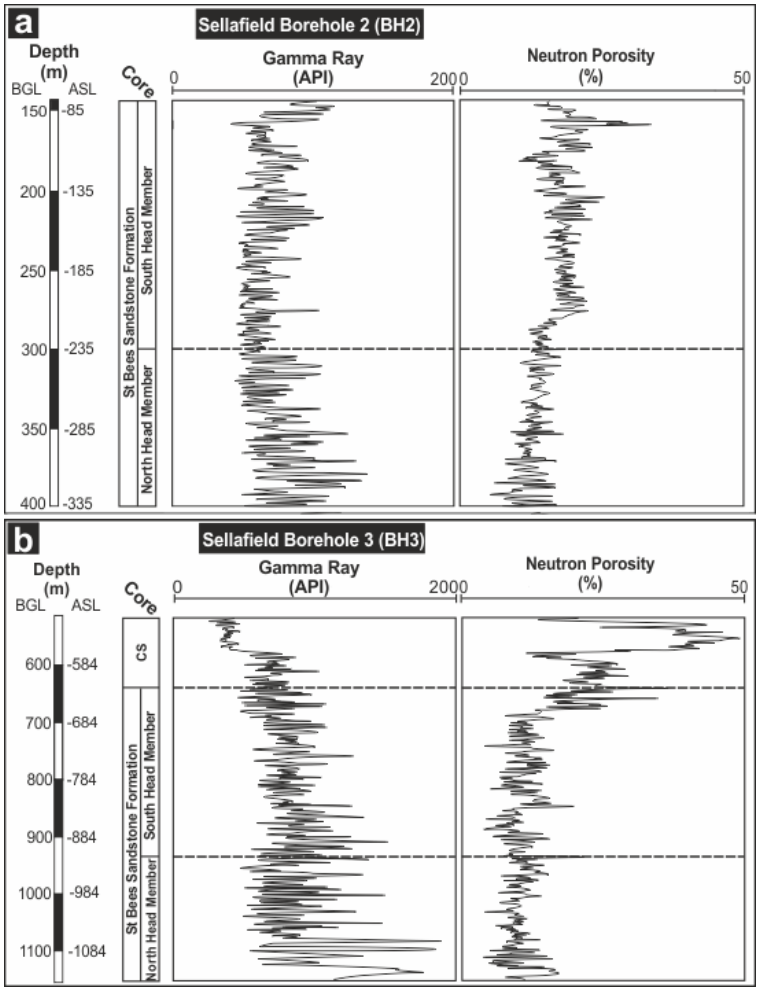

Fig. S3 Gamma-ray and neutron porosity logs in Calder Sandstone Formation (CS) and in the North Head and South Head members of the St Bees Sandstone Formation. **a** Sellafield Borehole 2 (BH2), **b** Sellafield Borehole 3 (BH 3).

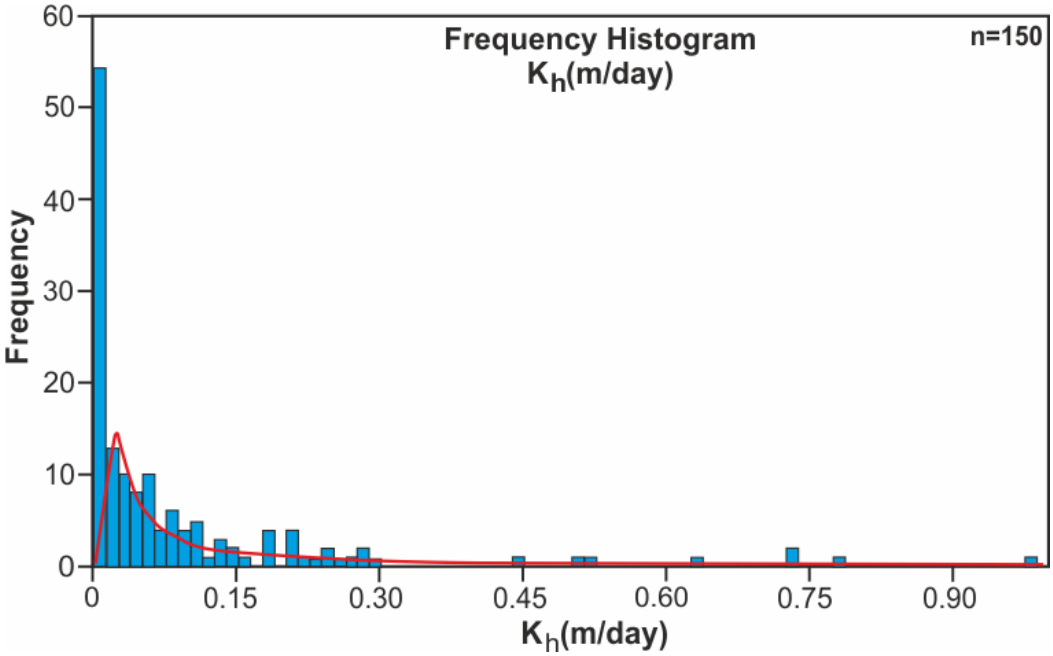

Fig. S4 Frequency histogram of core plug horizontal permeability (K_h) from the deep boreholes penetrating the St Bees Sandstone Formation in the study area.