

Supplemental File 2. Apatite (U-Th)/He Data – Individual Aliquot Measurements

Sample	Age (Ma)	±(Ma)	eU (ppm)	Ft	
BM1-3	38.4	2.3	16	0.65	
BM1-1	57.2	3.4	27	0.60	
BM1-2	58.4	3.5	27	0.66	
BM1-6	64.6	3.9	38	0.55	
BM1-4	67.5	4.1	56	0.57	
BM1-8	70.4	4.2	64	0.53	
BM1-7	82.4	4.9	66	0.52	
BM1-5	103.0	6.2	95	0.65	
BM2-4	49.9	3.0	8	0.54	
BM2-1	56.6	3.4	9	0.55	
BM2-7	65.0	3.9	21	0.48	
BM2-3	73.1	4.4	35	0.59	
BM2-5	81.6	4.9	41	0.50	
BM2-2	88.2	5.3	47	0.53	
BM2-6	90.2	5.4	43	0.51	
BM3-6	51.2	3.1	23	0.52	
BM3-1	70.9	4.3	47	0.56	
BM3-5	75.7	4.5	41	0.52	
BM3-4	108.8	6.5	124	0.51	
SBF2-3	78.6	4.7	92	0.62	
SBF2-1	93.9	5.6	67	0.62	
SBF2-5	98.6	5.9	111	0.56	
SBF2-6	115.2	6.9	30	0.53	
SBF2-8	128.1	7.7	41	0.67	
SBF2-9	142.6	8.6	34	0.59	
SBF2-7	147.8	8.9	23	0.59	
SBF5-3	63.0	3.78	89	0.70	
SBF5-2	66.8	4.01	84	0.69	
SBF5-1	72.8	4.4	72	0.53	
SBF5-4	75.6	4.54	44	0.59	
SBF6-3	41.2	2.5	42	0.61	
SBF6-1	51.2	3.1	66	0.64	
SBF6-5	89.6	5.4	118	0.53	
SBF6-4	92.9	5.6	97	0.54	
SBF7-4	14.0	0.8	20	0.62	
SBF7-5	26.5	1.6	22	0.60	
SBF7-2	41.0	2.5	43	0.54	
SBF7-6	43.1	2.6	90	0.79	
SBF7-7	44.2	2.7	35	0.57	
SBF7-1	54.0	3.2	69	0.56	

Sample	Age (Ma)	±(Ma)	eU (ppm)	Ft	
GCSK1-3	21.1	1.1	14	0.61	
GCSK1-1	27.3	1.4	30	0.57	
GCSK1-2	47.9	2.4	41	0.55	
GCSK1-5	57.3	2.9	39	0.73	
GCSK1-8	59.7	3.6	61	0.56	
GCSK1-7	66.7	4.0	67	0.65	
GCSK2-4	39.4	2.0	37	0.61	
GCSK2-3	43.3	2.2	30	0.64	
GCSK2-5	56.2	2.8	45	0.62	
GCSK2-2	61.8	3.1	61	0.56	
GCSK3-1	40.4	2.0	46	0.53	
GCSK3-5	41.6	2.1	4	0.67	
GCSK3-3	50.5	2.5	34	0.65	
GCSK3-4	61.0	3.0	7	0.60	
GCSK4-6	39.2	2.35	9	0.68	
GCSK4-3	40.6	2.43	22	0.59	
GCSK4-5	46.8	2.3	42	0.65	
GCSK4-1	49.6	2.5	24	0.63	
GCSK4-2	52.6	3.15	21	0.62	
GCSK4-8	57.7	3.46	37	0.63	
GCSK4-4	60.4	3.0	58	0.58	
CGSK5-1	55.7	2.8	49	0.55	
GCSK5-8	57.6	2.4	21	0.54	
CGSK5-4	69.5	3.5	44	0.57	
GCSK5-6	71.4	1.6	84	0.60	
GCSK5-7	79.5	1.6	143	0.59	
CGSK5-2	96.0	4.8	89	0.66	
CGSK5-3	96.6	4.8	142	0.65	
GCSK6-3	39.6	2.37	60	0.55	
GCSK6-5	41.2	2.1	24	0.61	
GCSK6-4	53.6	2.7	60	0.62	
GCSK6-2	56.2	3.37	166	0.58	
GCSK6-1	56.2	3.37	19	0.70	
GCSK7-4	23.1	1.2	53	0.70	
GCSK7-2	27.9	1.4	53	0.66	
GCSK7-3	40.4	2.0	92	0.61	
GCSK7-1	70.6	4.23	19	0.74	

Sample	Age (Ma)	±(Ma)	eU (ppm)	Ft	
GCSK8-3	62.5	3.8	43	0.57	
GCSK8-5	63.8	3.8	24	0.50	
GCSK8-1	72.1	4.3	26	0.61	
GCSK8-4	92.7	5.6	8	0.51	
GCSK8-2	116.9	7.0	20	0.55	
GCSK9-4	27.1	1.6	33	0.42	
GCSK9-5	37.2	2.2	31	0.44	
GCSK9-7	37.3	2.2	56	0.47	
GCSK9-3	37.4	2.2	61	0.46	
GCSK9-1	44.5	2.7	33	0.50	
GCSK9-2	69.9	4.2	36	0.51	
GCSK10-5	32.8	1.6	20	0.67	
GCSK10-1	35.4	1.8	70	0.60	
GCSK10-4	44.6	2.2	44	0.56	
GCSK10-3	51.9	2.6	23	0.60	
GCSK10-2	53.6	2.7	8	0.63	
GCSK12-3	12.0	0.6	7	0.68	
GCSK12-2	22.2	1.1	22	0.65	
GCSK12-5	24.1	1.2	24	0.76	
GCSK12-6	31.6	1.6	6	0.75	
GCSK12-4	50.9	2.5	48	0.70	
GCSK12-1	60.3	3.0	59	0.60	
GCSK13-2	25.6	1.5	7	0.59	
GCSK13-4	26.6	1.6	8	0.54	
GCSK13-1	36.8	2.2	28	0.56	
GCSK13-3	48.0	2.9	19	0.66	
GCSK15-2	43.0	2.1	39	0.66	
GCSK15-4	51.8	2.6	51	0.69	
GCSK15-8	52.4	3.14	15	0.73	
GCSK15-5	55.4	2.8	21	0.74	
GCSK15-7	60.7	3.64	29	0.72	
GCSK15-11	61.9	3.72	26	0.75	
GCSK15-9	67.7	4.06	11	0.62	
GCSK15-3	68.5	3.4	19	0.71	
GCSK15-1	72.5	3.6	42	0.65	
GCSK15-10	75.5	4.53	10	0.76	
GCSK15-6	77.1	3.9	19	0.81	
GCSK16-1	17.8	0.9	7	0.64	
GCSK16-3	33.0	1.7	7	0.75	
GCSK16-4	40.5	2.0	8	0.73	

Sample	Age (Ma)	±(Ma)	eU (ppm)	Ft	
GCNK1-1	40.6	2.44	11	0.69	
GCNK1-5	56.0	3.36	23	0.64	
GCNK1-4	64.8	3.89	20	0.62	
GCNK1-2	77.8	4.67	47	0.63	
GCNK2-2	44.2	2.65	12	0.59	
GCNK2-6	50.2	3.01	12	0.66	
GCNK2-5	60.2	3.61	14	0.69	
GCNK2-3	64.0	3.80	170	0.65	
GCNK2-1	71.1	4.26	29	0.72	
GCNK4-6	33.7	2.02	25	0.64	
GCNK4-5	36.9	2.21	45	0.63	
GCNK4-2	60.9	3.65	36	0.63	
GCNK4-4	63.4	3.80	49	0.62	
GCNK4-3	69.9	4.19	198	0.62	
GCNK9-1	48.3	2.90	24	0.66	
GCNK9-3	48.3	2.90	12	0.57	
GCNK10-1	32.8	1.97	3	0.76	
GCNK10-6	36.3	2.18	4	0.73	
GCNK10-3	41.1	2.47	2	0.77	
GCNK10-4	42.2	2.53	4	0.75	
GCNK10-5	55.6	3.33	3	0.76	
GCNK10-2	66.1	3.97	5	0.77	
GCNK11-2	40.3	2.42	9	0.75	
GCNK12-4	35.7	2.14	3	0.73	
GCNK12-6	35.7	2.14	4	0.77	
GCNK12-1	40.7	2.44	3	0.81	
GCNK12-3	46.7	2.80	3	0.81	
GCNK12-2	52.2	3.13	2	0.80	
GCTR1-3	35.6	2.14	100	0.59	
GCTR2-6	22.9	1.4	15	0.49	
GCTR2-5	28.3	1.7	44	0.53	
GCTR2-3	33.6	2.0	31	0.55	
GCTR2-4	45.5	2.7	63	0.47	
GCTR4-4	42.1	2.5	39	0.63	
GCTR4-5	51.9	3.1	38	0.64	
GCTR4-3	54.8	3.3	141	0.63	
GCTR4-1	55.8	3.3	112	0.66	

Sample	Age (Ma)	±(Ma)	eU (ppm)	Ft	
GCTR8-3	21.5	1.3	7	0.53	
GCTR8-4	27.9	1.7	13	0.57	
GCTR8-5	57.9	3.5	26	0.54	
GCTR8-1	61.6	3.7	68	0.58	
GCTR8-6	66.6	4.0	68	0.52	
GCTR9-2	53.0	3.2	13	0.64	
GCTR9-3	63.6	3.8	43	0.67	
GCTR9-4	87.1	5.2	100	0.69	
GC-SHC2-1	10.5	0.6	29	0.64	
GC-SHC2-4	44.7	2.7	46	0.66	
GC-SHC2-3	75.5	4.5	117	0.67	
GC-SHC2-2	90.6	5.4	153	0.65	
GC-SHC7-5	17.8	1.1	14	0.57	
GC-SHC7-2	20.4	1.2	23	0.60	
GC-SHC7-3	21.8	1.3	12	0.66	
GC-SHC7-4	36.9	2.2	103	0.65	
GC-SHC7-6	54.4	3.3	99	0.65	
GC-SHC7-1	56.8	3.4	76	0.56	
GC-SHC7-8	56.8	3.41	22	0.63	
GC-SHC8-2	26.2	1.6	21	0.52	
GC-SHC8-5	49.5	3.0	87	0.43	
GC-SHC8-1	63.1	3.8	85	0.49	
GC-SHC8-3	68.3	4.1	74	0.48	
GC-SHC10-1	13.2	0.8	8	0.50	
GC-SHC10-4	18.6	1.1	29	0.50	
GC-SHC10-5	28.6	1.7	31	0.44	
GC-SHC10-3	28.8	1.7	7	0.51	
GC-SHC10-7	35.6	2.14	23	0.53	
GC-SHC10-6	51.4	3.08	51	0.57	
GC-SHC10-2	57.8	3.47	28	0.53	
GC-SHC10-9	60.2	3.6	17	0.41	
GC-SHC10-8	71.1	4.27	45	0.59	
02GC122-1	29.0	1.7	3	0.66	
98GC20-1	25.6	1.5	8	0.74	
98GC20-2	26.6	1.6	9	0.65	
98GC20-3	33.6	2.0	8	0.64	
98GC20-5	23.0	1.4	10	0.60	
98GC20-6	23.8	1.4	11	0.53	

Sample	Age (Ma)	\pm (Ma)	eU (ppm)	Ft	
98GC16-1	31.9	1.9	15	0.52	
98GC16-2	21.7	1.3	10	0.55	
98GC16-3	43.5	2.6	10	0.61	
98GC16-4	54.6	3.3	9	0.52	
98GC11-3	43.2	2.6	13	0.65	
98GC11-4	55.9	3.4	10	0.65	
98GC11-6	22.9	1.4	9	0.62	
01GC103-2	36.4	2.2	6	0.54	
01GC92-1	29.2	1.8	73	0.68	
01GC92-2	9.6	0.6	57	0.58	
01GC92-3	7.2	0.4	27	0.53	
01GC92-4	19.4	1.2	239	0.49	
01GC92-5	10.3	0.6	57	0.52	
01GC89-1	79.7	4.8	50	0.75	
01GC89-2	65.9	4.0	10	0.70	
01GC89-6	63.8	7.8	11	0.61	
01GC86-1	29.2	0.5	14	0.75	
01GC86-2	72.3	0.6	17	0.70	
01GC86-3	48.4	0.7	11	0.71	
01GC87-1	91.9	5.5	70	0.77	
01GC87-2	90.1	5.4	206	0.74	
01GC87-3	84.0	5.0	154	0.74	
01GC87-4	79.7	4.8	139	0.73	
01GC87-5	69.5	4.2	82	0.72	
01GC87-6	79.6	4.8	232	0.66	
01GC87-7	82.3	4.9	184	0.63	
01GC90-1	5.6	0.3	22	0.77	
01GC90-3	7.8	0.5	19	0.76	
01GC90-4	19.2	1.2	106	0.69	
01GC90-5	9.8	0.6	48	0.59	
01GC128-3	28.9	1.7	11	0.79	
01GC128-5	26.7	1.6	11	0.79	
01GC128-6	27.1	1.6	3	0.67	
98GC34-1	16.7	1.0	6	0.56	
98GC34-2	12.1	0.7	13	0.50	
			37		
01GC93-1	16.6	0.2	60	0.61	
01GC93-2	20.3	0.2	159	0.59	
01GC93-3	18.7	0.4	55	0.59	