Supplementary information for manuscript #

Supplementary Data 1. Force and displacement. This data file contains the values of lateral force, vertical force and slip displacement from the vertical loading force is relatively stable (1500s) to the sliding specimen no longer slips (6500s). Columns 1-4 contain: (1) time, s, (2) horizontal force, kN, (3) vertical force, kN, (4) slip displacement, m.

Supplementary Data 2. P-wave velocity. This data file contains time and P-wave velocity data for five valid propagation paths. Columns 1-10 contain: (1) time (channel 3 point 22), s, (2) P-wave velocity (channel 3 point 22), m/s, (3) time (channel 9 point 15), s, (4) P-wave velocity (channel 9 point 15), m/s, (5)time (channel 21 point 3), s, (6) P-wave velocity (channel 21 point 3), m/s, (7) time (channel 22 point 33), s, (8) P-wave velocity (channel 22 point 3), m/s, (9) time (channel 23 point 2), s, (10) P-wave velocity (channel 3 point 22), m/s.

Supplementary Data 3. Earthquake. This data file contains parameters statistics data of destructive seismicity from International Seismological Centre (http://www.isc.ac.uk). Each row of data corresponds to an earthquake event in earthquake.txt. Columns 1-4 contain: (1) Cumulative number of events (2) date of the event (3) data types (4) magnitude.

Supplementary Data 4. AE events coordinates. This data file contains the coordinates of the 746 AE events used for P-wave velocity structure tomography. Columns 1-3 contain: (1) X coordinate of the 746 AE events, (2) Y coordinate of the 746 AE events, (3) Z coordinate of the 746 AE events. unit: mm.