

## Supplementary online information for “Holocene Erosion of the Lesser Himalaya Triggered by Intensified Summer Monsoon”

### CHRONOLOGY BY AMS RADIOCARBON DATING

Mollusk shells (of bivalves and the scaphopod *Dentalium sp.*), as well as wood and plant remains were the primary material for AMS radiocarbon dating at the National Ocean Sciences Accelerator Mass Spectrometry Facility (NOSAMS) at the Woods Hole Oceanographic Institution, USA. Sample locations are shown in the sedimentary logs of the cored sections (Fig. DR1). The methodology for AMS radiocarbon dating is presented on the NOSAMS site <http://nosams.whoi.edu> and as described by McNichol et al. (1995). All radiocarbon dates and their calibrated equivalents together with the location information in core for the dated samples and location of the boreholes are presented in Table DR1.

All dates discussed in this paper have been converted to calendar ages (2 sigma range) using Calib 5.0.1 software (Stuiver and Reimer, 1993). For the wood or other plant samples we used the terrestrial IntCal04 calibration dataset (Reimer et al., 2004). The marine reservoir age was found to be variable in front of the Indus delta over the last deglaciation into the Holocene (Staubwasser et al., 2002). Because fluvial reservoir ages are affected by bicarbonate dissolved from ancient limestone that could be present in the drainage basin, calibration of carbonate shells precipitated in or influenced by fluvial waters (e.g., in an estuarine or river

plume setting) is more difficult. Co-located dates, one on wood and another on marine shells at Keti Bunder and Jati show that the reservoir age between ~7900 and 9000  $^{14}\text{C}$  years is ~600 to 1000 years, in excess of the surface ocean reservoir. This is smaller or equal to the estimates of 1010–1120 years of Staubwasser et al.(2002) for the marine reservoir age in front of the Indus delta for the same time interval. Therefore, we assumed that the reservoir age in front of the Indus mouths is the result of the mixing of fluvial and marine waters with different reservoir ages and that the fluvial reservoir cannot be larger than the reservoir of this mixed waters. In order to calibrate our shell radiocarbon dates, we used a liberal range of reservoir ages spanning from a minimum of 0 years to the maximum reservoir age estimated by Staubwasser et al. (2002) for various intervals of the deglacial-Holocene (Table DR1). The age for each sample measured for provenance was derived by interpolation between adjacent dates. We did not consider in our age models two dates that were measured on materials that appeared not to be *in situ*; for the same reason, we did not calibrate the two oldest dated samples in the Keti Bundar borehole. The age of the Pleistocene sediment at the base of the Keti Bundar borehole is poorly constrained as the 28.7 ka age dated by  $^{14}\text{C}$  may be reworked. We thus loosely assign this sediment an age close to the Last Glacial Maximum, i.e. >20 k.y., although it may be as old as 28.7 ka.

## Nd ISOTOPE ANALYSIS

Nd isotopes were measured from powdered whole sediment samples. After dissolution, Nd was concentrated using standard column extraction techniques, and isotopic compositions were determined by Finnigan “Neptune” multi-collector inductively coupled plasma mass

spectrometer (MC-ICP-MS) at Woods Hole Oceanographic Institution, USA. All samples were corrected against La Jolla Nd standard  $^{143}\text{Nd}/^{144}\text{Nd}=0.511847$ . We calculate the parameter  $\epsilon_{\text{Nd}}$  (DePaolo and Wasserburg, 1976) using  $^{143}\text{Nd}/^{144}\text{Nd}$  value of 0.512638 for the Chondritic Uniform Reservoir (CHUR)(Hamilton et al., 1983). Data is provided in Table DR2. Provenance interpretation is made by comparison with values measured from basement source rocks. Greater Himalayan compositions are compiled from Deniel et al. (1987), France-Lanord et al. (1993), Parrish and Hodges (1996), Searle et al. (1997), Harrison et al. (1999), Whittington et al. (1999), and Ahmad et al. (2000). Lesser Himalayan values are from France-Lanord et al. (1993), Parrish and Hodges (1996) and Ahmad et al. (2000). Siwalik data are from Huyghe et al. (2001). Karakoram compositions are derived from Schärer et al. (1990) and Clift et al. (2002), while those from Nanga Parbat are from Whittington et al. (1999). Transhimalayan compositions are taken from Khan et al. (1997), and Clift et al. (2000). Differences between ranges are shown graphically in a probability density diagram (Fig. DR2).

#### **$^{40}\text{Ar}/^{39}\text{Ar}$ ANALYSIS OF MICA GRAINS**

Single crystal  $^{40}\text{Ar}/^{39}\text{Ar}$  laser-fusion analyses were performed at the Massachusetts Institute of Technology (MIT). Prior to analysis, samples were irradiated in the C5 position of the McMaster University Nuclear Reactor, Canada, using 1 mm Cd shielding for four hours at a power level of 2 MW. After fusion with an Ar-ion laser, the released gases were purified for 10 minutes with two Al-Zr getters operated at 400 deg C and room temperature, respectively, and then admitted to an MAP 215-50 mass spectrometer for Ar isotopic analysis using a Johnson MM-1 electronic

multiplier operated at a gain of about 10,000. The conversion efficiency of  $^{39}\text{K}$  to  $^{39}\text{Ar}$  was monitored using sanidine from the Taylor Creek rhyolite (TCR-2a) assuming an age of 28.34 Ma (Renne et al., 1998), and is known to better than 0.3% (1 standard deviation). Corrections for neutron-induced interferences, determined using Fe-doped kalsilite glass and optical  $\text{CaF}_2$ , were 0.00039 for  $^{40}\text{Ar}/^{39}\text{Ar}_{\text{K}}$ , 0.01243 for  $^{38}\text{Ar}/^{39}\text{Ar}_{\text{K}}$ , 0.000672 for  $^{39}\text{Ar}/^{37}\text{Ar}_{\text{Ca}}$ , 0.000033 for  $^{38}\text{Ar}/^{37}\text{Ar}_{\text{Ca}}$ , and 0.00028 for  $^{36}\text{Ar}/^{37}\text{Ar}_{\text{Ca}}$ . Final data reduction was conducted with the program ArArCalc (Koppers, 2002); results are shown in Table DR3.

## U-PB DATING OF ZIRCONS

U-Th-Pb isotopic compositions of zircons were analyzed at the Australian National University, Canberra, using Excimer Laser Ablation Inductively Coupled Plasma Mass Spectrometry (ELA-ICP-MS) employing a pulsed 193  $\mu\text{m}$  ArF LambdaPhysik LPX 1201 UV Excimer laser and an Agilent 7500 quadrupole ICP-MS. The zircons were separated from the bulk sediment by conventional magnetic and heavy liquid separation techniques. The extracted zircons were mounted in epoxy resin and polished. Dating by ELA-ICP-MS followed the procedure described in Campbell et al. (2005). Our method employs standard zircon TEMORA2 and NIST610 silicate glass (Black et al., 2004; Pearce et al., 1997) where the latter is used for concentration information and for U/Th determination. As we cannot measure common Pb ( $^{204}\text{Pb}$ ) directly because of systemic Hg, we use a  $^{208}\text{Pb}$ -based correction *only* when that correction makes the analysis more concordant than the uncorrected version. Once the data were compiled, an analysis was rejected for interpretation on the basis of the following: (a) the observed variance on

$^{206}\text{Pb}/^{238}\text{U}$  or  $^{207}\text{Pb}/^{206}\text{Pb}$  (depending if the grain is  $>$  or  $<1200$  Ma) is more than three times that calculated from counting statistics (this procedure omits grains that record mixed ages), or (b) the grain is deemed to be discordant. Analysis time drift corrections were applied to both analytical sessions.

Results of the U-Pb dating are shown in Table DR4. Quoted 1 s.e. uncertainties on individual grains include a term for that particular ablation in quadrature with a term that reflects our ability to measure the standard zircon. Overall uncertainty on an individual measurement is about 1–2%. This method of error propagation produces reasonable MSWDs on secondary standards known to comprise a single age population, in this case zircon standard R33 (Black et al., 2004).

## COMPARISON WITH SOURCE TERRAINS

The age data determined from the sediment grains in the cores is shown compared to modern river and bedrock age data from the various ranges that now lie within the modern Indus drainage basin. Modern Indus sediment ages are from Clift et al. (2004). Ar-Ar muscovite ages from the Greater Himalaya are from Maluski et al. (1988), Searle et al. (1992), Metcalfe (1993), Walker et al. (1999), Guillot et al. (1999), Stephenson et al. (2001), Inger (1998) and Vannay et al. (2004). Ages from the Lesser Himalaya are from Catlos et al. (2001), Bollinger et al. (2004), and Vannay et al. (2004). Ages from the Siwaliks are from White et al. (2002). Ages from the Karakoram are constrained from Searle et al. (1990), Villa et al. (1996), Krol et al. (1996) and

Brookfield and Reynolds (1990). Ar-Ar age constraints for the Nanga Parbat Massif are compiled from Zeitler (1985), Zeitler et al. (1989), Winslow et al. (1996), George et al. (1995) and Treloar et al. (2000).

Provenance conclusions based on U-Pb zircon dating are made by comparison with dating constraints from the Karakoram from Fraser et al. (2001), Schärer et al. (1990), Le Fort et al. (1983), Parrish and Tirrul (1989), and Searle et al. (1990). Nanga Parbat U-Pb zircon ages are from Zeitler and Chamberlain (1991), and Zeitler et al. (1989). Greater Himalayan U-Pb zircon data are compiled from DeCelles et al. (2000), Hodges et al. (1996), Noble and Searle (1995), Parrish and Hodges (1996) and Gehrels et al. (2006). Lesser Himalayan data are from DeCelles et al. (2000), and Parrish and Hodges (1996). Siwalik ages are from DeCelles et al. (2000) and Bernet et al. (2006).

## FIGURE CAPTIONS

Table DR1.  $^{14}\text{C}$  AMS ages for the boreholes considered in this study, showing the measured and calculated ages used to constrain depositional ages of the sediments.

Table DR2. Nd isotope composition of sediments considered in this study.

Table DR3. Ar-Ar cooling ages of muscovite mica grains extracted from Indus River sediments and core material.

Table DR4. U-Pb crystallization ages of zircon grains extracted from Indus River sediments and core material.

Figure DR1. Diagram shows the stratigraphy of the sediment cored at each of the drilling sites considered in this study. Each log shows the depth, proportion of the section recovered by drilling (black equates to recovery), the age control points constrained by  $^{14}\text{C}$  AMS dating of organic materials, as well as the location of samples selected from isotopic and thermochronological analysis. TD = Total Depth.

Figure DR2 . Probability density diagram showing the differences in Nd isotopic character between different ranges within the source regions of the Indus river.

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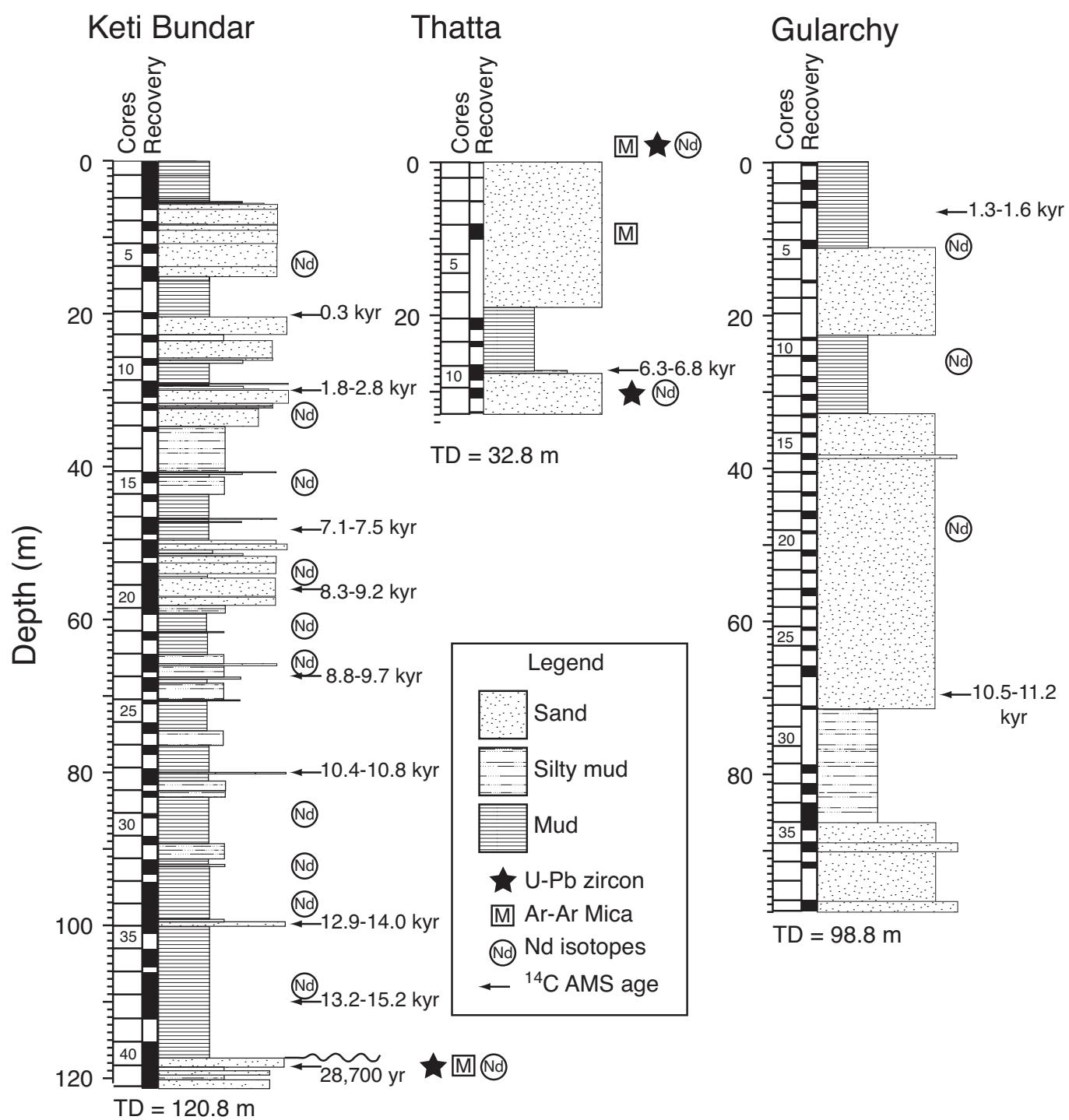
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Figure DR1  
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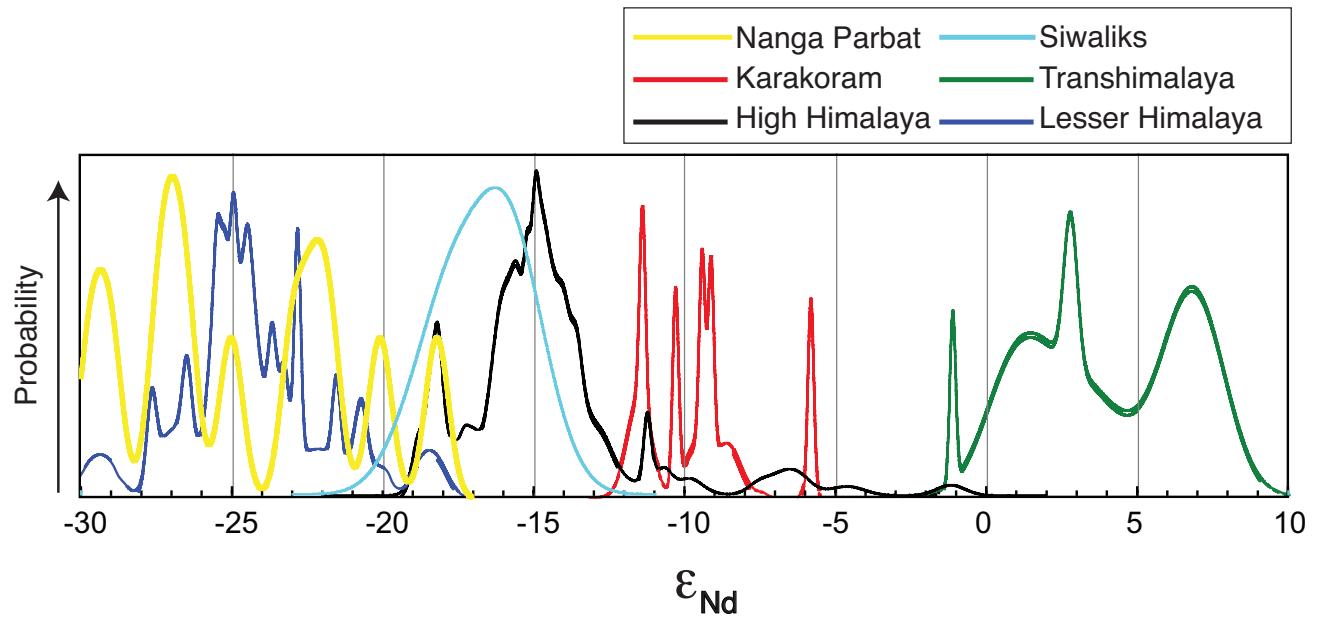


Figure DR2  
Clift et al.

Table DR1

Sample	Type	Species/ Preservation	Depth (m)	Altitude (m)	Depth error from recovery (m)	Total depth error (m)	$\delta^{13}\text{C}$	Age (yr. ago)	Age error (yr.)	Reservoir age (yr.)	Calibrated age (yr.)	Rounded range for age models (kyr. ago)
<b>Keti Bundar</b>												
Keti Bundar 06-2	plant		20.1	-19.6	0.3	1.9	-28.47	245	25	N/A	277 BP:317 BP	0.3
Keti Bundar 11-1	mollusk shell	Pholas sp.	30.2	-29.7	0.5	2.1	1.3	2560	30	640	1813 BP:1947 BP	1.8-2.0
Keti Bundar 17-2	mollusk shell	Pholas sp.	47	-46.5	0.4	2.0	1.26	7080	40	640-825	7153 BP: 7427 BP	7.1-7.5
Keti Bundar 19-4	wood	carbonized	56.1	-55.6	0.0	1.6	-11.44	8210	55	N/A	9017 BP:9309 BP	9.0-9.4
Keti Bundar 19-4	mollusk shell	Dentalium sp.	56.1	-55.6	0.0	1.6	0.08	8710	65	640-1120	8302 BP:9139 BP	8.3-9.2
Keti Bundar 23-2	mollusk shell	Dentalium sp.	67.5	-67	0.3	1.9	0.11	9160	35	640-1120	8850 BP:9687 BP	8.8-9.7
Keti Bundar 28-2	mollusk shell	Dentalium sp.	80.7	-80.2	0.4	2.0	0.8	10100	30	640-780	10477 BP:10772 BP	10.4-10.8
Keti Bundar 35-1	mollusk shell	fragment	101.5	-101	1.0	2.6	1.95	12650	40	640-1485	12953 BP:13981 BP	12.9-14.0
Keti Bundar 38-3	mollusk shell	Dentalium sp.	110.8	-110.3	0.0	1.6	0.14	13000	55	640-1485	13265 BP:15172 BP	13.2-15.2
Keti Bundar 40-4	mollusk shell	fragment	117	-116.5	0.0	1.6	0.4	28700	110			
Keti Bundar 40-4	coral	small fragment	117	-116.5	0.0	1.6	0.03	38900	410			
<b>Thatta</b>												
Thatta 03-1	plant	<i>in situ?</i>	6.5	4.5	0.0	1.6	-28.66	>Mod		N/A		
Thatta 09-2	mollusk shell	fragment	27.8	-16.8	0.4	2.0	-3.74	6400	80	640	6398 BP:6743 BP	6.3-6.8
<b>Gularchy</b>												
Gularchy 02-1	mollusk shell	fragment	6.5	4.5	0.6	2.2	-5.32	2040	35	640	1355 BP:1521 BP	1.3-1.6
Gularchy 14-2	wood	<i>in situ?</i>	43	-32	0.3	1.9	-11.63	9530	60	N/A		
Gularchy 26-1	mollusk shell	fragment	69.4	-58.4	0.3	1.9	-7.52	10250	55	640-780	10572 BP:11171 BP	10.5-11.2

Table DTR2018

Sample Number	Lithology	Location	Depth below surface (m)	Age (kyr. B.P.)	Age error ( $\pm$ kyr)	$^{143}\text{Nd}/^{144}\text{Nd}$	Error ( $1\sigma$ )	$\varepsilon_{\text{Nd}}$
GUL-ZP-5-1	Sand	Gularchy	11	2.65	0.08	0.511911	4	-14.2
GUL-ZP-10-2	Sand	Gularchy	26	6.42	0.08	0.511931	4	-13.8
GUL-ZP-17-1	Sand	Gularchy	48	10.94	0.18	0.511962	4	-13.2
KB-5-2	Fine Sand	Keti Bundar	14	0.21	0.00	0.511947	4	-13.5
KB-11-1	Silt	Keti Bundar	33	2.83	0.05	0.511930	4	-13.8
KB-15-3	Clay	Keti Bundar	42	5.61	0.05	0.511947	7	-13.5
KB-19-4	Fine Sand	Keti Bundar	55	8.72	0.15	0.511858	4	-15.2
KB-21-1	Clay	Keti Bundar	61	9.42	0.20	0.511986	4	-12.7
KB-23-3	Fine Sand	Keti Bundar	67	9.68	0.20	0.511950	4	-13.4
KB-29-1	Silty clay	Keti Bundar	85	11.21	0.32	0.511962	5	-13.2
KB-31-2	Clay	Keti Bundar	92	12.20	0.32	0.511919	4	-14.0
KB-34-4	Silt	Keti Bundar	97	12.91	0.32	0.512033	4	-11.8
KB-37-4	Clay	Keti Bundar	108	13.73	0.37	0.512000	5	-12.4
KB-40-5	Fine Sand	Keti Bundar	117	28.70	0.00	0.512082	4	-10.8
S-1	Sand	Sukkur	0	0.00	N/A	0.511869	4	-15.0
SO-90-115	Clay	Indus Fan	0	0.00	N/A	0.512137	4	-9.8
SO-90-120	Clay	Indus Shelf	0	0.00	N/A	0.512066	4	-11.2
SO-90-164	Clay	Indus Shelf	0	0.00	N/A	0.512102	4	-10.5
SO-90-173	Clay	Indus Canyon	0	0.00	N/A	0.512022	4	-12.0
SO-90-180	Clay	Indus Canyon	0	0.00	N/A	0.512078	4	-10.9
SO-90-183	Clay	Indus Canyon	0	0.00	N/A	0.512033	4	-11.8
TH-1	Sand	Thatta	0	0.00	N/A	0.511847	4	-15.4
TH-10-8	Fine Sand	Thatta	28	6.60	0.13	0.511979	4	-12.9

Table DR3

**Muscovite Ar/Ar Analyses****Sample TH-4-6**

Age (Ma)	2 $\sigma$	$^{40}\text{Ar}_{(\text{rad})}$ (%)	$^{39}\text{Ar}_{(\text{K})}$ (mol)	Age (Ma)	2 $\sigma$	$^{40}\text{Ar}_{(\text{rad})}$ (%)	$^{39}\text{Ar}_{(\text{K})}$ (mol)	Age (Ma)	2 $\sigma$	$^{40}\text{Ar}_{(\text{rad})}$ (%)	$^{39}\text{Ar}_{(\text{K})}$ (mol)
0.67 ± 0.48		15.18	0.60	17.76 ± 0.65		69.67	0.46	23.51 ± 0.97		97.43	0.71
1.16 ± 1.22		37.28	0.21	17.88 ± 0.71		93.18	0.36	23.80 ± 0.31		95.07	1.61
1.64 ± 0.19		57.30	1.49	17.96 ± 0.22		95.52	1.52	24.22 ± 0.25		88.57	0.58
1.73 ± 0.34		46.20	0.93	18.01 ± 0.19		90.38	1.06	24.59 ± 0.15		90.10	1.17
2.05 ± 0.55		34.49	0.51	18.03 ± 0.31		93.68	0.89	24.59 ± 0.32		92.94	0.87
3.41 ± 0.32		78.14	0.75	18.03 ± 0.71		87.35	0.36	24.84 ± 0.22		93.44	1.52
3.49 ± 0.38		47.65	0.82	18.10 ± 0.26		88.13	1.10	27.89 ± 0.27		96.65	1.24
3.57 ± 0.23		66.35	1.25	18.12 ± 0.20		81.42	2.01	28.11 ± 0.40		96.61	0.72
3.78 ± 0.13		62.05	1.08	18.33 ± 0.46		90.45	0.61	28.12 ± 0.45		66.47	0.94
3.83 ± 0.14		84.58	2.70	18.35 ± 0.49		95.87	0.72	28.57 ± 0.24		94.65	1.45
4.20 ± 0.64		46.65	0.44	18.43 ± 0.41		62.65	0.89	28.74 ± 0.26		98.62	1.13
4.24 ± 0.20		50.19	1.43	18.47 ± 0.51		91.09	0.61	28.91 ± 0.36		70.89	2.36
4.31 ± 0.22		52.64	1.50	18.47 ± 0.26		91.78	1.07	31.10 ± 0.25		90.83	1.39
4.85 ± 0.50		80.58	0.49	18.64 ± 0.17		92.15	0.86	31.89 ± 0.24		91.55	0.51
4.89 ± 0.28		78.13	0.95	18.67 ± 0.20		93.37	0.90	33.41 ± 0.23		98.35	2.01
4.94 ± 0.24		88.50	1.20	18.75 ± 0.15		93.67	1.20	34.87 ± 0.27		94.00	1.73
5.26 ± 0.31		72.74	1.00	18.77 ± 0.33		89.79	0.50	35.32 ± 0.32		93.35	1.42
5.83 ± 0.60		89.01	0.48	18.85 ± 0.50		75.90	0.63	35.63 ± 0.31		97.69	1.15
5.84 ± 0.21		83.13	1.80	18.96 ± 0.35		86.46	0.57	40.98 ± 0.35		95.74	0.71
6.12 ± 0.33		81.23	0.96	19.06 ± 0.38		92.54	0.79	78.57 ± 0.41		96.04	0.45
6.21 ± 0.24		82.12	1.18	19.11 ± 0.23		94.28	1.37	103.57 ± 0.67		98.75	0.63
7.97 ± 0.45		86.23	0.72	19.86 ± 0.37		96.66	0.73	115.33 ± 0.98		95.51	0.36
8.13 ± 0.36		91.95	0.78	19.94 ± 0.27		96.20	1.12	118.34 ± 0.72		98.55	1.09
9.13 ± 0.40		79.53	0.72	20.11 ± 0.38		89.95	0.91	424.14 ± 2.31		99.25	0.39
10.79 ± 0.42		83.27	0.76	20.18 ± 0.18		93.38	2.29				
13.61 ± 0.31		71.35	1.06	20.33 ± 0.54		89.56	0.51				
13.82 ± 0.43		85.10	0.68	20.40 ± 0.31		94.86	1.15				
14.72 ± 0.23		89.18	0.65	21.03 ± 0.23		88.11	1.49				
15.27 ± 0.23		92.17	1.21	21.09 ± 0.47		86.09	0.65				
16.19 ± 0.26		75.27	1.83	21.09 ± 0.28		91.87	1.08				
16.59 ± 0.36		89.07	0.82	21.13 ± 0.38		92.79	0.72				
16.73 ± 0.31		93.02	0.97	21.21 ± 0.34		85.96	0.89				
16.82 ± 0.19		77.40	1.00	21.26 ± 0.24		89.54	1.54				
17.13 ± 0.29		74.19	0.51	22.00 ± 0.45		83.65	0.66				
17.26 ± 0.65		38.32	0.89	22.28 ± 0.14		89.03	2.49				
17.38 ± 0.28		93.84	1.44	22.94 ± 0.39		92.54	0.69				
17.43 ± 0.35		89.63	0.87	22.97 ± 0.30		78.42	1.78				

Table DR3

**Sample KB-41-2**

Age (Ma)	$2\sigma$	$^{40}\text{Ar}_{(\text{rad})}$ (%)	$^{39}\text{Ar}_{(\text{K})}$ (mol)	Age (Ma)	$2\sigma$	$^{40}\text{Ar}_{(\text{rad})}$ (%)	$^{39}\text{Ar}_{(\text{K})}$ (mol)
7.93 ± 0.20		90.81	1.00	28.70 ± 0.22		93.15	1.49
8.84 ± 0.16		92.78	1.56	29.39 ± 0.24		94.51	0.82
13.08 ± 0.20		77.07	2.44	29.70 ± 0.22		96.97	1.12
16.47 ± 0.09		94.67	5.89	31.31 ± 0.16		96.71	4.28
17.65 ± 0.14		95.20	1.71	32.35 ± 0.22		94.17	1.50
17.69 ± 0.18		94.45	1.17	34.69 ± 0.19		98.05	2.30
18.04 ± 0.24		82.94	1.30	34.73 ± 0.21		97.55	1.56
18.06 ± 0.21		90.59	1.05	58.97 ± 0.54		68.60	1.86
18.22 ± 0.30		94.49	0.81	75.47 ± 0.40		97.62	1.22
18.28 ± 0.10		94.93	3.83	88.12 ± 0.37		98.42	2.71
18.34 ± 0.10		94.75	6.86	227.04 ± 0.98		99.16	1.86
18.49 ± 0.15		91.67	3.09	295.02 ± 1.22		99.61	1.40
18.65 ± 0.14		97.94	2.28	404.59 ± 1.80		99.38	1.17
18.68 ± 0.16		89.75	1.82				
18.76 ± 0.20		88.91	1.01				
18.78 ± 0.22		87.10	1.07				
18.79 ± 0.29		91.58	0.80				
18.94 ± 0.18		94.67	1.29				
19.00 ± 0.26		83.16	1.13				
19.02 ± 0.13		97.61	1.96				
19.03 ± 0.20		90.77	1.09				
19.13 ± 0.19		91.32	1.38				
19.25 ± 0.16		96.34	1.46				
19.34 ± 0.13		93.66	3.67				
19.89 ± 0.24		93.73	0.86				
20.14 ± 0.16		90.69	2.05				
20.25 ± 0.13		93.10	3.58				
20.44 ± 0.13		88.47	3.29				
21.29 ± 0.14		96.35	2.04				
22.72 ± 0.29		95.28	0.80				
24.85 ± 0.20		87.37	1.44				
25.89 ± 0.16		94.58	2.07				
26.37 ± 0.15		95.23	1.88				
26.88 ± 0.20		97.99	1.28				
27.38 ± 0.20		95.27	1.50				
27.67 ± 0.17		96.41	2.20				
28.66 ± 0.17		96.56	4.04				

Table DR4

KB-40-5

Grain	Pb <sup>8</sup> (ppm)	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		Pb <sup>8</sup> corrected		Pb <sup>8</sup> corrected		Pb <sup>8</sup> corrected		Selected age Preferred correction				
				% Common <sup>208</sup> Pb	% Common <sup>206</sup> Pb	% Common <sup>208</sup> Pb	% Common <sup>206</sup> Pb	<sup>208</sup> Pb/ <sup>232</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>232</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>235</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>238</sup> Pb* age (Ma)	± s.e.	Selected age Preferred correction	Preferred age (Ma)	± s.e.		
1	0.94	73.56	1.81159	5.69574	3.32650	57.6	1.5	88.2	8.0	1022.6	59.9	55.1	1.6	33.3	16.1	0.0	0.0	55.1	1.6	
2	294.84	526.79	0.54208	-0.01700	-0.40749	2557.3	26.6	2541.9	25.9	2529.5	25.5	2561.4	26.7	2542.9	26.1	2531.1	25.7	2529.5	25.5	
3	6.81	691.21	0.82018	0.60312	0.35307	55.3	0.7	58.6	2.0	193.0	6.0	55.2	0.7	52.7	3.2	2.2	0.1	55.2	0.7	
4	13.93	422.67	1.04675	1.98360	0.08584	170.1	2.2	172.3	4.9	201.8	5.5	168.2	2.9	117.6	31.1	0.1	0.0	170.1	2.2	
5	95.02	349.32	0.51053	-0.07868	4.18651	1463.1	16.5	1707.4	18.3	2021.7	20.8	1467.4	16.7	1712.4	20.9	2031.2	23.3	Excluded		
6	8.89	55.05	0.36261	0.15831	-0.02035	941.1	11.4	939.6	15.6	936.4	14.9	940.8	11.4	926.9	17.3	896.4	16.3	Selected	941.1	11.4
7	6.04	551.69	0.60070	0.28001	0.13848	65.1	0.8	66.6	2.2	122.5	3.9	65.0	0.9	63.4	3.3	14.3	0.7	Selected	65.1	0.8
8	4.11	201.69	1.35916	0.29966	0.19265	100.7	1.4	103.9	4.3	174.9	6.8	101.2	1.4	98.7	8.7	59.0	5.3	Selected	101.2	1.4
9	177.86	1204.64	0.46945	-2.63021	0.47039	86.7	14.6	900.2	13.7	981.0	11.5	890.6	15.0	1087.9	17.4	1509.8	18.8	Selected	867.6	14.6
10	132.11	338.52	0.40005	-0.06395	0.63338	2000.6	21.4	2034.6	21.2	2069.3	21.2	2004.5	21.5	2039.1	21.6	2077.1	21.6	Selected	2069.3	21.2
11	93.68	576.12	0.19970	0.04916	2.46514	990.9	17.3	1151.0	16.8	1466.4	16.2	991.0	17.3	1147.6	18.3	1457.9	18.1	Excluded		
12	24.62	1007.49	0.25289	-0.05331	-0.09301	158.8	1.8	156.5	2.9	124.0	2.2	159.0	1.8	157.9	3.8	144.1	3.4	Selected	159.0	1.8
13	10.61	87.84	0.48696	0.23024	0.05474	697.8	8.3	701.4	12.7	712.8	12.4	697.7	8.3	684.6	16.0	646.6	14.9	Selected	697.8	8.3
14	9.74	1659.40	0.05442	0.16788	-0.09153	40.8	0.6	40.2	1.2	16.6	0.5	40.8	0.6	39.0	1.2	1.6	0.0	Selected	40.8	0.6
15	5.64	553.28	0.63693	1.69723	0.03629	60.3	1.3	60.7	5.0	72.0	5.7	59.8	1.4	42.7	12.6	0.1	0.0	Selected	60.3	1.3
16	588.34	133.26	352.40524	-3.01915	4.67746	442.5	8.0	654.7	30.9	1476.3	49.4	456.5	8.4	789.4	29.8	1901.9	46.9	Excluded		
17	85.79	845.12	0.79101	0.00093	0.58310	552.8	5.9	586.9	7.5	720.6	8.8	554.7	6.0	586.8	13.1	720.4	15.1	Excluded		
18	1.74	110.66	0.96222	0.58686	5.26412	84.5	1.7	151.3	10.8	1390.1	57.6	80.3	1.8	72.3	18.3	0.6	0.2	Selected	80.3	1.8
19	72.51	835.03	0.75867	0.05564	-0.10709	477.5	5.1	471.6	6.4	443.2	5.9	478.5	6.5	468.3	49.5	424.5	45.6	Selected	477.5	5.1
20	2.24	231.14	0.77207	1.25977	2.48920	55.2	0.9	77.5	9.8	833.0	74.2	54.8	1.0	65.5	11.9	485.6	72.5	Selected	54.8	1.0
21	28.66	156.85	1.17662	-0.11927	0.42968	884.1	10.3	913.9	12.9	986.6	13.1	890.4	10.9	923.1	33.8	1014.9	35.6	Selected	884.1	10.3
22	0.89	60.55	0.76229	-0.20934	1.33260	84.2	1.8	102.1	8.4	544.1	35.4	84.3	1.9	105.1	12.6	606.0	57.0	Excluded		
23	333.60	570.56	0.50986	-0.08801	-0.09164	2652.9	28.7	2649.7	27.7	2647.3	27.3	2658.9	28.8	2654.7	28.3	2654.6	27.8	Excluded		
24	16.90	166.83	0.17317	-0.05351	-0.11496	642.7	7.7	635.3	11.6	609.3	10.8	643.3	7.7	639.0	12.3	625.3	11.6	Selected	643.3	7.7
25	62.82	315.43	0.59182	0.01277	-0.17759	1080.4	11.8	1067.4	12.8	1041.1	12.2	1082.2	11.8	1066.4	14.7	1038.2	14.0	Selected	1041.1	12.2
26	251.12	1110.82	0.13700	-0.39162	3.33791	1353.9	27.1	1559.3	22.7	1849.8	19.7	1359.5	27.3	1585.4	23.4	1901.6	20.7	Excluded		
27	17.34	121.19	0.59196	0.29369	0.40418	797.3	8.7	824.7	12.9	899.3	13.5	796.9	8.8	802.7	15.5	823.9	15.6	Selected	796.9	8.8
28	35.90	232.27	0.67911	-0.94451	0.21632	848.6	9.4	863.6	10.8	902.3	10.8	858.9	9.7	934.6	17.1	1124.2	19.1	Selected	848.6	9.4
29	5.01	501.51	0.44251	0.61419	0.33385	61.9	0.9	65.3	3.2	191.8	8.6	61.6	0.9	58.6	3.9	1.9	0.1	Selected	61.6	0.9
30	5.22	727.58	0.37605	0.15713	0.27573	45.5	0.6	47.6	1.9	154.1	5.7	45.5	0.6	46.3	2.3	92.4	4.3	Selected	45.5	0.6
31	31.64	183.26	0.57222	0.22755	0.30847	953.3	10.5	975.1	13.0	1024.5	13.2	953.9	10.7	957.1	21.4	970.4	21.3	Selected	953.9	10.7
32	161.51	918.20	0.13071	0.01936	0.02610	1077.9	11.5	1079.7	11.6	1083.4	11.3	1078.2	11.5	1078.2	11.7	1079.2	11.4	Selected	1079.2	11.4
33	64.88	119.39	0.49227	0.09136	0.07376	2524.4	26.9	2527.2	26.2	2529.5	25.9	2526.0	27.0	2521.8	26.3	2521.3	26.0	Selected	2521.3	26.0
34	224.67	3137.16	0.01329	0.01370	0.01262	483.8	5.6	484.5	5.6	487.6	5.1	483.8	5.6	483.7	5.6	483.6	5.1	Selected	483.8	5.6
35	26.16	144.50	0.96147	-0.19931	0.30201	917.5	11.4	938.8	13.5	988.9	13.1	923.1	11.6	954.3	18.9	1035.9	19.3	Excluded		
36	10.92	209.26	0.14855	0.71203	0.76062	341.6	5.0	374.7	11.8	584.2	16.2	339.5	5.0	341.4	13.8	356.2	13.9	Selected	339.5	5.0
37	20.17	181.93	1.55577	0.38085	-0.07608	508.6	5.9	504.3	8.8	484.9	8.1	511.0	6.1	480.4	21.0	356.4	16.3	Selected	508.6	5.9
38	18.96	125.28	0.75053	-0.13928	-0.26737	811.9	10.5	793.1	15.6	740.9	14.1	815.1	10.6	804.0	22.2	779.4	21.2	Selected	815.1	10.6
39	6.23	349.83	0.29887	-0.22444	-0.15193	115.0	1.7	112.2	3.7	57.3	1.8	115.3	1.7	116.6	5.0	143.1	5.9	Selected	115.3	1.7
40	53.84	314.41	0.76362	-0.88436	-0.30138	911.8	10.4	890.0	11.3	836.4	10.2	921.8	11.4	960.2	39.3	1055.0	41.3	Excluded		
41	10.73	70.93	0.57506	0.55160	0.53575	840.9	9.7	877.6	15.4	971.1	16.1	838.2	9.9	835.5	24.3	832.7	24.0	Selected	838.2	9.9
42	178.74	349.57	0.63928	0.06906	1.05535	2363.5	25.1	2408.3	24.7	2446.4	24.8	2366.6	25.2	2404.1	25.2	2439.9	25.3	Selected	2439.9	25.3
43	49.17	107.31	0.38414	0.03312	2.19574	2277.2	26.8	2373.1	25.6	2456.5	25.6	2279.2	26.8	2371.1	25.8	2455.4	25.7	Excluded		
44	41.35	249.47	0.36727	0.12501	-0.04754	963.1	10.3	959.7	12.1	952.0	11.8	963.3	10.3	949.5	12.9	920.8	12.3	Selected	963.1	10.3
45	9.74	101.69	0.38482	0.32904	0.62397	575.7	7.3	612.7	14.4	752.0	16.3	574.6	7.3	591.5	18.8	659.8	20.0	Selected	574.6	7.3
46	162.10	482.32	0.27404	-0.58928	16.26387	1871.1	26.7	2486.7	27.6	3036.6	30.8	1881.9	27.0	2510.7	28.0	3068.4	31.3	Excluded		
47	282.41	1083.77	0.13690	0.03399	1.77333	1518.9	19.3	1630.1	19.3	1776.7	19.4	1519.1	19.3	1627.7	19.4	1771.8	19.5	Excluded		
48	78.68	476.19	0.36261	0.36640	0.16334	960.0	10.3	971.6	11.2	997.9	11.2	958.3	10.3	942.1	11.9	908.1	11.3	Excluded		

Table DR4

KB-40-5

Grain	Pb*	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		$^{206}\text{Pb}$ corrected		$^{207}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		Selected age	Preferred age (Ma)	$\pm$ s.e.		
				Atomic	% Common $^{206}\text{Pb}$	% Common $^{206}\text{Pb}$	using $^{206}\text{Pb}$	using $^{206}\text{Pb}$	$^{206}\text{Pb}/^{238}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.				
49	34.54	254.56	0.64982	0.06965	0.00666	750.0	8.2	750.4	9.8	751.6	9.5	751.8	8.2	745.2	12.3	732.5	11.9	Selected	750.0	8.2
50	53.04	5327.28	0.60092	0.07593	0.02915	59.2	0.6	59.5	0.9	67.8	0.9	59.4	0.7	58.7	1.3	42.6	1.0	Selected	59.2	0.6
51	20.58	117.02	0.55040	-0.02359	0.15941	975.1	11.1	986.5	13.7	1011.8	13.5	977.1	11.1	988.3	15.1	1017.4	14.9	Selected	977.1	11.1
52	135.87	832.78	3.28144	1.02577	0.00571	550.3	5.8	550.7	6.7	551.8	6.5	558.0	6.4	482.7	44.1	197.3	20.5	Selected	550.3	5.8
53	31.83	354.87	0.98595	0.05199	0.03485	468.4	5.3	470.3	7.4	479.2	7.2	470.1	5.4	467.2	14.3	462.8	14.1	Selected	468.4	5.3
54	46.57	235.37	1.20894	2.51717	-0.19050	896.5	11.9	882.9	14.1	849.1	12.5	883.6	16.1	663.8	124.8	9.3	2.4	Excluded		
55	39.64	257.69	0.36211	0.19358	0.74501	902.1	10.0	953.3	11.9	1073.5	12.7	901.9	10.0	938.6	12.7	1029.3	13.3	Selected	901.9	10.0
56	1.70	160.18	0.76798	0.81238	0.40200	60.3	1.3	64.3	5.7	215.8	17.5	60.0	1.3	55.7	8.0	1.0	0.1	Selected	60.3	1.3
57	11.21	627.41	0.44715	-0.02826	-0.22068	110.4	1.3	106.5	2.7	28.1	0.7	110.7	1.3	107.1	4.3	35.1	1.4	Selected	110.7	1.3
58	2.89	267.84	0.93074	24.03253	21.46998	57.1	1.5	213.3	15.9	2748.0	78.9	46.1	1.8	29.5	29.9	0.0	0.0	Excluded		
59	16.31	359.66	1.93664	0.02849	0.44461	198.4	2.4	211.3	5.8	357.3	9.0	201.0	2.6	210.5	16.0	347.7	24.6	Selected	201.0	2.6
60	1.54	105.08	0.80488	4.68458	3.60045	81.1	1.7	126.3	10.4	1091.9	57.7	77.8	1.7	64.1	16.2	0.2	0.0	Selected	77.8	1.7
61	8.22	461.87	0.55952	1.03007	0.88021	106.1	1.9	120.9	5.6	421.5	16.2	105.3	1.9	102.6	7.4	47.1	3.4	Selected	105.3	1.9
62	38.24	465.51	0.20431	0.76174	0.47633	518.8	8.4	545.8	9.1	660.0	8.6	515.4	8.4	498.6	15.6	423.9	12.8	Excluded		
63	106.23	865.46	1.90930	-0.20897	6.13167	594.8	12.1	905.1	15.1	1764.8	18.8	744.6	15.8	1755.1	27.5	3334.4	36.8	Excluded		
64	10.44	169.88	0.12176	-0.20330	-0.05561	406.9	6.4	404.1	11.8	388.6	10.6	407.8	6.4	415.1	12.3	456.1	12.5	Selected	406.9	6.4
65	30.33	65.51	0.59934	0.19326	0.24050	2253.2	25.0	2264.4	24.8	2274.6	24.4	2254.3	25.1	2251.7	25.8	2253.8	25.3	Selected	2253.8	25.3
66	34.57	471.22	0.08901	-0.59156	0.72504	488.3	9.7	527.7	11.6	702.0	11.4	491.2	9.8	561.8	12.1	859.6	13.2	Excluded		
67	19.73	154.65	1.61040	-0.04904	0.17718	577.3	6.8	588.1	9.8	629.4	9.9	582.1	7.5	591.3	36.3	644.0	38.4	Selected	582.1	7.5
68	128.67	347.01	0.45327	-0.20663	5.49761	1922.2	21.0	2186.4	22.8	2444.3	24.9	1928.4	21.1	2198.1	23.0	2462.8	25.2	Excluded		
69	1.21	82.00	0.96594	0.28899	1.67631	80.6	1.7	102.1	7.9	639.9	38.0	80.7	1.8	98.2	11.8	556.2	53.4	Excluded		
70	47.57	80.86	0.94907	0.15567	1.14671	2502.0	27.4	2545.9	29.9	2581.0	29.8	2507.4	27.8	2536.9	32.5	2567.6	32.3	Selected	2567.6	32.3
71	19.03	61.75	0.96847	-0.13910	0.37508	1475.7	17.1	1500.9	19.2	1536.5	18.8	1483.2	17.3	1511.8	22.8	1560.2	22.6	Selected	1536.5	18.8
72	33.32	213.73	0.91105	-0.03449	0.34505	805.8	10.2	829.4	13.3	892.9	13.2	808.9	10.3	832.0	18.5	901.7	19.0	Selected	808.9	10.3
73	98.14	340.30	0.72550	-0.03584	0.26899	1459.1	15.6	1477.3	15.7	1503.5	15.7	1463.2	15.7	1480.2	19.2	1509.8	19.2	Selected	1503.5	15.7
74	20.10	144.73	0.53682	0.11904	0.10153	786.5	11.0	793.4	15.6	812.8	14.8	787.0	11.1	784.4	19.6	781.0	18.6	Selected	787.0	11.1
75	18.30	1917.66	0.03778	0.02137	0.14546	66.7	0.9	68.3	1.5	123.3	2.5	66.7	0.9	68.1	1.6	115.6	2.4	Selected	66.7	0.9
76	15.55	881.44	0.71182	0.48130	0.17614	101.3	1.1	104.2	2.5	169.1	3.8	101.2	1.2	95.9	3.7	3.9	0.2	Selected	101.3	1.1
77	1.46	160.33	1.17372	4.43551	1.56763	46.4	0.9	58.4	4.4	584.4	33.6	44.8	0.9	22.9	8.5	0.0	0.0	Excluded		
78	59.54	349.79	0.34367	-0.10479	-0.03826	994.5	10.7	991.8	11.5	985.8	11.1	996.9	10.7	1000.3	13.1	1010.7	12.9	Selected	994.5	10.7
79	36.55	127.72	0.82415	-0.07949	0.51106	1422.0	17.1	1456.6	17.5	1507.3	17.1	1427.8	17.3	1462.8	20.4	1521.1	20.1	Selected	1507.3	17.1
80	1.21	143.09	0.84637	0.62528	2.04527	47.4	0.9	63.4	4.3	716.3	35.2	47.2	1.0	58.2	6.9	539.5	50.3	Excluded		
81	87.27	175.57	0.45891	0.18521	1.62051	2384.8	25.8	2451.6	25.6	2507.5	25.7	2384.1	25.8	2440.7	25.9	2490.7	26.0	Selected	2490.7	26.0
82	6.39	410.06	2.04526	-0.68592	0.63259	67.6	0.9	74.6	3.1	305.5	11.3	68.9	1.1	82.8	12.0	530.4	62.4	Selected	68.9	1.1
83	3.48	1160.33	0.75990	0.35476	0.18083	17.2	0.2	17.7	0.9	89.0	4.5	17.2	0.3	16.6	1.7	2.0	0.2	Selected	17.2	0.2
84	16.61	933.86	0.47084	0.07781	-0.13766	109.0	1.3	106.6	2.6	57.0	1.4	109.1	1.3	105.2	3.1	25.3	0.8	Selected	109.0	1.3
85	23.61	613.81	0.68365	-0.00444	0.05248	221.1	2.8	222.8	6.4	239.8	6.6	221.5	2.8	222.8	9.5	240.3	10.1	Selected	221.5	2.8
86	2.31	249.95	0.61571	0.45298	0.59585	54.9	0.9	60.3	3.8	281.3	15.5	54.7	0.9	55.9	5.3	111.0	10.1	Selected	54.7	0.9
87	180.33	471.92	0.92645	0.32781	0.53772	1779.4	19.1	1811.6	19.0	1848.8	19.0	1781.1	19.2	1787.1	20.7	1802.0	20.5	Selected	1802.0	20.5
88	20.76	210.48	0.36032	0.06982	0.56419	597.1	7.8	631.3	11.3	755.5	12.1	597.4	7.9	626.7	14.6	736.5	15.8	Selected	597.4	7.9
89	7.01	1308.26	0.34864	-0.03365	0.40019	34.3	0.5	36.6	1.5	191.4	7.1	34.3	0.5	36.8	1.7	204.5	8.7	Selected	34.3	0.5
90	27.45	1593.45	0.46750	0.15574	0.05780	105.7	1.2	106.7	2.1	126.9	2.4	105.8	1.2	103.9	4.3	67.7	2.8	Selected	105.7	1.2
91	24.52	177.70	0.77826	0.07209	0.51214	740.6	9.0	774.5	12.7	873.2	13.3	742.7	9.1	769.3	17.0	854.8	17.8	Selected	742.7	9.1
92	55.22	849.86	0.12929	0.07619	0.87122	427.0	6.0	470.6	8.0	689.0	9.8	426.9	6.0	466.5	8.1	667.5	9.8	Excluded		
93	46.91	669.76	4.99199	-4.98783	0.33799	190.8	2.1	200.4	3.4	313.5	5.0	215.4	4.2	346.9	58.5	1496.3	155.2	Selected	190.8	2.1
94	145.84	821.43	0.84323	0.00231	0.17799	921.5	10.3	934.1	10.6	963.8	10.4	925.0	10.5	933.9	18.1	963.3	18.2	Excluded		
95	44.71	576.54	0.47382	-0.24930	0.03180	462.1	5.1	463.8	6.6	472.0	6.4	464.4	5.2	478.3	13.7	551.3	15.1	Selected	462.1	5.1
96	36.47	379.42	0.65824	-0.12971	-0.06958	540.2	6.1	536.1	8.7	518.9	8.2	542.5	6.3	544.4	19.2	559.1	19.5	Selected	542.5	6.3

Table DR4

KB-40-5

Grain	Pb*	U (ppm)	Th/U	Atomic	Uncorrected			Uncorrected			Uncorrected			$^{208}\text{Pb}$ corrected			$^{207}\text{Pb}$ corrected			$^{206}\text{Pb}$ corrected			Selected age	Preferred age (Ma)	$\pm$ s.e.
					% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	$^{208}\text{Pb}/^{232}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{208}\text{Pb}/^{232}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{Pb}^*$	Selected	Selected	$\pm$ s.e.
97	3.17	1285.32	0.49882	-0.37331	0.13532	15.2	0.3	15.6	1.0	67.8	4.1	15.3	0.3	16.6	1.4	215.8	16.4	Selected	15.2	0.3					
98	8.34	802.85	1.02170	0.21501	0.02686	55.6	0.7	55.9	1.8	62.9	2.0	55.8	0.7	53.7	3.2	4.2	0.3	Selected	55.6	0.7					
99	7.11	51.51	0.41307	0.21148	0.21626	804.8	10.2	819.7	18.3	860.0	18.3	804.9	10.3	803.6	22.1	804.6	21.7	Selected	804.9	10.3					
100	4.75	427.14	2.11265	1.03547	0.46409	47.4	0.7	51.1	2.5	227.1	10.0	47.5	0.8	42.4	7.5	0.5	0.1	Selected	47.4	0.7					
101	14.14	786.33	0.35234	0.06683	-0.00980	113.8	1.4	113.6	2.7	111.8	2.5	114.0	1.4	112.3	5.1	84.3	3.8	Selected	113.8	1.4					
102	66.69	803.83	0.38194	-0.58249	-0.08411	505.9	5.7	501.1	6.6	479.6	5.9	509.4	5.8	536.9	8.8	658.0	10.1	Excluded							
103	2.46	212.41	1.37465	-1.72679	0.45586	58.2	1.0	62.7	3.6	233.7	12.0	59.7	1.1	80.6	6.6	769.5	45.3	Selected	58.2	1.0					
104	39.91	202.38	0.75485	-0.57561	-0.19464	1036.9	11.3	1022.7	12.7	992.6	12.0	1045.2	11.4	1069.6	15.8	1125.5	16.1	Selected	992.6	12.0					
105	194.53	2433.90	0.40109	-0.40184	-0.16911	484.9	5.4	475.5	5.6	430.4	4.8	488.0	6.4	499.7	40.0	559.1	43.5	Selected	484.9	5.4					
106	32.30	1917.97	2.92082	-15.74553	0.29378	63.6	0.9	66.7	1.7	178.2	3.9	76.7	1.9	257.1	19.1	2630.2	79.8	Excluded							
107	59.59	392.40	0.51662	0.27743	0.14506	857.2	9.9	867.3	10.8	893.1	10.5	857.7	10.1	845.6	22.8	821.3	22.0	Excluded							
108	298.18	800.55	0.33268	0.09292	4.56850	1965.2	24.0	2186.2	23.4	2400.5	24.3	1965.1	24.0	2180.8	23.5	2391.8	24.4	Excluded							
109	22.33	194.55	1.76128	-0.48636	0.08725	507.7	5.8	512.7	9.0	534.6	9.0	514.3	6.7	542.4	38.0	680.3	44.7	Selected	507.7	5.8					
110	2.88	161.79	0.54073	1.30163	1.25801	106.7	2.2	127.7	9.2	539.2	31.2	105.5	2.3	104.6	11.7	89.3	10.0	Selected	105.5	2.3					
111	176.59	1043.46	0.66675	-0.10119	0.16951	917.7	9.8	929.7	10.2	958.1	10.2	921.1	9.8	937.6	12.2	982.7	12.4	Excluded							
112	38.86	239.58	0.10786	-1.06415	-0.23001	806.6	9.5	790.5	11.9	745.5	10.8	817.8	9.7	871.3	17.5	1017.7	19.0	Selected	806.6	9.5					
113	16.75	67.49	2.26614	-0.31561	-0.08340	964.6	11.3	958.6	16.7	944.9	16.1	980.2	12.5	984.0	47.6	1021.0	48.4	Selected	980.2	12.5					
114	8.69	1264.98	0.37665	-0.05260	0.18807	43.6	0.6	45.0	1.9	117.8	4.8	43.7	0.6	45.4	3.2	139.5	9.4	Selected	43.6	0.6					
115	7.71	53.31	0.48675	0.13809	0.24494	827.1	9.8	844.0	17.7	886.6	18.0	827.8	9.9	833.5	21.0	853.2	21.0	Selected	827.8	9.9					
116	182.75	1334.93	0.18162	1.24889	4.34377	844.5	10.7	1101.3	13.2	1651.0	17.5	835.5	10.6	1023.7	13.3	1453.1	16.5	Excluded							
117	299.53	559.03	0.53929	0.01443	-0.10470	2480.5	26.1	2476.3	25.3	2472.9	25.0	2484.1	26.1	2475.4	25.4	2471.5	25.1	Selected	2472.9	25.0					
118	208.31	1375.02	0.41948	0.02929	0.17367	876.8	10.8	889.0	10.8	919.3	10.1	877.9	10.9	886.7	14.6	912.0	14.2	Selected	877.9	10.9					
119	16.45	171.61	0.40801	-0.04835	0.14026	574.1	6.5	582.5	10.9	615.5	11.1	575.4	6.5	585.7	12.6	630.0	13.0	Selected	574.1	6.5					
120	13.94	86.90	0.68342	-0.03813	-0.02267	869.7	11.0	868.1	16.3	864.1	15.5	872.1	11.1	871.1	21.1	873.8	20.6	Selected	872.1	11.1					
121	315.65	4780.98	0.01264	0.08780	447.9	5.2	452.6	5.3	475.9	5.1	447.9	5.2	452.5	5.3	475.7	5.1	Selected	447.9	5.2						
122	60.84	540.60	0.39315	1.75677	0.05795	658.2	13.1	662.0	13.2	674.4	10.0	648.7	13.1	532.1	31.4	65.8	4.7	Excluded							
123	94.44	1293.88	0.23848	-0.06678	-0.03566	462.9	5.1	461.0	5.9	451.7	5.5	463.6	5.1	464.9	6.7	473.1	6.5	Excluded							
124	223.19	1103.56	0.64818	0.55860	2.52899	1084.4	12.7	1232.8	15.5	1502.6	17.5	1081.0	12.7	1192.5	17.5	1405.0	19.1	Excluded							
125	24.75	298.32	0.47945	1.26311	0.51369	486.9	26.2	510.0	24.0	641.5	11.0	482.1	26.0	438.9	29.3	223.9	12.2	Excluded							
126	2.79	197.79	0.51186	4.21222	4.11597	84.1	1.6	137.1	7.4	1192.7	40.1	81.0	1.6	79.5	9.5	45.4	5.5	Selected	81.0	1.6					
127	96.38	1353.30	0.06086	0.00147	-0.06484	474.8	5.9	471.2	6.4	454.2	5.5	474.9	5.9	471.1	6.6	453.5	5.7	Selected	474.8	5.9					
128	2.64	292.86	0.37462	1.07969	1.26714	56.8	0.9	68.6	3.3	503.4	19.7	56.3	0.9	57.9	4.1	129.7	8.7	Selected	56.3	0.9					
129	95.47	529.91	0.35131	-0.06470	0.11371	1044.6	11.8	1052.8	12.9	1069.7	12.5	1046.6	11.8	1058.0	13.5	1084.5	13.3	Selected	1069.7	12.5					
130	33.00	328.17	0.23730	0.49624	3.50960	628.6	9.6	823.8	19.9	1394.7	26.6	627.1	9.7	795.1	27.9	1305.1	36.8	Excluded							
131	173.36	522.48	0.07661	-0.00379	0.06737	1871.8	19.9	1875.7	19.5	1880.0	19.3	1872.3	19.9	1876.0	19.6	1880.6	19.3	Selected	1880.0	19.3					
132	9.45	463.23	1.25874	0.69967	0.47829	102.9	1.4	110.7	4.7	282.4	10.8	102.8	1.5	98.5	8.9	18.1	1.7	Selected	102.8	1.5					
133	100.84	816.76	0.00529	0.01945	0.08763	808.0	9.1	814.1	9.5	830.5	9.2	807.9	9.1	812.6	9.5	825.4	9.1	Excluded							
134	73.28	971.10	0.29418	-0.09504	0.04985	471.0	5.1	473.7	5.8	486.5	5.8	471.9	5.1	479.3	8.3	517.0	8.7	Excluded							
135	91.11	728.85	0.36426	-1.17891	-0.00727	752.4	8.8	751.9	10.1	750.6	9.5	761.6	8.9	837.7	13.1	1047.4	15.1	Excluded							
136	378.64	567.52	0.60149	-0.03151	10.30258	2938.0	31.0	3176.4	32.2	3330.7	33.5	2943.0	31.1	3177.7	32.3	3332.2	33.5	Excluded							
137	24.96	290.02	0.56876	-2.00623	1.15787	507.5	6.5	570.9	13.7	831.8	17.5	518.4	6.7	683.6	17.2	1277.3	25.7	Excluded							
138	46.03	549.91	0.58638	1.17835	0.37775	477.7	6.1	498.2	8.9	593.5	9.6	473.6	6.1	427.7	13.2	194.2	6.4	Excluded							
139	41.54	1269.22	0.35345	-0.04982	0.11468	205.9	2.9	209.4	3.7	247.8	3.7	206.3	2.9	211.0	6.2	266.4	7.2	Selected	205.9	2.9					
140	3.40	83.55	0.95364	5.46971	0.80076	211.4	4.6	235.7	12.3	484.6	21.3	201.9	4.5	53.3	24.7	0.0	0.0	Excluded							
141	93.72	306.21	0.56346	-0.12631	0.30287	1587.6	18.4	1607.3	18.8	1633.1	18.3	1593.0	18.5	1617.1	20.4	1653.4	20.0	Selected	1633.1	18.3					
142	5.00	538.31	0.80145	1.61852	1.64334</																				

Table DR4

## KB-40-5

Grain	Pb*	U (ppm)	Atomic	Uncorrected			Uncorrected			Uncorrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected			Selected age	Preferred age (Ma)	$\pm$ s.e.	
				% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	using $^{208}\text{Pb}$	% Common $^{208}\text{Pb}$	using $^{206}\text{Pb}$	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	Selected	49.7	0.9
145	2.79	312.12	0.66727	3.30063	3.37979	51.2	0.9	79.0	4.7	1030.3	39.7	49.7	0.9	50.2	7.7	79.4	11.9	Selected	49.7	0.9					
146	124.23	932.42	0.58854	-0.07572	0.12076	748.8	8.4	756.9	9.6	780.9	9.4	750.7	8.5	762.5	13.0	801.4	13.2	Excluded							
147	1.68	153.09	0.47610	1.05207	2.33102	67.6	1.3	92.8	6.7	802.3	41.3	67.1	1.3	80.7	8.1	510.9	41.4	Excluded							
148	10.49	441.67	0.01938	0.26325	0.57485	165.0	2.2	179.2	6.1	371.3	11.2	164.5	2.2	172.3	6.2	279.5	9.3	Selected	164.5	2.2					
<b>KB-41-5</b>																									
1	31.71	509.53	0.08740	0.15097	0.26410	413.7	5.0	427.0	10.1	498.8	11.1	413.6	5.0	418.8	10.7	450.0	11.1	Selected	413.6	5.0					
2	44.73	337.00	0.40285	0.12202	0.26673	780.1	10.0	798.2	11.9	848.9	11.5	783.1	10.0	789.0	13.4	816.9	13.0	Excluded							
3	218.35	1422.66	0.06988	0.02804	0.08671	968.5	18.1	974.7	15.8	988.6	11.9	968.8	18.1	972.4	16.7	981.9	13.0	Selected	968.8	18.1					
4	259.41	1740.20	0.11043	-0.26757	0.53238	936.8	12.6	974.0	12.1	1058.7	11.3	940.0	12.6	994.5	12.6	1118.7	12.3	Selected	936.8	12.6					
5	16.86	153.29	0.78755	-2.59995	0.73130	608.4	9.4	652.8	12.8	809.5	13.5	628.9	9.8	814.0	20.7	1376.9	27.4	Excluded							
6	46.70	153.74	0.93328	-0.34277	0.34224	1469.2	17.2	1492.3	18.0	1525.2	17.5	1490.4	18.1	1519.3	31.2	1583.3	31.3	Selected	1525.2	17.5					
7	136.35	1890.85	0.02831	-0.01960	-0.01280	485.1	5.9	484.4	6.3	481.3	5.6	485.3	5.9	485.5	6.4	487.2	5.7	Selected	485.3	5.9					
8	0.61	28.80	0.39394	5.32666	5.58287	128.9	10.3	230.9	40.7	1459.8	139.8	123.6	10.4	127.2	7.0	216.2	113.4	Selected	123.6	10.4					
9	18.20	965.02	0.61644	-0.31899	0.22887	111.8	1.3	115.9	2.5	199.3	4.0	113.1	1.4	121.9	5.2	316.1	12.3	Selected	111.8	1.3					
10	68.84	874.88	0.05706	-0.23190	0.23828	523.8	6.3	537.5	7.4	595.8	7.5	525.1	6.3	551.9	7.7	664.4	8.4	Excluded							
11	34.88	1498.27	0.03804	0.86572	0.24470	160.3	4.4	166.3	6.7	251.4	7.9	159.1	4.4	143.8	11.5	1.1	0.1	Selected	160.3	4.4					
12	103.52	980.09	1.25622	-0.98501	0.27829	520.8	8.5	536.7	10.2	604.8	9.5	534.7	9.3	596.5	42.0	875.5	54.1	Excluded							
13	2.03	197.45	1.33352	-0.36351	1.18267	51.9	1.3	62.0	6.1	473.5	37.3	53.0	1.4	65.4	10.1	584.2	70.0	Excluded							
14	129.60	275.85	0.12191	-0.23489	1.43447	2426.4	26.3	2484.2	25.7	2531.8	25.7	2433.1	26.4	2497.9	26.0	2552.6	26.1	Selected	2531.8	25.7					
15	13.90	787.69	0.44549	-0.01115	0.66099	109.9	1.8	121.3	5.1	352.1	12.8	109.9	1.8	121.5	5.2	356.1	13.1	Excluded							
16	2459.90	1021.97	350.90607	0.53438	0.18063	113.8	1.7	117.0	5.0	182.8	7.4	113.3	1.7	106.8	6.2	3.2	0.2	Selected	113.8	1.7					
17	54.33	453.60	0.28322	0.99178	1.20555	725.2	20.4	802.1	24.4	1021.9	22.4	721.9	20.4	732.5	26.9	775.7	23.6	Excluded							
18	102.93	707.47	0.26574	-0.05082	0.43416	878.9	13.2	909.0	12.5	982.8	10.9	882.0	13.3	912.9	14.5	995.0	13.5	Selected	878.9	13.2					
19	110.12	621.68	0.74435	-0.45357	0.18832	943.1	12.7	956.5	17.0	987.2	16.3	952.9	13.0	992.0	21.9	1092.6	22.4	Selected	943.1	12.7					
20	16.02	180.46	0.22854	-0.24528	0.55713	561.1	8.4	593.9	14.4	721.1	15.6	563.6	8.5	609.4	19.4	787.9	22.5	Selected	561.1	8.4					
21	14.69	103.98	0.40942	0.11012	0.62365	824.6	14.2	866.9	28.6	976.5	29.4	827.9	14.4	858.7	33.4	950.0	34.4	Selected	827.9	14.4					
22	13.24	140.79	0.52959	-0.08423	0.18943	546.9	7.2	558.0	12.3	603.6	12.5	550.9	7.3	563.4	15.4	628.8	16.2	Selected	546.9	7.2					
23	89.97	641.90	0.25923	-1.08298	0.60441	859.2	9.6	900.7	10.7	1003.8	11.3	869.9	9.8	980.0	15.9	1240.1	18.4	Excluded							
24	19.24	324.97	0.58897	1.42049	0.38465	341.4	4.8	358.3	10.5	468.9	12.6	339.9	4.9	290.2	22.5	1.6	0.1	Selected	341.4	4.8					
25	192.30	607.71	0.44321	-0.61454	0.43904	1679.7	19.4	1707.2	18.4	1741.1	17.9	1695.9	20.1	1753.4	28.6	1831.2	28.7	Selected	1741.1	17.9					
26	3.39	345.43	0.42649	0.71482	0.75251	61.0	1.0	68.6	3.6	341.1	1.5	60.9	1.0	60.9	4.8	74.3	5.7	Selected	60.9	1.0					
27	27.15	181.50	1.14660	1.60279	4.13011	739.6	14.3	977.3	26.2	1558.3	31.6	737.6	14.9	879.9	50.8	1282.5	61.7	Excluded							
28	4.05	35.57	0.15784	-0.89650	0.22970	523.0	8.5	509.6	21.8	450.0	19.1	539.6	10.0	565.8	59.8	722.4	70.7	Selected	523.0	8.5					
29	141.84	661.55	0.15726	-0.17133	0.79573	1279.3	14.4	1334.0	14.8	1422.9	15.1	1283.3	14.4	1347.4	15.0	1453.9	15.5	Excluded							
30	17.36	49.39	1.71238	1.47540	0.59164	1439.9	41.7	1479.5	55.5	1536.7	51.2	1456.3	43.0	1358.5	100.6	1261.4	94.1	Selected	1536.7	51.2					
31	301.68	529.44	0.22701	0.21342	-0.14790	2716.6	31.2	2711.7	28.4	2708.1	27.6	2717.5	31.3	2699.9	29.0	2691.0	28.2	Selected	2708.1	27.6					
32	49.56	78.78	0.64137	-0.31557	1.21082	2750.6	31.5	2788.2	29.7	2815.5	29.3	2771.2	31.8	2804.5	30.3	2838.4	29.9	Selected	2815.5	29.3					
33	38.90	1361.68	0.01322	0.20809	0.22380	198.2	2.7	204.7	5.2	279.9	6.6	197.9	2.7	198.3	5.3	204.2	5.1	Selected	197.9	2.7					
34	20.14	140.16	0.59111	0.22023	0.14469	800.8	10.9	810.8	14.6	838.3	13.9	805.4	11.0	794.0	19.5	779.7	18.5	Selected	800.8	10.9					
35	173.93	272.66	1.60574	-0.20138	1.11491	2427.5	26.4	2472.8	25.5	2510.2	25.4	2469.9	27.0	2484.7	27.0	2528.3	27.0	Selected	2528.3	27.0					
36	9.11	573.24	0.02968	0.05115	-0.34331	110.7	2.4	104.6	7.6	6.0	0.4	110.7	2.4	103.7	7.7	2.0	0.2	Selected	110.7	2.4					
37	25.09	159.43	0.52121	0.10692	0.46903	886.6	11.9	919.1	17.7	997.9	17.7	891.9	12.1	910.9	22.5	972.5	22.7	Selected	891.9	12.1					
38	32.49	396.52	1.04088	-0.04775	0.30480	424.9	5.1	440.4	12.2	522.0	13.8	431.7	5.3	443.0	20.9	537.0	24.1	Selected	431.7	5.3					
39	2.46	273.50	0.45738	0.47337	0.28387	55.5	0.9	58.2	4.0	166.8	10.6	55.7	1.0	53.5	4.9	4.1	0.4	Selected	55.7	1.0					
40	24.04	3097.60	0.72464	1.58239	1.53789	44.5	0.8	55.9																	

Table DR4

KB-41-5

Grain	Pb*	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		$^{206}\text{Pb}$ corrected		$^{207}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		Selected age	Preferred age (Ma)	$\pm$ s.e.		
				Atomic	% Common $^{206}\text{Pb}$	% Common $^{206}\text{Pb}$	using $^{206}\text{Pb}$	using $^{206}\text{Pb}$	$^{206}\text{Pb}/^{238}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.				
44	38.79	255.41	0.80729	0.73988	0.34694	800.3	9.9	823.9	13.8	888.1	13.9	803.9	10.0	767.4	20.4	688.5	18.5	Selected	800.3	9.9
45	3.85	354.52	1.11075	0.98004	0.02966	56.8	0.9	57.1	3.0	65.4	3.4	57.3	0.9	47.2	6.4	0.2	0.0	Selected	56.8	0.9
46	79.23	526.28	0.40521	0.39721	0.26587	873.1	12.6	891.7	12.9	937.8	11.6	874.5	12.7	860.6	19.6	836.8	18.1	Excluded		
47	34.64	246.87	0.84117	1.27392	0.17330	734.4	9.0	746.0	11.6	780.7	11.3	734.6	9.1	649.2	18.9	391.7	12.4	Excluded		
48	92.71	1439.64	0.10733	-0.07098	0.01996	425.9	9.4	426.9	9.3	432.1	6.1	426.8	9.4	430.9	9.5	455.8	6.7	Selected	425.9	9.4
49	4.80	419.83	0.48793	0.47815	1.29930	70.1	1.1	84.8	4.8	523.3	23.7	70.3	1.1	79.1	5.7	370.6	23.0	Selected	70.3	1.1
50	23.88	4682.66	0.13226	0.16543	0.34778	34.7	0.6	36.8	0.8	171.9	3.1	34.7	0.6	35.7	1.1	107.6	2.9	Excluded		
51	6.20	401.76	0.25863	-0.05941	0.23262	100.8	1.9	104.5	3.9	190.1	6.3	101.2	1.9	105.6	5.0	213.1	9.0	Selected	100.8	1.9
52	275.81	532.57	0.64844	-0.50293	1.83962	2396.6	26.3	2471.6	25.5	2533.9	25.6	2419.9	26.6	2500.7	26.0	2577.9	26.3	Selected	2533.9	25.6
53	58.81	566.73	0.10015	0.10972	0.05812	669.6	7.6	673.4	9.0	685.8	8.7	669.8	7.6	665.5	9.2	654.3	8.6	Excluded		
54	110.97	1395.71	0.02787	0.22817	0.21874	531.4	7.9	544.1	8.9	597.3	8.1	530.5	7.9	529.7	10.0	527.4	8.8	Selected	530.5	7.9
55	42.18	269.35	0.63467	0.75510	0.70479	856.1	9.7	904.1	12.9	1023.3	13.8	857.6	9.7	846.5	15.9	837.4	15.4	Selected	857.6	9.7
56	53.24	489.91	0.17335	0.01320	0.49144	686.6	8.2	718.3	10.1	818.3	10.6	688.0	8.2	717.3	10.9	814.9	11.5	Excluded		
57	141.70	380.97	0.58760	0.37468	0.34139	1851.1	22.6	1871.0	21.0	1893.2	20.0	1856.2	23.0	1843.1	28.6	1840.9	27.7	Selected	1840.9	27.7
58	77.09	401.46	0.59367	0.43000	0.14831	1042.3	11.5	1052.9	12.8	1074.9	12.6	1046.2	11.6	1017.6	16.6	973.8	15.7	Selected	1074.9	12.6
59	47.44	412.91	0.70531	0.10776	0.16776	634.0	7.1	644.6	9.6	681.8	9.7	639.4	7.3	637.1	18.3	650.5	18.4	Selected	639.4	7.3
60	108.22	384.21	0.47954	0.02180	0.59488	1503.9	26.0	1543.2	22.1	1597.3	18.7	1511.2	26.3	1541.5	25.7	1593.7	22.9	Selected	1593.7	22.9
61	208.50	3004.37	0.10578	0.00703	0.17904	457.5	6.3	467.1	6.5	514.0	5.8	458.1	6.3	466.7	6.8	512.0	6.2	Selected	458.1	6.3
62	20.04	117.19	0.74747	-0.35950	0.38061	912.2	11.4	938.9	15.4	1001.9	15.4	923.6	11.6	966.5	19.4	1084.9	20.3	Selected	912.2	11.4
63	13.03	766.12	0.42124	0.29173	0.05589	105.6	1.3	106.6	2.9	126.1	3.3	106.0	1.4	101.3	8.7	159.1	1.4	Selected	105.6	1.3
64	2.61	132.26	1.57894	-0.22838	2.18179	94.5	4.5	126.7	18.0	782.9	78.3	96.8	4.9	130.3	32.4	840.5	148.7	Excluded		
65	208.23	563.44	0.66904	0.05730	0.38352	1815.2	19.7	1837.9	19.3	1863.7	19.1	1827.7	22.2	1833.6	48.0	1855.7	47.7	Selected	1855.7	47.7
66	7.29	363.48	0.82644	0.62405	-0.81297	111.4	3.2	96.7	7.2	0.7	0.0	111.7	3.3	84.7	17.7	0.2	0.0	Selected	111.7	3.3
67	287.85	1483.13	0.22828	-0.08532	4.78615	1159.5	22.0	1445.7	21.0	1896.0	20.4	1163.3	22.1	1451.0	21.8	1906.9	21.5	Excluded		
68	12.90	23.11	0.27337	2.20884	3.48425	1964.7	31.0	2137.8	32.6	2308.6	31.6	1993.9	38.3	1996.1	91.3	2067.5	90.7	Selected	2067.5	90.7
69	228.30	1088.63	0.02912	0.10267	-0.09968	1289.3	19.6	1282.2	16.6	1270.3	13.7	1288.5	19.6	1273.6	16.9	1249.2	13.9	Selected	1270.3	13.7
70	36.01	598.38	0.17547	0.34421	0.62230	390.3	5.5	419.9	9.0	586.1	10.9	390.0	5.5	402.3	11.3	479.5	12.4	Selected	390.0	5.5
71	21.78	734.19	0.05104	-0.15436	0.93481	204.5	2.5	232.0	12.9	520.3	25.3	204.9	2.5	236.9	13.2	567.5	27.1	Excluded		
72	182.14	207.93	0.01080	-0.05545	-2.60126	3229.0	36.2	3184.1	32.9	3155.9	32.0	3256.4	36.8	3186.6	33.6	3159.1	32.7	Selected	3155.9	32.0
73	10.06	97.75	0.41521	1.26244	0.88198	603.4	8.4	656.4	20.5	842.9	23.8	600.5	8.4	572.6	25.8	480.1	22.2	Selected	600.5	8.4
74	3.65	328.84	0.91255	-0.42605	-0.40988	61.4	1.1	57.2	4.3	1.8	0.1	62.5	1.2	61.8	7.7	66.6	8.2	Selected	62.5	1.2
75	2.59	152.87	1.27841	2.17529	0.92800	85.2	2.8	97.9	8.4	419.6	28.9	85.4	3.0	66.4	20.1	0.2	0.0	Selected	85.4	3.0
76	87.60	657.80	0.46936	-0.52783	0.74870	774.9	9.8	824.7	15.5	961.0	16.6	782.2	11.2	862.3	51.2	1083.3	58.3	Selected	774.9	9.8
77	6.55	649.13	0.13877	0.66525	0.26575	68.0	1.2	71.0	5.0	171.6	11.3	67.7	1.2	63.1	6.5	1.1	0.1	Selected	68.0	1.2
78	3.15	160.38	0.64660	-0.14166	0.37121	115.3	2.3	122.0	8.4	255.2	16.0	116.5	2.3	124.8	11.9	306.4	26.5	Selected	115.3	2.3
79	19.75	284.79	0.12897	0.24387	-0.28637	341.1	7.4	328.3	17.5	239.0	12.6	347.5	8.0	316.4	45.4	144.9	22.3	Selected	341.1	7.4
80	52.23	246.55	2.36685	-1.15053	0.02068	818.8	9.3	820.3	12.7	824.1	12.4	860.3	10.1	906.4	32.0	1103.1	35.8	Selected	818.8	9.3
81	1.21	95.38	0.85635	0.69771	1.20983	71.0	3.4	85.0	15.5	496.9	72.4	71.6	3.5	76.4	20.3	264.4	63.2	Selected	71.6	3.5
82	24.24	213.74	0.51618	0.43639	0.50410	653.4	7.7	685.2	11.2	791.0	12.0	655.4	7.8	655.0	15.4	670.1	15.3	Selected	655.4	7.8
83	1.49	149.79	0.88152	0.35212	2.09611	56.3	2.9	75.5	15.2	735.5	106.3	56.9	3.0	72.0	20.3	639.6	136.6	Selected	56.9	3.0
84	2.18	247.42	0.93715	0.79374	-0.12066	48.1	0.8	47.1	3.1	14.0	0.9	48.5	0.9	40.3	6.1	0.3	0.0	Selected	48.1	0.8
85	9.47	1815.38	0.08213	0.48825	0.35538	35.9	0.8	38.1	1.9	175.9	7.5	35.8	0.8	35.0	2.0	4.7	0.3	Selected	35.8	0.8
86	39.57	768.73	0.11133	0.97007	0.51611	339.2	4.9	361.6	6.1	508.2	7.0	336.8	4.9	315.9	6.7	171.1	3.4	Excluded		
87	9.17	785.42	0.57336	0.45041	0.09535	69.6	1.0	70.7	2.3	106.1	3.2	70.0	1.2	65.3	12.1	1.4	0.3	Selected	69.6	1.0
88	286.46	865.94	0.26495	-0.12843	0.66443	1799.5	19.2	1838.8	19.2	1883.5	19.2	1806.2	19.4	1848.2	20.3	1901.1	20.5	Selected	1883.5	19.2
89	2.26	115.77	1.16081	2.32881	0.26627	100.1	1.9	104.4	7.8	202.2	14.1	100.0	2.1	64.8	18.2	0.1	0.0	Selected	100.1	1.9
90	50.95	300.74	0.17920	-0.14078	-0.15232	1030.3	12.2	1019.2	14.4	995.6	13.4	1033.8	12.3	1030.8	16.9	1028.9	16.3	Selected	1028.9	16.3
91	37.20	448.53	0.09921	0.00150	0.26603	542.6	6.7	558.2	9.4	621.9	9.6	543.3	6.8	558.1	11.3	621.6	11.7	Excluded		

Table DR4

KB-41-5

Grain	Pb*	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		<sup>206</sup> Pb corrected		<sup>207</sup> Pb corrected		<sup>208</sup> Pb corrected		Selected age	Preferred age (Ma)	± s.e.		
				Atomic % Common <sup>206</sup> Pb	% Common <sup>206</sup> Pb using <sup>204</sup> Pb	<sup>206</sup> Pb/ <sup>238</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>235</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>238</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>235</sup> U age (Ma)	± s.e.	<sup>207</sup> Pb/ <sup>238</sup> Pb* age (Ma)	± s.e.					
92	5.98	434.72	0.56192	0.48383	0.69026	82.4	1.2	91.7	3.9	338.3	82.8	1.2	84.8	6.4	162.4	11.7	Selected	82.8	1.2	
93	3.46	367.33	0.17920	4.64833	3.40173	60.7	1.3	93.6	6.9	1040.2	49.5	58.5	1.3	46.3	8.1	0.2	0.0	Selected	58.5	1.3
94	275.33	1169.39	0.14575	-0.02671	0.45087	1388.3	18.5	1419.1	16.5	1465.6	15.2	1390.8	18.6	1421.2	18.6	1470.4	17.6	Selected	1465.6	15.2
95	31.78	437.23	0.25601	2.61865	1.30686	448.6	5.4	514.8	8.6	820.9	11.9	440.1	5.3	367.3	10.4	2.0	0.1	Excluded		
96	28.41	187.83	0.65002	-0.08711	0.68704	831.8	11.5	878.4	15.0	997.6	15.2	839.7	11.7	884.8	19.1	1018.1	19.9	Excluded		
97	28.10	231.53	0.41766	0.56174	0.58147	712.4	8.0	750.2	11.7	864.5	12.7	712.8	8.1	709.9	17.7	714.2	17.6	Selected	712.8	8.1
98	147.35	770.19	0.72044	-0.53680	0.66448	1019.2	11.3	1065.8	12.7	1162.3	13.2	1032.7	11.5	1107.0	15.9	1273.3	17.2	Excluded		
99	69.65	962.54	0.39205	0.13483	0.06867	439.8	6.8	443.4	7.6	461.7	6.5	441.7	7.1	435.7	26.7	417.6	25.4	Selected	439.8	6.8
100	83.05	568.82	0.13748	0.01054	0.33235	910.0	10.7	933.4	11.9	988.7	11.7	911.5	10.8	932.5	13.7	986.2	13.7	Excluded		
101	2.12	491.93	1.00623	1.66416	1.05296	23.3	0.5	27.4	1.9	409.8	23.2	23.3	0.6	20.5	5.5	0.4	0.1	Selected	23.3	0.6
102	46.32	1539.01	0.01560	0.01845	0.33383	208.8	4.1	219.0	6.2	328.8	7.4	208.8	4.1	218.4	6.4	322.5	7.7	Selected	208.8	4.1
103	153.47	1471.36	0.13668	1.41092	4.88892	663.5	10.2	928.3	13.9	1624.1	18.8	656.8	10.2	849.1	14.8	1397.8	19.0	Excluded		
104	44.12	262.15	0.50744	0.04104	0.04196	946.1	17.9	949.1	16.7	956.0	12.9	953.2	18.2	945.8	22.7	946.0	20.0	Selected	946.1	17.9
105	1.81	129.40	0.78092	-0.50710	-0.05266	79.9	4.3	79.2	8.5	61.9	5.9	81.2	4.4	86.2	14.2	254.5	36.8	Selected	79.9	4.3
106	34.80	345.23	0.22106	0.95686	0.44513	624.4	13.7	652.0	15.6	748.7	13.5	620.1	13.7	586.1	26.8	462.0	20.9	Selected	624.4	13.7
107	4.62	183.84	1.40609	-0.00192	-0.71278	122.5	1.9	108.5	6.8	1.0	0.1	126.1	2.3	108.6	19.3	0.6	0.1	Selected	126.1	2.3
108	5.93	227.91	0.95278	0.55443	-0.05205	140.2	2.1	139.1	7.4	121.4	6.4	141.4	2.8	126.2	32.6	9.9	0.2	Selected	140.2	2.1
109	110.26	732.77	1.95267	0.37200	0.02558	632.2	7.2	632.4	9.2	632.8	8.8	650.2	7.6	606.3	23.6	518.8	20.8	Excluded		
110	316.43	4508.55	0.09285	0.06183	0.10874	463.8	5.5	469.6	5.9	498.1	5.7	464.1	5.5	466.0	6.8	478.4	6.5	Selected	464.1	5.5
111	103.80	917.69	0.13139	0.14002	0.48335	719.8	15.4	751.5	15.2	846.9	11.9	720.1	15.4	741.5	15.8	810.2	12.7	Selected	720.1	15.4
112	6.95	58.30	0.20190	0.69694	-0.02713	500.8	7.4	499.2	18.6	492.6	17.9	515.8	8.2	455.7	48.9	250.9	29.4	Selected	500.8	7.4
113	6.04	529.93	0.78235	-0.01376	0.05682	64.8	0.9	65.4	2.9	85.3	3.7	65.6	1.0	65.6	7.4	92.2	10.3	Selected	65.6	1.0
114	10.29	186.38	0.99984	-1.64382	1.25439	295.6	5.8	345.1	18.6	687.0	30.7	305.9	6.1	411.6	25.3	1088.7	49.0	Excluded		
115	3.40	389.96	0.60829	1.57909	0.29479	51.2	1.1	53.8	4.5	166.8	13.1	51.0	1.1	39.5	6.8	0.2	0.0	Selected	51.2	1.1
116	1.35	131.09	1.40540	3.97930	1.96901	50.4	1.1	66.6	5.4	69.8	41.3	49.9	1.2	32.2	10.8	0.1	0.0	Selected	49.9	1.2
117	177.99	947.08	0.32074	0.12902	0.87808	1092.9	15.8	1154.0	14.8	1270.6	13.8	1096.1	15.9	1144.0	15.6	1244.5	14.5	Selected		
118	55.96	464.70	0.26574	-0.27663	0.59758	739.8	8.8	779.1	14.9	893.5	16.0	744.1	8.9	798.8	17.5	961.6	19.5	Selected	739.8	8.8
119	111.16	917.48	0.10862	0.09812	0.101216	773.1	9.3	839.5	11.0	1019.4	12.1	773.5	9.3	832.6	12.0	996.6	13.2	Excluded		
120	68.14	439.03	0.09897	0.86215	1.96248	965.6	20.9	1095.2	22.8	1362.6	21.2	959.8	20.8	1032.6	26.8	1194.2	25.4	Excluded		
121	9.91	63.50	0.19740	0.12689	0.61946	103.6	1.4	113.8	3.9	332.4	10.0	103.8	1.5	111.6	6.2	288.1	14.5	Selected	103.8	1.5
122	1.18	129.21	0.48670	23.85902	28.74953	53.0	1.6	234.5	27.3	3040.8	125.9	44.0	1.7	70.0	35.9	1139.9	362.7	Selected	44.0	1.7
123	150.79	1288.76	0.60404	-4.82869	1.17376	690.0	9.9	764.0	10.3	986.7	10.8	725.8	10.4	1059.1	14.7	1836.7	20.7	Excluded		
124	27.58	183.27	0.70642	0.54861	-0.08972	811.6	11.2	805.3	16.5	788.3	15.2	816.0	11.6	762.2	31.9	631.7	27.4	Selected	811.6	11.2
125	26.62	2439.30	1.84067	3.38790	0.76941	45.4	0.7	51.2	1.7	333.6	9.1	45.7	1.9	24.4	31.2	0.0	0.0	Selected	45.7	1.9
126	7.82	512.68	0.29191	0.62352	0.41610	98.1	1.4	104.6	3.7	255.6	8.2	97.9	1.4	94.2	4.8	18.8	1.0	Selected	97.9	1.4
127	89.89	3428.55	0.10659	2.29280	3.61122	174.6	3.7	262.6	5.9	1145.8	14.5	171.4	3.6	203.1	6.0	598.1	12.5	Excluded		
128	29.83	323.12	0.76299	0.79511	-0.00160	503.2	6.1	503.1	8.3	503.0	7.8	505.4	7.1	453.3	46.8	226.4	25.9	Selected	503.2	6.1
129	0.78	64.01	1.50681	-0.64940	4.91846	60.7	1.7	107.2	10.3	1322.8	73.1	62.7	2.0	113.8	17.9	1433.1	126.0	Excluded		
130	2.01	144.85	0.75956	0.91359	0.40275	78.6	1.9	83.8	9.1	233.0	23.0	78.9	2.0	71.4	12.2	0.8	0.1	Selected	78.6	1.9
131	109.74	264.62	0.53660	0.30679	1.01934	2043.0	22.4	2095.8	22.0	2148.0	22.1	2049.5	22.5	2075.0	22.5	2112.2	22.4	Selected	2112.2	22.4
132	4.60	420.10	0.77245	0.00825	-0.21490	62.3	1.0	60.1	3.6	6.7	0.4	63.1	1.0	60.0	6.1	3.3	0.3	Selected	62.3	1.0
133	67.31	431.56	0.20741	0.51117	0.29588	944.8	11.4	965.7	13.0	1013.5	12.7	943.3	11.4	924.9	13.6	888.2	12.5	Selected	943.3	11.4
134	3.77	352.74	1.87268	1.12334	1.85113	48.0	0.9	62.7	4.0	664.9	31.8	49.4	1.2	53.2	15.0	318.7	78.6	Selected	49.4	1.2
135	1.31	73.22	1.11356	13.55046	13.82045	93.9	2.6	263.7	20.2	2306.4	78.4	85.7	2.9	86.0	36.9	176.7	72.5	Selected	85.7	2.9
136	6.17	371.99	0.54085	2.43795	1.98775	98.6	1.3	129.2	6.0	736.1	26.0	97.3	1.4	89.4	9.0	1.2	0.1	Selected	97.3	1.4
137	1.70	133.92	0.77788	0.54146	2.54977	72.5	1.5	101.8	7.9	858.3	46.6	73.1	1.5	95.2	10.0	720.6	56.3	Excluded		
138	2.11	218.47	1.33641	-0.07296	0.62989	48.5	1.0	53.7	4.1	287.9	19.1	49.7	1.1	54.3	7.1	313.9	35.8	Selected	49.7	1.1
139	165.22	2309.47	0.10363	0.43999	0.35799	468.8	6.3	488.0	6.8	579.3	6.8	467.6	6.3	462.3	9.6	440.4	8.6	Selected	467.6	6.3

Table DR4

KB-41-5

Grain	Pb*	U (ppm)	Atomic Th/U	Uncorrected			Uncorrected			Uncorrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected			Selected age correction		
				% Common $^{206}\text{Pb}$	% Common $^{206}\text{Pb}$	$^{206}\text{Pb}/^{238}\text{U}$ age using $^{206}\text{Pb}$	$^{206}\text{Pb}/^{238}\text{U}$ age using $^{206}\text{Pb}$	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	$^{207}\text{Pb}/^{235}\text{U}$ age using $^{207}\text{Pb}$	(Ma)	$\pm$ s.e.	Selected age correction	Preferred age (Ma)	$\pm$ s.e.
140	1.78	134.19	0.75950	0.31838	0.55346	75.8	1.6	82.7	6.5	284.8	19.8	76.5	1.7	78.5	9.6	167.3	19.4	Selected	76.5	1.7				
141	137.44	406.91	0.22200	0.24741	0.05868	1838.7	21.8	1842.1	20.3	1846.0	19.4	1839.5	21.8	1823.4	20.9	1810.6	19.8	Selected	1846.0	19.4				
142	1.87	163.78	0.71217	4.65724	3.82787	64.9	1.3	103.9	7.9	1127.9	54.1	63.0	1.3	53.7	11.4	0.3	0.1	Selected	63.0	1.3				
143	67.33	956.39	0.95134	-8.64091	1.79366	402.3	6.3	486.5	12.9	905.6	19.2	441.5	7.1	871.2	18.7	2224.4	31.7	Excluded						
144	3.89	342.21	0.86627	1.07060	-0.09006	62.7	1.0	61.7	3.1	32.4	1.6	63.0	1.0	49.9	5.8	0.2	0.0	Selected	62.7	1.0				
145	147.87	505.05	0.05208	0.05490	0.45622	1700.8	19.9	1729.1	18.8	1763.5	18.3	1701.0	19.9	1724.9	18.8	1755.3	18.2	Selected	1755.3	18.2				
146	30.08	204.91	0.79473	0.30197	0.44792	780.4	12.0	810.6	14.5	894.2	13.7	787.1	12.2	788.1	22.1	816.2	21.5	Excluded						
147	28.16	228.78	0.68299	0.66347	0.61887	677.0	8.5	716.4	11.3	841.8	12.0	679.7	8.6	669.9	14.4	660.3	13.7	Excluded						
148	12.17	333.06	0.43046	0.16723	0.17043	224.3	2.9	229.9	6.4	285.9	7.5	225.5	2.9	224.1	7.7	225.6	7.5	Selected	225.5	2.9				
149	2.14	299.98	0.03099	0.14701	1.93445	49.6	2.9	65.4	6.8	688.5	45.3	49.1	2.9	56.3	6.9	373.7	35.2	Selected	49.1	2.9				
150	119.27	1491.09	0.07255	0.02052	0.19801	528.6	7.4	540.1	8.6	588.5	8.0	529.0	7.4	538.8	8.7	582.4	8.2	Selected	529.0	7.4				
151	296.22	490.31	0.10575	0.30438	0.09033	2501.6	28.0	2505.1	26.0	2508.0	25.4	2522.5	28.3	2486.8	26.6	2479.9	25.9	Selected	2508.0	25.4				
152	2.45	199.31	0.78243	-0.40266	1.13094	70.5	1.3	83.4	5.5	472.2	25.7	71.6	1.3	88.3	7.7	594.5	40.7	Excluded						
153	20.46	1144.50	0.35218	1.44114	1.63611	112.3	1.8	140.7	4.8	651.8	16.8	111.4	1.8	114.1	8.9	184.8	13.7	Selected	111.4	1.8				
154	3.22	315.03	1.26085	0.89117	0.65721	51.8	0.9	57.5	3.6	300.4	16.5	52.5	0.9	49.4	6.5	2.4	0.3	Selected	52.5	0.9				
155	33.02	338.96	0.104245	-0.03156	0.12264	501.3	5.9	508.2	9.1	539.2	9.1	509.8	6.4	510.1	27.9	549.1	29.4	Selected	509.8	6.4				
156	93.33	269.72	0.30424	0.12377	0.09448	1847.5	20.7	1853.1	20.2	1859.3	19.6	1852.5	21.1	1843.8	25.9	1841.9	25.3	Selected	1841.9	25.3				
157	231.73	515.37	0.46529	0.10788	3.23743	2217.3	30.7	2359.9	26.8	2485.5	26.0	2225.7	30.8	2353.6	27.4	2475.7	26.6	Excluded						
158	89.72	249.29	0.25923	-0.01350	0.09324	1924.6	21.9	1929.9	21.9	1935.6	21.3	1929.5	22.0	1930.9	22.7	1937.4	22.1	Selected	1937.4	22.1				
159	2.16	245.87	0.78085	0.96403	1.28955	49.9	0.8	60.6	3.8	505.0	25.1	50.1	0.9	52.1	5.9	176.4	18.7	Selected	50.1	0.9				
160	13.10	1094.74	3.46710	6.54759	0.15624	39.0	1.4	40.1	2.6	100.4	5.6	40.4	4.4	-4.0	72.7	0.0	0.0	Selected	39.0	1.4				
161	26.07	132.78	0.66921	0.93074	0.43513	1043.0	13.8	1073.8	20.9	1136.7	20.7	1044.4	13.9	997.8	26.0	919.0	24.0	Selected	919.0	24.0				
162	2.96	181.05	0.97205	0.37670	-0.02803	88.4	1.6	88.0	4.8	79.8	4.2	89.6	1.7	82.3	12.2	1.3	0.2	Selected	88.4	1.6				
163	195.17	363.51	0.43654	0.66420	-1.27829	2506.2	32.3	2454.7	27.0	2412.3	25.0	2504.3	32.4	2412.2	28.7	2345.2	26.6	Selected	2412.3	25.0				
164	154.93	289.91	0.80958	0.65973	0.20761	2376.1	28.9	2461.2	28.1	2532.2	27.7	2384.8	29.1	2422.4	29.8	2472.7	29.2	Selected	2472.7	29.2				
<b>TH-10-3</b>																								
1	39.25	355.22	1.70484	-0.65604	0.11414	494.9	5.4	501.3	6.7	530.4	6.8	498.9	6.1	540.6	35.1	724.2	43.3	Selected	494.9	5.4				
2	25.97	335.92	0.48993	-0.17494	-0.00815	457.8	5.1	457.3	6.5	455.4	6.2	458.6	5.3	467.5	19.9	511.5	21.2	Excluded						
3	138.87	749.60	0.23513	0.90819	4.69813	1101.0	14.5	1383.0	18.8	1849.6	22.1	1091.8	14.5	1325.2	21.6	1725.4	24.5	Excluded						
4	59.59	178.73	0.53266	-0.20697	1.03826	1719.3	23.3	1781.8	21.7	1855.9	20.6	1724.2	23.5	1796.9	23.3	1884.4	22.4	Excluded						
5	6.88	267.05	0.33739	-0.22543	-0.13566	163.7	2.1	160.3	5.2	112.2	3.6	164.1	2.1	166.3	6.6	197.8	7.6	Selected	164.1	2.1				
6	3.39	302.42	1.27591	-0.13369	0.53991	57.0	0.7	62.2	1.9	263.3	7.3	57.3	0.8	63.5	6.4	311.2	27.9	Selected	57.3	0.8				
7	291.84	1264.25	0.02273	0.00172	-0.07307	1403.4	19.8	1398.3	17.1	1390.7	14.8	1403.4	19.8	1398.2	17.1	1390.3	14.8	Selected	1390.7	14.8				
8	69.55	131.91	0.84643	-0.31506	1.19266	2346.6	25.8	2397.7	24.8	2441.4	24.8	2353.8	25.9	2416.8	25.3	2471.1	25.3	Selected	2441.4	24.8				
9	63.81	302.51	0.24229	1.09225	4.47043	1232.4	29.1	1500.8	25.6	1903.3	21.7	1221.4	28.9	1429.8	26.8	1756.9	23.1	Excluded						
10	6.80	98.43	0.44986	-0.08479	0.17615	415.4	5.9	424.3	12.4	472.5	12.9	416.3	5.9	428.9	15.0	499.9	16.5	Selected	415.4	5.9				
11	46.56	245.58	0.35885	-0.36846	-0.30932	1093.8	12.7	1071.1	14.2	1025.3	13.1	1098.5	12.8	1101.8	19.8	1110.2	19.4	Selected	1110.2	19.4				
12	520.39	984.85	0.71219	-1.07824	1.09051	2412.0	27.9	2456.9	25.6	2494.3	25.1	2436.5	28.2	2520.0	26.5	2590.1	26.4	Selected	2494.3	25.1				
13	1.50	98.77	1.16515	0.63153	-0.08988	78.3	1.1	77.1	4.2	46.4	2.5	77.9	1.2	68.5	9.7	0.4	0.0	Selected	78.3	1.1				
14	6.48	448.16	0.42707	-0.11630	0.03045	89.8	1.2	90.3	2.4	99.9	2.5	89.9	1.3	92.1	10.1	147.2	15.6	Selected	89.8	1.2				
15	136.95	411.67	0.62860	-0.89757	7.38632	1752.7	25.2	2112.3	24.9	2483.5	26.3	1767.7	25.4	2160.3	25.4	2558.6	26.9	Excluded						
16	4349.29	890.25	258.77738	0.07669	0.13305	411.7	8.9	418.4	8.7	455.0	5.8	411.7	9.1	414.2	24.6	429.8	24.4	Excluded						
17	244.28	2507.45	0.23460	-0.14310	-0.05010	610.4	7.4	607.3	7.2	595.8	6.3	611.4	7.5	617.1	12.9	638.3	12.8	Excluded						
18	30.31	159.88	0.57553	-0.55951	0.00717	1042.6	11.6	1043.1	12.7	1044.1	12.3	1049.6	11.7	1088.1	14.4	1169.3	14.9	Selected	1044.1	12.3				
19	37.24	573.34	0.84106	0.22683	0.14973	354.3	4.5	361.1	5.4	404.6	5.4	353.8	4.6	350.0	17.1	327.1	15.9	Excluded						
20	95.60	756.44	0.04998	-0.02516	-0.16930	815.0	9.2	803.1	9.8	770.6	9.0	815.3	9.4	805.1	19.9	777.4	19.1	Excluded						
21	200.14	2611.43	0.11846	0.03796	0.07765	500.9	8.5	505.2	10.0	524.9	8.5	500.7	8.6											

Table DR4

TH-10-3																				
Grain	Pb*	Atomic	% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	Uncorrected $^{208}\text{Pb}/^{232}\text{U}$ age	Uncorrected $^{207}\text{Pb}/^{235}\text{U}$ age	Uncorrected $^{207}\text{Pb}/^{238}\text{U}$ age	$^{208}\text{Pb}$ corrected	$^{206}\text{Pb}$ corrected	$^{207}\text{Pb}$ corrected	$^{208}\text{Pb}$ corrected	Selected age	Preferred age (Ma)	± s.e.						
	(ppm)	U (ppm)	Tb/U	using $^{208}\text{Pb}$	using $^{206}\text{Pb}$	(Ma)	± s.e.	(Ma)	± s.e.	(Ma)	± s.e.	(Ma)	correction	age (Ma)	± s.e.					
22	33.23	182.89	0.73907	-0.38894	-0.03456	965.4	12.1	962.9	13.9	957.4	12.9	971.2	12.2	994.1	17.2	1049.9	17.1	Excluded		
23	10.31	560.16	0.68329	-0.49863	0.19986	107.4	1.2	110.8	2.6	184.0	4.1	108.1	1.3	119.9	4.5	364.4	12.2	Selected	107.4	1.2
24	149.72	565.23	0.08956	0.02555	2.18459	1557.4	17.1	1690.8	17.8	1860.4	19.0	1557.1	17.1	1689.0	17.9	1856.9	19.0	Excluded		
25	90.51	269.09	0.46795	-0.07596	0.96361	1752.4	23.2	1809.8	20.9	1876.6	19.8	1756.4	23.3	1815.4	22.0	1887.0	21.0	Excluded		
26	94.96	531.75	1.39316	-1.03183	-0.01686	831.8	8.9	830.6	9.3	827.6	9.0	843.4	9.9	908.6	38.9	1079.5	43.0	Excluded		
27	46.95	2961.83	0.35116	-0.16701	-0.08255	100.5	1.8	99.2	2.5	70.3	1.5	100.9	1.9	102.1	12.0	135.4	15.3	Excluded		
28	2.21	162.64	0.62060	0.01208	0.30541	80.4	1.1	84.4	3.3	198.4	7.1	80.5	1.1	84.2	4.6	194.3	10.0	Selected	80.5	1.1
29	6.87	378.80	0.51271	-0.01566	0.33491	109.9	1.6	115.8	4.4	237.0	8.2	110.1	1.9	116.1	16.1	243.1	31.7	Selected	109.9	1.6
30	147.69	905.80	0.04004	-0.24292	1.65261	1035.8	28.8	1147.0	23.0	1363.8	14.6	1038.3	28.9	1164.7	23.4	1408.4	15.4	Excluded		
31	45.73	287.11	0.89000	0.40406	0.05761	822.8	9.8	826.8	11.2	837.4	10.6	822.5	10.0	795.3	24.1	727.6	22.2	Excluded		
32	0.91	54.73	0.49830	0.70873	0.91114	101.4	1.7	116.0	6.5	427.5	20.4	100.8	1.8	103.9	11.9	178.5	19.6	Selected	100.8	1.8
33	20.97	253.79	0.40753	-0.02281	0.09896	498.3	5.6	503.8	7.5	528.9	7.5	499.0	5.6	505.2	8.5	536.2	8.7	Selected	498.3	5.6
34	27.94	135.57	0.72166	0.68626	0.10256	1076.8	13.8	1084.2	17.3	1099.0	16.4	1073.0	13.9	1027.0	24.9	936.5	22.8	Selected	109.0	16.4
35	1.49	97.71	0.93040	-0.22081	-0.12182	83.9	1.2	82.2	4.2	39.7	2.0	84.4	1.3	85.4	7.5	122.8	10.5	Selected	84.4	1.3
36	51.05	600.16	0.27321	-0.12591	-0.16152	531.0	7.5	521.5	7.6	480.4	5.9	532.0	7.6	529.5	17.1	520.7	16.3	Selected	532.0	7.6
37	81.53	275.72	0.55288	3.09165	6.34802	1532.9	17.3	1871.0	19.9	2270.4	23.2	1495.5	17.2	1681.7	23.9	1927.3	25.6	Excluded		
38	310.87	979.78	0.02981	-0.04372	-0.07654	1824.3	21.7	1819.7	19.5	1814.4	18.4	1825.0	21.7	1823.0	19.8	1820.7	18.7	Selected	1820.7	18.7
39	9.06	511.98	0.59020	-0.39833	0.03660	105.6	1.5	106.2	2.6	118.3	2.7	106.2	1.5	113.4	4.1	270.6	8.8	Selected	105.6	1.5
40	103.16	322.52	0.68901	-0.50104	1.74900	1617.2	21.4	1723.8	21.2	1855.8	20.9	1629.7	21.6	1759.2	22.7	1923.4	22.7	Excluded		
41	4.23	255.10	0.02642	-0.02679	0.36294	115.9	1.8	122.5	4.9	252.7	9.1	115.9	1.8	123.0	4.9	262.9	9.5	Selected	115.9	1.8
42	74.26	726.74	0.18767	0.76562	0.76849	647.9	8.4	962.2	12.8	1772.1	19.8	643.0	8.3	922.2	12.9	1666.4	19.4	Excluded		
43	1.16	92.13	0.54017	0.50931	0.60342	76.1	1.3	83.6	5.3	302.7	17.1	75.8	1.3	76.9	7.4	112.3	10.5	Selected	75.8	1.3
44	94.94	748.25	0.79842	-0.06949	0.11520	681.0	8.3	688.5	8.4	712.9	7.8	683.3	10.9	693.5	74.2	732.5	76.8	Selected	681.0	8.3
45	3.04	175.31	0.47275	-0.10088	-0.20820	106.6	1.7	103.0	4.2	29.0	1.2	106.9	1.7	104.9	5.7	64.9	3.5	Selected	106.9	1.7
46	62.50	771.41	0.49464	0.55387	0.53052	476.5	6.5	505.2	7.2	636.9	7.6	475.0	6.7	472.7	20.3	466.7	19.7	Selected	475.0	6.7
47	116.09	301.17	1.14428	-0.39372	0.81793	1734.2	18.6	1783.7	18.5	1841.9	18.7	1747.3	19.5	1812.4	29.7	1896.4	30.1	Selected	1841.9	18.7
48	86.93	536.43	0.04451	0.01082	4.69504	1030.7	16.4	1312.4	19.0	1807.8	21.2	1030.7	16.4	1311.7	19.1	1806.4	21.3	Excluded		
49	89.11	357.58	0.22774	-0.46589	2.58481	1442.2	17.5	1602.7	18.1	1820.7	19.2	1449.4	17.7	1634.9	20.6	1884.0	22.0	Excluded		
50	133.18	979.93	0.11306	-0.00515	-0.09282	857.6	10.0	851.0	9.6	834.1	8.7	858.0	10.1	851.4	11.3	835.4	10.4	Selected	857.6	10.0
51	2.88	244.50	0.71908	-0.72305	0.10305	68.4	1.5	69.6	3.0	107.8	4.1	69.2	1.5	78.3	5.1	374.8	20.3	Excluded		
52	3.28	876.50	0.92931	-0.08293	0.61903	20.6	0.4	22.8	1.1	259.7	11.0	20.8	0.4	23.2	3.1	289.7	33.8	Selected	20.6	0.4
53	17.86	1006.15	0.61380	-0.28335	-0.01003	105.2	1.3	105.0	1.9	103.2	1.7	105.8	1.3	110.1	3.0	210.7	5.3	Selected	105.2	1.3
54	118.67	239.38	0.69314	-0.22099	2.55189	2301.9	24.9	2410.7	25.0	2503.9	25.5	2313.2	25.5	2423.6	28.1	2523.6	28.5	Excluded		
55	4.31	232.06	0.59706	0.20841	0.78678	110.3	1.5	124.0	3.2	394.4	8.6	110.4	1.5	120.1	5.6	323.7	13.5	Selected	110.4	1.5
56	9.65	563.47	0.43983	0.02805	0.06247	106.0	1.6	107.1	2.9	129.1	3.2	106.2	1.7	106.6	6.9	118.7	7.6	Excluded		
57	86.82	746.19	0.43619	-2.53561	0.53601	698.5	18.2	733.2	16.4	840.8	11.0	716.4	19.3	901.7	44.6	1390.0	53.4	Excluded		
58	38.31	89.93	0.27932	-0.00433	-2.39383	2174.7	50.6	2046.6	32.5	1919.8	23.0	2178.1	50.7	2046.9	33.3	1920.4	24.0	Excluded		
59	43.56	226.22	0.52421	-0.55902	0.01438	1068.9	11.9	1069.9	12.4	1071.9	11.9	1076.7	12.1	1115.1	14.9	1195.1	15.3	Selected	1071.9	11.9
60	36.71	107.78	0.61501	-0.28343	0.89502	1723.2	20.6	1777.4	20.2	1841.5	19.9	1732.3	20.9	1798.1	23.9	1880.9	23.8	Selected	1841.5	19.9
61	83.52	461.69	0.72994	-0.30690	0.07957	961.2	17.7	966.9	16.2	979.7	12.6	967.1	18.8	991.3	50.7	1052.3	51.2	Excluded		
62	31.67	253.15	0.78214	-2.30196	0.23672	685.3	11.6	700.8	13.0	750.3	11.4	703.9	12.2	856.0	28.4	1283.2	34.7	Excluded		
63	10.08	551.67	0.57812	-0.08225	0.30194	109.1	1.5	114.3	2.7	224.1	4.7	109.5	1.6	115.8	5.1	254.8	10.3	Selected	109.1	1.5
64	11.18	2362.83	0.00534	0.35081	-0.28517	33.4	1.0	31.7	2.0	2.3	0.1	33.3	1.0	29.6	2.2	0.4	0.0	Selected	33.4	1.0
65	24.81	146.46	0.72743	-0.80051	0.20870	911.9	14.9	926.6	15.3	961.7	13.2	923.4	15.2	988.1	20.3	1145.6	20.3	Excluded		
66	3.32	327.33	0.53246	-0.41077	-0.15755	61.7	0.8	60.0	2.0	13.3	0.4	62.1	0.8	64.5	3.8	162.0	9.1	Selected	61.7	0.8
67	41.34	301.68	0.29072	-0.16050	-0.08621	826.4	9.6	820.3	10.0	804.1	9.1	829.5	9.8	832.8	15.6	846.5	15.4	Excluded		
68	68.06	157.62	1.62310	-1.16865	0.78025	1768.6	20.2	1815.2	19.9	1869.1	19.6	1803.6	20.8	1898.6	25.0	2023.0	25.5	Selected	1869.1	19.6

Table DR4

TH-10-3

Grain	Pb*	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		$^{208}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		Selected age	Preferred age (Ma)	$\pm$ s.e.		
				Atomic	% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	$^{208}\text{Pb}/^{232}\text{U}$ age	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{U}$ age	$\pm$ s.e.	$^{208}\text{Pb}/^{235}\text{U}$ age	$\pm$ s.e.	$^{208}\text{Pb}/^{238}\text{U}$ age	$\pm$ s.e.				
69	13.18	166.28	0.34033	-0.19134	-0.02450	487.9	5.7	486.6	8.1	480.5	7.6	489.6	5.9	498.1	19.4	540.9	20.5	Selected	487.9	5.7
70	436.97	3862.55	0.07257	0.33840	0.43070	728.1	8.7	756.5	11.0	841.3	11.3	726.1	8.7	731.9	12.9	750.9	12.6	Selected	726.1	8.7
71	167.93	523.50	0.32005	-0.06471	0.97623	1735.8	23.2	1794.3	20.2	1863.1	19.0	1739.8	23.4	1799.1	21.6	1872.0	20.6	Excluded		
72	65.09	459.03	0.45349	-0.23036	-0.08001	820.1	9.1	814.5	9.4	799.4	8.8	823.8	9.1	832.3	10.3	860.1	10.2	Excluded		
73	121.53	394.75	0.27704	-0.02809	1.14275	1693.2	18.3	1762.5	18.4	1845.5	18.8	1695.8	18.5	1764.5	21.0	1849.5	21.4	Excluded		
74	6.89	405.01	0.35211	-0.19273	-0.12985	108.2	1.3	106.0	2.4	59.4	1.3	108.6	1.4	109.5	8.6	132.5	10.3	Selected	108.6	1.4
75	2.35	174.63	0.10481	0.43428	0.80881	91.8	1.8	103.7	7.0	386.0	22.2	91.4	1.8	96.9	7.2	234.2	15.9	Selected	91.4	1.8
76	46.56	465.86	0.69378	1.93244	0.62538	549.2	6.8	585.4	8.0	728.6	8.8	542.7	6.8	459.6	14.2	80.6	2.9	Excluded		
77	82.81	265.64	0.23063	-0.03455	0.82817	1726.3	18.7	1776.5	18.5	1835.9	18.7	1729.0	18.8	1779.0	19.9	1840.8	20.1	Selected	1835.9	18.7
78	50.99	649.93	0.48886	-0.52620	0.06968	466.8	5.7	470.6	6.3	488.7	5.9	470.6	5.8	501.2	15.7	649.9	18.8	Selected	466.8	5.7
79	3.76	304.14	0.91343	0.04938	0.45464	68.2	0.9	73.3	2.3	242.4	6.9	68.7	0.9	72.7	4.0	224.6	11.3	Selected	68.7	0.9
80	100.37	186.52	0.98408	-0.39984	1.55517	2335.9	27.1	2402.5	25.3	2459.4	25.0	2355.1	28.0	2426.3	30.5	2496.3	30.2	Selected	2459.4	25.0
81	59.64	170.46	0.93125	0.07891	1.30380	1658.1	18.0	1737.7	18.4	1834.8	18.9	1666.3	18.1	1731.9	20.6	1823.6	21.0	Selected		
82	10.36	1019.54	0.64181	-0.36244	-0.04314	60.0	0.8	59.6	1.1	47.1	0.8	60.5	0.8	63.4	2.3	185.7	6.3	Selected	60.0	0.8
83	8.53	477.64	0.44448	-0.55183	0.08608	110.9	1.5	112.5	3.7	143.4	4.5	111.8	1.6	122.8	7.3	347.1	18.4	Selected	110.9	1.5
84	19.96	1127.19	0.66360	-0.44984	0.02741	103.2	1.2	103.7	1.8	112.2	1.8	104.3	2.0	111.6	2.4	283.8	58.0	Selected	103.2	1.2
85	29.76	508.01	0.58484	-0.03476	0.16235	339.5	4.0	346.6	5.5	394.5	5.7	338.4	4.1	311.2	8.8	123.1	3.7	Excluded		
86	164.00	488.15	0.51322	-0.03476	0.09022	1734.5	18.6	1789.2	18.5	1853.5	18.8	1740.1	18.7	179.7	18.8	1858.4	19.1	Selected	1858.4	19.1
87	98.93	644.37	0.09735	-0.04234	-0.14873	962.2	11.8	951.4	11.1	926.8	9.8	963.1	11.8	954.9	11.2	937.3	10.0	Selected	963.1	11.8
88	48.10	1535.06	0.15846	0.14734	0.01313	208.1	2.4	208.5	2.7	212.1	2.5	208.0	2.4	203.7	5.7	157.2	4.4	Selected	208.1	2.4
89	14.91	1028.19	0.00674	0.04447	0.20462	102.0	2.3	105.4	3.0	180.6	3.7	102.0	2.3	104.6	3.0	164.1	3.4	Selected	102.0	2.3
90	19.24	424.40	0.17857	4.71118	1.09409	284.3	3.8	325.6	7.9	632.2	13.0	273.3	3.7	127.2	10.9	0.0	0.0	Excluded		
91	3.32	320.95	0.54415	0.17220	-0.09446	62.5	1.0	61.6	3.3	30.9	1.6	62.7	1.0	59.7	5.0	2.2	0.2	Selected	62.5	1.0
92	14.39	108.92	0.10189	2.61002	0.35290	662.4	8.0	684.9	12.0	759.4	12.5	653.4	8.0	490.8	22.7	0.6	0.0	Selected	662.4	8.0
93	213.10	1001.81	0.52632	2.44831	2.20338	1147.7	17.6	1292.3	17.2	1541.2	17.0	1127.9	17.4	1105.1	21.0	1070.9	18.7	Selected	1070.9	18.7
94	4.80	388.08	1.11276	0.21742	0.13027	64.8	0.8	66.2	1.7	115.2	2.9	65.3	0.8	63.7	3.8	32.3	2.0	Selected	64.8	0.8
95	45.27	313.22	1.18270	-7.40468	0.89546	746.0	13.1	804.7	21.5	970.8	22.5	805.7	14.3	1255.0	24.1	2146.7	30.3	Excluded		
96	69.94	550.34	0.18289	-0.05344	-0.00566	792.0	9.4	791.6	9.4	790.7	8.5	793.4	9.5	795.7	9.8	804.9	9.1	Selected	792.0	9.4
97	12.55	712.79	0.45252	-0.18432	-0.03366	108.9	1.4	108.3	2.2	97.7	1.9	109.5	1.5	111.7	4.5	167.4	6.4	Selected	108.9	1.4
98	114.11	609.15	0.66320	-0.21147	1005.7	13.4	990.3	12.1	956.5	10.2	1009.3	13.9	976.9	31.0	916.0	29.1	Selected	956.5	10.2	
99	3.32	174.35	0.35380	-0.10359	-0.10945	120.5	1.5	118.4	4.2	79.4	2.8	121.0	1.6	120.5	7.0	118.4	6.8	Selected	121.0	1.6
100	151.85	576.56	0.37330	-0.39991	2.81402	1464.0	21.5	1636.4	19.4	1865.6	19.1	1473.2	21.6	1663.7	20.5	1918.5	20.5	Excluded		
101	18.40	46.16	1.45567	-0.37357	0.62514	1687.5	23.9	1726.3	31.7	1773.5	30.7	1713.3	25.5	1754.2	47.7	1827.7	47.4	Selected	1773.5	30.7
102	142.55	430.25	0.61652	-0.44605	0.75972	1684.2	19.3	1731.2	18.4	1788.3	18.2	1697.6	19.4	1764.2	19.2	1852.0	19.3	Selected	1788.3	18.2
103	0.92	62.95	0.95307	0.18838	0.33852	79.8	1.4	84.2	5.0	210.2	11.4	80.3	1.5	81.6	7.6	138.4	12.3	Selected	80.3	1.5
104	130.32	421.09	0.28614	-0.07106	1.14092	1697.6	18.7	1766.7	18.8	1849.3	19.0	1701.9	18.9	1771.8	21.0	1859.2	21.4	Excluded		
105	22.26	126.25	0.28427	0.00705	0.05872	1040.2	11.6	1044.5	12.8	1053.2	12.4	1042.4	11.6	1043.9	14.0	1051.6	13.7	Selected	1051.6	13.7
106	8.00	431.81	0.84838	-0.44299	0.01464	103.5	1.3	103.8	2.3	107.3	2.3	104.9	1.3	111.6	4.6	277.0	10.4	Selected	103.5	1.3
107	38.18	246.30	0.86877	0.00553	0.03953	808.3	8.6	811.1	9.5	818.4	9.4	814.4	8.7	810.6	16.6	817.0	16.5	Selected	808.3	8.6
108	40.36	230.35	0.62715	0.18114	0.17669	953.7	10.4	966.3	12.1	994.9	12.0	957.9	10.5	951.8	14.3	951.1	14.0	Selected	957.9	10.5
109	170.37	517.27	0.43491	0.02829	0.84062	1732.1	20.5	1782.9	19.2	1842.7	18.8	1736.5	21.2	1780.8	30.2	1838.8	30.0	Selected	1838.8	30.0
110	4.47	87.63	0.58551	1.26842	0.09773	295.6	4.0	299.5	9.6	329.6	10.1	293.9	4.0	244.4	13.1	0.6	0.0	Selected	295.6	4.0
111	12.67	850.11	0.25158	0.22380	-0.29444	97.1	2.0	92.5	3.8	7.1	0.3	97.1	2.0	88.7	9.8	0.8	0.1	Selected	97.1	2.0
112	3.27	266.72	0.81116	-0.17118	-0.21329	69.2	0.9	66.8	2.7	8.2	0.3	69.9	1.0	68.9	5.1	54.2	4.0	Selected	69.9	1.0
113	35.34	321.82	1.73519	-0.02215	-0.03225	488.0	6.0	486.2	8.9	478.0	8.3	500.9	7.3	499.6	53.1	548.1	56.8	Selected	500.9	7.3
114	49.49	345.98	0.65682	1.40025	0.40058	779.2	13.6	806.1	12.8	881.3	10.5	776.0	13.6	698.6	24.7	478.3	17.5	Selected		
115	92.71	546.33	0.40425	0.10084	0.26788	976.4	12.8	995.4	11.9	1037.4	10.9	978.8	12.8	987.4	15.6	1013.9	14.8	Selected	978.8	12.8
116	5.58	271.29	0.78456	2.94255	3.02552	114.8	1.9	167.1	5.9	991.7	23.7	112.4	1.9	112.9	10.5	144.0	13.0	Selected	112.4	1.9

Table DR4

TH-10-3																				
	Pb*	Atomic	% Common	$^{208}\text{Pb}$	% Common	$^{208}\text{Pb}$	Uncorrected	Uncorrected	Uncorrected	$^{208}\text{Pb}$ corrected	$^{208}\text{Pb}$ corrected	$^{208}\text{Pb}$ corrected	Selected age	Preferred age (Ma)	correction	s.e.	age (Ma)	± s.e.		
Grain	(ppm)	U (ppm)	Tb/U	using $^{208}\text{Pb}$	using $^{208}\text{Pb}$	$^{208}\text{Pb}/^{238}\text{U}$ age	(Ma)	± s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	± s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	± s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	± s.e.	age (Ma)	± s.e.	
117	2.43	280.46	0.98708	0.17883	0.24470	46.8	0.6	48.7	2.0	143.3	5.7	47.2	0.6	47.2	3.5	72.0	5.2	Selected	47.2	0.6
118	48.40	261.01	0.93112	-1.16617	0.19828	949.9	10.5	964.0	10.9	996.2	10.7	968.5	11.1	1053.7	26.6	1252.5	29.3	Excluded		
119	136.11	1007.70	0.13032	-1.35158	0.35578	861.6	11.7	886.2	11.0	947.9	9.9	872.9	11.9	986.2	12.1	1248.1	13.0	Selected	861.6	11.7
120	205.52	549.08	0.24381	0.07200	4.58239	2004.8	38.2	2222.3	29.1	2429.4	25.6	2005.6	38.4	2218.2	31.6	2422.8	28.4	Excluded		
121	123.97	332.36	0.60534	1.47214	5.91338	1859.9	24.6	2147.1	24.3	2434.2	25.5	1848.8	35.0	2061.7	89.3	2295.0	90.8	Excluded		
122	98.82	1347.73	0.04948	-0.05726	-0.33286	489.4	7.4	470.5	7.5	380.1	5.0	489.8	7.5	474.1	20.2	399.6	17.1	Selected	489.8	7.5
123	20.42	285.16	0.25756	0.09087	0.08761	451.2	6.3	455.9	8.1	479.1	7.6	452.3	6.3	450.7	10.9	450.0	10.2	Excluded		
124	20.44	1343.08	0.07143	-0.01629	0.04026	104.9	1.3	105.5	1.7	119.0	1.8	104.9	1.3	105.8	2.3	126.5	2.5	Selected	104.9	1.3
125	116.43	351.57	0.13242	0.00085	0.13796	1847.6	25.1	1855.7	21.5	1864.8	19.6	1849.0	25.2	1855.6	21.8	1864.7	19.9	Selected	1864.7	19.9
126	3.50	310.15	0.58329	0.15320	-0.25114	67.3	1.0	64.5	3.1	5.3	0.3	67.5	1.1	62.7	9.1	1.1	0.2	Selected	67.3	1.0
127	5.15	85.00	0.62545	0.28412	-0.14345	348.5	4.7	342.0	9.7	298.6	8.3	349.8	4.8	328.0	16.5	192.6	10.1	Selected	348.5	4.7
128	28.99	177.58	1.53791	-4.99029	0.40614	766.3	8.9	793.7	10.2	871.2	10.4	815.7	13.4	1121.7	67.2	1802.4	83.3	Excluded		
129	4.23	213.99	0.81229	0.33944	0.20622	110.8	1.6	114.5	3.8	189.7	5.8	111.4	1.7	108.1	7.3	58.6	4.0	Selected	111.4	1.7
130	25.52	1684.54	1.14601	-0.16458	0.02732	78.8	0.9	79.1	1.2	87.3	1.2	80.1	0.9	81.4	3.4	154.3	6.2	Selected	78.8	0.9
131	52.95	145.77	0.75521	-0.17758	0.46069	1771.2	19.3	1799.0	19.0	1831.3	18.8	1785.7	19.5	1812.2	20.9	1856.4	20.9	Selected	1831.3	18.8
132	25.82	176.46	0.86000	-0.24797	0.09601	769.5	10.2	776.0	19.1	794.7	18.7	779.8	10.4	794.5	24.0	860.2	24.8	Selected	769.5	10.2
133	5.12	238.27	1.08462	-0.89295	0.23083	113.9	1.7	118.1	5.1	202.1	8.1	116.1	1.9	135.2	10.5	508.4	33.0	Selected	113.9	1.7
134	346.55	620.17	0.52754	0.26051	-1.41268	2545.1	33.0	2489.8	26.8	2445.0	24.7	2549.1	33.6	2473.4	31.0	2419.5	29.0	Selected	2445.0	24.7
135	22.52	1331.93	0.32923	-0.02935	-0.06186	108.0	1.4	106.9	1.7	85.7	1.2	108.4	1.4	107.5	5.6	96.2	5.0	Selected	108.4	1.4
TH-10-8																				
1	6.99	52.37	2.37037	-0.87079	0.25890	526.8	6.0	541.8	11.2	604.9	12.0	564.5	6.8	595.1	35.0	846.6	44.6	Selected	526.8	6.0
2	77.09	224.57	1.10277	-1.53261	9.75368	1633.1	18.0	2095.6	22.4	2586.5	26.7	1687.3	18.7	2171.0	24.4	2701.4	28.9	Excluded		
3	253.46	1957.34	0.25407	0.27400	0.51260	789.6	10.2	824.1	10.2	918.3	9.9	792.1	10.2	803.7	11.8	848.8	11.3	Selected	792.1	10.2
4	1.31	99.33	0.68321	1.24763	1.46103	76.5	1.2	94.5	4.3	575.9	20.6	77.0	1.2	78.2	6.6	158.2	12.8	Selected	77.0	1.2
5	64.28	1568.01	0.52370	0.87484	0.16648	243.7	4.8	249.5	5.7	303.2	5.1	245.1	4.8	217.0	11.0	2.6	0.1	Selected	243.7	4.8
6	135.39	1851.31	0.11754	0.28358	0.25479	47.7	5.4	49.1	5.8	556.6	6.0	477.5	5.5	474.7	6.4	467.3	5.9	Selected	477.5	5.5
7	5.28	46.77	0.69627	-0.11087	0.31037	624.8	7.2	644.2	11.8	712.6	12.4	634.5	7.5	651.7	20.9	743.6	22.7	Selected	634.5	7.5
8	5.80	329.12	0.57600	0.00495	0.06067	105.2	1.2	106.2	2.5	127.5	2.9	106.5	1.2	106.1	3.3	126.4	3.8	Selected	106.5	1.2
9	1.28	100.07	1.09546	0.70789	1.33344	67.7	1.0	82.4	4.4	531.7	22.5	69.1	1.1	74.1	7.8	301.4	28.2	Selected	69.1	1.1
10	4.46	233.64	0.84546	-0.42552	0.18140	106.8	1.3	109.9	3.3	176.5	5.1	109.3	1.4	117.7	4.8	332.4	12.1	Selected	106.8	1.3
11	35.98	446.89	0.43130	-0.31613	0.12230	483.6	5.4	490.4	6.4	521.8	6.5	489.2	6.2	509.2	38.0	618.6	43.8	Excluded		
12	57.34	136.53	1.02775	-1.09416	0.20781	1906.8	21.7	1918.7	21.5	1931.6	21.0	1957.8	22.5	1996.7	25.8	2071.8	25.8	Selected	1931.6	21.0
13	71.15	573.18	0.64498	0.89134	0.69281	687.5	8.5	731.7	11.3	869.6	12.2	693.5	8.7	668.7	21.3	625.2	19.9	Excluded		
14	311.55	1333.18	0.19304	0.10622	2.93925	1368.7	15.4	1551.6	16.3	1810.3	18.3	1371.6	15.4	1544.3	16.3	1795.5	18.2	Excluded		
15	98.99	639.45	0.75442	0.15410	0.41741	828.9	8.8	857.5	10.7	932.2	11.3	859.1	9.5	845.9	27.9	893.7	28.8	Selected	859.1	9.5
16	1650.51	73.14	482.41565	0.18101	0.39953	1010.5	11.1	1038.8	13.2	1098.8	13.4	1028.1	11.5	1024.4	19.5	1057.8	19.7	Selected	1057.8	19.7
17	95.11	316.19	0.41472	0.09735	2.00389	1615.0	17.3	1736.0	18.5	1885.0	19.6	1622.9	17.5	1729.1	21.4	1871.8	22.4	Excluded		
18	6.81	37.19	0.49540	-0.06144	0.05776	1026.5	12.3	1062.3	15.1	1136.6	15.2	1035.9	12.5	1067.1	17.5	1150.1	17.8	Excluded		
19	38.63	194.92	0.70301	0.03930	0.39094	1051.1	11.1	1078.9	12.2	1135.3	12.5	1064.4	11.4	1075.8	18.4	1126.7	18.8	Selected	1126.7	18.8
20	141.33	417.77	0.16643	-0.06144	0.21380	1867.5	19.6	1880.0	19.2	1893.7	19.1	1872.9	19.6	1884.5	19.3	1902.1	19.2	Selected	1893.7	19.1
21	159.88	948.69	0.62291	-0.30950	0.70684	926.2	10.7	975.1	11.8	1086.9	12.2	940.0	10.9	998.5	15.6	1154.8	16.8	Excluded		
22	67.33	687.09	0.99667	1.06087	0.13096	506.9	5.5	514.4	6.1	547.3	6.2	513.0	8.1	447.8	80.5	179.3	36.5	Excluded		
23	13.33	30.95	0.91450	0.04821	-0.41033	1966.1	21.9	1942.8	29.0	1918.1	28.4	1986.2	22.5	1939.2	33.6	1911.6	32.9	Selected	1918.1	28.4
24	22.11	53.00	0.75555	-0.17904	0.20090	1976.9	21.9	1987.9	22.3	1999.5	21.9	2003.8	22.4	2000.7	26.2	2022.3	25.9	Selected	2022.3	25.9
25	77.92	274.90	0.45182	0.53196	2.39901	1520.5	18.5	1667.3	19.7	1857.4	20.5	1522.2	18.6	1629.7	21.7	1783.2	22.2	Excluded		
26	98.73	1302.65	0.24451	0.05628	0.51871	479.1	6.3	507.2	7.3	635.8	7.9	480.7	6.3	503.9	7.7	619.4	8.2	Selected	480.7	6.3
27	10.05	913.93	0.82377	0.02301	0.31218	61.9	0.7	65.1	1.4	183.5	3.5	63.0	0.8	64.9	2.3	175.3	5.9	Selected	63.0	0.8

Table DR4

TH-10-8

Grain	Pb*	U (ppm)	Th/U	Uncorrected		Uncorrected		Uncorrected		$^{208}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		$^{208}\text{Pb}$ corrected		Selected age	Preferred age (Ma)	$\pm$ s.e.		
				Atomic	% Common $^{208}\text{Pb}$	% Common $^{208}\text{Pb}$	$^{208}\text{Pb}/^{232}\text{U}$ age	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	$\pm$ s.e.	$^{207}\text{Pb}/^{232}\text{Pb}$ age	$\pm$ s.e.	$^{208}\text{Pb}/^{232}\text{U}$ age	$\pm$ s.e.	$^{208}\text{Pb}/^{232}\text{Pb}$ age	$\pm$ s.e.				
28	2.87	299.86	0.99705	0.98712	0.44787	51.5	0.9	55.3	2.9	224.9	10.6	52.2	1.0	46.4	8.3	0.6	0.1	Excluded		
29	65.30	104.24	1.00958	-0.45327	-0.76577	2591.5	28.0	2563.0	26.4	2540.5	25.8	2634.6	28.6	2589.8	28.0	2580.8	27.5	Selected	2540.5	25.8
30	16.40	943.27	0.56076	-0.11039	0.17494	104.3	1.4	107.2	2.2	171.4	3.0	105.5	1.5	109.2	6.6	214.0	12.2	Selected	104.3	1.4
31	35.89	191.69	1.25799	-0.18913	0.36905	890.0	9.4	915.7	10.6	978.2	11.0	913.6	9.7	930.3	16.9	1023.1	17.9	Selected	913.6	9.7
32	50.04	150.37	0.35607	-0.17060	0.82586	1776.8	20.0	1825.8	21.3	1882.1	21.2	1789.5	20.2	1838.2	22.1	1905.4	22.1	Selected	1882.1	21.2
33	359.98	1099.37	0.63214	0.07892	1.71936	1660.4	18.8	1763.6	18.5	1888.2	19.0	1675.8	19.1	1758.0	20.0	1877.5	20.5	Excluded		
34	22.61	164.67	0.62691	0.18907	0.38762	762.3	8.6	788.3	10.0	862.4	10.4	769.9	8.7	774.4	11.8	813.1	11.9	Excluded		
35	94.56	278.51	0.12813	-0.01322	0.21907	1887.0	19.8	1899.6	19.7	1913.4	19.6	1890.7	19.9	1900.6	19.8	1915.2	19.6	Selected	1915.2	19.6
36	15.10	893.82	0.12974	0.23918	0.57394	114.0	1.4	124.3	2.3	325.7	5.1	114.0	1.4	119.7	2.9	240.5	5.2	Selected	114.0	1.4
37	8.23	156.18	0.4956	-0.32760	0.50450	317.2	3.6	338.2	6.7	484.7	8.9	321.2	3.7	352.7	10.3	586.1	15.3	Selected	317.2	3.6
38	89.06	275.89	0.18833	-0.05933	0.78658	1792.5	18.8	1838.9	19.0	1891.8	19.2	1797.8	19.5	1843.2	28.4	1899.9	28.6	Selected	1891.8	19.2
39	62.49	191.53	0.52160	-0.26467	1.44007	1695.1	17.8	1781.4	18.6	1884.0	19.4	1711.6	18.0	1800.3	19.5	1919.6	20.4	Excluded		
40	0.60	46.56	1.47328	-1.54049	1.03222	63.5	1.6	74.3	6.1	435.5	29.3	66.7	1.8	91.5	12.2	868.4	80.4	Excluded		
41	11.05	415.89	0.43847	0.17478	0.02094	163.2	1.9	163.7	3.4	170.0	3.4	163.3	2.1	159.0	14.2	103.5	9.5	Selected	163.2	1.9
42	1.93	148.80	0.94161	0.51316	0.56386	70.7	1.2	77.3	4.7	284.0	15.4	70.3	1.3	70.9	8.6	89.5	10.7	Selected	70.3	1.3
43	92.21	268.58	0.37712	0.09796	-0.28662	1807.0	29.3	1789.5	28.6	1769.2	28.0	1807.4	29.3	1781.9	28.8	1754.4	28.1	Excluded		
44	4.73	245.06	0.95604	-0.00521	-0.09908	104.6	1.8	102.9	3.5	67.7	2.3	105.1	1.8	103.0	5.5	68.3	3.6	Excluded		
45	3.90	198.45	1.16115	29.19829	24.68440	100.8	1.3	380.1	7.1	2896.8	33.3	79.5	1.1	30.5	12.2	0.0	0.0	Excluded		
46	161.01	1986.62	0.19113	-0.01266	-0.25115	517.6	5.9	503.0	6.0	437.4	4.9	518.0	6.0	503.8	13.7	441.4	12.1	Excluded		
47	334.01	2302.21	0.30865	0.14147	0.03780	865.1	9.2	867.7	9.0	874.3	8.8	865.1	9.2	856.6	9.8	837.7	9.4	Selected		
48	12.78	417.62	0.01534	0.31845	-0.14765	212.0	2.7	207.4	4.3	156.9	3.1	211.3	2.8	196.8	5.7	299.9	0.9	Selected	212.0	2.7
49	9.18	763.26	0.20833	1.34645	-0.03644	78.6	1.1	78.1	3.0	67.1	2.5	77.6	1.1	59.7	3.8	0.1	0.0	Selected	78.6	1.1
50	8.71	524.71	0.47288	0.16739	0.11381	101.8	1.2	103.6	2.6	145.1	3.4	101.9	1.3	100.7	3.6	81.4	2.9	Selected	101.9	1.3
51	278.15	866.27	0.21296	0.15004	0.73134	1771.0	18.6	1814.6	18.6	1865.0	18.8	1769.0	18.7	1803.5	19.2	1844.0	19.3	Selected	1844.0	19.3
52	15.47	75.36	1.19767	-0.95076	-0.03710	985.4	12.6	982.7	15.8	976.8	14.7	1000.8	13.3	1057.9	36.1	1192.0	38.1	Excluded		
53	4.24	486.87	0.97264	-0.68387	-0.29171	47.5	0.7	45.2	1.7	2.7	0.1	48.1	0.7	51.0	5.0	202.3	18.2	Selected	47.5	0.7
54	281.48	514.84	0.87156	0.02592	0.88396	2395.2	25.5	2432.1	24.7	2463.1	24.7	2401.9	26.4	2430.6	30.3	2460.7	30.1	Selected	2460.7	30.1
55	111.79	704.72	0.05497	0.01717	-0.04283	1001.6	11.6	998.5	11.3	991.8	10.5	1001.6	11.7	997.1	12.1	987.7	11.3	Excluded		
56	295.06	550.84	0.08445	-0.09735	3.89425	2690.6	27.8	2812.3	28.4	2900.7	29.1	2693.0	27.8	2817.1	28.5	2907.3	29.2	Excluded		
57	235.55	1597.72	0.75120	0.38140	0.21799	789.7	9.7	804.6	9.4	845.8	8.8	788.4	9.8	775.6	18.7	743.3	17.7	Selected	788.4	9.8
58	12.97	71.64	0.29682	0.11903	0.43167	1062.3	11.7	1092.9	13.6	1154.3	13.8	1062.5	11.7	1083.4	14.3	1128.4	14.4	Selected	1128.4	14.4
59	218.86	1176.52	0.15923	-0.02569	0.57852	1126.7	13.9	1167.5	13.2	1243.8	12.8	1128.0	14.1	1169.5	22.4	1249.1	22.6	Excluded		
60	141.73	239.37	0.68332	-0.03502	2.60248	2626.8	30.4	2714.4	28.3	2780.3	28.1	2631.5	30.5	2716.3	28.5	2783.0	28.3	Selected	2783.0	28.3
61	4.66	316.21	0.75054	-0.26269	-0.69525	84.3	1.7	74.6	5.7	0.9	0.1	84.7	1.8	78.5	10.2	1.1	0.1	Selected	84.7	1.8
62	136.85	1076.30	0.27764	0.04615	0.12035	773.2	9.1	781.4	8.9	804.7	8.4	774.0	9.2	777.9	20.3	792.4	20.3	Selected	774.0	9.2
63	71.72	219.42	0.52075	0.00481	1.20085	1693.5	18.9	1766.1	18.9	1853.0	19.2	1698.1	19.1	1765.7	22.1	1852.4	22.4	Excluded		
64	94.22	640.08	0.19654	0.08669	0.30076	886.9	9.9	908.0	10.3	959.7	10.4	887.0	9.9	901.3	10.7	938.4	10.6	Excluded		
65	23.24	318.90	0.77587	0.10863	0.23400	402.7	4.5	414.3	6.1	478.8	6.6	403.2	4.6	408.5	8.7	443.5	9.1	Selected	403.2	4.6
66	75.22	184.72	0.92392	0.44557	-0.28872	1871.1	20.6	1854.0	19.7	1834.9	19.0	1874.2	20.8	1819.7	22.4	1769.5	21.4	Selected	1834.9	19.0
67	98.91	1089.84	0.20343	-0.30242	1.68236	578.4	10.6	674.7	11.9	1010.9	12.6	580.4	10.7	692.9	12.6	1078.6	13.9	Excluded		
68	179.79	1138.80	0.28013	-0.08420	0.48157	944.0	11.5	977.8	11.5	1054.3	11.3	946.5	11.5	984.3	12.1	1073.5	12.1	Selected	944.0	11.5
69	137.18	891.61	0.07960	-0.12173	-0.02615	969.5	10.7	967.6	10.7	963.5	10.2	971.1	10.7	977.5	10.9	992.8	10.6	Excluded		
70	184.80	1476.10	0.63104	0.38216	0.45959	697.4	8.3	727.2	8.7	820.1	8.8	697.9	8.4	699.9	16.4	716.4	16.3	Selected	697.9	8.4
71	57.14	336.08	0.94997	-1.58017	-0.29781	873.2	10.1	851.9	13.1	796.9	11.9	889.6	14.2	973.6	79.3	1176.1	87.9	Selected	873.2	10.1
72	2.44	153.80	0.11265	3.13087	-0.39711	104.3	5.9	97.6	17.8	3.4	0.6	101.2	5.8	41.7	22.2	0.0	0.0	Selected	104.3	5.9
73	12.33	92.48	0.42270	-0.07910	-0.20115	779.3	9.1	765.4	15.8	725.1	14.8	782.1	9.2	771.5	17.8	747.2	17.0	Selected	782.1	9.2
74	125.12	1531.95	0.48871	0.20650	0.01456	481.6	5.5	482.4	5.7	485.9	5.3	482.1	6.5	469.9	43.7	418.3	39.7	Selected	481.6	5.5

Table DR4

TH-10-S

Grain	Pb*			Atomic			Uncorrected			Uncorrected			Uncorrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected			$^{208}\text{Pb}$ corrected		
	Pb*	U (ppm)	Th/U	% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	% Common $^{207}\text{Pb}$	$^{208}\text{Pb}/^{238}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{208}\text{Pb}/^{238}\text{U}$ age	(Ma)	$\pm$ s.e.	$^{208}\text{Pb}/^{235}\text{Pb}^*$	Selected age (Ma)	Preferred age (Ma)	$\pm$ s.e.		
75	29.00	1010.42	0.44751	-0.05423	-0.38708	875.2	10.1	847.4	12.6	775.3	11.2	878.5	10.2	851.8	18.0	790.1	16.6	Selected	878.5	10.2				
76	119.64	1468.35	0.19849	-0.22242	-0.36132	520.3	8.9	499.1	9.1	403.5	5.9	521.7	8.9	513.3	10.3	477.6	8.0	Selected	521.7	8.9				
77	65.15	2851.62	0.03391	-0.01142	-0.00488	158.5	2.1	158.4	2.5	157.9	2.1	158.5	2.1	158.7	2.6	160.3	2.2	Selected	158.5	2.1				
78	93.87	319.57	0.47815	-0.09010	2.14345	1565.7	17.3	1696.5	18.0	1862.1	19.0	1570.8	17.4	1702.8	18.8	1874.3	19.9	Selected						
79	58.28	388.95	0.56761	0.01613	0.10856	838.5	9.9	846.1	10.1	865.8	9.5	840.7	10.0	844.8	15.8	861.7	15.6	Selected						
80	38.66	1243.74	0.32653	-0.09105	0.07815	197.2	2.3	199.5	2.7	225.7	2.7	197.7	2.3	202.3	4.9	259.8	6.0	Selected	197.2	2.3				
81	276.97	1704.43	0.61737	-0.52884	0.29569	897.6	10.5	918.4	10.2	968.4	9.9	904.7	10.7	958.9	16.0	1091.6	17.0	Selected	897.6	10.5				
82	169.15	1218.99	0.45645	-0.15091	0.02969	803.1	9.4	805.1	9.2	810.6	8.6	806.1	9.5	816.6	13.6	850.5	13.5	Selected	803.1	9.4				
83	436.12	993.95	0.44622	-0.03393	2.83853	2183.6	27.5	2312.6	24.7	2428.4	24.4	2189.2	27.6	2314.6	24.9	2431.6	24.6	Selected						
84	163.12	10110.97	0.28842	-0.48783	0.08177	104.9	1.2	106.2	1.2	135.6	1.5	105.5	1.2	114.9	1.9	317.9	4.9	Selected						
85	1.98	147.48	1.49285	21.42781	18.66324	64.3	1.6	220.0	8.2	2606.3	40.5	53.6	1.8	32.0	22.2	0.0	0.0	Selected	53.6	1.8				
86	10.26	586.03	0.82057	0.31377	0.14480	98.0	1.1	100.3	2.0	153.7	2.8	98.2	1.1	95.1	4.1	32.2	1.4	Selected	98.0	1.1				
87	160.82	2381.18	0.06949	0.01749	0.05008	450.4	5.0	452.0	5.2	466.3	5.1	450.6	5.0	454.0	5.3	472.1	5.1	Selected	450.4	5.0				
88	67.07	188.01	1.39276	-0.27261	0.21036	1548.6	18.1	1562.5	17.6	1581.3	16.9	1567.2	29.4	1583.9	122.2	1626.2	122.7	Selected	1581.3	16.9				
89	162.48	997.78	0.27226	0.23416	0.27687	964.8	11.5	984.4	11.1	1028.3	10.7	963.7	12.5	965.7	43.3	972.7	43.1	Selected	963.7	12.5				
90	11.59	678.85	0.54000	0.14364	0.14125	102.7	1.2	105.0	2.0	156.8	2.8	102.8	1.3	102.5	9.3	102.6	9.2	Selected	102.8	1.3				
91	72.19	124.73	0.96222	-0.35724	0.28336	2462.8	25.5	2474.2	25.3	2483.6	25.2	2477.5	25.9	2495.7	27.4	2516.5	27.4	Selected	2483.6	25.2				
92	65.63	814.93	0.05888	-0.55822	0.17743	537.6	8.4	547.9	8.4	591.1	6.9	540.5	8.5	582.9	9.2	751.7	9.2	Excluded						
93	1.46	93.77	0.52362	0.41021	-0.06847	94.2	1.8	93.2	7.4	69.6	5.5	94.0	1.8	86.5	9.5	1.0	0.1	Selected	94.2	1.8				
94	221.41	2217.68	0.06367	1.22156	5.28170	650.5	8.2	931.0	12.0	1670.9	18.4	643.5	8.1	864.3	12.5	1484.2	18.0	Excluded						
95	100.12	269.75	0.23099	-0.36620	0.52765	1990.3	45.3	2018.9	29.7	2048.2	21.5	1998.9	45.5	2044.4	30.6	2093.0	22.8	Selected	2048.2	21.5				
96	169.19	609.13	0.62960	-0.86091	0.77191	1454.5	15.4	1505.8	15.5	1578.7	16.0	1469.9	16.1	1571.1	28.5	1715.5	29.7	Excluded						
97	25.19	1478.13	0.00707	-0.00569	-0.26011	119.6	2.7	114.6	3.0	23.1	0.4	119.6	2.7	114.7	3.1	209.0	0.4	Selected	119.6	2.7				
98	82.69	1048.42	0.01155	0.01008	0.08866	530.6	7.3	535.8	7.7	557.6	6.7	530.6	7.3	535.2	7.7	554.6	6.7	Selected	530.6	7.3				
99	5.21	313.15	0.03580	-0.05964	1.04933	116.1	2.8	135.1	9.3	483.2	27.0	116.2	2.8	136.3	9.5	502.0	28.2	Excluded						
100	51.67	258.19	0.39141	0.43067	3.91410	1140.8	12.7	1382.2	22.3	1777.5	25.9	1140.1	13.1	1353.9	28.7	1716.4	32.5	Excluded						
101	43.31	240.66	0.71688	-0.17648	0.01800	960.3	10.1	961.6	11.2	964.5	11.0	965.4	10.2	975.8	14.8	1007.0	15.0	Selected	960.3	10.1				
102	3.67	194.52	0.73645	-0.10311	-0.16020	108.2	2.0	105.4	4.3	47.7	1.9	108.7	2.1	107.3	9.0	86.6	7.2	Selected	108.7	2.1				
103	180.50	576.83	0.01580	0.01758	0.34845	1809.9	20.1	1830.6	19.2	1854.3	18.9	1809.7	20.1	1829.3	19.3	1851.8	18.9	Selected	1851.8	18.9				
104	22.56	990.76	0.37205	0.06033	0.06770	143.1	2.8	144.6	3.6	168.0	3.2	143.2	2.8	143.2	5.9	145.1	5.5	Selected	143.2	2.8				
105	67.80	427.84	0.69655	0.71829	0.47836	852.2	10.2	885.1	11.0	968.2	11.1	848.8	10.4	829.6	22.1	784.7	20.8	Excluded						
106	277.32	3801.79	0.21236	0.01669	0.09715	465.5	5.1	470.8	5.3	496.2	5.2	466.1	5.2	469.8	11.3	491.0	11.5	Selected	466.1	5.2				
107	17.95	81.51	0.84525	-0.00537	-0.07787	1119.4	12.4	1113.8	15.6	1102.9	15.0	1124.5	12.5	1114.2	18.8	1104.0	18.3	Selected	1102.9	15.0				
108	32.03	427.82	0.15806	0.01469	0.04950	484.2	5.6	486.9	8.2	499.6	8.0	484.0	5.6	480.6	9.8	466.2	9.3	Selected	484.2	5.6				
109	285.31	925.43	0.09765	0.56272	1.58689	1703.8	18.4	1797.9	18.8	1908.9	19.5	1696.3	20.0	1757.3	40.6	1831.8	41.0	Excluded						
110	70.79	287.29	0.30210	-0.05147	2.28787	1398.6	16.2	1543.6	17.4	1748.2	18.7	1401.3	16.2	1547.2	17.7	1755.7	19.0	Excluded						
111	7.24	435.60	0.43055	0.04708	0.36344	102.7	1.2	108.6	2.2	240.6	4.4	102.9	1.4	107.8	9.5	223.7	18.6	Selected	102.9	1.4				
112	9.13	522.68	0.55040	-0.15299	0.17892	105.2	1.2	108.2	2.3	173.9	3.5	105.7	1.2	111.0	3.5	232.2	6.8	Selected	105.2	1.2				
113	77.42	164.42	0.20233	-0.11253	1.06925	2395.1	25.6	2439.5	24.9	2476.8	25.0	2398.9	25.7	2446.2	25.0	2487.2	25.1	Selected	2476.8	25.0				
114	9.38	560.14	0.45163	-0.07593	0.04830	103.6	1.2	104.4	2.2	121.0	2.4	104.0	1.2	105.7	2.9	151.8	4.0	Selected	103.6	1.2				
115	2.90	611.42	0.35084	-0.07699	0.05879	30.4	0.4	30.7	1.4	50.1	2.3	30.5	0.4	31.1	1.7	84.7	4.5	Selected	30.4	0.4				
116	84.17	508.90	0.38348	-0.04632	0.30341	987.7	12.9	1009.3	13.4	1056.4	12.6	1017.1	13.4	1232.9	18.4	1634.2	21.2	Excluded						
117	18.95	1429.24	0.34275	-0.19096	0.06930	84.7	1.1	85.7	1.5	110.4	1.7	85.1	1.1	88.5	3.7	186.2	7.3	Selected	84.7	1.1				
118	5.59	303.17	0.67225	0.66045	0.53587	106.8	1.3	115.9	4.4	306.3	10.5	106.7	1.3	104.0	7.8	57.9	4.4	Selected	106.7	1.3				
119	2.04	134.93	0.65357	1.22986	0.44146	87.8	1.4	94.1	5.9	255.5	14.7	87.2	1.4	75.6	9.8	0.4	0.0	Selected	87.8	1.4				
120	4.31	526.51	0.65951	-0.02754	0.05145	48.1	0.7	48.6	1.6	65.8	2.1	48.4	0.7	48.8	5.1	79.0	8.0	Selected	48.1	0.7				
121	240.35	832.87	0.02451	0.01178	0.86535	1693.0	18.1	1746.0	18.3	1810.0	18.5	1693.0	18.1	1745.1	18.3	1808.4	18.5	Selected	1808.4	18.5				
122	72.26	887.57	0.11716	-0.05778	-0.03917	531.1	5.8	528.8	7.7	519.3	7.4	531.6	5.8	532.5	7.9	537.0	7.7	Selected	531.6	5.8				

Table DR4

TH-10-8													
Grain	Pb*	Atomic	% Common $^{208}\text{Pb}$	% Common $^{206}\text{Pb}$	Uncorrected	Uncorrected	Uncorrected	$^{208}\text{Pb}$ corrected	$^{208}\text{Pb}$ corrected	$^{208}\text{Pb}$ corrected	Selected age	Preferred age (Ma)	
	(ppm)	U (ppm)	Tb/U	using $^{208}\text{Pb}$	using $^{206}\text{Pb}$	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{238}\text{U}$ age (Ma)	$\pm$ s.e.	$^{207}\text{Pb}/^{235}\text{U}$ age (Ma)	$\pm$ s.e.	age (Ma)	$\pm$ s.e.
123	139.69	427.00	0.41939	0.00150	0.98605	1728.2	20.0	1787.5	19.2	1857.4	20.1	1787.4	19.4
124	17.31	1036.95	0.95711	-0.28234	-0.01074	90.8	1.1	90.6	1.6	88.8	1.5	91.6	1.2
125	259.25	996.74	0.65665	-0.19986	2.97335	1363.4	14.9	1548.4	16.6	1811.0	18.8	1372.6	15.0
126	9.51	424.22	0.34461	0.41705	0.40143	141.8	1.7	150.5	3.8	290.4	6.8	141.6	1.8
127	88.78	409.98	0.31247	0.83728	3.31477	1240.1	14.8	1447.3	19.3	1766.5	21.7	1231.9	14.8
128	58.13	178.75	0.62633	-0.06962	1.45166	1650.9	22.9	1739.3	23.0	1847.2	22.2	1658.4	23.6
129	44.84	247.40	0.72977	-0.15487	0.05871	963.7	10.3	967.9	11.3	977.4	11.1	968.8	10.4
130	0.84	58.82	0.80481	-0.02649	1.22535	81.0	1.5	97.0	7.8	509.4	33.5	81.5	1.6
131	44.79	576.54	0.41554	0.08801	-0.04973	468.2	5.2	465.5	7.8	452.4	7.4	468.2	5.3
132	146.31	2168.37	0.02716	0.15486	0.10351	454.7	5.5	460.2	6.2	487.5	5.9	454.1	5.5
133	95.58	582.33	1.44714	-0.53405	0.05844	758.5	8.5	762.5	10.0	774.0	9.6	773.5	8.9
134	4.43	262.07	0.93174	-0.30049	0.21307	92.7	1.2	95.9	3.3	174.9	5.6	93.5	1.3
135	1.69	152.67	0.74246	0.48211	0.84580	63.5	0.9	72.3	3.8	374.6	16.7	63.5	1.0
136	1.95	182.20	1.24482	-0.47455	0.50073	54.9	0.8	59.4	3.2	247.3	12.1	55.6	0.9
137	16.79	996.53	0.46964	0.09064	-0.06713	103.4	1.4	102.3	3.3	79.1	2.5	103.8	1.4
138	258.93	986.66	0.04087	0.03080	2.37797	1563.0	17.7	1706.9	18.3	1888.4	19.4	1562.6	17.8
139	55.71	428.21	0.26694	0.14045	0.13087	790.8	8.4	799.8	9.6	824.7	9.7	790.6	8.4
140	66.92	119.33	0.81622	-0.15741	-0.11121	2459.1	26.2	2454.6	25.3	2450.8	24.9	2470.5	26.5
141	26.86	732.50	0.17159	0.11060	0.27274	241.9	2.9	251.2	5.7	338.6	7.1	241.9	2.9
142	110.41	1759.18	0.59582	-3.33908	4.77313	379.6	5.3	577.3	8.5	1458.2	16.5	393.7	5.6
143	61.53	953.05	0.03567	-0.00226	0.12006	435.6	4.9	441.8	5.5	474.1	5.5	435.6	4.9
144	2.36	198.47	0.72900	1.13895	1.19894	68.1	1.2	81.4	7.0	491.3	34.4	67.9	1.3
												68.0	11.2
												90.1	14.6
												Selected	67.9
												Excluded	1.3