**SUPPLEMENTARY FILE 3. BK apatite fission track data.**

| Sample | No. of grains | Fossil track density [10$^6$ cm$^{-2}$] | [a]Average U [ppm] | [b]P($X^2$) [%] | [c]Age *pooled U* [Ma ±1σ] | Central age [Ma ±1σ] | Mean track length [μm ±1se] | Std dev. | Dpar [μm ± 1 std dev.] | Std. Dev. |
|---|---|---|---|---|---|---|---|---|---|---|
| R6865 | 27 | 3.510 (4024) | 58.1 | 51.37 | **163.5 ± 17.6** | **178.5 ± 16.8** | 12.01 ± 0.16 (101) | 1.61 | 1.49 (166) | 0.18 |
| P80920 | 3 | 1.177 (97) | 16.9 | 18.62 | **125.3 ± 29.3** | **132.8 ± 19.8** | - | - | - | - |
| R23636 | 8 | 0.217 (109) | 46.1 | 12.74 | **9.7 ± 1.6** | **9.3 ± 1.6** | - | - | - | - |

Nos. in brackets are no. of tracks counted, track lengths measured or Dpars measured.

[a] $^{238}$U = average uranium content of all grains measured by LA-ICP-MS.

[b] $P(\chi^2)$ = probability of $\chi^2$ for (n-1) degrees of freedom (Galbraith, 1981).

[c] Age pooled U = Pooled mean AFT grain ages calculated from individual fossil track content and $^{238}$U content measured by LA-ICP-MS.