

Table S4. Details on measured AFT thermochronometric ages.

Sample ID	17PG009
pd (tracks/cm2)	1.0042E+06
Relative error (%)	1.29
U content fucose monitor	15
Zeta (yr cm2)	256
Zeta SE	10
Counter square size (cm2)	1.0E-06

Grain #	Ns	Ni	ps (cm-2)	pi (cm-2)	squares	U (ppm)	Dpar (µm)	1 σ error (µm)
1	1	12	1.25E+04	1.50E+05	80	2.2	2.9	0.1
2	1	26	1.43E+04	3.71E+05	70	5.5	1.8	0.2
3	1	15	1.67E+04	2.50E+05	60	3.7	2.2	0.1
4	1	13	2.38E+04	3.10E+05	42	4.6	2.1	0.1
5	0	16	0.00E+00	2.67E+05	60	4.0		
6	2	18	4.00E+04	3.60E+05	50	5.4	1.6	0.2
7	2	18	2.50E+04	2.25E+05	80	3.4	1.7	0.2
8	3	26	3.00E+04	2.60E+05	100	3.9	2.1	0.2
9	3	13	1.07E+05	4.64E+05	28	6.9	2.7	0.3
10	1	3	1.67E+05	5.00E+05	6	7.5	2.5	0.2
11	4	15	4.00E+04	1.50E+05	100	2.2	2.2	0.1
12	1	6	4.17E+04	2.50E+05	24	3.7	1.6	0.1
13	4	7	6.67E+04	1.17E+05	60	1.7	2.0	0.2
14	2	12	2.78E+04	1.67E+05	72	2.5	2.0	0.2
15	1	14	1.43E+04	2.00E+05	70	3.0	2.6	0.2
16	0	24	0.00E+00	2.40E+05	100	3.6		
17	3	7	1.00E+05	2.33E+05	30	3.5	2.1	0.2
18	2	6	1.11E+05	3.33E+05	18	5.0	2.1	0.2
19	1	6	3.33E+04	2.00E+05	30	3.0	2.3	0.2
20	4	23	5.71E+04	3.29E+05	70	4.9	2.1	0.2
21	3	26	3.75E+04	3.25E+05	80	4.9	2.3	0.2
22	2	23	2.50E+04	2.88E+05	80	4.3	2.3	0.2
23	3	14	5.00E+04	2.33E+05	60	3.5	2.4	0.2
24	1	30	1.11E+04	3.33E+05	90	5.0	2.3	0.2
25	0	9	0.00E+00	1.80E+05	50	2.7		
26	1	11	2.50E+04	2.75E+05	40	4.1	2.2	0.2
27	1	6	2.50E+04	1.50E+05	40	2.2	2.8	0.2
28	1	10	4.17E+04	4.17E+05	24	6.2	2.0	0.2
29	1	11	3.33E+04	3.67E+05	30	5.5	2.7	0.2
30	2	13	4.00E+04	2.60E+05	50	3.9	2.5	0.2
31	1	6	6.67E+04	4.00E+05	15	6.0	2.3	0.2
32	4	21	8.89E+04	4.67E+05	45	7.0	1.8	0.2

Sample ID 17PG010  
pd (tracks/cm2) 1.0040E+06  
Relative error (%) 1.29  
U content fuence monitor 15  
Zeta (yr cm2) 256  
Zeta SE 10  
Counter square size (cm2) 1.0E-06

Grain #	Ns	Ni	ps (cm-2)	pi (cm-2)	squares	U (ppm)	Dpar (μm)	1 σ error (μm)
1	4	14	1.67E+05	5.83E+05	24	8.7	1.9	0.2
2	2	4	2.50E+05	5.00E+05	8	7.5	1.8	0.2
3	6	27	1.71E+05	7.71E+05	35	11.5	2.3	0.2
4	3	13	1.11E+05	4.81E+05	27	7.2	2.5	0.1
5	5	13	5.56E+05	1.44E+06	9	21.6	2.2	0.2
6	1	6	1.25E+05	7.50E+05	8	11.2	2.3	0.2
7	4	13	1.00E+05	3.25E+05	40	4.9	2.4	0.3
8	1	22	2.00E+04	4.40E+05	50	6.6	2.4	0.1
9	4	16	1.60E+05	6.40E+05	25	9.6	2.1	0.2
10	10	22	1.43E+05	3.14E+05	70	4.7	2.1	0.2
11	1	6	1.11E+05	6.67E+05	9	10.0	2.0	0.1
12	2	8	1.00E+05	4.00E+05	20	6.0	2.5	0.2
13	1	11	6.67E+04	7.33E+05	15	11.0	2.4	0.1
14	9	56	1.13E+05	7.00E+05	80	10.5	2.3	0.2
15	1	7	1.11E+05	7.78E+05	9	11.6	2.5	0.2
16	1	13	4.17E+04	5.42E+05	24	8.1	2.2	0.1

Sample ID 17PG016  
pd (tracks/cm2) 1.0036E+06  
Relative error (%) 1.29  
U content fuence monitor 15  
Zeta (yr cm2) 256  
Zeta SE 10  
Counter square size (cm2) 1.0E-06

Grain #	Ns	Ni	ps (cm-2)	pi (cm-2)	squares	U (ppm)	Dpar (μm)	1 σ error (μm)
1	2	39	6.67E+04	1.30E+06	30	19.4	1.6	0.1
2	5	91	1.56E+05	2.84E+06	32	42.5	1.5	0.1
3	7	50	2.33E+05	1.67E+06	30	24.9	1.4	0.2
4	3	29	1.50E+05	1.45E+06	20	21.7	1.7	0.2
5	11	92	3.06E+05	2.56E+06	36	38.2	1.7	0.2
6	3	96	1.00E+05	3.20E+06	30	47.8	1.5	0.1
7	1	71	2.50E+04	1.78E+06	40	26.5	1.7	0.2
8	7	89	3.50E+05	4.45E+06	20	66.5	1.8	0.1
9	5	102	1.25E+05	2.55E+06	40	38.1	1.7	0.1
10	4	31	1.11E+05	8.61E+05	36	12.9	1.7	0.2
11	7	107	1.75E+05	2.68E+06	40	40.0	1.9	0.3
12	13	121	3.61E+05	3.36E+06	36	50.2	1.8	0.2
13	6	132	7.50E+04	1.65E+06	80	24.7	1.6	0.2
14	3	26	7.50E+04	6.50E+05	40	9.7	1.6	0.2
15	13	165	2.17E+05	2.75E+06	60	41.1	1.6	0.2
16	9	70	2.14E+05	1.67E+06	42	24.9	1.7	0.2
17	2	63	5.00E+04	1.58E+06	40	23.5	1.5	0.2
18	4	44	2.50E+05	2.75E+06	16	41.1	1.5	0.2
19	4	72	1.90E+05	3.43E+06	21	51.2	1.9	0.2
20	2	14	4.00E+04	2.80E+05	50	4.2	1.6	0.1
21	7	112	8.75E+04	1.40E+06	80	20.9	1.7	0.2
22	13	138	1.86E+05	1.97E+06	70	29.5	1.6	0.2